

**ECOFEMINSM: TOWARDS INTEGRATING THE CONCERNS OF WOMEN, POOR
PEOPLE AND NATURE INTO DEVELOPMENT**

by

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Abstract

Ecofeminism perceives an interconnection between the domination of women and poor people, and the domination of nature. This domination is founded on modern, Western, patriarchal, dualised structures, which subordinate all considered as "the other" compared to the superior masculine archetype. Hence, all feminine is seen as inferior and may therefore be exploited. This is presently manifested in the neo-liberal economic development ideal. Its global penetration generates huge economic profits, which are reaped by Northern and Southern elites, while its devastating crises of poverty, violence, environmental destruction, and human rights abuses makes life increasingly unmanageable for Southern women, poor people and nature. Feminism and ecology have therefore come together aiming at liberating women, poor people and nature. They want to change the dualised, reductionist perception of reality into a holistic cosmology. Ecofeminism consequently aims to integrate the concerns of women, poor people and nature into development.

Key terms

ecofeminism; feminism; women, environment and development; gender issues; poverty issues; global crises; patriarchal domination; post-modernism; post-development; development theory; environmental ethics; development ethics; feminist critique of science, economics and technology; Smuts' holism; yin and yang; systems theory; alternative world-views; ecological movements; Green Belt movement; Chipko movement.

Dedication

To my husband and best friend, Felisberto Elija Nhanenge, who never learned to perceive reality according to the Western dualised structures that lead to domination. He brought care and a sense of emotional balance into my life.

Acknowledgement

My warmest gratitude goes to Leanne Tracy Brown, who has functioned as my subject librarian for some years now. I am eternally grateful for her extraordinarily kind and tireless efforts to find exactly those references that I needed. Her high level of professionalism and her caring assistance made the work much easier for me. Since I live 1700 km. from Pretoria, in a small Mozambican town with insecure postal services, I do not know what I could have done without Leanne's willing help. I have in general enjoyed the service of UNISA's library staff. During my many years of study, those individuals I have had contact with, have all been professional, quick and reliable to find, copy and send material. The library is a force in UNISA.

I am grateful to my supervisor Stephan Treurnicht for staying by my side during the long and hard process of exploring this subject. It was not always clear what I wanted to write, and how to integrate the material, a fact that would get me upset. However, that did not seem to bother Stephan. Instead, he displayed a good and energetic mood, sending me SMSs for courage. I value such consideration. I must also comment on Stephan's high level of intelligence, his fast way of reading, his ability to get a quick overview of a comprehensive material and perceiving connections. Stephan particularly improved chapter 2 and 3 by suggesting that I incorporate Smuts' holism and Norgaard's co-evolutionary perspective. I only realised when it was done, how much sense the advice made. Thank you Stephan and keep well.

I would like also to thank the Department of Development Studies for making inspiring, forward-looking, alternative and radical material available during my years of study. I have enjoyed the diverse views on development issues, which have been presented. My choice of subject is not in line with the mainstream thoughts. It has therefore been of great importance for me, that I could study at a university where there is flexibility and space for alternative ideas. I believe that Viktor E. Frankl expresses this well in his book "Man's search for meaning" (1985: 178), "*My interest does not lie in raising parrots that just rehash 'their master's voice', but rather in passing the torch to independent and inventive, innovative and creative spirits.*" I believe the Department of Development Studies does that. Additionally, I would like to thank lecturer, Mr. Naas du Plessis, from the department, for drawing my attention to the works of Marthinus Versfeld, which was instrumental for my understanding of the yin/yang manifestation in the modern society.

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Finally, it is important for me to acknowledge the inspiration I have received daily from the women of Chimoio, whom I have been living among and observed for 12 years now. Many of these women are living under almost unbearable circumstances due to the local patriarchal structure. However, in spite of their hardship, they still can find the energy to smile, to laugh and to extend a helping hand. These women are my heroes. They have the courage to go on with their daily life, hoping for a better future, in spite of the constant domination.

Preface

"You see but you do not observe."

Sir Arthur Conan Doyle. (Jordaan et al 1995: 403)

Beyond Ghor, there was a town. All its inhabitants were blind. One day a king arrived with his followers to a place close to this town. He had brought along his army, and set up camp in the desert. The king had a mighty big elephant, which was used in attacks and as a means to increase the awe of the people. The inhabitants were eager to experience the elephant, and some of the blind people were so curious that they ran out to find it. Since they did not know anything about the form of the elephant, they were fumbling around, trying to gather information by touching the elephant. After a while, everybody believed that each knew the truth, because each had touched a part of the elephant. When they came back to their town, people gathered eagerly around them. Everyone was curious to hear the truth from each. When they asked about the form of the elephant, they listened to everything that they were told. The man who had touched the ear of the elephant said, "It is a big, rugged thing, being flat and wide as a carpet." The one who had felt the trunk said, "It is like a straight, hollow pipe, appalling and destructive". The one who had felt its feet and legs said, "It is huge and firm as a pole". Since each of them had only touched one part of the elephant, none of them knew the truth. Each had created an animal that did not exist. Instead, they had added their own well-known conceptual meaning-structure to what they found. In this way, they had come across part of the truth, but they had made that part equal to the whole truth. (Gamborg 1999: 7-8).

Maybe we all are blind regarding reality, to a certain extend. Perhaps we will never completely be able to get over this lack of visibility, or maybe we are not developed to understand everything. Nevertheless, we should still examine all the parts of the elephant and their interrelations, rather than creating one-sided realities that do not exist. This Sufi-story shows that if the men had listened to each other and shared their experiences, rather than trusting only their own perception, they would have been able to combine their information and hence come closer to the truth. They would have found out that the elephant has more aspects than what each had experienced. None of us is able to perceive the whole truth at any one time. However, if we see things from other people's perspectives, we have a chance to expand our understanding. (Gamborg 1999: 8).

Modern society promotes the theory that only what we can see, touch and count exist. It is the logical, rational, left part of our brains, which perceives in that way. Issues related to the rational mode of perception and knowledge is in this dissertation called the masculine or yang force. However, the logical hemisphere is limited. Applying only quantitative elements will fragment our understanding of reality. The Danish nuclear physicist Niels Bohr (Gamborg 1999: 15) saw the limitation in this way, *"..when it comes to describing atoms, we can only use the language as in poetry. The poet is not as occupied describing facts, as he is interested in creating pictures and estimate indirect connections... The quantum theory... is a striking example of the situation, where we can understand a connection completely, although we only can conceptualise it in the form of pictures and parables."* Hence, if we want to expand our understanding we need to include our right brain hemisphere. That is the place where we store our experiences; it produces our intuition, creativity and the qualitative part of our meaning-structure. When we apply the intuitive part, we can understand connections and wholes. We can get a feeling of that which our logic would decide does not exist. Thus if we get in touch with the marginalized part of our perceptions, the qualitative, the creative, the intuitive, which in this study is called the feminine or yin force, we may be able to remove our blindness. (Gamborg 1999: 8-9).

Modern science, economics, technology and development are all based on the logical, quantitative, masculine framework. Those who promote this reductionist framework are not in touch with the whole reality, which requires inclusion of the intuitive, qualitative, feminine perspective. They are consequently as blind as the men from Ghor are and they do not have the truth. The reductionist approach results in a fragmented, mechanistic knowledge system, which have disastrous consequences when applied to reality. However, when we become aware of this limitation, and combine quantity with quality, masculine with feminine, yang with yin, we may be able to see. That is when we observe that the world is a living, dynamic, interconnected and harmonious whole.

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Abbreviations and clarification of concepts

All abbreviations and concepts used in the dissertation are explained the first time they are used. However, since the explanations may be forgotten during reading, most of the terms are also explained below for easy access.

List of abbreviations

WW 2	- World War 2
CFCs	- Chlorofluorocarbons
CI	- Citizen's income
CSD	- Commission on Sustainable Development
DAWN	- Development with Women for a New Era
DDT	- Dichlorodiphenyltrichloroethane –Insecticide
DGSS	- Dasoli Gram Swarajya Sangh
EPR	- Einstein-Podolsky-Rosen experiment, see below
FAO	- United Nations Food and Agriculture Organisation
FTZ	- Free Trade Zones
G-8	- Group of eight (Canada, France, Germany, Italy, Japan, Russia, UK, USA)
GAD	- Gender and Development
GATT	- General Agreement on Tariffs and Trade
GBM	- Green Belt movement
GDP	- Gross Domestic Product (Private consumption + Government Spending + Investment + Net export)
GED	- Gender, Environment and Development
GM	- Genetically modified
GNP	- Gross National Product (GDP + Net Property Income from Abroad)
HYV	- High yielding variety
IDEA	- International Development Ethics Association
ILO	- International Labour Organization
IMF	- International Monetary Fund
INSTRAW	- International Research and Training Institute for the Advancement of Women
IPCC	- Intergovernmental Panel on Climate Change
IUCN	- International Union for Conservation of Nature and Natural Resources
JFM	- Joint Forest Management programme

Nature	- Includes all that, which is not human nor human made like non-human animals, plants, bio-organisms, water, air, soil, mountains etc.
NEPAD	- New Partnership for Africa's Development
NGOs	- Non-governmental organizations
NORTH	- Rich and industrial countries mainly in the Northern Hemisphere
OECD	- Organization for Economic Cooperation and Development
OPEC	- Organization of Petroleum Exporting Countries
ORAP	- Organization of Rural Associations for Progress - Zimbabwe
Others	- Includes children, people of colour, poor people, traditional people, old, frail and sick people, homosexual people, disabled people and other marginalized groups of people
SAP	- Structural Adjustment Programme
SOUTH	- Poor non-industrial countries mainly in the Southern Hemisphere
SS	- Schutzstaffel (German)
The Bank	- The World Bank
TOES	-The Other Economic Summit
UCC	- American Union Carbide Corporation
UN	- United Nations
UNAIDS	- United Nation Aids Program
UNCED	- United Nations Conference on Environment and Development
UNDP	- United Nations Development Programme
UNEP	- United Nation Environmental Program
UNESCO	- United Nation Educational, Scientific, and Cultural Organization
UNICEF	- United Nations Children's Fund
UNIFEM	- UN Development Fund for Women
UNSNA	- United Nations System of National Accounting
USSR	- Union of Soviet Socialist Republics
WCS	- World Conservation Strategies
WED	- Women, Environment and Development
WEDNET	- Net work of African Women Researchers
WEDO	- Women's Environmental and Development Organisation
WHO	- World Health Organization
WID	- Women in Development

WTO	- World Trade Organization
Yang	- Masculine force
Yin	- Feminine force
YWCA	- Young Women's Christian Association
ZERI	- Zero Emissions Research and Initiatives
1 million	= 1,000,000 USD
1 billion	= 1,000,000,000 USD
1 trillion	= 1,000,000,000,000 USD

Clarifications of concepts

- **Anthropology** - The study of man, his origins, institutions, religious beliefs, social relationships etc.
- **Cosmology** - The study of the origin and nature of the universe.
- **Epistemology** - The theory of knowledge, especially the critical study of its validity, methods and scope.
- **The EPR experiment** - A very simplified explanation goes as follows: There are two electrons or particles. Each is spinning or rotating around an axis. It can spin in one or the other direction. If the axis is vertical, it is called to spin up or down wards. If the axis is horizontal, the spin goes to the right or left. The experiment sets up two electrons in a state in which their total spin is zero. Thus, they are spinning in opposite directions, one spins up the other spins down. If these two electrons drift apart, their combined spin will still be zero. Hence, if one is on the Earth and the other has been taken to the Moon, their total spin will still be zero. The crux of the experiment is as follows: If the axis of electron A is changed to a horizontal axis and the electron decides to spin right, then the B electron, which is far away, will at that very same moment spin left. The question is how does B receive this information? It is a piece of information, which is faster than light and hence impossible. Niels Bohr's explanation was that the two particles are not connected by signals. They are linked by instantaneous, non-local connections being parts of an indivisible whole, even when they are separated by long distance. Thus, a system cannot be analyzed in terms of its parts. (Capra 1982: 72-75).
- **Essentialism** - A theory, which holds that material objects (or people) have a common essence distinguishable from their attributes and existence.
- **Holism** - A theory or method, which holds that a system may have properties over and above those of its parts and their organization.

- **Metaphysics** - The branch of philosophy that deals with first principles, especially of being and knowing (the nature of reality beyond the physical).
- **Ontology** - The branch of metaphysics that deals with the nature of being.
- **Positivism** - Established by Auguste Comte, holds that experimental investigation and observation are the only sources of substantial knowledge
- **The Prisoners Dilemma** - There are two prisoners to be tried, each is known to be part of a major crime, jointly committed, but the prosecution does not have enough evidence to prove this. Instead, the prosecution has proof of a joint minor crime. Each prisoner is asked separately whether he will confess or not. If both confess, they will be tried for the major crime but get a reduced sentence of 10 years. If neither confesses, they will be tried for the minor crime and get 2 years each. If one confesses and the other does not, then the confessor will go free and the other will get the full penalty of 20 years. The two prisoners cannot communicate. To maximize expected utility would be to confess and go free. However, both will reason so. If both confess, they get 10 years. It would therefore be irrational to confess. The best choice for both then becomes not to confess, because then each only gets 2 years. To pursue maximum utility consequently may lead to loss of overall utility. Oppositely, cooperation is rational and leads to better utility. (Coetzee and Voice 1992: 136-137).
- **Reductionism** - A theory or method, which holds that a complex system can be completely understood in terms of its simpler parts or components.
- **The tragedy of the commons** - Garrett Hardin describes in an article a situation that is analogous to many environmental problems: A pasture with common grazing rights is systematically over-grazed by herders, each of whom decides on the basis of individual self-interest to increase his herd beyond the carrying capacity of the pasture. If only one does it and nobody else does it, the individual who does will obtain a clear advantage with only minor degradation of the field. If more also do it, the herder who holds back will have least by the time the field is destroyed. Obviously, there is a moral argument for individual restraint, hence making agreements about use. It may also be possible to subdivide the commons into plots protected by private property rights. However, with the wider environment like the ozone layer and climate changes, the only secure way out of commons' tragedies is through negotiation, cooperation, and enforceable agreements between the parties concerned. (Ekins 1992: 181).

Chapter 1: Introduction to the dissertation

"It is possible to present passionately held beliefs, in a manner that weighs evidence, considers alternatives, and makes assertions as hypotheses, rather than dogma. The strongest belief statements usually have this quality of modesty, which immeasurably strengthens their plausibility."
(Robert L. Heilbroner 1988: 189).

1.1. Introduction

By this chapter, I want to introduce the reader to the subsequent study that discusses ecofeminism and development. The purpose with the introduction is primarily to create interest for the topic. Although the dissertation is comprehensive, it is also discussing a highly relevant subject. Since it is written in a plain language, easily understandable for English spoken people, my hope is that many will read it. Because the study is directed to all who are concerned about the increasing global crises of poverty and inequality; violence and war; environmental destruction; and human rights abuses. The research focuses on the dualised patriarchal structure of modern society and how its science, economics and technology dominates and exploits women, children, poor people, traditional people, black people and nature. This patriarchal structure is at the moment in history manifested in the neo-liberal political model, which promotes free global economic markets and free trade. These programmes are created to generate profits to the Northern and Southern elites, while they are having devastating results for people and nature globally, especially in the South. Unless we increase our awareness and demand changes, this patriarchal structure will eventually eradicate life on planet Earth. It is for this reason that I invite you to take a moment with ecofeminism and me in order to increase our common awareness so that we together can integrate the concerns of women, poor people and nature into the international development debate.

The chapter includes nine sections. These introduce the subject researched, the methodology used, the authors chosen and the outline of the study: **The second** section establishes the problem that lead to the study, and places it in a larger context. It starts with brief background information, which presents the problem. It then shows how this problem relates to development studies and how it is relevant seen in the larger context of the literature. It finally states to which audience the study is directed and with what significance. **The third** section displays my subjective considerations in choosing the topic researched. It gives a brief insight into my reasons to study development issues; what I am searching for in my studies; how I came across ecofeminism, and how the subject of research developed in my mind. **The fourth** section states the purpose of the research and defines the research questions. It also presents the objects of study, the delimitations (scope) and limitation (weaknesses). **The fifth** section

presents the research design and methodology used. It discusses how this relates to the research paradigm and its themes. In addition, the research type is chosen and importantly it is clarified that the study is a feminist research. Moreover, it explains which kind of literature review is used and it highlights the values that are included in the study. Finally, the research techniques are elaborated on and the research's validity and reliability are established. **The sixth** section presents my situatedness as the researcher, and a review of the authors I have chosen to use in the study. **The seventh** section explains the content of the chapter and shows how the chapters are inter-connected. **The eighth** section clarifies abbreviations and concepts used in the study. **The final** section concludes this chapter.

The methodological framework used in the dissertation has a structure inspired by Martin Terre Blanche and Kevin Durrheim's book "Research in practice; applied methods for the social sciences" (1999) and John W. Creswell's book "Research Design; qualitative and quantitative approaches" (1994). In addition, the content of this chapter is based on Tutorial letter DISALL-L 301/0/2005 compiled by D. A. Kotzé (2005).

As will be explained in more details in section 1.5., this dissertation is a qualitative study. It means that although the study is kept in a formal language the content is subjective. To stress the prejudice the introduction is written for the biggest part in informal language, using mainly first and second person pronouns. However, the other chapters are primarily using third person pronouns. Nevertheless, sometimes when it is relevant to focus on humanity as a whole, also first person, plural is used. (Creswell 1994: 43).

1.2. The problem explored; its relation to development studies

The Third World development programme was from its invention meant to alleviate poverty and bring a good life to people in the South. Nevertheless, after some 60 years of efforts, figures show that absolute poverty is increasing. Of the world's 6.4 billion people, 1.4 billion are living on less than 2 USD per day. 20% or 1.3 billion cannot satisfy their basic human subsistence needs. As a result, 30,000 people die of poverty every day. Sub-Saharan Africa is worst hit. Of its 1 billion people, 340 million live on less than 1 USD per day. It is estimated that 50% of Africa's people will live in absolute poverty by 2015. This is a 20% increase from a 2000 estimate. Poverty in the South hits women and children hardest. 70% of the absolute poor are women and more than half of the world's children are experiencing extreme deprivation. 400 million children, or 1 in 5, have no access to clean water, which kills 1.5 million every year. 650 million, or 1 in 3, do not have adequate shelter. 115 million, mostly girls, do not receive formal education. 1.6 million children have been killed in wars.

10 million die before five years of age. In addition, some 2 million babies die every year in the South on the day they are born. (Rowe 1997: 247; BBC News 14.09.2004, 19.11.2004, 08.12.2004, 14.02.2005, 18.04.2005, 09.05.2006, 28.09.2006).

Many authors (Ekins 1992, Shiva 1989, Turner 1997) find that rather than alleviating poverty, development brought about this impoverishment due to its economic focus. The idea was that development should increase national economic growth, which was assumed necessary to alleviate poverty. The procedure is to direct lands, soils and waters towards production of commercial crops and industrial food for the market. However, it is overlooked that the same natural resources are providing a large number of traditional people with a decent subsistence livelihood. Without natural resources, these people become poor. Poor people also do not benefit from the economic growth their natural resources are producing. The reason is that economic benefits are distributed unevenly in society. The already rich get almost all of it, while poor people experience virtually no improvement in their living conditions. Moreover, rich people do not invest their wealth into activities that benefit poor people. Instead, they spend their money on producing luxury goods for the elite, or they import Western consumer goods to improve their own lifestyle. In this way, development is benefiting Southern elites and Northern industries, rather than poor people in the South. Another serious negative side effect from economic development is destruction of the natural environment. In the economic process natural resources are overused, waters and soils are exhausted and toxified, forests are cut-down and the air is polluted. Thus, development is treating nature as an income-generating resource to be exploited for its commercial value. Such activity has serious, negative side effects for traditional and poor people. It is especially hard for women who produce 60-80% of all food in the South. When nature is degraded, women are forced to grow their crops on increasingly marginalized land. The outcome is less food for Southern people and unintended increase of natural destruction. Destruction of the natural environment also has serious global effects, which manifests as climate change. Increased temperatures, higher sea levels, more droughts and floods will have disastrous results for people and nature in the South. However, in spite of the obvious vicious circle economic development promotes, the Southern governments continue to focus on economic profit. This means that peoples' right to decide is overlooked. They are instead expected to contain their losses. Thus, the programme of development has cheated Southern people out of the democracy they were promised after liberating themselves from colonial domination. Instead, a new dominative relationship is created between people in the South and their governments. This has the tendency to produce social unrest, crime, violence, human rights abuses, even war. Such social disruption will only escalate the crises of poverty and misery for women, children and poor people, while further destroy the natural environment.

From the above it follows that development devastates wholesome and sustainable lifestyles of women and traditional people in the South. It creates scarcity of natural resources and excludes an increasing number of adult and children from their entitlement to food. This leads to malnutrition, sickness, poverty, misery and death. Conclusively development has become a threat to the survival of the great majority in the South. Rather than being a strategy for poverty alleviation, bringing about a good life, development is creating complex crises of inequality and poverty, violence and war, environmental destruction and abuse of human rights. Those worst hit by development's destruction are women, children, traditional people, poor people and nature.

If this is the outcome of development, then it becomes urgent to analyze its underlying values in order to understand what has gone wrong and to suggest some fundamental changes. **The problem** is consequently that mainstream development has failed its purpose. It set out to create a good life for people, but instead its activities have become detrimental to human and natural well-being and a risk for continuation of existence. This is where ecofeminism comes in. Since the crises caused by economic development are suffered mainly by women, poor people and nature, alleviation of the crises must include reality as it is seen from the point of view of this group. That is exactly what ecofeminism does. By its ecological and feminist focus the ecofeminist perspective becomes a countermeasure to the dominant development approach. The purpose of this study is therefore to explore development as perceived from an ecofeminist perspective. The first task is to discover how ecofeminism views development. From the outcome of this critique, we must try to understand why development activities have such detrimental effects on women, poor people and nature. The second task is to explore other ways of initiating social change, which can include the concerns of women, poor people and nature in the development discourse.

Many development authors have critically studied development and its activities. Thus, past literature has in various ways described: how economic development cannot assist poor people; how it has marginalized women due to its male bias; and how its activities are destroying the precarious Southern natural environment. Much of this critique is informative and of a high quality. However, only a few of them are based on an ecofeminist perspective. An ecofeminist view is unique. Due to its **holistic** perception, it can combine and integrate all of the above critical issues in development. This approach comes from the ecofeminist conviction that there exists an interconnection between the domination of women, poor people, traditional people, and the domination of nature. Or said differently, ecofeminism finds that whenever women and poor people are dominated by development, then as per definition nature is also dominated and vice versa. Thus, exploitation of women, poor people and

nature are linked. This link is significant, since exploring it reveals that development is **reductionist** because it is founded on a Western, patriarchal, dualised structure. This structure continuously, consistently, and unjustifiably dominates what it defines as belonging to a subordinate category that here is called "the other". These dualised "others" include women, children, poor people, traditional people, black people and nature. However, the heap of "others" also contains any elements considered feminine like emotion, care, intuition and cooperation; plus all qualitative issues like ethics, aesthetics, and spirituality. Literature that critique development for being a reductionist and dualised perspective is limited. The most comprehensive critique has come from Vandana Shiva and Mira Mies (1989, 1990, 1993, 1994). The link between women and nature in development has, however, been analyzed by more authors, most prominently by Irene Dankelman and late Joan Davidson (1988). Such ecofeminist engagement in the development debate is normally included under the headline "Women, Environment and Development". Several authors have contributed to this perspective. An overview of these and their opinions are covered by Rose Braidotti, Ewa Charkiewicz, Sabine Häusler and Saskia Wieringa (1994). Regrettably much of this literature concentrates on debating and judging the essentialist discourse ecofeminists allegedly are using in their perception of the link between women and nature. Oppositely, the ability ecofeminism has to insert the concerns of women, poor people and nature in the development discourse is rarely evaluated. I have only found this done by Noël Sturgeon (1997, 1999). The critique of ecofeminism, which mainly came from the academia, was especially directed to the views of Shiva. The opinion was that Shiva, essentialism and ecofeminism can be equated. After this debate, it seemed that ecofeminism as a perspective had been badly tainted and because of that, it "died". This is, however, far from the case. Many new ecofeminist ideas and thoughts are being developed. However, to present an overview of these and to show their relevance in development has been overlooked due to the earlier negative focus. There is consequently a **deficiency** in the development literature when it comes to explore, gather and describe the diverse ecofeminist contribution to the development dialogue. It is this deficiency I try, in a limited way, to correct by this research. With the aim to proliferate the understanding of ecofeminism, and by that also showing its importance, this study describes what ecofeminism is; it explores what ecofeminism considers being the root causes of development's failure; and it tries to discover how ecofeminists perceive a possible non-dominant world, where the realities of women, poor people and nature are included.

Ecofeminism consequently challenge the foundation of development and its related patriarchal values. It, however, does it in a way that brings about an understanding of the underlying complex and systemic causes. This is helpful because such insight also leads ecofeminism to suggest alternatives. Since it focuses on reality as seen from the perspectives of "the subordinate other", an ecofeminist

alternative may initiate a process that eventually could alleviate the poverty of women and poor people and revive the health of nature. It is seen in this way that the research becomes **relevant** to development studies and contributes to its literature. The dissertation is therefore **directed** to all of us, who are concerned about the escalating human suffering and natural destruction from economic development. It is directed to all of us, who are exploring alternative explanations to the causes of the current global crises. It is directed to all of us, who want to develop diverse solutions to the appalling effects the global crises have on women, poor people and nature. The dissertation is therefore **significant** for all who deal with human, social and environmental issues, and those who are engaged in counter-groups and movements. However, due to the current threat of extinction of life on Earth, the study is in fact relevant for the far majority of humanity. The **audience** is conclusively quite wide.

1.3. Acknowledgement of subjective factors in choosing the topic

The choice of subject for this dissertation relates to my personal development. For many years, I was working in mainstream development. Via my work, I had the privilege, to observe at a close range the impacts "progress" had on people in the South. Over the years, I slowly realised that, our otherwise genuine wish to help indigenous people often became detrimental to their lives, mainly due to our ignorance. Coming from the Western world, the organisation I worked for and its national staff members had limited understanding for and appreciation of alternative cultures and ways of living. When I look back I can see that our approach to development was based on a concept that would say something like, "we are here to teach Africans how to live a modern (=good) life similar to ours, because we want what is best for them". This way of perceiving reality is based on Western values. These are taught to us in schools and they prevail in modern society. We have learned that human progress is a universal, evolutionary path promoted by modern science and its technology. Hence, only societies that are scientifically organized are considered modern and progressive. People in modern societies are expected to be consumers of material goods, and they are therefore leading a good life. Due to the Western good-bad dualised way of perceiving reality, being progressive is also translated into being superior. Hence, those who do not rely on modern science and its technology are traditional or backwards. Since they lack material goods to consume it means that their life is not good. People who live in this way are consequently considered inferior. However, there is hope for them, because, "we can go to Africa and teach them how to live a good life". Those of us who grow up with this influence are for the most part unaware of the values we have incorporated. In order to become conscious of our own values we need to be exposed to contrasting values. Only by such experience may we be able to comprehend that there are in fact diverse opinions about what a good life is. It may lead us to the understanding that there is no universal, linear path for human progress. We

may then become conscious about our own bias and decide to change values into something more flexible. However, without increased awareness, these kind of sub-conscious values make it difficult for development workers to perceive that subsistence peoples may in fact live a good life. Lacking such awareness could mean that Northern development organisations may not adequately care about important issues like how their own world-view dominates women, poor people and nature in the South. My own experience was that we often gave up our otherwise genuine wish to teach local people the modern way of life. It was as if they just did not get it! In order to cope with our frustrations from this, we constructed various meanings and theories, which could explain the lack of progress. The end result was often that development staff perceived their employment as a hardship that needed to be compensated for by tangible things like increased salaries and personal comfort.

After 14 years in development work, experiencing mainly failures, I concluded in 1994, by a painful process that I would not do this anymore. I needed to increase my own awareness and knowledge. The day I left the organisation I promised myself that I would not return to any development activities before I have understood two things: First, what is wrong with the way we do development? Second, how can we change development so that it may contribute to a good life for all of us? At that moment in time, I felt sad, disillusioned, and angry as well. I did not have a clear idea of how to find answers to my questions, but I was a bit hopeful. I decided to start my search for answers by studying other peoples' experiences and sharing their insights in development. I have done that since 1994. During my studies, I slowly came to realise that the development programme promoted by the Western world is fundamentally flawed. It is based on scientific values, used to dominate and exploit traditional people. It takes away what those people value in their lives and replaces it with emptiness and hopelessness. I therefore find it important to explore knowledge systems, other than the scientific one; economic models, other than the capitalist one; political and bureaucratic structures, other than the Western one; and cultural and social ways of living, which differ from that of the modern world, but still can be called "a good life". Since a good life is an ethical issue, my focus has since 1994 been a search for some kind of **ethics in development**. That was part of my motive to choose to engage in philosophy parallel to development studies. Although development has the aim to create a good life for people in the South, there is limited emphasis on ethics in development. One reason is that ethics deal with the quality of life, while development with its dualised foundation focuses on the quantitative aspect of life. Thus for development a good life starts with adequate material goods. The international development debate therefore circles around economic growth, its importance for poverty alleviation, its advantage in improving living standard, and its superiority as indicator for progress. Consequently, there is little concern for the quality of life. It is probably assumed that the quality of life follows from

increased consumption of material goods. The overemphasis on quantities, while marginalizing qualities is, in my opinion, exactly where development went wrong.

In the search for an ethics in development, I studied ethics quite extensively. However, appealing to traditional ethics is not a solution. Most philosophical perspectives deal with purely theoretical or contractual constructs, which have little relevance to a good life in a real world with real people. It was, however, in my search for an ethical perspective that could deal with the quality of life, I came across ecofeminism. Five years ago I read Joseph R. Des Jardins 2001 book "Environmental ethics; an introduction to environmental philosophy". I enjoyed the book and made plenty of notes. I was, however, mainly interested in the last chapter where Jardins presents the newest approaches to environmental ethics. That was the first time I came across ecofeminism and my impression was positive. My understanding of ecofeminism improved later on when I studied the subjects "sustainable development" and "gender in development". An important issue in *sustainable development* is its critique of the reductionist perception of modern science and the devastating consequences this view has for nature. I was especially engaged in the values of writers like Fritjof Capra and Richard Norgaard. Capra made an interesting comparison between the modern, Western dualised philosophy and the traditional, Eastern holistic philosophy of Taoism (the yin and yang of I Ching). He finds that the modern, scientific world is out of balanced due to its over-emphasis on masculine, quantitative, yang elements. At the same time, the feminine, qualitative, yin forces are subordinated. According to I Ching, the result of such imbalance is dis-harmony, dis-ease, chaos, violence and finally destruction - after which the yin will rise again. It was at that moment I realised that the imbalance between quantity and quality, or masculine and feminine, or yang and yin in the modern world is the root cause of the many crises we are facing in the world. Studying *gender in development* later on assisted me further to put theory into practice. Its presentation of ecofeminism helped me to make the connection between theory and practice. Not only qualitative, feminine and yin issues are subordinated by the modern, quantitative, masculine, yang world, real women, poor people and nature are also dominated. From that moment on, my intuition told me that I had found the subject I needed for the research. I strongly felt that exploring this topic would give me some of the answers for which I have been searching. I am grateful to say that my inner voice gave me good guidance. I feel I have gained at least some valuable insights, which will enable me to return to development work and try again.

1.4. The purpose of the study; the research questions

With the above background information, **the purpose** of the study can be stated: The overall goal of the research is to discover, seen from an ecofeminist perspective, how development may be improved

to include the concerns for women, poor people and nature. This is based on **the problem** that mainstream development has failed its purpose. Rather than alleviating poverty, development creates poverty for women, poor people and nature. Hence, the objective is two-folded, to explore why development has failed and to suggest improvements. This purpose is the central controlling idea that will establish the direction of the research. (Creswell 1994: 56-57).

In order to narrow the focus of the study the following central and sub issues can be formulated. There are two **central or core issues**. The first is to discover how and why development failed, by use of ecofeminist analyses. The second is to explore if and how ecofeminism may help to think differently about development, and by that redirect development towards improving the quality of life for women, poor people and nature in the South. The second core issue would need two **sub-ideas**. The first is a debate about strengths and challenges of ecofeminism. The second should try to indicate how the ideas of ecofeminism practically might be applied to development activities. There is, however, one more element being an integral part of the two core issues: Since a good life is an ethical issue, the overall intention with the study is to search for an ethics in development.

Supported by the purpose statement, the central issues and its sub-ideas the **research questions** can be formulated as follows:

1) Seen from an ecofeminist point of view, how and why has mainstream development failed the promise of a good life for people in the South?

2) What is ecofeminism, and how may its various elements improve the present negative results from development in the South?

Sub-ideas to question 2): What are the strengths and challenges of ecofeminism seen in a development context? How may ecofeminism improve development practice?

The overall issue: How may the answers to the two research questions lead to the discovery of an ethics in development?

The research questions have some initial **assumptions**, which are as follows:

A) Mainstream development has failed its purpose. The main reasons being its overemphasis on reductionist, quantitative, and masculine issues.

B) Due to its holistic, qualitative and feminist approach, ecofeminism may be able to overcome the problem and hence include concerns for women, poor people and nature in development. It remains to be seen how and to what extent.

Part of the research questions is to state the **units of analysis**. These explain more precisely, what the object of study is. Or said differently, they state what it is I want to draw a conclusion about. (Terre Blanche and Durrheim 1999: 37). In this study, there are two units of analysis: **The first study object** is "*development as an institution*". This includes exploration of its underlying values and ethics, its origins, its aims, its activities and the consequences these have on women, poor people and nature, seen as from the perspective of ecofeminism. **The second study object** is "*ecofeminism as a perspective*". This includes exploration of its underlying values and ethics, its origins, its aims, its activities and the consequences these have on women, poor people and nature.

A related issue is to clarify **what aspects** of the two units of analysis I will discuss. (Terre Blanche and Durrheim 1999: 38): **The first study object:** The analysis of "*Development as an institution*" focus mainly on its three pillars of modern science, economics and technology, and how these dominate women, poor people and nature. Another aspect, which is also important, but analyzed to a lesser extend, is the domination of the nation-state and some of the international institutions that promote and control development. **The second study object:** The analysis of "*Ecofeminism as a perspective*" is explored in its relation to development. The link that is perceived between the domination of women, poor people and the domination of nature is analyzed by ecofeminists in ten different contexts. Of these, mainly four are relevant for development. They include the epistemological and political link, the empirical and socio-economic link. These four are consequently explored in this study. Nevertheless, in the description of ecofeminism more elements of the perspective, than only those related to development, are touched upon briefly. This is done in order to increase the understanding of the variety and diversity of the perspective.

The above stated aspects also show the **delimitations** of the study, meaning they explain how the scope of the research has been narrowed. (Creswell 1994: 110): The analysis of "*development as an institution*" relates to its three pillars of science, economics and technology. The critique of science, economics and technology is, however, not exhaustive. I have only explored some of their dualised values. Or said differently, I have chosen some of the authors who critique science, economics and technology because of their over-emphasis on masculine, quantitative and yang elements. There are beyond doubt much more critical aspects in these three pillars that are relevant to critique, but those are

not included. The analysis of "*ecofeminism as a perspective*" relates to the epistemological, political, empirical and socio-economic links between the domination of women, poor people and the domination of nature. There are, however, by Karen Warren identified ten such links. All of these are analyzed by various ecofeminists, and they show the consistent domination of women, poor people and nature. This study only explores the above four interconnections because they relate directly to the pillars on which development are founded: science, economics and technology. The other links are not included in the study.

I believe there is no research without weaknesses. Hence, the study's **limitations** should also be stated. (Creswell 1994: 110): In my opinion, the study has mainly two weaknesses. The first is **major**, the second minor: A bit simplified one may say that I try to explore two worlds. One world is real, but not universal since each of us creates our unique meaning of it. It is the world we live in. According to ecofeminists, that world dominates women, poor people and nature. The other world is a possible world, which each of us only can imagine. It is the world we would like to live in, our utopia. According to ecofeminism, that world must be non-dominant if it should provide all with a good life. It is from the perspective of a possible, non-dominant world that ecofeminism critique the dominant world. That has one weakness. Since the dominant world is real and we each have our experience of it, we can judge and criticize it in various ways. The possible non-dominant world is not real. Hence, we have no experience of it, and we therefore do not know if we can create it. So we cannot know how a non-dominant world would be or if it is possible. We also do not know, if we would be able to develop systems of knowledge, economics, technology, and governance so diverse and context-bound that they would be non-dominant to any groups in society. We do not know if we could change our meaning-structure into a way of thinking, which is non-dualised and hence non-dominant. That may very well only be possible after a new generation grow up without having learned the dualised perception of reality - but who should teach them? Conclusively, the critique ecofeminism direct to the dominant world is based on a real world of which we have experience. It is therefore well founded. However, it remains to be seen if humanity, in reality, can create non-dominant alternatives. I assume that this is the kind of hurdle we come across, when we critique a world-view.

A weakness I would consider as being **minor** is that the study does not include any positive aspects of science, economics and technology neither any praise to development, nation-states and the global institutions. It is a weakness because without it the study presents a one-sided, negative view only. There may be positive things to say about science, like its research and development of human vaccines and technologies that ease human workloads etc. There are two reasons for excluding any

possible positive aspects of science: First, ecofeminism argues that science is a dominant ideology. Hence, science has destroyed much more than it has created. In order to get attention to this fact, I find it inconsistent to mention any assumed positive outcome of scientific development. Secondly, the benefits from science are to a far extent directed to the elite. Hence, if I mention any positive aspects it could be perceived as if I suggest that domination of women, poor people and nature is necessary for scientific progress. Such value would contradict the content of the study and my own beliefs. It is therefore left out. Nevertheless, it is still a weakness not to mention any positive aspects of science.

I earlier mentioned the **significance** of the study in relation to what it adds to the scholarly research and literature in the field. Based on the background information I can now end this section by mentioning in which way the study may be significant in improving development policy and practice: If the arguments put forward in the study are considered sound, consistent and coherent, then the research should encourage us to change our perception of development. **Firstly**, no development policy or practice should be initiated unless it is **holistic**, which means including the reality seen from a feminist and ecological perspective. As it is now development policy and practice is based purely on a masculine world-view, and it is therefore **reductionist**. **Secondly**, no development policy or practice should be initiated unless it is **balanced**, which means including qualitative issues. As it is now development policy and practice is purely quantitative and hence **unbalanced**. **Thirdly**, no development policy or practice should be initiated unless it is **harmonious**, which means including feminine or yin forces. As it is now development policy and practice is purely masculine or yang and hence **dis-harmonious**. **Conclusively** the study may increase awareness to the fact that development policy and practice need to be holistic, balanced, and harmonious if they hope to alleviate poverty of women and poor people and to regenerate the natural environment in the South. What this entails will become clear as the discussion unfolds.

1.5. Explaining the choice of research design and methodology

A **research design** is the study's plan of action. According to Terre Blanche and Durrheim (1999: 29), it serves as a bridge between the research question and execution of the research. The general process is first to define the research question, then to design the research, after that to execute or implement the research by data collection and analysis, and finally to write the report. Or said differently, based on the purpose of the study, the researcher must design the research. This includes taking decisions about which research paradigm, research type and research techniques should be employed, together with the actual execution. (Terre Blanche and Durrheim 1999: 30, 33, 52).

There are generally considered to be two **paradigms** in social research; one is quantitative the other qualitative. The distinction at the most surface level is that quantitative researchers collect data in the form of numbers and use statistical types of data analysis. The purpose is commonly a wish to find empirical causal facts based on a limited unit of study. Qualitative researchers collect data in the form of written and spoken language, or as observations that are recorded in language. They then analyse the data by identifying and categorising themes. The purpose is to investigate how people experience an issue. Qualitative researches are normally open-ended and lengthy studies. These surface differences in method mark deeper differences in orientation and values, which are not relevant to discuss here. It should, however, be mentioned that since these are scientific methods the division interestingly parallels the general theme of quantitative-qualitative dualism in the study. Although the two modes by natural science are seen as being separate and incommensurable, the two paradigms may co-exist in social studies. Nevertheless, most social researchers work within a single paradigm, which normally is qualitative. Consequently based on the research question and the object of study, this research would be suitable to a qualitative design. The study has nevertheless a flavour of the quantitative paradigm, because it also provides statistical material used to describe the global crises in chapter 2. This choice is further supported by Creswell (1944: 146) who finds that qualitative research problems have diverse characteristics. One of them is the notion that an available theory may be inappropriate, biased or inaccurate. Such a point of view is suitable to this study since economic development is assumed as being inappropriate for poverty alleviation. (Terre Blanche and Durrheim 1999: 7, 42).

There are three **themes** in qualitative inquiry: *Naturalistic research* studies real-world situations as they unfold naturally. *Holistic research* studies the whole phenomenon, which is understood as a complex system that is more than the sum of its parts. The focus is on complex inter-dependencies, which cannot meaningfully be reduced to a few variables with linear cause-effect relationships. *Inductive research* enters into the details and specifics of the data to discover important categories, dimensions and interrelationships. It begins by exploring genuinely open questions, rather than testing theoretically derived hypothesis. (Terre Blanche and Durrheim 1999: 43). Based on the purpose of the study it should be clear that the theme of this study is holistic and inductive.

There are various **types** of research of which three are relevant here: *Exploratory studies* make preliminary investigations into relatively unknown areas of research. They employ an open, flexible and inductive approach to research as they attempt to look for new insights into phenomena. *Descriptive studies* aim to describe phenomena accurately. *Explanatory studies* aim to provide causal

explanations of phenomena. There is no consensus in the social research community about exactly what counts as exploratory, descriptive and explanatory research. Quantitative researchers find that since qualitative studies are open-ended they are always exploratory, leaving the work of accurate description and explanation to the more rigorous quantitative research. Qualitative researchers, oppositely find that qualitative research can be used not only for exploratory purposes but also to formulate rich descriptions and explanations of human phenomena. Thus, all three types may be achieved by both quantitative and qualitative research. Nevertheless, a qualitative research is more apt to be inductively exploring a phenomenon and to be providing detailed descriptions of it. Or said differently, an exploratory, inductive study would normally relate to the qualitative paradigm. (Terre Blanche and Durrheim 1999: 39-40, 43). The research design for this study is mainly exploratory. It explores what went wrong with development as seen from an ecofeminist point of view. However, it is also partly descriptive since it includes an accurate and rich description of the perspective of ecofeminism. Finally, there is also a taste of explanatory study in it. I have done efforts to try to make rich explanations on why we currently have four serious global crises. The explanations presented in this study are, however, systemic and complex rather than linear causal.

Creswell (1994: 146-147) divide the different qualitative designs according to their various **disciplinary social fields**. Research design in anthropology is called ethnography, psychology and social psychology use phenomenology, sociology and other social sciences deals with grounded theory, while research in social and political sciences are often done as case studies. Development research should accordingly be categorized like social science or sociology. Since this research is not a case study, it may best fit in with the grounded theory. The grounded theory is an inductive or bottom up process for theory formation. The general system is to gather information, analyze and compare them, form categories, look for patterns, and finally to develop a theory, which is reliable and accurate through verification. Grounded theory is therefore a discovery, with the hope to derive at an outcome that may be called a theory. (Creswell 1994: 5, 43-45, 96, 145). Since this study is an inductive discovery, the method of inquiry may fall under the grounded theory design. However, although I hope and expect that the study will add something new to the critique of development, I do not anticipate any fixed theory as the outcome. I instead envisage discovering, that it is the inflexibility of rigid, necessary and sufficient conditions that disturbs the free flow of new, alternative and creative ways of thinking. In this case, the idea is to build up some conclusions, answers to the research questions, based on information from the process.

It is important to mention that the study is a **feminist research**. According to Terre Blanche and Durrheim (1999: 440) feminist research emerged during the 1980s as feminist thinking became established in the academic community. It emanated because feminist theorists were concerned with the lack of research on understanding women's experience. Up until the 1980s, much social science theory was developed from research with male subjects, conducted by male researchers. If women's experiences were considered it tended to be in comparison to the male norm, or it was limited to the domain of reproductive female affairs. In this way, universal social theories were derived from research with and by men. Feminist researchers reject such theory formation as discrimination. They therefore aim to place women's issues on the agenda and by that tackling oppression of women. The method relates to the feminist belief that theory should be tied to action, thus, they tend to design research with this end in mind. Recent feminist studies are increasingly focused on differences in the experience of oppression by sub-groups of women, such as lesbians, black women, working class women and rural women. The South African feminist journal *Agenda* has featured special issues illustrating the kinds of action-concerns feminist research may tackle. The knowledge developed is used to lobby and inform policy changes. (Terre Blanche and Durrheim 1999: 441).

An important underlying principle in feminist research is its opposition to positivist assumptions. Positivism is seen as a male perception that is objective, logic, task-oriented and instrumental. It reflects a masculine emphasis on individual competition, hard facts, domination and control. Positivist methods are therefore perceived as patriarchal because they attempt to understand the world in order to control, dominate and exploit its resources. In contrast, feminist researchers are committed to eradicating power imbalances in generation of knowledge. It includes an open, interactive and flexible research situation that allows for the researcher's bias. This manifests the feminist researchers' refusal to create artificial dualist distinctions between the subject and the object, the private and the public, the personal and the political domains. Feminist research is consequently committed to a feminist epistemology. It comprises theoretical and political analyses that critique dominant conceptions and gendered criteria of knowledge. Feminist research is therefore concerned with both the content and the process of research. Or said differently, it reflects both ontological and epistemological concerns. It is this connection between being and knowing that defines feminine research. Hence, it is important. It relates to what should be researched and how it should be done in order to be called knowledge. Feminist researchers conclusively find that women's direct experiences of reality are a valid basis from which to develop an epistemological theory. (Terre Blanche and Durrheim 1999: 442-443).

Feminist research is associated primarily with qualitative research methods. However, some are open to employing multiple methods, often for strategic reasons. The research questions are obviously determined by feminist concerns. Feminist researchers are self-conscious of the role their demographic and personal characteristics play in the research process. They therefore commonly provide some commentary on their subjective response to the research process in the report. To highlight this they may refer to the researcher in first person explicitly acknowledging their role in the research process. Feminist researchers are interested in disseminating their findings in popular as well as academic forums. The above-mentioned South African journal *Agenda*, unlike most academic journals, combines popular and academic content and is committed to writing articles in easily accessible English. This is done to ensure that knowledge is more widely disseminated amongst South African women. (Terre Blanche and Durrheim 1999: 443-445).

Based on the above I may conclude that this study is a feminist research. It is action oriented and defined by its focus on concerns for women and gender issues. The content of the study is in fact discussing the exact principles on which feminist research methodology is founded. The research is critical of the patriarchal domination in science and its artificial dualist distinction between masculine and feminine, public and personal etc. The bias of the study including that of the researcher are recognized, and the text is deliberately made easy accessible.

According to Terre Blanche and Durrheim (1999: 17, 19, 27) a research project does not exist on its own, but must build upon previous work. This is done by **reviewing previous literature** in the field, which includes the following process a) identification of potential relevant sources, b) initial assessment of these, c) thorough analysis of selected sources and f) writing and integrating relevant sources. They find that such a literature review can be done on its own, or as part of the research report itself. The real aim with the review is to highlight pertinent literature and contribute to the field by providing a novel and focused reading of the literature. This view corresponds with Creswell's updated work (2003: 32). He also sees diverse forms of literature review available for qualitative research. For dissertations, the most relevant form is what he calls for, an "*integrative literature review*". This relates to how I see the dissertation. It is in it self an integrated literature review. Hence, the study process is an exploration of relevant literature that is selected, assessed, analyzed, compared, interpreted and combined. The process integrates the data into a literature review that is systemic, holistic and therefore more than the total of the parts. It is in this way that the outcome may give new insight, which can contribute to changing perceptions about development. However, the outcome is not a new theory. It is rather a contribution to the ongoing debate in development. Due to this

perception, I have allowed the study to develop in the process. This is suitable since ecofeminism according to Karen Warren (2000: 66-68) is also considered to be a theory-in-process. Ecofeminist theorising is delimited by necessary conditions. Those are its generalisations and commonalities. However, there are not sufficient conditions. Hence, the boundaries do not dictate what the interior must look like. Instead, the design emerges from various contributions over time.

A qualitative study includes some **values**. The main issue is that reality is seen as being subjective and diverse, depending on people's unique perceptions and values, which again relates to their unique background and experiences. Thus, the intention is to understand a particular social issue by entering into the thought world of the subject studied. It is an explorative process where the researcher gradually makes sense of the social phenomenon. It is done by comparing, contrasting, replicating, cataloguing and classifying the object of study ending up in a description of meaning. The idea is to comprehend how people make sense of their lives and how they structure their world. It therefore relies on tacit knowledge (intuitive and felt knowledge) because the nuances of multiple realities and meanings can be appreciated best in this way. Consequently, since the researcher interacts with the subject researched; since the researcher is the primary instrument for data collection; and since the researcher is the one to analyse and interpret the data, the researcher as well as the process are subjective and prejudice. This means that the biases, values and judgement of the researcher must be stated explicitly in the research report. Such openness is considered useful to the reader. This point is taken further by Donna Haraway, who is one of several post-modern feminist that have critiqued science and its dominant way of generating knowledge. In her opinion any research is done by a situated person with ideas determined by own experiences, knowledge and inspired by certain theories. The combination of this is the foundation for claims of knowledge, which therefore is bias. To hold the researcher accountable for his or her beliefs and statements, Haraway finds that all subjective issues must be clearly stated. This includes disclosure of the researcher's position, statement of his or her situatedness (gender, class, race) and particular bias for which he or she can be held accountable in the knowledge produced. In this way the outcome of research cannot be obscured by claims of objectivity. (Braidotti et al 1994: 10, 13; Creswell 1994: 5, 8-10, 147, 161-162; Terre Blanche and Durrheim 1999: 43).

Based on this I may conclude the following. In the study, I intend to explore the works of various ecofeminists together with other authors relevant to the research question, in order to understand their perspectives. I want to focus on the meanings and perceptions of these authors and the way they make sense of reality. The research process requires me further to interpret and integrate these multiple

complex realities, as I comprehend them. This, together with my own situatedness, makes my study prejudice. Much bias in the study involves my choice of authors. To state this, I find it relevant to present some of these. This clarifies the values, which are part of the dissertation and me. In the coming section, I therefore would like to present myself and some authors whose values, ideas and writings have inspired and influenced this study.

Conclusively regarding research design: This is a feminist research with a design based on the qualitative paradigm, with holistic and inductive themes. It is a process of discovery and hence an exploratory type of research. Nevertheless, it also includes but to a lesser degree both descriptive and explanatory elements. Being a social study, the research may as a disciplinary category be placed inside the grounded theory due to its inductive approach. Nevertheless, the outcome will not be a fixed theory. It is rather a contribution to the ongoing debate in development, hence a theory-in-process. The dissertation should overall be seen as an integrative literature review. Due to this emerging, process-oriented design, the methodology used in the study should be called "**exploratory research method**". It is a fitting term. I should add that the term already was proposed by Professor Peter Stewart in the UNISA Department of Development Studies at the proposal meeting in 2003.

Part of the research design is to provide a plan of action that describes the techniques, which will be employed in the execution of the research. Or said differently, which procedures will be used to answer the research question? These are called **research techniques** and include in this case a *literature search, collection of data and analysis*. Moreover, the research design must provide extensive information about all three aspects of the research. A *literature search* must be well planned and systematically executed. The strategy involves identification of relevant information sources and several key concepts. Based on the key concepts one must try to find books, articles or other sources of information that fall within the set. Together this constitutes the core literature. If that is not enough data, some of the key concepts need to be searched further. The literature search must be done purposefully without defining the size in advance. In this way, new information can be gained along the way. That may lead to "sampling to redundancy", which means that little new information is to be gained inside the unit. *The data collection* is a determined procedure where documents that best can answer the research question are selected. There must be done no attempt to make a random selection of authors. Procedure for *analyses* of the material is done as an eclectic process. The literature is used to explore the subject inductively. The plan is to study the written material, compare and contrast the information, and eventually incorporate it. In this way, the information is building a picture of the subject based on diverse ideas. The outcome is not estimated, it must evolve by itself. The literature is

therefore not defining the problem; neither does it set the stage for the study. However, it is expected to answer the research questions. The idea is to develop categories along the way, to compare and contrast and to explore contrary or alternative explanations for the findings. This often means that there is much more information than what can be used in a meaningful analysis. The amount may be reduced by including only certain categories and themes. Rules on how to do this are flexible, but the process must be stated because the categories chosen will form the basis of the emerging story that is told. Marshall and Rossmann (1989) call this process "generating categories, themes or patterns". Eventually in the process of analysis, the information is transformed into an answer to the original research question. (Creswell 1994: 21, 37, 148, 153-154; Terre Blanche and Durrheim 1999: 20-21, 44-45, 47).

The research technique of this study has been done in the way Creswell, Terre Blanche and Durrheim describe it above: The research is based on secondary literature. It comprises various kinds, mainly in the form of books and articles. Included are, however, also data from relevant magazines, television broadcasting news, and internet web sites. The *literature search* was done in close cooperation with the Subject Librarian for Development Ms. Leanne Tracy Brown in the Research Service of the UNISA Library, in Pretoria, South Africa. The search was done according to some relevant criterions. The key concepts included all that could be found about ecofeminism; development ethics; radical environmental ethics; development paradigms; women in science; post development; alternative development; alternative economics; environmental protection; Chipko Movement; Green Belt Movement, Wangari Maathai; ecological movements; I Ching, book of changes; yin and yang in modern society; Fritjof Capra. It should be added that I have relevant material about gender in development, women and structural adjustment, women and the environment, sustainable development and development theory. I therefore did not need to search much into these issues. There proved to be plenty of literature on the key concepts. On ecofeminism, there was more than I expected. However, also on the other issues, did I receive good and relevant material. Due to the subject librarian's experience, knowledge and devotion the search brought more relevant material than I possibly could have found on my own. That was fruitful since the idea was to open up the discussion as much as possible rather than to limit it. Based on the literature search I borrowed many library books and received plenty of copied articles. I collected most of the books on a visit to Pretoria. At the same time, I took the opportunity to browse around in the library, looking for additional material. It happened a couple of times, when I looked for a specific book, that I found other relevant books on the same shelf. Regarding the Chipko movement and the Green Belt movement, I searched over the internet, also by the help of the subject librarian, who gave me the address on various relevant web

sites. In addition, I bought some books during my stay in Pretoria. I was lucky to find E.F. Schumacher's "Small is beautiful", then I could finally have my own copy. It is a book, which I treasure. Since my husband and I have studied for many years, we have various literatures on the shelves, some of which proved relevant to the study. We also keep ourselves updated with world news. Hence, every time there is any statistical information regarding development, we write it down.

During the process of *data collection*, I skimmed, read or studied all the material I received. Although it was clear what I wanted to study, it was not at all clear what was relevant to include in the research in order to answer the research questions. Neither was it clear how to structure the study. I knew that most material regarding ecofeminism would be useful, but other data was not always clear. Due to the confusion, I decided to let my intuition guide me. That was helpful. In that way I considered all material I had received, and I found a lot of it to be useful to some extent. During this process, additional literature was searched and ordered based on the values and references of some authors. Similarly extra material was requested during the process of the study, whenever new issues came up that needed further exploration.

The *analysis* has been a long process. It has been done according to my own thorough technique, as follows: The selected books and articles are first categorized and then all are studied partly or wholly in four sequences. During **the first reading**, relevant information is marked in each item. During the **second reading**, most of the data from the marked areas is typed on the computer and printed. In the **third reading**, the printed notes are studied again. In the process, relevant data is highlighted. The highlighted notes are then categorized according to assumed chapters and discussions and are entered into the computer under the said chapter or item of discussion. In the **fourth and finally round** all notes under a chapter or a topic of discussion are studied again. Then via a complex process of comparing and contrasting, the data is incorporated as a comprehensive whole, giving an overview meant as part of the ongoing dialogue in development. After the last process, each paragraph written is scrutinized and reformulated several times. The **advantage** of using this technique is that the knowledge studied becomes internalized for easy access. Since I at that stage can remember much of the data, it is easier to gain clarity about what is relevant for the different sub-discussions in the dissertation. A thorough insight into the relevant material is also helpful in order to tell the author's story, of course only as I am able to perceive it. Or said differently; after such thorough study I know what the subject is all about, which has the advantage that I can use the knowledge in my future development work - and that was my intention. The result is also that I know the study inside out. There is, however, a major **negative** aspect in using this technique. It is time consuming. It is in fact

so lengthy that I cannot really recommend the technique in general. It is mainly useful in situations where a deep insight into limited data is required, or if one deals with material written in complicated, technical academic language. A less time-consuming technique would be to jump stage 2. However, I am sure that each has his or her own unique technique suitable to the person and context. Part of the reason for choosing this comprehensive process of analyses was that I lacked an overview of content of the chapters. I therefore must say that this study is truly exploratory, and hence time consuming.

There are four more issues related to the analysis. **1)** An important part of the analysis is searching for root causes. This is based on my belief that it is not possible properly to understand any issue, action or activity, without comprehending its underlying values. Because of this belief, I had to analyze science, economics, and technology before dealing with development. This included looking into the history, concepts and values of these three issues. That proved to be helpful in the study. The search for root causes showed that science, economics and technology all are based on dualised values that dominate women, poor people and nature. Being founded on the same values, it was highly likely to expect that development is dominant too. This led me to the perception that economic development is a major reason for the current devastating global crises, which makes the lives of women, poor people and nature unmanageable. Hence, in order to understand what went wrong with development, it was necessary to unveil its underlying values. It leads to the conclusion that development cannot fulfil the purpose of alleviating poverty; neither will the programme be able to regenerate the environment. It is this search for root causes that gave science, technology and specifically economics, a prominent space in the research. **2)** I similarly believe that it is impossible to confine a discussion about development to the South only. We live in a whole, interrelated world. If we overlook the role played by the Northern governments and their institutions, we overlook how these leaders influence the situation in the South and consequently directly or indirectly dominate women, poor people and nature. **3)** Furthermore, I have tried, in a limited way, to put human faces and emotions on neutral, rational concepts like political leaders, governments, and nation-states. These concepts are not living entities and they can do nothing. They are positions held, and institutions run by real human beings. It is not the White House, USA, UN or the World Bank that take any decisions, which dominate women, poor people and nature. Neither is it structural adjustment programmes nor free trade that exploit people and nature. Human beings decide to make these policies and to take these actions. Too often, this is overlooked in books, articles and news. I am not a psychologist, but I have nevertheless tried to incorporate some emotional issues in this study. It is in any way a natural part of a feminine research to include reality as seen from the side of the dualised other, which in this case relates to human emotion. I have mainly tried to show, in a limited way, that the economic decisions these people make have nothing to do with any rational, neutral or universal truth. To maximize economic profit is

motivated purely by satisfaction of own emotional needs. These greedy people feel better, get a higher material standard of living, become richer and more powerful when they take these decisions. The fact that their decisions mean a life of misery for women, poor people and nature can be rationalized away. That is the only time they need their rationality. I consequently find it a more realistic approach to deal with people and their emotions, than with neutral "rational" entities. I will pursue this more in the future. However, in this study it is done only in a limited way. 4) As stated above the research includes holistic issues. In the process, I found out that discussing systemic and holistic issues is not simple and straightforward. Opposite to the usual linear, progressive method, a holistic discussion is a cyclical and integrative process. It explores subjects in such a way that each element is becoming clearer for every discussion, section and chapter. The reason is that additional elements, or other parts of the same element, are continuously added to the former ones. This gives an increased clarity in a progressive and cyclical process. The outcome of systemic and holistic discussions should give an integrated and comprehensive understanding of the subject explored. When I battled with the complexity of the critique of science, economics and technology, I found out that I could not discuss it in a linear way. I then applied a circular and integrative way of discussion, which I found rewarding. You may compare this type of discussing to the view you get while walking around a building, describing it from all angles in the process. When you describe the main entrance of the house from the front, you can also describe the corner you just passed as it looks from this angle, together with the next corner you are going to pass. In that way you are aware that the building is an interconnected whole, that the walls are linked and that you can go around it. However, each part of the house looks different when you see it from different angles. This is the same with the circular discussions in the dissertation. The same subject may be important in other contexts and therefore it needs to be incorporated in more than one discussion, but seen from another angle. The result is that some issues are discussed repeatedly, due to their relevance in alternative contexts, but in each discussion, they are perceived differently. An example is the ongoing ecofeminist theme of productive and reproductive work of women and nature. The issue is essential in order to show the domination inherent in development. It is therefore discussed in different contexts, all of which are relevant to the subject. It is part of the discussions regarding unequal gender relations; economics; GDP; individualism; (UNSNA) United Nation's System of National Accounting used for appraisal of economic performance; and finally it is also discussed in its empirical reality. The subject should therefore not be seen as being repeated. It is applied in order to discover more issues in the same context seen from a different angle or in a different context. A reality is that the more times it is possible in alternative contexts to mention the domination of women's and nature's productive and reproductive work, the more obvious and convincing does it become that the domination of women and nature is real, systematic, and consistent.

There is no single stance or consensus on addressing **validity and reliability** in qualitative studies. However, it is agreed that the concepts cannot be directly applied in an evaluation of a qualitative research. A modified criterion is necessary in order to make the qualitative study coherent. **Coherence** refers to the degree to which the various elements of the design fit together within the framework provided by the research paradigm. Thus, the different parts of the design must match each other. It means that also the evaluation needs to fit the paradigm. We may therefore say that while a quantitative research is evaluated according to whether it is likely to produce findings that are valid, generalisable, and reliable, other issues that are more applicable must be used in a qualitative paradigm. Hence, the meaning needs to be expanded in order to be coherent. Consequently, rather than validity and reliability a qualitative researcher seeks credibility, transferability and dependability as will be explained below. (Creswell 1994: 157, 163; Terre Blanche and Durrheim 1999: 60-61).

Validity refers to the degree to which the research conclusions are sound. There are different areas of research validity: *Internal validity* is the extent to which causal conclusions can be drawn. *External validity* is the extent to which generalising from the research is possible. *Measurement validity* refers to the extent to which the appropriate conclusions are drawn from the data. *Statistical validity* is the extent to which the study has used an appropriate design and statistical methods of analysis. All are important but which is in focus and relevant varies according to the nature of the research question. Qualitative investigators have problems with this understanding of validity. They find it impossible to identify and rule out possible validity threats, and they reject the idea that research findings can be accurate reflections of reality. Nevertheless, it is maintained that some qualitative research are better than others are and the suggestion is therefore that research is evaluated according to its **credibility**. Credible research produces findings that are convincing and believable. Credibility is established during the research. The researcher continually looks for discrepant evidence to the hypotheses she or he is developing as a means of producing a rich and credible account. (Terre Blanche and Durrheim 1999: 62-63).

I believe that this research is credible. It produces a rich and detailed account, showing in various forms how development and its underlying structures of science, economics and technology constantly and consistently is dominating women, poor people and nature. During the study, all critique of ecofeminism has been presented in an open and honest way. However, I have not been able to find any critique that could point out any incident where the domination of women and poor people did also not include the domination of nature and vice versa.

Generalisability refers to external validity and is mainly relevant when one wants to create general theoretical claims. Many qualitative researchers find that meanings are highly variable and therefore they do not seek generalisable findings. Instead, they argue that research findings should be transferable. **Transferability** is achieved by producing rich descriptions of contexts. These give readers detailed accounts of the structures of meaning that develop in a specific context. The understanding can then be transferred to new contexts in other studies and provides a framework with which to reflect on the arrangements of meaning and action that occur in these new contexts. (Creswell 1994: 158-159, Terre Blanche and Durrheim 1999: 63).

Due to the stated prejudice, the study cannot be generalized. It was also not the intention. The aim is rather to form a unique interpretation of the problem formulated and to give an answer to the research questions. However, in the same way that I have used other non-ecofeminist studies in my research, others will also be able to transfer some of my findings to their studies. Due to the detailed and rich descriptions of the main issue - that women, poor people and nature consistently are dominated by development - this point can be applied to other contexts. The parts I find being transferable from the research are described in chapter 8; summary, conclusions and recommendations.

Reliability is the degree to which the results are repeatable or the study can be replicated. Qualitative researchers do not assume that reality is unchanging and stable and therefore they do not expect to find the same results repeatedly. On the contrary, they expect changes. Instead of the criteria of reliability, they propose that the findings should be dependable. **Dependability** refers to the degree to which the reader can be convinced that the findings did indeed occur as the researcher says they did. Dependability is achieved through rich and detailed descriptions that show how certain actions and opinions are rooted in and develop out of contextual interactions. (Creswell 1994: 163, Terre Blanche and Durrheim 1999: 63-64).

In order to make the subjectivity in the study clear, my values are made open from the beginning. I also make clear that the authors used are selected according to those values. Moreover, I have done effort to present the authors' work as accurately as possible, although it must be kept in mind that it is still my comprehension of their writings. Being in this way open about the subjective values of the study means that another ecofeminist study done by a researcher with similar radical values like mine may reach similar outcomes. Oppositely, a person with more conservative values would probably reach other conclusions. It is, however, a reassuring example that, in spite of having used another "path", Richard Norgaard reached the same outcome about development's betrayal of poor people and nature as ecofeminism. I consequently believe that my study is dependable.

1.6. Researcher's situatedness and author review

"Great joys come from contemplating noble works."

Democritus (fl 420 BC) Greek philosopher. (Barnes 1987: 270)

As mentioned in the above section, I find it important, in order to clarify the prejudice of the study, to present those parts of my own situatedness that are influencing the study. Similarly, to unveil the values of some of the authors whose works I have used in the study.

1.6.1. Researcher's situatedness

My name is Jytte Nhanenge. I am a white, woman born in Copenhagen, Denmark. I come from a workers class background, with limited material resources and difficult family relationships. After finalizing my 10 years in school, similar to a matrix, I became an apprentice in a big Danish insurance company. Here I earned a commercial diploma, and later on, I pursued additional insurance education and commercial training. After ten years in the insurance business, I realised that I needed to do something more rewarding. I had for a long time a vision of going to Africa. Before long, I got a good job in a Danish non-governmental development organisation in Lusaka, Zambia. That was the start of my long journey of changing my perceptions. After Zambia, I worked in Yemen, Tanzania, and Zimbabwe and had two short-term contracts in Botswana and Lesotho. I also worked two years at the NGO Headquarters in Copenhagen. I met my first husband in Zambia. He was a Dutch development economist with a Calvinist background. Our marriage lasted 10 years, but with constant tensions. We finally agreed to divorce, due to serious value differences. Looking back, I am slowly getting to appreciate this difficult experience in my life. Without having been in such close contact with patriarchal values, I would not have been able to understand domination as ecofeminists describe it. I would probably also not have been drawn to study the roots of domination.

1.6.2. Presentation of some authors and their values

In order to make the bias of the research clear, I would like to present some of the authors who play prominent parts in the research. These authors are not selected randomly, they are chosen because I find that their values are important and admirable. These are values, which I would like to adapt. I studied much of their works thoroughly, and enjoyed sharing in part of their insight and wisdom. I am grateful to them for helping me to perceive reality more clear. In many ways, this is their study, rather than mine. I only collected, analyzed and incorporated their ideas; they did the hard work of inventing them. I do hope that the outcome came close to these people's perception of reality.

The far majority of the authors in the research are ecofeminist or feminist. However, also the works of other authors are used. These may include some writers who show sensitivity in their work to a feministic perspective. An example of such an author is Paul Ekins. However, very importantly I have chosen to include writers who in some way have dealt with dualism, and presented their insight from the perspective of the dualised other. To include works that in diverse ways focus on dualised issues was necessary in order to show that Western dualism is consistent. In this way, the scope is wider. It, however, also presents a limitation. Because otherwise excellent works done by authors who have critiqued development issues, but who have not put it in a dualised perspective, have been left out. I saw this choice as being necessary due to the ecofeminist focus: to unveil the underlying masculine-feminine dualist structure that form the dominant relationship between men-women, people-nature, culture-nature, white-black, colonizer-colonized, modern-traditional, developed-underdeveloped, quantity-quality, North-South, large-small, hard-soft, and reason-emotion. Since the first mentioned dominate the last mentioned, it is necessary, in order to understand the structure, to perceive reality from the side of the subordinate. That is why ecofeminists choose a feminine approach in their analyses. This means that the focus is often on women since they are black, underdeveloped, colonized and traditional, but not alone. Ecofeminists study both sides of the dualised pair, their relations, and the whole constellation; but consistently seen from a feminine perspective. Thus, dualism is the underlying structure of domination. In order fully to understand its pervasive power, I find it important, to include the perspectives of some non-feminist authors, who in their critique of development focus on some dualised pairs, which ecofeminists may have given a lower priority.

Karen J. Warren is a professor of philosophy at Macalester College USA. She has written extensively on ecofeminism and environmental philosophy. She is the editor of a number of ecofeminist anthologies. She is the author of a real useful and explanatory book about ecofeminism "Ecofeminist philosophy; a Western perspective on what it is and why it matters" from 2000. With her impressive input, Warren has played an important role in establishing ecofeminism as an influential philosophy and practice for the current age. Her works are well written and give clarity in the fields of environmentalism, philosophy and feminism. I have used her valuable insight mainly in chapter 4.

Val Plumwood teaches in the Department of Philosophy at the University of Tasmania, Australia. She is also a forest activist and a member of the green women's network in Canberra. Her 1993 book "Feminism and the mastery of nature" deals with the feminist critique of reason. Plumwood argues that Western culture's dualised focus on reason has systematically denied dependency on nature. Western culture has also subordinated the sphere of those it has defined as the inferior "others". This

domination by the Masters has distorted human knowledge of the world, which now is threatening our survival. The future therefore depends on our ability to create a truly democratic and ecological culture beyond dualism. The book specifically focuses on the relationship between women and nature, and between ecological feminism and other feminist theories. However, it also shows how a feminist critique of the dominant rationality can be extended to integrate theories of gender, race and class oppression with that of the domination of nature. Exploring the contribution feminist theory can make in developing better green thinking, and improved environmental philosophy, Plumwood's book challenges much existing work in both categories. It is an essential book when one wants to understand the historical, philosophical and cultural roots of the environmental crises and the culture of denial, which blocks response to it. I was grateful for Val Plumwood's important input about how dualism functions. It is used in chapter 4. However, other parts of her brilliant work are incorporated in chapter 6 and 7 as well.

Noël Sturgeon is an assistant professor of Women's Studies at Washington State University. She is also a long time activist. Her 1997 book "Ecofeminist natures; race, gender, feminist theory and political action" demonstrates in convincing details how theory is politics and how politics is theory. The book is a critique of an ecofeminism, which is in danger of being stereotyped as an essentialist dogma, frozen at one historical moment. Instead, she advocates an evolving theory-in-practice as an important element in ecofeminism. Since she is both a scholar and an activist, she is able in her critique to offer fresh insights that will be immediately useful. Sturgeon has by Donna Haraway (book cover) been called a fierce and loving critic and a keen-eyed participant in the movements she describes. She is attentive to complex relations of power and the many forms of political action in which ecofeminism must be situated. Her book has therefore important implications for social movement theory, for anti-racist feminist theory, and for environmental studies. The book is inspiring and makes a real contribution to feminist scholarship as engaged political practice. Sturgeon's work made essential contributions to this study due to her clarity in seeing ecofeminism as "a moment" in the development discourse. I owe chapter 6 part III, and a new understanding of essentialism to Sturgeon's excellent book.

Vandana Shiva is a physicist, philosopher and feminist. She works as a director of the Research Foundation for Science, Technology and Natural Resource Policy, in Dehradun, India. Shiva is an internationally re-owned ecofeminist. She has been a prominent speaker on the subject *women, environment and development* since the Nairobi Forum in 1985. Her book "Staying Alive; women, ecology and development" from 1989 was highly influential in shaping the debate as well as inspiring

alternative development thinking. Her later works has only reinforced this. Shiva focuses on the socio-economic links between the domination of women and nature. Her works fundamentally questions the Western model of development as the only possible model. Instead, she finds that development is an extension of colonialism. She perceives the Western mode of development as violence and terrorism in theory and in practice, therefore it should more correctly be called mal-development. In her opinion, mal-development rests on false, male-bias assumptions; it is bereft of the feminine ecological principles; it neglects nature's work in self-renewal and women's work in producing sustenance. The critique of development's values has lead Shiva to redefine terms like development, progress, sustainability, productivity, poverty and wealth. She has outlined the validity of marginal people's knowledges in the search for sustainable models in development and in environmental protection. She has illustrated that such knowledge is not primitive; it is sophisticated because it is based on generations of close observation of natural processes. An important contribution is Shiva's alternative value of poverty. She differentiates between real material poverty and culturally perceived poverty. She questions the assumptions that rural Southern people who live sustainably from natural resources are backwards compared to urban Northern people who over consume natural resources at unsustainable levels. Shiva consequently challenges the epistemological assumptions underlying the dominant development model; she highlights its violence to poor people and nature; and she denounces its destructive effects on local cultures and lifestyles. Shiva has used the Chipko movement as a basis for her analysis. In her more recent works, Shiva is focusing on the dominant powers of biotechnology. Shiva is probably the most well known ecofeminist in the development discourse. Studying her works completely changed my perception regarding my own cultural background and the development discourse it promotes. Her description of the Indian cosmology helped me to make the combination between ecofeminism and the yin and yang terminology. I find her a genius and I am grateful for sharing her insight. (Seabrook 1993: 10; Braidotti et al 1994: 90, 93-95, 109-110; Warren 2000: 25-26).

In 1993, Shiva co-wrote the book "Ecofeminism" with **Mira Mies**, who shares Shiva's opinions. Mies is a sociologist and an author. She works as head of the Women's Studies Programme at the Institute of Social Studies in The Hague, The Netherlands. She is also professor of sociology at the Fachhochschule in Cologne, Germany. Mies comes from a Marxist-feminist background. She argues that women and nature are colonized by patriarchal capitalism. This gives men control over and access to resources that are not given to women. Women and nature are instead seen as being free resources for exploitation. Without these resources, the wealth of ruling-class men cannot be created. Mies defines women's role in childbearing and rearing as work. She also finds that reproduction

constitutes women's closer relation to nature. Hence, through their double role in productive and reproductive work women's understanding of nature is superior to that of men's. Women not only work close to nature, they are nature, since they give birth and nurture their children, and thus they are doubly exploited within patriarchal society. Due to the influence, the works of Shiva and Mies have in the development discourse, their input features as prominent sources in the study. However, it is mainly found in chapter 6, but also in 7. (Braidotti et al 1994: 93; Warren 2000: 26).

Ivone Gebara is a Brazilian Catholic sister of Our Lady. She is one of the leading theologians in Latin America and holds doctorates in philosophy and religious studies. She has written a variety of books on these subjects. Her latest book "Longing for running water; ecofeminism and liberation" is a beautiful expression of her version of ecofeminism. Based on her experience with poor urban women and men and their deteriorating environments she has articulated an ecofeminist world-view. Specifically insightful is her ideas about epistemology and the concept of the human person. Through her own experience, Gebara has come to realise how exclusion of the poor is linked to the destruction of their lands. A small elite in poor countries defend their unjust monopoly on resources and power by increasing militarization. They arm themselves to kill their own poor. She has come to understand that this fits in with the logic of patriarchalism, which is currently manifested in the economic globalisation. She has also come to understand how political, economic, social, educational and religious issues are related to ecology and the stability of the ecosystem. Thus for Gebara ecofeminism is born out of daily life, of the lack of garbage collection, of the multiplication of rats, cockroaches and mosquitoes, and of the sores on the children's skin. These are the usual daily survival issues that poor women deal with. It is the poor women that clean the streets and the houses of the rich. The streets of the poor are not cared for. It is the rich that receive public services, the poor has no access to it. Most waste is produced by the rich. The poor are not consumers of canned and packed goods. The poor do not own the polluting factories, the nuclear power plants, or the military headquarters where wars are planned. However, the poor are the first to be hurt by the waste and violence from the rich institutions. The poor cannot change this. It requires material wealth to live in places where there is no garbage and where one is safe. To overcome these crises we need to break the patriarchal system that enslaves women, men, marginal populations and nature. We need a qualitative change away from destruction of life. Gebara finds that she sees signs of such a change. Differences are re-emerging, alternatives are reappearing, and exceptions from the patriarchal hierarchy are generated. Feminist and popular ecological movements are growing in Latin America. They appear in various forms, with or without a recognized name, not necessarily belonging to any established type of First World groups. Women are increasingly concerned about what is happening in society. Poor people are starting to demand land

reform and redistribution of urban plots. These groups are significant, because they struggle to break with the white, wealthy, Western arrogance of unlimited power and greed. They may seem insignificant but they are exposing the racist foundation of the Western system. It is out of this situation that ecofeminism has grown in Latin America. It shows that the ties between feminism and ecological concerns are multiple and varied. This has helped the poor to understand what is going on. As mentioned, it is a beautifully written book. I was specifically impressed about Gebara's insightful vision of a future holistic anthropology and epistemology. Hence, her input is presented in chapter 7. (Gebara 1999: vi, 1-7).

Fritjof Capra is originally from Austria but he is now living in USA. He is a physicist, a systems theorist and an author. He is also the founding director of the Centre for Ecoliteracy in Berkeley, California, USA, which promotes ecology and systems thinking in primary and secondary education. Moreover, he is on the faculty of Schumacher College, which is an international centre for ecological studies in England. Capra has written several books including "The turning point; science, society and the rising culture", "The web of life; a new synthesis of mind and matter" and "The hidden connections; a science for sustainable living". Capra sees his work as a continuous, evolving process. Since the early 1970, his work has focused on the fundamental change of world-view that is occurring in science and society. He sees it as an unfolding of a new vision of reality, a transformation of modern culture with social implications. In 1975, he started to discuss the philosophical implications of the changes that occurred in physics at the beginning of the 20th century. In 1982, he showed how the changes in modern physics foreshadowed a similar revolution in other sciences, world-views and values in society. However, in 1989 he altered his perception. He realised that the new physics paradigm was inappropriate. He then entered into a broader conceptual framework, with a vision of reality where life is at the very centre. Nevertheless, he still holds the view that the mechanistic, Cartesian world-view must be replaced with a new vision of reality. He calls it *the systems view of life*. That new vision is slowly emerging. Capra believes that the school of Deep Ecology can provide an ideal philosophical and spiritual context for the new scientific paradigm. He has therefore in subsequent years explored the implications of Deep Ecology and the systems view of life. In the process, his studies included ecofeminism, eco-psychology, eco-ethics, social ecology, and transpersonal ecology. Capra believes that for the future the key challenge for scientists and everyone else is to build ecologically sustainable communities designed in such a way that their technologies and social institutions, their material and social structures, do not interfere with nature's inherent ability to sustain life. (Capra 1997: 6-8, 288; Capra 2002: xiii-xv).

Capra has a strong relationship to feminism and ecofeminism. He embraced a feminist perspective already in 1974, where he was inspired by the writings of feminists like Germaine Greer and Adrienne Rich. Interestingly it was the ecofeminist Carolyn Merchant, who made Capra aware of the connection between mechanistic science and patriarchal values.

Carolyn Merchant is a historian of science at the University of Berkeley in USA. Her 1990 book "The death of nature; women, ecology and the scientific revolution" shows how the scientific revolution since the time of Francis Bacon shifted the goal of science to produce knowledge in order to dominate and control nature. The connection between the mechanistic world view and the patriarchal ideal of man dominating nature is apparent not only in the works of Bacon but also, to a lesser degree, in those of Descartes, Newton, Hobbes and other founding fathers of modern science. Today both science and technology are used predominantly for purposes that are dangerous, harmful and profoundly anti-ecological. According to Merchant, the key problem of science intersects three issues: the practice of *domination of nature* for the purpose of economic gain; *social domination* of underprivileged groups like women, children, poor people, coloured people and ethnic minorities; *psychological domination* of some over others. Gender relations therefore play a central and paradigmatic role in locations of power. Merchant's amazing research is used in chapter 5, Part I, where it is combined with Capra's own studies and the works of Plumwood and Braidotti et al. However, also the feminists Evelyn Fox Keller and Sandra Harding have made analytical contributions to the chapter. (Capra 1989: 235-246; Braidotti et al 1994: 31).

Capra was also influenced by his friend and professional associate **Charlene Spretnak**. Spretnak is a visiting professor on philosophy and religion at the California Institute of Integral Studies in USA. She is also a green politics activist, an author and an ecofeminist. Spretnak's specific focus is on the interconnection between feminism, spirituality and ecology. From his relationship with Spretnak Capra understood the crucial link between feminism and ecology, and the profound implications feminist awareness has for the new ecological paradigm. The two co-wrote a book about green politics. (Capra 1989: 243-246).

Capra's books are interesting and inspiring. Although I do not agree with him in all matters, I find him an important author to have in the current, complex time in human history. His profound insight, explained in plain language, has helped to combine many issues in my mind. Most importantly, he made me understand the over-emphasis of the masculine or yang force in modern society. This insight was essential in order for me to comprehend the full implications of the invasive, dominant powers of

patriarchalism. Together with the works of Hazel Henderson and E. F. Schumacher, Fritjof Capra's books have made major contributions to this study. Almost all chapters have been improved due to the inspirational and unique ideas of these three authors. Capra's ideas appear in both chapters 3, 5 and 6.

Hazel Henderson was an inspiration for Capra in many ways. He therefore chose her as an advisor in the area of economics, technology and politics for his book "The turning point". The book clearly is marked by her ideas. Henderson is British by birth but lives in USA, where she is working for greater public participation in the making of science and technology. She has been involved in numerous grassroots organisations, environmental action groups and advisory groups to business and congress. Together with her husband, she has established the Princeton Centre for Alternative Futures, Inc. Henderson is autodidact. She started her own education in 1964 concerning the needed transformation in economics and technology. She realised that many of the traditional assumptions about economic growth, resources exploitation and competition were literally killing life on Earth. She also developed a keen awareness about ecological and human interdependence. In her opinion, ecological and systemic models can better predict crisis than the usual linear ones. Seen systemically it is obvious that depletion of natural resources is bound to increase conflicts, resulting in the crises of poverty, war and violence. Her experience is that governments are poor in understanding global interdependence while the population is more aware. An American research in 1975 showed that 3 in 1 person found that *"the trouble with most leaders is that they don't understand that people want better quality of almost everything they have rather than more quantity"*. In her first book "Creating alternative futures: the end of economics" Henderson attacks the dualised, one-sided, Western, masculine world-view. She believes that its imbalance eventually will eradicate humanity. In her opinion, the hard-ware loving, modern culture needs to be balanced with soft-ware approaches in science, economics, and technology. Thus, *"instrumental yang must allow the re-emergence of the subtle yin to restore balance"*. It means that the modern world is faced with an inevitable social and economic transition. The changes are manifested in counter-cultures, counter-economies and citizens-protest movements. As the title of the book indicates, Henderson is specifically critical about economics. In her opinion, economics is a pseudo-science with inappropriate concepts, language and methods. Economic policy is therefore too important to be left to the economists. In her work Henderson is promoting the ideas of E.F. Schumacher, whom she considers her mentor. Henderson's unique blend of open and honest insight has been valuable in order to help me understand the dualist issues in economics and technology. Her input is to be found in chapter 5. (Henderson 1978: 1, 3, 5-7, 27-28, 384, 400; Capra 1989: 247, 280).

Ernst Fritz Schumacher hardly needs any introduction. His writings about development, intermediate technology and critique of Western economic attitudes are well known. His best-known book is "Small is beautiful: a study of economics as if people mattered" from 1973. Schumacher was also concerned with harmony between opposite elements. His specific focus was on the dualism of small and large, quality and quantity, people and goods, values and facts. Modern society prioritizes the latter part while the first is marginalized. Schumacher oppositely found that people should be in the focus. In addition, since man is small his technologies, activities and relations must be small. Science, economy and technology can only serve the purpose of people if they are directed to human needs, and can improve the quality of life. They must therefore be chosen according to nature's laws and ethical standards, rather than economic norms. Schumacher's solution is to work with nature's own methods, in order to produce health, beauty and permanence. In agriculture, it means use of production methods that are biologically sound. In industry it includes common ownership and small-scale, non-violent technology with a human face, that makes work enjoyable to people. It may not be obvious to all, but Schumacher was not in favour of the idea that everything should be small. He in fact recommended a balance between the dualised pairs. However, since the world already is so unbalanced he found it best to promote the subordinated part of reality. However, as Jonathon Porritt says in the introduction to the book, the title "Small is sometimes beautiful" would not have had such a great impact, as the original title. Schumacher was therefore a holistic thinker, probably the first in the modern green movement. His thoughts inspired many people. However, he was in turn inspired by many people and perspectives, including Gandhi, Buddhism and the Eastern values of life. Although his book is old, it is as relevant as ever. In spite of that, economists and political leaders still refuse to see the point. The cardinal error is that they continue to treat irreplaceable natural capital as income. Such ignorance leads to the absurdity of human societies trying to increase economic growth, measuring their success in GNP, while ignoring social and environmental externalities. (Schumacher 1993: vii-x, 9).

Schumacher was born in Germany. In 1930, he came to England in order to study economics at New College, Oxford. Later at the age of 22, he taught economics at Columbia University, New York, USA. As he found theorizing without practical experience unsatisfactory, he went into business, farming and journalism. He resumed academic life at Oxford during the Second World War and after the war, he served as economic advisor to the British Control Commission in Germany from 1946-50. Schumacher also travelled and worked abroad, mainly in South East Asia, where he got inspiration for his writings. Before the publication of "Small is beautiful" Schumacher was already well known as an economist, journalist and progressive entrepreneur. He also served as advisor, chairperson and

presidents for various boards. He was the originator of the concept *Intermediate Technology* for developing countries and founder and chairperson of the Intermediate Technology Development Group Ltd. In later life, his advice on problems in rural development was sought by many overseas governments. He died from a heart attack home in England in 1977. Shortly before Schumacher's death, Capra met with him in England. Although they shared many issues, they could not agree about Capra's thesis that new physics could inspire and promote changes in all other sciences. Schumacher's concerns were two. First science has excluded all quality issues, and quality is exactly what matters for people and nature. Secondly, science is violent. Francis Bacon influenced science and shifted the purpose of knowledge from wisdom to manipulation. This was new information for Capra. Thus Schumacher's input led Capra to change his focus to a more appropriate and holistic world-view. Feminism played a very limited role in Schumacher's writings. This can mainly be seen in his general term *man* or *men* for human beings. This may appear as a contradiction to his insight into the violence of science. Schumacher was, however, mainly concerned about how the violence of science affected poor people and nature, not women specifically. Beyond doubt, Schumacher was deeply concerned about nature and poor people. In spite of his lack of feminist awareness, his perception of dualism is of great relevance to the subject. Schumacher's input is used mainly in the critique of and alternatives to economics and technology in chapter 5, but his insight is also used in chapter 6. (Capra 1989: 227-229, 235).

Yet another relation to Schumacher is **James Robertson**. In his 1998 book "Transforming economic life: a millennial challenge" he puts forward his thesis on a sustainable economy for the 21st century. It is published for the Schumacher Society and The New Economic Foundation of which Robertson is the founder. Robertson is also one of the co-founders of The Other Economic Summit (TOES). The TOES began in 1984. It has since then been held each year as a counter-point to the G-8 summit (Group of Eight: Canada, France, Germany, Great Britain, Italy, Japan, USA, and Russia). TOES is attempting to send the G-8 and the whole world a message that economics-as-usual is destroying the planet and its people. The G-8 leaders represent less than 25% of the world's people, yet they make global economic decisions, which is affecting the whole world, and which burdens nature and the world's poor. TOES began in the spirit of E. F. Schumacher's "Small is beautiful". It has evolved to become a counter movement to the globalizing economy of the new world order. It promotes the gathering, documentation and interpretation of counter-visions to the dominant models of economic development. Robertson's own vision is presented in chapter 5. It is a model, which includes concerns for women, poor people and nature. (Schroyer 1992: 355, Robertson 1998: 6-7).

"Silent Spring" is written by the American marine biologist **Rachel Carson** in 1962. It was one of the early books in defence of nature. The book focuses on the destruction of life, during the 1950s and 1960s, through the indiscriminate use of pesticide and herbicides. Carson started the book in 1958 when she was 50 years old. By then she was already a well-known author and her royalties enabled her to devote full time to her writing. The book came about because Carson and her colleagues had become alarmed by the widespread use of DDT and other long-lasting poisons in agricultural programmes. She had tried in vain to make magazines interested in an article about the subject, but fearing to lose income on advertisements, they turned her down. Carson felt that there would be no peace for her, if she kept silent about the subject, thus she wrote a book. Carson knew that she would be attacked by the chemical industry because the book made clear the violent and irresponsible attitude industrialized technology had towards the natural world. Hundreds of thousands of dollars were indeed spent by the chemical industry in an attempt to discredit Carson and the book. These attacks fortunately backfired by creating more publicity to the book than the publisher possibly could have afforded. As a direct result of the message in the book, President John F. Kennedy set up a special panel of his Science Advisory Committee to study the problem of pesticide. The panel's report was a complete vindication of Carson's thesis. Her book led to environmental legislation at every level of American government and helped to make ecology one of the popular cases of our time. However, Carson remained humble. As she wrote to a friend, "*The beauty of the living world I was trying to save has always been uppermost in my mind... Now I can believe I have at least helped a little*". Silent Spring is a rare, well-written book. It is easy reading, with a text that is excellently argued, not one premise is missing. Each page is compacted with scientific, factual and relevant information. By the book, Carson manages to educate the reader in chemistry, ecology, human physiology and their interrelation. The book is built on real life case stories, which are presented in a beautiful and poetic language. The facts Carson presents are negative and scary. It was her way to provoke the reader into a positive response towards nature. In the foreword, Paul Brooks points out that Carson bridges the gulf between what C. P. Snow called *the two cultures*: Carson was both a rational, well-trained scientist who possessed the insight and sensitivity of a poet. She also had an emotional response to nature for which she did not apologize. Thus Carson was able to combine the otherwise sharply divided dualised pairs of public rationality with private emotion. Thereby she is giving the reader a holistic picture of reality. By this unique combination, Carson wrote a book about death, as a celebration of life. Carson's book may be old, but it is highly relevant due to the recent re-introduction of DDT spraying for mosquitoes promoted by WHO and some African governments. I have used examples from Carson's book in chapter 5, in order to show the destructive violence of technology. I believe I must rate "Silent Spring" as one of the best books I have read. (Carson 1995: Foreword).

Last but not least, I must mention my favourite psychologist **Dorothy Rowe**. Rowe was born in Australia in 1930 and worked as a teacher and child psychologist before coming to England, where she obtained her PhD in psychology at Sheffield University. From 1972 until 1986, she was head of the North Lincolnshire Department of Clinical Psychology. Since then she has been engaged in writing, lecturing and doing research. She has written more than 10 books about human psychology, all easy accessible material for non-psychologists. She is in my opinion a fabulous thinker. With her natural clarity of vision, intuitive wisdom, deep-seated rationality and extraordinary human compassion, she presents a clear insight into human experience. Rowe pursues issues of how we construct meaning, how we can gain self-knowledge and how we may learn to understand others. Her motivation is as rigorous as that of Socrates when he stated, "*the unexamined life is not worth living*" (Rowe 1993: 271). Rowe perspective in psychology is founded upon the dualised characteristics of human beings, the introvert and the extravert. The introvert tends to be more inclined towards the internal world, individuality, self-assertion and achievement while the extravert has a general disposition towards the external world, socialization, integration and relationships. Like all other authors who deal with dualism, Rowe strongly recommends her readers to create a dynamic tension between the two dualised pairs. Gaining knowledge about our internal reality as well as increasing our social skills will, in Rowe's opinion, give us psychological balance that leads to a happy and successful life. Rowe's insight has been used in chapter 5 and 7.

There are many more excellent authors to mention, like Janis Birkeland, Joseph R. Des Jardins, Irene Dankelman and Joan Davidson, Paul Ekins, Robert Heilbroner, Alice Miller, Richard B. Norgaard and Marthinus Versfeld but it will be too much. However, getting acquainted with these intelligent people and their extraordinary and enjoyable works made me feel optimistic about the future. As long as we have this kind of wisdom and compassion available on Mother Earth, we should not loose hope that changes, which can improve the quality of life for women, children, poor people and nature, are possible.

1.7. Outline of the dissertation and chapter content

In order for the reader to get an over-view of the dissertation, I below would like to state what is discussed in each chapter and how the chapters are related.

Chapter 2; aspects of the crises in the world, sets the stage for the discussion. It presents, explains, and supplies statistical data and discusses four systemic, interconnected crises that the world is faced with today. The crises are ordered under the headlines: war and violence; poverty and inequality;

environmental destruction; human rights abuses. The chapter argues that the crises are caused by modern economic development. However, while the benefits from these activities mainly are enjoyed by the elite, their devastating effects are suffered primarily by women, poor people and nature. Hence, the chapter gives a picture of how women, poor people and nature are dominated by the modern system of progress, which was invented, introduced and still is enforced by the North. It is also argued that the fundamental reason for the four crises is considered a perceptual and intellectual crisis. Thus, amelioration of the crises requires a transformation of modern culture's perception. This includes a paradigm shift of its underlying reductionist, dualist and quantitative metaphysical and epistemological premises. Or said plainly; the modern world is hanging on to an outdated dualist, dominant world-view that is harmful to women, poor people and nature; hence it needs to be changed.

Chapter 3; perspectives for transforming the crises, suggests which cultural transformations are needed in order to ameliorate the crises. These include the fall of patriarchy, a change of paradigm and a different perception of nature. Furthermore, three alternative world-views are suggested and discussed. These include the systems theory, Smuts' holism and the Chinese ontology I Ching with its yin and yang forces. These are non-dualist, systemic, holistic perceptions of reality, where no part of the system dominates any other part. Since there is, a balance between quantitative and qualitative elements changes in these systems will not lead to crises, but result in harmonious outcomes. This shift of world-view is already progressing. It has resulted in many new ideas, initiatives and movements in the world. One evolution is a combined effort from feminism and ecology to liberate women and nature from patriarchal domination. The perspective is called ecofeminism.

Chapter 4; ecofeminism; what it is and why it is important. The chapter presents the various practical and theoretical elements of ecofeminism. The goal is to describe ecofeminism, trace its history, explain its purpose, and to explore how it analyzes the root causes of the aforementioned global crises and suggests solutions. The overall idea is to illuminate the alternative ways ecofeminists are perceiving reality, compared to the Western world-view. The chapter consequently describes the philosophical underpinning of ecofeminism. Included are also discussions about the connection between ecofeminism, Deep Ecology and social ecology, critique of ecofeminism and response, the ecofeminist relation to post-modernism, its foundation as a movement and its spiritual perception. According to ecofeminists, there is an interconnection between the domination of women and poor people and the domination of nature. This interconnected domination is based on a dualist, patriarchal structure that subordinates all it perceives as being different from itself. Hence, whatever is not masculine; including male, white, rich, European, human, modern, developed, rational and

quantitative, is seen as an inferior other. Thus all feminine, like women, poor people, black people, children, traditional people (Others) and nature, belongs to the inferior group of other, which therefore can be dominated and exploited. The aim of ecofeminism is consequently to end all domination and liberate women, Others and nature. This must be done by reintegrating the reality of the oppressed feminine part in all dualised pairs. This would re-create a healthy relation between men and women, humans and nature, quantity and quality, reason and emotion. To do this ecofeminist analyze various interconnections that are perceived as dominating both women and nature. Four of these links are found relevant here. They include the epistemological, political, empirical and socio-economic interconnections between the domination of women, Others and nature. The first two relate to modern science. Its reductionist, quantitative and rational focus is by most ecofeminists seen as the central means of patriarchal domination. A critique of science is consequently the focus of the next chapter.

Chapter 5; an ecofeminist analysis of science; epistemological and political links between the domination of women, Others and nature. This chapter examines from a feministic point of view the foundation and values of science, economics and technology. The analysis aims to clarify that science is an ideological and violent patriarchal way of perceiving reality based on power and control. Science in general, and the discipline of economics in particular, together with their manifestations in technology, are therefore a tool for domination of women, Others and nature. The problem is that scientific ideology prioritizes reductionist, rational, quantitative and masculine, yang elements, while it is excluding holistic, emotional, qualitative and feminine, yin issues. This dualist perception has led to marginalization of women, Others and nature in knowledge generation. It has created serious imbalances in the world and led to the four crises with grave consequences for the quality of life of people and nature. Since the project of development in the South also is founded on modern science, it follows that also development is likely to be dominant to women, others and nature, a subject which chapter 6 discusses.

Chapter 6; women, environment and development; an ecofeminist intervention in the development discourse. Development was meant to alleviate material poverty and bring a good life to the people in the South. However, since development is a scientific project it also contains the Western, patriarchal, dualist values. Hence rather than introducing the prosperous modern life to people in the South, development instead introduced modern poverty, human repression, violence and environmental destruction. Due to its marginalization of feminine and qualitative issues, development automatically became a tool that dominates women, Others and nature. In this way, development cannot promote a quality of life for women, poor people and nature. In order to understand this view

of development an ecofeminist frame of reference must be presented. This chapter therefore explores the empirical and socio-economic interconnections between the domination of women, poor people and nature. It also discusses the ecofeminist intervention in the international development discourse regarding women, environment and development. The overall aim of the chapter is to show why, when, how, to which extend and with which results ecofeminism has intervened in the development discourse. It includes critique of the ecofeminist intervention and response. Briefly mentioned is also the ecofeminist connection to post-development. Finally, an alternative and current ecofeminist intervention in development is suggested.

Chapter 7; the way things could have been; ecofeminist thoughts on a possible non-dominant world. It has been established above that the modern, scientific world-view is excluding all feminine and ecological issues. This has resulted in the four global crises, which are making life unmanageable for women, Others and nature. Since these crises continuously are intensifying and threatening to extinct life on Earth, it has become increasingly important to change the dominant, masculine perception of reality. The aim of this chapter is therefore, in a limited way, to try and suggest what an alternative, holistic and non-dominant world would look like. It includes a reality that has integrated the voices of women, Others and nature. In addition, all other presently dualised feminine, quality or yin forces are given equal value to all masculine, quantitative or yang forces. Since the crises are systemic, the assumption is that when the dominant masculine or yang force is balanced with the subtle feminine or yin force, it will lead to amelioration of the four crises and a harmonious world.

Chapter 8; summary, conclusion and recommendations. The main purpose with this last chapter is to answer the research questions. It therefore states whether the initial goal of the dissertation has been reached and with which result. The final chapter also contains a structural summary of the arguments put forward in the study and some recommendations. I would advise readers to start with this chapter because it gives a valuable overview of the arguments put forward in the dissertation.

Chapter 9; bibliography.

1.9. Summary of the chapter

This chapter explained the structure of the research: its background; the problem; research design and methodology; subjective considerations; author review; chapter outline, and concept clarification. I sincerely hope that I managed to inspire you to get started on reading this voluminous research about how the modern world is dominating women, children, poor people and nature. I can only say, as the German philosopher Emmanuel Kant said, when he had read the Treatise of Human Nature by the Scottish philosopher David Hume that studying this subject made me *wake of my dogmatic slumber*. If I, by this research, can wake up a couple of more people, then I have accomplished a lot.

Chapter 2: Aspects of the crises in the world

"Man can hardly even recognize the devils of his own creation."
Albert Schweitzer. (Carson 1995: 6)

2.1. Introduction

There is today an increasing critique of economic development, whether it takes place in the North or in the South. Although the world on average generates more and more wealth, the riches do not appear to "trickle down" to the poor and improve their material well-being. Instead, poverty and economic inequality is growing. Despite the existence of development aid for more than half a century, the Third World seems not to be "catching up" with the First World. Instead, militarism, dictatorship and human repression is multiplied. Since the mid 1970, the critique of global economic activities has intensified due to the escalating deterioration of the natural environment. Modernization, industrialisation and its economic activities have been directly linked to increased scarcity of natural resources and generation of pollution, which increases global temperatures and degrades soils, lands, water, forests and air. The latter threat is of great significance, because without a healthy environment human beings and animals will not be able to survive.

Most people believed that modernization of the world would improve material well-being for all. However, faced with its negative side effects and the real threat of extinction, one must conclude that somewhere along the way "progress" went astray. Instead of material plenty, economic development generated a violent, unhealthy and unequal world. It is a world where a small minority live in material luxury, while millions of people live in misery. These poor people are marginalized by the global economic system. They are forced to survive from degraded environments; they live without personal or social security; they live in abject poverty, with hunger, malnutrition and sickness; and they have no possibility to speak up for themselves and demand a fair share of the world's resources. The majority of these people are women, children, traditional peoples, tribal peoples, people of colour and materially poor people (called women and Others). They are, together with nature, dominated by the global system of economic development imposed by the North. It is this scenario, which is the subject of the dissertation. The overall aim is consequently to discuss the unjustified domination of women, Others and nature **and** to show how the domination of women and Others is interconnected with the domination of nature.

A good place to start a discussion about domination of women, Others and nature is to disclose how they disproportionately must carry the negative effects from global economic development. The below discussion is therefore meant to give an idea of the "flip-side" of modernisation. It gives a gloomy picture of what "progress" and its focus on economic growth has meant for women, poor people and the natural environment. The various complex and inter-connected, negative impacts have been ordered into four crises. The categorization is inspired by Paul Ekins and his 1992 book "A new world order; grassroots movements for global change". In it, Ekins argues that humanity is faced with four interlocked crises of unprecedented magnitude. These crises have the potential to destroy whole ecosystems and to extinct the human race. The first crisis is the spread of nuclear and other weapons of mass destruction, together with the high level of military spending. The second crisis is the increasing number of people afflicted with hunger and poverty. The third crisis is the environmental degradation. Pollution, destruction of ecosystems and extinction of species are increasing at such a rate that the biosphere is under threat. The fourth crisis is repression and denial of fundamental human rights by governments, which prevents people from developing their potential. It is highly likely that one may add more crises to these four, or categorize them differently, however, Ekins's division is suitable for the present purpose. (Ekins 1992: 1).

In order to substantiate Ekins' argument a variety of data, research and explanations from diverse sources related to the four crises are presented below, including figures that are more recent. The following is therefore an expansion of Ekins' four crises, a presentation for which he should not be held responsible. Although the below description is not exhausting, the data should still be detailed enough to give an idea of the scale of the crises. The overall focus is on the crises in the South. However, due to global interconnection, it is found equally important also to show how the crises manifest in the North, as well as how they are linked to the North-South relationship. Below the crises are ordered under the following headlines: **War and violence; poverty and inequality; environmental destruction; human rights abuses**. These four are not absolute categories. Due to their complexity and inter-connectedness, one cannot really separate the crises thus some issues may overlap. However, it should be kept in mind that when the concept "crises" is used in the text of the dissertation, it refers to the below four categories.

The following description of the four crises is meant as a general survey only. It is therefore not a thoroughly discussed presentation. The idea is rather to give an over-view of the current global crises, in order to keep the discussion in a certain context. The intention is then, in the coming chapters, to return to several of the data and elaborate on them in a more detailed discussion to clarify the

domination of women, Others and nature. Themes like economic development, poverty, gender inequalities, the value of women's work, the worth of nature etc. and how these issues influence the domination of women, Others and nature are therefore not analyzed in detail in this chapter. They will be discussed in details in chapter 5 and chapter 6.

The purpose of the discussion in this chapter is therefore to give an idea of the magnitude of the "side-effects" from modern development **and** to raise awareness of how the cost from its economic activities continuously, consistently and unjustifiably are delegated to and endured by women, Others and nature, both in the North and in the South. Hence, the chapter gives an over-all picture of how women, poor people and nature are dominated by the modern system of progress, which was invented, introduced and still is enforced by the North.

Apart from this introduction, the chapter consists of six sections. **The first four** sections discuss the four crises in the following order: War and violence, poverty and inequality, environmental destruction and human rights abuses. **The next** section deals with the fundamental causes of the four crises, which are seen as being a perceptual and intellectual crisis. **The last** section draws some conclusions.

2.2. The crisis of war and violence; the investments, the human and natural costs, the end-results

"War is judgement that overtakes societies when they have been living upon ideas that conflict too violently with the laws governing the universe... Never think that wars are irrational catastrophes: they happen when wrong ways of thinking and living bring about intolerable situations."

Dorothy Sayers, 1947. (Schumacher 1993: 23).

2.2.1. The price of war; an estimate of the resources spend on military equipment and war

In the year 1978, world military spending was around 425 billion USD, more than one billion USD a day. 16 years later in 1994 global military expenses amounted to 800 billion USD a year, more than two billion USD a day. According to an Oxfam report, the current world military spending is higher than at any time during the cold war. Investments in the global military are in 2006 estimated to reach 1,000 billion or 1 trillion US dollars. This adds up to a daily military spending of almost 3 billion USD. It is more than the total income of the poorest half of humanity, and 15 times greater than the current international aid. The biggest increase of military expenses at the moment is registered in the US and the Middle East. In America, the increase is due to George W. Bush's war on terror. (Capra 1982: 2; Rowe 1997: 241; BBC Business News 13.09.2006; BBC World News 22.09.2006).

Since the Second World War, the world has spent about 16 trillion USD on military. These are official figures, hence not including illegal or secret arms trade. The industrial countries have doubled their military expenditure since 1960, while the developing countries have six-folded theirs. Military spending in Japan, Indonesia, Malaysia, South Korea, Taiwan, Singapore and Thailand grew from 49 billion USD in 1983 to 85 billion in 1993. At the end of 1995, it exceeded 130 billion USD. In 1994, NATO's military spending alone was 464 billion USD. Industrialised countries spend more on their military than on either health or education. Developing countries spend more than three times as much on armaments as on health care. Ethiopia had in 1985 a huge debt to repay and the world's lowest Gross National Product (GNP). Although the GNP per capita amounted only to 110 USD, still 13 USD of these were spent on the military. Only 7 USD were spent in total on health and education. In comparison to these huge military investments, UNICEF estimated in 1989 that additional costs of meeting the most essential human needs of all on Earth required 50 billion USD per year. That amount equals 17 days of current global military spending. From this, it must follow that the priority of political leaders is to invest the nation's income in the military, while satisfaction of citizens' needs is considered secondary. Hence, military expenses are in all countries of the world taking resources away from important human issues like poverty alleviation, education, health and social well-being. (George 1989: 30; Ekins 1992: 5-6, 156; Rowe 1997: 241).

Militarism was a doctrine encouraged by the West and introduced to the South. According to Bunch and Carillo (1990: 80), the production and export of armament helped the West to rebuild their economies after the 2nd World War. The escalation of arms imports in the South was a huge expense that contributed to an ever-greater debt burden, which by now has become unmanageable. According to the 1985 year-book from Stockholm International Peace Research Institute 20% of the Third World's debt could at that time be directly related to purchase of armament. However, increased military spending has also caused debt increases in the North. According to BBC News (06.02.2005 and 16.03.2005), USA had in 2004 a budget deficit of 665,5 billion USD. It is the biggest deficit a country has ever had in human history. Half of the amount relates to expenses from the wars in Afghanistan and Iraq. The rest was generated due to lack of tax revenue from job-losses and the tax cuts, which were promised in the presidential election campaign. This sky-high debt should be compared to a budget surplus left by President Billy Clinton in 2001. (George 1989: 29; Bunch et al. 1990: 80; BBC News 2005).

Such huge military investments make it clear that political leaders and financial institutions prioritize war, or the threat of war, as a means to solve disagreements, rather than diplomacy. USA spends

annually 450 billion USD on the military, while only 1 billion is spent on public diplomacy. That is why Joseph S. Nye Jr. from Harvard University concludes that the chosen USA approach to foreign policy is both aggressive and violent. (BBC News 2005: January).

Worldwide the military employ some 50 million people, half of them are in uniform. The main concern of these people is to engage in all aspects of warfare. Moreover half a million scientists and engineers work with military research and development. Their main concern is to make weapons increasingly deadly and destructive - for humankind. (Ekins 1992: 5-6, 156; Rowe 1997: 241).

There are three categories of weapons of mass destruction: nuclear, chemical and biological. France, UK, USA, Russia, Israel, South Africa, India, Pakistan, China and Brazil have **nuclear weapons**. Since 1945, the number of nuclear weapons has increased. Up to 1992, there were about 50,000 warheads. USA and former USSR own 98% of the total. These have an explosive capacity of more than a million times that of the Hiroshima bomb. They can destroy the planet at least 12 times over. However, this is not enough because the USA is increasing their weaponry with the Star Wars Strategic Defence Initiative. **Chemical weapons** are the poor countries' nuclear weapons. They are easy and cheap to manufacture. It is likely that even small Third World nations, that wish so, have acquired them. **Biological weapons** have been limited more successfully than the two others have. Yet 10 countries are believed to have offensive research programmes disguised as defence against biological weapons. Weapons of mass destruction accounted for 20% of global military spending in 1988. (Ekins 1992: 4-6, 156).

Conclusively militarization uses huge global resources, which many people find should rather be directed to fulfil human basic needs, especially in the South. (Bunch and Carillo 1990: 80).

2.2.2. The losses of war; effects of war are especially hard on women, children and nature

The negative consequences from war are tremendous. In Africa alone, economic losses resulting from wars total 15 billion Euros per year. Such an amount of money could do much social good if spend on poverty alleviation. Instead, the investments are causing horrendous human losses. During the 1990's an estimated 5 million people died in violent conflicts. Of the total number of people killed in conflicts since the end of the Cold War, 90% were civilians. Half of these are children. Of all civilians killed in wars, 90% die at the hands of small firearms. The Congo war was the deadliest since the 2nd World War. 1,000 people died every day. Half of them were children. 4 million people died during the last 6 years, 98% of these died from diseases and malnutrition. In 1994, UNICEF issued a report on the

effects that wars and conflicts have on **children** in the world: During the decade 1984-1994 2 million children died, 4 to 5 million were disabled, 5 million became refugees and 12 million children were made homeless. Over 300,000 children under the age of 18 years serve in armies or in armed gangs. Some are as young as 8 years. A 2006 report from Save the Children adds that 43 million children are unable to go to school because of conflicts and wars. (Rowe 1997: 241; Ode September 2004: 11; BBC News 10.12.2004; BBC News 12.09.2006).

According to Heyzer, (1995: 13) **war is a gender-differentiated activity** of which women are the worst victims. Violence against women during war is common. They are being used, abused and mistreated in wars. The cumulated effects give significant difficulties for women. It generates physical and psychological suffering and gives obstacles for women's individual growth, their self-worth and their ability to participate in society. In wars, there is consequently no victory for women, no matter which side wins. (Heyzer 1995: 13; Rowe 2000: 369).

Rape is routinely viewed as a privilege of victors in war. During the mid to late 1990s, mass military rapes of women and children in Rwanda, Somalia, Croatia, Kosovo and Bosnia-Herzegovina were common knowledge. According to human rights, organization rape was used as an instrument of policy by Serbian forces and paramilitary groups in both Kosovo and Bosnia. Rape was also official policy for the Hutus when they attacked their Tutsi neighbours in Rwanda in 1994. Similar policy is currently applied in the Darfur region of Sudan. It is extremely difficult to quantify wartime rape. The estimates vary widely. In former Yugoslavia, the figures are estimates to be between 11,900 and 20,000 victims. However, the systematic rape of women by the Hutus in Rwanda amounts to hundreds of thousands of women, most of who were murdered. Children were raped along with their mothers. It was also official policy to infect the women with Aids. The idea was to let them live so that they would infect Tutsi men before they died. Even though rape during war was recognized in 1995 as a prosecutable war crime, the military rape continues. (BBC News December 2005; Rowe 2000: 371; Warren 2000: 208-209).

This kind of war-violence towards women may be better understood when one reads the report from American journalist Amanda Smith. At the Naval Academy in USA women-hating is deliberately taught to soldiers through marching songs and punishment. One of the milder songs goes like this, "My girl is a vegetable ... my girl ain't got no eyes, just sockets full of flies." The song then boasts about activities like "cutting a woman in two with a chain saw or ramming an ice pick through her ears, then using the pick as a handlebar to ride her like a Harley motorcycle." Recruits who fail to perform

in a soldier-like manner are addressed as faggot, girl, sissy, cunt, pussy, prissy, wimp, lays. Thus, the ultimate insult for a soldier is to be women-like. The military also in general uses denigrating sexual language. Carol Cohn has described a linguistic world of "vertical erector launches, soft lay downs, deep penetration, penetration aids (penaids), nuclear virginity or loosing her nuclear virginity". If such system is copied in other countries, it is hardly surprising that war-rapes are so common. (Warren 2000: 208-209).

The 20th century was the century of war. However, these were different wars. In the old wars of the 19th century, armies fought one another. Civilians were not the target. In the new wars, civilians are the target, but in destroying civilians, also civilian society is destroyed. (Rowe 2000: 488, 490).

Wars also destroy ecological communities by releasing toxins, pollutants and radioactive materials into the air, water and food. During the Vietnam War from 1961 to 1970, the US army sprayed the vegetation of South Vietnam with massive amounts of defoliants in order to reveal the hiding places of the Vietcong. The most destructive substance for both people and environments was one called Agent Orange, which contained dioxin. It left a legacy to the survivors in the form of malignant growths, grossly deformed children and various forms of cancer. Another example is the long-term environmental damage left from the 1991 Persian Gulf War. It includes destruction of urban water and sewage systems; massive air pollution; oil "lakes" caused by oil fires; damaged marine wildlife, coral reefs and costal wetland because of oil spills at sea; and damage to deserts by land mines. (Ekins et al. 1992: 26; Warren 2000: 209).

Also during peacetime military activities, contribute to environmental destruction. The US military is a major contributor of toxic wastes. It produces over a ton of toxic waste every minute. This is estimated to be a yearly output greater than that of the top five US chemical companies combined. In addition, the military operates entirely unrestricted by environmental laws. Billions of toxic wastes have been dumped directly into the grounds at thousands of sites across the USA. The Earth's most toxic square mile is believed to be placed outside Denver, Colorado. It is a 100 acres human made lake called Basin F, which contains 11 million gallons of wastes. The wastes include by-products from the manufacture of nerve gas and mustard gas. These are chemical weapons whose lethality is normally measured in milligrams. The toxic legacy of the US military is not confined to its own country. Nuclear testing and dumping by the USA as well as by France and the United Kingdom have made formerly idyllic islands radioactive for thousands of years to come and turned their inhabitants into refugees. (Warren 2000: 209-210).

Conclusively those who decide upon wars do not have to take the consequences from them. The majority of the negative impacts from wars are delegated to civilians mainly women, children and to nature.

2.2.3. The trade of war; global arms trade is the biggest trade of all

The arms trade is the largest commodity trade in the world. The market for arms has been growing each year. However, only lately did it become the biggest globally. This was mainly due to efforts of Robert McNamara who was running the Pentagon under US president John F. Kennedy. He applied to arms sales the same methods as he had used selling Ford cars. (Rowe 1997: 242).

In 1987 the world's arms trade was worth 47 billion USD. From 2000 to 2004 the USA, UK and France, earned more from exporting weapons to Africa, Asia, the Middle East and Latin America than they spent on development aid. That is wasteful if one sees weapons as Australian psychologist Dorothy Rowe does (1997: 234) "*What is traded can only do two things: It can kill or it can rust*". Hence, the arms trade produces nothing, which can sustain or enhance human lives. A relatively small group of people profit greatly from this trade, while millions are harmed or killed by it. Millions have their homes, lands and lives destroyed by it; millions become refugees; and millions live in poverty because their political leaders buy arms rather than social amenities. (Ekins et al. 1992: 26; Rowe 1997: 234, 242; Ode Magazine, September 2004: 11).

2.2.4. The futility of war; more military equipment and better weapons do not secure peace

In spite of the huge amounts spent and the enormous implications the military machine has on human lives and environmental health, weapons do nothing to generate security and peace. The number of wars in the world has not decreased although the arms have increased. From 1945 to 1989, 127 wars took place killing 22 million people. Hence, reality shows that arms proliferation and wars do not produce peace and security they only generate more wars. In spite of this fact Pentagon, still argue that more and better weapons will make USA safer. To justify the military build-up most national leaders claim that they acquire weapons for defence purpose only. However, in reality they purchase arms that can attack. For example, USA's military do not build defence weapons. Instead, they have a "defence" policy of first strike strategies. With increasingly dangerous and lethal weapons also the destruction expands hence intensifying the likelihood of a global holocaust. Conclusively, military expenditures do not prevent wars they are therefore not justified. (Capra 1982: 2; Ekins 1992: 5-7, 156).

The causes of wars relate to perception of threat, insecurity and aggression. When one country has increased security, the other feels threatened and hence needs to increase its security. Thus, when each seeks its own security by weapons a vicious circle of increased arms is created. The result is diminished overall security together with missed social opportunities. One must believe that the weapons of mass destruction will be used sooner or later. Different races, ideologies and religious beliefs have always been subjects of conflicts. Wars are therefore likely to increase as long as security is perceived as coming from the barrel of a gun. (Ekins 1992: 7).

According to UK's Saferworld Foundation to increase security, we do not need more arms, instead we need to remove elements that are perceived as threats. What really threatens the well-being and security of countries, societies and individuals are issues like economic under-development; over-population; environmental degradation; political oppression; ethnic and religious rivalries; terrorism and crime. These are either causing or contributing to multiple levels of conflict and violence. An implicit means to achieve peace is for the North to end their over-consumption of natural resources. This will free them from the endless competition for the world's scarce resources and hence also from accelerating conflicts over access to these. The military proliferation in the North is needed to secure access to resources. It is not possible for 20% of the world's people, including the ruling Southern elite, to go on taking 80% of the world's wealth without having threatening arms on a vast scale. Peace in the world consequently requires a fair distribution of the global wealth. It means that the over-developed Northern countries must shift to a much lower per capita resource use rates. A just, peaceful and environmentally sustainable world order depends on how soon we can shift from the present consumer oriented, economic growth model to a conserver society. From this, it follows that real security depends on non-military concerns like economic well-being, social justice, material sufficiency and ecological stability. Moreover, we need to talk together. Differences between people and groups must be discussed so that each understands the other. With compromises and agreements on common aims, peaceful solutions to disagreements can be found. (Ekins 1992: 58-59, 156; Rowe 1997: 234; Trainer 1997: 590-591).

We also cannot feel secure and enjoy life if others are deprived. The imbalance may at best make us feel uncomfortable, but more likely we may fear that they may come and take from us what they lack. Thus to build real security is to strive to make our neighbours feel more secure, rather than less. This is so whether we discuss at the scale of the village or the globe. It therefore becomes a contradiction to pursue security by means, which undermine our security. We rather need to deal with the problems that are underlying war. According to the Americans Amory and Hunter Lovins, these include "the

psychic premises of aeons of homocentric, patriarchal, imperial culture". It is exactly these premises, which are considered to cause the four crises. (Ekins 1992: 20-21).

The above advices are sensible, but they seem not to impress the global political leaders. In their ideology, security is reached by military activity. This has other unforeseen consequences as well. When the government makes a public choice for violence, violent values easily become part of society at large. When the government choose to silence opponents with force, then the citizens may also approach each other with similar aggression.

2.2.5. Militarization and social inequality contribute to increased aggression, violence and crime

"When the only tool you have is a hammer, you tend to treat everything as if it were a nail."
Abraham Maslow. (Jordan et al 1995: 16).

Every minute someone in the world is killed by a firearm. In the same minute 15 new weapons go onto the market. There are 639 million small arms and light weapons available in the world today and 8 million more are produced annually. These arms are killing 500,000 people yearly. Nearly 6 million people die each year from injuries. Thus, injuries from road accidents, suicide, homicide and war are respectively the top-ranging causes of death. They are followed by drowning, fire and intoxication. This makes trauma the world's second leading cause of death after cardio-vascular diseases. However, for people less than 44 years of age injuries are the leading cause of death. The figures include nations of high, moderate and low incomes. (WHO 2002: xvii; Ode September 2004: 11; BBC News 27.06.2006).

Increasing crime figures indicate the proliferation of aggressive behaviour and the erosion of social cohesion. Notifiable offences recorded in the United Kingdom increased fivefold from 1956 to 1989. Violence against a person grew with nearly 400% from 1971 to 1989. In the USA homicides increased from 4.7 to 8.7 per 100,000 people during the period 1960-1987. Homicide is in fact the leading cause of death among black 15-19 years old. The number of 14-17 years old arrested each year has increased nearly 30-fold since 1950. The rape rate more than doubled from 1970 to 1988, as did the cases of child neglect or child abuse from 1980 to 1987. In addition, 10% of boys and 18% of girls attempted suicide while 30% of all youth have experimented with drugs. The link between drugs and crime is strong in the USA. In Chicago in 1989 over 75% of people arrested for serious non-drug offences were also showing a positive drug test. Research from other cities gives similar results. For the first time in US history National Association of State Boards of Education found in 1990 that "young

people are less healthy and less prepared to take their place in society than were their parents". Hence, the modern American way of life, which is meant as an ideal model for all developing nations, seems to include crime, violence, drug abuse and suicide. (Ekins et al. 1992: 21).

According to professor of psychology Russel G. Geen (1995: 397) from the University of Missouri in Columbia, evidence shows that aggressive values are indeed important in USA. In a large survey from 1969, 78% of all respondent agreed with the statement "some people don't understand anything but force"; 70% agreed with the item "when a boy is growing up it is important for him to have a few fist fights"; 62% believed that "in dealing with other countries in the world we are frequently justified in using military force". The below reasons can in part explain the violent attitude in USA: **Firstly**, studies from 1986 and 1993 indicate that there is a regional difference in aggression in USA. White southern (and mid-western) American men are more likely than white males living elsewhere to find aggression justified. Punitive discipline of children also tends to be more common in the south than other places. Furthermore, white male homicide rates are higher in the rural south where herding and tending of animals is practised, compared to crop farming. This value of aggression is believed to result from the region's cultural history when cowboys were seen as strong and forceful masculine men protecting their livestock, motivated by a code of honour. Since the Bush family comes from Texas and is engaged in cattle ranching, this may partly explain President George W. Bush's aggressive attitude and the reason he continuously is promoting wars. **Secondly**, a longitudinal research showed that there is a causal relation between the amount of time spend watching violent television and subsequent aggressiveness with boys. No such relationship was found among girls. The seriousness of crimes for which males were convicted by age 30 was significantly correlated with the amount of violent television they had watched when they were 8 years old. In addition, other studies have shown that the television has a tremendous suggestive power. Massive doses of advertisements combined with social injustice are easily generating frustrations that contribute to ever-increasing crime, violence and other social dys-functions. Since the average American family has the television switched on for 6½ hours daily, it shapes their imagination, distorts their sense of reality and determines their values, behaviours and tastes. **A third** reason for aggression is the breakdown of traditional norms. This is observed mainly in the creation of inner-city gangs. Lack of norms means a loss of communal control over aggression, which then becomes part of the new normative structure that replaces the old one. Conclusively holding violent beliefs and attitudes means that aggression easily becomes an important part of Americans' interaction nationally and internationally. This may to some extent explain why USA has a high rate of violence and crime and why USA is promoting violence and wars rather than diplomacy in the world. (Capra 1982: 229; Geen 1995: 398, 401).

Violence against women is also high in the USA. A rape is reported every 6 minutes and many rapes are not reported at all. Rape inside marriage is not included in the figure, although spouse violence is common. Wife battering occurs at 3 times the rate of rape. The number of women battered each year by their male partners is estimated to be close to 2 million. Abuse is more likely to occur when relationships are of poor quality and marked by discord, than otherwise. It has also been observed that violent behaviour is tolerated by the US society when carried out in the context of the family. In other societies, gender violence is also on the increase. Tadria (1997: 169) quotes studies from Tanzania where 60% of women have reported assaults. Hence, underdevelopment, social inequality, television violence and militarization have an impact on the increase of violence in society. This violence is especially directed towards women and children, who automatically are disadvantaged, because they are physically weaker than men are. (Bunch and Carillo 1990: 80; Ekins et al. 1992: 18; Geen 1995: 406; Tadria 1997: 169).

2.2.6. Conclusion

Most people would probably agree that the world is well served if the level of human violence and aggression is decreased. We should therefore do what we can to minimize violence. The means to increase peace seems to be reasonably clear. Many social scientists agree that aggressive behaviour is mainly changed by ending social and economic injustice and inequities. When inequalities between rich and poor become characteristic of society, and when large segments of the population find their situation hopeless, people may find that violence is the only means of restoring a norm of fairness. Another important way to reduce the level of violence is through a change in socialization and child-rearing practices. (Geen 1995: 409-410).

Conclusively war and violence could to a far extend be resolved by economic redistribution. However, redistribution is not high on national political agendas, neither is it an important issue in global politics. The current neo-liberal ideology subscribed to by most political leaders in the world does not include concepts like resource sharing, material sufficiency, social cooperation and care for nature. However, it is those values that are needed in order to correct inequalities, to improve the quality of lives for poor people and to generate a healthy environment. However, rather than doing the right thing, the leaders focus on individual competition for natural resources, economic maximization, selfishness and greed. The result is that poverty, economic inequality and hence violence and wars are spreading, with women, Others and nature as the main casualties.

2.3. The crisis of poverty and inequality; data on the sufferers and lack of effective solutions

"An argument broke out among the disciples as to which one of them was the greatest. Jesus knew what they were thinking, so he took a child, stood him by his side, and said to them, "Whoever welcomes this child in my name, welcomes me; and whoever welcomes me, also welcomes the one who sent me. For he who is least among you all is the greatest"."

The New Testament; Luke 9.46-48.

2.3.1. Poverty, malnourishment, ill-health and death are suffered mainly by women and children

Poverty is both an absolute and a relative phenomenon. Absolute poverty is a physical condition, while relative poverty is more a matter of social worth in a particular society. Most relative poor are found in the North, while the great majority of the world's absolute poor live in the South. (Ekins 1992: 8).

The world population according to BBC News (14.02.2005) is at the moment 6.4 billion. Of these 1.4 billion are living on less than 2 USD per day. 20% or 1.3 billion, disproportionately women and children, are not able to satisfy their basic human subsistence needs. Figures from 14.09.2004 on BBC News found that 30,000 people die of poverty every day. In 1996, UN estimated that 1.1 billion people live without access to clean drinking water, 2.9 billion people lack sanitation services and 841 million people are mal-nourished. (Ekins 1992: 8; Warren 2000: 199; Des Jardins 2001: 68; BBC News 2004-2005).

Women and children are hardest hit by poverty. According to Rowe, (1997: 247) women constitute 70% of the absolute poor people in the world. In "Sisterhood is Global" Morgan described already in 1984 the daily war against women, *"While women represent half the global population and one-third of the labour force, they receive only one-tenth of the world income and own less than one percent of world property. They also are responsible for two-thirds of all working hours... Not only are females most of the poor, the starving, and the illiterate, but women and children constitute more than 90% of all refugees of the world, as well as being the primary caretakers of the elderly"*. (Kelly 1990: 115; Rowe 1997: 247).

With poverty comes **diseases and misery**. Malaria kills 2 million people a year. There are 1 million unintentional poisonings and 2 million suicide attempts with pesticide each year, resulting in more than 200,000 deaths. Then there is the AIDS epidemic. UN Secretary General Koffi Annan said on BBC 03.06.2005, that the HIV infection rates and the AIDS death rates have never been as high as in 2005. A UN AIDS report from **Africa**, quoted in BBC News on 04.03.2005, estimates that 25 million people

are HIV infected; 6,500 people die every day from AIDS related diseases; 11 million children are orphaned; 90 million people are estimated to be infected by 2025; and 200 billion USD is needed to stop this development, equivalent to +/- 70 days of global military spending. Although this data is not disaggregated, there are indications that the majority sufferers are women and teenage girls. The Mozambican newspaper Savana estimated in their issue from 15.04.2005 that for every five persons who are HIV infected in Mozambique three are women. Two of these are between 15 and 29 years old. A total of 275 women are infected with HIV every day. (Ekins et al. 1992: 110; BBC News 2005; Savana 2005).

Regarding **children**, the future looks bleak. According to a leading charity (BBC 09.05.2006), some 2 million babies die every year in the South on the day they are born. In 1990, UNICEF estimated that **globally** 15 million children die each year from poverty. Of these 40,000 children die each day from disease and malnutrition. It is the equivalent of a Hiroshima every week. Moreover, 150 million children live with poor health and ill-health. UNICEF finds (BBC 28.09.2006) that lack of access to clean water and proper sanitation kills 1.5 million children every year. BBC also reported (19.11.2004) that 2.1 million children are HIV positive and that 1,300 children died every day in 2003 from AIDS related diseases. (Carmen 1991: 73; Ekins 1992: 8, 105; BBC News 2004, 2005, 2006).

A 2004 UNICEF report (BBC 08.12.2004) estimated that more than half the world's children are experiencing extreme deprivation. 1 billion youngsters are being denied their childhood. 650 million, or 1 in 3, do not have adequate shelter. 400 million, or 1 in 5, have no access to clean water. 1.6 million children have been killed in war. There are 15 million AIDS orphans. And 10 million die before five years of age. In order to compare, 10 million children are all the children living in France, Germany, Italy and Greece. Moreover, UN finds (BBC 18.04.2005) that at least 115 million children globally, mostly girls, are not getting any formal education. (BBC News 2004, 2005).

The situation for **the African child** is disturbing. In the year 2000, UN set some development goals for Africa for 2015. In a progress report from 2005, the preliminary results are worrying: The target was that all children by 2015 would attend school, but 19 million children will not. The target was that 2 million children will die in 2015, but the fear is that the figure will be 5 million children. Malaria is to blame for many of the deaths; the disease kills an African child every 30 second. 40% of all deaths of children being under 5 years of age in Cameroon are malaria related. (BBC News 21.11.2004, 09.06.2005).

These are the **absolute poor**. Their lives are often short. They starve or die from diseases and pollution. The absolute poor people live mainly in the least developed countries. Of the 49 countries in the world classified as least developed 34 are found in Africa. In Sub-Saharan Africa, the population is about 1 billion. 340 million of these live on less than 1 USD per day. The mortality rate of African children under 5 years is 140 per 1,000. A child born in the poor developing world is 15-20 times more likely to die before the age of five, than a child born in the rich northern nations is. Illiteracy for Africans over 15 years is 41%. The money to stop the vicious circle is not available, since the continent has a heavy debt and a huge military budget. UN estimated in 2005 that 50% of Africa's people would live in absolute poverty by 2015. This is a 20% increase from a 2000 estimate. (Ekins 1992: 8; Adepaju 1994: 17; Elliott 1994: 23; Warren 2000: 199; Karuuombe 2003: 6; BBC News 09.06.2005).

Most **relative poverty** is concentrated in the North. United Kingdom had in 1987 over 10 million people living in poverty. That is 1/5 of the population. They are not starving, but they do not have social worth. They often turn to drugs, violence and crime. The situation is worst in USA. In the richest nation in history, a child dies from poverty every 53 minutes. By 2002 15% of its population, which includes 25% of all children, lives below the poverty line. The number of children living in extreme poverty with a family income less than half the official poverty level, has doubled since 1975. It is the highest number among the world's industrialised countries. (Ekins 1992: 8; Rowe 1997: 409; Capra 2002: 126).

2.3.2. Development; the failed strategy to alleviate poverty

The project of development in the South was meant to increase economic growth assumed necessary to alleviate poverty. However, there is no evidence that absolute poverty is decreasing, rather the reverse is the case. In addition, economic growth is declining. In Sub-Saharan Africa, per capita income fell by almost 25% during the 1980s. Export has decreased by 45% since 1980 and investment was reduced with 50%. External debt has risen from 10 billion USD in 1972 to 130 billion USD in 1987. Many commentators find that these figures are not caused by lack of development, rather development itself has brought about such impoverishment: When development turns natural resources, which provide a large number of people with decent subsistence livelihood, into industrial raw materials that benefit relatively few, then poverty is created. (Ekins 1992: 8-9).

When development projects use the lands, soils and waters of traditional people to produce commercial crop and industrial food for the market, then traditional people cannot anymore live from their natural

resources. Moreover, major development projects often include removal of people from their traditional society into another social constellation with different norms where they cannot participate. The outcome of traditional people's exposure to development is that they lose all, which gave meaning to them in their lives. Before they were dispossessed, they were not poor. They lived modest but self-sustaining lives from their environment. They were also considered useful and productive members of their communities. However, when development diverted natural resources towards economic growth, people could not be self-provisioning anymore. Thus, by introduction of development, people became poor and their natural resources became exhausted. From this, it follows that development destroys wholesome and sustainable lifestyles, creates scarcity of basic needs, excludes an increasing number of people from their entitlement to food and generates real poverty or misery. Seen in this way development is as a threat for the survival of the great majority. Rather than being a strategy for poverty alleviation development is consequently creating poverty and environmental destruction. (Shiva 1989: 10-11; Shiva 1990: 197-198; Ekins 1992: 8-9).

One example is the World Bank sponsored Narmada Valley Project in India's state of Gujarat Madhya Pradesh and Maharashtra. The proposed two large dams will displace 200,000 mainly tribal people, with no prospect of giving them fertile land elsewhere. The organisation Survival International suggests that the Indian government has not identified land for resettlement because there is no land. Almost all cultivatable land in the region is already farmed and the remainder is too poor for permanent cultivation. These people will therefore become development refugees living in the slumps of Bombay, like so many before them. Beneficiaries from the dam will be the better off landowners, who will receive water for irrigation. The hydro-electricity to be produced by the dam is expected to benefit the industries and the urban middle class. Experience shows that the wealth the increased productivity will create does not trickle down to the poor. Rather the difference between rich and poor will increase and poverty will intensify. Provision of drinking water meant to benefit the poorest people in the most arid lands was a major justification for the dams. It is highly unlikely that this will ever be delivered. (Ekins 1992: 9-10; Elliott: 1994: 48-49)

In 1990, some 70 ongoing projects of the World Bank were forcibly displacing 1,5 million people. In almost all the cases, the dispossessed will end up impoverished. This is normally because the so-called "resettlement and rehabilitation" process is highly inadequate. In Indonesia, the Kedung Ombo dam displaced 20,000 without compensation. The 12,500 dispossessed of the Ruzizi II dam on the Zaire/Rwanda border were inadequately compensated. Another example is Kenya's Kiambere hydroelectric project. The project was shown on the 22nd April 2005 in the BBC News. It was

presented as an example of how development alleviates poverty by giving local people energy as a way out of their poverty. Nevertheless, according to Ekins et al. (1992: 23) 6,000 local people were displaced without compensation. (Ekins et al. 1992: 22-23; BBC News 2005).

In order to justify the centralisation of traditional people's natural resources it is argued that industrialisation will not only use the resources but also provide jobs and thus income for people's survival. However, this is only a theoretical model. Often industrialists cannot use the labour of the indigenous people, who are often unskilled and illiterate. They can only use the fields, forests, fishes and rivers on which the people subsist. Thus in the name of progress and development these resources are appropriated and turned into market goods, which the dispossessed can never hope to buy. (Ekins et al. 1992: 22).

It should be added that even if these people would get work, employment does not necessarily generate an escape from poverty. Average wages in the US fell with 9% from 1980 to 1989. In 1987, 31.5% of the working force was receiving poverty level pay. Hence, the profit from industries is directed to the owners and shareholders, not to the workers. (Ekins et al. 1992: 22).

The reason why development cannot alleviate poverty relates to the false trust in the "growth and trickle down approach". The conventional belief is that economic growth will generate wealth in society, which eventually will alleviate poverty. The blind faith in this strategy comes from its ability to make significant improvements in average life expectancy, infant mortality, literacy and GNP. However, what is overlooked is its inherent side effect of inequality. The distribution of the benefits is extremely uneven. The result is that people with the most desperate needs experience virtually no improvement in their living conditions. (Trainer 1997: 584).

The growth strategy has the aim to maximize the rate of growth of business turnover i.e. to increase investment, sales, exports and GNP, as fast as possible. The increased wealth produced by this, is then assumed to be re-invested in society, which will further increase productivity and eventually make society rich. This wealth is assumed also to trickle down and enrich even the poorest. In reality, very little wealth ever trickles down. The strategy does result in a rapid increase of national wealth, but those who are already rich get almost all of it. The reason is that the wealth generated will flow into production of goods, which are attractive for the high-income earners and for export to the rich countries. Thus, the wrong industries will be set up in the South. Rather than producing simple tools, cheap housing and clean water, all of which are helpful for poor people, resources are put into export

plantations or car factories. In addition, the rich people in the South often want to spend their money on Western lifestyles. They therefore import Western consumer goods, rather than investing their wealth into social production. This will not give livelihoods to poor people. The choice oppositely gives income to the North. Thus, paradoxically, development ends up benefiting the Southern elite and the rich countries in the North, which provided the initial aid, rather than the poor people in the country who received the aid. Thus, the growth and trickle down strategy is on a head-on collision course with anything that can be called an appropriate development strategy. (Ekins 1992: 10; Trainer 1997: 585).

In this way development creates a cycle that is exploitative of poor people in poor countries: a) rich countries give aid to poor countries; b) the aid mainly benefits activities of the middle-class and the elites; c) these spend their profit on production of export goods or imports from the rich countries; d) the natural resources of subsistence living people are used in the process; e) the traditional people lose their subsistence and are not compensated, they therefore become destitute and absolute poor. Ekins (1992: 10) calls it the "**aid and development cycle**". Trainer (1997: 585) calls it "**inappropriate development**".

To make development appropriate it should not maximize growth. It should rather maximize villagers' economic independence and self-sufficiency. However, since this would add little or nothing to GNP it is not acceptable for the government. Production of cash crops and cars, which benefits the elite and the North, is preferred because it oppositely is increasing the GNP. Hence, economic growth and poverty alleviation is a contradiction. As long as one bases a development strategy on the economic growth and trickle down theory, then one supports development that works almost entirely for the rich. As long as growth is its top priority development creates poverty. Its policies will continue to stimulate growth by channelling resources away from the low-income receivers. Its policies will continue to take away people's natural resources, to make them destitute and to degrade the environment. As long as development is not directed to appropriate activities, which will benefit poor people, natural resources and economic profits are taken by the relatively rich. Thus, a growth oriented development strategy results in making the rich more rich. Vast literature has therefore condemned the growth and trickle down strategy. It is found that development has not only failed to improve the living standards of the poor majority, but the strategy is the prime cause of poverty. In 1990, Trainer (1997: 585) reviewed relevant literature on the subject. He found 120 statements, which argued that development has done little or nothing to improve the economic living standards of the poorest 40% or more in the South. Hardly any statements to the contrary were found. (Trainer 1997: 585-586).

Development aid is consequently not helpful to alleviate poverty in the South. It oppositely gives financial support to rich people. According to Graham Hancock's 1989 book "The Lords of Poverty" the business of development indeed supports mainly the North. It generates 60 billion USD per year. Of these, 70% (42 billion) is spent on buying equipment and technology in the rich countries, while 15 billion goes to the 150,000 Northern aid experts working in development projects. That leaves 3 billion USD per year for poverty alleviation, or for what? (Schroyer 1992: 367).

Conclusively the conventional development model and its growth approach contradict poverty alleviation, equity, social justice and environmental sustainability. If the intention is to respect these values then the conventional model must be scrapped. We cannot carry on telling the millions who presently are hungry and impoverished, to wait for a generation or two until more growth results in the trickle down effect, as long as there exist abundant appropriate development strategies. These would enable poor people to solve their own basic problems, often in a matter of months, if they had access to a reasonable share of the existing capital and land. (Trainer 1997: 587, 589) .

This above brief explanation should be sufficient to show that development aid and the economic activity this aid is supporting cannot alleviate poverty. It is oppositely intensifying the unequal distribution of resources and wealth in society. The discussion of development aid, its focus on economic growth and the consequences this has for women, poor people and children, will be dealt with in details in Chapter 5 and 6.

2.3.3. The problem of North-South and male-female inequality

There is a variety of inequalities in the world, below the two most relevant for this dissertation is presented. **The first** is the glaring difference between the wealth, the power and the consumption of resources in the rich industrial countries and the poor developing nations. **The second** is the ancient, complex and painful gender inequality. It is interesting to notice that Birgit Brock-Utne has made an explicit comparison between these two unequal set of relationships. She finds that both pairs of inequality are based on a persistent domination. The first relates to domination of the First World or the North over the Third World or the South. The second is the domination of men over women. These unbalanced relationships cannot easily be remedied since they exist even when improvements are experienced in the conditions of the Third World countries and in the situation of women. Thus, in both cases padding up the inequalities with some compensation here and there does not change the fundamental inequity. The reason is that the inequalities relate to a past, current and continuous domination and exploitation of women, poor people and natural resources. (Ekins 1992: 75).

The North-South inequality

There is enough wealth to support the entire global population. The problem is that the wealth is unevenly distributed and much is wasted. The wealthiest 1 billion people consume 80% of the world's resources leaving the remaining 5 billion to share 20%. The richest 20% of the world's people own 85% of its wealth. The poorest 20%, which are 80% of the total world population, own 1.4%. The difference in per capita income between the North and the South has tripled in favour of the North from 5,700 USD in 1960 to 15,000 USD in 1993. Moreover, the rich in the North have become very rich. According to the 2006 Fobes magazine, there are 400 US tycoons. Together they own 1,125 trillion USD. If we take the assets of the three richest people in the world, the sum exceeds the combined GNP of all least developed countries and their 600 million people. (Capra 1982: 229; Des Jardins 2001: 69; Capra 2002: 126; BBC News 22.09.2006).

With so much financial powers, the North has steadily increased their consumption of resources and by that also their wealth. In 1900, worldwide oil use totalled a few thousand barrels a day, by 1997, it reached 72 million barrels. In 1900, the world used 20 million tons of metal per year, by 1997, it was 1.2 billion tons. In 1950, people in rich countries could on average buy 10 times as much as those in poor nations. By 1988, it was nearly 30 times as much. The income gap can be as hue within the countries. In Brazil, the richest 20% earn 28 times as much as the poorest 20%. In Turkey the figure is 16 times, in the US, it is 12 times, in Japan 4 times. (Ekins et al. 1992: 32; Des Jardins 2001: 68).

USA, with less than 5% of the world's population, consumes 30% of the world's resources. Therefore, they are increasingly dependent on raw material and fuel supplies from outside the country to feed their industries. These figures made Schumacher (1993: 95) conclude that America's modern industry is inefficient to a degree that surpasses imagination. If its outcome was successful, one could perhaps justify the resource over-use. However, the American system does not even make people happy, neither does it improve their well-being. Recalling the above US data on war, violence and crime, one can only agree with Schumacher. The Americans do not seem to be a peaceful, harmonious or happy people. (Capra 1982: 229; Schumacher 1993: 95-96; Des Jardins 2001: 69).

If the entire world consumed resources at the US rate, per capita consumption would increase six fold, mineral use would have to increase sevenfold, wood products should increase fivefold, and synthetics should increase 11-fold. In this way, we would need to import resources from another planet several times bigger than the Earth. (Des Jardins 2001: 69).

According to the Ode magazine (June 2004: 13) USA has only 1.9% of the global oil reserves, but they consume 25.5%. Asia also tops the list with a use of 26,2% while they only have 2.9% in reserve. This may be mainly due to China's speedy economic growth since they use 500 million MORE litres of petrol every year. Europe has 1,6% of the oil reserves but consumes 19.2%. Canada fares better, they have 14.8% while they only use 2.5%. Africa is very moderate in energy consumption. They have 6.4% in reserve, while using only 3.4%. The Middle East is the main global suppliers. They only consume 6.2% while possessing 56.5% of the oil reserves. (Ode June 2004: 13, 19).

The North consequently has plenty of wealth. They have more than enough to help millions of poor people out of their misery. The industrialised countries would have to spend only 0.4% of their annual income in order to provide for the basic needs of the entire world population: 5 billion Euros is needed annually for eradication of hunger, 6 billion Euros would give education to all, 9 billion Euros would provide drinkable water for all, 12 billion Euros would give basic health care and food for everyone, and 40 billion Euros would eradicate the worst cases of poverty. Instead of doing the right humanely thing, the people in the North rather want to spend their money on other things. Annually they spend 105 billion Euros on alcohol; 400 billion Euros on recreational drugs; 780 billion Euros on arms and military; 1,000 billion Euros on advertisement and marketing; and 2,500 billion Euros on currency speculation. (Ode July/August 2004: 13).

Rather than assisting poor people in the South to develop self-sustaining life-styles and economies, the North prefers to extract the hard needed resources from the South. The formal transfer of resources from South to North was in both 1989 and 1990 around 50 billion USD annually. However, when we include transfer of the informal wealth, the result becomes different. This category includes the effects of brain drain; adverse terms of trade; privileged treatment to foreign investors; capital leakages due to pricing techniques; unofficial and official remittances of transnational corporations etc. Adding the informal wealth the total transfer of resources is probably 4-5 times the official amount, hence totalling 200-250 billion USD annually. (Seabrook 1993: 12).

Conclusively there are huge inequalities between North and South and they exist for a reason. The historical colonisation and exploitation of the Southern people and their natural resources by the North is continuing today. It is only better disguised and new concepts are used like "free market", "free trade" and "development". Hence, the greed of the modern world seems to have no end. This subject is further discussed in both Chapter 5 but mainly in Chapter 6.

The gender inequality

Recent figures from Cornwell (2004: 51) states that the issue of inequality between men and women has not improved. The statistics are still as Morgan described them in 1984, which were based on UN's "State of World Women" report from 1979. Hence, women still **work** much longer hours than men do. In the rural South, women are responsible for 60-80% of food production. Regarding food processing, provision of household water and fuel wood they perform 90% of the work. Women are responsible for 80% of the work of food storage and food transport from farm to village. They do 90% of weeding and 60% of harvesting and marketing. Half of all African farms are managed by women. Studies in both developed and developing countries reveal that men enjoy more free time than women do. A survey from Zaire assessed that men do only 30% of the amount of work women do. In most of Africa and Asia, women work on average 16 hours daily. The double working day of women is on the increase globally. It means that women work full-time with economic production while they are also doing all the unpaid housework, childcare and care of sick and elderly family members. However, in spite of Southern women's impressive work with agriculture, informal trade, house work and childcare they are still by economists called "economically inactive". Work is consequently the longest lasting of women's oppression. (Kelly 1990: 115-116; Ekins 1992: 73; Cornwell 2004: 51).

If the terms of women's productive work are bad, then their **reproductive work** is worse. African women produce at least six children in their lifetime. They are 22 times more likely to die in childbirth than women in the industrial countries are. If one compares to the advanced Scandinavian countries, African women are 45 times more likely to die in childbirth. The statistics are average and global thus in the worst cases like Bangladesh 1/3 of female deaths relate to pregnancy and childbirth. Part of the reason is that women marry young, which is often related to pre-arranged marriages. 50% marry at the age of 18. 60% have their first birth before 20. 75% of teenagers are mothers. Africa has the highest birth rate to young mothers, 40% of teenage births are to women being 17 years or under. Apart from the risk of the actual birth, early pregnancies also damage the health of the mothers and that of their children. Furthermore having children early deteriorate opportunities for the girls' education, training and employment. This results in a repetition of the cycle of poverty and deprivation. As part of their reproductive duties, women may also be subject to barbaric practices like female circumcision. They are often forced to marry by the family head, who sell or give them away as he sees fit. Once in a marriage they are often mercilessly exploited, beaten and raped. Some even find that the world is better off without women. A survey (1993) from India found that 300,000 more girls than boys die annually. Although female babies are generally born stronger than a male, within a month of birth, the death rate of India's female babies is much higher than that of its males. It was found that female

children were receiving less priority in nutrition and health care and were breast fed less than boys were. In 1988, a survey of 8,000 abortions, carried out in Bombay, found that 7,999 were female foetuses. A recent research presented in BBC 09.01.2006 found that more than 10 million female foetuses have been lost to abortion and sex selection in the last 20 years. (Ekins 1992: 73; Adepoju 1994: 25; Elliott 1994: 25-26; Cornwell 2004: 52; BBC News 2006).

Women and men also do not have equal access to educational opportunities. Women constitute 66% of the world's illiterates. This number increased with 10% even during the Decade For Women (1975-1985) where all attention was on improving the lot of women. Statistics show that those farmers who have had 4 years of formal schooling are likely to produce 80% more crops than those without formal schooling. Yet 62% of Africa's women, the continents food producers, are illiterate. Approximately half of the girls have access to primary education. Of these only 66% will complete 4 years of schooling. (Cornwell 2004: 52).

Overall Third World women are oppressed both by family systems and by national and international injustice. Women hold only 10% of parliamentary seats, merely 6% of cabinet positions and a minor 1% of the chief executive positions worldwide. Rural development even worsened women's situation. By introduction of modern agriculture, with the aim to increase economic growth, it increased women's workload and dependency status. When there is possibility to earn money in agriculture men often take over the most fertile land. The result is that women lose control over land for food production. Women are generally also excluded from access to new technology, capital and training. These inputs are directed to men's cash crops. Cash crops are normally non-food products for export like tobacco or animal fodder. Thus, priority for cash crops means scarcity of sufficient food for the household as well as national food insecurity. As a result, the whole family suffers negative health consequences. Hence, rural development has not, in Momsen's opinion, brought along any unequivocally positive changes for rural women. This picture is similar for urban industrial development. According to Madhu Bhushan, there is a pervasive marginalisation of female employment in the process of industrialisation: Women are prevented from entering attractive jobs; their work is concentrated in the informal and lowest paid sectors; a women's job automatically gives a low status; women endure low payment and poor working conditions; and they lack job security and fringe benefits. The unfair distribution of resources, power and responsibilities are traditionalised and socialised into women, they are enshrined in laws and enforced, if necessary by male violence. Bhushan therefore concludes that the trends "modernisation" and "progress" have brought along increasingly make women victims of new forms of direct and structural violence. (Kelly 1990: 116; Ekins 1992: 74-75; Heyzer 1995: 2-3).

In the North, women are also unequally treated compared to men. According to Morgan (1984) women in industrialized countries are still paid only 1/2 to 3/4 of what men earn at the same jobs; they are still ghettoized into lower-paying, "female-intensive" job categories; and they are still the last hired and the first fired. In fact, there is no country in the world where women fare as well as men. However, the Buddhist societies overall do better. Buddha encouraged women to seek enlightenment and girls have long attended school at much the same rate as boys. (Kelly 1990: 115; Rowe 1997: 247).

The discrimination against women is immensely complex. It is a domination that negatively affects women in all aspects of their lives. It is multi-levelled and intertwined, including economic, social, cultural and structural issues. This domination will be the main focus in the preceding chapters. Especially the issue of women's work will be dealt with in details in Chapter 5 and 6. (Ekins 1992: 75).

2.3.4. Conclusion

Poverty and economic inequality are rampant in the world. What makes everything worse is that the development strategies meant to alleviate this painful human suffering only increases poverty! It seems to be a fact that as long as political leaders focus on economic growth then the world will have huge human inequalities. Thus, excessive over-use of natural resources and extravagant luxury consumption will continue to co-exist with devastating poverty and its companions of malnutrition, ill-health and death. The main sufferers are women, children, traditional people, tribal people, subsistence people and coloured people in the South.

The continuous increase of consumption in the North and the ongoing marginalisation of women in the South have consequences for the natural environment. When the fertile lands of the South is used for growing of cash crops consumed by the North, be it for their cows or their smokers, then Southern women are forced to use marginalised soils for their food production. This exhausts the soils. Hence, women in the South may degrade nature out of need. However, as will be shown below, the North is by far the biggest destroyer of nature, they do it out of greed.

2.4. The crisis of global environmental destruction; the main threats and the main victims

"The earth is slowly dying, and the inconceivable, the end of life itself, is actually becoming conceivable. We human beings have become a threat to our planet."

Queen Beatrix of the Netherlands in her Christmas message to the people of Holland, 1988. (Ekins et al. 1992: 16).

The ability of the biosphere to support and sustain human, animal and plant life is being severely eroded by the number of people on the planet and the impact of their economic activities. Environmental economic analysis recognises that the environment contributes to human life in three fundamental ways: It provides resources for the human economy; it disposes of the wastes from that economy; it provides services for people in various ways from survival to aesthetic elements. In the book 'Limits to growth' Meadows et al. raised already in 1972 questions about future supply of minerals and fossil fuels due to the increasing use of natural resources. However, later on the discussion has focused more intensely on the negative environmental impact from human economic activities and waste. Some of the consequences for the environment include global warming due to the emission of greenhouse gases like carbon dioxide, methane, nitrous oxide and chlorofluorocarbons or CFCs; acidification of lakes and forest die-back due to emission of sulphur dioxide, nitrogen oxides and ozone; depletion of the ozone layer by emitted CFCs; global destruction of biological resources manifested as deforestation, desertification, species extinction, water decline; and pollution from increase of industrial hazardous chemical and radioactive wastes. Due to its high level of industrialisation, production and resource use most waste and pollution comes from the North. For example the fossil fuel carbon emission in 1987 amounted to 5,03 tons per person in the USA while the figure was only 0,09 tons per person in Nigeria. However, although North is the main polluters the consequences are global. These and more issues will be the focus of this section. (Ekins 1992: 11-12; Elliot 1994: 42).

2.4.1. Climate change

The warming of the atmosphere, known as "the greenhouse effect", is caused by the increase of greenhouse gases. The greenhouse gases are called so because they function like the glass in a greenhouse: The radiation from the sun is permitted inside the greenhouse. Plants and soils inside emit thermal radiation to the outside. Some of this thermal radiation is, however, stopped by the glass and re-emitted to the inside. This increases the heat inside. The process is called the greenhouse effect. The greenhouse gases function in a similar way. They are like a blanket that keeps a certain temperature on the Earth's surface. The heavier the blanket, the higher the temperature on the surface. (Houghton 1994: 21).

The main part of the greenhouse gases are natural and caused by various physical and chemical processes and activities on Earth. However, human activities have caused an unnatural accumulation of greenhouse gases in the atmosphere leading to an enhanced greenhouse effect. The activities to provide energy for industrial, agricultural and domestic needs, especially burning of fossil fuels,

increase the carbon dioxide of the atmosphere. Since carbon dioxide is likely to remain in the atmosphere for more than 100 years, it is accumulating. From the start of the industrial revolution (1700) and up to 1994, the increase of carbon dioxide in the atmosphere amounts to 25%. Humans also contribute to the increase of other natural gasses. One is methane, which naturally comes from wetlands. However, the emission is enhanced by leaked gas pipelines and oil wells, burning of wood and rice fields etc., decay of rubbish and belching from livestock. Methane only has a lifespan of 11 years but its effect to re-emit thermal radiation has 7,5 times the force of carbon dioxide. CFCs, which are mainly used in spray cans, refrigerators, air conditioners and foam blowing, also enhance the greenhouse effect. Although the amounts are small, their effect is 5-10,000 times greater than carbon dioxide. Then there is exhaust from vehicles. It generates carbon monoxide and nitrogen oxide, which by a chemical reaction develop into carbon dioxide. (Ekins et al. 1992: 14; Houghton 1994: 16, 26, 30-31, 39, 41-42).

In 2000, the Intergovernmental Panel on Climate Change (IPCC) published its strongest consensus statement to date. It stated that human release of greenhouse gases "*contributed significantly to the observed warming over the last fifty years*". They predicted that temperatures would increase with on average six degrees Celsius by the end of the century. This is unprecedented in human history and it is likely to lead to massive changes in climate patterns. The change in climate will influence and cause more frequent incidents of floods, droughts, storms. Cautious tests show that hurricanes, typhoons and cyclones will increase in frequency, intensity, proportions and locations. The increase of natural catastrophes over the past decade is an indication that the climate instability is amplified. To make things worse those ecosystems, which provide humanity with protection from natural disasters, are also pressed. This increases the impact from natural disasters. When we are destroying forests, damming rivers, filling in wetlands and destabilizing the climate, we are destroying a complex ecological safety net. (Ekins et al. 1992: 15; Houghton 1994: 86-87, Capra 2002: 182, 184).

The estimated temperature increase exceeds the change of temperatures between the last Ice Age and today. Thus, also the oceans will increase their temperatures. When the oceans warm they expand and the sea level rise. Sea levels have already been raising about 20 cm. during the last century due to global warming. If current trends continue, the sea will raise another 50 cm. by 2100. That would put major river deltas like the Amazon, the Mississippi and the coastline of Bangladesh at risk. Rising sea levels could even flood the New York City subway system. The negative effects for Bangladesh would be multiple: 7% of its land, inhabited by 6 million people, is placed at sea level. 25% of the land, with 30 million people, is below the 3-meter level. It is excellent agricultural land that will be

inundated. Since 85% of the population depend on subsistence agriculture, it has severe consequences for food production, hunger and poverty. Moreover, Bangladesh is vulnerable to storms. They have on average one cyclone annually. In 1979, 250,000 people drowned. Any rise in sea level will further increase the likelihood of storms. Consequently, the future looks bleak for the poor coastal people in Bangladesh. (Ekins et al. 1992: 15; Houghton 1994: 12, 93-94; Capra 2002: 182, 184).

Due to increased ocean temperature also some glaciers will melt. Whereas changes in the ice-sheets in Greenland and the Antarctic will balance itself out. Greenland will ablate i.e. melt ice, but Antarctic will accumulate more ice. However, if the Arctic ice of Greenland were removed it would accelerate a general warming of the whole Earth, which would drastically change Europe's climate. In the worst-case scenario, the snows on Kilimanjaro could disappear before 2017. This prediction is quite exact. BBC News informed 13.11.2006 that Kilimanjaro presently has less than half of its normal amount of snow left on the top. (Ekins et al. 1992: 15; Houghton 1994: 92-93; Capra 2002: 182, 184; BBC 2006).

Agriculture and food supply will be influenced by the climate change. Crop depends on temperature and rainfall, thus change in these give change in crop choice. Increase of carbon dioxide in the atmosphere will in general increase fertility of plants, especially wheat, rice and soya beans. However, also weed seems to be efficient in utilizing carbon dioxide. There may be little trouble quickly to match crop to new climatic situations for the majority of the world, however, higher temperatures may force a major redistribution of cropping zones and thus change in farming practice. Estimates seem to indicate that the North will be able to produce more food, while the South will be negatively affected with a decrease of agricultural output. Reduced yields to an increasing population means scarcity of food, increase in food prices, increase of poverty and possibly hunger for those who cannot produce own food. (Houghton 1994: 103-107; Krause et al 1995: 74-75).

Forests will be more seriously affected from climate change than crops because of their slow maturity and reproduction. Forests would extend upwards in altitude and pole wards in latitude. The normal speed with which this is done is less than 1 km. annually. However, the rapid climate change seems to require a speed of between 2 and 5 km. a year. The result would be that forests die with serious consequences for those traditional people who live from forest produce. In addition, wetlands and swamps will be affected from climate change. They may either move inland and take over valuable agricultural land or, if the change of sea level is rapid, they may disappear all together. Since 2/3 of human fish consumption comes from these marshes, this would have severe consequences for food

security, income generation and it may in the South lead to increased poverty. Apart from their usefulness to human beings forests, wetlands and swamps are vital for the total world ecology and they provide environments for many diverse species. (Houghton 1994: 96; Krause et al 1995: 75).

Finally, it should be mentioned that also human health would be affected by climate change. Increased temperature will cause heat stress, which will increase mortality especially among sick and old people. Warmth will also increase the frequency of some tropical diseases like malaria and yellow fever, which will spread geographically to the higher mid-latitude areas. (Houghton 1994: 109-110).

2.4.2. Acid rain

Industrial burning of coal and oil produces sulphur dioxide while nitrogen oxides comes from coal, oil and vehicle exhausts. By a chemical action, these two substances form sulphate particles. These particles spread with the wind and are dropped elsewhere in dry form, or they mix with clouds and form acid rain. This causes pollution of the air and freshwater systems, and it gives diseases in plants especially in trees. The main effects are acidification of lakes, dieback of forests, stunting (impeded development) of crops and erosion of buildings. This situation is exacerbated by climatic stress. The result is a serious forest decline and dieback. In southern Norway 80% of the lakes and streams are either dead or in a critical condition. 52% of Germany's forests show signs of dieback. Timber losses in Germany are estimated to be 5 billion USD a year. In USA damage from crop, stunting costs 5.4 billion USD annually. Acid rain is transnational. 96% of Norway's sulphur deposition is imported, while the UK exports 71% of its output. Decrease in forests has a systemic effect, which will be discussed under the headline deforestation and desertification. (Ekins et al. 1992: 15; Houghton 1994: 43, 109).

2.4.3. Ultraviolet radiation

The ozone layer is a natural greenhouse gas, which is placed in the stratosphere (the atmosphere 10 to 50 km above the earth). The ozone is a rather important gas since it absorbs solar ultra violet radiation, which otherwise would be harmful to life on Earth. Greater level of ultra violet radiation could severely affect human health; plant growth; basic forms of aquatic life vital to the food chain; and the balance of carbon dioxide in the atmosphere. The ozone layer is, however, being depleted by a range of chemicals, principally CFCs. Over the Antarctic 97,5% of the ozone is missing. There is a start of a similar hole over the Arctic. Elsewhere depletion varies from 2% to 6%. (Ekins et al. 1992: 14; Houghton 1994: 41).

2.4.4. Deforestation and desertification

Forests once covered 75% of our planet's land area. In 1992, the coverage was less than 30%. Since 1960, about half of all forestlands on Earth have been destroyed. Due to financial gains from increased human consumption, forests are cut down. The reasons for deforestation are partly the huge need for wood commercially, but forests are mainly removed to give way for various commercial farming. The use of wood in the modern economy is excessive. For example, a single edition of the New York Times eats up 150 acres of forestland. If the rest of the world should consume paper, including recycled paper, at the same rate as the United States (with 6% of the world's population) within two years not a single tree would be left on the planet. (Houghton 1994: 146; Rahnema 1997: 379; Des Jardins 2001: 94).

Forests are ecological systems essential to life on Earth. They are home to millions of diverse plant and animal species; they balance the rainfall, prevent flooding, soil erosion and drought; they give livelihood to millions of traditional people; and they are absorbing carbon dioxide, thus clearing up the threatening greenhouse gasses. Specifically the tropical rainforests are life-giving ecosystems. The world originally had 6 million square miles of tropical forests. It covered 14% of the land. Now more than 40% of tropical forests have disappeared. According to the 1987 report from the World Commission on Environment and Development, more than 11 million hectares of tropical forests were destroyed every year. Over 30 years it amounts to an area of the size of India. The rate of tropical deforestation was still rising in 1992 where 14,2 million hectares were destroyed annually while 15 million hectares were degraded. This is similar to an area of two football fields every second of every day. However, currently, according to BBC (19.05.2005) the Amazon rainforest is cut at a record level. If this continues, almost all tropical forests will be destroyed within the next few decades. (Dankelman et al: 1988: xii; Ekins et al. 1992: 16; Houghton 1994: 146; Des Jardins 2001: 94; BBC News: 2005).

There is a variety of systemic environmental impacts from deforestation. Primarily deforestation increases global warming. This happens in two ways: Deforestation prevents the trees from absorbing greenhouse gases, and the cutting itself, which normally includes burning of wood, even increases carbon dioxide in the atmosphere. Furthermore, deforestation reduces water supply. When there is a reduction of vegetation, there is a decrease of evaporation and a tendency to reduced rainfall, which again reduces vegetation. Thus, deforestation may increase droughts, which contribute to desertification. (Houghton 1994: 100-101, 146).

Drylands (defined as those areas where precipitation is low and where rainfall typically consists of small erratic, short, high-intensity storms) covers 40% of the total land area of the world and support over one fifth of the world's population. 32% of the world's dryland is situated in Africa, another 32% in Asia. According to the 1987 report from the World Commission on Environment and Development 6 million hectares of drylands are degraded to desert-like conditions each year. Over 30 years that would amount to an area as large as Saudi Arabia. Each year another 20 million hectares of land become degraded. It is estimated that 4.5 billion hectares or 35% of the Earth's land surface is at risk from desertification that includes 66% of Australia's farmland. Desertification of these drylands relates to the degradation of land due to decreased vegetation, reduction of available water, reduction of crop yields and erosion of soils. Each year 24 billion tonnes of topsoil are washed away worldwide. The principal causes of soil degradation are apart from deforestation also excessive land use from over-grazing, over-cultivation, water logging and salinization from irrigation. The real root of the problem is increased need for use of natural resources due to excessive consumption and high population density. In the South, there is often a political and economic pressure for cash crop production in order to earn foreign exchange. This results in over-use of land and displacement of poor people on to fragile lands leading to soil degradation. The actual desertification is often triggered or intensified by a naturally occurring drought. The consequences of desertification for people in the South are that fertile farmland becomes scarce, making food sufficiency increasingly insecure. Much soil degradation can, however, be reversed. An estimated 4,5 billion USD per year (less than two days' worth of world military spending) for 20 years is needed to control the problem. (Dankelman et al 1988: xi; Ekins et al. 1992: 17; Ekins 1992: 11-12; Houghton 1994: 101).

Both deforestation and desertification have huge consequences, mainly for the traditional people in Africa and Asia who subsist from these environments. In Chapter 5, some of these problems will be discussed in detail. However, loss of these habitats also has other consequences. An important effect from deforestation and desertification is loss of natural ecosystems and the diversity of species, which they contain. Loss of natural habitat is one of the greatest threats for terrestrial biodiversity. (Murray 1995: 21).

2.4.5. Extinction of species

Biodiversity is the global composition of genes, species and eco-systems in which they live. Current estimates suggest that more than 1.4 million different species have been scientifically categorized. However, this represents only a small percentage of the actual number of species that exists, which is assumed to be approximately 30-40 million species. Moreover, the invertebrate species are estimated

to number as many as 30 million. Each species contains from a few members to many billion members. The rate of extinction of plants and animals independently of human activity is around one species every few years. In 1985, it was estimated that each day on average one animal or plant species became extinct. The estimated rate of extinction was in 2001 4,000-6,000 species a year. That is 10,000 times faster than what nature would decide by itself. Based on this it is believed that a quarter of all species risk extinction before 2025. And there are many substantial examples: Before European settlers arrived in North America more than 125 million bison ranged across the Great Plains from Mexico to Canada. In 2001, USA has approximately 75,000 bison. The blue whale with its 150 tons is the world largest animal. In the early years of the 20th century, a population of more than 200,000 blue whales was assumed to live in the Antarctic Ocean. In 2001, the population is estimated to be less than 1,000. Due to its low reproduction rate the blue whale may not survive. Tropical forests contain 70-95% of all the Earth's species. If by 2020 the rainforests are gone millions of species will have been lost forever. A reality is therefore that most species will disappear without having been discovered by man. Thus, human activity is causing the single greatest episode of mass extinction since the end of the dinosaur age some 65 million years ago. This action will have unforeseen consequences for humanity and future evolution. It is estimated that the Earth would take 10 million years to recover from human caused extinctions. That is a disaster of proportions, and it is brought about by the specie that considers itself the most intelligent and rational one in nature! (Dankelman et al: 1988: xii; Ekins et al. 1992: 16; Munson 1995: 55; Des Jardins 2001: 93-94, 128-129).

When biodiversity is lost so are their possible use for humanity. Plants and animals play an essential role for sustaining human food production and health. Food production demands that the domestic food crop is strengthened. Due to the scientific way of producing, the domestic crops cannot evolve as wild species do. At a certain moment, they therefore cannot resist new pests, which has evolved in nature. The domestic crop consequently needs to be strengthened with wild species, which has developed resistance from new pests. Thus if the wild species is extinct, also the domestic species will die out. Plants are also important for medical purposes, many species are already in use. The annual market for plant medicine is estimated to be 43 billion USD. However, since modern scientific experience and knowledge is limited, biogenetic material is only used to a limited extend. The majority of the known species of insects have not even been studied properly. As Murray says, (1995: 24) conversion of rainforests to other purposes is like burning down libraries full of volumes that have not yet been read. It would not be difficult to imagine, the possible existence of small "insignificant" genes in insects or plants, which could have the enhanced ability for example to reduce carbon dioxide of the atmosphere or clean-up the various human made toxic gasses. It is, however, not only the

possible benefit for humanity, which should be a motivating factor to conserve biodiversity. The existence of various species has an intrinsic value, which the human species ethically should not question and dominate. Besides nature has intangible values for different people, which also should be respected. (Murray 1995: 22-24; Stocking et al 1995: 162-163).

2.4.6. Water scarcity

Fresh water is needed for all forms of life on Earth. However, population growth and modern standards of living has meant increased water demands. Therefore, water use has increased 4 times during the last 50 years (1934-1994). (Houghton 1994: 97).

Apart from over-use of water, increase in temperature, water evaporation, sea level and drought all contribute to scarce water resources. This means that ground water has to be found deeper and deeper. In China, for example the water table is annually falling by 2 meters. This situation results in a vicious circle: When ground water is removed, the land sinks gradually to a lower level (subsidence). This subsidence influences the sea water level, which rises. Rise of sea water level increases intrusion of saltwater into fresh ground water resources. The estimate is that with 1 meter sea level rise saline intrusion would increase to 300 km. inland. In addition, stream flow, which is an important source of water for people, would diminish. Thus, overuse of water causes water to run out. (Houghton 1994: 93-94, 100).

The high level of water use relates mainly to agriculture, which accounts for 2/3 of global water use due to its method of irrigation. In order to direct water to agricultural uses large water schemes are proposed and water dams constructed. This type of water management is, however, highly doubtful. Over-watering destroys land with salinization. 24% of the world's irrigated land has been damaged by the build-up of salt. Due to its size, construction of dams will automatically disrupt large natural areas. This normally causes destruction of essential ecosystems like forests and fertile agricultural land, which results in a reduction of both rainfalls and food production. As already mentioned building of dams in the South is also displacing thousands of indigenous people, with deeply negative social consequences. In addition, dams are redirecting the natural water flow towards the elite's economic activities, away from the use of subsistence farmers. This diminishes indigenous people's food security, which increases hunger and poverty. In addition, paradoxically, the damming in itself diminishes the availability of water in general, partly due to the interruption of natural water flows and partly due to the inundation of virgin forests for catchments area. (Ekins et al. 1992: 17).

The web-like systemic effects from redirection and overuse of water together with climate change like increased temperature, sea level rise, increased droughts and floods, deforestation, desertification - all means that water is becoming scarce. Global water scarcity demands serious changes in consumption. Producing a typical car requires more than 50 times its weight in water; a kilogram of hamburger or steak produced by a typical beef cattle operation in the North uses about 20,500 litres of water! With this over-consumption of water, it is predicted that by the year 2025 one out of three people will live in countries that are short of water. Water scarcity is already endemic in North and East Africa, China, India and the Middle East. 2 billion people in the South suffer from chronic water shortage. Scarcity of water also means declining output of crop. The world grain output fell by 7% from 1984-1989. Since water is the giver of life, the result from scarcity will be hunger, malnutrition and eventually death. (Ekins et al. 1992: 17; Gaard 2001: 168).

Water scarcity may increase human tension and violence. The Nile for example runs through nine countries. Failure to agree on water management may bring conflicts. Hence scarce water supply increases global insecurity. The former UN Secretary General Boutros-Ghali suggested that the next war in the Middle East would be fought over water, not politics. If we count the wars in Afghanistan and Iraq he was proven wrong, however, many authors are predicting that the wars of the 21st century will not be about oil supply but about water resources. (Houghton 1994: 97-98; Gaard 2001: 168).

This leads to another consequence of the environmental crises: Increased global insecurity and escalation of a militarized world. Thus, overuse of natural resources and degradation of the environment leads to an increased competition for ever scarce resources, which results in a more violent world with more wars. Due to natural disasters like drought and floods, ecological degradation, pollution, internal conflicts and wars the number of refugees in the South will escalate. These problems are estimated to produce 3 million environmental refugees annually. The refugees are normally women, old people and children from rural areas. Between 40 and 60% of these are children under 15. (Adepoju 1994: 33; Houghton 1994: 113).

An additional cause of water scarcity is pollution. According to the 1987 report from the World Commission on Environment and Development 70% of all surface water in India is polluted by sewage, chemical and industrial wastes. Nature is consequently also under threat from pollution and wastes generated by economic development. (Dankelman et al: 1988: xii).

2.4.7. Dangerous industries, their pollution and wastes

Some 70,000 **chemicals** are in common use, with 500-1,000 new ones added annually. The chemical industry in the US has expanded its production of synthetic organic chemicals from 1 million tons in 1940 to 125 million tons in 1987. It is a 12,500% increase over 47 years. Many of these chemicals are used in agriculture as fertilizers, herbicides, fungicides and pesticides. Due to the large-scale, energy-intensive, mono-cultural, scientific method of food production chemicals are a necessary input. However, it has given serious negative consequences. The chemicals has caused imbalance in the natural eco-system. It has polluted soils, poisoned ground water resources, endangered fish, birds and insects. Chemicals also make people sick. Many of these toxic chemicals enter the human body where the immune system cannot dispose of them. These compounds are detectable in the body tissues. Recent test shows that most likely all Americans have toxic compounds stored in their fatty tissues. Some of those chemicals detected are known or suspected to cause cancer, birth defects and other health problems. It is also estimated that pesticide in food could be causing 20,000 additional cancer cases per year in the USA. Moreover, people often do not know the content of the chemicals they are using. There is no information on toxicity available for 79% of the 48,500 different chemicals listed. Chemicals, which are too dangerous to be used, are banned in the North. However, these are often sold in the South where 10-40,000 people are killed annually from use of pesticide and herbicide. A study showed that breast milk of Nicaraguan women contained DDT at 45 times the WHO tolerance limit. Persistent use of pesticide on crops also leads to resistant strains of pest. This results in crops losses of up to 30%. Consequently, the introduction of chemical food production in the South did not lead to food security. Hence, the benefit from use of chemicals in nature should be doubted. The use of chemicals in nature in general and in food production specifically will be discussed in more details in chapter 5 and 6. (Ekins et al. 1992: 17; Newman 1994: 47-48; Norgaard 1994: 24-26, 47).

If dealing with toxic chemicals is taken lightly, it may cause disasters. On December 2, 1984 40 tons of a deadly mixture of toxic gases escaped into the atmosphere from the Union Carbide factory in Bhopal, India. The factory manufactures pesticide and it is owned by the American Union Carbide Corporation (UCC). The incident can hardly be called an accident, it was rather a disaster in making: The factory was placed in a populous section of the city; it produced toxic products; due to cut of costs and lack of maintenance the manufacturing process lacked proper safety measures; because of competition the factory kept the constellation of the products and its procedures secret. (Ekins et al. 1992: 27; Jaising et al. 1994: 88).

Rather than supporting its citizens, in the aftermath of the disaster, the Indian government protected the UCC. This worsened the situation for the victims. The state for example took over all compensation cases, which lowered the awards to the victims. The state also supported UCC trade secrets and consequently kept all information related to the disaster confidential. Thus, data on the mixture of the gasses was never given and therefore correct treatment could not be prescribed. This increased the casualties. However, victims were believed to be suffering from cyanide poisoning. Official figures in 1990 estimated the death toll to be at 3,677 people. Unofficial estimates go beyond 10,000, with another 80,000 people seriously affected, causing one death each day. (Ekins et al. 1992: 27; Jaising et al 1994: 88-90).

For 5 years, no victim received any kind of monetary relief. Then finally, the Indian government decided on a settlement of 470 million USD. Victims were paid compensation at a rate of 350 USD to 6,500 USD per person. This was based on a fictive estimate of 124,000 claimants with 800 having a permanent disability. In reality, 600,000 had filed for compensation. An independent group of researchers could prove that 70-80% of the population were permanently and seriously injured. Thus 400,000 victims suffered serious injury. Jaising and Sathyamala (1994: 88) assess that the disaster injured several million permanently. When medical files were released, they showed that the toxic gasses had caused multi-system injury with irreversible damage leading to progressive deterioration. There were also grave risks for genetic changes in the population. In addition to the settlement, the Indian state dropped all criminal charges against the UCC in USA and India. Still today, no proper survey of the entire exposed population exists. Thus, nobody really knows the number of injured. (Jaising et al 1994: 92-95).

The Bhopal disaster should have changed the complete chemical industry, but it did not happen. Only two years later, a fire at Sandoz factory in Switzerland caused 30 tonnes of pesticide and other chemicals to be washed into the Rhine. As a result, the river was rendered lifeless for 100-200 km. About 500,000 fish were killed and the drinking water is at risk for years to come. The subsequent investigation brought to light 12 other major Rhine pollution incidents involving Ciba-Geigy, Hoeches, BASF, Lonza and others. (Ekins et al. 1992: 27).

Another threat to nature and people are **oil spills**. The first large oil spill in Europe was in 1967 when the Torrey Canyon wrecked off the Isles of Scilly. The dispersant sprayed on the slick was more toxic than the oil and did untold damage to marine life. In 1978, the Amoco Cadiz was wrecked off the coast of Brittany releasing 200,000 tonnes of crude oil into the sea. In 1989, the Exxon Valdez ran

aground in Alaska spilling 11 million gallons of crude. Bird life suffered 300,000 casualties, and there was a massive ecological damage. Worst of all was the 1991 spill during the Gulf War. It released 7 million tonnes of crude into the sea. (Ekins et al. 1992: 26).

Another huge danger is the **nuclear power plants**. Nuclear power is not safe, not clean, and not cheap as the politicians preach. Thousands of tons of toxic materials have already been discharged into the environment by nuclear explosions, waste, reactor spills, moreover there is the risk of accidents. This affects the clean air, the fresh water and the food, which both humans and animals need for survival. It also increases the risk of developing cancer and genetic diseases. (Capra 1982: 3).

In 1979, a major reactor accident happened at Three Mile Island in Pennsylvania. Large amounts of radiation were released. From 1979 to 1982, the area had a death rate for elderly people 3.6 times the national rate. As many as 130,000 may have prematurely died. However, the worst reactor accident happened 7 years later at Chernobyl, with a massive release of radiation. 200,000 people have been permanently evacuated from the exclusion zone. 7-10,000 miners and soldiers died from radiation exposure during the cleaning up operation. 3,5 million citizens of Kiev received radiation doses hundreds of times the normal safety levels. Due to the wind, most European countries were contaminated, giving agricultural costs of 250 million USD in Western Germany alone. The former Soviet officially put the costs of the disaster at 14 billion USD. Estimates of eventual cancer death range from a few thousands, according to nuclear industry sources, while Professor Gofman at the University of California assumes it will be more than a million. (Ekins et al. 1992: 27).

Dumping of **hazardous waste** materials poses a threat to ground water, soils, crops, human and animal health in many industrial countries. Germany is thought to have 35,000 problem areas and Denmark 2,000. An estimated 275 million metric tons of hazardous waste are disposed of every year in the USA. That means 2,500 pounds for every woman, man and child in that country. In 1989 manufacturing facilities in US released over 18 billion pounds of toxic chemicals directly into air, water, land or underground wells. The list of contaminated sites acknowledged by the US environmental protection agency continues to grow. Cleaning up the priority sites in the US could cost up to 100 billion USD. (Ekins et al. 1992: 17; Newman 1994: 47).

In the years leading up to 1953, the Hooker Chemicals and Plastic Corporation had used the area of Love Canal, USA as a dump for over 40,000 tonnes of waste, much of it carcinogenic (cancer causing). The area was later developed for housing. In 1978, a leakage from the old dump became evident.

Love Canal was declared a Federal Disaster Area with estimated clean-up costs of 250 million USD. Three dumps nearby are also leaking into the Niagara River, the source of drinking water for 6 million people. (Ekins et al. 1992: 27).

Penny Newman tells her story about the Stringfellow Acid Pits. It is a permitted hazardous waste disposal site licensed by the state of California in 1955. It is situated in a canyon above the small rural community of Glen Avon. It receives more than 34 million gallons of liquid wastes including heavy metals, organic solvents and large amounts of sulphuric nitric and hydrochloric acids from local corporations. In 1978, the dry arid area experienced heavy rains, which caused the dam to fall apart. To relieve pressure the government decided to release 1 million gallons of toxic chemicals into the community, without informing people to take precaution. Over a 5 days period chemicals were released. They flow through the community, over public roads, flooding homes, and inundating the elementary school. Only when shoes started to fall apart and jeans disintegrated from the water did the people suspect something. Although the exposure was immediately ended and the site cleaned up, the health of the community was disturbed. Out of the 21 staff at the school, 17 either died or got severe, unusual diseases. In the year of 1993 alone, five teachers died of cancer. Three out of four young men were shown to be sterile. Women experienced miscarriages or premature babies. Children got asthma and allergic reactions. Many had blurred visions, dizziness, headaches and skin diseases. (Newman 1994: 44-46).

All too often, these environmental burdens are placed on people in the least advantaged position. The pattern is that companies locate their plants in rural communities, using up the water, polluting the land and the health of people while transferring their energy or their produce to the wealthier urban residents. Greta Gaard (2001: 166) calls this for *environmental classism*.

Penny Newman (1994: 43) finds that the US government and the industries have become accomplices, working against the interest of poor communities. The law does not protect people. It seems to be perfectly legal to kill people with toxic chemicals. Instead of prevention, they discuss "acceptable risks". Hence, the law permits corporations to kill, as long as they stay within a set limit. Greed and desire for maximization of profit override corporations concerns for people and nature. An internal memorandum from a corporation shows how they calculate with people's lives: The vice president of Gulf Resources and Chemical Corporation in Idaho estimated how much Gulf would have to pay if it continued to expose children in Kellogg to lead-contaminated smoke. The estimated liability for poisoning 500 Kellogg children was 6-7 million USD. Although they knew the harm they were doing,

they still increased the emission due to the high prices of lead in 1974. The corporation had the law on their side and the children of Kellogg suffered the consequences. (Newman 1994: 48-50).

Apart from the heavy costs poor people have to bear, they are also manipulated to believe that the danger is inextricably linked to progress. It is said, that it is the price one must pay for living in a modern society. However, the reality is that it is the price someone else pays. The rich people benefit. Since the poor people cannot move away, their communities carry the burden as a result of the industry-government relationship. (Newman 1994: 50).

In addition, communities of colour are deliberately targeted for toxic waste disposals and siting for polluting industries. This activity is officially sanctioned. The people cannot complain because they are excluded from decision making groups and regulatory bodies that may prevent such activities. Greta Gaard (2001: 162) calls this for *environmental racism*. Studies show that enforcement of environmental laws is systematically relaxed when it concerns minority communities. In 1982, a research done by the United Church of Christ Commission on Racial Justice in USA concluded that race is the best indicator to identify communities most likely to be the location of toxic waste sites. Newman (1994: 50) adds that it is not a coincidence that the polluting industrial plants are situated in the areas where people of colour live and that dangerous facilities are placed in poor, rural areas. In USA there was made a blueprint by consultants advising the State of California, which communities would be least likely to resist the siting of a toxic facility. (Newman 1994: 50; Gaard 2001: 162; Des Jardins 2001: 240).

Evidence also shows that women often bear a greater environmental burden than men do. According to Heyzer (1995: 3) in ecological fragile zones, women and children are 75% of the affected and displaced people. Hence, we need also to be concerned with *environmental sexism*. According to Gaard (2001: 161) nature is, in the Euro-American culture, seen both as an endless supply of resources and as a place that eternally will clean up the human made waste. This idea is also applied to women. Women are perceived as being an instrument to satisfy the needs of husbands, children and other family members. Women are also expected to be cleaning up after them. Many women therefore find that there is a connection between the way the modern culture perceives women and perceives nature. (Gaard 2001: 161).

Women's involvement in the environmental movement started due to the intimate relationship recognized between the health of nature and the health of women and their families. As Penny

Newman says (Shiva 1994a: 2) the environment is the place in which we live, it includes everything that affects our lives. Environmental problems therefore become health problems because there is continuity between the earth body and the human body through the processes that maintain life. Many rural women in the South are directly dependent on natural resources due to their location on the fringes and their gender role in producing family sustenance. For them a healthy nature is a matter of survival. Thus when the health of the environment is deteriorating so is the health of women. Hence, when economic activities are causing degradation of the environment, they also negatively affect women. With its focus on economic growth, development consequently is often making women poor, while it is drawing men into its profit-seeking activities. (Shiva 1994a: 1-2, 9; Des Jardins 2001: 240).

The connection between the health of women and the health of nature has created new social movements all over the world with the aim to confront environmental hazards. Many are almost exclusively led by women. Penny Newman was part of forming the Movement for Environmental Justice in USA. The movement comprise of the people who have suffered most. These include the women and children, the poor and people of colour. They step forward to demand change. These women, often ridiculed by politicians as "*hysterical housewives*", recognise that environmental hazards are health hazards, which are killing children and adults in the local communities. Their focus is on survival and the demand is that there will be no more pollution. They fight for a clean and healthy place to live and work in. Hence for "the hysterical housewives", as they now call themselves, enough is enough. The organisation has expanded their network globally to prevent toxic dumping in the Third World as well. They know that corporate "criminals" do not recognize national borders. (Newman 1994: 43, 53, 56, 58).

In addition, indeed export of hazardous wastes from the North is a huge threat to people in the South. 175 million tonnes of hazardous waste was offered on the world market between 1986 and 1991. The wastes are mainly exported from the industrialized countries to the developing world. Hazardous waste is defined as waste, which, if deposited into landfills, air or water in untreated form, will be detrimental to human health or the environment. It includes toxic materials, flammables, and explosives, carcinogenic and nuclear materials. The main receiving areas are the Caribbean, Central America and South America but with huge growth in shipments to the former Soviet states. In addition, Asia is importing wastes. Pesticide that is suspected to cause cancer, mutagenesis (substance that can induce genetic mutation) and adverse reproductive effects were for example exported to Sri Lanka. It amounted to 1 million pounds in three month. India, Thailand and Indonesia each received between 100,000 and 200,000 pounds. West Africa has also joined the trade. According to 1989

figures, Benin was contracted to dispose of 1,5 million tonnes of industrial waste from USA and Europe per year. It also takes radioactive wastes from France for landfill. Guinea-Bissau was contracted to receive 15 million tonnes of industrial and chemical wastes from the UK, Switzerland and USA over 5 years for landfill. Equatorial Guinea accepted 2 million tonnes of mixed chemical wastes from Europe for landfill. (Elliott 1994: 35-36; Newman 1994: 48).

The reasons the North prefer to export their waste are diverse. The increased demand of clean industries has led to more stringent rules concerning the disposal of toxic wastes. The added costs associated with this, together with the lack of land for dumping of wastes has led companies to take the easy option: to dump toxic wastes in poor countries with large areas of land and few restricting regulations. Such practices are supported by The World Bank and WTO, which see the waste trade as an important wealth earner for the developing countries. The short-term monetary aims from importing toxic wastes are indeed attractive to governments of poor countries. For example, two British firms offered 120 million USD per year to Guinea-Bissau to bury industrial waste material. This is equivalent to the annual GNP of that country. These amounts paid to the receiver are negligible compared to the savings the companies make on storage and disposal of the wastes in the country of origin. (Elliott 1994: 36).

Poor countries are therefore more likely to suffer environmental degradation than wealthy countries and the poorest of the poor, most of whom are women, are likely to suffer the most. Part of the explanation is the historical legacy of colonialism. The colonialists exploited the southern countries' natural resources to fuel the industrial growth and living standards in Europe and USA. They paid no attention to the environmental consequences and the local communities. This legacy of colonial injustice lives on and is often implicit in the global economic system. Hence, when economists conduct a cost-benefit analysis on toxic dumping or natural resource exploitation the result will show that distributing environmental risks to people and places with the least economic value is most efficient. Des Jardins (2001: 232-233 & 241) supports this argument by giving an example of a memorandum that was circulated in the World Bank in 1991. Lawrence Summer, the chief economist of the Bank at that time, argued in the memo that it is economic logic to dump toxic waste, which causes health impairing, in countries with low wages because it will give the lowest costs in case of compensation. When we know that the Bank controls administration of international debts and therefore exercise huge control over economies of most developing nations, such an attitude have serious ethical problems. There is consequently also a case for *environmental colonialism*. (Ekins et al. 1992: 17; Newman 1994: 48; Des Jardins 2001: 241).

Dumping of waste in the South presents a huge risk to people and nature. The developing countries are ill equipped to deal with toxic waste. Very rarely is the awareness or the technology available in these countries for handling the long or short-term dangers of these materials. In 1988, the Organization of African Unity passed a resolution calling for a ban on the importation of hazardous wastes to the continent. Individual countries have consequently reversed earlier agreements and movements to Africa are now confined to South Africa and Morocco. United Nations Environment Programme has given advice on how to deal with some core waste material. However, there are no international norms on what is proper waste treatment. No industrial country or international institution has made any move to ban waste exports. In consequence, the trade in hazardous materials continue to expand. (Elliott 1994: 37).

2.4.8. Development destruction; the wasteful ecological consequences of development activities

Development activities in the South are theoretically meant to improve the well-being of human beings. To be consistent, this must necessarily include to preserving the health of the natural environment from which many traditional people live. However, far too often develop projects are focused on "modernizing" people's lives and as a consequence development are causing both human misery and environmental destruction. Big dams have long been the prestige symbol of industrialisation and development. The dams are meant to increase economic growth by supplying energy to industrial production and water to commercial cash crop farming. However, big dams give numerous problems. It has already been mentioned that big construction works cause displacement of indigenous people and increase unequal distribution of wealth, which leads to poverty and human misery. However, they also have huge negative impacts on nature. The Ecologist Magazine has called these big water projects for "massive ecological destructions". The magazine recommends that decision makers stop all large-scale water development schemes. In spite of this sound advice, China is presently building the world's tallest and biggest dam. It will negatively affect the lives of 2 million people and a huge natural area. (Ekins 1992: 88-89; BBC News October 2006).

The above-mentioned Narmada Valley Project in India is a classic example. Ever since the initial idea in the 1960, the project has been controversial. It is the largest hydroelectric and irrigation water development complex ever proposed in the world. It comprises two very large dams, 28 major dams, 135 medium and 3,000 minor dams to be built over 50 years, costing 5 billion USD. The project will be generating an estimated 500 million megawatts of electricity and it is designed to irrigate over 2 million hectares of land. Moreover, it should bring drinking water to thousands of villages. The World Bank gave a loan of 450 million for one dam in 1988 and was considering the second as well. The

Narmada is India's fifth largest river. It is the home and livelihood for 20-21 million people and it is the destination for hundreds of thousands of Hindu pilgrims who visit shrines along its banks each year. Hence, the river has important cultural, religious, economic and ecological functions. However, the Bank sees this differently. According to its calculations only 4% of the water is utilized, they therefore conclude that water is wasted and the river is unproductive. However, this can be changed by building of dams. However, the Narmada Valley scheme has been referred to as an environmental catastrophe, a technological dinosaur and an example of flagrant social injustice. 200,000 people will be displaced without adequate resettlement and rehabilitation; the dams will submerge 2,000 square km. of fertile land and 1,500 square km. of teak and sal forest, prime in terms of timber, rare wildlife and genetic resources. In addition, historic sites will be eliminated. Due to the assumed decrease in rainfall, plans were made to replace natural forests with plantations. These are, however, ineffective ecologically and they were not implemented in reality. Environmental losses due to submergence equal a sum that is three times the total estimated cost of constructing one dam. Besides the dams will siltate (the water in the dam will be filled with mud and clay due to erosion from the degraded catchments areas). This will limit the dams' performance and lives. Serious health impacts from water-borne diseases are also expected. With the irrigation, it is predicted that there will be waterlogging and salinisation in 40% of the farmland. According to a research, crop yields declined in one district after these were irrigated with water from one minor dam. Moreover damming has various negative impacts on both backwaters and downstream ecosystems, like interruption of fisheries for local people. Furthermore, the Narmada lies in a seismic zone where thirty earthquakes have shaken the region during the last 200 years. The sheer weight of the new giant reservoirs could trigger an earthquake with serious consequences for the basin and people. (Ekins 1992: 89-90, 93-95; Elliott 1994: 47-49).

From this, it follows that the dams are having disastrous ecological consequences, which have been completely overlooked by the World Bank. Those, together with making the indigenous people destitute, are huge sacrifices for modern "progress". The protests against the project have therefore developed into a powerful social movement. The anti-dam movement has been referred to as India's first nationwide environmental protest. People demonstrate and refuse to cooperate in the reallocation, bringing the construction work to a halt by non-violent actions. People felt that the World Bank gave them false information regarding the project and its negative side effects. At one moment, this resulted in a major demonstration outside the Bank's Delhi office. The protesters have sworn not to give in but to intensify their opposition against the dams. Hence the project is riddled with social unrest; poor planning; misinformation; negligence of respect for human beings, the environment, and economic

issues. This again has led to widespread human rights violations by the government. Development programmes are therefore not only generating poverty and environmental destruction they also indirectly promote human's rights abuses. (Ekins et al. 1992: 26; Ekins 1992: 89-90, 95-96; Elliott 1994: 49).

How human beings are dominating nature is a major issue of this dissertation. Thus an in-depth analysis of modern culture's perception of nature, how this relates to economic development, and the way in which both issues affect the poverty of women and Others will be dealt with in chapter 5 and 6.

2.4.9. Conclusions

To whom does the Earth belong? To whom does the environment belong? To whom do the rivers and mountains belong? These are complex philosophical questions. However, governments are not in doubt about the answer, they have simply monopolised nature. They have created laws, which make it legal for governments to treat nature as an income-generating resource to be exploited for its commercial value. The state has given itself the right to locate hazardous industries in densely populated areas, because it owns the land. It has taken the right to exploit natural resources, even if it gives negative results for women, Others and nature. People seem to have no rights to decide, instead they are expected to contain their losses. This is a clear deterioration of democratic ideals. (Jaising et al 1994: 97).

When the state appropriates natural resources, they also appropriate the health and well-being of people. The "hysterical housewives" are therefore right, deterioration of nature is accompanied by a corresponding increase in human health problems, which are manifested both locally and globally. Diseases from civilisation like heart problems, cancer, diabetes, asthma and strokes are on the increase. Along with natural degradation, also society's health and well-being is deteriorating. This is manifested in increased mental diseases and a rise in phenomena like suicides, violence, crime, accidents, alcoholism and drug abuse - all of which causes family life to fall apart. Thus, social structures are corroding in many parts of the world and the security community life used to give to people is declining. When social disintegration sets in, the government fears it will lose control over its discontent people. Thus, the state is inclined to instil measures that limit the citizens' freedom. Such measures are constraining democracy or preventing it from developing. It also often leads to human's rights abuses. Thus, the circle of the four crises is completed. (Capra 1982: 4).

2.5. The crisis of human's rights abuses; mainly women, children and poor people suffer

"The worst sin towards our fellow creatures is not to hate them, but to be indifferent to them, that is the essence of inhumanity."

George Bernard Shaw.

(Jordaan et al 1995: 615).

Human's rights abuses are relating to all the above crises. Human repression is exacerbated by the arms race, war, crime, poverty, mal-development and environmental destruction. As it has been shown above in war, human's rights are continuously violated. Poverty is in itself a human's rights abuse. Governments' appropriation of natural resources for economic development, which marginalizes subsistence people and leave them no alternative means of survival, must also be seen as a violation of basic human's rights. In addition, certainly the pollution from hazardous chemicals and the waste disposals of toxins into the environment of poor people, coloured people and poor nations is a type of human repression too. The following discussion focus on examples of human's rights abuses done by governments; international institutions; corporations and other elites, mainly for the purpose of profit making and power. (Ekins 1992: 12).

2.5.1. The value of money is a priority over the value of people

"Desire for money, if it is not limited by satiety, is far heavier than extreme poverty; for greater desires create greater needs."

Democritus, Greek philosopher (420 BC). (Barnes 1987: 272).

Amnesty International reported in 1988 that 84 countries have imprisoned people due to their belief, sex, ethnic origin, language or religion. These people have not used or advocated violence. Moreover, torture cases were registered from 43 countries. In addition there were in 1989 64 military regimes in the Third World. (Ekins 1992: 12).

Northern democratic nations have not done practical efforts to improve these human's rights violations in the South. They do profess to support human's rights, but these ideals become rhetoric whenever their own economic and strategic interests are at stake. It manifests in the fact that all Western countries have collaborated with and supported oppressive regimes to some extent. The main example is USA. The American foreign policy states that it will not accept regimes, which are uncooperative to US interests. However, if such co-operation is forthcoming, even dictators and military regimes may get US support. That is as Ekins says (1992: 12) a hypocritical record, which comfort only the world's repressor.

One example is Iraq's former dictator Saddam Hussein. Although his ruthlessness was well known and beyond doubt, still Western countries supported him in the Iran-Iraq war. They sold him any violent technology he asked for, allowing him to build the fourth largest army in the world. They supplied weapons of mass destruction into a region, which was known for being very power-sensitive. When Saddam Hussein used chemical weapons against his own unarmed Kurdish citizens, none in the international community protested markedly and no sanctions were imposed. Oppositely, when the oil of Kuwait was at stake USA reacted. Had they not supplied weapons in the first place, the Gulf war might have been avoided and hundreds of thousands of people would still have been alive. Furthermore, if USA had done efforts to diminish their oil consumption or found alternative energy sources, the supply from Iraq and Kuwait would have been less necessary. (Ekins 1992: 13).

The world's main arms producers are USA, China, UK, France, Germany, Italy and South Africa. Apart from China, these countries call themselves democratic. However, in spite of such professed values they still sell arms to regimes, which use them to repress their own people. The UK for example sells arms to Saudi Arabia, Indonesia and Nigeria. Saudi Arabia has a poor human rights record; the Indonesian army killed 200,000 people in East Timor; the Nigerian regime killed Ken Saro-Wiwa and other opponents. Repressive regimes also use weapons of torture manufactured and sold to them by Northern democratic governments. For example between 1991 and 1993 14 licences valued 5.4 million USD were exported to Saudi Arabia from USA. They included thumb cuffs, thumbscrews, leg irons, shackles, handcuffs, straitjackets and specially designed electric instruments for sexual torture. This production is not done in hiding. Instruments like these are displayed and sold at international arms fairs held annually in USA and UK. One wonders what these people think when they sell instruments, which can only cause scrutinizing pain and death to other human beings! Their thoughts may never be known but at least one must conclude that democratic and free countries are supporting repressive regimes to commit abuses of human rights, in order to earn profit. (Rowe 1997: 237, 240).

The international financial institutions give the impression also to be unconcerned about human rights when it comes to economic interests. The story of the late Zairian dictator Mobuto Sese Seko is an example of this:

Former Zaire, now the Democratic Republic of Congo, had in 1989 a debt amounting to 5 billions USD. That equals what General Mobuto Sese Seko and his family stole from Congo. Before his death, it is recorded that Mobuto owned seven châteaux in Belgium and France, huge estates and

mansions in Spain, Switzerland and Italy. He had buildings in the Ivory Coast, palaces in each of Congo's eight provinces plus an extra one in his homely province. No one knows how much he had in his Swiss bank accounts. Mobuto owned ships and jets, including a Boeing 747, and at least 51 Mercedes Benz cars. His agricultural empire in Congo was in the 1980's the third biggest employer. It produced around 1/6 of Congo's agricultural exports. Mobuto also owned a part in every bigger foreign factory placed in Congo. He got a commission of 5% of the country's minerals, which was paid out to his foreign accounts. Moreover, 30% of the country's budget went through the president's office without need of accounting. At the same time, the Congolese people were living in poverty. In 1983 a family needed 80 zaires a day for food, without fish or meat, while the salary of a teacher was 20 zaires a day. In 1983, it was reported from some regions that half of the children died before they became 5 years. A research showed that the average calorie intake in bigger towns were approximately 1,450 per day while an active life demands 2,300, according to United Nation's Food and Agriculture Organisation. Thus, people in Congo were in the process of a slow but certain death by starvation. Due to scarcity, crime and violence increased. Soldiers often used their weapons to steal from the civil population. A soldier only earned 200 zaires per month. In addition, corruption was rampant. People had to pay extra for services that otherwise were free like passing bridges and roads; attending school and pass exams; medical assistance and medicine. Money from central government was normally not received at the local institutions, but if they were, they were stolen by its staff. In spite of this documented knowledge, Congo received lots of new money. The World Bank lent the Mobuto government more than one billion USD, including 375 million from 1984 to 1986, where the suffering of the people were documented. Today those same starving Congolese people must pay back Mobuto's debt to the World Bank, while the owners of the capital are earning good profits from the high interest rates. (George 1989: 122-126).

The priority for economic profit seems to be similar in the **United Nations** (UN). It happened 11 years ago in Rwanda, 10 years ago in Bosnia and now it is happening again in Darfur, Sudan. The international community are not acting to stop the genocidal killing of people. Lack of UN interference, to prevent obvious human's rights abuses in Darfur, is due to China and Russia's veto. Both countries have economic interests in Sudan and are therefore opposed to sanctions. China imports half of Sudan's oil. Hence the Chinese UN representative's only comment to the journalists' questions was, "Business is business". Consequently, due to profit making there can be imposed no international sanctions in order to stop government-sponsored attacks, rapes and killings on citizens in Darfur. For now, 2,171,000 people are displaced. (BBC News 10.07.2005).

Paradoxically also some **religious groups** are primarily concerned about their own economic interests. The Church of England believes in absolute truths, but they also keep some relative values, when it comes to killing people. The Church has nearly 3 million shares in General Electric Company. A quarter of that firm's production relates to weaponry. It exports arms to Indonesia and Nigeria. Both countries have a human rights problem. Thus, absolute truths become in practical life relative. (Rowe 1997: 346-347).

Huge **corporations** are also well known for their focus on profit making. In his well-researched book "The Corporation" Joel Bakan (2004: 89) confirms that many US corporations regularly do business with totalitarian regimes. The reason is simple: it is profitable to do so. Since regulations reduce profitability, it makes good business sense to remove them. Corporations therefore try to remove any obstacles that get in their way of profit. Consequently, corporations also want freedom from democratic control and human rights. The norms lead some US corporations to work for Adolf Hitler, where they reaped substantial profits. For example, the American business machine company IBM gave Hitler the needed technical assistance in running the Nazi extermination and slave-labour programs. IBM provided the Nazi's with tabulation machines, early ancestors of computers, which used punch cards to do their calculations. IBM's head office in New York had complete knowledge of everything the machines were used for in the Third Reich. They knew that the machines were placed in concentration camps where Jews were being exterminated. In addition, IBM technicians serviced the machines in the camps, and IBM engineers trained the users. Moreover, IBM supplied punch cards for the machines, at least until 1941 when USA declared war on Germany. IBM's motivation was economic profit making. Thus, corporations do not value political systems for ideological reasons. The only legitimate question is whether a political system serves or impedes the corporation's self-interested purposes: profit making. Hence, if there is profit in killing people, corporations will be helpful in providing the means. This is a scary picture in today's world. (Bakan 2004: 85, 88, 95, 101).

Also in otherwise democratic countries do the corporations manage to overcome laws and human's rights obstacles to gain profit. Most people know that sweatshops exist in the South. However, it is less known that sweatshops also exist in the North. In 1938 sweatshops, child labour and industrial homework was banned in the USA by the Fair Labor Standards Act. Nevertheless, sweatshops are back in North America. 65% of all clothing operations in New York City are sweatshops. This includes 4,500 factories out of 7,000, comprising 50,000 workers. Los Angeles has perhaps the world's largest concentration of garment sweatshops. It is staffed by some 160,000 workers, many of them being illegal immigrants and thus powerless legally. A survey found that the overall level of

compliance with the minimum wage, overtime and child labour is 33% - hence 67% of the garment industry does not comply with the law. Salaries are between one and two dollars an hour. In addition, each of these sweatshops is a fire disaster waiting to happen. Recently a 10-story building that housed eight sweatshops in Manhattan's Garment District caught fire. Workers died since they could not get out of the building. The fire exits were either locked or blocked by stored supplies. The building's sprinkler system was turned off and there were no exit signs or fire extinguishers. (Bakan 2004: 73-75).

The focus on profit means that many major corporations engage in unlawful behaviour and practices. Some are habitual offenders with records that would be the envy of even the most notorious human criminals. Take for example General Electric, the world's largest corporation and, to the ignorant, one of the most highly respected. Multinational Monitor has compiled some of the company's major legal breaches between 1990 and 2001. They amount to 44 criminal cases lost by General Electric. All of the cases are either directly or indirectly violations of human rights. The list includes cases of environmental pollution, violation of workers safety rules, illegal weapons sales, fraud, money laundering, delivery of defective items, design flaws, deception of consumers, overcharging and unfair debt collection practices. The majority of the cases relates to contamination of public drinking water, rivers and soils. The defective items and design flaws were serious enough to cause airplane crashes and faults at nuclear plants. (Bakan 2004: 75-77).

Thus, corporations do have legal obstacles when they overlook laws that protect people and nature. However, their cost-benefit analyses have already included possible fines and compensations. For them it is much cheaper to break the laws, than to play by the rules. All that matters is maximization of profit making, and at that corporations are successful. The 100 largest corporations in the world have a turnover that exceeds the GDP of more than half of the world's nation-states! For example, the 91,000 employees of Korean Transnational Corporation Daewoo generate as much cash income as Bangladesh's population of 116 million. (Ekins 1992: 72).

Consequently, governments, businesses and global institutions prioritize economic growth and profit making rather than caring for society and nature. This subject is discussed in details mainly in chapter 5, but also in chapter 6.

2.5.2. Slavery

There are millions more slaves in the world today than there were at the time of anti-slavery campaigning in the 17th century. The "absolute ownership" of other people still exists. Anti-Slavery International estimates that there are 100,000 in Mauritania alone. Children are openly sold in Thailand and the practice has recently reappeared in Sudan. A more common model than absolute ownership is the "debt bondage", whereby an unspecified amount of labour is pledged for an unspecified period of time in repayment of a family loan. The debt is often irredeemable. Thus, children of such a family are born into slavery. According to a 1981 study, India has a minimum of 5 million bonded labourers, of whom 500,000 are slave children. Of the 100,000 young boys working in the carpet-making industry of Uttar Pradesh, many are effectively slaves. They are sleeping on the premises, working 15 hours daily, seven days a week in dark, airless and extremely hot mud-brick huts with no real meal breaks. Moreover, these children are being terrorized by the loom owners. The fruits of their labour can fetch thousands of dollars in the exclusive stores in Europe and North America, while the children receive minimal or no wages. Ekins et al (1992: 122) estimated in 1992 that more than 200 million children worldwide work under similar conditions in different industries. A 2005 report from UNICEF says that 1 in 12 children are forced to work either as slaves, soldiers, sex-workers or in other dangerous jobs. Most of these children live in Africa. (Ekins et al. 1992: 122; BBC News 21.02.2005).

In 1982, more than 1 million Japanese tourists travelled to Thailand, the Philippines, South Korea, Taiwan and Hong Kong on "trips for men only". The trips explicitly included visits to brothels. An estimated 60% of the 2 million tourists visiting Thailand each year are allegedly drawn by bargain-price sex. In Bangkok alone, it was recorded in 1981 that 300,000 women and children worked in establishments offering sexual services. Girls of 10, 12 and 16 years old are sold to these places by their parents. These girls live, eat and sleep there and are enslaved. In 1984 when one of these bars burned down, the skeleton of six girls aged between 10 and 16 were found among the ruins, chained to the beds. (Ekins et al. 1992: 19).

2.5.3. Conclusion

From the above discussions, it should be clear that much of the human's rights abuses are suffered by poor people, traditional people, people of colour - commonly women and children. It should also be clear that the abuses are directly or indirectly done by those people who sit in positions of economic and political power - they are commonly men. (Ekins 1992: 12).

2.6. The fundamental cause of the crises derives from a perceptual and intellectual crisis

"The year 2005 has seen a series of dreadful events like the tsunami, the hurricanes and the earthquake in Pakistan.. As if these disasters were not bad enough, I have sometimes thought that humanity seems to have turned on itself with wars, civil disturbances and acts of brutal terrorism."

Queen Elisabeth II of Great Britain, in her Christmas message to the British people, 2005.
(BBC News 26.12.2005).

The four crises are difficult to resolve individually because they are interlinked and they therefore reinforce each other. Wars usually give the effect of poverty, environmental damage and repression. Poverty often results in environmental damage and can lead to revolts and repression. Destruction of nature causes poverty, social upheaval and repression. Abuses of human's rights are entangled in all of the other crises. In addition and paradoxically, mainstream development activities, meant to ameliorate poverty in the South, often also lead to environmental damage, human's rights abuses, increased poverty and violence. Thus, the four crises function in a web-like fashion and are difficult to ameliorate individually. Should positive changes be made it is necessary to look beyond a treatment of each crisis towards a more fundamental process of overall healing. Hence, the crises may more correctly be seen as a symptom of a more fundamental systemic "dis-ease". (Ekins 1992: 13).

Hazel Henderson (Capra 1989: 248) agrees with Ekins. The major problems of our time cannot be understood in isolation. Whether a crisis manifests itself as poverty, environmental degradation, war or human rights abuses does not matter. The underlying dynamics are the same. Thus, the crises are interconnected, interdependent and all are rooted in a larger systemic crisis. Each crisis is therefore only a different aspect of the same crisis: **a crisis of perception**. It derives from the fact that the Western world subscribes to an outdated, reductionist world-view. Modern science, technology, government structures, development agencies and academic institutions are all using a fragmented methodology, which has proven to be inadequate in dealing with a systemically interconnected world. Thus, many scientifically educated people cannot understand and hence resolve systemic crises. Most leaders also fail to see that the problems are inter-linked. They therefore cannot recognize that their preferred reductionist economic solutions have disastrous consequences elsewhere in the social and natural system. The main aim for politicians, economists and development experts is to maximize economic growth, but they cannot perceive that this negatively affects women, Others, nature and future generations. (Capra 1982: 6; Capra 1997: 3-4).

2.6.1. Modernity; a reductionist perception of reality

Richard B. Norgaard has arrived at a similar conclusion in his book "Development betrayed; the end of

progress and a coevolutionary revisioning of the future". He argues that the reasons behind the environmental crises relates to the Western philosophy of life. A good life is seen to be modern and progressive. Modernity promised that humanity with its superior science could control nature that all could have material abundance through scientific technology and that life could be administered effectively by rational social organisation. The combination would lead to peace on Earth where all would be part of the new, collective, modern culture. However, modernity betrayed development. Instead of unity, it led to material madness, inequalities, depletion of natural resources, degradation of the environment, increase in number of wars and refugees and a bureaucratic deadlock where governments cannot find rational solutions to the crises. (Norgaard 1994: 1-2).

The problem is that modernism is based on some false beliefs about scientific technology, social structure and environmental interaction. It is assumed that progress will come about as a linear process. Thus improved science will promote improved technology, which leads to better rational social organisation, and increased material well-being. This is perceived as an eternal activity, all determined by science. However, such a view is too simple. Progress cannot continue forever since the means, our natural resources, are finite. We do not have an eternal source of energy, with which economists seem to calculate. Thus in the name of progress we are depleting our natural resources and destroying the planet Earth. In the end, modernity's progress will terminate our existence. (Norgaard 1994: 32-34, 54-56).

More fundamentally, the crises relate to the philosophical premises underlying the Western metaphysical and epistemological world-view. Norgaard (1994: 62) calls them for atomism, mechanism, universalism, objectivism and monism. In brief, they translate reality as follows: Systems (for example social or natural ones) consist of unchanging parts, the sum of which equals the whole. The relationship between the parts is fixed and possible changes are reversible. Although systems may be diverse and complex, they all are based on a limited number of underlying universal laws, which are unchanging and eternal. These laws can be understood by observing the systems from the outside. The knowledge derived at is objective and universal. Hence, this is the only one way to understand systems. When a system's laws are known, its actions can be predicted and the system can be controlled. In this way, the system can be manipulated to benefit human beings. (Norgaard 1994: 62-66).

These premises are critically important because they determine acceptability of political discourse as well as the process of public fact gathering, decision-making and implementation. It is these premises,

which have made it admissible to perceive nature as a mechanical and static system that can be managed and controlled at a distance, leading to domination and exploitation and consequently exhaustion of natural resources. The premises have therefore led humanity to mismanage the environment. However, this reductionist and static perception of the natural system is based on a false theory. In reality when one element is changed in one place, it will have impacts on multiple other elements and their relationships. In fact, nothing remains the same when any one element is changed in a system. Therefore, nothing can be excluded from the context, not the observer, or any human actions. Hence believing in objective, universal and monistic principles is part of the crises with which humanity is faced. The global crises consequently derive from a fundamental **perceptual and intellectual crisis**. Since these philosophical concepts are too narrow and simple to accommodate a complex reality, which behaves alternatively, it leads to crises. Scientists are bound to translate the diverse reactions as anomalies and by time, they have a paradigmatic crisis. Conclusively, it is the modern world's reductionist and fixed perception of reality, which blinds us from alternative ways of viewing existence and it also prevents us from using diverse solutions. The modernistic philosophical paradigm is therefore limited and limiting, when it comes to dealing with complex systems like environments and societies. (Norgaard 1994: 62, 70-73).

Ekins (1992: 202) has arrived at a similar conclusion. He finds that science is the most dangerous manifestation of the Western world-view. Being founded on a mechanistic, reductionist, atomistic and anti-ecological perception of reality, it has been used to dominate people and nature, which has led to the above crises. Science is an inadequate knowledge system, because it cannot deal with wholes, relationships, living organisms, human consciousness and meaning - all of which are part of our reality. Being in this way limited, science cannot help us to create well-functioning societies. Furthermore, since development is a scientific project, also development is based on domination. The idea with development was to modernise and industrialise Southern societies by economic growth and consumerism. But due to the scientific focus on monetary and quantitative values development overlooked other values that matter to people and it consequently destroyed the quality of life for women, Others and nature. The scientifically based state system was an accomplice in this. In the modern world-view, the government is the ultimate legitimate form of political authority. It therefore exercises absolute power over the lives of its people, its natural environments and determines the rules that make economic development possible. This has been disastrous for hundreds of millions of people. Governments have ruthlessly enforced upon them the dominant development model. They have wasted resources on arms, prestige projects and their own luxury life styles. They have generated wars and repressed their own citizens. They have been laying waste natural resources meant for

people's subsistence. Hence, science, development and the state has been a cruel deception for people in the South. Its perceptions have brought humanity to the brink of war, repression, poverty and environmental collapse of a potentially terminal nature. (Ekins 1992: 203-207).

2.6.2. Alternatives; a systemic approach to the crises

In order to understand the current crises alternative premises must be applied. Norgaard (1994: 62) calls these for holism, determinism, contextualism, subjectivism and pluralism. In systems, parts cannot be understood separate from their wholes, and the wholes differ from the sum of their parts. Parts and their relationships are constantly changing and reflecting each other. Some changes could be mechanical but they might as well be deterministic or evolutionary. Moreover, changes in systems are contingent upon multiple factors. Thus, changes are chaotic and discontinuous, and therefore not predictable. Furthermore, systems cannot be understood apart from human perception, values, knowledge and actions. Consequently, systemic knowledge is not universal. Systems can be understood in different ways depending on the perceptions and values used. Based on these alternative premises environments and societies need to be perceived as complex systems, which constantly change according to diverse factors and in patterns, which inherently are inconsistent. Norgaard (1994: 23) finds that these systems not only change individually, they also co-evolve together. This makes the outcome complex, chaotic, and not comprehensible for people. Thus dealing with dis-orderly co-evolving systems means that effects cannot be predicted and events cannot be controlled. The only thing one can do is to explain afterwards. As Norgaard expresses it (1994: 36), the co-evolutionary explanation sees how nature is social and how societies are natural. Co-evolutionary explanations prefer to call "progress" for change. A change takes place only when an element is able to fit with the other elements. To change is therefore a process of experimentation. Those elements, which work, are selected, those, which do not fit, are rejected. (Norgaard 1994: 23, 28, 36-37, 46, 62).

When we realise that we cannot predict and control social and natural systems we must learn some new rules in order to minimize risks for unwanted change: We need to experiment cautiously and monitor the chain of events carefully, hence in order to limit risks small-scale activities are preferred. In addition, short-term actions are prioritized over long-termed ones, since unwanted changes can then be undone quickly. Finally, diversity gives more chance for success. Such knowledge may give us a new basis for solving the above crises. (Norgaard 1994: 46-47).

If Norgaard's explanation for the causes of the above-mentioned crises is acceptable, then it necessarily follows, that **society must make a paradigm shift**. In order to be consistent the crises must be

discussed within a systemic or co-evolutionary paradigm and, from the insight this will derive, actions can be suggested. (Norgaard 1994: 47).

One issue, which urgently needs revisioning, is the perception of economics. In modern industrial societies, and increasingly in the rest of the world, the economy is regarded as the single most important issue. Economics relates to the Western world-view, which sees it as a neutral, true and rational science that is conceptually separated from all other aspects of life. This means that the economy can be run without consequences for society or nature. However, if a co-evolutionary approach is applied, this perception is absurd. In the real world, economic activities take place inside social and natural environments and are "fed" by its human and natural resources. Consequently the Western theoretical perception of economic issues, together with the priority the economy has, means that concerns for social and natural environments are overlooked and in the economic process both are destroyed. Instead, the social and the natural systems need to interact and co-evolve. Based on the outcome of this a suitable economic system can be developed. Hence, successful solutions to the global crises require a radical shift in perceptions, thinking, values and actions. The reductionist method must be restricted and a more prominent space must be given to a systemic crises approach. That requires **a major cultural transformation**. (Capra 1982: 6; Ekins et al 1992: 40; Capra 1997: 3-4).

2.7. Conclusion

Consequently, the modernist perception on reality is based on a limited scope with the focus on reductionist, quantitative and monetary issues. Political leaders have a blind faith in the static, scientific world-view and their goal is to maximize economic growth. Since they cannot perceive systemic issues, they also cannot predict the systemic effects this one-sided focus generates elsewhere in the system. Hence, the greed for economic profit and the connected exploitation of natural resources marginalises women, traditional and poor people and lead to the systemic crises of war, poverty, environmental destruction and human's rights abuses.

Since the crises are consequences of an outdated, unbalanced world-view, it would be wise to re-examine the modern perception of reality and its values. Although many are unhappy with the current world situation and its implicit values, it is not easy to suggest alternatives. Often changes meant to improve a bad situation only increase the deterioration. The reason is quite commonly that improvements are suggested inside the current world-view. Therefore, to promote good changes it is important to understand the current perception. Such awareness may help to suggest alternative

courses of action that will promote changes that are more successful. It is the aim of this dissertation, in a limited way, to provide such insights. Thus, a critique of the current world-view and its perceptions is discussed in chapter 5 and 6. However, before this, chapter 3 and 4. will suggest an alternative perception of reality.

Changes, which are expected to be called “good”, must include a systemic and holistic perspective of reality. To do this all parts, their relation to each other and to the whole must be considered. This requires a healthy tension or sustainable balance between all parts in a system. From this, it follows that both quantitative as well as qualitative aspects of a system are equally relevant and important to consider and give space. Said differently, quantitative economic growth must generate a healthy tension and a sustainable balance with the quality of life for individuals, communities, societies, animals, plants and nature in general. Such a philosophical perspective is presented in chapter 3.

Chapter 3: Perspectives for transforming the crises

Our intellectual systems are inadequate because, having been created by men; they lack the wholeness that female consciousness could provide. *"Truly to liberate women, means to change thinking itself: to reintegrate what has been named the unconscious, the subjective, the emotional with the structural, the rational, the intellectual."*

Adrienne Rich in "Of woman born". (Capra 1989: 241).

3.1. Introduction

Chapter 2 concluded that the global crises are rooted in a more fundamental crisis that relates to the perception of reality in the modern culture connected to its inadequate intellectual premises. From this, it follows that amelioration of the crises requires a transformation of modern culture including a paradigm shift of its underlying metaphysical and epistemological premises. It furthermore became clear that any alternative paradigm must be founded on a systemic perception of reality, which can guarantee that changes (rather than progress) take place in a co-evolving, harmonious balance between quantitative and qualitative elements. Hence, no part of the system must dominate any other part.

The purpose of this chapter is to approach these important philosophical issues. The first task will be to state which cultural transformations are necessary, based on the effects of the crises. The second undertaking is to suggest a philosophical scheme, which can promote the required harmonious changes inside a systemic perspective without domination. The chapter therefore **first** discusses three basic elements that require transformation. The challenge includes the fall of patriarchy, a paradigm change and a different perception of nature. **Secondly**, an alternative world-view is presented. The Chinese ontology I Ching and its yin and yang forces, is a perspective, which is able to promote ideal change. The presentation includes a discussion of how the crises of war and violence, poverty and inequality, natural destruction and human repression derive from exaggerated masculine energy in modern society. It also explains that restoring a balanced tension between the feminine yin and the masculine yang forces may ameliorate the crises. **Thirdly**, a comparison is made between I Ching, the general systems theory, and Smuts' holism. The comparison shows that the ancient Chinese and the contemporary holistic and system thinkers have reached similar conclusions: reality needs to be approached holistically, with changes that assure a dynamic tension between all parts in a system. Thus the self-assertive and domineering masculine, yang force must give way to the integrative, cooperative feminine, yin force.

3.2. Cultural transformation; from Western crises to Eastern opportunities

A Filipino woman said after having met women from Europe, *"I have always thought that Western values are good for Western people and Eastern values are good for Eastern people. Now I have realised that Western values are also not good for Western people"*. (Simmons 1997: 253).

Based on the interlinked effects from the multiple, global crises, modern Western culture is required to make some necessary transitions. These changes are rather extensive and will probably shake the foundations of the modern way of life and deeply affect its social, economic and political systems. To approach the situation it is therefore wise to adopt a broader view. One way is to perceive the situation as a natural cultural evolution. Hence, the modern perspective needs to make a shift from seeing social and natural systems as being static, to perceiving them as being dynamic patterns of change. In this way, one may view a crisis as a natural aspect of a transformation. This perception is equivalent to the ancient Chinese philosophy, which found that times of crises are both times of danger and opportunities. It can be seen in the Chinese sign for crisis, which is composed of two characters "danger" and "opportunity". Thus, the old Chinese were well aware that there is a profound connection between crisis and change. (Henderson 1978: 381; Capra 1982: 7).

When one examines the interconnected effects of the crises it becomes clear, due to the persistent domination of women, Others and nature, that there are three fundamental and interconnected challenges, which requires transformation in the modern culture: (Capra 1982: 10)

The first is the slow but inevitable **decline of patriarchy**. According to Adrienne Rich, *"Patriarchy is the power of the fathers. It is a familial-social, ideological, political system in which men - by force, direct pressure, or through ritual, tradition, law, language, customs, etiquette, education, and the division of labour - determine what part women shall or shall not play, and in which the female is everywhere subsumed under the male"*. Patriarchy has had a time span of approximately 3,000 years in Western civilisation. Its full power is extremely difficult to grasp because it is all pervasive. It has influenced the basic ideas about human nature and people's relations to the universe. It is a system which, until recently, has never been openly challenged and whose doctrines have been universally accepted and presented as laws of nature. However, a society where men dominate women is an unbalanced society. It is a society, which is much less than what it otherwise might have been. The complementary contrast, which men and women give to society creates the necessary social balance. Since extremes always lead to disaster, patriarchy has played an essential part in promoting the global crises. Today the disintegration of patriarchy is in sight. The feminist movement is one of the

strongest cultural current in present time and it will have a profound effect on the further cultural evolution. A more in-dept discussion about the patriarchy and its domination will take place in chapter 4. (Capra 1982: 10-11; Capra 1989: 240; Rowe 1997: 234).

The second transition is a paradigm shift. The modern vision of reality, including its common concepts, thoughts, perceptions, values and practices, needs to be changed. The present paradigm has dominated modern culture for several hundred years. It has shaped Western societies and has had a strong influence in the rest of the world. It comprises some entrenched, patriarchal ideas and values related to the Enlightenment, the Scientific Revolution and the Industrial Revolution. It includes the assumptions that the scientific method is the only valid approach to knowledge; that the universe is a mechanical system composed of material elements; that nature is dead; that the human body is a machine; that life in society is an individual, competitive struggle for existence; that man can have unlimited material progress through economic growth and technological development; and that females are subsumed under the male as a basic law of nature. These assumptions have proven to be inadequate. The values they promote have contributed fundamentally to the present crises of poverty, environmental destruction, human repression and a violent world. The modern vision and its values are now challenged; they are in need of major revision. This relates to the fall of the patriarchy. When modern science is historically examined from a feministic point of view, it becomes clear that the scientific epistemology is an ideological and aggressive patriarchal way of perceiving the world founded on power and control. An analysis of science has therefore been helpful to understand the current patriarchal domination of women, Others and nature. A critique of the modern meaning structure and suggestion for an alternative perception of reality, is the main subject in chapters 4, 5 and 6. (Capra 1982: 12; Norgaard 1994: 62-66; Capra 1997: 5-6; Des Jardins 2001: 255).

The third transition is the human perception of nature. The current paradigm and its institutions see environmental destruction as an unforeseen and unintended side effect of development and progress. Thus, the remedies advocated are based on improving the tools by introducing better science, appropriate technologies, improved resource management and environmental accounting etc. It is a kind of enlightened stewardship of nature by human beings. However, reforms alone are not enough, instead the root causes must be addressed. This has led to development of other views like those of Deep Ecology, social ecology and ecofeminism. These alternative perspectives challenge the dominant mode of progress as being inherently wrong. They point to the cultural roots of the crisis and call for a re-conceptualization of development based on equitable relationships between humans and humans, men and women, and humans and nature. These visions consequently have ethical and

epistemological positions that are alternatives to those of the old scientific experts. The latter have continuously claimed a superior epistemological position, due to their objectivity, but this is part of the problem rather than a solution to natural destruction. Sustainable development will hardly be possible without the contributions of these alternative perspectives. Together they make up a broad movement towards pro-environmental change, which will require fundamental transformation in the modern economic and political systems. It will include decentralisation of power and ownership of natural resources together with establishment of ecologically harmonious life-styles. It will promote formation of new coalitions and new forms of politics. Part of the change is the decline of the fossil-fuel age. Fossil fuels include coal, oil and natural gas. These have been humanity's principal sources of energy. However, since they run out in 2300 the era will come to an end. The effects of the decline are already felt in scarcity of energy leading to high prices, debts, unstable economies, tense competition for resources and violence. Since the use of fossil fuels has played a major role in perpetuating the global crises, healthy alternatives are needed. The cultural transformation would therefore include a shift from the petroleum age to the solar age, where activities will be powered by renewable sun energy. This third transition is an integral part of a paradigm change and the fall of patriarchy. The present paradigm, which was generated and is maintained by patriarchy is by feminists seen as promoting inequalities, unsustainable progress and violence. Thus, peace, equality and sustainable development have become interlinked issues in women's movements. Peace is not only the absence of war but also a compassionate way of life. It is the creation of a certain mind-set of sharing, reciprocity, love, happiness and care as the central issues in societies, in relationship with nature and in development. Few people talk about happiness and love as a motivating force, but these are ethical values, which can change the world and its institutions and they are promoted by women. From this, it follows that the cultural transformation will be promoted by ecological movements, women's movements and peace movements. An ecological feminist environmental ethics, which is an alternative to the current perception of nature, will be discussed in chapter 4, while chapter 7 will present some basic elements in its alternative epistemology. (Capra 1982: 11; Capra 1989: 253; Braidotti et al 1994: 126, 131).

The above three interconnected challenges are all contributing to the present global crises. They therefore require major and profound changes. However, in order to promote good results transitions must be done in a peaceful and harmonious way. A perspective which can do that and which therefore is suggested here is the ideal of harmonious change portrayed in the Chinese book "I Ching", Book of Changes. The ancient Chinese philosophy of change is a holistic, systemic perspective, which by its two, equally important dynamic forces of yin (the feminine) and yang (the masculine) should be able successfully to overcome the imbalanced, and disharmony innate in the static modern perception of

reality. The I Ching philosophy can be contrasted to the Marxist view on social evolution. The latter emphasizes conflict, struggle and violent revolution where human suffering and sacrifice is seen as a necessary price that has to be paid for social change. This view is parallel to Darwin's emphasis on struggle in biological evolution and the Social Darwinists, who vigorously promoted the view that life was an ongoing struggle. However, such perspectives are one-sided. They overlook the fact that struggle in nature and society takes place within a wider context of cooperation. Although conflict and struggle have brought about important social progress in the past and is often an essential part of the dynamics of change, it does not mean that they are the source of this dynamics. Oppositely, the I Ching minimizes conflicts in times of social transformation, a view considered necessary in an increasingly violent world with many human casualties. I Ching's ability to overcome Western, patriarchal dualism, which promotes domination of all that is feminine, is specifically important in this context. The reason is that domination, as will be discussed in the subsequent chapters, is a major part of the global crises. (Capra 1982: 14-17).

Various authors (Hazel Henderson 1978; Marthinus Versfeld 1979; Fritjof Capra 1982; Janis Birkeland 1995; Edith Sizoo 2000) have in different ways incorporated the Chinese philosophy of yin and yang in their individual critiques of the modern culture and its development. The work of these have been an inspiration for the comparison, which in this dissertation is done between the yin and yang perspective of changes **and** an ecofeminist philosophy as an example of change towards an alternative future.

3.3. I Ching; what it is and how it may promote cultural transformation

"The movement is natural, arising spontaneously. For this reason, the transformation of the old becomes easy. The old is discarded and the new is introduced. Both measures accord with the time; therefore no harm results."

I Ching, Book of Changes (Capra 1982: 16)

Cultural transformation cannot be prevented and should not be opposed. It must rather be welcomed because it is the only escape from total collapse. Change requires us to re-examine the main premises and values of our culture. This includes rejection of conceptual models that have outlived their usefulness and recognition of other values, which are new or may have been rejected in previous periods. Often human beings see changes as hardship. This can, however, be minimized by acceptance and by trying to avoid attacking old attitudes. In that case, cultural transformation can be done harmoniously and peacefully as described in the Chinese book, I Ching. (Capra 1982: 15-16).

3.3.1. I Ching, Book of Changes

The I Ching is one of the most influential books of Chinese practices. It means Book of Changes. It originated from the desire to act according to "the flow of nature", and thus to ensure success in change. It is based on Chinese cosmology. Ancient Chinese philosophers believed that all manifestations of reality are generated by the dynamic interplay between two polar forces, which they called the yin and the yang. This kind of universal rhythm has also been expressed by numerous Western philosophers, although in different ways. The German philosopher G.W.F. Hegel is an example of this. Hegel believed that logic and world history followed a dialectical path; meaning that internal contradictions are resolved at a higher level of truth. Hence, conflicts in things are the fundamental source of change. The essence of the idea is that the nature of everything involves internal oppositions, which cause change. When inconsistencies have been overcome, they give rise to new contradictions that also require resolution. Thus, quantitative change always leads to qualitative change. Or said differently, a negation will eventually be negated, and not returned to its former mode. Hegel's ideas inspired Marx and Engels, who applied the ideas to their dialectical materialism. (Capra 1982: 9; Honderich 1995: 199; Palmer 1997: 31-32).

The Chinese concept of change has been formed by the observation of natural events: The course of the sun and the stars; the passing of the clouds; the flow of water; the alternation of day and night; the succession of the seasons. Confucius found that *"Like this river, everything is flowing on ceaselessly, day and night"*. It is in constant change alone that life can be grasped at all. Thus, change is what life is all about. Change is the only constant feature of existence. The constant in change lays in the paradox: *"Change: that is the unchangeable."* The stability of change is the counterpart to the human virtue of reliability. One can count upon it. Thus, activity in Chinese philosophy is an essential aspect of the universe. The universe is engaged in a continual process of ceaseless motion that the Chinese call "Tao" which means "the way". Since change is natural, its reverse would be to go against nature. This means that the opposite of change is not cessation of movement, rather it is growth of what ought to decrease; the downfall of what ought to rule. (Capra 1982: 19; Wilhelm et al 1995: 26, 29-30; Palmer 1997: 31-32).

Change is not something that is carried out abruptly and irrationally. Change has its fixed course in which the trends of events develop. Just as we confidently count on the sun rising tomorrow and on spring following winter, so can we be sure that the process of becoming is not chaotic, it pursues fixed courses. (Wilhelm et al 1995: 30).

The concept of change is not an external, normative principle. It is an inner, spontaneous tendency according to which development takes place. This means that change is not a consequence of some outside force. Change is natural and innate in everything. Thus change is not a dictate to which one must submit, it is rather a sign showing the direction one must take. Such a development is natural. However, to recognize this and follow the stream is a free choice. (Capra 1982: 19; Wilhelm et al 1995: 26-27).

Having a choice means that change can be influenced. However, an effective influence is only possible by going with the direction of change, not against it. If we know the right way of placing a seed, a highly effective influence is possible. Thus, change promotes the organic forms of life, which is corresponding to man's nature. Hence, within set limits, man is not merely master of his own fate, he is also in a position to intervene in the course of events considerably beyond his own sphere. However, he must recognize these limits and remain within them. It is to further this understanding the Book of Changes was written. (Wilhelm et al 1995: 31-32).

The I Ching is not a religious manifesto. It is primarily concerned with the yin and yang aspects and their relationships. Thus, the yin-yang metaphysics is a philosophy of change. (Loy 1987: 41; Palmer 1997: 31-32).

3.3.2. Description of the yin and yang forces

The I Ching framework is based on continuous cyclical fluctuation of the two archetypical poles yin and yang. Reality or Tao is seen as a process of continual flow and change. All phenomena we observe participate in this cosmic process and are therefore intrinsically dynamic. Thus, existence or Tao is characterized by its cyclical nature in a ceaseless motion. Such are all developments in nature. Yin and yang are therefore elements of change. If they were destroyed, there would be nothing by which changes could be perceived. And without change, also they would cease. (Capra 1982: 17; Wilhelm et al 1995: 40).

Yin and yang set the limits for the cycles of change. Although they are opposites, they are not of a different category. They are two extreme poles of a single whole. Nothing is only yin or only yang; everything is both; each implies the other. Although each wants to take over, they cannot, because each contains within itself an element of the other. Hence, when each reaches zenith, it peaks and begins to decline, allowing the other to rise. It is a dynamic relationship. One of the two is always increasing while the other is decreasing. They are not so much states of being, rather directions of

movement. When yang is taking form, yin is disintegrating and returning to the state of formlessness. Growth and decay, life and death, the cycle never stops. (Capra 1982: 18; Loy 1987: 42; Palmer 1997: vii, ix; Sizoo 2000: 46).

All natural phenomena are manifestations of a continuous fluctuation between the two poles. The yang forces of summer give way to the yin forces of winter and vice versa. This natural order is based on a dynamic tension between yin and yang. The yin and yang symbol captures within it the essence of balance, harmony and equality. Balance comes from dynamic tension between the two. By handling the tension, harmony is created. Harmony is therefore not the absence of tension it comes from handling conflict and balancing differences. With balance and harmony, all change takes place gradually and in unbroken progression. (Capra 1982: 18; Loy 1987: 42; Palmer 1997: vii, ix).

Yin and yang are believed to have emerged at the beginning of time when the cosmic darkness was split by a flash of lightning, which brought light. Since that moment of creation, yin and yang have been the only two cosmic forces in existence. Nothing has life except through them and all that is, contains both of them. The roots of yin and yang are found in the two worlds view of shamanism, which was the first known world religion. Shamanism arose thousands of years ago in Siberia. It spread to China, across Russia to Finland, from Siberia to Alaska into north and central America. No one knows when it began but it is at least ten thousand years old because the land bridge between Siberia and Alaska necessary for its transmission disappeared some ten thousand years ago. At the heart of shamanism is a vision of two worlds: the material, physical world and the spiritual world. The material world was often at the mercy of the spirit world hence the shaman communicated between these two worlds in order to try to bring a balance. Around the 5th century BC, there was a massive revolution in philosophical thought. The unequal relation between the two worlds was challenged and overthrown in favour of a new model of two equal worlds. At the same time, Chinese technology began to tame some of the wilder elements of the Chinese nature. This included the great and dangerous yin rivers and the risk of floods, and the yang threat of earthquakes and the risk of drought. The early mythology of China is dominated by long-term floods, caused by the Yellow river constantly bursting its banks and inundating the homes and fields of the people. The struggle to control the rivers of China dominates Chinese early myths and legends. However, around the 5th century BC the idea that human beings through their own efforts, rightly applied, could control and affect nature and possibly influence the spirit world itself was developing. It meant that humans no longer had to be at the whims of the gods, humanity is taking control, in common with the divine. The shift from being at the mercy of nature to attempting some interaction with it is of fundamental importance for an

understanding of the Chinese view of how harmony and balance are created. It is this interaction with nature from which yin and yang emerge as a theory. (Palmer 1997: viii, 1-5).

There were two strands of the theory. One believed that harmony and balance between yin and yang is achieved by human action. This is the Confucian strand. The second tradition is the Taoist model where the human role is one of non-action. The concept is more precisely "active in-action" which is not the same as no action since the notion of absolute rest does not exist. This active in-action is in Chinese called "Wu-wei". It means avoiding acting contrary to nature. The basic idea is that if people would go with the flow of nature, be a part of the way of the Tao, their actions would be successful and they would be fulfilled and content. If they are going against the flow of nature, they create troubles and strife. Hence, the Taoist vision is allowing things to follow their own course. By non-action everything can be done. The tension between the interventionist Confucian and the inactive Taoism capture the tension between yang and yin. The Confucian approach lacks the humility of the Taoist vision and is hence too arrogant. The Taoist approach is without the active aspect of the Confucian vision and is thus too static. What is needed is a dynamic interaction between humility and pride, non-action and action, going with the flow of nature and holding back the tide. The interplay between these forms the basis of the Chinese world-view. (Capra 1982: 19, Palmer 1997: 6-7, 10, 12).

One may consequently say that there are two kinds of activity; activity done in harmony with nature; and activity, which go against the natural flow of things. Passivity is not available. Yin and yang relates to activity in the following ways: Yin is the responsive, consolidating and cooperative activity; yang is the aggressive, expanding and competitive activity. Yin action is conscious of the environment, thus representing ecological and social action while yang action is conscious of the self, representing individual and egocentric action. (Capra 1982: 20).

Yin and yang are interwoven to such an extent that the well-being of one is inherently caught up with the well-being of the other. If the universal balance between yin and yang is upset, then the Earth is affected. The result is that floods or fires may break out, adversely affecting all. If human beings are out of balance, they will also negatively influence the balance of their environment, which again will affect all parts of the universe. It is therefore important to maintain a balance personally and cosmically. In this way certain aspects of the Chaos theory makes perfect sense to the Chinese world-view. The idea that one seemingly insignificant action, such as the flapping of the wings of a butterfly in the Amazon, can set in motion a chain of consequential events, which ends up with a hurricane in Europe, fits well with the principle that the actions of any one of us could upset the delicate balance of

life. Thus the Taoist saying: *"You are the universe and the universe is you"* makes perfect sense. Hence, to understand yourself you need to understand the universe; to understand the universe you need to understand yourself. This means that everything in the universe is interconnected. Thus the most significant characteristic of the yin and yang is that they are in fact one, an interdependent whole. The distinction is only a model. Matter/energy (yin) cannot remain in a static undifferentiated state. It needs a form (yang). No (yang) form has an existence apart from (yin) matter/energy. Likewise, (yin) matter/energy is always taking or losing (yang) form. The yang movement of convergence and the yin movement of dispersion that is all there is. Thus, the yang aspect relates to the form and the process of taking form, while the yin aspect refers to the matter/energy, which takes form and the correlative process of dissolution into formlessness. Forms are temporal, they arise and disappear. However, in a sense matter/energy remains the same. It is not affected by time. It can be identified with the open space within which the activities of form take place. This explains to a far extend the importance of feminine nourishing. (Loy 1987: 42-43; Palmer 1997: 15, 18-19).

Yin and yang are not only about creation and activity they are also about epistemology. They refer to two different ways of experiencing the world. The every day world is mentally created by individuals to take an objective self-existing form. That is the phenomenal world. However, this is only one way of seeing the world. If one ceases to project one's concepts upon the world, it changes. Then one becomes aware of yin. Yang is the process of creating and maintaining the forms of the world; yin undoes the mentally structured world and helps a person to experience its formless ground. The yin dissolution is a mental experience where one is switching from seeing the world as being objects in space and time to perceiving the basic ground of the world. It is a change from observing forms to view that of which they are forms. Thus, yin and yang are different ways of experiencing and hence knowing the same world. Yang is consequently based on rationality and reason, while yin is based on intuition and emotion. (Loy 1987: 43-44).

Yin and yang are not good or bad, they simply are, and as a result, the cosmos is. The Western world-view sees the world as caught between the two forces of good and evil. Darkness (yin) is seen as evil, while light (yang) is decided to be good. This dualistic world-view is bias. It classifies opposites into good and bad. Thus, a devil is bad, while a god is good; white people are better than and can dominate the dangerous black people; men are superior to inferior women etc. Such dualism has tormented those reared in the West. It has forced an either-or value choice, which has been harmful to human beings and nature. To retrieve balance a model is needed where opposites can be equals, without any value assumption. (Loy 1987: 41; Palmer 1997: viii, ix).

The Chinese philosophy avoids dualism. Opposites are neutral. They simply exist and reflect the eternal opposites of yin and yang. Thus, yin and yang are not associated with moral values. One is not better or more important than the other is. What is good is not yin or yang, but the dynamic balance between the two. What is bad or harmful is imbalance. The basic norm is that the two forces should be balanced, for any excess causes a variety of troubles or evils. The yin-yang relationship is a polarity of inseparable complements. Yin and yang cannot be comprehended as being independent. This is similar to the fact that we cannot understand the meaning of day, hot, dry and male without understanding their correlatives, night, cold, wet, and female. (Capra 1982: 18; Loy 1987: 41; Palmer 1997: viii, ix; Sizoo 2000: 46; Veith 2002: 17)

Yin and yang is a perception of existence that is completely integrated in the Chinese cosmology. Thus, everything in nature has a yin side and a yang side. Everything in the universe is made up of yin and yang. The stars and planets are made up of both yin and yang, but the sun is yang while the moon is yin. The landscape is made up of both yin and yang, but the mountains are yang and the rivers are yin. Yin relates to that which is cold, dark, passive and wet. It manifests in water, moon, rivers, floods, trees, autumn, winter, night, interior, spirits, earth, women, death and north. Yang relates to that which is hot, dry, light and active. It manifests in fire, sun, mountains, spring, summer, day, surface, gods, heaven, men, life and south. Yin corresponds to all that is contractive, responsive and conservative. Yang implies all that is expansive, aggressive and demanding. (Capra 1982: 18; Palmer 1997: xii-xiii, x; Veith 2002: 17)

Humans also contain within them both yin and yang, but men are more yang, while women are more yin. In Chinese belief, there are certain things, which are given at birth, but nothing else is fixed. A person's fate is in his or hers own hands. Thus if a person takes control of his/her life, improve his/her personality and change his/her behaviour, the person can change who and what he/she is. Since not all people would choose the same thing, such a view generates differences. Diversity is therefore celebrated. The Chinese view on diversity can be contrasted with the Western obsession with the desire to make everything one and united. It is done through their Christian religion; their capitalist ideology; their scientific epistemology etc. The West has always tried to find one model that explains all things. When they have encountered diverse models, the alternatives have either been ignored, suppressed, ridiculed or eradicated. However, the push for unity or oneness will eventually lead to an even greater diversity, since diversity is a natural part of life. (Palmer 1997: 20, 23).

In life, there is always the potential of conflict, struggle, difference, diversity and violence. Instead of removing them, the Chinese try to look for harmony and balance by holding these powerful forces in a dynamic tension. This tension gives birth to energy. If, however, a balance is not found the energy can be destructive. Conflict resolution is therefore what yin and yang is all about. The issue is not trying to pretend that conflict does not exist or that it will go away. The rise and fall of powers is as natural as the rise and fall of winter. Trying to be all yang and suppress the yin is foolish. It leads to distress and confusion because eventually the yin will begin to rise. Likewise, trying to be all yin is equally destructive. It is unhealthy to try to be just one aspect of the twin forces of the Tao. To deny the other part is to store up troubles for the future. (Palmer 1997: 107).

The Taoist yin and yang are also the foundation for the Chinese way of viewing human health. The initial assumption is that human beings get sick when they do not balance yin and yang. The ancient Chinese medicine book "The yellow emperor's classic of internal medicine" is describing in details how people must balance yin and yang in order to stay healthy. Diseases come from an imbalance of the two forces (which often are also called principles or elements). It is believed that by gaining knowledge of Tao and the workings of yin and yang, good health can be maintained; even the counter effects of old age can be avoided. It is said, *"those who have the true wisdom remain strong, while those who have no wisdom grow old and feeble"*. True wisdom is the way of yin and yang. (Veith 2002: 17)

Conclusively the universe, nature and people are not just one thing. All are diversity in action; difference within one frame. Everything and everybody are both yin and yang. To deny this is unwise and even dangerous. Handling contradictions within by seeing them, as part and parcel of who a person is, is often a great relief. It makes one realise that these issues are not really inconsistencies, only aspects of two opposing forces at work within all of life. Accepting this as being natural is a way out of the either-or trap, the dualism and the contradiction within. (Palmer 1997: 108).

3.3.3. The feminine yin and the masculine yang; interdependent parts of a whole person

Thus, all is composed of opposites. Within each of us, are two forces, yin and yang, which needs to be kept in balance. Yin is associated with the feminine, yang with the masculine. The masculine and feminine characteristics in human biology are not in the Chinese philosophy seen as being separate. They occur in varying proportions in both sexes. It is also believed that all people, men and women, go through yin and yang phases. The personality of each individual is a dynamic phenomenon resulting from the interplay between feminine and masculine elements. Human beings are the sum

total of the combinations of yin and yang. The balance of yin and yang is something each is born with. However, a person can adversely affect this balance. Men who act too macho may have too much yang and hence become too aggressive and dominant. Women who become too subservient have too much yin. Often the balance appears to be lost in men. Domineering attitudes mean that much of the yin within is being crushed or ignored. Women also need to nourish their inner yang. If they never argue or if they are overly cold and distant, they may have lost most of their yang. If any one allows either the yin or the yang to overstep a certain point within, they are subject to forces, which will unbalance them. Although yin and yang assume real differences of temperament and styles between men and women, it does not follow that women can only be home carers while men go out to work. That is purely a cultural division of work. (Capra 1982: 19; Palmer 1997: 13-14; Veith 2000: 15).

The Chinese view differs from the view used in the patriarchal culture. Patriarchy has established a rigid order. All men are supposed to be masculine, all women feminine. It has given men the leading roles and most of society's privileges. Especially dangerous is the patriarchal bias associating yin with passivity and yang with activity. In the patriarchy, women are seen as being passive and receptive, while men are being active and creative. Hence, men must be in charge of women. This is rooted in the traditional Greek philosophical ideas and has been used to argue for subordination of women. The early Chinese society oppositely presented a world in which male and female were equal. However, the patriarchal society came into existence under the Shang dynasty 1500 BC and by its end, there was a shift to a conventional patriarchal society. By the time the commentaries on the I Ching were written, the shift was completed and the book is therefore patriarchally based. This means that much of the relationship between men and women in traditional Chinese society was oppressive and destructive to women. Thus the balance and harmony sought by men was at the expense of women, who were kept to their lowly and servile role; one in which their passivity and receptivity balanced the activity and energy of the male. (Capra 1982: 19, Birkeland 1995: 56; Palmer 1997: 69, 71).

The modern world including contemporary China is a masculine yang world. If this is taken too far it will lead to disaster. The revolt of the yin is inevitable. The zenith of the yang phase has passed and we are now heading towards the rising of the yin. The world is going to be a very different sort of place as a result. In working towards a more equal society, we have little to learn from traditional, hierarchical, sexist Chinese society, but we have much to learn from the concept of yin and yang. This dynamic, active model of relationships can help to indicate a way forward, which does not deny either the male or the female, the yang or the yin, but sees them as complementarity through difference. (Palmer 1997: 73).

Manifestation of the yang and the yin polarity are literally innumerable. Inspired by Palmer, Capra, Loy, Sizoo, Veith and Wilhelm some are mentioned below. The yang or masculine force is in each case mentioned first:

Yang-yin; parts-whole; culture-nature; human-nature; reason-nature; reason-emotion; male-female; mind-body; mind-matter; rationality-intuition; mental-manual; clarity-obscurity; theory-practice; universal-particular; science-religion; production-reproduction; public-private; subject-object; self-other; egoistic-relational; individual-social; domination-subordination; strength-weakness; physical strength-psychological resilience; white-black; master-slave; civilised-primitive; noble-common; quantity-quality; competition-cooperation; expansion-contraction; convergence-dispersion; aggressive-responsive; active-passive; manic-depressive; moving-staying; creative-receptive; joy-sadness; demanding-consolidating; analytical-synthetic; linear-cyclical; reductionist-holistic; exploitation-conservation; selfassertive-integrative; mechanistic-ecological; head-torso; upper body-lower body; exterior-interior; beautiful-ugly; alkaline-acid; time-space; visible-invisible; square-round; evolution-entropy; dry-wet; hard-soft; large-small, constipation-diarrhoea; heaven-earth; sun-moon; high-low; day-night; summer-winter; warm-cold; fire-water; upwards flow-downwards flow; growth-decay; life-death; form-matter/energy.

3.3.4. Comparing the harmonious yin-yang model to the unbalanced, dualised Western society

The Chinese philosophy of change consequently finds that there are two kinds of consciousness, two kinds of knowledge and two kinds of activity characteristic of the human being. The yang or the masculine is the rational, while the yin or the feminine is the intuitive. They are complementary modes of functioning of the human mind. **Rational (yang) consciousness** is linear and analytic. It belongs to the realm of the intellect, whose function it is to analyze, discriminate, measure and categorize. Thus, rational knowledge tends to be fragmented. Traditionally rationality is associated with science. Rational knowledge tends to generate individual, competitive, large-scale, mechanistic and productive activities. Its focus is on quantitative growth and expansion, done according to a theoretical model with a reductionist scope. Since it is highly active and ego-centred, the activity may, without a yin balance, in its extreme form become aggressive, violent, exploitative and domineering. **Intuitive (yin) consciousness** is based on a direct, non-intellectual experience of reality in an expanded state of awareness. It is holistic, synthetic and non-linear. Traditionally intuitive wisdom is associated with spirituality and mysticism. Intuitive wisdom is the basis for qualitative, social, cooperative, ecological and reproductive activities. It is done practically and at a small-scale with a holistic scope. The activity may in its extreme form, and if unbalanced by yang, become diminutive and subordinate to alternative activities due to its passivity and group focus. Psychologist Robert Ornstein notes that the

rational, quantitative, reductionist cognition is a function of the left hemisphere of the human brain. The right brain hemisphere is oppositely the source of intuition, qualitative and imaginative modes of cognition. Both modes are equally important and both need to be applied in order for a person to become a whole human being living a healthy life. Hence, a harmonious and optimal outcome is found by a dynamic tension between the two types of consciousness, knowledge and activities. (Henderson 1978: 15-16, 329; Capra 1982: 21).

How modern culture prioritizes yang over yin

With this framework, one can explore cultural attitudes. Henderson, Birkeland, Capra and Versfeld find that the modern culture is exaggerated masculine. It has overvalued the yang or left-brain cognition and its activities, while the yin or right brain modes of cognition and its activities have been underrated. Thus, modern reality has been divided according to gender, where a higher value is placed on those attributes associated with the masculine. Rational knowledge has been favoured over intuitive wisdom; science over spirituality; competition over cooperation; men over women; exploitation of natural resources over their conservation; and culture over nature. This one-sided, Western world-view has led to an imbalance, which Capra and Henderson see as being the root of the global crises. It is an imbalance of thoughts and feelings, of values and attitudes, which have promoted unbalanced economical, social and political structures and institution. It has caused an over-reward of autonomy, individual freedom, rational self-interest and competition, while cooperation, community needs and all the cohesive activities, which bind society together has been ignored and relegated to the unremunerated work of women. Birkeland (1995: 56) finds that the masculine yang attributes are not only over-rewarded, they are perceived as being the essence of human beings. Conversely, the experience, wisdom and needs of anything that relates to the feminine yin, which manifests in women, indigenous people and nature are considered of little relevance in the public arena. Thus, modern culture has isolated the left-brain cognition from the right-brain cognition and made rationality overall superior, while all feminine concepts and values are devalued. This one-sided view is reflected in the structures of the modern culture where scientism and its methods are dominant in all social, political and economic institutions including its Christian religion. According to Chinese wisdom neither the masculine nor the feminine force is intrinsically bad, since their gendered notion of reality are complimentary and in balance. However, what spells crises is the attempt to isolate one force from its polar opposite. This is exactly what the modern culture is doing, and this consequently leads to the current world crises. Henderson believes that the imbalance eventually will kill humanity. In her opinion, the hard-ware loving culture needs to be balanced with soft-ware approaches in science, economics, and technology. (Henderson 1978: 15-17, 48, 400; Versfeld 1979: 52-53; Capra 1982: 22; Birkeland 1995: 55-56).

It was specifically the Enlightenment and the preceding Scientific Revolution that introduced the concepts, which forms the basis for the yang thought of modern society. It changed the ancient view that society develops in cyclical processes into a new belief system, which sees society evolving in a forward progression. This progress is thought to be towards individual freedom and self-realization meant to transcend social and natural constraints and lead to certainty. Therefore, through the masculine notion of reason, i.e. excluding emotions and being disciplined by the scientific method, human beings can ascertain certain knowledge required for human progress. (Birkeland 1995: 59).

For the South African philosopher Marthinus Versfeld (1979: 57) the stereotype of the modern world is the domination complex and the individualistic assumption. The two premises are related and both are yang. They are the basic elements in the modification of the modern culture. To be relevant, also Christianity modified itself, thus it came into its yang or dominative-individualistic phase together with the total modification of Western culture. **The domination-complex** wanted to find certain knowledge by science. However, its fragmented way of viewing nature and society also lead man's mind to become fragmented. It was therefore difficult to find certainty as a human being. People learned they are not a part of nature, instead they can do something to nature. That enabled people to use nature for the purpose of satisfying their desires, which themselves are disparate but united by capitalism. When science mechanized nature by the method of quantification, the complete domination of nature happened. That gave man certainty. Thus, the men who developed the Scientific Revolution were obsessed with mathematical certainty of nature. They created a mechanistic science with no room for spontaneity. It was finalized by Francis Bacon who succeeded to make science the "Word of Power". Thus, people learned that they had to listen to Father. In society father was the King Yang who gathered the individuals into a lawful society. In Christian churches father was the divine Yang God who had made the laws of nature regular. Hence, in the modern culture almost all elements are dominated by the father-image. The masculine urge to dominate comes to its fullest expression by the machine that produces things useful for the pleasure of the nation and for profit to the owner. Thus, machines are pleasure-givers and man is a consumer-machine. After that, life became a meaningless succession of pleasure after pleasure, which cease only in death. Furthermore, due to the industrial process, the exploitation of nature also became the exploitation of some men by other men. Thus, the modern world is "a carnival of yang!". Together with domination goes the ego or what is called **the individualist assumption**. Only the individual is real, all his relations are impositions. Hence, social wholes and relations are artificial. Reality is egoism. Man must make a name for himself by the exercise of power. What gives self-esteem and what makes others esteem a man is power. Therefore, everyone in the modern culture became an individual. The same thing happened in religion. The soul

is an individual, which continues in linear time eternally. Thus in Christianity also the community is absent, which otherwise would be the proper place of the soul. Similarly in dualist science. René Descartes said, "I think therefore I am". It means that I require nothing beyond myself, no social connection, no historical development, even no body. Everything else but man's rational substance is mechanical, and it is stripped of imagination and feelings. In this way one side of man could be exploited by the other, hence the exploitation of nature and others, and the self-exploitation of man fall together. In this way society was dissolved. Rational, individual man became the ideal. He turns everything and himself into utilities or objects. Man's upper stratum of individual rational consciousness dominates all the rest of ourselves. Hence, the yang attitude dominates all. (Versfeld 1979: 57-65).

Janis Birkeland, an ecofeminist and a faculty member in the Department of Architecture at the University of Canberra, Australia, has also analyzed the modern yang value system and found similar premises, which she divides into 5 categories: **First**, human nature is seen as a universal masculine model with its associated values, which is defined by a polarization of the masculine and the feminine. Thus to be masculine is to disassociate oneself from feminine attributes. **Second**, human nature only values things, which are useful to him. Since all that is feminine has a low value, man must objectify and instrumentalize feminine things, making them tools for man's use. **Third**, man is independent from both nature and society. This false sense of masculine autonomy underlies the alienation or distance political leaders take to the crises of the world, since the effects mainly are felt by women, Others and nature, all of which belong to the feminine category. **Fourth**, since the experience and values of a man are universal, the conception of human nature is defined egoistically. The image is that man is striving for self-realization through independence from natural necessity and freedom from social limitation. This liberation becomes an ideal and the implicit goal of humanity as a whole. What men do not experience or value are regarded as unimportant, distant or unreal. **Fifth**, masculinity is linked to power over others. Thus, the definition of success relates to quantity of power and how well man can distance himself from the feminine. Powerlessness and dependency are attributes that are perceived as marks of inferiority, they are consequently grounds for unequal treatment. (Birkeland 1995: 59).

These yang premises have consequences for society. Since they are presented as universal truths, a priori, there is no reason to question them. They are assumed innate, gender neutral and absolute. Hence, dominant hierarchies and power relations are inevitably a part of human society due to man's inherent nature. Therefore, militarism, colonialism, racism, sexism, classism, capitalism and other

pathological "isms" of modernity become legitimate. Or said differently: If humankind by nature is egoistic, autonomous, aggressive and competitive - i.e. masculine - then control, coercion and hierarchical structures are necessary to manage conflicts and maintain social order. Furthermore, cooperative relationships, which are found in tribal cultures and among women, are by definition unrealistic and utopian. In this way, power relations are removed from the political realm and social debate, because the power structure cannot be otherwise. Thus, militarism is justified as being unavoidable, regardless of its patent irrationality. Likewise, if humans will always compete for a greater share of resources, then the rational response to scarce natural resources is "dog-eat-dog" survivalism. This results in violence, environmental destruction and poverty. Or said differently: It creates a self-fulfilling prophecy in which nature and society cannot survive. (Birkeland 1995: 59).

The premises also have consequences for social policymaking. When the rational is prioritized and the emotional marginalized public policies can never fulfil people's needs. Denial of the emotional blocks an understanding of human needs and motivation, because what really motivates people is satisfaction of emotional needs. Few people are motivated by reason. If reason could persuade human actions, nobody would pollute the air, the water and the soils, since these are the foundation of their own survival. But in spite of this rationality prevails, which means that social policies only can meet physical, tangible needs like food, clothing and shelter. Overlooked are satisfaction of emotional human needs like community, self-reliance and sustainable lifestyles. Thus, the yang concepts and policies alienate Southern women and tribal people from their community and their natural resources, which disrupt their possibility to live sustainable lives as an integral part of nature. Therefore, when rational development policies exploit natural resources for economic growth purposes and replace local people, they take away nature's ability to regenerate itself and the possibility of local communities to live sustainable lives. The consequence is that villagers end up being both psychologically and physically destitute, depending on development policies for satisfaction of their material needs. (Birkeland 1995: 63, 68).

Furthermore, a yang perspective cannot address long-term issues, neither can it choose wu-wei, active in-action, or to conserve. The idea of modern decision-making is to choose among proposals. Thus, the choice not to act is not available. Hence, land use options will not be the no-use option for long-term preservation. In this way, a hidden imperative is created: chose one action out of the presented ones, but "not to act" is not available. This prevents a decision-making that cares about nature's long-term reproduction and sustainability for future generations. Normally decision-making tries to balance competing interests. However, the interest of nature and future generations are not considered. The

reason is that consumers and producers are seen as having a higher stake than nature, future generations and tribal people, all of whom are seen as having little to lose. Since the consumers' needs are pressing, decisions are taken in their favour. Thus in a yang perspective comparing the rights of humans against other species, the rights of the dominant culture against indigenous people, the needs of the living against those of future generations, the interests of development against that of nature, the politically weaker will always lose. It is in fact impossible for yang equally to balance the rights of animals and nature against that of man. Only if we add feminine or yin concepts can we include such needs. Harmony between yin and yang would give as much value to care for community, responsibility for nature and concern for future generations as it would to individual rights. There is consequently a need to include interconnectedness, self-less care, reciprocity, ethics and responsibility without having to justify these values in terms of rights. Balancing rights and preferences are no more real or rational than the norm of preparing for a safe and secure future. Such a change would require new concepts, institutions and practices that are based on both masculine and feminist ethics. It requires a new and balanced way of thinking, new practices based on ecological principles, new structures and methods. Since institutions embody and reinforce values, institutional change is an important way of stimulating such a cultural transformation. (Birkeland 1995: 69-70).

How modern culture manifested yin in women and nature

Modern institutions have consequently universalized rational scientific knowledge while intuitive knowledge is being dismissed as not acceptable. The emphasis on rational thought has taught people to identify with their minds only, rather than with their whole organism. This dualism of mind and body has spread throughout modern culture. It has led people to believe that the universe is a mechanical system, consisting of separate parts, put together as building blocks. The view has been extended to living organisms, which are regarded as machines constructed from separate parts. Although new physics has taught us that reality is different, this out-dated view is still the basis of most of modern society's scientific and economic activity. It has led to fragmentation in modern academic discipline, in government agencies, in its decision and policymaking. It has led human beings to exploit nature, which has gone hand in hand with the exploitation of women, who have been identified with nature throughout ages. (Capra 1982: 22-23).

From earliest time the Earth and nature were seen as the kind and nurturing mother, although nature also had a rough side to it. However, in pre-patriarchal era the many aspects of nature were identified with that of the Goddess. Under patriarchy, the gentle image of nature changed. It became a wild, dangerous female that had to be controlled by men. Thus, nature and women became subservient to men. This association of nature and women has been used by patriarchal society to legitimize the

exploitation of both. Nature, because it is associated with the feminine, women, because they are associated with nature. Both are of a lower order, which exists to serve man's physical needs. Man is consequently seen as being both separate from, but also above nature and women, which he therefore can dominate. It was mainly with the rise of modern science and its capitalism that nature changed from being organic and alive to become a dead machine that could be manipulated and exploited. This happened parallel to the domination and exploitation of women. Thus, there is an ancient association of women and nature. (Capra 1982: 24; Birkeland 1995: 56).

Feminists find that the Western world's identification of maleness with rationality and femaleness with nature has provided the intellectual basis for the domination of women. The masculine sphere of reason includes public, social and cultural life, together with production and justice. These are contrasted to the feminine sphere of emotion, which includes the private, domestic and reproductive life. The masculine sphere is the active one where affairs and nature is controlled via science. The feminine sphere represents passiveness and the unchangeable human nature and natural necessity. Rationality is a highly regarded part of the human character as are the characteristics of control and freedom. These characteristics are seen as making men superior and separate from inferior nature and animals. Hence, also natural women emerge as inferior, imperfect human beings, lacking these characteristics. Thus, the dualism of rationality-nature is a major tool to keeping women "in their place". It is therefore allegedly the use of the concept nature, rather than social arrangements, that determines the lot of women and it is nature that justifies inequality. This ancient association of women and nature has resulted in a contemporary kinship between feminism and ecology. It is manifested in their common opposition against the patriarchal, rational, reductionist and scientific world-view; its domination of both women and nature; and the damage its actions causes to life itself. (Capra 1982: 24; Plumwood 1992: 8).

It is therefore increasingly apparent that the patriarchal emphasis on rational, linear and analytic thinking has led to anti-ecological attitudes. Ecosystems sustain themselves in a non-linear dynamic balance based on cycles and fluctuations. However, such understanding is hindered by the rational mind, which can only think in linear terms. Thus linear enterprises, like indefinite economic growth and eternal technological development, will necessarily interfere with nature's balance and eventually cause severe damage. To comprehend non-linear systems we need to apply our intuition. True ecological awareness can come about only by applying the intuitive yin wisdom. Such wisdom is characteristic of many traditional cultures, where life was organised around a highly refined awareness of nature. However, this intuition and its wisdom have been neglected by the Western culture.

Instead, the environment was modified to such an extent that people lost touch with their biological and ecological base. Human separation from nature manifests itself in a disparity between developments of intellectual ability; scientific knowledge; technological skills **and** personal growth, wisdom; spirituality; ethics. While technological knowledge has grown immensely, there has hardly been any progress in the conduct of social and moral affairs, during more than two thousand years. The spiritual and ethical standards of Buddha from the sixth century BC are not inferior to the current ones, maybe rather the opposite. This is because human progress has been seen in rational, intellectual, linear and quantitative terms only. However, the denial of spiritual needs is potentially as dangerous as extreme religious dogmatism or superstition. It seems that something will always fill a spiritual vacuum. This could, in a yang scheme, very well be infinite economic greed, absolute political power or the cruelty of militarism. (Capra 1982: 24-26; Birkeland 1995: 57).

The retreat of yang and the rise of yin to restore balance

The one-sided yang evolution has now reached a highly alarming stage: Modern society can control spacecrafts landing on distant planets, but they cannot control pollution from cars and factories. They produce little essential products like cosmetics and tinned pet food, but they cannot afford to provide people with basic health and education facilities. Science was meant to improve life, but its intrusive technology and its focus on economic profit endangers natural and human health and generates poverty. In addition, paradoxically, most "defence" ministries have become the greatest threat to national security! This is the result of overemphasizing the yang or masculine side and neglecting the yin or feminine side. (Capra 1982: 26).

In reality, the mechanistic scientific paradigm has gone bankrupt. This means that also the modern culture is collapsing. And according to Henderson, a collapse is a legitimate and proper behaviour under the circumstances. She refers to Thomas Kuhn who points out in his book "Structure of Scientific Revolutions" that a major paradigm shift leads to a major cultural shift. The modern world is consequently faced with an inevitable social, political and economic transition. Although such a change may be painful, Henderson finds that there is a yin-yang rebirth ready to flower. (Henderson 1978: 17, 329, 400).

The focus on yang is in opposition to the Chinese philosophy of change, where the masculine yang and the feminine yin are complimentary and in a dynamic balance. Hence, modern patriarchy destroyed the necessary yin-yang balance. Due to the extent and size of the current crises, it has become a biological survival to reintegrate both. Hence, for Capra, Birkeland and Henderson the solution is that yang must allow the re-emergence of yin to restore balance. Both modes of cognition are equally

important thus both need to be reintegrated. It is therefore time to reunite reason and emotion; rationality and intuition; head and heart; mind and body; people and nature; analysis and synthesis; the public and the private; men and women in order to create harmony. This should give a universal balance and a rich, new intellectual insight in reality. According to the Chinese philosophy yang cannot go on forever without self-destruction. Thus having reached its climax, yang must retreat in favour of yin. Both Henderson and Capra believe that this retreat is manifested in the ever-increasing global movements the world is witnessing promoting counter-cultures, counter-economies, peace, gender-equality and ecological sustainability. They mark the reversal to the yin and hence manifest what both call "the turning point". As Henderson says, *"The old instrumental yang is now turning into a re-emergence of the subtler yin, intuitive consciousness, to restore the balance"*. This metaphor, of the return to a dynamic balance between yin and yang, is parallel to what Western feminists are advocating. (Henderson 1978: 15-17, 330, 384, 400; Capra 1982: 30; Birkeland 1995: 56).

Thus, the yang phase of modern culture can find many correctives in Eastern thought. The notion of yin and yang are offering real opportunities of nuancing and subtilising modern harshness and balancing its antagonism. The Eastern ideas serve to remind the modern world of things that have been forgotten or have gone stale in its tradition, and to bring new life to them. There was in the West a contemplative tradition, and people were pondering things in their hearts. This figure of contemplation has in the modern culture always been feminine. Contemplation and meditative wisdom are therefore needed for the recovery of the yin, for receptive inner growth against external manipulation and organisation. The way of the Tao is to be leaning back receptively on the wisdom that is inherent in nature. There is often more wisdom in the human body than in the human mind. The self is so much more and so much wiser than an abstracted pure intellect. (Versfeld 1979: 68-70).

3.4. The systems theory and Smuts' holism; ecological, systemic, and holistic ontologies

"Holism is a process of creative synthesis; the resulting wholes are not static, but dynamic, evolutionary, creative ... The explanation of nature can therefore not be purely mechanical; and the mechanistic concept of nature has its place and justification only in the wider setting of holism."

J. C. Smuts in "Holism and Evolution" 1926.

(Merchant 1980: 293).

Many Western scientists have realised that the Newtonian, reductionist ontology (i.e. a branch of philosophy that deals with the nature of existence or being) is inadequate in explaining reality. This has resulted in an evolution of alternative more holistic world-views. During the 20th century organismic biology developed. Organismic biologists emphasize that living organisms are integrated

wholes. What is now called systems thinking emerged from this reflection. Although systems thinking was pioneered by biologists, it was further enriched by the gestalt theory in psychology and the new science of ecology. Another contribution came from Gregory Bateson and the ecosystemic school in psychology, which is considered a brand of holism. A different type of holism called the Santiago theory was developed in the 1970s by Humberto Maturana and Francisco Varela. After its publication, one of the oldest statements of holism developed by J. C. Smuts was re-viewed and gained new significance. There have been more theories emerging, which have been called holistic, systemic or organismic in order to distance themselves from the reductionist, particular and mechanistic paradigm. However, sometimes names deceive. Many of these theories are still conceptualising a holistic, systemic or organismic reality inside the viewpoint of mechanical, Newtonian science. It should therefore be made clear that the below brief discussion relates only to perspectives which conceptualise reality alternatively from the Newtonian world-view. Thus when systemic, organic and holistic are used as concepts they relate to an ontology which is similar to the I Ching world-view but which differs from the Newtonian perspective. A more detailed critique of Newtonian physics and presentation of alternatives, are dealt with in chapter 5. (Kotze and Kotze 1995: 16-17; Capra 1997: 17-18, 26-27; Capra 2002: 29).

3.4.1. General systems theory, Smuts' holism, ecological and environmental thinking

General systems theory looks at the world as being interrelated and all phenomena as being interdependent. A *system* means an integrated whole, the understanding of which cannot be reduced to the sum of its parts. Or said differently the whole is more than the sum of its parts. The reason is that essential properties of the whole arise from the relationships between its parts. It consequently is a holistic perspective, which has become known as systemic and the way of thinking implies systems thinking. Systems thinking is thus the understanding of a phenomenon within the context of a larger whole. Living organisms, ecosystems and societies are all systems. The concepts systemic and ecological are therefore similar. (Capra 1982: 26; Capra 1997: 17-18, 27).

Systems theory relates to **holism**. One of the main exponents of holism was the South African General and Field-marshal Jan Christiaan Smuts. He published his book "Holism and evolution" already in 1926. Smuts' holism came at a time when there was an increasing realisation that the inherent reductionism and determinism of the Newtonian ontology restricted its usefulness in researching and explaining reality. Smuts' holism was therefore proposed as an alternative ontological statement. In his book, Smuts attempted to define the essential characteristics of holism and to differentiate it from Newtonian mechanism. Smuts' holism consequently deals with self-determined wholes, parts, their

relationships and their context. It remains one of the most comprehensive statements of holism to date. It was also one of the first (probably the first) perspectives of holism presented as a world-view. It is commonly called "contemporary holism" or "Smuts' holism" in order to separate it from other types of holism, which relate to and are argued inside the reductionist, mechanical world-view. The interesting part of Smuts' work was centred on organic wholes, opposite physical systems such as machines. (Merchant 1980: 292; Kotze and Kotze 1993: 15-17, 21).

Smuts' organic holism as an ontology have the following basic elements, which have been clarified, commented upon and rewritten by D.A. Kotze and P.M.J. Kotze (1993):

1) A system's parts can be understood within the context of a whole that is integrated by them. Thus, parts and wholes are related through a context that is created by the recursive, structure-determined relationships among parts and between parts and whole. The context gives meaning to the actions and reactions of parts and whole, but the context is not independent of parts and whole, whose creation it is. *Recursive* means a process of returning or reappearing and *structure determinism* is a concept, which was created by Maturana. It means simplified that an organism's reaction to a stimulus is not determined by outside forces, it is determined from within the organism itself. (Kotze and Kotze 1995: 23-24).

2) A whole is a unity that is qualitatively different from the parts. The properties of the parts are therefore inadequate in describing the whole and vice versa. (Kotze and Kotze 1995: 18, 24).

3) Components and properties become meaningful only within relationships, which are expressed as context. The emphasis is therefore on relationships rather than on components and properties. (Kotze and Kotze 1995: 19, 24).

4) Relationships are characterized by processes where beginning and end, cause and effect become indistinguishable and irrelevant. This is because structure-determined relationships are beyond control. Thus stimulus (or trigger) and response are recursively selected in a process where cause and effect and control fade away. (Kotze and Kotze 1995: 17, 20, 24).

5) Parts and whole relate directly and not through hierarchies. Holism is therefore characterized by interrelatedness rather than by intervening variables. Any part that cannot directly relate to a whole is not part of that whole. (Kotze and Kotze 1995: 24).

6) Structure-determined relationships imply self-organizing processes, which has a tendency towards conservation by the parts of their respective structures and therefore also of the relationships in which they are engaged. A whole therefore implies conservational self-generative processes. (Kotze and Kotze 1995: 24).

7) Process does not necessary mean change it could also imply conservation, both of which are

relative. A structure-determined relationship with recursive reactions necessarily implies a certain measure of change as each reaction of a part triggers reactions in other parts, continuously creating and recreating a context for an ongoing process of evolution. This ongoing process appears stable and could therefore be referred to as "changervation" (change plus conservation). However, holistic processes can also change where structures and parts adapt rapidly and drastically to a changing context. (Kotze and Kotze 1995: 24-25).

8) Relationship is central to the concept of holism. It relates to the "more" in the statement "the whole is more than the sum of the parts". (Kotze and Kotze 1995: 25).

In sum, In an organic system parts and whole cannot be understood without their context and relationships. The focus is therefore on relationships between parts-parts and parts-whole in a context. The relations are direct, non-hierarchical, interrelated and structure determined. Parts, whole and their relationships have no clear beginning and end. Systems are self-organizing and self-generating. There is an ongoing stable process of change, which is not a controlled, cause-effect activity caused from the outside. It is rather a continuous, co-evolutionary event of internal trigger and response, which in a flexible way serves to both conserve and at the same time change the system. Change could, however, be both drastic and rapid.

The most important example of holism today is provided by the science of **ecology**, which emerged as a new science from the organismic school of biology. It derives its name from the Greek word "oikos" which means household. Ecology is therefore the study of the "Earth household". It studies the relationships that interlink all members of this Earth household. It examines how natural communities function, how they sustain a healthy life and how they become disrupted, causing death to plant and animal life. Human intervention is one of the main causes of such interruption. Ecological science therefore shows how human activities in nature are causing pollution of soil, air and water and destruction of the natural systems of plants and animals. It also discloses how such destruction is threatening the foundation of life for the human community. Ecology consequently is a combined biological and socio-economic study. (Merchant 1980: 293; Ruether 1993: 13; Capra 1997: 34-35).

Ecology developed the concept ecological system or "ecosystem". An ecosystem is defined as a community of organisms and their physical environment, which are interacting as an ecological unit. The concept has shaped all ecological thinking and fostered a systems approach to ecology. The new science of ecology also enriched the emerging systemic way of thinking by introducing the new concepts of "community" and "network". This facilitated the change of focus from parts or organisms

to wholes or communities. In systems thinking, the property of all life is the tendency to form multi-levelled structures of systems within systems. Each of these systems forms a whole with respect to its parts, while at the same time being part of a larger whole. Thus, each level consists of subsystems, which are wholes in regard to their parts, and parts with respect to the larger whole. This means that parts and wholes do not exist in the absolute sense because parts are also wholes and wholes are parts simultaneously. Throughout the living world, we find living systems nesting within other living systems. Both organisms, parts of organisms and communities of organisms are all living, integrated wholes whose essential properties arise from the interactions and interdependence of their parts. Hence, living systems are networks. Hierarchies do not exist in nature, there is no above and below, it is a human projection. The different levels only represent differing complexity. Thus at each level the observed phenomena exhibit properties that do not exist at "lower" levels. The systemic properties of a particular level are called "emergent properties", because they emerge at that particular level. However, the overall structure functions like a network. Conclusively life consists of networks within networks which Capra (1997: 28) calls "the web of life". (Capra 1997: 28, 33-35, 37).

Although ecology is a relatively new science, its philosophy of nature - holism - is not. Historically, holistic presuppositions about nature have been assumed by communities of people who have succeeded in living in equilibrium with their environments. The idea of cyclical processes, of the interconnectedness of all things and the assumption that nature is active and alive are fundamental to the history of human thought. (Merchant 1980: 293).

It is worthwhile here to state that often the terms ecological and holistic are used simultaneously, there are, however, differences. **A holistic perception** means simply that the object under consideration is perceived as an integrated whole, a total gestalt, rather than being reduced to the mere sum of its parts. A holistic approach therefore does not have to go beyond the system under consideration. However, a holistic perception should not be confused with **Smuts' holism**, which is a part of an ecological approach. **An ecological approach** deals with certain kinds of wholes, being living organisms or living systems. The main emphasis is on life, on the living world of which humans are a part and on which we depend. An ecological approach needs to understand how a particular system is embedded in larger systems. For example, an ecological approach to economics will have to understand how economic activities are embedded in the cyclical processes of nature and in the value system of a particular culture. It should also be added that not all **systems theorists** have a holistic outlook. They claim that they have because they believe they are taking into account the ways in which all the parts in a given system affect the whole. Yet their need mathematically to formalize "facts" in a system means

that parts, which cannot be quantified are excluded. Moreover, the method can also not include the infinite number of facts, which exist in a system. The human computers are too limited to contain them. This consequently means that their mechanical approach is likely to exclude some potentially relevant factors. The rather important issue of excluding qualitative elements in systems theory will be discussed further in chapter 5. (Merchant 1980: 291; Capra 1989: 261; Kotze and Kotze 1995: 17).

Hence, according to the systems view and Smuts' holistic world-view, the essential properties of an organism or a living system are properties of the whole, which includes parts, relationships and context. None of the parts has all of the properties of the whole. These arise from the interactions and relationships between the parts. Consequently, if a system is dissected into its parts, these relationships are severed and the properties are destroyed. Although one may talk about individual parts in any system, these parts are not isolated. Thus, the nature of the whole is always different from the mere sum of its parts. This way of perceiving reality is a revolution compared to the thoughts of traditional mechanistic science. Newtonian view decided that the whole's behaviour could be understood entirely from the properties of its parts. Thus, mechanistic science concentrates their studies on **basic building blocks** or parts. Alternatively, systems theory and Smuts' holism find that due to integration, properties of the parts can be understood only from the organisation of the larger whole. The organic theories consequently focus on **basic principles of organisation** or relationships. This means that systems thinking and holistic thinking cannot be understood by analytic thinking. Analysis means taking something apart in order to understand it. In Smuts' holism and systems theory, the idea is oppositely about putting all into the context of a larger whole. Hence, Smuts' holistic concepts and those of systems theory are all **contextual**. They also have another important common element: Every structure is seen as the manifestation of underlying **processes**. Hence, when one is dealing with Smuts' holism and organic systems one must apply process thinking. Consequently, Smuts' holism, like systems theory is related to a specific context and to specific processes. Explanation of activities can only be done in terms of their environment and its processes. Systems thinking and Smuts' holistic thinking may conclusively also be called environmental thinking. (Merchant 1980: 292-293; Capra 1997: 29-30, 37, 42; Kotze and Kotze 1995: 18-19, 20-21).

The yin-yang terminology is specifically useful in a systemic, holistic or environmental world-view: The subsystems that are both wholes and parts (called holons) have two opposite tendencies: They **integrate** and function as supportive parts of the larger whole **and** they are **self-assertive** and preserve their autonomy. According to Kotze and Kotze (1995: 24), it is due to the structure-determined relationships that the parts self-organizing processes have a tendency towards conservation of both

their own structures (self-assertive) and of their relationships (integrate). Smuts said it differently (Kotze and Kotze 1995: 19), "individuation and universality are equally characteristic of Evolution. The universal realises itself through individual bodies." Thus in a system each holon must assert its individuality to maintain the stratified order of the (universal) system. However, each must also cooperate with the whole in order to make the system viable. These are opposite tendencies but they are complementary. Thus in a healthy system there is balance, created by a dynamic interplay between integration and self-assertion. This makes the system flexible and open to change, which is done in a dynamic, cyclical, continuous and co-evolutionary manner. Although this explanation is rather simplified, it still serves the purpose, which is to show the apparent relationship that exists between Smuts' holistic world-view, the systems view and the Chinese philosophy of change. **Self-assertion** is achieved by displaying **yang** behaviour, thus being demanding, aggressive, competitive, expanding, using linear and analytic thinking. **Integration** is furthered by **yin** behaviour, being responsive, cooperative, and intuitive, using holistic and ecological thinking. Conclusively contemporary Western thinking have by their development of systems theory and holism confirmed what the ancient Chinese believed: Both yin and yang and their relationship are necessary for generating dynamic tension that results in harmonic change of social and ecological systems. (Capra 1982: 27-28; Kotze and Kotze 1995: 18-19, 24).

3.4.2. Comparing systems theory and Smuts' holism to Western, patriarchal culture

According to the understanding from the above lessons in Smuts' holism and the systems theory, a social system needs both self-assertion and integration in order to be healthy. Both are essential aspects of all living systems. Neither of them is intrinsically good or bad. What is good and healthy is a dynamic balance between them. What is bad and unhealthy is imbalance, over-emphasis on one and neglect of the other. The modern Western patriarchal culture has, however, overemphasized the self-assertive aspect and neglected the integrative tendencies. It has consequently created an unhealthy social system. (Capra 1997: 9).

Self-assertive thinking is rational, linear, analytical, and reductionist. These characteristics relates to the values of expansion, competition, quantification and domination. The **integrative thinking** is oppositely intuitive, cyclical, synthetic and holistic. These relates to the values of conservation, cooperation, quality and subordination. Self-assertive values are associated with masculinity and it is commonly, but not exclusively, manifested in men. In modern patriarchal society these typical masculine values and attitudes are favoured, given economic rewards and invested with political power. The modern educational structure sustains such masculine attitudes by rewarding competitive

and self-assertive behaviour among students - of course as long as they do not question authority or challenges the system. This promotion, maintenance and expansion of self-assertive attitudes and selective direction of privileges to those who perfect them, is a major reason why a shift to a more balanced value system is often rejected by those in power, the majority of whom are men. (Capra 1982: 28; Capra 1997: 10).

Excessive self-assertion manifests itself as aggression, power, control and domination of others by force, including violence. These are the patterns prevalent in the Western society. Political and economic power is exerted by a dominant class and social hierarchies are maintained along racist and sexist lines. "Rape" has become a central metaphor of the modern culture. This includes rape of women and children, rape of minority groups, and rape of nature. The self-assertive tendency keeps increasing and with it also the requirement of submission of women, nature and anyone who may challenge it. (Capra 1982: 28).

The excessive promotion of competition over cooperation is rooted in Social Darwinism. The theory perceives the basic function of life and its relationships as a "survival of the fittest". Hence, the strongest, the richest and the most powerful person is the winner, who takes it all. Excessive competition has consequently become the engine that drives the global economy. Its aggressive approach has become the ideal in the business world. The focus on maximization of quantitative goals, results in exploitation of human beings, societies and nature. However, since complete self-assertive competitive and aggressive behaviour would be self-destructive and make life impossible for man, someone else is expected to fulfil his needs of sympathetic support. This is done by housewives, secretaries, stewardesses, nurses and servants. They create an atmosphere where "the self-assertive competitor" can succeed. These services involve a variety of integrative activities. However, since these rank lower in the hierarchical, dualised system they are paid less. Some of them, like mothers and housewives, are not paid at all. Thus, the availability of integrative or feminine values is essential to sustain the self-assertive, masculine-dominated social and economic sphere. It is women and minorities that perform the integrative, feminine services, which make masculine life more comfortable. They create the atmosphere in which competition can succeed, hence preventing complete self-destruction. (Capra 1982: 29; Capra 1989: 257).

However, the excessively self-assertive and domineering masculine consciousness is harmful. It causes social conflicts, violence, injustice, poverty and environmental destruction. Apart from the tremendous suffering it generates in its expansion, it will also eventually extinct the human race and all

of life on this planet. Thus, if the human specie is to survive it must strive towards harmony. Jonas Salk finds in his book "The survival of the wisest" that the life cycle of any biological specie living in a finite environment follows the S-curve. In the first phase, the focus is on maximisation of growth through competition, colonisation and exploitation. However, when the curve reaches its fulcrum point, past behaviour is no longer rewarded. Hence, growth gives way to maintenance, competition to cooperation and exploitation is transformed into restoration and recycling. Thus, for survival the species develop ecological consciousness. (Henderson 1978: 12-13; Capra 1982: 1).

Such ecological consciousness is similar to the social learning represented by various citizen movements. They give a vital feedback showing the deficiencies of the patriarchal society and its mechanistic knowledge system. They spontaneously organise around pressing issues and crises. The leaders of the various movements are the women and minorities, who have been exploited, who have been raped, and whose consciousness has been suppressed by the self-assertive competitor. They demand a new synthesis, which can express a healthier balance between masculine and feminine perception, thinking, values and actions. (Henderson 1978: 20-21; Capra 1989: 257).

A synthesis requires application of a holistic, systemic ecological world-view. Ecology is focused on quality or value. It prioritizes the inherent value of both human and non-human life. With this value system, a new life affirming ethics also emerges. Such a view is urgently needed in science, since most of what scientists do currently is life-destroying: Physicists design weapons of mass destruction; chemists are contaminating the global environment; biologists release new micro-organisms without knowing the consequences; development economists design new projects and programmes that merely views nature, women and poor people as material resources, and which often ends up in increased poverty and natural destruction. Having highly educated people engaged in this kind of life destroying activities makes it urgent to introduce an ecological-ethical standard into science. Hence, by calling the emerging new vision of reality "ecological" we emphasize that life is at its very centre. (Capra 1997: 11-12).

The change from a mechanistic to an ecological world-view is not a steady change. It is chaotic. The basic tension is between the self-assertive parts and the integrative whole. Emphasis on the parts is mechanistic and reductionist while inclusion of the whole is holistic and ecological. The tension between parts and whole is a recurring theme throughout the history of biology. It is based on the ancient dichotomy between form and substance, quantity and quality and the tension between function and organisation. The shift from parts to whole is a shift from the focus on dead parts to the focus on

living wholes, from focus on objects to the focus on relationships. In the mechanistic view, relationships are secondary. For the holistic systems thinker relationships are primary. (Capra 1997: 17-18, 27, 37).

Conclusively in order to return to healthy social and natural systems the exaggerated focus on self-assertion must decline. Complete self-assertion is self-destructive. The mechanical science and its related institutions will eventually be compelled to change and integrate the ecological perspective as a matter of global survival. When self-assertion decreases and integration increases, the turning point has been reached. Smuts' holism and systems theory combined with the Eastern philosophy of yin and yang are similar and necessary world-views that can help humankind to understand and deal with the global crises. As the crises become more serious on a global scale the need for a holistic solution increases. Holism, systems theory and the yin-yang ideal for change may prove to be the guiding ontology, which can provide a basis for the paradigmatic shift human beings require to face the crises. (Kotze and Kotze 1993: 15).

3.5. Conclusion - a synthesis

In the 1960 and 1970, philosophical, spiritual and political movements tried to counteract the overemphasis of masculine, self-assertive or yang behaviour and values. There is today an established global concern for the environment, opposing the ever-increasing pollution from competitive economic activities. There are anti-war and anti-nuclear movements trying to pacify the aggressive and violent results of the masculine technology. There are spontaneous global actions against the devastating suffering from poverty and the exploitative financial approach from rich towards poor groups and countries. There is a shift from material consumption to simplicity and from economic growth to spiritual growth. The most important is the rise of feminist awareness, which originated by the feminist movement. All of these movements are the counter-culture or the rising culture. They often operate separately, lacking a holistic view. However, when they recognize the commonality of their aims all the movements will flow together and form a powerful force of social transformation. These movements represent the needed shift in perception and values. As represented in the Chinese philosophy of change, the yin force insists that the yang force must retreat, allowing a dynamic tension between yang and yin, which will generate harmony and consequently a good change. Similarly in Smuts' holism and in the systems view: The movements are seen as a means to create a dynamic balance between self-assertion and integration resulting in the return of healthy, living systems. Thus, the global crises and their local manifestations must be seen as systemic and holistic. Although crises manifest locally they are part of the wider whole, its context, relationships and processes. It may be

necessary to address the crises in a thousand localities, but it is not sufficient, unless the wider problem is also addressed. This can be achieved if the processes and relationships involved are understood. Such an understanding involves a paradigm shift to a systemic, holistic and ecological world-view. (Capra 1982: 30-31; Kotze and Kotze 1995: 25).

The three well-known environmental movements Deep Ecology, Social Ecology and Ecological Feminism are all part of this paradigm shift. They are the rising culture necessary to resolve the challenges. In each their unique way they suggest solutions to the crises. Although they are different, they all have a common goal, which is to create ecologically sustainable and non-domineering communities. The vision is that all human beings, animals and non-human nature must be able to satisfy their needs and aspirations, without diminishing the chances of future generations to do the same. (Capra 1997: 3-8).

Some movements have already formed coalitions. The ancient cultural, linguistic and historical interconnections between women and nature have been manifested in the appearance of groups that combine women's liberation and ecology. Common to both is an egalitarian perspective. Women want to be free from cultural and economic constraints and masculine perceptions that have kept them subordinate to men. Ecologists are emphasizing the need to establish a world-view that respects the interconnection of people and nature. Thus, the ecology movement and the feminist movement have been joining forces on several issues: **Both** are critical of the competition, aggression and domination arising from the market economy's way of dealing in nature and society. **The science of ecology** is critical of the consequences from uncontrolled growth associated with capitalism, industrialism and technology. It focuses on the costs of progress, the limits to growth, the deficiencies of technological decision-making and the urgency of conservation and recycling of natural resources. The vision of the ecological movement is to restore a healthy balance in nature disrupted by industrialisation and overpopulation. They emphasize the need to live within the cycles of nature as opposed to the exploitative, linear mentality of the modern culture. **Feminist theory** has exposed the costs for all human beings from competition in the market place, the loss of meaningful productive economic roles for women in a capitalist society and the view that both women and nature are resources for exploitation of the entrepreneur-man. The ideal of the women's movement is to restore equality between men and women in consciousness, perception and thoughts. Together the two movements can suggest new values and social structures, which are not based on domination of women and nature as resources but on the full expression of both male and female talents and on the maintenance of environmental integrity. (Merchant 1980: xv-xvii; Capra 1982: 31).

Ecological feminism, or ecofeminism, is a direct consequence of this coalition. The ecofeminist perspective focuses on the patriarchal domination of women and nature, both of which are yin forces. Ecofeminists are, however, also critical of all other dualised feminist elements created by patriarchal domination. Their critique is therefore directed towards any yang domination of any yin forces. This includes the prevailing priority of reason over emotion; rationality over intuition; mind over body; quantity over quality; culture over nature; science over experience; public over private; white over black; master over slave; North over South; developed over undeveloped, and other dualisms. Ecofeminism views the patriarchal dualised world-view or yang perception as being the cause of the global crises. Ecofeminism has, like yin, an alternative, ecological, integrative and feministic way of perceiving reality. It is a view, which is often not clearly understood due to its systemic, holistic way of thinking. It is neither appreciated in a fragmented yang reality. Since ecofeminism challenges the patriarchal establishment and its monopoly on political and economic power, much has been done to critique, diminish or simply to erase ecofeminism from existence. However, ecofeminism is important as a counter-culture. It is a manifestation of the necessary challenge that will bring creative changes back to the static, self-destructive cultural mainstream. It is one of the means that can return the needed dynamic tension between yang and yin; self-assertion and integration; parts and whole. Ecological feminism consequently represents the turning point from a mechanistic to an ecological world-view. The perspective will be presented in the next chapter.

Chapter 4: Ecofeminism; what it is, and why it is important

"Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continue to be one of domination. They must unite the demands of the women's movements with those of the ecological movement to envision a radical reshaping of the basic socio-economic relations and the underlying values of this society."

Rosemary Radford Ruether in "New Women New Earth; sexist ideologies and human liberation".
(Ruether 1975: 204; Mellor 1997: 297).

4.1. Introduction

Rosemary Radford Ruether has, with this short paragraph, been able to explain the essence of ecofeminism. Hence, this passage is often cited in a variety of books and articles about ecofeminism.

This chapter will present the various elements of ecofeminism. The aim is to give an overview of what ecofeminism is, why it is important, how it analyzes the root causes of the aforementioned global crisis and its suggestions for solutions. The objective is to illuminate the alternative ways ecofeminists are perceiving reality, compared to the Western world-view. The overview is divided into 10 sections, plus a conclusion. These sections discuss different aspects of the perspective: **the first** section describes what ecofeminism is; **the second** gives the history of ecofeminism; **the third** presents different ecofeminist positions; **the fourth** discusses ecofeminist theory creation; **the fifth** is about ecofeminist philosophy, environmental ethics and social justice; **the sixth** unveils the connection between ecofeminism and other "green" perspectives; **the seventh** clarifies the ecofeminist relation to post-modernism; **the eighth** explains about ecofeminist spirituality; **the ninth** elaborates on criticism and response; and **the tenth** introduces ecofeminist movements. **The final** section sums up the discussions and draw some conclusions.

The below presentation is focused mainly on the conceptual framework of ecofeminism. It should, however, not be forgotten that the priority of ecofeminists is social change. Their aim is to end structural exploitation of nature and the linked marginalization of millions of poor, coloured and traditional women and men. The philosophical and theoretical underpinning of ecofeminism is therefore meant to increase awareness of this unjustified domination in order to increase action for change. The way in which ecofeminism has done efforts to influence the development debate is discussed in details in chapter 6.

4.2. What is ecofeminism?

Ecological feminism or ecofeminism is an umbrella term for a variety of different positions concerned with the **connection between** the unjustified domination of women, people of colour, traditional people, poor people **and** the unjustified domination of nature. (Warren 2000: 1).

Below these connection will be called 'women-Others-nature'. "Others" is with a capital O in order to distinguish it from the general word "others". "Others" conceptualises the diverse groups of subordinate people. These include children, people of colour, poor people, traditional people, old, frail and sick people, homosexual people, disabled people and other marginalised groups of people. Nature include all that which is not human nor human made like non-human animals, plants, bio-organisms, water, air, soil, mountains etc.

Ecofeminism began in the 1970s as a political movement. Francoise d'Eaubonne developed the term ecological feminism in 1972 arguing that "the destruction of the planet is due to the profit motive inherent in male power". In her 1974 book, "Feminism or death" d'Eaubonne officially introduced the term ecofeminism. The term represented women's potential for bringing about an ecological revolution to ensure human survival on the planet. That would entail new relations between women and men, humans and nature. Since then ecofeminism has aimed at showing that there are important connections among the domination of women, Others and nature and to address these. (Merchant 1990: 100; Adams 1993: xi; Warren 2000: 21).

Ecofeminism draws upon a diverse range of political and theoretical projects. They draw theoretical concepts from ecology and environmental studies, especially regarding life's interdependence. Other inspiration comes from philosophy, development studies, critiques of science and modernism, and a range of feminist theorizing and activism. (Lahar 1991: 31; Molyneux et al. 1995: 86).

Ecofeminists address the crucial issues of our time. Its scope ranges from reproductive technology to Third World development, from toxic poisoning to a vision of new politics and economics. Inspiration is often based on members' own experience, which show that social domination and exploitation of nature is linked. They experience how deforestation displaces indigenous peoples; how hazardous waste sites are located near poor and black neighbourhoods; how international trade policies hurt poor people and the Earth. Ecofeminism has therefore assured that ecology is an integral part of most feminist activities. Thus, feminism speaks up for women, the other in men-women relations; ecology speaks up for the Earth, the other in the human-nature dualism; and ecofeminism speaks up for both,

and all other dualised Others. Consequently, ecofeminism sees all forms of domination for interconnected and aim to dismantle all dualism. (Plant 1990: 156; Spretnak 1990: 5-6, 8-9; Adams 1993: 1).

Since its start in the beginning of the 1970s, ecofeminism has spread throughout the world. All ecofeminists agree that there are important connections between the unjustified dominations of women, Others and nature, but they disagree about the attributes of those connections. There is also no agreement about whether some of those connections are potentially liberating or if they are reinforcing the harmful stereotyping of women. Hence, just like there is not one version of feminism, there is also not one version of ecofeminism. Some positions are mutually compatible and some are not. (Warren 2000: 21).

Consequently, ecofeminism consists of a diversity of positions, including work of mainly women from different countries and social situations. The work does not adhere to a single form or outlook. Ecofeminism's diversity is also reflected by its presence in a variety of arenas such as academia, grass-roots movements, conferences, books, journals and art. Because of this diversity, it is more useful, according to Carolyn D'Cruz, to consider ecofeminism as a discourse. As a discourse, it makes room for the voices of a variety of positions and people that share political and ethical concerns. However, there is no shared epistemological position. Ecofeminism instead derives its cohesion from the shared desire of its proponents to resist domination for the sake of human liberation and planetary survival. (Carlassare 1994: 52).

According to the definition of ecofeminism, nature is "a feminist issue". What makes something "a feminist issue" is that an understanding of it, contributes in some important way to an understanding of the subordination of women. Thus, an increased conception of the domination and exploitation of nature will help us to comprehend the domination and oppression of women. Therefore, racism, classism, ableism, ageism, heterosexism, anti-semitism and colonialism ("isms of domination") are also feminist issues. Understanding these issues help us understand how the domination of women, Others and nature are interconnected. The reason for the feminist embracement of all forms of domination is straightforward: Women are both white, black, poor, lesbian, young, colonised etc. (Warren 1990: 127; Warren 2000: 1, 62).

Because ecofeminism in its analysis includes interconnections among all social systems of domination, it becomes multi-cultural. Analyses are reflecting the historical, material, socio-economic realities of a

given situation, which vary culturally, temporally and geographically. Thus walking long distance for water and fuel-wood is a feminist issue, when the performance of these tasks by a woman, contributes to her subordination in her society. Hence, what counts as a feminist issue depends on the context, particularly the historical and material condition of women's lived experience. (Buege 1994: 47; Warren 1994: 2).

Warren (2000: 21) mentions ten types of women-Others-nature interconnections, which ecofeminists are analyzing. They include historical or causal; philosophical or conceptual; empirical; socio-economic; linguistic; symbolic and literary; spiritual and religious; epistemological; political; ethical interconnections. For example the **socio-economic interconnection** refers to the fact that women-Others-nature are seen as free resources to be exploited, for the profit of the elite. The free labour of women, subsistence work and the real price of natural resource exploitation are all excluded from official economic enumeration. This interconnection will be discussed in chapter 6, where also **empirical links** will be presented. The **political interconnection** includes an analysis of institutions like science and technology, both of which have a strong bias against women-Others-nature. This interconnection will be addressed in chapter 5 together with **epistemological links**. (Kuletz 1992: 64).

Analyses of these interconnections are complex and in their beginning. A fuller exploration of ecofeminism goes beyond the expertise of one person. It needs cooperation of teams that can bring together a variety of knowledge like history, culture, natural science, and social economy. There is also a need for visionaries who can construct new socio-economic systems and a new anti-dominant cultural consciousness. (Ruether 1993: 14).

The many interconnections overlap in important ways, and they cannot always be kept apart. This supports the general assumption that domination of nature, women and Others rely on the same general framework. They are therefore conceptually linked. (Davion 1994: 11). In this chapter, the main focus will be on the conceptual interconnections, which is the heart of ecofeminist philosophy.

4.3. Ecofeminist history

Ecofeminism emerged from the global feminist movement. In her book "Silent Spring" the American marine biologist Rachel Carson was the first to raise a passionate voice of conscience in protest against the pollution and degradation of nature. Carson's book motivated a powerful environmental movement that culminated in the nationwide Earth Day of 1970. But only in the mid 1970's did women's collective voices become central to the greening of the Earth. (Diamond et al 1990: ix).

In her book "The Second Sex" from 1949, the French philosopher Simone de Beauvoir analysed and developed the framework of women's status as the 'Other'. Her framework serves as the theoretical root in ecofeminism: Patriarchal modes of thought distinguish between self and other. It is dividing transcendent subjectivity from the finitude of the flesh. Pregnancy, menstruation and childbirth have historically confined women to the world of immanence and mortality. It is a state of being in which life 'merely' repeats itself. Since nature is conceived as being in the same category, women and nature became symbolically linked. Authentic subjectivity is achieved by raising oneself above biological necessity, and above the animal world. Men have historically transcended the world of immanence through exploits and conquests of the natural world. Thus in order for women to achieve full human status they must join with men in projects that express this opposition to the natural world. Thus, selfhood is reached through an antagonistic process. (Young 1983: 173; Kheel 1990: 129-130).

Simone de Beauvoir developed her concept of the other from the writings of the German philosopher G. W. F. Hegel and the French philosopher, novelist and political theorist Jean-Paul Sartre. Both considered antagonistic consciousness necessary for the establishment of the self. Hegel found that consciousness can only be achieved through recognition from an other, but at the same time one must overcome the other to achieve self-certainty. This contradiction has two possible outcomes: The death of the other or the subjection of the other in a master-slave relation. Sartre developed the concept of "the look". When one is looked at, one becomes objectified and is no longer the centre of infinite possibilities. Each self struggles to attain transcendence by turning the other into an object. De Beauvoir added that it was women, in the patriarchal society, who had got the role of the looked upon other. In addition, psychology has developed a theory of object relations. It finds that babies first experience relatedness. They see themselves as merged with the mother. Then the child develops the concept of self through disengaging from the mother. Unlike girls, boys also have to dis-identify themselves with the female sex. In a patriarchal society, this is done by negation and objectification of the other. Only when the boy child transforms his mother into an object can his own identity be formed. (Kheel 1990: 130-131, 133).

Beginning with de Beauvoir's insights of the distinction between the immanence and transcendence, ecofeminism takes on to undermine the dichotomies all together. Many 20th century philosophers have also pursued this project. The two French philosophers Jacques Derrida and Maurice Merleau-Ponty concentrated on the metaphysical critique of such distinctions. However, ecofeminism has concretized the metaphysical critique through the dichotomy of male-female, culture-nature, mind-body. (Young 1983: 173, 175).

4.4. Ecofeminist positions

Ecofeminism is founded on the feminist movement. Different categories of feminism can be distinguished by their analysis of domination. One framework, for organizing feminist thinking, which has influenced ecofeminists, is developed by Alison Jagger. She distinguishes between liberal, Marxist, socialist and radical forms of feminism. Each offers an account of the oppression of women and an alternative social philosophy. (Des Jardins 2001: 249).

Liberal feminism has by Plumwood (1992: 11) been called **the first wave of feminism**. It was a framework mainly used in the 1960s and 1970s. It denies difference between men and women and fight for equal rights and opportunities. Thus, the aim was to fit women uncritically into a masculine model of humanity and culture. (Des Jardins 2001: 250).

Marxist feminism argues that women are oppressed because they are relegated to the domestic era and have been made dependent. A precondition for a man to mix his labour with land is that there exists a woman who performs full-time domestic labour. This arrangement will allow men the free time to accumulate land. Thus, private property relates to men only. The aim for women is to become liberated from economic and political exploitation. Thus, women must participate fully in productive forms of labour. (Des Jardins 2001: 250).

Socialist feminism rejects the strict class analysis and claim that a complex web of social relations underlies the oppression of women. (Des Jardins 2001: 250).

Radical feminism and a branch of it called **cultural feminism** believe that biological and sexual differences between men and women are the basis of women's oppression. Women have been culturally defined in terms of their biology, which has justified a variety of gender systems that ensures women's domination by men. Due to their reproductive and caring roles, women are seen as being controlled by their bodies, being passive and more emotional than men are. Men are rational, active and should therefore have authority over women. Hence, women can only escape oppression when traditional gender roles are abolished. As a solution, some suggest sexual separation, others celebrate the unique femaleness. Yet others seek to develop alternative feminist politics, cultures and ethics. Moreover, some celebrate the relationship between women and nature through the revival of ancient natural rituals centred on Goddess worship. They see spirituality as a source of both personal and social change. Cultural feminism gave birth to the feminist spirituality movement that developed into cultural ecofeminism. (Merchant 1990: 101; King 1990: 111; Des Jardins 2001: 250-251).

Cultural or radical feminism is by Plumwood (1992: 11) seen as **the second wave of feminism**. It was a major critique of liberal feminism. Radical feminism rejected the masculine ideals and the masculine dominant culture. The aim was to free women, not by equal participation in such a culture, but by resistance, reversal and replacement. Instead of devaluing the feminine characteristics, they must be celebrated.

However, also radical feminism was problematic. Reversal is not the solution, it only perpetuate women's oppression in a new and subtle form. Since women, in a patriarchy, are defined by being a contrast to the perfect man, their identification is distorted. Domination was created by seeing men as being superior, rational, active and intellectual. Women were oppositely lacking these values and were therefore negatively defined as being emotional, passive and intuitive. Hence celebrating such distorted identities would indirectly be to embrace patriarchal definitions. Instead, both men and women must challenge the definitions. (Plumwood 1992: 12).

Cultural ecofeminism see masculinity formed by separation from and control over both women and nature. The dominance of male values in the patriarchy is creating a society obsessed with dominance and control. The remedy is creating an alternative 'women's culture', based on re-valuing and celebrating what the patriarchy has devalued including the feminine, nature, the body and emotions. It wants to re-empower women and create a society that is less aggressive and free of natural destruction. Cultural ecofeminists look for a new spiritual relationship to nature. Women are seen as having a superior relationship with nature, which is sometimes taken as being biologically determined. For many the approach includes celebration of fertility and creativity through feminist paganism, a religion that seeks community with the Earth as maternal Goddess. Many cultural ecofeminists combine spiritual and political activities. (Plumwood 1992: 10; Des Jardins 2001: 251).

In place of cultural ecofeminism, with its roots in radical and cultural feminism, a **third wave of feminism** is sought. It moves beyond the debate of the leading versions of feminism and makes an ecological perspective central to feminist theory and practice. Since domination of nature and women are inextricably, connected, environmental philosophy and feminism must develop in unison. The goal is to weed out dualism and develop non-dualistic theory and practice. No previous feminism has addressed this problem adequately, hence the necessity of ecofeminism. (King 1990: 116; Des Jardins 2001: 254). In this third wave, ecofeminism takes a variety of forms.

Socialist ecofeminism sees environmental problems as rooted in the rise of capitalist patriarchy and the ideology that nature can be exploited for human progress through technology. Capitalism eroded the subsistence base where production was directed towards use values and men and women were economic partners. The result was a capitalist economy dominated by men. Women's labour in the domestic sphere was unpaid and subordinate to men's labour in the market. Both women and nature are exploited by men as part of the progress in liberating humankind from the constraints imposed by nature. The consequence is the alienation of men from women and both from nature. Socialist ecofeminists view nature and human beings as historically and socially constructed. Analyses are grounded in an understanding of male dominated power structures both in the public and personal sphere. They are critical of mechanistic science and its treatment of nature. They deplore lack of gender analysis in history and the omission of women's roles. Socialist ecofeminists are very unsympathetic to cultural ecofeminists. They accuse them of being a-historical, essentialists and anti-intellectual. Materialism, and not spiritualism, is the driving force of social change. (Merchant 1990: 103; King 1990: 115).

Social ecofeminism also focus on the social and political aspects of ecofeminism. They do not see sexes as biologically defined. Biology also does not determine their relationship to nature and to one another. Thus, women are not a model for a better relationship with nature. They reject the idea that men and women are unchangeable. The patriarchal culture has been formed by various types of dominance often expressed in dualised forms. Men are characterized as being rational, relating to culture while women are emotional, belonging to the realm of nature. The task is to construct a less oppositional culture. Opposite cultural ecofeminism, social ecofeminism does not find that all oppression is women's oppression. Women's oppression is only one among many forms of oppression. Gender domination is inter-connected with those of class, race, species and nature. Thus the domination of women, Others, and nature comes from the same world-view. Therefore, a movement to stop exploitation of nature must, by demands of consistency, include a movement against the domination of women and Others. Consequently, environmental concerns need to include a feminist perspective and vice versa. When we see the apparent disparate forms of oppression together as a system, it may extend our understanding about domination. Connecting multiple forms of domination may also make the discussion less tense. The reason is that in this view most of us are sometimes oppressors and sometimes oppressed. (Plumwood 1992: 10; Davion 1994: 10).

This third wave of ecofeminism encourages thinking that is alternative. It is **contextual**: It avoids the use of abstract and universal concepts, which may blind us to the rich diversity of human and non-

human nature. Too often abstraction to the universal has made characteristics of the dominant group into ideals which has been used to dominate women, Others and nature. It is **pluralistic and inclusive**: It respects diversity and difference. Domination finds that there is only one right way of being, thinking and acting. In order to avoid hierarchies and domination one must resist establishing any singular correct environmental theory. It is **holistic and relational**: It encourages us to understand human beings as part of their social and natural environments. This is opposite to the dominant idea that sees humans as an abstract individual, fully constituted by its own private consciousness, thoughts and choices. (Des Jardins 2001: 256). It is this third wave of ecofeminism, which is explained in this chapter. The description is based mainly on the philosophical works of Karen Warren and Val Plumwood.

4.5. Ecofeminism, a theory-in-process

Ecofeminism encourages alternative ways of thinking about theory. In traditional Western philosophy and ethics theory is conceived as proving a set of necessary and sufficient conditions (if and only if-conditions). Ecofeminism rejects this conception of theory. In ecofeminism, there are some necessary conditions. However, one cannot specify ahead what the sufficient conditions are. For that, one needs to know about historical, material and social contexts. Warren (2000: 66) calls this kind of theorizing for "quilting". The necessary conditions are like the borders of a quilt. They make the boundary conditions of the theory. However, they do not dictate what the interior of the quilt must look like. The design will emerge from the diverse perspectives of quilters who contribute, over time, to the making of the quilt. Theory is therefore not something static; it is theory-in-process. (Warren 2000: 65-66).

In ecofeminism the necessary border conditions are that no 'isms of domination' become part of the quilt. The interior or patches of the quilt are made up by particular social, historical and material contexts. Each expresses some aspects of women-Others-nature interconnections. One cannot know beforehand what the actual interior of the quilt will look like. Since theory is in process, a patch that becomes part of the quilt in one historical context may be discerned at some later date because it fails to satisfy the requisite border conditions. In this way the quilt continue to develop over time and is build upon the work of previous quilters. (Warren 2000: 67).

Quilting is a suitable metaphor for ecofeminism as a theory-in-process for various reasons: **It** helps to visualize the role of generalizations in ecofeminism. Only the border conditions of the quilt express generalisations and commonalities. The sufficient condition, the interior, is not generalised. **It** is

specific and diverse. **It** is historically an activity identified with women. **It** provided warmth and income for the family. **It** is also an art that is telling stories and making portraits in a historical and cultural context, which is preserved for the future. Many quilts are also political statements relating to sensitive issues. (Warren 2000: 68).

4.6. Ecofeminist conceptual framework and philosophy

"The cultural role of philosophy is not to deliver truth but to build the spirit of truth, and this means never to let the inquisitive energy of mind go to sleep, never to stop questioning what appears to be obvious and definitive, always to defy seemingly intact resources of common sense, always to suspect that there might be "another side" in what we take for granted, and never to allow us to forget that there are questions that lie beyond the legitimate horizon of science and are nonetheless critically important to the survival of humanity as we know it."

Lezek Kolakowski in "The death of utopia reconsidered".
(Gebara 1999: 19).

Ecofeminist philosophy is in many ways one that is trying to look for "another side" of what mainstream philosophy takes for granted. To do this ecofeminist philosophy draws on feminism, environmentalism, ecology and of course on philosophy. It analyses the human systems of domination. It assumes that such domination is neither justified, nor inevitable. As a **feminism**, ecofeminism uses gender analysis as the starting point to criticize domination. As an **ecological and environmental** position, it uses insights about the non-human world and human interaction. As a **philosophy** it uses conceptual analysis (describe the meaning of key concepts), and argumentative justification (make analysis of arguments) for the domination of women-Others-nature, and their soundness. Ecofeminism is not limited to **describe** reality and report facts; it also involves advocating strategies and recommending solutions. It is therefore also **prescriptive**. (Warren 2000: 43).

An ecofeminist analysis takes a feminist position. This means it must include an analysis of sex, gender, and patriarchy. It must show how gender oppression damages women and seek non-patriarchal alternatives. This point of view differs from non-feminist and anti-feminist positions. A non-feminist outlook does not focus on gender as a category of analysis. An anti-feminist stance generates conclusions and reasons, which are incompatible with those generated by feminism. (Warren 1994: 1; Davion 1994: 16).

Some of the most important interconnections between women, Others and nature are conceptual. Thus, ecofeminist philosophy put priority on conceptual issues. They include philosophical notions of how one defines rationality, reason, ethics; what it is to be human; what nature is etc. Ultimately, most

links can be located in conceptual structures of domination. (Warren 1990: 127; Warren 1996: xi).

The American philosopher Karen Warren has made an analysis of the oppressive **conceptual framework of domination** in the Western patriarchal society. This key analysis helps us understand the unjustified domination of women, Others and nature. Warren's version of ecofeminism is a "transformative feminism". It moves beyond the inadequacies of earlier feminism and makes a connection between all systems of domination. It developed, like Val Plumwood's work, in the context of philosophical debates between Deep Ecology, social ecology and ecofeminism. Warren stresses that her particular version of ecofeminism is seen from the perspective of her reality. She is a Western, white female, academically trained in philosophy. (Sturgeon 1997: 47; Warren 2000: xiv, 43).

A conceptual framework is a set of basic beliefs, values, attitudes and assumptions which shape and reflect how one views oneself and one's world. It is a lens through which one perceives reality. Some conceptual frameworks are oppressive. They function to explain, justify and maintain relationships of unjustified domination and subordination. A patriarchal conceptual framework functions to justify the subordination of women by men. (Warren 1990: 127; Warren 2000: 46).

Warren (1990: 128) started with analysing three basic features, which create an oppressive conceptual framework: **Value hierarchy** gives greater value to that which is considered to be higher or "Up", than that which is lower or "Down". The system serves to legitimate inequalities. **Oppositional value dualism** sees alternatives not merely as differences, but as exclusive oppositional, disjunctive pairs. When value hierarchy and dualism are combined, it means that one disjunct gets higher value than the other does. Thus men are seen as different from, but also as above, and being more valuable than women. The system similarly places white above coloured, and culture as superior to nature etc. **The logic of domination** is an important characteristic of an oppressive conceptual framework. It is a logical structure, which uses argumentation that justifies domination and subordination. Justification takes the following form: The privileged group or the Ups are defined by some characteristics that the un-privileged group(s) or the Downs lack. By virtue of this the subordination of the Downs by the Ups are justified. Commonly higher value is attached to elements like mind, reason, and rationality. In later years, Warren added two more elements, which are relevant to the model. Those are the benefits that the superior group or the Ups gain from applying their conceptual framework. (Davion 1994: 10; Warren 2000: 46-47).

One element is **power**. There are many types of power, but in oppressive systems, power is typically seen as power of the Ups over the Downs. The other element is **privileges**. The structure directs

privileges to those that are Ups and have a higher value. Both elements function consequently to reinforce and justify the Up-Down system. It manifests for example in the fact that the white male will have easier access to universities, loans, good jobs, higher salaries etc. These resources will give him more power and further increase his privileges and power. (Warren 2000: 46-47).

It is only in a context of oppression that these characteristics become problematic. In contexts other than oppressive, these elements may be valuable tools: Hierarchical thinking is important for classifying data, comparing information and organising materials. Value hierarchy is important in a context of competition. Responsible parents may exercise legitimate power over their children, without being oppressive. In addition, handicapped people may enjoy necessary privileges. However, in oppressive conceptual framework these characteristics establish the inferiority and the subordination of the Downs by the Ups. (Warren 1990: 128; Warren 2000: 47).

Below the basic features of the oppressive conceptual framework will be analysed. First Karen Warren's analysis of "the logic of domination" will be presented, then Val Plumwood's analysis of "dualism" will be introduced. Finally, the notion of a patriarchy is defined.

4.6.1. The logic of domination

"Women is nature, hence detestable"
Charles Baudelaire, 1857.
(Birkeland 1995: 56).

The logic of domination is a pattern of thinking in which two groups (men and women) are distinguished in terms of some characteristics (men are rational and women are emotional). A value hierarchy is attributed to these characteristics (reason is superior to emotion) and the subordination of one group is justified by its lack of this superior characteristic (men ought to be in a position of authority because they are more rational and less emotional than women are). (Des Jardins 2001: 249).

The logic of domination provides the alleged justification for unjustified domination. Since it explains and justifies domination, it is both a logical structure and a value system. It is used to create morally relevant distinctions between Ups and Downs. It is therefore a moral premise, which determines that superiority justifies subordination. In this way it is used to construct inferior others, who can be oppressed. Thus Ups are defined as being better than, stronger than, more powerful than, older, smarter, wiser, or closer to the divine than the Downs. Without this logic of domination, description of similarities and differences would be just that and only that. Thus, the logic of domination is necessary

to turn difference into domination and to justify it. (Warren 2000: 48-49).

Warren (2000: 49) gives an example of how the argument formally is shaped. The argumentation may be done consciously and intentionally or sub-consciously:

A1) Humans can consciously change their environment in self-determining ways.

Plants and rocks cannot.

A2) Those who have this capacity are morally superior to those who have not.

A3) Thus humans are morally superior to plants and rocks.

A4) For any X and Y: If X is conceptualized as morally superior to Y,
then X is morally justified in dominating Y (**the logic of domination**).

A5) Conclusively humans are morally justified in dominating plants and rocks.

It is the logic of domination that is the necessary condition to justify domination. One may doubt the truth of premise A2). However, even if it is true, we still only have differences. If as mentioned in A3) those differences are morally relevant it still does not justify domination. Moral superiority may rather impose an extraordinary responsibility towards those being less capable. It is premise A4) that justify domination. (Warren 2000: 49-50).

In the Western world the oppressive conceptual frameworks that have justified domination of women, Others and nature have been patriarchal. Women have historically been identified with nature, emotion and the realm of the physical, while men have been identified with culture, reason and the realm of the mental. Culture is defined as that which is human or made by humans. Nature is defined as that which is not human nor made by humans. When women are seen as closer to nature, they also become less human than men. Women merge with nature. Women as nature are mechanical. Women becoming part of the non-human means that they are only semi-human. The public realm of politics and business is thus seen as being superior and it is associated with men. The private realm of the home, the family and childcare is seen as inferior and hence associated with women. This justifies the inferior status of women. Such justification is often related to an exaggerated emphasis on the superiority of reason and its separation to inferior emotions. In this way, nature and women are inferior to men and culture. It should however be added that some women belong to the Ups. They are often seen not as real women, but as women who think like men. (Roach 1991: 51; Warren 2000: 50, 52).

Warren (2000: 50-51) sets up the formal argument in this manner:

B1) When a group is historically identified with nature and the realm of the physical,

it is morally inferior to what is identified with culture and the realm of the mental.

- B2) Women have been identified with nature, while (at least) dominant men have been identified with culture.
- B3) Thus women as a group are conceptualized as morally inferior to (at least) dominant men.
- B4) For any X and Y: If X is conceptualized as morally superior to Y, then X is morally justified in dominating Y (**the logic of domination**).
- B5) Conclusively dominant men are justified in subordinating both women and nature.

B1) is an example of value-dualism, B2) is value-hierarchical thinking and B4) is the logic of domination. B5) is the conclusion, which gives the foundation for a patriarchal conceptual framework. (Warren 1990: 130).

The argument is of course unsound. It may be right as a historical description of how women have been and still is treated, but it is false as a prescriptive claim. It cannot claim how women ought to be viewed. Hence, the argument must be rejected. (Warren 2000: 51).

It is important to understand what the logic of domination does not assert. It does not assert that there are no relevant differences between groups that may make some groups superior or inferior in some relevant respect. For example, race car drivers may be superior to ordinary drivers with regard to their ability to drive cars. However, nothing follows morally from that fact about who deserves what sort of treatment. Rational human beings may be superior to any other animals. However, it does not follow what the rational human being is allowed to do to the non-rational animal. For this to happen one needs the logic of domination. The argument also does not assert that women are closer to nature, nor that all women are always, everywhere associated with nature, while men are related to culture. The argument, however, does show how elements related to the feminine category are conceptualized as inferior to those related to the masculine. Thus, the kind of logic used to justify domination of women is the same that justify the domination of nature. Hence, feminism must embrace ecological feminism if it hopes to end domination of women because it is tied conceptually and historically to the domination of nature. In this way, naturism becomes an integral part of any feminist solidarity movement. The framework also connects all other isms of domination like gender, race or class etc. That consequently gives a good reason to require that feminism is expanded to include the elimination of all systems of domination. One may then want to call ecofeminism for "anti-domination". However, Warren (2000: 62) disagrees. The prefix feminism is important analytically. All analysis is seen through a feminist lens. One can in fact only access this information when one starts from a

feminist position. The concept feminism also has a critical bite to it in a contemporary context. It reminds us that there are some groups, which are privileged. It puts issues of gender on the table immediately and that is where it belongs. Without the prefix, we would be prevented from noticing the male gender bias in the modern world. Concepts like anti-domination cannot express this serious bias. (Warren 1990: 132, 143; Warren 2000: 50-51, 54, 62-63, 92).

To end the unjustified domination we need a meaningful notion of difference, which does not breed domination. Warren (2000: 56) believes that conceptual framework are learned which means that they can be changed. They are not genetically programmed. Such a change includes altering deeply cherished beliefs. It may therefore be difficult for many. To change a familiar and comfortable belief system involves moving out of one's comfort zone. Although it is difficult, it is not impossible. In addition, it is necessary if the isms of domination are to be eliminated.

4.6.2. The logic of value dualism

"Male dominated culture, as all feminists have observed, defines masculinity and femininity as contrasting forms. In contemporary society men are defined as active, women as passive; men are intellectual, women are intuitive; men are inexpressive, women emotional; men are strong, women weak; men are dominant, women submissive; etc. ad nauseam... To the extent that women and men conform to gendered definitions of their humanity, they are bound to be alienated from themselves. The concepts of femininity and masculinity force both men and women to overdevelop certain of their capacities at the expense of others. For instance, men become excessively competitive and detached from others; women become excessively nurturant and altruistic."

Alison Jagger in *Feminist Politics and Human Nature*, 1983.
(Plumwood 1992: 12).

Val Plumwood is an Australian philosopher. She has made a significant contribution to ecofeminist philosophy by her analysis of dualism. She extends Warren's critique by examining **rationalism** as the main conceptual underpinning of the domination of women, Others and nature. (Davion 1994: 11).

Plumwood (1993: 1) calls her version of ecofeminism for "a critical ecological feminism". She builds her contribution on other ecofeminist and feminist perspectives. She finds the connection to nature central in feminism. Women's liberation will fail unless they challenge the dualism that link and inferiorized women and nature. It is the development and application of the web of dualisms, which in her opinion is the underlying reason for the present environmental crisis, for violence, and poverty. (Plumwood 1993: 2).

Plumwood (1993: 11) finds that the specific dichotomy of man-women, culture-nature does not exist in all cultures. Neither has nature been used universally as a source of women's oppression. Other kinds of dualisms may have been applied. However, her focus is on Western cultures. In the modern culture, the association of women with nature and emotion, and men with culture and reason is still used to oppress women and exploit nature. For example, women's labour and nature are both excluded from the economic system. The focus on Western culture is important, because it is in the process of being globalized via its "rational economy". Thus in the end the elite's domination of (all) Others will become total. Since the logic of dualism is used as a tool for domination its analysis and dissolution is imperative. (Plumwood 1993: 11, 21-22, 194).

In patriarchal society, masculinity and femininity are defined as contrasting forms. The more highly valued (man, reason, culture) is seen as a different order from the lower, inferiorized side (women, emotion, nature). Each side lacks qualities of the other side. The dominant side is taken as primary; the subordinated side is defined in relation to it. Men are the primary model. Women are the other, the exception, and the subsumed. In this way, domination is naturalised. It is part of the identities of both parties and it appears inevitable. Power has formed the identity of the two sides. It has distorted and split apart both sides. One is the master, the other the slave. Thus, reversal is not a solution as some feminists suggest. The reason is that both parties are distorted, because none of them is defined independently. (Plumwood 1993: 31-32).

The subordination of women, Others and nature has been based on a network of closely related dualistic assumed contrasts. Plumwood (1993: 33) sets out the main dualist assumptions formally as follows:

- A1) women are identified with emotion and nature;
- A2) all are considered inferior;
- A3) all are opposed to man, reason, and culture.

And

- B1) men are identified with reason and culture;
- B2) all are superior;
- B3) all are opposed to women, emotion and nature.

Plumwood's critical ecofeminism would reject all three steps in both A and B. Women are given only two choices. They either accept the assumptions in A or they reject A and endorse B. This is, however, an either/or trap because there is a third choice which is anti-dualist: Both women and men are part of nature and culture. Both can reason and both have different things to contribute to nature

and culture. Thus, a critical feminism must reject any dualist assumptions and challenge the ideals in the patriarchal society. It must question the conception of human, culture and rationality, and end its domination. (Plumwood 1993: 29, 33, 35-36).

Since there is a network of dualisms, it makes an escape from a dualised relationship difficult. If one escapes being defined as the other in one incident, one may find oneself trapped inside such a definition in another one. This complexity makes it difficult to call the dominator for a man. Social ecofeminism confirms that the threat of domination are interwoven to the extent that most of us are sometimes oppressors and sometimes oppressed. Plumwood (1993: 42) therefore prefers to use the concept of "master". The master defines exclusions by dualism in the Western culture. The master identity is, in her opinion, expressed most strongly in the dominant conception of "reason". Reason gives rise to a dualist structure, which corresponds to that of classical propositional logic. (Plumwood 1993: 10, 42).

The network of dualist structures in Western thought include the following sets of contrasting pairs: Culture-nature; reason-emotion; reason-nature; male-female; mind-body; mental-manual; master-slave; mind-matter; universal-particular; human-nature; civilised-primitive; production-reproduction; public-private; subject-object; self-other. The first mentioned are those qualities associated with men or the human. The second, present qualities traditionally excluded from male ideals and associated with women. Women are therefore the sex defined by exclusion. (Plumwood 1993: 43-44).

All of the dualisms reflect major forms of oppression in Western culture. Their purpose is to make gender, class, race and nature oppressions a natural thing. The dualism of reason-nature is ancient. Plumwood (1993: 72) traces its roots far back. It was at least manifested in Greek rationalist thought. We can find the master identity in Plato's philosophy. However, others like human-nature, subject-object is associated with modern consciousness. Virtually everything on the superior side can be represented as forms of reason. And virtually everything on the inferior side can be represented as forms of nature. Therefore, Plumwood (1993: 44) have chosen a gendered reason-nature contrast as the basic and most general form of these dualisms. (Plumwood 1993: 43-44).

The dualist network is a perspective of power. It represents a world-view characteristic of the dominant, white, male, Euro-centric ruling class. They divide the world into categories. The omnipotent master is placed at the centre. The marginal Others are then constructed as sets of negative qualities, developed by exclusion. Plumwood finds (1993: 44), that the Western understanding of the

world has been formed from such contrasts and exclusions. Some dualisms are derived from the basic form, by further implicit assumptions. Plumwood (1991: 45) calls these for "linking postulates". In the case of public-private, the public is linked with reason via the qualities of freedom, universality and rationality. These are constitutive of the master. The private is connected with nature via the qualities of routine, necessity, particularity and emotionality constitutive of the slave. (Plumwood 1993: 45).

That different philosophers in different periods have focused on and defended different pairs of these dualisms, obscures the pervasiveness of the dualistic influence in philosophy. For Plato mainly the reason-body, reason-emotion, universal-particular dualisms were important. Descartes focused on mind-body, subject-object and human-nature. The specific focus is often deceptive of the gendered character of the dualisms. In reality, the dualisms form a web where one links to another by well-used assumptions. (Plumwood 1993: 45).

Dualism is more than difference and hierarchies. It is a **logical structure** where the values associated with the Other are systematically and pervasively constructed as inferior. The domination process includes construction of concepts, qualities and identities, which must be internalised. Thus, the inferiorized group must accept its own inferiorization and honour the dominant values. Thus, colonisation creates the colonised as well as it creates the coloniser. Dualism is constructed by systematically separating higher-lower, superior-inferior, ruler-ruled. Each part is belonging to a radically different category or order, which cannot be changed. (Plumwood 1993: 47-48).

Dualism is creating five features in combination:

1) Backgrounding or denial: The master-slave relationship is highly contradictory and conflicting. The master is benefiting from the services of the slave, which makes the master dependant. This is hated and feared by the master thus he wants to deny his dependency on the slave. One way is by backgrounding the slave. In this way, the master becomes the foreground. There is nothing in the foreground, which refers to the background, and yet the foreground is nothing without the background. The slave is used to define the master's boundaries and identity. Thus, the slave makes the master. (Plumwood 1993: 48-49).

2) Radical exclusion or hyper-separation: There need only be one single characteristic, which is different between the two to guarantee distinction. However, to make the other inferior, the master must magnify and maximize the number and importance of differences, and eliminate shared qualities.

The motto is "I am nothing at all like this inferior Other". Denial of similarities eliminates identification between different classes. It helps to establish different natures that explain differing privileges. Separation must be maximized in order never to be seen as continuous. There must be no overlapping characteristics, barriers must be rigid and contact prevented. Such hyper-separation is done by a set of complementary qualities formed through exclusion and denial of overlap. The master has reason, contemplation, and higher pursuits. The slave has only manual activities; he lacks initiative and is submissive. In this way, we have two different categories by nature. In gender relations, men are defined as being active, intellectual, egoistic, competitive and dominant. Women are defined as possessing the complementary qualities of being passive, intuitive, altruistic, nurturing and submissive. Each has a characteristic, which exclude the other, and each have a complementary set of the other. Difference is attached to the nature and is therefore becoming universal, essential and biological. The relationship becomes a definitive category: "It is what it is, because they are what they are". Neither one nor the other will ever change. Thus, two hyper-separated orders of being have been created. Hence, domination is naturalised. (Plumwood 1993: 49-51).

3) Incorporation or relational definition: A further important feature is that the under-side is defined in negation. It is seen as having a lack of something that the upper-side has. Simone de Beauvoir writes that humanity is male. Man defines women not in herself but relative to him. She is therefore not an autonomous person. She is the incidental, the in-essential, the other. Thus, the two have not been equally defined. The master qualities are taken as primary. They are defining social values. The characteristics of the slave are lacks or negations of the virtues belonging to the master. The colonized is not this, not that, he lacks this or that, he is not considered in any positive way. (Plumwood 1993: 52).

Radical exclusion has two important corollaries:

a) Instrumentalism or objectification: Those on the lower side of the dualisms are obliged to put aside their own interests for the interests of the master. The other is seen as the master's instrument, as a means to the master's ends. The needs of the other are defined only in relation to the master's needs. Hence, the other is objectified. The other has no intrinsic value; it is a resource for the master. The other is judged according to instrumental standards. It may be a good wife, an easy slave, a useful worker etc. (Plumwood 1993: 53).

b) Homogenisation or stereotyping: In order to dominate the other, the under-class must appear homogenised. This means that differences among the inferiorized groups are disregarded. Homogenisation supports both objectification, relational definition and hyper-separation. It creates the

division of the world into two orders. The master is at the centre. The periphery is just the rest, the Others, the background to the master's achievements, and the resources for his needs. Diversity need not be acknowledged. The other is universal. (Plumwood 1993: 53-54).

Gender stereotyping is a well-known social created phenomenon. It refers to "typical" and "eternal" male and female natures. It is not supported by any natural order, but maintained by repetition. In the end, it becomes a domination seen as being natural. This helps to understand how the patriarchy has been successful in conceptualising women as inferior to men. This has been based on three false assumptions: **biological determinism** which says that due to women's reproductive ability they are closer to nature than men; **conceptual essentialism** which finds that the concept of women captures some cross culturally valid and essential conditions of women; **universalism** which means that all women share a set of experiences in virtue of the fact that they are women. (Warren 1990: 131; Plumwood 1993: 54; Warren 2000: 53).

Dualism conclusively capitalises on existing differences and uses these to create domination. It provides the basis for various kinds of centeredness. The world is seen in terms of the interests of the centre. It provides the foundation for class-centred, male-centred, Euro-centred, ethno-centeredness and for human-centred hegemony. (Plumwood 1993: 55).

The logic of dualism is supported by **classical logic**. It sees only two alternatives in a single universe. One is p, the other is -p. Thus, the universe is either with p or without p. Hence only p exists anything that is other than p can only be defined as lacking p, thus otherness becomes -p. Therefore -p is not independently or positively identified. It is dependent on p for its specification. In this way, there is only one actor and that is p. The two can never overlap. If they were brought together, the system would collapse. Consequently, classical logic has all the features of dualism. (Plumwood 1993: 55-57).

There are logical systems without these features. One is **relevant logic**. It expresses otherness as a non-hierarchical difference, thus making otherness relevant. The conjunction of A and -A does not make the system collapse, and -A is not homogenised. Negation is not an exclusion with respect to the universe, only to a more restricted place, and therefore negation is not specified in relation to A. -A has no lack, it is rather another condition. It is an otherness with an independent character and role. (Plumwood 1993: 58).

The choice of the dominant logical system and other knowledge systems will of course reflect the perspectives of those at the centre. Therefore, classical logic is firmly entrenched as "the logic" and it manages to exclude rivals that are more adequate. (Plumwood 1993: 57-58).

To escape dualism we must create a conceptual framework that allows the existence of non-hierarchical relationships between different individuals and groups. That includes a critical reconstruction of identities. Such an effort has many traps. Regarding gender, both feminists and ecofeminists have fallen into these traps. One example is identification with the opposite pole. Women may try to regain power by fitting themselves into the masculine model. Instead of becoming free, they become the oppressor. Thus, the dualist system has not been changed. Another trap is reversal of values. It may include that women rediscover and prioritise the under-valued female essence. It may be manifested in creating a female culture based on female experience. However, this is also a dualist system. It does not allow for diversity and plurality. It is important to understand that both parts in dualism have been defined in distorted ways, and both identities need critical and individual re-definition. (Plumwood 1993: 60-62).

Since women are identified with nature and men with culture a questioning of the human identities would also challenge the definitions of culture and nature, and other dualisms. We would have to question if nature is in fact passive and mechanistic and if we can superiorly and single-handedly apply reason to solve our problems rather than combining it with emotions. Reality is that both men and women are damaged and distorted by the Western distinction of gender. Thus, neither of the sexes can unproblematically provide a model for a suitable alternative. Both masculine and feminine identities require renegotiation. Breaking the system of dualism therefore involves re-conceptualizing nature and human identity, and the relation between them in a non-hierarchical way. (Plumwood 1992: 12).

4.6.3. Patriarchy

"Patriarchy is an ideology founded on the assumption that man is distinct from the animal and superior to it. The basis for this superiority is man's contact with a higher power-knowledge called God, reason or control. The reason for man's existence is to shed all animal residue and realize fully his 'divine' nature, the part that seems unlike any part owned by animals - mind, spirit, or control. In the process of achieving this, man has attempted to subdue nature both outside and inside himself; he has created a substitute environment in which he appears to be no longer dependent upon nature. The aim of the most influential human minds has been to create an entirely factitious world dominated by man, the one creature in control of his own destiny. This world, if complete, would be entirely in man's control ..., and man himself would have eradicated or concealed his basic bodily and emotional bonds to nature."

Marilyn French. (Zimmerman 1987: 25).

A patriarchy is in ecofeminism a concept for the systematic domination of women, Others, and nature by men through institutions, behaviours and ways of thinking. Based on the above conceptual frameworks, a patriarchy gives higher value, and more privileges and power to men than to women. In Western cultures, at least since Pythagoras in the 6th century BC, reality has been divided according to gender. A higher value is placed on those attributes associated with masculinity. To understand patriarchy and domination the focus is on institutional power and privilege, rather than individuals. Ecofeminism is not anti-male, nor pro-female. It does not assume that men are the problem and women the solution. (Birkeland 1995: 55; Warren 2000: 64).

The two characteristics, which benefit in a racist and/or patriarchal society are white and male. Since both are received by birth, the benefits are not based on merit, ability, need, or effort. The benefits are institutionally created, maintained and sanctioned. Such systems perpetuate unjustified domination. Thus, the problem lays in institutional structures of power and privilege but also in the actual social context. Different groups have different degrees of power and privilege in different cultural contexts. Those should be recognized, but so should commonalities where they exist. However, although Ups cannot help but to receiving the institutional power and privileges it is important to add that they are accountable for perpetuating unjustified domination through their behaviours, language and thought worlds. That is why ecofeminism is about both theory and practice. It does not only try to understand and analyze, it also finds it important to take action against domination. (Warren 2000: 64-65).

Patriarchy is **an unhealthy social system**. Unhealthy social systems tend to be rigid and closed. Roles and rules are non-negotiable and determined by those at the top of the hierarchy. High value is placed on control and exaggerated concepts of rationality, even though, paradoxically, the system can only survive on irrational ideologies. Militarism and warfare are continual features of a patriarchal society because they reflect and instil patriarchal values of control and competition. The elite exercise illegitimate, inappropriate and inequitable power over the subordinate groups. The subordinate groups have therefore limited access to the type of power that is necessary to mobilize resources to achieve self-determined ends. Thus the subordinate groups have difficulties to get their basic needs met. These groups include women, children, people of colour, poor people, non-human animals and nature. Hence, patriarchalism is based on racism, sexism, class exploitation and ecological destruction. (Adams 1993: 4; Warren 2000: 205-206, 210).

Patriarchy is a closed circle of institutional and individual ways of thinking, speaking and behaving. They are rooted in the patriarchal conceptual framework, which is a faulty belief system. Faulty

beliefs (patriarchal conceptual framework) leads to impaired thinking and language of domination (sexist and naturist), which leads to behaviours of domination (control, exploitation, violence, rape, murder) which makes life unmanageable for marginalised groups. If the circle is not broken, it becomes an unhealthy vicious circle. (Warren 2000: 207, 210-211).

Western patriarchal societies may have been shaped even before Plato's time. It is at least clearly depicted in Plato's "The Republic". The ruling elite have been able over time through their command of resources to control culture disproportionate to their number. This hegemony has created structures in societies, which ensured the continuation and expansion of oppression. The Western patriarchy is therefore a legacy. Its deep penetration has shaped our ideas of our selves and our relations. Its conceptual framework is deeply entwined in modern culture. Little is kept out from its destructive rational and logical network. The conceptual framework has been applied in different ways throughout Western history. In the current historical moment, the focus is on developing the rational global economy grounded in rational egoism. Thus, patriarchalism is taking a totalised form. It wants to appropriate all remaining space on the earth, and all of its living things. Only those who are rich in monetary terms can afford to get a space on earth. The rational economy will throw off any democratic or social control. It will subsume any constrain to its maximisation. Finally, it will devour the social. Patriarchy will end in death of nature and destruction of the Others. However, since the master is dependent on the Others, also he will die - unless of course he will abandon his mastery. (Plumwood 1993: 190-195).

A contrast is **the healthy social system**. One would imagine it to be open, flexible and non-hierarchical. Problems are openly acknowledged and resolved. Relationships would be egalitarian, mutual, appropriate and reciprocal. The well-being of all members of the system is highly valued. The society is able to meet both the ecological and social needs of its members. These needs include such things as adequate nutrition, clean air and water and non-toxic living areas. Also needs like love, friendship, meaningful work and adequate rest are met. Thus the health of a social system is in part determined by how well it meets the needs of people and how well it provides for the well-being of the natural environment. This is the kind of social system ecofeminism is working towards. (Warren 2000: 206).

In reality, we do not know how a non-patriarchal society looks like. We only know that patriarchalism will die-hard. Many people would find it difficult to imagine an alternative to a society based on hierarchy and control. It is the only type of society we have known for centuries. However, when we

are abandoning patriarchy it would almost certainly reveal aspects of humankind that has been obscured by the patriarchal ideal. Human beings would presumably manifest a healthy interplay between emotion and reason since these feelings belong to both men and women. In fact, virtually all existing thought may be turned on its head. Human imagination, commitment and courage are needed to bring about the dream of a healthy society. Whenever we are able to see the world in non-dominating and non-dualist ways we will not need ecofeminism, neither any other perspective that promote the interest of the subordinate order including nature. (Zimmerman 1987: 24, 35, 42-44).

Consequently, ecofeminism place emphasis on the role of patriarchy in the creation of ecological oppression. However, it should be added for clarification that patriarchy is not necessarily considered the root cause of anything. Patriarchy forms a matrix of oppressive theories, attitudes and practices. Every aspect has been constructed within a complex network of historical, economic, political and environmental factors. Plumwood (1993: 41) therefore finds that domination is not based on one system, it is stemming from interlocking, oppressive structures based on a series of hierarchical dualisms. These lie at the heart of Western culture. (Cuomo 1994: 101; Gaard 2001: 158).

4.7. Environmental ethics

In order to limit the increasing environmental degradation caused by human exploitation philosophers have attempted to establish some kind of moral relation between human beings and their natural environment. Different theories offer different ethical answers. One may divide these attempts into three main categories:

Traditional ethical theories find that human beings only have indirect responsibility to nature. We should preserve natural resources and limit pollution due to our moral responsibility to humans. Thus, we have no responsibility to the natural world, but we may have responsibility regarding the natural world, for the sake of humanity. That is an anthropocentric or human-centred ethics. It holds that only human beings have moral value. **Anthropocentric environmental ethics** is applying standard ethical principles to new social problems. (Des Jardins 2001: 11).

Other philosophers have argued that we do have responsibility to natural elements other than human beings. **Non-anthropocentric ethics** therefore grants moral standings to animals and plants. This approach requires a further extension and revision of standard ethical principles. (Des Jardins 2001: 12).

A further development of environmental ethics is a shift from the focus on individual living things to wholes such as species, populations, or ecosystems. **Holistic non-anthropocentric ethics** holds that we have moral responsibilities to collections of (or relationships between) individuals rather than (or in addition to) those individuals that constitute the whole. Holism, which is influenced by the science of ecology, raises more serious philosophical challenges than do most individualistic ethics. Apart from presenting an ethical perspective, its defenders are for justification required to include their view of epistemology, metaphysics and political philosophy. (Des Jardins 2001: 12).

Officially, ecofeminism belongs to the last category. It is part of a sub-group called "**radical views**". The group also include the perspectives of Deep Ecology, social ecology, the Gaia hypothesis and bioregionalism. (Knill 1992: 199; Warren 2000: 83). In the following ecofeminism, Deep Ecology and social ecology will be discussed, with the emphasis on ecofeminist environmental ethics.

In order to place ecofeminist environmental ethics in a context it is important to perceive its contrast to traditional ethics. It is also important to understand the relationship between ecofeminism, Deep Ecology and social ecology. This contrast and these relationships have influenced and formed the current ecofeminist perspective. (Knill 1992: 213).

4.7.1. Critiques of mainstream ethics

There is a variety of interconnected ecofeminist critiques directed to traditional philosophical ethics. They are all directed to the dualistic, rationalistic, universal, abstract and objective foundation of moral reasoning. Below some of the critiques are presented:

Plumwood (1993: 165) finds that traditional ethics and its continuous reliance on the **rational** model of the self, is not only displaying its male-biased, but also it is particularly damaging when applied to nature. Traditional ethics is based on the reason-emotion dualism. Reason is seen as being masculine, superior and a relevant tool for moral agency. Opposite emotion is seen as being feminine, inferior and morally irrelevant. Thus, ethics excludes feminine emotions. In addition, the feminine emotion belongs to the same inferior realm as nature. Consequently, superior reason can only see nature as a resource to be exploited. It therefore follows that to apply a rational ethical system to nature would be a paradox. This requires an explanation:

Descartes' rationalism and mind-body dualism are the products of an extreme masculinist perception of self and reality. This view is shared by many males in modern society. They are trained to repress "the useless and counter-productive" aspects of nature within themselves, including feelings, emotions and other "womanly" sensibilities. Cut off from their feelings men become isolated, rigid, overly rational and committed to abstract principles at the expense of concrete personal relationships. As a result, males have developed highly rationalistic, abstract, calculative and atomistic moral philosophies, which are meant to govern competition among men. Such systems include little or no role for caring and feelings in ethics, neither does it give room for any relational cooperation that is required to overcome the nature-humanity dualism. (Zimmerman 1987: 27).

The use of reason therefore hides a gender bias. It depends on characteristics that philosophers have identified as being male properties, in contrast to female characteristics. A good example is the ethical system of German philosopher Emmanuel Kant. Kant relied on "the good will", which results from an agent's denial of inclinations and emotions. Kant found that women are emotional and have a poor grasp of the truly human capacities. These human deficiencies in women were also to be found in the more "common run" of men. They are closer to their natural instinct, and do not allow reason to guide their conduct. Thus, also African people and other traditional peoples are denied reason. Non-human animals are entirely excluded. In this way, reason is constructed as being opposite to both emotion, women, indigenous people and nature. When environmental ethics is based on such dualist construction, it becomes both anthropocentric and patriarchalist. Such dualism fails to see human beings as part of nature. It reinforces the dominance of man over women, human over nature, and reason over emotions. That can hardly be a foundation for an environmental ethics. Hence, that such framework is used is astonishing. (Plumwood 1993: 166-169; Davion 1994: 13).

One way of creating a non-anthropocentric environmental ethics from traditional moral reasoning is done by extending **rights** to animals and plants. That is controversial. From the Judeo-Christian doctrine, rights were given exclusively to humans, due to man's superiority over nature. Rights were also related to introduction of private ownership of land and natural resources in the early liberal, capitalist era. Rights are based on a universalized male experience of the self and the world. It sees a person as an autonomous, egoistic individual isolated from and competing with other similar egos for scarce resources. In order to govern this relationship rights are established. Hence, rights do not include any possibility for friendship, care and cooperation with others. Trying to extend rights to nature is almost a contradiction in terms. It cannot heal the nature-human dualism. The concept of rights is linked to the androcentric (male-centred) dualist concepts that have led to the domination of

nature. Extending the prevailing moral categories to nature is analogous to the case of normal scientists trying to fit anomalies into the prevailing paradigm. What is needed is a paradigm shift that produces non-androcentric framework where nature appears as something different from a dualised object, different from the inferior Other that can be dominated. (Zimmerman 1987: 27-31).

The ideal, masculine rational moral agent is required to be disinterested, detached, impartial and impersonal. This will make the moral point of view **objective** and eliminate interference of biased, partial and contingent considerations in morality. (Warren 2000: 89). Such objectivity is rejected by ecofeminism because it results in theoretical ethics, which is difficult to find in practice. It will breed indifference and a failure to respond with care to need. It is characteristic of a masculine urge to transcend the concrete world of particularity in preference for something more enduring and abstract. (Plumwood 1993: 181).

It is often claimed that since morality is based on common human characteristics an objective morality is possible. Morality is in this view rooted in common human needs, feelings and cognitions. However, that does not make morality objective. Certain feelings may be common but the ethics itself is not. Noddings (1984: 26) finds that a rational-objective mode in ethics is directly dangerous. It tends to focus on the abstract rather than the concrete. It will therefore take the care away from the one that is in need of care. (Noddings 1984: 26, 28).

Traditional ethical **principles are absolute and universal**. Their claims are therefore a-historical, transcendent, impersonal and impartial. This makes it legitimate to compare ethical principles in different social and historical contexts. It also avoids ethical relativism. Nevertheless, Warren (2000: 88) challenges the dichotomy of ethical absolutism and ethical relativism. It suggests an either-or situation, which is a false dichotomy. There is a viable alternative that Warren calls for "ethical contextualism". It sees ethics as being particular and grounded in people's real lives. (Warren 2000: 88-89).

Noddings (1984: 1) also rejects the moral system of principles. Ethical argumentation is done as if it was governed by the logical necessity of geometry. It has been established on principles, and that which can be derived from them. This moves the discussion beyond actual human feelings, experiences and activities. When we establish a principle like "it is forbidden to kill" we also establish exceptions to that principle. Hence, when we commit violent acts we may still be moral because we follow principles! Des Jardins ads (2001: 212) that in Western tradition, governments have often

justified violence and killing in pursuit of important social goals. The just war theory and self-defence are two ways that violence has been ethically justified. However, in reality we violate those whose beliefs and behaviours are different from ours. Using principles is not an approach of a caring person. It is the action of a detached person, a fundamentally masculine approach. Application of moral principles too often functions to separate us. Principle people often become self-righteous and detach themselves from others who do not hold the same principles. They define the other in dualist terms, which justifies separation, domination and abuse. (Noddings 1984: 2, 5; Des Jardins 2001: 212).

In addition, Noddings (1984: 5) dismisses the assumed universality in ethical concepts. Many insist that an ethical judgment must be universal, to be considered an ethical judgement. However, why focus on moral judgement. In reality, ethics is about how we meet each other morally. Since such experiences are subjective, they are not sufficiently similar to permit universal judgements. However, to meet each other with a caring attitude is universally accessible. It expresses our earliest and ongoing store of memories of caring and being cared for. To care is to act not by universal and abstract rules but by affection and regard according to the particular person and the concrete situation. Hence, to exclude emotions and feelings from rational ethics is a major mistake. (Noddings 1984: 5, 24).

Noddings (1984: 6) sees many contrasts between masculine and feminine approaches to ethics, to education and to living in general. For her it means that the masculine and feminine within us is divided. However, if moral education is guided only by the study of universal, rational moral principles and judgements not only are women made to feel inferior to men in the moral realm, but education itself may suffer from a one-sided moral guidance, which cannot bring about social harmony. Thus building an ethics on feelings of care seems both reasonable and important. (Noddings 1984: 6, 28).

Consequently, in order to be adequate an environmental ethics should respect the moral experience of women as much as that of men. Exclusion of women's experience is a good indicator that other related subordinate groups are similarly excluded. However, commonly feminist criticism is overlooked and not incorporated. Instead, the patriarchal ethical tradition continues to employ damaging assumptions. They make new rationalist framework, which are both gender bias and nature unfriendly. (Plumwood 1993: 165).

Interestingly the philosopher **Bernard Williams** has reached a similar conclusion regarding mainstream ethics without being involved with feminism or environmental issues. In his book "Ethics and the limits of philosophy" Williams (1985: 74) is expressing his scepticism about philosophical ethics. He makes a thorough analysis of both ancient and modern moral theory and finds them inadequate in practice. Williams finds that due to its theory construction, philosophy places ethical thinking on a rational and objective foundation. This distorts our conception of practical ethical life since it excludes the individuality of persons, living in their particular historical, cultural context. Williams (1985: v) concludes that philosophy should abandon ethics as a discipline, at least in its traditional theorizing form. It is an abstract view from the outside, which is not being supportive to our practical moral lives. How one should live and what one should do is a question that cannot be answered neutrally, abstractly and universally. Answers must come from within society. Which kind of institution is best is a social and psychological question. Its answer is based on an uncoerced process in society, which includes open institutions, open discussions, reflections, theorizing and free inquiry. It is a practical convergence on a shared life related to beliefs, feelings and interests of people. Thus, integrative democracy is a value commodity in society for the open discourse it brings along. (Williams 1985: 171-172).

Traditional philosophical moral reasoning is also applied to the reasonably new discipline of **development ethics**. According to Des Gasper (1992: 1) development ethics is attracting increasing attention, and in 1984, the International Development Ethics Association (IDEA) was founded. Its main representatives are moral and social philosophers. And that is its main problem according to the Australian ecofeminist Ariel Salleh. Salleh is one of the representatives of a counter-movement in development ethics, who see the discipline of philosophy as constraining the work in IDEA. Philosophy uses dominant liberal concepts and is closely related to mainstream economics. Its quantitative criteria have monopolized all aspects of reality, and development has lost its qualitative meaning. Such monopolizing is bound to be destructive in the end. Development has first and foremost to do with human happiness and satisfaction of human basic needs, according to Max-Neef. Development without qualitative value is not development, but rather growth. Development is inherently ethical. Hence, development ethics must put such value and meaning back into development. Economics was born out of moral philosophy. If economics want to play a role in development, it must re-integrate morality. Salleh concludes that IDEA's discourse needs to be replaced by perspectives that are more relevant. IDEA can better engage its energies in contemporary forms of action rather than occupying themselves with abstract ethical categories inherited from days long past. (Carmen 1994: 20-21).

Conclusively exclusion of women from the domain of intellectual pursuit has resulted in male-gender bias, which must be eliminated. Therefore, the minimal goals of ecofeminism are to critique male bias in ethics and to develop an environmental ethical theory that is not male-biased. It must also be a theory that can provide a guide for action. (Warren 2000: 37, 97-98).

4.7.2. An ecofeminist environmental ethics

The conceptual framework upon which an ethical position is build has implications for environmental practice and policy. Thus, when that conceptual framework is patriarchal, it cannot avoid but to be based on oppressive concepts. Hence, due to the inherent domination of women-Others-nature, environmental ethics requires a feminist analysis and response. Such an analysis Warren (2000: 91) calls for a **transformative environmental ethics**. It adds an explicitly feminist perspective to environmental ethics that is missing from other accounts. Without it, ethics would be inaccurate, partial and male gender bias. When we reach a truly equal world, where differences do not breed domination the "feminist" would be redundant, just as the "environmental" in environmental ethics would be unnecessary. But that is not so now. The current historical and conceptual reality is that the domination of nature, women and other subordinate human beings are intimately connected. Failure to notice this perpetuates the mistaken view that environmental ethics is not a feminist issue. (Warren 2000: 92-93).

There is not one single ecofeminist ethics. Its nature is still emerging. Among those most visible are feminist animal-rights positions and environmental ethics based on an "ethics of care". The literature on an ethics of care is extensive. To discuss it in dept here will be too much. However, the basic issues related to ecofeminism will be lined up. (Warren 1996: xvi).

An ecofeminist ethics is a theory-in-process. It excludes any concept that promotes domination. It is contextual and pluralistic. It is inclusive, reflecting a diversity of perspectives. It rejects any type of dualism. Humans are both alike and they differ; they are individuals, and in relation; they are both particular, and have general features. An ecofeminist ethics cannot provide objective viewpoints. It does not believe it exists. It is therefore not un-bias in the sense of being value-neutral. However, it provides a central place for values typically undervalued in traditional ethics, care, friendship and appropriate trust. These values presuppose that our relationships to others are central to an understanding of who we are. However, for Warren (2000: 100) it does not exclude the considerations of rights, rules, or utility. (Warren 2000: 100).

While Western ethics focuses on the objective and abstract, ecofeminism concentrates on the particular and local. For an ethics to be effective and relevant, it needs to be grounded in people's personal lives. If we have only abstract ethics, the deep attachment many indigenous peoples feel for a place is overlooked. Inside a rational framework, such people would be seen as lacking an ethical framework. However, such judgement is the result of the dualist superiority given to reason opposite the inferiorized emotion. In real life special relationships is the basis for much of our moral concern. Care and responsibility for particular places, animals, trees and rivers that are known well, enhance rather than hinder a concern for the global environment. Thus, ethics should not deny us to have feelings for what we all hold dear; feelings, which we have developed from our life experience. We can of course not treat the entire universe as our nearest and dearest, and our moral concern must also include strangers and distant others. Hence, our ethics needs to include universal aspects as well. We consequently need a combination of the two perspectives. Adding particularity, emotionality and diverse agency to ethics may not make it perfect, but that is preferred from a moral point of view that is inherently sexist, naturist, racist and colonist. (Warren 2000: 90; Plumwood 1993: 181-3, 87).

In combining the perspectives, Warren (2000: 101) suggests calling the kind of thinking humans and some non-human animals are engaged in for **intelligence** rather than reason. We can then decide that 'rational intelligence' and 'emotional intelligence' are two aspects of intelligence. From an ecofeminist perspective, both are required to operate together in ethical motivation, reasoning and practice. To include the particular context and specific relationships that are ethically significant an ecofeminist ethics uses **a narrative approach** to ethical discourse. Narratives give expression to attitudes, values, beliefs and behaviours that are relevant to ethics; they suggest what counts as an appropriate conclusion to an ethical situation. In this way, space is given to the voices of women and other marginalised groups. (Warren 2000: 102-104).

Karen Warren (2000: 107) defends what she calls **a care-sensitive ethics**. It is not a separate ethics that replaces traditional ethics, but it has more conditions. It includes **situated universalism**, the **practice of care** and a moral agent's **ability to care**. Thus, also traditional values like utility, self-interest, duty and rights are included but they are not overriding features in ethical situations. In this way there is made room for emotional intelligence. (Warren 2000: 108-109).

The ability to care: According to Daniel Goleman humans have two minds or brains. One thinks and one feels. Thus the rational mind thinks and the emotional mind feels. The centres of reason and emotion are located in different but connected parts of the brain. The neocortex is the seat of logic,

reflection and what is traditionally referred to as reason or rationality. The limbic system, the hippocampus and amygdala, is the seat of memory and emotions. The two minds provide very different, though intertwined, ways of knowing and two different kinds of intelligence. It is the emotional intelligence that maintains an appropriate balance between the two minds. It recognizes that emotions matter for rationality. The rational mind cannot work efficiently without emotional intelligence. Both determine what we ought to do and what we do in our lives. (Warren 2000: 109).

Goleman refers to the Elliot-case. Elliot had a brain tumour removed. Afterwards he changed personality. His emotional intelligence was impaired. Nothing was wrong with his logic or any other cognitive ability, but he was oblivious of his feelings. His thinking became computer-like. It included all steps of decision-making, but he could not assign value to the different possibilities. Each option was neutral. This dispassionate reason was a problem. Too little awareness of his own feelings about things made Elliot's reasoning faulty. He was an ideal rational, impartial, detached observer, but he could not feel or care. Lack of emotional intelligence does not only promote bad or faulty moral reasoning, it produces no moral reasoning at all. Thus, reason without emotion is inadequate for ethical decision-making and practice. We need emotional intelligence of which the ability to care about our selves and others is the basic skills. (Warren 2000: 109-110).

Care is therefore crucially relevant in ethical motivation and decision-making. Marti Kheel notes that we cannot even begin to talk about the issue of ethics unless we admit that we care or at least feel something. We cannot reason morally unless we care. An ethics of care places the human psychology as central. That is necessary if an ethics should provide guidance for living a good human life. Thus, personal experiences and emotions have much to offer in reformulation of our traditional notion of ethics. (Zimmerman 1987: 27; Warren 2000: 111-112).

Care-practices are gender sensitive because of the historical association of care with females. Traditional Western philosophy excluded emotions and focused only on rights and obligations in competitive relations typically associated with men. However, this is a serious omission. We need an equal stress on rationality and emotions. When the emotion of care is taken seriously as a moral value male-gender bias is exposed and a corrective is offered. (Warren 2000: 113).

Situated universalism refers to a unity of the particular and the general. We see the general in the particular and the particular in the general. When we care about and understand the particular persons who are struggling with oppression, we must recognize and have some understanding of oppression as

a general feature. Similarly, to care about and understand a general issue as oppression, we must recognize and understand how it exists in particular people's lives. The particular and the general presuppose each other. Thus universal, a-historical, context-free, abstract principles arrived at through reason alone is rejected. The universality of ethical principles lies in a social world. Ethics is about what imperfect human beings, living in particular historical and socio-economic contexts, can and should do, given those conditions. Universal principles are guidelines only because they grew out of historically particular, real-life experiences and practices. (Warren 2000: 113-114).

Thus, there are no necessary and sufficient conditions for a right conduct or a good life. There is no overriding moral principle. In addition, this is as it should be. Real moral life situations are seldom clear-cut. They are conflicting. A useful ethics must account for the ambiguities of real moral life, while providing guidelines for resolving real moral conflicts. Traditional ethical values are still important, but they must be situated. They do not have priority as a principle over others independent of the context. (Warren 2000: 115).

Since there are various moral principles, how does one choose among them? The choice is according to Warren (2000: 115) determined by **care practice**. When we use care practices the result must be either promotion of, maintenance of, or enhancement of the health and well-being of relevant parties. At the least, our choice must not cause harm to the relevant parties. This consideration includes the health of the particular as well as the health of the general. (Warren 2000: 116).

Ethical practices that oppress, torture or exploit morally relevant others are not genuine care practices. Practices that abuse human rights are not care practices. Practices that remove livelihoods from traditional people are not care practices. Practices that destroy animal and plant life and environmental health are not care practices. Thus, whether a principle of rights is the best to choose in a situation will depend on the extent to which it promotes care principles. (Warren 2000: 116).

4.7.3. An ecofeminist social justice

"It all depends on your philosophy of life. If you dream about an egalitarian and just society it cannot be created by men alone. You cannot ignore 50% of the population."

Shekhar Pathah, India, 1986.

(Dankelman et al: 1988: 171).

Social justice is the primary focus of ecofeminism. The purpose is to find out who are harmed by and who benefit from social practices. Many social structures oppress some members of society for the

benefit of others. This in turn reinforces ways of thinking and living that encourages domination of women, Others and nature. (Des Jardins 2001: 236). Below Karen Warren's idea of a social justice system is presented.

In contemporary Western philosophy, the main model of social justice is distributive. It focuses on who ought to receive what benefits and which burdens, and on what grounds they ought to receive them. It is assumed that one ought to treat equals equally and unequal unequally. Hence, injustice occurs when equals are treated unequally and unequals are treated equally. Thus if all humans are morally equal, and rights are distributed according to humane-ness, then one should conclude that it is unjust to treat women and people of colour in ways that violate their rights. Such a justice would be distributed on a wrong basis of gender/race, rather than on the correct basis of humane-ness. Hence, it needs to be changed. (Warren 2000: 175-176).

There are seven bases of distribution in social justice. Two of these are egalitarian (basic equality and basic needs) and five are non-egalitarian (merit, compensation, ability, utility and effort). Justice occurs when something (rights, jobs, school admission, salaries, welfare, aid and food) is being distributed on the correct basis. Thus, one must determine which of the seven principles would be the correct one to use in the given case. (Warren 2000: 176-177).

Since it often is poor women, children, and people of colour in the South who suffer disproportionately from effects of environmental degradation, environmentalists appeal to a distributive justice model as social justice. This may seem as being appropriate. Women and people of colour can then appeal to a model of social justice to show that the disproportionate harm they suffer is a case of injustice. It can also link the concerns of women-Others-nature. It can overcome deficiencies in economic analysis when economic issues conflict with justice. It can also show that free-market capitalism without government interference may produce socially unjust outcomes, and that markets may distribute burdens and benefits efficiently, but inequitably. (Warren 2000: 177-180).

Still the model is inadequate. It only includes material goods, social positions, and other static things. It lacks social process, functions, structures and relations. The model excludes structures of power and privileges, exactly those elements that reinforce the patriarchal conceptual framework. Structures and processes are relevant to justice because they produce distribution of justice. For example, the distributive model may distribute labour, but it cannot define the unjust gender and race distribution of labour. Gender division of labour is unfair, and paying women or black people less is also unfair. The

model is also unable to address the issues that involve the meaning of labour. Many jobs are related to a certain race, gender, and age and thus associated with the marginalised groups. (Warren 2000: 181-184).

Culture is also not adequately addressed. When indigenous people lose their environments, they lose not only their livelihoods but also their culture, history and identity, which are related to their environment. Thus, cultural losses must be added to other issues of justice, like violation of rights, diminished individual liberty and economic dis-utility, created by the environmental destruction. (Warren 2000: 183).

The model has some further problems of imbalance. It pays only attention to individual rights. It sees a human being as a rational, self-interested, pleasure-maximizing consumer. However, humans are also members of a social and ecological community. It therefore pays too little attention to social groups; to ecological groups; to both wholes and parts. (Warren 2000: 185).

The model can also not consider care, because its inclusion may mean that the outcome is not fair. The demands of love and relationships go beyond and may even go against justice. In real life situations, the one who cares may feel morally justified to treat loved ones in ways that conflict with justice. A non-distributive model of social justice that values care in context may deem such conduct as being just and morally obligatory. Thus, justice is only one way of caring, but not the only one. (Warren 2000: 186).

Social justice therefore needs to be inclusive. It must include both distributive and non-distributive issues of justice. The non-distributive elements include the institutional definition of labour, cultures, social groups, ecological issues, and special relationships. These must be based on the real human nature that is both individual and relational. For such an inclusive model of justice to be meaningful, it must be situated. If it is not based on actual contexts and structures, it will rest on faulty premises and thus falsely assume that unequals are equals. (Warren 2000: 187).

An inclusive model must also address the issues of difference, dependence and domination. We cannot anymore use the white, middle-class male as the standard against which equality is assessed. This norm cannot incorporate issues of gender, race, class and other socially relevant differences. People who are dominated or dependent are not equal in society. Therefore, we cannot start with an equal society. We would then overlook those who are already unequal. Finally, institutional domination and

oppression must be eliminated. Societies based on domination are unjust by nature. (Warren 2000: 188).

Thus, societies must include the important role played by care in motivating and sustaining justice. Both justice and care inform the ecofeminist value system; both are important moral ideals; thus, care and justice are compatible. (Warren 2000: 189).

Hence, an inclusive theory of social justice is also a theory-in-process. There is not one set of necessary and sufficient conditions for the realization of justice, or if there is, it is not currently possible to know what these conditions are. An inclusive theory of justice requires as a necessary condition the absence of practices and structures of oppression and unjustified domination. However, any sufficient condition of social justice must be filled out in historically and socially sensitive ways, paying attention to the elements in the inclusive justice model above. Thus, an important contribution of ecofeminist philosophy is to show why non-distributive issues are important of environmental and social justice. (Warren 2000: 189).

Having presented an ecofeminist environmental ethics and social justice model, below the two other radical environmentalist models are introduced and discussed:

4.7.4. Social ecology

Social ecology is associated primarily with the work of one person, its founder Murray Bookchin. Bookchin's influence on US radical environmentalism is enormous. He has been an ecological activist since 1952, and he protested against nuclear radiation and power from 1954 and onwards. He is also an early advocate of alternative technology. (Sturgeon 1997: 32).

Social ecology has its roots in various philosophical traditions including Marxian socialism, libertarian anarchism, and the works of Aristotle and Hegel. Bookchin is concerned with abolishment of social hierarchies, which he sees as the cultural, traditional and psychological systems of obedience and command. He refers to domination of the young by the old, of women by men, of one ethnic group by another, of the masses by the bureaucracy, of rural areas by towns and of body by mind. Power enables the superior groups to command obedience from the inferior groups. People internalize social structures and learn to accept a life of guilt and sacrifice, while their superiors enjoy a life of pleasure and satisfaction. (Plumwood 1994: 65; Des Jardins 2001: 235, 243-244).

Human domination can foster an ideology that supports the domination of nature. The social hierarchies provide the conditions for exploiting nature when its institutions and practices like science and technology are designed to facilitate control. Such society identifies human success with the domination and control over people and nature. (Des Jardins 2001: 244-245).

Bookchin sees a dialectic relationship between humans and their society. Humans are creating their society but also being created by it. Humans can be aware of this or not, but the natural potential of a person is to become a fully consciously thinking being. This is Bookchin's conception of freedom. Fully conscious self-determining activity is possible when humans are free from all forms of external control and domination. A truly just society is one in which humans are free from domination and control. Thus, nature's freedom from domination can only come about in a world in which humans are also free from domination. (Des Jardins 2001: 245-246).

Social ecology has received various **critiques** mainly from Deep Ecology and ecofeminism. A significant problem is the focus on Bookchin, his confrontational attitude and style of writing. Plumwood (1994: 67) finds that this attitude makes Bookchin's theory hostile to other perspectives, all of which he wants to subsume under his specific form of human domination. Allowing a theory to develop around one person only also generates other problems. Knill (1992: 203) refers to Tokar who wrote in 1988 *"one person's brilliant insights cannot replace the essential process of an evolving movement for social change having to define itself"*. With this situation, one wonders what kind of anti-domination perspective social ecology in fact is! (Plumwood 1994: 67).

Bookchin finds that human-nature domination came after human-human domination and it is secondary to it. Thus, we must first create a society where all forms of human hierarchy are eliminated, before we can hope to achieve an ecological society. We may then conclude that if we can address ecological problems first and independently of addressing social hierarchies, then social ecology is irrelevant. However, Bookchin probably finds that the domination is mutually reinforcing and thus to address one is to address the other. (Des Jardins 2001: 246).

Bookchin sees humans as stewards capable of consciously directing natural evolution. This suggests a privilege to human interest over nature, directing nature to human ends. It is exactly this attitude that created ecological destruction in the first place. Hence, Deep Ecology accuses Bookchin of anthropocentrism. They also find that Bookchin uses abolition of hierarchies to create just another hierarchy with human beings at the top and nature at the bottom. (Des Jardins 2001: 248).

This human-nature hierarchy comes from Bookchin's idea of human rationality. He sees rationality as unique and part of natural evolution. Any biocentric view like that of Deep Ecology, which degrades the rational abilities of human beings, must in Bookchin's opinion be rejected. Natural evolution has provided humans with rationality. This rationality can be placed at the service of natural evolution in order to increase biotic diversity, diminish suffering and foster evolution of new valuable life forms. Current societies dominate nature and that must be changed. Bookchin agrees that human decisions and values have played a major part in ecological destruction, but he also finds that human beings can be a major actor in ecological solutions. (Des Jardins 2001: 247, 249).

Thus, Bookchin defends the supremacy of reason to end the ecological crisis. This means that he maintains the Western rational tradition and its construction of dualism. He gives supremacy to reason over emotion; culture over nature. From this, it follows that Bookchin maintains ideologies that perceive traditional peoples as backwards, ideologies that inferiorize and colonise nature and non-western-cultures. Such a world-view is arrogant. It is not an example of increased consciousness. It is rather a refusal to confront Western ideologies. Bookchin's solution to the environmental crisis is an ecological society where humans represent nature as rational stewards. Humans must manage nature for its own best interests. Thus, nature has no independent interest, it is incorporated in the human sphere. Bookchin sees no need to consider nature as being different, independent, or self-directed. Hence, nature does not in his view deserve respect in its own right. Although social ecology presents itself as offering a way out of domination, one must conclude that Bookchin's version at least falls short of that objective. (Plumwood 1993: 14-16; Plumwood 1994: 67-70).

4.7.5. Deep Ecology

Deep Ecology, with its founder Norwegian philosopher Arne Næss, is probably the best-known branch of a deep green theory. It is primarily formulated by Arne Næss, Bill Devall, George Sessions and Warwick Fox. The perspective sees human-centeredness, also called anthropocentrism, as one of the major roots of environmental problems. (Plumwood 1994: 65; Cuomo 1994: 90; Sturgeon 1997: 41).

Arne Næss introduced the distinction between "deep" and "shallow" ecology. Shallow ecology relates to movements that fight exclusively against environmental pollution and resource depletion with the objective to promote the health and affluence of people in the developed countries of the North. Movements, which Næss is considering as being deep, are those that search for philosophical root-causes to the environmental problems. A cure demands a radical change in our philosophical outlook, including a personal and cultural transformation, which affects economic and ideological structures.

Thus, Deep Ecology is a deep ecology. To distinguish itself it is using capital letters. (Cuomo 1994: 90; Des Jardins 2001: 213).

Deep Ecology finds that the dominant world-view is responsible for environmental destruction. They consequently want to develop an alternative world-view and work for the type of changes that are needed. They call this field for "eco-philosophy". Particular alternatives are called "eco-sophy". For articulation, they rely on poetry, Buddhism, spiritualism, Taoism and political activism involving civil disobedience and eco-sabotage. (Des Jardins 2001: 214).

Næss and Sessions have developed a Deep Ecology 8 point platform as a statement of common principles. It provides a focus for philosophical speculation. It is general enough to allow for diversity of interpretations and specific enough to distinguish a deep from a shallow analysis. The platform extends intrinsic value to the natural world. It dis-allows human beings to reduce natural diversity except to satisfy vital needs. It recommends a change towards a quality of life rather than a high standard of living. Such changes include a substantial decrease in human population. Finally, it finds that those who subscribe to Deep Ecology's platform have an obligation to implement the necessary changes. (Des Jardins 2001: 215).

Deep Ecology is informed by the science of ecology but being aware of the limits of science, Deep Ecology warns against too great reliance on it. (Des Jardins 2001: 216).

Deep Ecology is concerned with metaphysical, ontological and ethical questions. The dominant metaphysics that underlies modern industrial society is individualistic and reductionist. It sees human beings as being distinct from the rest of nature. Deep Ecologists find this a misguided philosophy. They oppositely see humans as being inseparable from nature. People are part of their surroundings; they are constituted by their relations to other elements in the environment. Thus, the environment determines what humans are. When one sees the human subject as essentially one with the natural world, the strict distinction between object and subject disappears, as does the fact-value distinction. Thus, the value of nature is as rationally justified as the facts of science. (Des Jardins 2001: 218-219, 222).

The ethics of Deep Ecology focus on two norms: "Self-realisation" and "biocentric equality". Self-realisation is a process where a person let go of the ego and find his or her real Self, which is interconnected with the rest of nature. For this process, Deep Ecology relies on traditions as diverse as

Greek philosophy, Christianity, Buddhism, Romanticism and Marxism. It is a self-examination where people come to see themselves as part of a whole, not having any experience of a division between self and other. Biocentric equality is the recognition that all organisms and beings have an equal intrinsic worth. Humans are allowed to satisfy vital needs but they must live in simple, relatively non-technological, self-reliant, decentralised communities. Communities ought to be organized regionally, existing as bio-regions rather than as political organisations. Consumer desires should be kept at a minimum because material wants are seen as artificial. The ideal is a situation where local communities exist in a harmonious and self-regulating relationship with their surroundings. It has been called an "eco-topia". It is a community that seeks harmony with, rather than domination over, nature. (Des Jardins 2001: 224-227).

Deep Ecology is primarily an intellectual movement. However Earth First!, an activist movement, agrees with Deep Ecology's biocentric line, although the two have separate origins. Earth First! is known in the USA for its military activism and "monkey-wrenching" techniques in defence of the wilderness. Moreover, Deep Ecology has provided the philosophy that legitimizes their form of activism. However, one must keep in mind that Earth First! is inconsistent. Its ideology is a blend of individualism, militarization and Deep Ecology philosophy. It is said about Earth First! that they offend just about everyone. Nevertheless, a fact is that, due to the high level of media attention and the growing work that has been published, Deep Ecology has become the most popular activist movement in the USA and Europe. It is adhered to especially by white, middle-class, male environmental activist and academics. (Knill 1992: 234-235; Cuomo 1994: 88, 91; Sturgeon 1997: 41; Des Jardins 2001: 214).

Deep Ecology has been heavily **criticized** by social ecology and ecofeminism on a variety of issues:

One main problem is its **lack of social analysis**. Deep Ecologists do not address differences relating to class, race, imperialism, bureaucracies and more. Instead, they put all people together in one bundle called humanity. Assuming they are equal when they are not, Deep Ecology then accuses humanity of anthropocentrism. It is a fair criticism but Deep Ecologists find that the approach is necessary to see things in a larger perspective. Globally it does not really matter what the petty political and social arrangements are, even if they have dire consequences for certain individuals, races or nations. What really matters is to understand the total effect on the planet. In addition, the social aspect is not completely absent. Many Deep Ecologists argue quite explicitly about the evils of the dominant world-view and the need to challenge it. However, they argue in biotic, rather than social, terms

because their focus is on the destruction of nature rather than on social injustice. In this way, Deep Ecologists do serious injustice to those people who are also oppressed by the system. These include poor people and women. It is doubtful whether Deep Ecologists can reach their goal of a biocentric egalitarianism without attending to sexism, racism, classism and the complex interlocking economic and ideological issues. (Knill 1992: 232; Sturgeon 1997: 44; Des Jardins 2001: 229).

Deep Ecologists see hierarchy within human society as being irrelevant to explanations of the destruction of nature. Thus, Deep Ecologists do not see exploitation of nature as being political and hence do not have political solutions to change it. Instead, Deep Ecologists emphasize personal transformation. They believe that we can resolve social inequalities through individual transformation towards unselfishness. Thus, Deep Ecology makes a spiritual or religious cover for a political problem. However, failing to combine social domination with domination of nature Deep Ecologists will also fail to provide the basis for an adequate green theory. (Plumwood 1993: 17; Plumwood 1994: 70-71).

Deep Ecology suggests a significant **reduction in the Earth's population** in order properly to balance the functioning of the biosphere. Social ecologists see this reduction as eco-fascism since the poorest, hungriest, darkest and sickest are their target. There have been suggestions by Dave Foreman from Earth First! that we should allow the starving Ethiopians to die. He seems to find that those with a comfortable standard of living should keep their privilege, while the least advantaged human beings must be allowed to starve and die. Most Deep Ecologists, however, find that reduction of the population should be seen as a voluntary gentle decrease, not as a campaign to starve or sterilize poor people. However, Deep Ecologists fail to recognize an important point. Consumption is not always linked to population, rather it relates to the availability of consumables, which is determined by economic power. For this reason, USA with only 6% of the world's population can consume 30-40% of its resources. Many therefore find that Deep Ecology is uniquely an American ideology, a radical branch of the wilderness preservation movement. Also in this respect, Deep Ecologists are too general in their criticism. Lack of social analysis creates such major mistakes. Specifically the issue on population has cost Deep Ecology much support. However, in spite of this Deep Ecologists are almost dismissive of social critique. Such approach looks more like an acceptance of the status quo. Since it was social aspects that caused the present ecological crisis, dealing with them will demand social interference. (Knill 1992: 233; Sturgeon 1997: 54; Des Jardins 2001: 228).

Biocentric egalitarianism may be seen as replacing the human domination over nature with nature's domination over people. Thus many see Deep Ecology as being **misanthropic** or hating humanity. Due to their arrogance and male-violence, human well-being seems not to be a moral priority for Deep Ecologists. Earth First! for example have suggested that AIDS may be a revenge on humans from nature. However, most Deep Ecologists do not subscribe to such views, and do not deny humans intrinsic value. Deep Ecologists do not hate humanity. They give people an opportunity for Self-realisation because they see the survival of the biosphere as proceeding from such a position. Thus, one should not equate opposition to human centeredness with opposition to human per se. However, the conflict between nature and humans is real. It requires Deep Ecology to work out a clear hierarchy of vital needs between humans and non-humans. (Knill 1992: 233-234; Sturgeon 1997: 54; Des Jardins 2001: 227-228).

The Indian ecologist Ramachandra Guha finds that if Deep Ecology was put into practice it would have disastrous consequences. Especially poor and agrarian populations in under-developed countries would suffer. It would result in a displacement of millions of poor people in India. Deep Ecologists promote a new form of imperialism. They are Western, middle-class, white males who generalise their own experience and culture and then dictate to other people how to live their lives. Adapting diverse Eastern philosophies suggest that these are consistent and in tune with environmentalism. However, that violates their historical record. Eastern as well as Western cultures have manipulated nature and caused significant ecological destruction. Thus, Deep Ecology is not very helpful to the environmental concerns of people in the South. At best, it is irrelevant, at worst it is harmful to people who are already victimized by social and political dominance. (Des Jardins 2001: 228-229).

Agreeing with the above, ecofeminists have also developed their own specific critique of Deep Ecology: Deep Ecology has adopted the problems related to **dualism and rationality**. They see ecological problems as being caused by egoism and greed due to the separation between humans and nature. Thus, Deep Ecologists acknowledge that there is a dualist distortion between self and others, but they fail to analyse it. To overcome separateness and difference Deep Ecologists appeal to various Eastern spiritual traditions. They claim that these traditions can overcome the dualism by expanding the self to a transcendent self, which include everything within itself. Thus, nature is treated as a dimension of the self. This incorporation takes different forms depending on the author. However, whether it is called indistinguishability, expansion of self, transcendence of self, does not matter. All forms are unsatisfactory to create a satisfactory environmental philosophy. (Zimmerman 1990: 149; Plumwood 1993: 173-176).

When we try to see the self in all other beings, and all other beings in the self, it will mean the death of the other. Thus, incorporation can have a variety of dangerous consequences: A) Without boundaries between the self and the other Deep Ecologists believe that the need of the other will become the need of the self. However, there is no guarantee for this. The self may as well choose his own needs over the needs of the other. In such a case lack of boundaries means that the self may act arrogantly on behalf of others. Such treatment is a standard part of subordination of women, slaves, colonised and animals. We can only care for another if we distinguish ourselves from the other. B) Deep Ecologists try to overcome the egoism versus self-sacrifice dualism. However, if a person fails the Self-realisation, which is highly likely in reality, expansion of the self means in fact expanding egoism. The effects of that are not difficult to imagine. C) Expanding one self means that the individual loses his integrity and is identified with the whole. Such an abstract view fails to respect the existence of independent living beings. Thus, individuals can be subordinated for the good of the whole. The result would be that people could be sacrificed for the good of specific natural organisms. D) It is difficult to talk about selfhood at all when relationships, which are essential for any conscious idea about the self, are disregarded. E) By its transpersonal self Deep Ecologists choose universal and impartial identification with nature over particular attachment. Thus, Deep Ecologists have taken over the framework of detachment, impartiality and impersonality from the traditional rational ethics, without doing any critical analysis. It has therefore also taken over all the limitations and failures of this perspective, which already is criticized by ecofeminism above. It breeds indifference and a failure to respond to need. It strengthens domination by inferiorizing particular, emotional, and kinship-based attachment related to traditional people and women. And it places superiority squarely on rationality, a perspective developed by the white Western male. Cheney (Zimmerman 1990: 146) agrees with this. He has observed that Arne Næss speaks about rights for all. However, the use of rights belongs to a conception that sees human beings as isolated, autonomous egos that choose to limit competition among themselves by according each other rights and duties. This betrays a masculine, atomistic, dualist conception of society linked to androcentrism and patriarchalism. Salleh (1984: 343-344) adds that Næss and other Deep Ecologists are clearly trapped in the traditional, Western paradigm. Their writings are of a highly academical scientific standard using positivistic and objective notions, which result in rational and linear solutions to problems. This is difficult to combine with a call for a rethinking of Western metaphysics, epistemology and ethics. (Zimmerman 1990: 149; Kheel 1990: 136; Plumwood 1993: 178-182).

Thus, Deep Ecologists seem to be adopting an androcentric world-view. Their description of the self is male. When this male self incorporate the other, the other will be identified according to the interest of

men. If that male is patriarchal, we are back to where we started: A domination of nature, women and Others based on dualism. It is a bit ironic that a position claiming to be anti-anthropocentric reduces questions about the care of nature to questions of realisation of the human (male) self. Deep Ecology is a closed system like patriarchalism. It does not allow for the other to be different and play an active and equal role in the interaction. To create an equal relationship we need to affirm difference and continuity. This would require an acceptance of the diversified elements like human and nature, men and women etc. (Salleh 1984: 341; Kheel 1990: 129; Plumwood 1993: 173-176).

Sturgeon (1997: 45) finds that Deep Ecologists are trying to overcome a masculine alienation from nature, rather than a human one. The project fails because Deep Ecologists are unable to show how to overcome the masculine sense of self and the kind of ethics this causes. The fusion with nature is the flip side of dualism. It allows for only two choices in our relationship with nature and other human beings: Either as a part of ourselves or as a stranger available for exploitation.

Zimmerman (1990: 142) finds that Deep Ecologists need to become more aware of concepts like self, body, nature and other. These are shaped by patriarchal categories, based on dualism. One cannot eliminate dualism, when one adapts its categories. Deep Ecology will only truly become deep when they include an analysis of such concepts.

Salleh (1984: 344) finds that the suppression of the feminine seems to be universal. In addition, Buddhism and other traditional Eastern spiritual traditions pay no attention to the inherent masculine-feminine hierarchy contained in the metaphysics of the whole. It is not just a suppression of real, live, empirical women but also equally a suppression of the feminine aspect of men's own constitution. The deep ecology will not happen before men are brave enough to rediscover and love the women inside of themselves. And women too have to love what they are, if we are to create a better world. Patriarchalism has damaged both. (Salleh 1984: 345).

Ecofeminists are weary of holistic philosophies that transcend the realm of the real individual being. The deep, holistic awareness of the interconnectedness of all of life must be a lived experience in relation to particular beings as well as the larger whole. It is important more concretely to analyse the consequences of all abstract ideals. Since we are human beings, we can only behave towards non-human beings in ways that is derived from our human character. The difference creates moral communities in which people understand how they care about each other, themselves and nature. We need to re-establish the human community and to learn to care for each other again. Only then will we

be able to extend our concern appropriately to the needs of non-human beings. Thus, ecofeminists include context. We need to see concretely what human beings are and what non-human beings might be for us and thus what kind of care may be possible. The limits are set by one's own ability to respond in a caring matter. (Zimmerman 1990: 151-152; Kheel 1990: 137).

Conclusively Salleh finds that ecofeminism offers a deeper analysis and understanding, which is lacking in Deep Ecology, about the environmental crisis. The depth of ecofeminism can be located in the complexity of its consideration of environmental issues and problems. Birkeland (1995: 65) agrees to this. Since social ecology and Deep Ecology do not address the dualised male-female in themselves and society, they unconsciously perpetuate the notion of the feminine as a negation of the "real world" of men. This excludes a morality based on empathy and cooperation. Instead, both perspectives offer partial solutions. Social ecology offers rationalist strategies, Deep Ecology spiritual ones. It means that both fail to satisfy the need for a holistic, integrated perspective. Finally, Karen Warren wonders how deep any particular form of deep ecology may be when it ignores gender issues. If we are to create a new politics appreciating the potentials of all beings, then men's openness to the views of women is an essential part of the program. (Oelschlaeger 1993: 40; Cuomo 1994: 88-89).

4.7.6. Radical environmental theories and their cooperation

Being alternatives to the dominant world-view one should expect that the three oppositional perspectives could agree on an approach; that they would cooperate; and that they in general would have a united front. One should also expect that being in opposition would develop sensitivity to other forms of opposition, in practice as well as in theory. But that is far from the case. Each seems to be wrapped up in its own approach and refuse to acknowledge the others. (Knill 1992: 199).

The prominent male theorists aligned with **social ecology and Deep Ecology** have occupied most of the space in "the green debate". They have persistently conducted the debate as a dialogue for two. Both have neglected the important contribution feminism and ecofeminism has made and continues to make to the construction of a coherent perspective. Exclusion of ecofeminism from the debates indicates the widespread sexism in radical environmentalism. (Plumwood 1994: 65; Sturgeon 1997: 50).

Much of the debate between Deep Ecologists and social ecologists takes place in USA. It has largely been conducted in a negative spirit. The debate appears intolerant and destructive. Both are trying to exclude common ground and maintain territories. Neither offers much hope for reconciliation.

Newcomers to the debates are forced to take sides, where no sides should exist. Such arrogant behaviour is poor exhibition from prominent people who promote non-domineering perspectives. Such people are not expected to inferiorize others or trying to absorb them. Best chance for change must be to include as many of those who desire changes as possible. Therefore, acceptance of difference and efforts to understand inter-connections must be maximized. (Knill 1992: 234-235; Plumwood 1994: 66, 72).

The relationship between **Deep Ecology and ecofeminism** is also poor. Deep Ecologists do not bother to answer the ecofeminist critiques, or to familiarize themselves with the literature, before criticizing ecofeminism. Warwick Fox took up the debate with two male ecofeminist authors Jim Cheney and Michael Zimmerman. This strategy of taking men's argument even about feminism more seriously than similar arguments or even better ones made by women is a familiar experience for women in a sexist society. (Sturgeon 1997: 48).

The tendency of Deep Ecologists is to subsume ecofeminism in order to silence them. Fox claims that ecofeminism simply adds concerns about gender equality to the foundational position of Deep Ecology. Others have gone so far to say that ecofeminism is a derivative of Deep Ecology. Knill (1992: 213) finds that ecofeminism emerged from and placed much of its focus on a critique of Deep Ecology. However, ecofeminism is not born from its debates with Deep Ecology. Ecofeminism has a long history within feminism. The sexism in radical environmentalism, however, created the basis for a feminist rebellion. Feminists challenged male leadership and patriarchal thinking in environmental contexts in order to make room for a feminist analysis. Often this was not received positively and as a reaction, ecofeminism emphasized certain concepts. In opposition to the holism in Deep Ecology, ecofeminists developed a distinct philosophical version. It was a contextual ethics oriented towards a relation of self. However, there is much more to ecofeminism than these concepts. (Sturgeon 1997: 31,45,48,50).

The relationship between **social ecology and ecofeminism** does not fare much better. Social ecology and the second wave of feminism had close ties, however over time tension began. This was mainly due to the secondary place feminism played in Bookchin's social ecology. Despite his activist ties to feminism, his theoretical practice tended to exclude these connections. The analysis of sexism was underdeveloped in Bookchin's conception of social ecology from the beginning. He points to the domination of man-by-man, stemming from the patriarchal family. The domination of women by men, or the relation of this domination to nature, is not considered explicitly. This point would have to be

part of an ecofeminist analysis. Hence, Bookchin does not engage in a feminist analysis. (Sturgeon 1997: 33-34, 36).

A second cause of tension was that ecofeminism criticised Marxism, Enlightenment rationalism, and evolutionary development. These are all important to Bookchin's theory. It consequently became increasingly difficult to contain ecofeminism as a subsidiary theory within social ecology. In addition, a break was felt necessary. (Sturgeon 1997: 36).

The final break came from tension caused by the complex interrelations between ecofeminism and feminist nature based spirituality. Practitioners of these forms of spiritualities were very active members of non-violent, direct action movements. Bookchin found feminist spirituality the worst form of a-political mysticism. He was not able to see that their rituals were helpful in producing group coherence. In order to legitimate his critique Bookchin asked his student Janet Biehl to do his work. In 1991, she wrote the book "Rethinking Ecofeminist Politics". She sets out to criticise the spirituality within ecofeminism but ends up in denouncing ecofeminism itself as a form of feminist spirituality. (Sturgeon 1997: 36-38).

Biehl's book is in many ways misleading. It is at times directly dishonest and unscholarly. It is trying to reduce ecofeminism to its most biologic, essentialist and apolitical manifestations, by wilfully ignoring the work of ecofeminists who do not fit into Biehl's categories. This is regrettably a technique used by many critics of ecofeminism, and the problem is compounded when they rely on Biehl's critique. Her book has become social ecology's critique, and the definition of ecofeminism that has mattered publicly. Biehl's book marked the moment when social ecology and ecofeminism separated. Thus, Bookchin ownership of social ecology has been a serious obstacle to the popularity of ecofeminism. As long as he retains ownership of social ecology, an independent identity for ecofeminism is a requirement for its full development. (Sturgeon 1997: 36, 38-40).

The conflicts between the three radical environmental theories relate to what they see as the root causes of the environmental problems and thus to its solution. If one overlooks the more personal tensions between individual owners of theories, one wonders **if the theories are mutually exclusive or in some way compatible**. Knill (1992: 237) finds that they are fundamentally complimentary. He sees all three as part of a paradigm shift. Each however has a different focus, which should be expected when it comes to major changes. Social ecology and ecofeminism provide social models to correct social imbalances. Deep Ecology is inadequate in this area. However, rooting out social inequalities

may not secure bio-spherical egalitarianism. Hence, Deep Ecology can follow on from social ecology and ecofeminism. Deep Ecology's Self-realisation approach can make certain that nature will not be dominated in an egalitarian human society. In this way, all three perspectives are relevant. (Knill 1992: 232, 236-237).

It is an attractive proposal, however, Knill may have overlooked some important fundamental differences that prevent the theories from becoming compatible. The difference between social ecology, Deep Ecology and other environmental ethicists on one hand and Ecofeminism on the other hand are fundamental. The difference relates to the way in which questions about knowledge and values are asked and answered. Both Deep Ecology and social ecology have attempted to establish the objective nature of environmental values and a rational definition of the self. Ecofeminism has alternatively adopted a post-modern deconstructive form of theorizing, born out of its historical relationship to feminist theory. Deep Ecology and social ecology are therefore still, to a certain extent, working within the Western paradigm. They both endorse some of the traditional assumptions about ethics, especially Enlightenment rationality and dualism. It is therefore difficult to view Deep Ecology and social ecology as part of a paradigm change. The traditional, mainstream, Western views are incompatible with ecofeminism. Warren (2000: 91) therefore finds that ecofeminism should not be a part of the category "radical environmental ethics". (Gruen 1994: 120, 135; Cheney 1994: 158; Murphy 1995: 8).

Ecofeminists do not want to compete, rather to cooperate, with similar transitional movements. Since oppression is an interlinked web, also opposition against it must network. Thus oppositional movements must be forming a single unit, but with room for many different and independent movements. Each must retain its unique identity, while having overlapping interests, cooperation and alliances with others in a wider but coherent system. In the debates with Deep Ecology and social ecology, the full analysis and understanding of human domination of nature became distorted and suppressed. However, Plumwood (1994: 66) finds that ecofeminism can provide such an understanding. Ecofeminism can in her opinion make a very promising foundation for "a green theory". It can solve problems of coherence and provide recognition of multiplicity without creating a new hierarchy of oppression. (Plumwood 1994: 72-73, 79-80).

Conclusively the foundation for an adequate green theory must embrace feminism, or it will fail. Without feminism in environmental ethics the historical domination of nature, Others and women is lost. All are part of a patriarchal conceptual framework characterized by a logic of domination and

dualism. Without a feminist analysis environmental ethics becomes male-gender bias and thus incomplete. (Warren 1990: 144).

4.8. Ecofeminism and post-modernism

Ecofeminism are by many seen as belonging to the post-modern era. The purpose of this section is to consider to which extent ecofeminism may have similarities with the post-modern way of thinking. To do this it is necessary first to present the post-modern view. After that, two divergent, equally valid perspectives are presented.

4.8.1. Post-modernism

Post-modern philosophy developed in opposition to modernism. It sees modernism as the culmination of the Enlightenment project meant to rationalize human culture and society. Modernism is consequently criticized for its unquestioned priority of rationality. It is also doubted for its efforts to develop a universal, integrated theory of the universe based on scientific principles and methods. (Hatch 1997: 44).

Modernism believes that there is an objective, physical reality that exists independently of our knowledge of it. Hence, modern science is created through independent observation. The search is for general laws and measurements. This relates to natural science as well as social science. By the scientific method it can be determined which individual theory about the world is most accurate. Judgement of truth is based on empirical comparisons between a theory's predictions and relevant facts collected about the world. In this way, incorrect theories can be removed from the collective body of knowledge. The outcome is universally valid knowledge. (Hatch 1997: 6, 8, 48).

Post-modernists do not believe in an objective world neither in the scientific method. Theories cannot be tested against the real world because reality is subjectively defined. Hence, the focus is on meaning and interpretations. The real world is constructed from our experiences, ideas and statements about it. Reality is therefore defined by subjective experience and no claim about reality is independent of the observer. One may then conclude that modernists take an objective stance while post-modernists are subjective. Post-modernists, however, find the subjective-objective dualism arbitrary. Dualisms are seen as being the product of social and cultural processes at a specific point in time in a particular place. The objective-subjective distinctions are used by modernists as a means to define a unified knowledge system and its method. Post-modernists oppositely find that realities are constructed by different views, which are complementary, conflicting or contradictory. Rather than conforming to a

universal world, multiple perspectives give people the freedom to construct their own world. This diversity also gives a possibility for a better understanding of other people's construction. Since there is no universal standard against which one can measure the best world, there is also no guarantee that one knowledge system is greater than another is. (Hatch 1997: 6, 8, 48).

Modernism's ideal of a universal knowledge is labelled as "grand narrative". Post-modernism oppositely finds that knowledge is produced in so many different bits and pieces that one cannot expect that it will end up as an integrated and singular view. Post-modern knowledge is seen as being multiple, fragmented and contradictory. Nothing can be taken for granted as science tries to make us believe. Post-modernism therefore contradicts the idea of a unifying, single, all-encompassing truth. The focus on diversity does, however, not mean that anything goes. Post-modernism is relativistic in the sense that it abandons universal criteria for truth, but it does not sacrifice standard. Post-modernists view questions of right and wrong, good and bad as social constructs that should be redefined based on personal reflection and practice. Post-modernist consequently challenge the modern notion of truth, and its search for one best way. They challenge the scientific claim that sensory perception is the true and only way to knowledge. Sensory perception is not more truthful, and may even be less valid, than other ways of knowing, like intuition or aesthetic experience. When sensory perceptions cannot serve as a basis for objective empirical tests or theories, the scientific view of knowledge is open to debate. Post-modernism therefore reinterprets modernism as a series of truth claims, supported by rhetoric from the elite about how scientific and rational modernism is. (Hatch 1997: 43-45).

Post-modernism also critique the modernists for being anti-environmental. They oppose the modernists' way of exploiting limited natural resources for competitive advantage while silencing the demands for an ethics of environmentally responsible actions. That is not rational neither scientific. (Hatch 1997: 64).

Post-modernism also opposes the modern view of human progress. It challenges the idea that human civilization can progress towards some mutually desirable future, and that science and technology leads to a better life. These are seen as being unexamined assumptions, which are called "the progress myth". Those in power use the myth for maintaining their vested interests in the status quo. (Hatch 1997: 45).

Post-modernism finds that it is impossible to define a mutually desirable future due to human diversity. Instead fragmented knowledge of the world will breakdown the boundaries between nations and

peoples held together due to the industrial era. This results in mixing of cultures, politics and religious systems. Predictions of the post-industrial and post-modern future are that we will have smaller, more decentralized, informal and flexible communities that will be service and information oriented based on computer technology (the network society). The changes are assumed to be participatory with loosely connected organisations, which contain paradoxes, contradictions and ambiguities. However, the rapid sharing of information and absorption of knowledge means that change become increasingly unpredictable. This creates a paradox. The primary aim of modern knowledge was to generate certainty by prediction and control. Instead, modern science created the conditions, which made its own knowledge less and less useful for certainty, prediction and control! (Hatch 1997: 45).

The post-modern method is based on "deconstruction". It is a method meant to reduce an argument to its basic assumptions, denying those assumptions by asserting their negation, and considering what this implies about the original argument. Thus, a post-modernist takes nothing for granted. They deconstruct all claims of truth. They want to determine who benefits from a particular argument or world-view. The deconstruction will free a person from former totalizing habits of mind, like searching for one right answer or believing that all think alike. It will allow some critical distance from one's socially and culturally defined ways of seeing the world. (Hatch 1997: 46).

Post-modernists particularly like to problematise and deconstruct power. In the industrial world power is accumulated at the top of the hierarchy. These leaders argue that society benefits from the power of their organisational and structural management based on rational techniques. Post-modernists oppositely argue that the power of the leaders is based on their claims to rationality. Such rhetoric works to reproduce dominance, since dominance of the capitalist ruling elite was the objective of modernism in the first place. This scenario undermines democracy, thus the post-modern way of addressing the imbalance is to give "voice to silence". It involves seeking participation by the marginalized members of society like women, racial and ethnic minorities, the oldest and the youngest. When we deconstruct and listen to things normally not said, we can undermine old concepts and dispute the categories into which people have been placed. This will make us realise alternatives to a world taken for granted. The boundaries that we assumed existed between things and groups will disappear. The result is that the world will come under the conscious control of people. Such a process demands "self-reflexivity". We need to discover which assumptions we use when we produce and apply knowledge. We must be willing to try out alternative, even contradictory, perspectives to avoid the traps of dominance hidden within a singular point of view. When multiplicity is increased, also the conception of self is destroyed as a singular identity defined by modernity. Foucault called it

to "disappear man". Thus post-modernism wants a revolutionary change done by overturning our taken for granted assumptions about ourselves, others and social organization. (Hatch 1997: 46-47).

A key to using the post-modern perspective lies in the focus of the way modernism has used language to construct reality and identity. The use of terms like "The First World" and "The Third World" implies a social order with roles of dominance and submission that seem natural if the labels are accepted. Instead, postmodernists motivate marginalized people to redefine their identities by creating their own, more powerful labels and forcing those in position of dominance to use them. It opens up change in speaking habits and a discourse that may equalize the parties. Although these linguistic strategies do not perform miracles, there is a reason to believe that they unleash transformative powers. For example, the modernist view of the environment is de-natured. They give attention to capitalistic concerns only, while reducing the natural environment to a bunch of resources available for exploitation. Such rhetoric has silenced concerns about sustainability and justified irreversible abuses of our natural environment. The focus on control and prediction means that modernism finds uncertainty undesirable. However, if that assumption is deconstructed and its negation asserted uncertainty becomes a thrill. Post-modernists consequently see change not as uncomfortable but as a welcomed experience. If deconstruction is successful, one may then assume that transformation may include replacement of the modernist theory with post-modern theories. But that is not so. Post-modernists find that theoretical abstraction disguise hegemonic intentions. An example is the way the North by its modern development theories have undermined and exploited the South. Deconstruction is by post-modernists seen as an emancipatory move. The idea is to free oneself from modernist habits of thoughts. Rather than in a post-modernist theory, alternatives should be sought among the indigenous peoples of the world. These voices have not been heard due to the modernist hegemonic use of power to silence opposition. (Hatch 1997: 94-95).

In sum, post-modernism introduces healthy scepticism about categories. We need to ask what assumptions lie behind these categories, and whose voices are silenced by a particular construction of reality. It is not an aim in itself to stop categorizing, but to think, talk and act in full consciousness, or to be self-reflexive. (Hatch 1997: 97).

In reality, one cannot completely categorize postmodernism as it is done above. Post-modernists challenge distinctions, undermine categories, blur boundaries and expose the motivations that produce them. Thus, post-modernist may find that the above explanations reproduce and legitimize the modernist perspective. It makes post-modernism yet another object to be studied by objective

methods! Hatch (1997: 52) compares post-modernism with the metaphor of "**collage**". It is made up of bits and pieces of knowledge, which together form a new perspective. It is an art form where objects, and pieces of objects, are created into something new - a piece of art in its own right. Combining images can create powerful ideas. It can challenge and stimulate people to change their accustomed ways of seeing the world. It reintroduces interest in contradictions, ambiguity and paradoxes, and it redefines issues of power and change. However, of course post-modernists would never agree to be compared to any one metaphor, instead multiplicity of metaphors must be offered. (Hatch 1997: 50, 52, 54-55). The metaphor of a collage is strikingly consistent with that of Warren's "**quilting**" for ecofeminism. Hence, post-modernism and ecofeminism seem to have something in common.

4.8.2. Ecofeminism seen as a post-modern perspective

Jim Cheney is a post-modern philosopher and a declared ecofeminist. He finds that ecofeminism by nature is a post-modern perspective. His ideas are developed from a post-modern critique of the modern universal theorizing:

In modern philosophy, the agent does not live in his own community. Instead, he conforms to an objective norm, which include suppressing the private self and identifying with a universal, autonomous entity outside the human body. Hence, the modern agent is excluding the specific historical, cultural and ecological context. Such a-contextual activity characterizes modern theorizing about the world. It pretends to reach true and universal knowledge about the cosmos, nature, humans and morality from outside the socially constructed world. The aim is to arrive at a sameness of knowledge that is socialized into people. In reality, it is an ideological tool designed to coerce agreement and to make people adhere to a specific conception of reality. By application of its universal truth the dominant culture controls and oppresses all else. It becomes a totalizing epistemology and an instrument for colonization and cultural imperialism. Specific members of a dominant group are drawn to that special power of naming "the good" and "the true". The price they pay for such power is alienation. When the unchanging abstract world of truths becomes home, one must separate oneself from the private, the personal, and the environment. This has for men often been a flight away from women and nature, which has led to the oppression of both. Such a flight in Cheney's opinion (1994: 161) is a response to deep structural problems within the culture. Taking up residence in theory produces a world where certainty prevails, which gives safety. Modernism provided such a setting. Members of its dominant group are able to create a perfect world in which they can define all other things and people according to what they need them to be. Theorizing about

the other often involves a logic of domination. The subject and the object are separated and the definition of one order is under the control of another order. This creates a hierarchal and exploitative relationship between them, which becomes the prerequisite of meaning. Consequently, the cost of living in an abstract, theorizing and certain world is alienation of self, blindness for differences and domination of others. (Cheney 1994: 160-162, 166, 168).

The modern world has trapped us inside theoretical words, but the post-modern deconstruction of these words can free us. We can re-connect via the narratives and stories expressed from various contexts and human beings. Such stories bridge the object and the subject. These narratives are based on history, beliefs and values. They can help us to better understand the self, the world, the community, the land and the ethical responsibility between all. This is where ecofeminism comes in. Its focus on context, narratives and situated knowledge gives a renewed access to the discourse of traditional cultures. Their mythical images are able to locate us in a moral space, which at the same time is the space where we live physically. Thus, morality becomes the lived reality of facts. Often in tribal communities, nature is included within the moral community. The land speaks to people and vice versa. Both shape the interaction. Each defines the other. Such tales are not universal truth, they are local truth. It may be voices of multiple women deconstructing the totalizing and domineering patriarchal discourse. Those stories are important for the deconstructing process. (Cheney 1994: 171-175).

Deconstruction regenerates diversity, which leads to non-domination. The belief in sameness is not universal, nor is it desirable. Instead, it gives a certain kind of self-sufficiency with no interest in others. Difference oppositely inspires a healthy interest in others. When we respect difference, we try to understand the other. The result is not to gain "power-over" the other. Instead, we become empowered when we know the other, the world around us and our inter-connection. Difference between knowers necessitates interactive construction and a forum to negotiate reality and the values implicit in that construction. This is a voluntary and non-domineering process. Hence in order to be non-domineering we need to develop a genuine relationship with nature founded on a un-dualised self-other recognition and a healthy interaction based on care for the other. Consequently, ecofeminism and postmodernism are in Cheney's opinion a natural combination. (Cheney 1994: 116, 166, 168).

4.8.3. Ecofeminism seen as a perspective beyond post-modernism

Not all perceive ecofeminism as Cheney does. Patrick Murphy, who is also an ecofeminist, sees a distinction between ecofeminism and post-modernism: The latter is purely theoretical, while the first is founded on practical action. The latter focus on the individual, while the first finds community necessary for generating non-domineering futures. The latter is an academic activity for and by the white, modern European male. The first has an international focus on women, poor and para-modern people. Post-modernism has not shaken off the modernist alienation from nature, while the ecology part in ecofeminism has firmly grounded the perspective in nature. (Longenecker 2001: 6).

Post-modernism is locked in a negative critique of the present. It is limited to its discursive terrain, and thus neglectful of materialist and biospheric analysis where genuine transformation must take place. Ecofeminism is equally critical about the present, but it also focuses on the future. Attention to the present situation serves to generate a level of understanding of the current condition on which resistance can be based. However, resistance is not an end in itself. It is part of a process of transformation of the human condition, which includes ending all forms of oppression. Such a move is based upon a belief that human agency can effect the necessary changes that may open up different ways of living than currently available. Thus, while using the beneficial aspects of post-modernist critique, ecofeminism is using more than resistance as the primary site of struggle. The construction of self and the assertion of agency will therefore have to be developed beyond post-modernism. (Murphy 1997: 41-42, 44; Longenecker 2001: 6).

Often post-modernism is too obsessed with the idea of the singular identity and lacks a genuine theory of community. The struggles of the oppressed around the world are much more concerned with the idea of maintaining communities and conserving culturally and environmentally relational identity. Murphy (1997: 44) agrees with bell hooks who finds that the struggle for subjectivity relates to construction of identity that is both oppositional and liberatory. The oppositional can be helped by the post-modern methods, but the liberatory depends upon community and people. Such a position is emphasized in ecofeminism particularly regarding indigenous people, poor people and former colonised people. These are rarely the focus within the post-modernist theorizing. Post-modernism in fact ignores that people may be situated in conditions, which is distinct from their conception of modernity. (Murphy 1997: 44; Longenecker 2001: 6).

All is also not well with post-modernism. Murphy finds that post-modernists on one hand criticize modern domination, but on the other hand, they copy it. The commitment to the intellectual over

transformative social action makes post-modernists unable to shake off alienation. The post-modern mind is alienated from nature, which makes the perspective ambivalent. Early post-modern literature and art even continued to objectify women as practised by modernism. Thus, both modernism and post-modernism are bound up with alienation and objectification of the natural world and people. The result of this attitude is that post-modernism focus on the consumer society, which depends on unlimited natural resources and a master narrative of man's domination over Others. While post-modernism has challenged the concept of progress, the fascination of many of its theorists with technology leaves it disembodied. Post-modernism is therefore too much part of the commodity culture to be applicable to the biospheric ecology. Post-modernism seems to be ignorant of the organic limitation to satisfaction of desires and ignores the need to re-conceptualise human desires ecologically. Consequently, feminism is needed to generate agency out of post-modernism and beyond. Ecology is needed to ground that agency. This may promote a break with the destructive economies of post-modernity based on the network society and its global capitalism. (Murphy 1997: 47-48; Longenecker 2001: 6).

Post-modernism tends to rely on a narrow range of European based, predominantly white male thinkers deeply affected by the 2 WW. Feminism tends to draw on a much wider range of thinkers. Many of these are also more inclusive of other modes of theorizing beyond formal academic practices. In addition, feminism is more international in its scope. With its grounding in agency, community, nature and transformative action, and its clear vision of a different future, ecofeminism is strongly committed to international multi-cultural dialogue. (Murphy 1997: 48; Longenecker 2001: 6).

Ecofeminist practice is a worldwide phenomenon. Ecofeminist actions are taking place in many countries arising from the awareness generated by specific experiences. Many of these movements are conducted by women whose cultures and economies are neither modern, nor post-modern but best can be called para-modern. They come from indigenous, situated life styles to confront the incursion of multinational capitalism, which is domineering towards people, exploitative towards nature and culturally destructive. Thus, ecofeminism is first and foremost a practical movement for social change arising out of the struggles of women to sustain their families, communities and themselves in the face of mal-development and environmental degradation. Ecofeminist actions are consequently not being initiated by a theorizing consciousness. Those who articulate the philosophy of this movement do so in the belief that such theorizing will assist the movement by increasing the self-consciousness of its participants. Ecofeminist theorists also want to present their beliefs to those who are open to considering the viability of its message. Maria Nzomo (Murphy 1997: 43) finds that post-modernism

needs to adapt itself to feminism and third world knowledge if it is to acquire significant and practical relevance for women, especially in an African context. This means to adopt a position that has largely been absent from the post-modern critique, that of the para-modern cultures. (Murphy 1997: 48-49, 53; Longenecker 2001: 6).

Conclusively ecofeminism goes beyond post-modernism. In addition to its ability to resist the current oppression, ecofeminism has in Murphy's (1997: 48) opinion the potential to generate liberty. It can construct a self and assert its agency; inspire liberation of community and people internationally; it can extend agency to the non-human; deconstruct self-other dichotomies; it can help to imagine a kinship with nature, all done practically. (Longenecker 2001: 6).

4.9. Ecofeminist spiritualities

When we discuss ecofeminist spiritualities, we discuss empowerment, power and resourcefulness to change the world. Spiritual ecofeminist Charlene Spretnak sees spirituality as a source of inspiration for women in their struggle to change social realities. Starhawk (alias Miriam Somos) is a practitioner of Wicca (witchcraft). She sees rituals as a way of generating energy for political action. The image of the Goddess is a way of understanding the immanence. Since men have their Gods, also women can have their Goddess. Such an approach to spirituality is no more irrational than the use or misuse of religion made by male-dominated political perspectives like Tony Blair's Christian Socialism and George Bush's born-again Christianity. Their potentiality as a means for empowerment and inspiration is what makes ecofeminist spiritualities important. Thus, one should not see ecofeminism and its spiritual branch as a religion. People of any belief can join in the ethical and political insights it offers. It is more a way of perceiving human beings and their needs holistically, hence including our spiritual needs, and using it as a source for empowerment. The increasing denial of spiritual needs is potentially as dangerous as its opposite; religious dogmatism. Experience shows that something will always fill a spiritual vacuum. Hence caring for the earth and own empowerment would come as a welcome relief from gratifications like economic greed or military violence. (Birkeland 1995: 57; Mellor 1996: 152).

Ecofeminists disagree about the nature and place of spiritualities in ecofeminism. Some find that spiritualities are a necessary part of any ecofeminist politics and philosophy. Others claim that spiritual ecofeminism reinforce harmful gender stereotypes about women as being closer to nature than men, as being less rational and more emotional than men. Still others find that ecofeminist spiritualities occupy an important place in ecofeminist theory and practice. (Warren 2000: 193).

Warren (2000: 194) finds that ecofeminist spiritualities deserve serious philosophical attention for various reasons: They have played an important role at the grassroots level in the emergence of ecofeminism as a political movement. The kinds of protest actions that are called ecofeminist often grow out of and gain their strength from spiritual traditions. Ecofeminist spiritualities raise issues about the relevance of rituals and symbols. They also exercise values of care, non-violence, love and friendship. These are important to an ecofeminist ethical theory and practice. Ecofeminist spiritualities also raise important issues about the link between women, Others and nature central to ecofeminism. They have helped to inspire art, music and poetry, and resurrection of long forgotten sacred myths and rituals expressing feelings of ecological wisdom and wholeness. They convey claims of knowledge, which must be important to a philosophy, that focus on "situated knowledge". Finally, many women in various cultures claim that spirituality is important to their ability to live under conditions of oppression. Consequently, such claims must be taken seriously. Warren (2000: 195) personally finds that ecofeminist spiritualities are important in that they have the potential to change patriarchal and other systems of oppression. (Spretnak 1990: 6; Warren 2000: 194-195).

Ecofeminist spiritualities are **feminist**. It means that they are committed to elimination of male-gender privilege and power over women in their myths, rituals, symbols, language and value system. They are **spiritualities**. They express faith in a life-affirming power, other than and in addition to one's own individual ego. This power may be called energy, force, being, deity(s), God or Goddess. They affirm that this power is greater than the individual ego. They are **ecofeminist**. They express a twofold commitment to challenge harmful women-Others-nature interconnections, and to develop earth-respectful, care-sensitive practices toward humans and earth others. As a minimum, an ecofeminist spirituality must meet the border conditions of an ecofeminist philosophical quilt: It should not contribute to the maintenance of "isms of domination". (Warren 2000: 198).

Like all other spiritualities ecofeminist spiritualities embody a kind of personal power and empowerment. However, they also express interpersonal and political power. If we define power as the ability to mobilize resources to achieve self-determined ends, power is not inherently positive or negative. Seen from an ecofeminist perspective power is morally impermissible when its exercise creates or maintains unjustified relationships of domination and subordination. The use of power is appropriate when it does not. Patriarchy involves the illegitimate uses of power. Thus, the legitimate use of power depends on whether it reproduces beliefs, values, attitudes and behaviours of unjustified domination. (Warren 2000: 199-200).

Use of power in violent and aggressive manners is by most ecofeminists seen as resourcelessness. People turn to violence when they feel powerless. Pacifists and some ecofeminists find that there are always alternatives to the use of violence. Spirituality provides the basis for such non-violent actions. Hundreds of grassroots activists globally are examples of people who perform spiritually based, non-violent protest actions against domination. Hence, ecofeminist spiritual practices refuse "to dismantle the master's house with the master's tools". (Warren 2000: 201).

However, a commitment to non-violence does not relinquish one's anger. Anger is a moral emotion. It has an important cognitive dimension, namely the felt conviction that one has been unfairly harmed in some way. Persons who refuse to feel or express anger, when it is in their best interest to do so, are accountable for their failure to recognize that they or others deserve better. (Warren 2000: 201).

Thus, appropriate use of anger is at the root of a feminist conception of non-violence. Non-violence involves the merging of rage with compassion. This dual nature gives non-violence a particular strength. It offers respect and concern, together with defiance and non-cooperation. On one hand, there is rage at the patriarchy and their destructive manners. On the other hand, there is compassion towards their victims. Rage alone will exhaust a person, and lead to resourcelessness, violence and destruction. Compassion alone stifles good energy and water down actions. However, when rage and compassion are combined "the revolution is lived every day". (Warren 2000: 202).

Care is an important issue in ecofeminist spiritualities. To care about a person is to be present to the other, to be actively attentive to the other, to listen, to learn, to receive from the other, to acknowledge and value the other as different from ourselves. If we fail this, we may see the other only in terms of our own needs, wants, desires and expectations. That would be to perceive the other arrogantly rather than compassionately. The notion of care, loving perception and being present to another person has therefore a spiritual dimension. To care means to empty our own mind of our own concerns and to be present fully for another person. It means to dare to see commonalities with the other, who is different from us. By such activity, we may find out that nothing human is foreign to us. All hatred and love, cruelty and compassion, fear and joy can be found in our own hearts. When we dare to care, we must confess that when others exercise violence, or kill, or rape we could have done the same, under the same circumstances. In a spiritual sense, developing the capacity to care involves the courage to see in ourselves "the bad person" - the tyrant, the murderer, the rapist, the abusive parent. It is more than a psychological ability to empathize. It involves courage and willingness to let go, to be receptive, and thus to receive grace. Ecofeminist spirituality is indeed about grace. (Warren 2000: 197, 202-203).

If we dare to care, and to enter into community with others through an honest recognition of our commonalities and differences, then we can create genuinely respectful, non-violent, care-based, intentional communities. In such communities, interaction is ordered from within the relationships and based on mutual agreement. These are creative alternatives to violence-prone communities, where order is imposed from outside through unjustified dominance. It is in this sense that ecofeminist spiritualities can make a difference. They can contribute to break the systemic, vicious circle of the unhealthy patriarchal social system. They can challenge the system by replacing faulty domineering patriarchal beliefs, values, thoughts, language, and behaviours with non-domineering ones. (Warren 2000: 204, 211).

Ecofeminist spiritualities provide survival and empowerment strategies. They can give power to those who dare to care. They can provide opportunities for like-spirited people, to be genuinely present for each other. Ecofeminist spiritualities can provide the space within which healing the wounds of patriarchy can occur. This healing may involve non-violent rage of compassion. It may involve a movement away from unhealthy, domineering, life-denying communities, towards healthy, life-affirming communities based on caring interaction and cooperation. These are communities of hope. (Warren 2000: 212).

Maybe ecofeminist spiritualities are only hopes and dreams, and not at all realistic in a scientifically fragmented and economic focused world. Spirituality is seen as being an altogether alternative category. It includes qualitative elements, which are non-empirical, and consequently it is not acknowledged inside science. However, if we admit that the present world-view has failed to create healthy societies, we may try alternative methods. We can learn about holistic lifestyles from the Australian aboriginals. They believe that *"if you are doing the right thing ecologically, the results will be social and spiritual as well as ecological. If you are doing the right spiritual thing, there will be social and ecological results."* Thus instead of reducing reality to quantitative elements only, we may try to become more systemic. We may combine science with metaphysics, parts with wholes, quantity with quality, masculine with feminine and yang with yin. Therefore, if we work towards a more holistic world-view, and towards more healthy social and natural environments, ecofeminist spiritualities are important in their creation. (Warren 2000: 213).

4.10. Criticism of ecofeminism and response

Ecofeminism has been **critiqued from** both **outsides** and inside the movement.

As mentioned above Janet Biehl criticised ecofeminism in her 1991 book "Rethinking Ecofeminist Politics". The fact that Biehl is a social ecologist plays an important role in her criticism. Firstly, because Biehl and Bookchin have a personal dislike for some individual ecofeminists/feminists, who are also part of the green movement in USA. Secondly, because Biehl's critique is an attempt to denigrate ecofeminism by which she hopes to promote Bookchin's social ecology as a better model for environmental ethics. (Buege 1994: 42, 59).

Biehl's criticism is mainly directed to some proponents of radical feminism and cultural ecofeminism. This makes her criticism specific. However, Biehl falsely presents her views as if they cover all ecofeminist versions. In fact, Biehl finds that her book is a devastating critique of ecofeminism in general. However, Biehl has wilfully ignored the work of ecofeminists who do not fit into her categories. She unfairly presents some positions and completely ignores other ecofeminist works that cannot be target for her criticism. Hence, Biehl's criticism does not touch three contemporary philosophical works of Karen Warren, Jim Cheney, and Val Plumwood. Their work was available at the time Biehl wrote her book. Overlooking such important contributions means that Biehl's work is based on poor research and poor knowledge about feminism and ecofeminism, all of which questions Biehl's own scholarly integrity. (Buege 1994: 42-43, 56, 60; Sturgeon 1997: 38-40).

Warren, Cheney and Plumwood have been leaders in developing the philosophical basis for ecofeminism. Buege (1994: 43, 46, 56) shows how their work does not fall subject to Biehl's criticism:

1) Biehl finds that ecofeminism has abandoned the entire Western tradition of scientific and scholar achievement, including its positive aspects like development of democracy, reason and scientific inquiry. (Buege 1994: 44).

Both Warren, Cheney and Plumwood are concerned about how mainstream philosophy has formed notions like reason, rationality, ethics and human existence. Understanding the conceptual framework, especially the Western oppressive ones, provides the criticism of the link between the domination of women, Others and nature. To understand conceptual frameworks one must have a deep knowledge about key concepts in the Western philosophical tradition. Thus, all three work inside Western history and philosophy, staying outside would undermine their own projects. (Buege 1994: 47).

Plumwood has made a thorough philosophical study about rationality as defined by the Western tradition. She is highly critical of the way reason is applied in philosophy. However, this does not lead her to suggest that we must abandon reason itself. Rather, we must install another, less hierarchical, more democratic and plural identity in its place. (Plumwood: 1993: 189).

2) Biehl finds that ecofeminism is based on biological determinism. It is the view that particular qualities can be attributed to an individual or a group solely or primarily due to their biological constitution. (Buege 1994: 44-45).

Both Warren and Plumwood have criticized those ecofeminists who base their perspectives upon biological determinism. Biological determinism is part of the patriarchal framework used to dominate women and nature. It assumes that inferior women and nature are biologically linked and distinct from superior culture and men. Thus accepting such views means to acknowledge domination, a view that falls outside the necessary conditions of an ecofeminist theory. (Buege 1994: 51).

3) Biehl finds that some ecofeminists depend on social essentialism. Essentialist theories claim that there is some universal nature that exists for a certain group of beings. Thus, women's closeness to nature depends on unifying traits, which is part of all members of both groups. (Buege 1994: 45, 52).

It is correct that some ecofeminists offers essentialist explanations for the women-nature link. However, such explanation can only explain difference not the value attached to the different parts. Difference does not automatically inferiorize. Essentialist theories can therefore explain difference between men and women, culture and nature. But they cannot explain that women and nature are devalued. Consequently, the account cannot explain what it hoped to explain. Plumwood's analysis of dualism oppositely explains the value hierarchies that operate in domination, which rely on more than difference. Although this analysis by Plumwood predates Biehl's book with 4 years, Biehl fails to credit Plumwood's accurate criticism of essentialist ecofeminist theories. In fact many of the criticisms Plumwood puts forward in her work, Biehl calls her own. Nevertheless, the two draw different conclusions. Biehl finds that ecofeminism should be abandoned, while Plumwood is a strong defender of ecofeminism. (Buege 1994: 52-53).

Warren also rejects social essentialism but admits that socialization is probably the most influential factor in shaping conception of women and nature. However, since socialization has different effects

on different people, one cannot universalise its influence. Thus, socialization in ecofeminism becomes in this way a collage of viewpoints that capture diverse experiences of particular women in their specific contexts. (Buege 1994: 53).

Plumwood (1993: 35) adds that women's association with nature reflects women's difference. Some women take pride in their special relation to nature. This need not be based on reversal of dualisms neither on essentialism. Such difference may instead be seen as being due to women's different social and historical position.

By her critique, Biehl is trying to marginalise ecofeminist epistemological practices. She moves from calling ecofeminism irrational to calling it for being essentialist. Irrationality has historically been used to essentialize "the other" as inferior. Thus when Biehl calls ecofeminist irrational she also states that her own epistemology is superior. Thus, Biehl uses oppressive patriarchal methods to dismiss works, which contest exactly those oppressive discourses! (Carlassare 1994: 60).

4) Biehl finds that ecofeminism lacks coherence, due to inherent contradictions, and lack of internal criticism. (Buege 1994: 45).

This criticism may come forward because ecofeminism is not one theory, but a concept for a variety of perspectives. The fact that ecofeminism is a theory-in-process may also give a similar impression. However, both as an overall concept and in the individual writings of the above three philosophers coherence and rigor is clearly applied. Cheney for example presents his version of ecofeminism as a post-modern environmental philosophy-in-progress. However, due to the emphasis on context he is prohibited from proposing an overarching theory that applies to all situations. It may be desirable for Biehl and some few ecofeminists to articulate a coherent, totalizing ecofeminist epistemology. However, Michel Foucault has warned about the danger this includes. Such programmes have usually led to abuse or political domination. Orthodoxy has the tendency to totalize power, to demand consensus, to authorize certain alliances and exclude others, and thus to limit political creativity. That would indeed obscure the many ecofeminist voices. (Quinby 1990: 122; Buege 1994: 53-54; Carlassare 1994: 60).

5) Ecofeminism fails in Biehl's opinion to propose a meaningful and useful environmental ethics. They fail to meet the criterion for clear explanation and argumentative rigor that applies to philosophical ethics and ethical theory. (Buege 1994: 45-46).

This criticism is more about difference in frameworks and convictions, than about ethics. Biehl and Bookchin have chosen a distinctively modernist stance. Environmental ethics must accordingly be ontological grounded, not socially constructed. It must be based on objective and rational facts in order for moral action to be universal. Biehl and Bookchin combine this modernist stance with their conviction that potentialities of human beings and human societies have an existence independent of any particular individual. These potentialities can be discovered. (Buege 1994: 54).

Ecofeminism conceptualise theory differently from modernists. Cheney clearly finds that environmental ethics must take a post-modernist turn. The modernist totalizing discourse must be deconstructed. No one have access to one single truth, and there are no cross-contextual facts that human can discover. Hence, in a post-modern framework Biehl's claim must be rejected. Post-modern theory is explicitly historical and attuned to the specific culture. Truth for post-modernism is the result of social negotiations and agreement reached in particular conversations. This is not relativism, as a modernist may claim. Donna Haraway calls it for "situated knowledge". (Buege 1994: 54-55).

Plumwood finds that we need a richer understanding of ethics. We need to abandon the preference for universal, abstract, and objective concepts and one-sided focus on a non-relational rational moral agent. Instead, we must give space to ethical concerns based on emotionality and particularity. It is the dualist construction of reason-emotion in traditional ethics that in a wider structural network dominate women, Others and nature. All parties are seen as belonging to the subordinate realm of the non-rational. Ecofeminism also reject ethical relativism. It is the position that there are no necessary or sufficient conditions for right conduct. Warren has argued that any feminist ethics will have some necessary conditions, which delimit the border of the ethics. However, the content is based on specifics. In order to engage in particular ethical problems the historical, cultural, material and social conditions must be known. Warren's care-sensitive ethics requires that the voices of women and other oppressed groups are included in its construction. Her necessary condition is that no domination is permitted inside the quilt. Cheney's scheme also gives these voices preference. Hence, these perspectives are supporting the process of empowerment of subordinate groups leading to social change. Buege (1994: 59) finds that such activities are needed in social ecology's agenda on domination. Hence, failure to recognize the liberating power of ecofeminism can only prove detrimental for the long-term social goals of social ecology. (Buege 1994: 55-56, 59).

Conclusively ecofeminists philosophers approach environmental ethics in innovative ways, which allow for the diverse voices of society to speak and be heard. In doing that, these philosophers do not

abandon coherence, consistency, validity and analysis of context. However, they do recognize the post-modern need to re-conceptualise various theoretical tools. (Buege 1994: 56).

Biehl's adherence to a modernist stance both explains and informs her criticisms of ecofeminism. However, she fails to explain what she finds wrong with a post-modern stance. Her criticism only starts to become relevant if she rejects the post-modern tendencies in ecofeminism. In addition, if Biehl's problem is post-modernism itself, she should know that ecofeminism is only one of many positions that she must oppose. (Buege 1994: 56).

There are also **critiques from inside** ecofeminism/feminism towards some interpretations of ecofeminism. This is focused on the debate "essentialism versus constructionism". Essentialism usually refers to the assumption that a subject is constituted by pre-social, innate, unchanging qualities. Constructionism normally refers to the assumption that a subject is constituted by social, historical and cultural contexts that are complex and variable. (Carlassare 1994: 52).

The debate has a historical background. Enlightenment ideologies constructed dualisms which was used to define women as being inferior to men and hence to oppress women socially and politically. Feminists have therefore strongly opposed dominance by use of essentialism. Feminists have been particularly critical of ways in which female biology (menstruation, pregnancy and lactation) is used to justify women's unequal treatment. The idea that personal identities and social roles are built on biologically determined, ahistorical or naturalized essences must be criticized in order to dismantle the ideology of domination. (Sturgeon 1997: 8-9)

Hence, when ecofeminists confirm and celebrate a women-nature relationship based on essentialism, it is seen as a confirmation of the patriarchal dualist definition of women and men, only reversed. Any talk of women's superiority reinstalls the hierarchy that feminist have fought against in the patriarchy. Not only men, but also women are distorted by patriarchalism. We therefore need to redefine all dualist definitions. Consequently an ecofeminist solution which assert that feminine roles can provide an answer to the ecological crisis without first examining how these roles are or have been historically damaging, undermine the conceptual significance of ecofeminism. Conclusively all feminist approaches must have a critical analysis of sex, gender and patriarchy. Approaches not concerned with these elements give cause to concern. (Zimmerman 1990: 143; Davion 1994: 16-17).

Davion (1994: 17) has examined how some ecofeminist views fail such an analysis. They suggest that a feminine perspective on the environment will help solve the ecological crisis. Nevertheless, they fail to notice that femininity is distorted by patriarchy.

In her article 'Deeper than deep ecology' from 1984 **Ariel Kay Salleh** suggests that women opposite men have an alternative consciousness that is connected to nature. Salleh (1984: 340) uses the essentialist expression that "women already flow with the system of nature". She believes that this traditional female role could have been the solution to ecological crisis, had it not been devalued. Davion (1994: 18-19) finds such a view disturbing. A separate female consciousness implies that all women share the same reality. However, this is opposite to feminism's hard-learned lesson that difference is a central part of its movement. If feminism is to liberate all women, it must address that there can be no unified female experience. Some women may share some experiences, but not others. Such views also imply that men and women live in separate realities, which is not correct. They all live in a patriarchal world, which is inhabited by oppressors and oppressed. Both realities are intimately connected. Femininity makes sense only in relation to masculinity and vice versa. Patriarchy is part of women's reality, and that is the problem. Since traditional feminine roles are defined according to an oppressive framework, they do not exist independently from the masculine role. To solve the ecological crisis we need a society without domination, a separate feminine reality cannot be part of the solution. It would only bring continued oppression. (Davion 1994: 18-20). Cuomo (1994: 88) agrees with the criticism but adds that Salleh has shifted her emphasis in the meantime.

Brian Swimme suggests in his article from 1990 "How to cure a frontal lobotomy" that women have some special understanding of nature. He does not clarify the source of such understanding. However, if this special understanding is the result of oppression, we must expect that it is skewed. If it is not, we must find out how we all can get it. If that is also not possible, we may have to conclude that oppression of women was necessary in order to gain the knowledge needed to solve the ecological crisis. That is not a feminist position. (Swimme 1990: 17; Davion 1994: 22-23).

Davion (1994: 24) finds that any time we refer to the feminine be it as a principle, consciousness, a tradition, a value or any other element, we are inside an oppressive framework. We may refer to it positively, but that does not remove its origin from an oppressive framework. If patriarchy is necessary for femininity then there are no feminine gender roles in non-patriarchal cultures. Hence, the division feminine-masculine becomes irrelevant. Maybe some early cultures valued activities, which

are now undermined, and called them feminine. But that is different from asserting that something called feminine was once respected. We can only refer to the feminine if we specify what it means in a non-patriarchal context. Hence, ecofeminism's tasks are to re-conceptualise issues like knowledge, reality, ethics, so that the dualist ways to conceptualize reality literally makes no sense. (Davion 1994: 24-26).

It seems clear that many critiques within ecofeminism align themselves with the constructionist position of social ecofeminism and dismiss cultural ecofeminism for being essentialist. Social ecofeminists employ material analysis because they believe that the association of women with nature is largely social. Liberation must therefore come through social change. They combine elements in radical feminism with Bookchin's social ecology. Cultural ecofeminism see an essential relationship between women and nature and employ spiritual or poetic modes to explore oppression on a personal and larger scale. (Carlassare 1994: 53).

Carlassare (1994: 59) finds that one should not dismiss cultural ecofeminism as unconditionally bad without examining the specific ways and situations in which it is using essentialism. Those that do so could be called guilty of resorting to an essentialist motion of essentialism. The difference between constructivism and essentialism is not as clear and exclusive as suggested. One can in fact read constructivism within the essentialism of cultural ecofeminism, and as well observe essentialism within the constructionist position of social ecofeminism. (Carlassare 1994: 59, 65).

Cultural ecofeminists are asserting women's essentialist gender characteristics but at the same time acknowledging the construction of women's essence within a particular social context. If such essentialism is used consciously, it may be helpful as an oppositional or liberation strategy. That makes essence contextual, arising out of a specific social, cultural and historical situation. Thus, essentialism rests on constructionism. (Carlassare 1994: 59).

Social ecofeminist focus on economic, social and political institutions and how they have fostered domination of women, Others and nature along the lines of gender, race and class. They draw from the radical feminist insight of the patriarchal domination over women's bodies. Women's role in biological and social reproduction is central to their theory. Women are socially constructed, but their gender is based on a biological sex, that essentializes gender. In this way, essentialism enters into their constructionist position. Although they recognize difference between women to a higher degree than cultural ecofeminists, social ecofeminist politics retain the category "women" as basic. In fact, one

cannot assert the category "women" without also essentializing women. Carlassare (1994: 64) doubts if it at all is possible to generate a theory on feminism that is not partly essentialist. (Carlassare 1994: 64).

Hence, according to Carlassare (1994: 61) the essentialist criticism is in practice used to privilege the position of social ecofeminism. Their material ways of knowing and scientific discourse are considered superior. Cultural ecofeminists do not use the traditional academic mode of writing nor philosophical discourse. They express themselves poetically and spiritually and have an intuitive way of knowing. Oelschlaeger (1993: 34-35) considers Susan Griffin (cultural) ecofeminist authorship as being post-modern. Griffin deconstructs the dominant language of culture, the male voice, and discloses the feminine voice, which has been silenced. When that is called essentialist, it serves to limit what counts as ecofeminist discourse and to privilege some ways of expression and knowing over others. Such attitudes only maintain the very same dominant practices that ecofeminism call into question. (Carlassare 1994: 60).

Accusing cultural ecofeminism of being irrational implies that ecofeminism's goal is to develop a unified theory based on historical materialism. However doing that would limit the plurality of perspectives in ecofeminism, and thus silence the many unheard voices. Those are similar dualist strategies as used by patriarchalism. Social ecofeminism also find cultural ecofeminists a-political because they do not spell out a path for political or social action. Instead, they focus on spiritual transformation of consciousness for the liberation of women and nature. However, social ecofeminists use the definition of political too narrowly. Politics take many forms including discursive and linguistic resistance. To separate themselves social ecofeminists have also created the label cultural ecofeminism. Ecofeminists that want to create women-based cultures and adhere to feminist spirituality do not call themselves "cultural" ecofeminists, neither are they dismissive of other branches of ecofeminism. Thus, the power of naming has been deployed to privilege the position of social ecofeminism. The ultimate goal of both is the same i.e. women's and nature's liberation, but the criticism wants to privilege one means over another, a transformation of social structures over a psychic transformation. Those are trends one may call domineering. (Carlassare 1994: 61-62).

Carlassare (1994: 54) believes that there is something to be learned from cultural ecofeminism and that essentialism does not necessitate rejection. Dismissing cultural ecofeminism would limit the variety of positions that are affiliated under the ecofeminist umbrella. It is exactly this variety that creates the movement's vitality. Essentialism must be analysed for its political intention and how effective it may

be as a liberatory means, rather than dismissing it unconditionally. The common goal in ecofeminism is still to end oppression. (Carlassare 1994: 65).

This is echoed by the famous feminist Barbara Holland-Cruz in an interview. She finds it unfair to equate ecofeminism with essentialism. When we think about the brilliant, elaborate historical work in their critiques of science, it is simply not true. She regrets that the many strands of feminism and ecofeminism fight against each other. Incorporated it would be a rich movement. (Kuletz 1992: 70-72).

Ecofeminism is a diverse movement. It must continue to show that it is possible to unite politically without assuming a unified position or a totalizing epistemology. Ecofeminism's slogan is "unity in diversity"; therefore, difference does not mean domination. (Carlassare 1994: 66).

Ivone Gebara is a highly educated Brazilian nun who daily is working with poor people. Her point of view (1999: 11-12) is that gender, nature and culture are all historical and social constructions. None of them is purely biological givens. What exist are different groups of people that construct their own meanings. It is an evolving constitutive reality that we call culture. Human beings as well as animals and nature, can all be the source of destruction or creation. In all death and life are intertwined. Thus, women can create a meaning of nature that is either positive or negative. Why women are more affected than men by inadequate environmental and development policies has nothing to do with any essential relation to nature. It is because on a planetary level there are policies that give men power over women. These policies define women as a social group whose necessary role is to assure continuity and survival in daily material life. Hence, Gebara sees humanity as a combination of essence and construction. She consequently finds that the discussion is a privilege belonging to unaware theoretical academics. They have the luxury to discuss ideas in groups, but they have a weak commitment to dealing with the real situation of the great masses of the dispossessed. In view of the ongoing destruction of our ecological life-base, increasing male violence against women, increasing aimless civil wars the "essentialism vs. constructionism" discourse seems out of place. (Gebara 1999: 11-13).

Knill (1992: 219) finds it irrelevant to decide which interpretation is right. The fact remains that the feminine is consistently under-valued in relation to the masculine. Similarly, whether it is genetic or gender, generally females hold the feminine perspective.

According to Janis Birkeland (1995: 57), we cannot know if gender differences are due primarily to genes, hormones, an essential nature, culture or the division of labour. What matters is that men and women have shown the capacity to choose other values and behaviour patterns consciously. We have seen women adapting patriarchal values when they want to be part of the power structure. We have also seen men becoming caring, gentle and non-dominating. Men can and do subscribe to ecofeminist analysis, and men's cooperation is necessary if the planet is to be saved.

Richard Norgaard (1995: 133) would to a far extent agree to the points of Gebara, Knill and Birkeland. However, inside his co-evolutionary perspective, he would explain it alternatively: Women have historically had a very different experience from men in their family, household and social roles in most cultures. This role has entailed more coordination, sharing and support giving than have the roles of men. Women are more likely to view themselves living in a partnership with their spouse, children, relatives and neighbours. Thus, women would naturally view the world more organically or holistically than men would. The issue is then whether this view is biological or cultural. For Norgaard both play a role and both are relevant. However, the extent to which this contrast in world-views is due to in-born differences or divergence between how men and women are incorporated into society cannot be determined. Biological and cultural factors have co-evolved over generations and are ultimately inseparable. Norgaard's (1995: 134) point is therefore clear, "*to ask the question is to think reductionistically, like a man.*" Seen from a coevolutionary perspective, the dominant world view, men's domination over women and nature, liberal individualism and environmental systems have all co-evolved. The important issue is that ecofeminists have critiqued modernity and are revisioning the future through biological-organismic understandings rather than mechanical-industrial ones. Northern and Southern ecofeminists have joined forces and together they are rejecting modernity's false promises and misguided strategies. They are reclaiming their own histories and combining them with environmental understanding of personal and global predicaments. Norgaard (1995: 193) concludes that although he has arrived at his coevolutionary perspective through a different process from ecofeminists, he shares many views with them. In numerous ways, his own work relates to and complements ecofeminist literatures. Particularly Norgaard finds that the philosophical re-mapping undertaken by Karen J. Warren most closely parallels his own explorations. (Norgaard 133-134, 193-194).

In spite of these convincing arguments, we cannot completely dismiss the controversy between essentialism and constructivism. It is a central problem in theory, although it is hardly discussed in practice. Sturgeon (1997: 6-8) therefore finds that the discussion creates a barrier between academic,

theoretical feminism and the activist practices of feminist theory. Her point of view will be described under the next section regarding ecofeminist movements.

The above are the common types of ecofeminist critiques and responses, which creates an interesting dialogue. However, sometimes poorly analysed criticism appears. The one from Lucy Sargisson is such one. It is a critique lacking a deeper analysis and sustainable arguments. She finds ecofeminism essentialist, biologist, and lacking political efficacy. It is inconsistent, intellectually repressive and lacks rigour. It is in her opinion "awful" and of "a low quality". She refers to Biehl's critique as being appropriate and accurate. However, like Biehl, Sargisson only focus on the essentialist branch in ecofeminism, seeing this as the whole. (Sargisson 2001: 52-63). The most peculiar point Sargisson is making (2001: 61) is to find the ecofeminists suggestion to develop more care and compassion as being utopia, not possible, even not desirable but instead dangerous. It will, in her opinion, replace one system of dominance with another one. One must be permitted to dismiss such critiques as being based on merely negative and subjective opinions about the human race and its ability to learn and change, rather than on thorough research.

Des Jardins concludes (2001: 257) that one must be careful when challenging ecofeminism. Ecofeminism resists attempts to construct a unified and overarching environmental philosophy. Many want the typical universal and abstract answers from ecofeminism that they identify as being part of the problem. Apart from that ecofeminism is in the early stages of growth and development. It would be unfair to expect too many answers at this point in time. However, they have made significant contributions to environmental ethics and philosophy. We can no longer discuss these issues independently of social domination and control.

4.11. Ecofeminist movements

Ecofeminism has always been a political movement motivated by pressing, political and practical concerns. These concerns include women's and nature's health, science, technology, development, treatment of animals, peace, anti-nuclear and anti-militarism activism. Thus, any theory of ecofeminism must take grassroots activism seriously. The conceptual analysis of domination explains, clarify and guide this activism. (Warren 1996: xvi; Warren 2000: 35; Plumwood 1992: 10).

Ecofeminist movements are highly critical of most current social and political institutions. It is therefore an oppositional political discourse. The goal is to deconstruct oppressive social, economic and political systems, and reconstruct forms that are more viable. The theoretical branch of

ecofeminism therefore functions as a deconstructive tool that supports political resistance done by ecofeminist movements. Hence, unlike the largely mental politics of post-modern social critique, ecofeminism is based in grassroots and collective organizing which has promoted direct action from the beginning. Ecofeminism is therefore both deconstructive and reconstructive. Ecofeminists try to promote life-preserving values and policies and bring it into public arenas via community forums. No version of ecofeminism dictates exactly what people should do, nor is there a single political platform. It has a set of practices that are imbedded in particular historical, material and political contexts. Consequently, a social movement contests the hegemonic power relations through change produced by actions. (Lahar 1991: 35; Warren 2000: 35-36).

Eckersley (2001: 3-5) finds that ecofeminist movements demands a **deliberative model of democracy** rather than the current liberal one. Deliberate democracy is not unique to ecofeminism, but has its roots in ancient Greece. It has however long been forgotten. It is a stronger type of democracy, and it promotes more genuine participatory than the current model. The deliberate model promotes a system of un-distorted, non-coercive communication. It seeks to facilitate mutual understanding, which may lead to mutual respect for differences, rather than enforcing unity. It includes the presence of disadvantaged groups in assemblies and decision-making bodies. Such kind of communication may lead to reflexivity, self-correction and continual public testing of claims against experience. Testing political claims makes it possible to analyse the underlying assumptions, interests, and world-views of politicians, scientists and business leaders. Well-informed people are likely to make more long range, inclusive and risk adverse policies. This prevents the externalizing of costs onto third parties. It is therefore a move away from the utilitarian framework of cost-benefit analysis that permits the sacrifice of minorities and the future, in favour of the present majority. Deliberative democracy can unmask unequal power relations and those who sanctify them. It can identify social groups that are excluded, and divide public interest away from vested interests. This approach is likely to lead to prudent protection of nature. Thus when ecofeminist movements continue to air their insights and arguments they will in the long run provide legitimacy to a social change towards a real democracy. (Eckersley 2001: 3-5).

To reach these goals ecofeminists must unite based on solidarity. However, sometimes this unity is not available. Noël Sturgeon has analysed ecofeminist movements in details. She holds the position of an associate professor and director of Women's Studies at Washington State University. Sturgeon is also a keen activist. In her book "Ecofeminist natures: race, gender, feminist theory and political action" and in some articles she has critiqued the barrier that has developed between ecofeminist theory and

practice. Her goal is to create a more inclusive and politically engaged ecofeminist movement.

The contradictions in ecofeminist theory and practice lay in the way one conceptualize the connection between women and nature. One may relate the link to historical and social constructions, based on the logic of domination and value dualism. This is what had been done above. One may also perceive the relationship as being biological due to similar reproductive characters, and see these links positively. A third option is to decide that the relationship is spiritual. The academic version is the first, albeit in various forms. The other two options are normally used by the various ecofeminist movements. While the first is kept anti-essentialist, the latter two are considered essentialist. The first provides important analysis and concepts regarding the interconnections between women and nature. The last two help women to empower themselves and promote actions for change. Thus, ecofeminism is situated in a context that requires a resolution of two issues: how to create an anti-essentialist coalition politics, while still deploying a strategic politics of identity. Ecofeminism is not the only perspective to use essentialist notions of women, men and nature. This pattern can be traced in a number of radical environmentalist contexts. Sturgeon (1997: 31) has traced it to social ecology, Deep Ecology and Earth First! It is also present in the US greens and animal liberation. Essentialism is a problem that troubles virtually all contemporary movements. Political implications of essentialist constructs of women is a central problem in contemporary feminist theory, but such issues are not often discussed in a particular movement practice. Thus, there has developed a barrier between theory and practice in ecofeminism. (Sturgeon 1997: 5-8, 29).

Essentialism was used historically to uphold inequalities and perpetuate injustice. Hence, the motivation to criticize it must be to prevent essentialism from promoting unequal power relations, not to remove it as such. It means that essentialism is not a sin in itself; the problem is its negative effects, which often is maintaining position of privilege. Sturgeon's argument (1997: 9) is however, that essentialism also can have positive results. It can produce an "**oppositional consciousness**" and thus be an important tool in liberation. She therefore finds that we need to clarify, to what kinds of essentialism we are objecting. If we do not, we may destroy particular strategic essentialism, which would have positive consequences. Thus, we need to keep the political end-point in view. In Sturgeon's opinion, there are moments when we must tolerate certain essentialism if the theory is to remain politically useful in practice, as a tool, for creating a more just society. (Sturgeon 1997: 9-10).

Sturgeon's (1997: 11) experience is that in nearly every moment of ecofeminism's history as a movement essentialism has occurred. These "essentialist moments" are almost all strategic, unstable

and contested: They have created a **strategic** identification in the relationship between "women" and "nature", which has a political purpose. "Essentialist moments" were bringing together various women in a democratic context where different voices had to be heard about various radical issues. It has created unity between different kinds of women; it has justified a feminist critique of environmentalism; and it has solidified connections among feminism, participatory democratic structures and non-violent action. The process of radical political movements already contains within it the germs of essentialism (meaning here that subjectivities are seen as containing some similar, universal and or inherent commonalities) and hence the danger of exclusionary practices. However, Sturgeon's (1997: 11) experience is that such essentialism is not creating new exclusions. As long as the movement structure is democratic, and political opposition is seen as a dynamic process, then the essentialist formulations will be **contested and destabilized** from inside the structure. That is so even if these formulations enabled the structures in the first place. (Sturgeon 1997: 11, 17-18, 169).

Historically critiques of essentialism were directed at masculine ideas of "women". More recently, it was directed at feminism. The white, middle-class, heterosexual women dominated feminism at the beginning of its second wave. Essentialist critique from lesbian, women of colour and non-western feminists were fairly successful at dismantling the homogenizing model of women. Such criticism was strengthened by the influence of post-modernism. Post-modernist theory construction has the ability to avoid essentialism. Instead, post-modernists made difference the focus of their study. However, because of its deconstruction, essentialism in itself became bad. Thus, the voices of non-western, lesbian and coloured feminist thinkers have been heard, but there was a cost: The essentialist label has been used as an accusation against feminist scholars. Feminist essentialism is given a harsher critique than non-feminist essentialism. This has led to a chilly research climate, which limits divergent thought. Feminist academics therefore try to rule out any essentialism and to critique any who are guilty of it. Such anti-essentialist attitude has led to a false and deeply problematic division between feminist theory and feminist activism. The academy with their anti-essentialist stance sees themselves as being superior to the essentialist feminist activists. This creates a problem for movements. It is difficult, if not impossible to create collective political strategies while at the same time avoiding essentialist formulations of the category of women. (Sturgeon 1997: 12-13, 15-16).

Greta Gaard (Sturgeon 1997: 167) finds that academic feminists are trying to exclude ecofeminism. They see ecofeminism as wholly essentialist, which allows established feminism to dismiss ecofeminism entirely. Hence, both Greta Gaard and Noël Sturgeon (1997: 168) have experienced that their articles about ecofeminism have been rejected by academic journals. Their articles were assumed

to be essentialist and thus useless. Essentialism is in this way being allowed to tarnish ecofeminism. That is regretful, because Sturgeon finds that ecofeminism intervention is politically important in this time and place in history. (Sturgeon 1997: 168).

One part of the problem relates to the definition of essentialism. Kathy Ferguson finds (Sturgeon 1997: 179) that critiques of essentialism in feminism is often based on a confusion of different types of essentialism. In her opinion, there are three kinds of essentialism.

1) "**Essentialism per se**" is arguments that suggest fixed and unchanging traits in women or nature. This is used in the rare cases, but it is always contested from within the position that generates it. Such arguments have no basis in reality.

2) "**Universalism**" argues that patterns from one's own time and place are accurate for all. This is a more frequently used form.

3) **Creation of "unified set of categories"** around the terms "women" and "nature" is a common phenomenon. This type is difficult to change. Any analysis requires naming of categories for coherence. It is fundamental to the use of language to employ some set of categories about which generalisations can be made. Those who deplore this as being essentialist are overlooking their own participation in the linguistic practices. (Sturgeon 1997: 179-180).

Critiques often confuse these three kinds of essentialism. Thus what is really "unified categories" are claimed to produce "universalism" and hence to be "essentialism per se". Sturgeon consequently (1997: 180) finds that unified categories and possibly universalism are necessary parts of mobilizing for political action. Theorist may consider that essentialist, but from within the movement this is understood as a political strategy rather than a statement of facts. What is going on within and through actions Sturgeon (1997: 183) calls "**direct theory**". It constructs the unified category of "women" to be able to analyse the combination of patriarchal men with environmental destruction. Such categories often become universal in order to be able to apply the conditions over a wide range of cultural differences and historical periods. Without direct theory one cannot, in Sturgeon's opinion (1997: 183), be part of the activist component of ecofeminism, or any other oppositional consciousness for that matter.

Another part of the problems relates to the process of typologizing feminism and ecofeminism. It has developed into an anti-essentialist competition between theories. The winner is often the brand of feminism closely associated with academic theories. Ecofeminism is too easily relegated to the category of cultural feminism, which has the essentialist label, and which then is the loser. The loser is

therefore also associated with certain kind of activist or popular feminism. This creates an artificial divide between feminist theory and feminist practice. It also silences the voices of less educated women, poor women and women of colour. In addition, it prevents us from understanding feminism as a social movement. (Sturgeon 1997: 16, 170, 173).

These typologies have been constructed by white academic feminists, based on exclusive categories from their own race and class. It separates inferior and superior groups, which result in rejection of most feminist activism as being essentialist. Thus, a hegemonic feminism is created which excludes other branches like ecofeminism. The hegemonic feminism is the power elite of academic feminist theorists. Hence not only are movements marginalised, which makes activist coalitions difficult, but also hegemonic feminism is based on dualism, the exact means of domination that feminism wanted to dismantle! (Sturgeon 1997: 174, 176-178).

Sandoval has offered another way to categorize not only feminism but also all types of oppositional consciousness. She sees four general categories of oppositional consciousness: equal rights, revolution, supremacy and separatism. These approximate liberal, Marxist-socialist, radical and cultural feminism. She, however, adds a fifth category called "**differential consciousness**". It is a tool that operates through all of the other categories. Its main aim is to oppose power and hegemony. It is thus a medium, through which the other modes of oppositional consciousness become effectively transformed out of their hegemonic version. Differential consciousness works like a clutch. It has a fluid set of tools, tactics and approaches to be used when the situation calls for them. It concentrates on political action, seeking allies rather than to construct theoretical purity. It is forming coalitions, resisting power, and generating theories. It can be compared to post-modernist theories but it predates them. Ecofeminist movements should be seen as a differential consciousness, which is strategically used at the appropriate moment in order to dismantle hegemonic power formation. (Sturgeon 1997: 175-178).

Thus for Sturgeon (1997: 184) Sandoval's typology is more useful because it makes activism central to the term. It is a more descriptive, hopeful and powerful way of understanding the crucial task of a movement. Warren's ecofeminism is in many ways similar to Sandoval's differential consciousness. Her "transformative ecological feminism" operates through the other categories. The aim is to expand the traditional feminist conceptions by recognizing the interconnection between all systems of domination. Because Warren's version addresses the conceptual and structural interconnections between all forms of domination, ecofeminism becomes the best possible feminist theory. This is the

reason why both Warren and Plumwood find ecofeminism to be the third wave in feminist theory. (Sturgeon 1997: 189-191).

Since dualism has done so much damage to humans, animals and the Earth, radical political theories must attempt to deconstruct it. Dualisms must be changed by concrete social activities and relationships in which people engage. The third wave of feminism refuses to separate culture from nature and men from women. Political engagement is meant to dissolve the boundaries between these two categories. This should be done in the spirit of constructive debate, not by trashing or destroying those whose intentions are similar to ours. Critique should be directed against concrete, material power relations, hegemonic discourses and practices. It should not damage fragile modes of opposition. One should not avoid debate or disagreement within social movements. However, if one waits for the perfect theory before joining popular opposition movements one shall surely fail. In Sturgeon's understanding (1997: 195) the most vital radical political theories developed in tandem with radical movement practice. Hence, one does not precede the other. (Young 1983: 178; Sturgeon 1997: 194-195).

Conclusively Sturgeon finds (1997: 18) that ecofeminism is an important candidate for sustaining the critique she has put forward regarding theory. While it is not a coherent movement, it has a great potential for supporting progressive social, cultural and economic change. Plumwood agrees and adds (1993: 18) that ecofeminism is the most promising current candidate for providing a theoretical base adequate to encompass and integrate the liberatory concerns of the green movement. Ecofeminism focus on new ways of living with nature. It has altered the concept of political change. It embraces heterogeneous strategies and solutions to the environmental crisis. The method chosen are life affirming, consensual and non-violent. The aim is to create new cultures that honour the Earth and her people. (Diamond et al. 1990: xii). Spretnak (1990: 14) adds that ecofeminists must lead by example. They must increase their analysis and create a philosophical base for ecofeminism. They must organize around concrete issues of suffering and exploitation. They must speak out clearly but without malice against those who further injustice and ecological ignorance. They must nurture good relationship with other people; never ridicule those we disagree with; cultivate spiritual impulses; act with a pure mind and a pure heart; and celebrate the wonders of life on Earth.

4.12. Summary and conclusion

In summary ecofeminists, find it important to understand oppressive conceptual frameworks. Ecofeminism is opposed not only to sexism and naturism, but also to all kinds of dominative systems.

As a feminism, it is committed to critique male-bias and develop theory and practice that is not male-biased. As an environmentalism, it is committed to critique policies and decision-making structures that exploit nature. Ecofeminist philosophy moves beyond current feminism and environmentalisms by incorporating women-Others-nature interconnections in its analysis. It is therefore committed to develop theory and practice that do not perpetuate any form of domination. Any feminism or environmentalism that fails to take women-Others-nature interconnections seriously is seen as inadequate. (Warren 2000: 68-69).

Conclusively ecofeminism contribute importantly to environmental and feminist movements. If one grants the conceptual links which has been analysed above between the domination of nature and the domination of women, it follows that a movement that is not feminist will have a superficial understanding of the domination of nature, and a feminist movement not being environmental will yield unacceptable results. Due to consistency, those who fight to save the environment should also work on overthrowing patriarchy. Those who fight to remove patriarchy should also fight to save nature. These two struggles are inextricably connected. (Davion 1994: 11).

From the above it should be clear that ecofeminism is a perspective, which wants to change the current masculine or yang perception of reality by integrating the oppressed feminine or yin part of all dualisms. Thus, it wants to balance the yin force with the yang force; the feminine with the masculine; the whole with the parts. It wants to re-integrate and re-create the dynamic tension between nature and humans; emotion and reason; body and mind; intuition and rationality; the private and the public; object and subject; other and self; the particular and the universal; the social and the individual; black and white; quality and quantity; cooperation and competition; the subordinate and the dominant; the slave and the master. Ecofeminism is consequently promoting an organic, holistic and inclusive perception of reality. It is proposing an alternative world-view, which is parallel to the ontologies of systems theory, Smuts' holism and the I Ching.

Modern science is an important focus of ecofeminist critique. Reductionist and rational scientism is by most ecofeminists seen as the central means of global patriarchal domination. Since the development project in the South also was based on modern science, it is important to understand why ecofeminism (and others) perceive science as a violent knowledge system created to dominate women-Others-nature. A critique of science is consequently the focus of the following chapter.

Chapter 5: An ecofeminist analysis of science; epistemological and political links between the domination of women, Others and nature.

"The scientific mind, in being totally scientific, is being unscientific. We are in a phase of history where the scientific pole is dominant; but where there is pole there is counterpole. The scientist atomizes, someone must synthesize; the scientist withdraws, someone must draw together. ... The scientist dehumanizes, someone must humanize. The scientist turns his back on the as yet, and perhaps eternally, unverifiable; and someone must face it."

John Fowles from "The Aristos". (Jordaan et al 1995: Preface).

5.1. Introduction

5.1.1. Purpose of the chapter

One of the most interesting directions ecofeminist analyses has proceeded concerns science, technology, economy and the scientific understanding of nature. When science is historically examined from a feministic point of view, it becomes clear that the scientific epistemology is far from universal, value-neutral and objective. Rather, science is an ideological and an aggressive patriarchal way of perceiving the world founded on power and control. The analysis and critique of science has therefore been helpful to understand the patriarchal domination of women, Others and nature. The purpose of this chapter is consequently to show how science in general and the discipline of economics in particular, together with their manifestations in technology, have dominated and exploited women-Others-nature. (Des Jardins 2001: 255).

Science is based on a dualised world-view, which has undervalued and excluded from its system of knowledge everything that is perceived as being "the dualised other". Thus, man is seen as being superior to women, reason to emotion, mind to matter, culture to nature, humans to animals, quantity to quality, etc. It can be difficult clearly to perceive this dualism in science. **One** reason is that most people are socialised into seeing science as a universal and objective knowledge system. This is because all social, educational, political, economic and cultural institutions in most societies are scientifically based. People therefore have no alternatives to compare with and therefore cannot clearly perceive the dualised nature of science. It is similar with fish. They also do not know that they live in water. Since they never lived on land, they cannot compare. **Another** reason is the complex interconnections of the various dualised pairs. Some of them contribute directly to domination of women-Others-nature, while others contribute only indirectly by being part of a web, which ends up in dominating women, Others and nature. Thus, each dualised pair may not be perceived as being dominant in itself. It is similar to a bird in a cage. It is not the individual steel bar that retains the bird, but when all bars are connected as a network, then the bird remains imprisoned in the cage. For

example, early scientists decided to exclude all non-quantifiable elements from science in order to overcome methodological problems. This has ever since meant that all issues relating to quality was considered irrelevant to a pure, mathematical epistemology. The result of such exclusion may not altogether be obvious on the surface. However, searching deeper and wider, as will be done below, such omission has had grave consequences for the quality of life of people and nature. The main point, however, is that the scientific ideology consistently prioritizes rational, quantitative and masculine elements, which are yang forces, over emotional, qualitative and feminine issues, which are yin forces. Due to their similarity, those in the latter category are perceived as the dualised other. It is this scientific choice, which has created disharmony, and lead to subordination of women, Others and nature, all of which are feminine or yin forces. Therefore, this dualism is the essence of this chapter.

5.1.2. The origin of the domination of women, Others and nature

There are among ecofeminists different opinions about when the domination of women, Others and nature started. There are consequently also diverse views on what caused this domination. Some ecofeminists find that the domination of women-Others-nature began with the ancient **invasion of Indo-European societies by nomadic tribes from Eurasia**. The invasions meant an end to a peaceful matrilineal agrarian era in the Balkans and Greece. The barbarian invaders brought along male dominance, strongmen and angry gods of thunder. They worshipped the power of war and glorified killing, human sacrifice and raping. These invaders left destruction and cultural impoverishment in their wake. (Eisler 1990: 29).

Other ecofeminists find that patriarchalism became pronounced in **the rationalist tradition of the classical Greek philosophy**. The ability to reason made humans superior to nature, which permitted exploitation. The superiority of humans to nature promoted other dualised concepts like reason-emotion, mind-body, masculine-feminine etc. All dualised pairs were consistently both human centred (anthropocentric) and male centred (androcentric). In this way, white man became superior to nature, women and coloured people, since he has the mind and the reason. (Warren 2000: 23).

Yet other ecofeminists locate the historical-causal explanation of the interconnected domination of women-Others-nature in cultural and scientific changes more recently. Many identify the **Scientific Revolution of the 16th and 17th century** as the key turning point. With its mechanical and reductionist approach, science sanctioned exploitation of nature and the subordination of women. (Warren 2000: 22-23).

There is consequently no agreement of the origin of patriarchy and its causal links to the domination of women, Others and nature. According to Warren (2000: 24), it is also not necessary. To argue for the existence of the link one only needs to show that whenever women and Others have been identified with inferior nature, the connection has justified domination. However, here the focus will be on the time of the Scientific Revolution.

5.1.3. Science; the foundation in development

As mentioned in chapter 4 ecofeminists examine, research and discuss various different interconnections between the domination of women, Others and nature. When it comes to the issue of Third World development there are specifically three links, which are of importance. The first is **political links**. This discussion includes a feminist analysis of how the power of knowledge (science) dominates women-Others-nature. The second is **empirical links**. These interconnections examine how women, Others and nature are interlinked in their lived reality and how all are dominated. The third covers the **socio-economic links**. These are an expansion of empirical links and relate to the real, felt and very physical domination and exploitation of women-Others-nature in social, traditional and economic structures. The three categories are systemic, they overlap and therefore cannot be kept completely apart. However, in this chapter mainly the political links will be discussed, while the next chapter discusses the empirical and socio-economic interconnections, and how they dominate women-Others-nature. Chapter 5 and chapter 6 are consequently interrelated.

The political links focus on social and scientific changes that took place in Europe in the 16th and 17th century. The modern world-view, which evolved as from that time on, specifically sanctioned the domination of women, Others and nature. This perception of reality has persisted up to date. It has also been successful in penetrating almost every corner of the globe, often via its activities of development and progress. Understanding the foundation of science and its inherent values is therefore of acute importance and highly relevant when it comes to grasping an ecofeminist discussion of development issues. This is based on the assumption that if the foundation of a system is dominant, then it must follow that the system in itself also will contain elements of domination. The critique of science presented here is therefore not meant as a goal in itself. It is rather an essential and necessary foundation to chapter 6, which discusses ecofeminism and development.

Consequently, Western science together with its economic framework and modern technology were the three pillars on which mainstream development came to rest. However, since science is based on a dualist ideology that focus on power and control of the yang force over the yin force, development

became dominant towards women, Others and nature. In this way, an ecofeminist analysis of science may be able to explain, at least in part, the reasons why development through 60 years of efforts has failed to solve pressing social problems in the South. Rather than being the solution to the four crises, science, economics and modern technology have become the main causes of increased poverty, intensified natural destruction, and the escalation of global war, violence and human repression.

5.1.4. Content of the chapter

The below discussion on science relates to both natural and social sciences, to all the scientific disciplines and to their technological manifestations. The reason is that all are founded upon the same basic dualised value system. The discussion in **Part I** therefore focuses the critique on science in general. However, in order not to take the assumption of the innate domination too far, it is also shown how the domination of science manifests specifically. Thus in **Part II** the discussion moves on to critique the discipline of economics and its domination of women, Others and nature. This is a highly relevant discussion in a development context since the economy and its growth has become the global measure of successful development. In **Part III** modern technology and its negative manifestations is discussed. To end on a positive note alternatives to mechanical science, its economics and technology are presented at the end of each Part. The intention is to show that there are options and choices for knowledge systems and frameworks, which are not based on dualism and which do not dominate women, Others and nature. Since each Part has its own introduction, only the overall content is mentioned here.

Part I: Modern science; how it dominates women, Others and nature

Part I consists of seven sections. The **first** includes introductory remarks to the Scientific Revolution. In the **next** section, a historical analysis of science is presented. It explains what happened during the period in which the scientific revolution took place in Europe. The analysis is ecofeministic. Thus, the presentation is seen from the point of view of nature and women. **After that** the men, who created the scientific revolution are presented. The discussion focuses on the dualised mind setting and the value system of these men, specifically regarding women and nature. It is **then** discussed how the scientific revolution led to the modern thought system and way of life. This is also called modernism or modernity. Thus, the values underlying contemporary, scientific and modern society were defined 300 years ago by the founding "fathers" of science. It is these values, which ecofeminists, feminists and others have strongly critiqued. **Then** a summary of the critique of science is presented, ending up in

showing how science is both dominant and violent to women, Others and nature. After drawing some **conclusions** Part I end with a brief familiarization to a **different** and life-giving scientific model: the new physics.

5.2. The Scientific Revolution; a process where some men made the living world a dead machine

The world-view and its value system, which is the basis of the Western culture, were formulated in the 16th and 17th century. During the period between 1500 and 1700 there was a dramatic shift in the way people saw the world and in the way they were thinking. This became the basis of the paradigm, which has dominated modern culture in the past 300 years. (Capra 1982: 37).

The world we lost was organic. Thus, before 1500 the dominant world-view in Europe and other civilisations was organic. People lived in small communities where social needs came before individual needs. The root metaphor binding together the self, society and the cosmos was that of a **living organism**. Ancient thoughts identified the Earth with a nurturing mother, but the opposite image of nature as a wild and uncontrollable female was also prevalent. Both ideas related nature and women, and both were projections of human perceptions onto the external world. (Merchant 1980: 1-3; Capra 1982: 37).

It was the image of nature being chaotic that developed the modern idea of control and power over nature. Thus instead of comparing the cosmos to a living organism, the dominant metaphor in the modern era became that of a **world-machine**. It was a wish for mastery of nature. This idea spread to include not only science but also philosophy, religion, the political sphere and the social area. However, the consequence of changing the description of nature, includes a change of values towards this description. It is not possible to accept a framework of explanations and then to reject its associated values. Explanations and their values are connected. Therefore, when society's needs changed towards a commercial revolution based on natural resources the values associated with the organic view of nature was no longer applicable. The change consequently threatened the conceptual framework of the organic theory. It left nature dead, as a resource open for exploitation. The process from the living to the dead world was brought about by the achievements of Copernicus, Galileo and Newton. It was based on a new method of inquiry advocated by Bacon, including mathematical descriptions of nature and the analytical method of reasoning by Descartes. The period was called the Scientific Revolution. (Merchant 1980: 1-4; Capra 1982: 38).

5.3. Important events in the Scientific Revolution; seen from the side of nature and women

5.3.1. The early domination of nature

In the medieval period, Europe was mainly consisting of peasant communities that produced for subsistence by traditional patterns of cooperation. Due to this interdependence between people and nature, the ecosystem was healthy. Nevertheless, not all was harmony. The need for military security and landlords' extraction of surplus value from the community created a constant tension between community control of resources and the traditional rights of feudalism. In the 13th century, wood became important as a source of energy and for shipbuilding. Thus, problems arose over the control of woodlands. At the same time, the European population increased. These events caused a breakdown of the medieval agrarian economy and ecosystem. Land became scarce and malnutrition from food shortage became common. Moreover, the plague raged. The result was that the European population from 1360 to 1374 were reduced by as much as 60%. This altered the ecosystem, which by 1500 was restored to its medieval state. (Merchant 1980: 44-48).

However, this did not last. Due to its exploits and increasing military needs, England relied on forests for shipbuilding. In addition, its expanding industry relied on wood as a source of energy. Thus by the late 16th century shortage of wood had become acute and critical. England never fully recovered from its early wasteful environmental practices and policies. This bears a striking parallel to current environmental crisis. Environmental crisis are therefore not new in kind, only in degree. (Merchant 1980: 63, 67).

The development of the money market would also put pressure on the ecosystem. The Italian market economy, which was based on capitalist relations of production, expanded to Northern Europe. With the discovery of the Americas, trade expanded and production for subsistence was replaced by specialised production for the market. The spreading of the use of money provided a uniform medium of exchange, a reliable store of value, and it facilitated open-ended accumulation. This development created a new class of bourgeois entrepreneurs that undermined the powers of the landlords. (Merchant 1980: 50).

The Civil War in England during the mid-17th century opened the possibility for peasants to buy their lands, rising to the status of yeoman or even gentleman. The new profit motive caused the yeoman to expand and increase yields for cash crops. Thus, agriculture slowly became oriented towards improvement of the farmer's own status. It initiated the tradition of scientific agriculture, which focuses on land management for increased yields. (Merchant 1980: 54-56).

Ecological problems at that time differed depending on the relative powers of the state and the peasants. Where the landlords were powerful and extracted resources from the farmers, the ecological balance could not be maintained. However, in places where peasant collectivity was strong, the environment was healthy. In parts of west Germany, a healthy ecosystem and peasant society flourished as late as 1945. Nevertheless, in east Germany, landlords were powerful and as a consequence, nature suffered. In France, social structures had developed a strong, exploitative state. This undermined the ecological balance and resulted in soil erosion and famine. In the 17th century this led to peasants revolts. Conclusively ecological problems seem always to have been connected to domination. (Merchant 1980: 49-50).

5.3.2. The tension between the organic and the mechanical ideals

"The art of medicine is rooted in the heart ... (one) discovers the curative virtues of remedies by true love".

Paracelsus. (Keller 1985: 52).

Although the values regarding nature slowly changed, the organic ideals of society did not disappear. They always existed as a tension to the mechanical view on nature. In the early 17th century, there were two utopian organic plans available, both in theory and practice. One was made by Tommaso Campanella called "The City of the Sun" from 1602. The other was made by Johann Balentin Andreä in 1619 called "Christianopolis". Both included a philosophy of communal sharing that responded to the interests of the poor for a more egalitarian distribution of wealth based on harmony between nature and people. Their scientific schemes were consistent with the integrity of the natural environment and human equality. All parts of the community were interrelated in an organic unity where both human and natural components were of equal value. Both schemes had their weaknesses, but both also proposed concrete models for a better society in times of despair and oppression. (Merchant 1980: 79, 95).

However, the most radical organic analysis was made by the Swiss scientist Paracelsus. His theory, called "Archidoxis", was put forward in 1570. He worked with alchemy, which was a blend of science, magic, astrology and many religious beliefs. (Ihde 1979: 318; Merchant 1980: 117, 120; Shiva 1989: 20)

Alchemists studied chemical substances. They were trying to change less costly substances into gold and silver. They also tried to find the "elixir of life", a substance that could cure diseases and lengthen life. They believed that matter was made up of a single, formless substance, which became the four

elements - earth, air, fire and water - when combined with hot or cold and wet or dry. Their aim was to perfect the process of changing one substance into another by altering the balance of the elements. For this transmutation, the Alchemists searched for the "philosopher's stone", a magical substance that could make the process easier. Alchemy was practised in China and India as from before Christ, but it developed into a major system in Egypt-Greece during the next 300 years. Via the Arab world, it spread to Western Europe where it became important during 1100-1200. The alchemists' study of chemical substances later on developed the science of chemistry. (Ihde 1979: 318).

Alchemists had a root image that was different from modern science. They saw mind and matter as a self-active unity where male and female was conjoined. The model was the hermaphrodite, a cooperation between male and female. They found that harmony was obtained by a marriage between the sun and the moon, form and substance, spirit and matter, mind and nature. For the alchemist the cosmos was alive with both male and female coupled together because of their mutual love. Alchemists therefore suggested a principle of symmetry or equality between male and female principles or forces. Power was achieved by cohabiting with the elements. There consequently was an organic bond between nature and man. As long as the bond is not severed both could with advantage use the other. (Keller 1985: 48-49; Shiva 1989: 20).

It should, however, be stressed that their inclusive view does not mean that alchemists were feminists. They oppositely shared the contempt for women of their time. Nevertheless, they felt awe for women's procreative powers. They consequently saw men and women equal before God. (Keller 1985: 53).

Paracelsus' philosophy from the 16th century inspired the hermetic tradition and the Renaissance alchemist in the 17th century. They were principally concerned with the transformative powers of naturally and chemically prepared medicines. Based on his alchemist and organic view, Paracelsus created medical theory and practices that challenged the orthodox establishment. He had obtained his knowledge from lay people, women healers, barbers and own observations and combined them with those of trained physicians. With his medical knowledge, Paracelsus was able to cure princes and officials upon whom physicians have given up. This gave him powerful friends. However, when he aired his opinions he was alienated. (Merchant 1980: 117, 120; Keller 1985: 45; Shiva 1989: 20).

Paracelsus medical and chemical contributions stimulated numerous followers. The interest reached a high point in England during the 1640s-50s. They worked towards a new empirical methodology advocating the direct study of nature itself. Nevertheless, the philosophy also became affiliated with

revolutionary ideas. The concept that nature was a divine organism was seen as being atheistic. The idea that individuals could understand the nature of the world for themselves and manipulate its spirits by magic, was seen as promoting social chaos. And most importantly, Paracelsus supported the peasants against the scientific urban middle class. Thus during and after the English Civil War in the 1640-50s the ideas of Paracelsus and his followers were seen as radical doctrines and dissenting sects. (Merchant 1980: 121-123; Keller 1985: 45; Shiva 1989: 20).

In the 1650s, the Paracelsian challenge for authority became an alternative to the new mechanical philosophy. Thus, a campaign was mounted against the alchemists by the Oxford Group, some of whom later became the founding members of the Royal Society. Thus after The Restoration in 1660 (the reestablishment of the English monarchy) the Anglican authority was reasserted and Paracelsian ideas were denounced. Similar actions were taken to the followers of Paracelsus in France. The reason was that both countries were in the process of a mechanical reconstruction of the cosmos. Thus, both France and England had to make the organic world-view redundant. By the 1670s, the rivalry was over. The 1662 establishment of the English Royal Society marked the institutionalization of the new science and a realisation of the mechanical programme. (Merchant 1980: 124-125; Keller 1985: 45).

Although the mechanical world-view got the upper hand, the tension between the two perspectives on nature has continued to be influential ever since the Scientific Revolution and up to today. (Merchant 1980: 103).

5.3.3. Nature is like woman; chaotic, unpredictable and disorderly

"Nature is to man whatever name he wants to give her. He will perceive nature according to the names he gives her, according to the relation and perspective he chooses."

Ernest Schachtel, 1959. (Keller 1985: 17)

At the end of the organic era, there was uncertainty and anxiety about nature and its unpredictable ways. People feared that nature would not follow its own laws and that chaos and anarchy would reign. This perception of disintegration increased by the competitive practices of commercialism, religious wars and the growing stress on individualism. Thus, the sense of disorder within the organic system reflected an underlying realization that the old system was dying. (Merchant 1980: 126).

The image of nature that became important in the early modern period was that of a disorderly and chaotic realm to be subdued and controlled. This image was associated with the female. Both nature

and women were two-sided: The nurturing mother that offered peace but also plagues, storms and famine. Similarly woman was both virgin and witch. Thus, the witch became the symbol of the violence of nature. The solution was to control disorderly women and chaotic nature. (Merchant 1980: 127).

The failings of the organic model and the need for a new metaphor were first perceived by the German **Johannes Kepler** (1571-1630). In 1605, he wrote that the cosmos was not a divine organism as assumed; it was rather a clockwork. Observations of craters on the moon, spots on the sun and other findings suggested that nature was flawed, decaying and sick. Hence 16th and 17th century writers increasingly viewed nature and society as a wilderness over which control was needed. Nature and society were like fortunes: unpredictable and violent which must be subdued by aggression. The concepts used were those of women. *"For fortune is a woman and it is necessary if you wish to master her, to conquer her by force"*. (Merchant 1980: 128-130).

Thus, the dark side of women was symbolically associated with nature. Women were subordinate to men in the social hierarchy, they were closer to nature than men were, and they were seen as having greater sexual passion than men have. Like wild nature women needed to be subdued and kept in place. This provided the basis on which women were accused and tried for witchcraft. Witches were believed to be able to control nature, they could make hail and rain, destroy crops and bring plagues. They could take revenge over enemies and attack those they disliked. Witches were also believed to copulate with the devil. By trial, they were made to confess. The control and maintenance of the social order and women's place within it was one of the many complex reasons for the witch trials. Modern statistics indicate that women comprised 83% of the total of some 100,000 who were tried for witchcraft. The victims normally came from the lowest social order. Illiterate women at the bottom of the social order had little other means of defence against the injustice of the hierarchical society. (Merchant 1980: 132, 134, 138, 140).

5.3.4. Women and nature are inferior to men and culture

"A necessary object, woman, who is needed to preserve the species or to provide food and drink."
Thomas Aquinas, Medieval philosopher-theologian (1224-1274).
(Plumwood 1993: 19).

At the root of identifying women with nature lies the distinction between nature and culture as an unquestioned assumption. Nature's subordination to culture is a key factor in Western civilization's advance. European culture set itself above and apart from all that was symbolised with nature. Much

of the American literature is founded on the underlying assumption that culture is superior to nature. This consequently places women, Indians and blacks in the same category as nature. Thus, women and nature are symbolically associated and both are conceived to be subordinate to culture, which is symbolically associated with men. Because women's physiological functions of reproduction are seen as being close to nature, their social role is lower on the cultural scale than that of the male. Women are consequently devalued and excluded from community functions and decision-making. In this way, power was derived through symbolism. Hence, in the early modern Europe the assumption of a nature-culture dichotomy was used to justify subordination of women and nature in the established hierarchical order below men and culture. (Merchant 1980: 143-144).

This subordination of women was reinforced by protestant leaders like the French **John Calvin** (1509-1564). In his opinion: "*The man should function as the ruling intellectual head, while the woman is the body that assists him*". His reasons were women's eternal sin: "*Eve's punishment for her sin was to be cast into servitude and subjected to her husband's authority and will.*" In 1570's protestant clergy dictated women's silence in the church. Women could not teach, should not talk and never wear bright clothing or costly jewellery. (Merchant 1980: 147).

5.3.5. Woman and the private sphere are subordinate to man and the public sphere.

"Woman is a violent and uncontrolled animal".

G.W.F. Hegel, Western philosopher (1770-1831).
(Plumwood 1993: 19).

The new economic and scientific order was based on an ideology, which connected women and nature with the concept of passivity and men with activity and control in production and reproduction. Hence, disorderly female nature had to submit to the control of the experimental method and technological advance. This curtailed women in economic, political and social activities, especially those in the middle and upper classes. They became passive in both production and reproduction. (Merchant 1980: 149; Keller 1985: 62).

After the Civil War in England The Restoration in 1660 brought a gender distinction along. Men and women were sharply separated by ascribed nature and function. Definitions of male and female became polarized in ways that were suited to the growing division between work and home required by early industrial capitalism. The shift presupposed that men related to the public arena and women to the domestic sphere. Thus in the new modern era men's civic life expanded, while women's were contracted. By the late 17th century, women's position had shrunk to that of a housewife. Earlier there

had been more varieties like fishwife, alewife, applewife and so on. Now all women, who had participated actively in the family business, became domesticated. This reduced women to dependency while men's position was increased with new sources of authority. The consequence was that women would be unable to support herself and her children in case her husband deserted her or died before her. Moreover, a woman's earnings outside the home were considerably less than that of a man. It was assumed that her capacity was reduced, due to the children she had to care for at home. By the end of the 18th century, this financial dependency seems to have been accepted as a natural fact. (Merchant 1980: 150-151; Keller 1985: 61-63).

In this way, the uncontrollable witch with the insatiable sexual lust had given way to the angel in the house, a desexualized and harmless dependent. With the domestication of female power, men felt safe again and the misogyny (hatred for women) could safely be displaced. Now the ideal relation was between the sexually desensitised angel and a lustful patriarch. (Keller 1985: 61-63).

Slowly laws were introduced which made it illegal for women to take part in the new industries that developed. Their engagement was confined to wage work. Thus, productive women were excluded from the early capitalist mode of production. Women were also excluded as experts in reproduction. Until the 17th century, midwifery was the exclusive province of women. However, since women were banned from universities and medical schools their education was considered inadequate. By the end of the century, childbirth was passing onto the hands of male doctors and male midwives with their new technology - the forceps. Science consequently reduced those who can know by excluding alternative knowers. (Merchant 1980: 152, 155; Keller 1985: 62; Shiva: 1989: 22).

5.3.6. Passive, emotional women have secondary status to active, rational men

"Women are certainly capable of learning, but they are not made for the higher forms of science, such as philosophy and certain types of creative activity; these require a universal ingredient."

G.W.F. Hegel, Western philosopher (1770-1831). (Plumwood 1993: 19).

Scientific research increasingly showed that the human body was a machine. The circulation of the blood was done by the heart, which was merely a pump. Thus, the body could be repaired by medical intervention and should not be left to the healing powers of nature. Another scientific research showed that women in fact were passive in reproduction. During the 16th century, this view became well established. Other research demonstrated that women were intellectual inferior to men and emotional temperamental. Due to women's reproductive functions, they directed more energy to pregnancy and maternity and were therefore less available for higher functions like learning and reasoning. Thus,

scientific authority was used as an ideology to keep women in their inferior and dependent place. Although critiques exposed the assumptions underlying the leap from differences to inequalities, new scientific studies continued to generate "evidence" that would maintain the false assumptions about the male-female hierarchy. (Merchant 1980: 155-157, 162-163).

Conclusively the Scientific Revolution provided support for the polarization of gender required by industrial capitalism. The ideology of science gave men a new basis for masculine self-esteem and male power. By the success of science the fear of women and nature could subside. One was reduced to its mechanical elements, the other to her asexual virtue. The female was both tamed and conquered and male potency was confirmed. Thus, mastery, control and domination were seen as success and the goals of science. Thus for women the scientific revolution did not bring the presumed intellectual enlightenment and liberation from ancient assumptions. Rather the new economic and scientific order that emerged in Europe in the 16th-17th century would be of lasting significance for both nature and women. (Merchant 1980: 149, 163; Keller 1985: 63-64).

5.4. The men who created the scientific paradigm

5.4.1. Plato's hierarchical dualism

"A woman is but an animal and an animal nor of the highest order." "I cannot conceive of you to be human creatures, but a sort of species hardly a degree above a monkey."

G.W.F. Hegel, Western philosopher (1770-1831).

(Plumwood 1993: 19).

In order to understand the dualised perspective and to trace the roots of the scientific mechanical values one must begin with the rational tradition of the old Greek philosophers. It was basically a Greek attitude to reduce nature to fundamentals. It arose in Greek philosophy together with the dualism between spirit and matter. (Capra 1989: 53).

Plato's (428-347 BC) philosophy is organised around hierarchical dualism with the sphere of reason over the sphere of nature. For Plato there were two kinds of beings, two kinds of love, two kinds of equality and two kinds of knowledge. He associated the lower side of these two with nature, the body and the feminine. It is an inferior world of changes, becoming and passing away. It includes biological life, matter, reproduction and thus changes which brings chaos. The higher side is the realm of reason, spirit and the masculine. It is associated with the timeless, abstract realm of the Forms also called the Logos. The two worlds are separate and the representatives of the higher order are masters of the lower order. Thus for Plato women were in the lower order of nature, as opposed to the higher

order of men and reason. Women were associated with disorder, ungoverned emotions, passion, moral evil, incompetence and animal nature. Plato refers to a slave-like nature with bodily appetite unsuited to the public sphere. This view was an extremely influential aspect of Plato's philosophical framework. He persistently associated women and nature with a lower level of being and men, especially philosophers, and reason as the higher order. (Plumwood 1993: 77, 80-81).

An important reason for Plato's focus on ideas and lifeless world appears to be the longing for eternal life. The living world of nature is considered a tomb. Plato saw life on earth as a prison. His focus was consequently on war, militarism and death. The platonic system involved a systematic valorisation of death over life. This must have influenced modern life, since it also lacks a life-affirming account of reality and an ability to come to terms with death as part of the human condition. Death is seen as a terrifying end, which has no meaning. The meaningless of death is closely related to the meaningless of life in the modern culture. (Plumwood 1993: 97-98, 102).

Dualism also shaped the Western mechanistic conception of nature. Plato was mainly busy with the primacy of reason over nature. He found that the mind must dominate the body, the emotions and the senses. Reason was seen as a higher type of life beyond and above nature. Plato sees nature as being an inferior sphere, but he does not seem to have the need to control nature. This was changed by the rise of science. (Plumwood 1993: 109).

5.4.2. The Copernican Revolution

Modern science started with the Polish astronomer **Nicolaus Copernicus** (1473-1543). He overthrew the *geocentric view of Ptolemy*, which found that the Earth was the centre of the Universe. This view had been an accepted dogma for more than a thousand years. Copernicus replaced it with a *heliocentric view*. It oppositely found that the Earth circled around the sun together with many other planets. (Capra 1982: 38; Honderich 1995: 166).

However, it was the Italian **Galileo Galilei** (1564-1642) who discredited the old cosmology and established the Copernican hypothesis as a valid scientific theory. He was the first person to combine scientific experimentation with mathematical language to formulate laws of nature. His empirical approach and use of mathematics to describe nature became the dominant feature of science. Galileo found that the scientific method should be applied to the world as if there were no consciousness and no living creature in it. He was of the opinion that only quantifiable phenomena must be admitted to the domain of science. "*Whatever cannot be measured and quantified is not scientific*". This came to

mean, "what cannot be quantified is not real". Thus to describe nature mathematically scientists should restrict themselves to study the essential properties of material bodies like shape, number and movement, which could be measured and quantified. Other properties like colour, sound, taste and smell were merely "subjective mental projections", which should be excluded from the domain of science. Focusing on only quantifiable properties of matter has proven to be a successful strategy in science. However, the obsession with quantification also gave heavy costs because Galileo's programme offers us a dead world. Out of science went sight, sound, taste, touch and smell. Along with them has since gone aesthetic and ethical sensibility, values, quality, form, feelings, motives, intentions, consciousness, soul and spirit. Experience as such is cast out of the realm of scientific discourse, which from then on became obsessed with measurement and quantification. Hardly anything has changed our world more during the past four hundred years than Galileo's program. He destroyed the world in theory before humans could destroy it in practice. (Capra 1982: 39-40; Capra 1989: 139; Honderich 1995: 304; Capra 1997: 19).

5.4.3. Francis Bacon; the father of modern science

"Let us establish a chaste and lawful marriage between Mind and Nature...And from this association you will secure an increase beyond all the hopes and prayers of ordinary marriages, to wit, a blessed race of Heroes and Supermen... I am come in very truth leading to you Nature with all her children to bind her to your service and make her your slave.... For you have but to follow and as it were hound nature in her wanderings, and you will be able, when you like, to lead and drive her afterwards to the same place again." Francis Bacon (1561-1626). (Keller 1985: 36).

From ancient times the goals of science has been to understand the natural order and living in harmony with it. However, ever since Bacon this attitude changed radically toward gaining knowledge about nature in order to dominate and control it. Bacon found that knowledge is power, and since then science has remained manipulative towards both nature and people. Schumacher's opinion was that the Scientific Revolution in the 17th century shifted the purpose of science from wisdom to power. It was a change from an ecological to an anti-ecological attitude. The outcome is that both science and technology today are used predominantly for purposes that are dangerous, harmful and profoundly anti-ecological. (Capra 1989: 238-239).

Francis Bacon (1561-1626) is considered the father of modern science. He was a lawyer, politician and philosopher at the Courts of Elizabeth Tudor and her successor James Stuart in England. He also originated modern research by formulating the inductive theory in scientific experimentation. Bacon's achievement was to establish a social programme, which promoted control and manipulation of nature by technology for human profit. His philosophy included a patriarchal structure of family and state.

Bacon was also the inspiration to the foundation of the Royal Society of 1660. Baconian science was patriarchal. His aim was to establish the empire of man over nature. Thus, privileged, productive knowledge was masculine. Bacon's vision of science was also aggressive. Science should lead to the sovereignty, domination and mastery of man over nature. It is a science where human knowledge and human power meet in one. One of Bacon's works was called "Masculine Birth of Time". It saw science as a power, a force, virile enough to penetrate and subdue nature. His root image was to *enslave nature*. This has provided an image that permeates also modern science. Bacon's highest and most significant vision was domination. His ideal was to create a blessed race of heroes and virile supermen to dominate both women and nature. Together with the social transformation that already had changed women into reproductive resources, Bacon reduced women further into a resource for economic production. Thus, gender ideology was important in the social, political and intellectual origins of modern science. Bacon's programme ultimately benefited the middle-class male entrepreneur. While his science was less favourable towards women, the lower orders of society, and nature. (Merchant 1980: 164; Capra 1982: 40; Keller 1985: 18, 33-34, 48, 54; Shiva 1989: 15-16; Honderich 1995: 75).

Bacon hated women. He was a misogynist. In adapting scientific knowledge and methods to man's power over nature, Bacon used the female image. In his description of nature, Bacon was influenced by the controversy over the role of women and the witch hunts. He saw nature as women to be tortured through mechanical inventions. This image was parallel to the witch trials and the torture used, of which Bacon was well aware as a lawyer. Bacon saw a dualism between mind and matter, man and nature, man and woman. His vision was to establish a lawful patriarchal marriage between mind and nature. However, *nature, the bride, requires taming, subduing and shaping by the scientific mind. The dictates of nature requires, even demand, domination. Thus, mind should bind nature to his service and make her his slave. Scientists must discover her plots and secrets. Nature may be coy, but if hounded she can be conquered. Scientific knowledge and mechanical inventions has the power to conquer and subdue nature, to shake her to her foundations. She must be put in constraint and moulded by the mechanical arts. Through dissection, nature could be forced out of her natural state. Thus, violation, rape or forceful seduction leads to conquest. By the mechanical experimentation, she will reveal her true nature. This method would melt together human knowledge and human power.* Testing of hypothesis was commonly formulated in sexual metaphors, which sanctioned rape. Bacon's way of formulation meant that nature should be seen as a degraded female, available for exploitation. Thus, the interrogation of witches was for Bacon a symbol for interrogation of nature. The courtroom became the scientific laboratory where inquisition and torture took place through mechanical devices.

Bacon aim was to force the secrets out of nature and then use it for economic advance. Thus for Bacon inquisition of witches and nature were similar. By this method, Bacon believed that man could recover power over nature, which was lost when Eva and Adam were expelled from paradise. In his opinion, it was female inquisitiveness, which caused man's fall from God-given domination. Interrogation of the witches and nature, could be used to regain it. (Merchant 1980: 165, 169-172; Keller 1985: 36-37, 48; Shiva 1989: 18, 22; Capra 1982: 41).

It was already in 1486 stated that witchcraft comes from lust, in which women are insatiable. Women consort the devil with their lust. In the 17th century, the witch mania reached its high, as did the fear of female sexuality. Social disintegration was also linked to female sexuality. Women were seen as an error of nature and all women were potentially witches. Thus, Bacon's new science promised protection against the dangers represented by women. The Alchemists were also seen as a threat. Their science was not masculine. It was marked by passion and the Devil, which endangered the purity of science. The witches were therefore seen as the manifestation of the philosophy of the alchemists. Bacon consequently found that Alchemists and women should be banished from science. Thus the mechanical vision provided a secure intellectual domain for masculinity by excluding cooperation between male and female both in science and nature. By power and domination, science provided an antidote to the threats men felt about women and sexuality. In the ideological system that emerged, science was a purely male and chaste venture, seeking domination over the female nature. It promised to defeat nature and the uncontrolled female. (Keller 1985: 59-61).

Thus, the overall aim of the witch hunting was to annihilate women and the alchemists as knowers and experts. Both became a symbol for nature, thus witches and nature were interrogated and tortured to make them accept the domination of the powerful masculine knowledge. By the 16th century, women were totally excluded from the practice of medicine and healing, and nature's regenerative capacities were reduced to a passive and fragmented matter to be manipulated. Thus sexual politics helped to structure the empirical method that was to produce a new form of knowledge and a new ideology of objectivity seemingly devoid of cultural and political assumptions. (Merchant 1980: 165, 169-172; Shiva 1989: 18, 22; Capra 1982: 41).

Shortly before his death, Bacon created his utopia "**The New Atlantis**". His ideal was a hierarchical and patriarchal social structure, modelled on the early modern patriarchal family of the 17th century England. The man was the master and father to the extended family. The woman was a subordinate partner, manager of women and mother to all. Research shows that the English family structure were

becoming increasingly patriarchal and authoritarian in the 16th-17th century. The status and rights of women declined. Kinship ties weakened as nuclear families increased in strength. By this development, the husband gained power over the wife, the father over the children. Since Bacon did not question the hierarchy and patriarchy of the time, this inequality formed the basis for his philosophy. (Merchant 1980: 173, 176).

The New Atlantis program for scientific study was seen to be the foundation for progress and advancement for the whole of mankind. Bacon's ideal was rooted in the emerging market economy which already had widened the gap between upper and lower social classes. This gap was firmly established in many parts of industrial Europe already by 1560. Thus, when Bacon wrote the New Atlantis there already was a significant gap in English society between labours and merchants. Bacon therefore clearly identified with the interests of capitalists, merchants, mine owners, farmers and the state. His programme would concentrate ever more wealth in the hands of the rich through exploitation of nature for the sake of progress. Consequently, Bacon's scientific scheme of progress sanctioned the gap between poor and rich, which meant that the public good excluded the good of the peasant, the cottager and the worker. The scientific progress was consequently from the beginning associated with the rise of technology and a capitalist economy. Hence, machinery, capitalist spirit of enterprise and economic rationality were pre-requisites for scientific progress. Thus the group of people from the 16th century who invented the concept of progress, are the same people who still press for increased growth and development: the entrepreneurs, military engineers, academics, scientists and technicians. In Bacon's utopia, there was no political process. In the New Atlantis, politics was replaced by scientific administration. Decisions were made by the scientists for the good of the whole. Their judgement was to be trusted implicitly, for they alone possessed the secrets of nature. Scientists were the ultimate authority. They decided which secrets to be revealed and which were to remain the private property of the institute. Bacon's scientists both looked, dressed and behaved like high priests who had the power of absolving human misery through science. (Merchant 1980: 177, 179-181).

Bacon's utopia became reality after his death in 1660 with the establishment of the Royal Society. Henry Oldenburg, Secretary of the Royal Society, announced that the intension of the society was "*..to raise a Masculine Philosophy... whereby the Mind of Man may be ennobled with the knowledge of Solid Truths*". Oldenburg also warned against the power of affection in understanding, "*The women in us still prosecute a deceit, like that begun in the Garden*". Thus, he finds that truth has no chance when affections reign and the female rules. (Keller 1985: 52-53).

The mechanical method that evolved during the 17th century entailed to break a problem down into its component parts, isolating these from their environment, and solving each portion independently. Bacon's programme included manipulation of both environments and organic life including creation of artificial species of plants and animals. Experimentation on animals and creation of new species was ultimately done for the benefit of man. Technology was used to force nature into new forms. In this way, reproduction was controlled for the sake of production and profit. Bacon's ideal was a totally artificial environment created by and for humans. He paid little attention to the whole ecosystem of which human beings are only a part. Thus, Bacon had made a connection between mechanics, trades, middle-class commercial interests and domination of nature. However, to fulfil his ideal Bacon had to remove any ethical strictures against manipulation of nature. The philosophy of Descartes helped him to do just that. (Merchant 1980: 182, 184, 186).

5.4.4. René Descartes; the world is a machine; nature is dead; mind and body are separate entities

"Cogito ergo sum". (I think therefore I am).
René Descartes (1596-1650). (Honderich 1995: 189).

The fundamental problem in the 17th century was disorder. Thus, French thinkers like Mersenne, Gassendi and Descartes pondered upon a solution to this problem in the 1620s-30s. They agreed that to see the world as a machine was a rational anti-dote to the chaotic organic cosmos. They believed that order and power would provide the remedy for the disorder perceived to be spreading throughout society. Rather than letting **order** be determined by nature, the mechanical world-view redefined order to mean predictable behaviour of each part within a rationally determined system of laws. **Power** was also withdrawn from nature. The mechanical perspective found power as deriving from active intervention in a secularized world. Order and power together thus constituted **control**. Hence, rational control over nature, society and the self was achieved by redefining reality through the machine metaphor. Based on this Descartes constructed a mechanical philosophy that presented a solution to the problem of intellectual uncertainty and society's instability. As from its beginning mechanism, consequently included ideas compatible with order, manipulation and control, while it rejected ideas related to change, uncertainty and unpredictability. The latter were related to the organic perception of naturalism, vitalism and animistic magic. These were seen as bringing disorder and chaos to the social world. (Merchant 1980: 192-195).

René Descartes laid down the philosophical foundation for the modern scientific age. In the early 1630s, he composed a treatise on physics and cosmology. In it, he offered an explanatory model of the

Earth based on simple mechanistic, quantitative principles. In his opinion, the Earth was merely one part of a homogeneous universe obeying uniform physical laws, which can be known. Descartes made us believe that these laws, were reliable knowledge, given to us by God - the source of all truth - via our ability to reason. (Capra 1982: 41-42; Honderich 1995: 188-190).

For Descartes the essence of human nature lies in thought. The things we conceive clearly and distinctly are true. He called this "intuition" (which meaning is different from the concept's normal use: a hunch). Because "clear and distinct ideas" could be formed in the mind, its essence existed only with quantifiable properties. Thus for Descartes mathematics was the key to understanding the unchanging laws of the world. Certain knowledge is consequently achieved through intuition and the hypothetical deductive method. It is analytic thinking. It entails breaking up complex thoughts and problems into pieces and arranges them in a logical order. In this way, the properties of the parts help to understand the behaviour of the whole. **Reductionism** as it is called, has been an extremely useful method in development of scientific theories and creation of complex technological projects. However, it has also contributed to a fragmented way of thinking and fragmented academic disciplines. It has given the false belief that one can understand complex phenomena by reducing them to their constituent parts. This is impossible since the method includes only the relations between quantities. Thus only parts, which can be described by mathematics, can acquire the status of true physical laws. In this way, reason is used to have control and power over dualised qualitative issues including nature, women and Others. (Merchant 1980: 203; Capra 1982: 44; Plumwood 1993: 110; Capra 1997: 19).

Descartes consequently believed that truth about the world could be derived from mathematics, arithmetic and geometry. However, it was here Descartes went wrong. There are no absolute truths about the empirical world as the Scottish philosopher **David Hume** (1711-1776) later on made us aware. Mathematics compared to itself gives certainty. However, when it is applied to empirical phenomena it can only obtain truth that is less than certain. Thus, knowledge about the natural world can only be contingent because it is based on experience and the senses, which are uncertain sources of truth. Or said differently, ultimate knowledge of the world (the noumenon) is not possible. We can have knowledge only of appearances of the world (the phenomenon) and the probable connections between them. Nevertheless, the deed was done. The Cartesian belief in scientific truth is still widespread today. It became typical of the Western culture where most are convinced that the scientific method is the only valid way of understanding the universe. Descartes' method of thought together with his view of nature has influenced all branches of science. They are still used today. (Merchant 1980: 196, 202; Capra 1982: 42-43; Honderich 1995: 377-379).

Descartes also changed the conception of **rationality**. He saw mind and thought as superior. The mind is based on consciousness only. Thus, the rational way nature works is excluded. From then on rationality could only be related to humans. This deepened the dualism between human and nature, mind and body. In this way, the mind separates human from the rest of nature. Either something has a mind or not. Having a mind includes consciousness or thought. (Capra 1982: 44; Plumwood 1993: 112-113).

By thought Descartes did not mean perceptions and sensations, these were excluded. Proper sensations are when the mind is contemplating on impressions. This is thinking. Since animals lack the ability to think, they are only body. Thinking is therefore a purely mental activity, operating without bodily or emotional connections. This gives a total division between mind and body, mind and nature, humans and animals. Mind and body are different in kind and mutually exclusive. The body is an empty mechanism with no agency. It is driven from outside by the mind. The body and nature are the dualised other. Thus, consciousness divides the universe between thinking being and mindless nature, or thinking substance and extended body. It is a separation between mind and matter. Matter is extended, divisible, and spatial. Mind is unextended, indivisible and non-spatial. The thinking self was masculine. He was free from the body, its weakness, its hindrances, its personal and its emotional ties. The body is feminine and associated with oppressed groups like slaves, traditional people, animals and those who labour with their bodies. This resulted in the theory known as **Cartesian dualism**. It is the view that the mind (or soul) is entirely distinct from the body. However, it extended dualism to include more contrasts to pure thoughts like materiality, practical activity, change, emotions, sympathy, and subjectivity. The opposite and higher order is the new concept of **objectivity**. It means to set aside all distractions and passions, which may obscure thinking. (Capra 1982: 44; Plumwood 1993: 114-116; Honderich 1995: 191).

Cartesian dualism affected Western thought profoundly. People learned to see themselves as being minds inside bodies. It taught modern culture to value rationality and thinking higher than emotions and the physical. Thus, academics are more important than manual workers are, educated are more important than uneducated are, and men are more important than women are. It has prevented medical science from seeing the connection between body, spirit, and mind. Thus, medical doctors can fundamentally only treat physical symptoms of the body. The partition penetrated deeply into the human understanding and it will take a long time to replace it by a more appropriate attitude about reality. (Capra 1982: 45).

By his dualism, Descartes presented the world as a perfect **machine**, over which man can have control. For him the world was dead. Matter or the material universe has no force, no purpose, no life or goal of its own. It is lacking autonomy. It is governed by exact mathematical laws and actions are imposed from outside. It was set in motion by the Creator and moved only by external contact with another moving body. Thus, change occurred through the rearrangement of inert corpuscles (any cell or similar minute body that is suspended in a fluid). Everything in the material world can be explained in terms of arrangement and movement of its parts. This mechanical framework of nature became the dominant paradigm of science. It changed the image of nature and had a strong effect on people's attitudes towards the natural environment. The organic world-view had served as a cultural constraint. As long as the earth was considered alive, it would be unethical to exploit it. However, the Cartesian view provided a scientific sanction for exploitation of nature. In this way, scientific knowledge made man the masters and possessors of nature. (Merchant 1980: 195-196; Capra 1982: 46; Capra 1997: 19).

Descartes extended his mechanistic view to living organisms. Plants and animals were also considered machines. Human beings had a rational soul connected with the body through the pineal gland in the centre of the brain. Thus, the human body was also considered a machine. Hence, living beings were nothing, but automates. Descartes did not recognize any difference between the machines made by craftsmen and the various bodies that nature composes. He compared animals to **a clock** composed of wheels and springs, this was extended to the human body. Thus, a sick man is the same as an ill-made clock. (Capra 1982: 47).

Consequently, nature is a thing, made for the benefit of man. Man can get complete power over nature by obtaining knowledge of its operations. Similarly with the human body. With complete knowledge, doctors can combat diseases, old age, even death can be controlled, as was Plato's dream. It is the fantasy of complete mastery. Dismissed were social disorder, uncontrolled passions, spontaneity, individual truths, and control of nature's spirits. Instead, self-control, temperance, reasonable judgement and sovereign law were introduced. Thus, "certain knowledge" excluded scepticism, naturalism, pantheism, atheism. (Merchant 1980: 195-196; Plumwood 1993: 109-110).

Descartes rationalist approach consequently had a decisive influence on scientific development. In some areas, it had been a successful approach, but the reductionist fallacy has also limited scientific research. Treating living organisms as nothing but machines has prevented us from understanding nature, ecological problems and many human illnesses. It has led to a science perceiving the universe

as having quantitative properties only. Extension, shape, solidity, inertial mass, magnitude and motion were the quantities possessed by all bodies. However, qualities like colour, smell, taste, sound and touch, which are unique to individual bodies, were produced by the separation, association and motion of the atomic constituents. Qualities could not initiate motion, they did not have sufficient force for putting objects in motion, and hence they were of no importance. In spite of these severe limitations, Descartes method of reasoning and his theory of natural phenomena have shaped the Western scientific thought for three centuries. (Merchant 1980: 204, 278; Capra 1982: 47-48).

Descartes belonged to *the rationalist school*, but also *the empiricists* contributed to mechanism. They did not challenge Descartes hyper-separation between mind and matter, but they affirmed that some forms of knowledge could be obtained by experience. The Englishman **John Locke's** (1632-1704) contribution became essential. He stated that sensory qualities are not really in the objects, thus they can be excluded. Locke distinguished between primary and secondary qualities that gave the empiricist tradition and science its positivist flavour, which it has never lost. Positivism in the empiricist context refers to the unity of the natural and the social sciences, especially their reducibility to physics. Or said differently; all science is physics. Positivism therefore emphasizes the exclusion from science of metaphysical and other elements, which cannot be observed and quantified. Locke's primary qualities can be observed, thus they must be considered as being real. Secondary qualities oppositely cannot be observed, they are consequently unreal. This means that bulk, number, figure and motion are really in matter or stuff, while light, temperature, colour, and smell is not really in them. Secondary qualities are relational, subjective and therefore suspect. They are "soft" and opposite of the "hard" scientific quantitative concepts. (Plumwood 1993: 117-118; Honderich 1995: 706, 750).

Mathematization of the world consequently eliminated value, purpose, harmony, quality and form from the description of nature. All of these had been central to the organic description of nature. However, for mechanization, motion was not an organic process, it was rather a temporary state of a body's existence, relative to the motion or rest of other bodies. Thus, science did not emphasize the process of change, but focused on resistance to change due to its wish for stability. Removal of organic assumptions constituted **the death of nature**. That is the most far-reaching effect of the Scientific Revolution. When nature was seen as dead, manipulation of nature was legitimate. Moreover, the conceptual framework of the mechanical order included values based on power, fully compatible with the directions taken by commercial capitalism. (Merchant 1980: 193, 277).

5.4.5. Isaac Newton; putting theory into practice

The conceptual framework that defined the world as a perfect machine governed by exact mathematical laws, remained a vision, a theory of natural phenomena. It was the British born **Isaac Newton** (1642-1727) who left us the legacy of a synthesis of mechanics and astronomy by his "Principia" and "Opticks". Newton developed a complete mathematical formulation of the mechanistic view of nature. This was the grand synthesis of the works of Copernicus, Galileo, Bacon and Descartes, which completed the Scientific Revolution. Newton formulated the general laws of motion governing all objects in the solar system, from stones to planets. The significance of these laws was their universal application. They were valid throughout the solar system and seemed to confirm the Cartesian view of nature. The universe was indeed one huge mechanical system, operating according to exact mathematical laws. Newton's laws became the solid foundation of scientific thought well into the 20th century. Newton also combined Bacon's empirical inductive method with Descartes' rational deductive method. In this way, Newton developed the methodology upon which natural science has been based ever since. (Merchant 1980: 278, 282; Capra 1982: 48-50; Capra 1997: 20).

The Newtonian universe existed in absolute space and time devoid of life and intelligence. The world was fabricated by small and solid particles. All parts were made up of the same basic constituents. Each part was separate and unrelated to other parts and each has a mechanical process that can be manipulated. Thus, things rather than relations were the ultimate reality. Relations were externally imposed by natural laws. Hence, matter was atomistic and homogeneous. Differences were due to density of atoms. Motion was caused by gravity. Due to this uniformity, the knowledge of a system's parts, can be taken as knowledge of the whole. The separability allows for context-free knowledge, which grant reliability, validity, and, due to non-participation, objectivity. Both particles and the force of gravity were assumed created by God and therefore not subject to further analysis. Later on science made it difficult to believe in a God, thus the Divine disappeared from the scientific world-view. This left behind a spiritual vacuum that is characteristic of the modern culture. All, which happened in the mechanistic world, had a definite cause, which gave rise to a definite effect. Hence, if one had detailed knowledge of any part of the system, one could, in principle predict, with absolute certainty, the future of the parts. Newton's idea that atoms was hard and solid building blocks of matter, created the image and reputation of physics as being **a hard science**, and as will be shown later, to the development of **a hard technology**. (Merchant 1980: 278, 282; Capra 1982: 51-54; Shiva 1989: 22).

The organic view did not disappear with the rise of mechanism. The vitalists argued that mechanism could not adequately explain a fundamental observed feature of the natural world - life itself. This also

troubled Newton. He found his own analysis inadequate because the laws of mechanics could not explain life and will. (Merchant 1980: 235, 284).

5.4.6. Society is also a machine

However, in spite of such "minor" contradictions mechanism was seen as being successful for its purpose, which was to re-order the natural reality around two fundamental constituents of human experience: Order and power. **Order** was attained by emphasizing that any movement or change of parts were subject to mathematical laws, rejecting unpredictability in change. **Power** was achieved by active intervention. The method to advocate power was through manipulation, technology and experiment. To end social chaos these two elements were also applied to the civil world. (Merchant 1980: 216).

In France, the rise of the mechanical world-view coincided with a tendency towards central governmental controls and the concentration of power in the hands of the royal ministers. Thus, the rationalisation of administration and rationalisation of the natural order was occurring simultaneously. Rational management in the social and economic spheres helps to explain the appeal of mechanism as a rational order created by a powerful sovereign deity. As Descartes wrote in 1630, "*God set up mathematical laws in nature as a king sets up laws in his kingdom.*" By the 17th century, the centralised control and management of industry and natural resources was well under way. The king controlled large-scale industries and claimed ownership of all metals and ores. Concessions were granted for mining and milling in return for revenue. It discouraged private industrial enterprises while strengthening state control. Under these rationalizing tendencies emerging in the governments of strong nation-states such as France and England, nature came to be viewed as a resource to be subjected to control with human beings as her earthly managers. (Merchant 1980: 205).

In England the philosopher **Thomas Hobbes** (1588-1679) in his "Leviathan" from 1651 developed a mechanical model of society as a solution to social disorder. It attacked both the traditional hierarchical model based on natural inequalities, as well as the communal model based on sharing of natural resources. In his view humans were equal and in a continual state of competition for glory and natural resources. Because of self-interest commons cannot be shared, but must be fought over. Those who did not compete for resources would be ridiculed by their peers. The antidote was order, peace and control through a set of accepted rules for the conduct of each citizen, analogous to the rules governing the operations of a machine. In this way, the state consisted of individual parts united by fear. The metaphor became mechanical and consistent with a market economy, which depends for its

operation on money exchange and quantitative calculations. Thus, the operations of the state were to be based on a rational system of rules derived by the application of logic. (Merchant 1980: 206, 209-210, 212-213).

Hobbes theoretical assumptions of equality in the state, however, challenged the patriarchal family. Thus in his discussion of the family, the mother had vanished. The family constituted of a man and his children or a man and his servants. The father had complete authority of the household including its women. Thus although equal in theory, equality in reality was only available for middle- and upper-class property-holding males. In this way mechanism became the answer to the problem of social and cosmic chaos, but at the same time a justification for power and domination over nature, women and Others. (Merchant 1980: 214-215).

The Newtonian theory and the belief in the rational approach spread rapidly in the 18th century making the era **the age of Enlightenment**. Newton's mechanical system served as an example also for political and economic order in English society. His "Principia", which was published during The Restoration following the English Civil War, called for order and moderation in religious and political affairs. Hence, thinkers applied the Newtonian principles to the science of human nature and human society, claiming to have discovered social physics. This world-view took hold not surprisingly with the rise of capitalism. It needed to turn nature into resources without any moral or social constraint. (Merchant 1980: 279; Capra 1982: 55-56)

Also in this respect was **John Locke** a dominant figure. He studied the nature of the individual and then tried to apply the principles of human nature to economic and political problems. The outcome was some natural human laws. The main focus was on human freedom and equality between all individuals together with the right to property. Locke created the early liberal arguments for legitimacy of private property. He assumed that the natural world was unowned, by anyone or itself. Only mixed with human labour would the land have a value. These ideas became the basis for the value system in the 18th century and strongly influenced the development of modern economic and political thought. Individualism, property rights, free markets, and representative governments contributed significantly to the Declaration of Independence and the American Constitution. (Capra 1982: 55-56; Plumwood 1993: 111).

The empiricist view that things have a primary and secondary quality was by Locke extended to society. The person was seen as being a political individual, while relationship between people was

seen as being suspect. Hence, society had to be founded on contracts between individuals. Locke's world-view had a hard and a soft sphere. The hard includes rationality and scientific knowledge. The soft comprises relationship, feelings and dependency. This **hard-soft dualism** replaced the old platonic dualism of the realm of the forms and the realm of changes. (Plumwood 1993: 118).

The hard world is primarily masculine. It is the world of contract, reason, hard science, hard politics and hard currency. It includes instrumental efficiency. It is a world where all must fend for themselves. Survival is a matter of a hard evolutionary and social competition. The soft contrast is the exclusions from this world. It involves ethics, which was seen as sentimentality. It covers beauty, meaningfulness, the private sphere, the home, the feminine, altruism, values, emotionality, relationship and care. The private sphere is only legitimate in the sense that it can serve the public, rational order. It has therefore no political or economic status. (Plumwood 1993: 118-119)

In this way, the mechanistic project has reduced the world to only quantitative values, excluding any ethical or qualitative response. This world-view has penetrated to our conception of our selves and our societies. It permits emotional distance, which enables power and control, violence, killing and warfare. Reductive mechanism sees the results of violence merely as collateral damage and body counts. Gross domestic product replaces livelihoods, happiness and people are seen as resources for the market. The individual has lost his sense of self, as a social being, as a moral agent and as an organic being. The individual has become a political and economic being. The person has become a machine. (Plumwood 1993: 118-119).

5.5. Mechanism; the modern way of life

Machines, calculations and measurements were increasingly integrated into the industrial life of European society. Development of transportation, navigation techniques, roads and canals, mining technology, refinement of metals, advances in ballistic machinery were all compatible with the image of a mechanical cosmos. Socio-economic ends could be realized by mining the earth, cutting the forests and constructing ships to transport the products. Mechanism made the natural world rational, predictable and thereby manipulable. The image of nature as a machine removed any scruples associating with a living organism. However, it also had side effects. Already in 1661, an analysis of the ecological interrelationships between air, water and the health of living things was made. Especially the air pollution was criticized. One half of the people who died in London were assumed to die from consequences of air pollution. (Merchant 1980: 226-227, 241).

However, in spite of such minor side effects mechanical science was established as being an objective,

value-free, context-free and universal knowledge system. **In sum**, this view came about due to the creation of assumptions about reality that make human control of nature possible: **Firstly**, matter is composed of parts, which are dead, passive and inert. The motion of the atoms forms new objects by external force. **Secondly**, the world is subject to law-like behaviour. **Thirdly**, by observing these laws knowledge can be abstracted from the natural world. **Fourthly**, only quantities and context-independent issues that can be submitted to mathematical modelling counts. **Finally**, problems can be broken into parts and abstracted from the context and be manipulated by mathematics. **Conclusively**, man has power over nature. These assumptions are prevailing in the modern culture. Based on them data is gathered which guides decision making in governments, in the economy, in industries and in application of technology. The information is arranged in such a way to assure man's domination over the entire earth and the planets. (Merchant 1980: 228-229, 231-234).

The mechanical world-view has been the philosophical ideology of modern culture during 300 years. Mechanism has been institutionalized as a form of life in the Western world. It determines education, modern philosophy, religious structures, manufacturing, consumption, government bureaucracies, the medical system and the legal system. It supports exploitation of natural resources, recommends industrialisation and alters the character and quality of human life. Reductionism is ruled as being the only valid scientific method and system. It has consequently transformed complex pluralistic traditions of knowledge into one monolith, gender-based, class-based thought. It was promoted as being a superior and universal tradition, which therefore should be imposed on all classes, genders and cultures. Science has been able to hide its ideologies behind false assumptions of neutrality, objectivism and progress. It is inaccessible to criticism concealed behind a claim to universality. (Merchant 1980: 287; Shiva 1989: 20-21).

Mechanism replaced a natural point of view with non-natural laws. Subsistence economy was replaced by open-ended exchange accumulation for profits. Living nature died and money became alive. Increasingly capital and the market would assume the organic attributes of growth, strength, activity, pregnancy, weakness, decay and collapse. These would obscure the underlying social relations of production and reproduction that make economic growth and progress possible. Nature, women, blacks and wage labour was seen as natural and human resources for the modern world system. The ultimate irony of this transformation was the name given to it: **rationality**. (Merchant 1980: 288).

The Western reality is consequently the world of classical physics. This view has completely constructed human consciousness. Even today, people scarcely question its validity. The overall belief is that the world is composed of inert parts that move with uniform velocity unless forced by another body to deviate from their straight line. Nature, society and the human body are assumed composed of interchangeable parts that can be repaired or replaced from outside. There is a trust that technology can fix everything. The mechanical view taught in most Western schools is accepted without question as our everyday common sense reality. We hardly are reflecting on their origins and associated values. (Merchant 1980: 193, 275).

This was not so in the 17th century. The replacement of natural ways of thinking by new and unnatural forms of life did not occur without resistance. Moreover, the organic perspective never really disappeared. It has remained an underlying tension. It reappeared in the 20th century manifested in the theory of holism by Jan Christiaan Smuts, the process philosophy of Alfred North Whitehead and the ecology movements. Their underlying idea is that nature is active and alive. They find it necessary to reassess the values and constraints, which historically were associated with the organic world-view to create a viable future. (Merchant 1980: 288-289, 293).

5.6. Summary of a feminist critique of science

"Representation of the world, like the world itself, is the work of men; they describe it from their own point of view, which they confuse with the absolute truth."

Simone de Beauvoir (1970).

(Keller 1985: 3).

5.6.1. Science is an ideology founded on power and domination

Modern science is portrayed as a universal, value-free and objective system of knowledge. It is considered to pursue the truth, and it is presented as being valuable for all. This view has displaced all other beliefs and knowledge systems. However, feminist scholars have studied various scientific disciplines. In each area of study, they have come to understand that what is supposed to be humanly inclusive methodologies, theories, concepts and truths is less than that. Rather the products bear the mark of the collective and individual creators, who are marked by gender, class, race and culture. Production of knowledge is therefore best described as being a social activity embedded in a certain culture and world-view founded on a historical ideology. From this, it follows that Western culture favours knowledge which does not mirror the world as it is. Instead, scientific facts emerge out of a constellation of human perceptions, values and actions - a paradigm - from which they cannot be separated. According to feminists, this paradigm is based on white, male, hegemonic thinking.

Science is therefore not universal, neither objective nor value-free. It is rather used in complex ways to dominate all that is not white, Western male. (Harding 1986: 10, 15-16; Shiva 1989: 15; Braidotti et al 1994: 30; Capra 1997: 11)

Feminist critics stress that science is determined by political, economic and social conditions according to a patriarchal order, which is dualised, hierarchical and dominant. **Dualism** has sharply divided reality into two different categories. Accordingly, we separate the public from the private, masculine from feminine, culture from nature, mind from body, rational from emotional, quantity from quality and power from love. Such divisions have made a rift between all forms of feminine and masculine issues inside ourselves and in society. Dualised thinking consequently affects people's sense of own identity and of the world in which they live, whether they are men or women. This order of reality is also **hierarchical**. The first mentioned of the dualised pairs are all-masculine and considered the highest priority, "the best" or "the right" one. Thus, male is placed above female, mind above body, culture above nature, reason above emotions etc. In this way male, mind, culture and reason exercise hierarchical control and **domination** over female, body, nature and emotions. Thus Western experience of reality, meaning structure, language use and definition of identity are framed in relations of dualism, hierarchy, domination and control; all based on male-female opposition. These principles are deeply inscribed in the modern patterns of thinking, but they are made "normal" or "natural" and therefore seen as being neutral. (Keller 1985: 7; Braidotti et al 1994: 30-31).

Dualism has defined women as being closer to the private realm, which was perceived as being synonymous with nature, emotions and caring for others. Men were oppositely defined as the user of reason and therefore being fit for civic life. In patriarchal ideology, women's social situation consequently relates to the domestic sphere, while men are placed in the public sphere. Since science belongs to the public sphere and the rational realm, knowledge generation becomes automatically a masculine activity. Hence, women have not only systematically been excluded from science, but they were also declared unfit for the usage of reason. Moreover, all feminine issues like emotions, feelings, love and nature are considered subordinate and hence not involved in science. Dualism has consequently excluded "Others" from the patriarchal perceptions. The scientific mind is related to rationality, masculinity and power, which is defined with a set of hierarchical relations to the "others": the non-scientists. In this way the discourse systematically devalues every category that is considered "other", compared to the Western, bourgeois male. These include women, children, foreign cultures, lower classes, handicapped people and nature. (Keller 1985: 8; Braidotti et al 1994: 30-31; Des Jardins 2001: 255).

Knowledge is consequently made by men. Scientific theory is written from the point of view and the socio-political experience of white, West-European, middle-class men. They have translated a masculine view of the world into universal categories. The texts of Western science, philosophy, history and religion have then been handed down through generations as irrefutable truths. This male supremacy over women, Others and nature has therefore been internalized as part of a natural order of things. (Braidotti et al 1994: 34-35).

This means that science was founded on domination. However, in spite of its domineering origin, one could still argue that science is a precise and truthful description of reality and therefore the best knowledge system available. As evidence, one may point to the many improvements science has generated in medicine, transport and information systems from which, at least the rich groups in society have benefited. However, such an argument is not valid. In his book "The structure of scientific revolution" from 1962, Thomas Kuhn relates the development of science to history and stresses the importance of the scientific community. Kuhn finds that scientific revolutions cannot be explained by the arrival of a better theory according to any simple scientific criteria. There is no purely logical argument that demonstrates the superiority of one paradigm over another. The two rival paradigms are "incommensurable" and therefore cannot be compared. Instead, the scientists will choose a paradigm according to issues relating to pressing social needs, simplicity, its ability to solve specific problems etc. It is only much later, after the paradigm has been developed, accepted and exploited that apparently decisive arguments are made. There is consequently no a priori reason (being true prior to experience) to expect that any one paradigm is the best available. There is also no procedure for arriving at a perfectly adequate paradigm. Thus, change in world views are not determined by internal logic, other factors enter into the community's choice of a "best theory". This implies that different collections of facts, focus and interpretations of the world are both possible and consistent with what we call science. Kuhn's work consequently provides a welcome alternative to the view that science is autonomous, progressive and approximating an accurate description of reality. (Chalmers 1982: 89, 95-97, 99; Keller 1985: 4-6; Braidotti et al 1994: 31-32).

Researchers have since then examined extra-scientific factors that affect the choice of scientific reflection. They have tried to identify the political and social forces contributing to the growth of scientific knowledge. They found that scientific neutrality reflects ideology more than actual history. Foucault pointed out that science has been used not to explain reality, but to produce, control and normalize it. This means that there is a connection between power, knowledge and truth. Seen in this

perspective scientific discourse is no longer about searching for truth. It is rather the outcome of a network of power relations, structures and related procedures that determine which statement is to be assigned the status of a scientific truth and which is not. This makes knowledge a highly politicized field. Politics legitimate what is allowed to be named, counted, accepted, canonized and financed as scientifically valid and true. Hence political and social pressure not only direct scientific research, they also influence the outcome. Foucault conclusively found that science is influenced by special interests. (Keller 1985: 4-6; Braidotti et al 1994: 31-32).

In addition, Sandra Harding (1986: 10) finds that those interests are androcentric. However, to criticize scientific rationality as being androcentric appears closer to blasphemy than social criticism. The reason is that the whole world is permeated so by scientific rationality that science has become more holy than religion. Nevertheless, she finds it necessary to critique science. By that, she does not suggest that we throw out the baby with the bath water. We should not renounce to describe, explain and understand regularities, causal tendencies and meanings of the natural and social worlds, just because science is androcentric. She is instead seeking an end to androcentrism, not to systematic inquiry. Ending androcentrism will require far reaching transformations in the cultural meanings and practices of that inquiry. (Harding 1986: 10, 15-16; Braidotti et al 1994: 34).

Henderson agrees that science has become a religion for many. However, it is a dualist religion. The academic world rewards narrow, reductionist studies with less significance, while human values and other ethical concerns are overlooked because they are non-quantifiable. Many distinguished scholars have called attention to this. These include Werner Heisenberg, Kurt Godel, Oskar Morgenstern, Georgescu-Roegen, Kenneth Boulding, E. F. Schumacher, Theodore Roszak, R. D. Laing, and William Irwin Thompson. They force us to remember that the normative nature of science is revealed in the first decision of any scientist: what phenomena to study. This choice then influences the view of reality. (Henderson 1978: 307).

Quantification of all statements has always been a crucial criterion in the scientific approach. Schumacher (1993: 72) finds that such a science is inadequate. It is incapable of dealing with any qualities or values, which include ethics and metaphysics. Knowledge without ethics and metaphysics cannot help us. If the teaching of science does not lead to a clarification of our fundamental convictions, it cannot educate people to be of any real value to the society. Lack of studying metaphysical and ethical problems involved in science means that its educational value is doubtful. The centre of our being, our most basic convictions or values, transcend the world of facts. They

cannot be proved or disproved by scientific methods. We need to be in touch with this basic centre within us. If we were, we would not be in doubt about our purpose in life. Thus, the whole notion of a mathematical model has to be questioned. The price of this kind of model building is the loss of quality, the very thing that matters the most. (Capra 1989: 145, 227; Schumacher 1993: 72-74).

In order to end the purely quantitative approach in science and its androcentrism one transformation would be to reject the dualist demarcation. In reality the private bears on the public, feelings are interacting with reason, quality, quantity cannot be kept separate, and women and men are interdependent. Dualism is not real. It is created to secure the autonomy of science. It blurs the fact that science has been produced almost entirely by white, middle-class men; that it evolved under a particular ideal of masculinity; that it is based on domination and control; that it consequently is a deeply subjective, personal and social activity. Without dualism science changes. It becomes both public and personal and scientists are not only rational but also emotional human actors. The reason some theories are found more persuasive than others are in part because these conform to scientists' personal desires, commitments and expectations. Scientists are consequently motivated by social, political and emotional issues, be they conscious or not. However, to avoid these facts scientists appeal to **objectivity** which imposes a veil over the ideology in science. Apparent self-evidence renders the scientific practices invisible and hence inaccessible to criticism. **Universality** completes the picture, thus the privileges of science are protected. Thus, in so far as science claims to be objective, neutral, and verifiable it misconceives and misrepresents itself. Ideological science belies its own aims, subverting the meaning and potential of objective inquiry. (Keller 1985: 7-12; Reitzes 1993: 45; Braidotti et al 1994: 37).

Feminists consequently reject the claims to objectivity and universalism. Both are created by dualism. Such concepts suggest that the general human (masculine) standpoint is objective and universally valid, while the feminine is subjective and particular. Thus, the masculine is the norm, while the feminine is the difference, the other. Claiming objectivity and universality makes men and their knowledge system detached, disembodied, transcendent and eternal. Women and their knowledge oppositely become confined to the body, the physical and related to change and nature. Feminists refuse to accept such one-sided perspective and call for flexibility in the making of knowledge. A greater attention must be given to the complexity of diversity and situated knowledge. This would give space for knowledge related to differences of race, class, sex, age, culture and nationality. This is an intellectual recognition, which the universalist mode does not permit. (Keller 1985: 12; Braidotti et al 1994: 37).

Conclusively science is the name we give to a set of practices and a body of knowledge delineated by a community. It explains reality, but as a product of human thought determined by culture. It is not defined by logic proof and experimental verification, but by social agreements, emotions and power. The dualised masculine and feminine categories are similarly defined by a culture, not by biological necessity. Scientific universalism and objectivity are false perspectives. Both are ideological expressions of white, male, hegemonic thinking. Such thinking is not neutral, neither value-free but highly contextualized. Hence, women, men and science are created from a complex dynamic of cognitive, emotional, political and social forces based on power. Therefore, with its dualist focus and the ideal of domination science cannot be objective, value-free and universal. It is a masculine knowledge system based on power over and aggression against nature, women and the non-west. It is as the German philosopher Martin Heidegger (1889-1976) said; Western philosophy has since Descartes been concerned with power. (Merchant 1980: 228; Keller 1985: 4; Shiva 1989: 16; Braidotti et al 1994: 30).

5.6.2. Science is violent

"The requirements of ... correctness in practical judgements and objectivity in theoretical knowledge ... belong as it were in their form and their claims to humanity in general, but in their actual historical configuration they are masculine throughout. Supposing that we describe these things, viewed as absolute ideas, by the single word "objective", we then find that in the history of our race the equation objective = masculine is a valid one."

Simmel, 1926.

(Keller 1985: 75).

Science is consequently founded on androcentric premises and their associated values. The androcentric premises perceive a universal masculine model of man. The dualised feminist issues are objectified and only valued to the extent that they are useful to man. Man is seen as being autonomous from both nature and society. He is a rational individual striving for freedom and independence from social and natural constraints. This picture is generalised as being an implicit goal of humanity as a whole. In fact, what men do not experience is often regarded as somewhat unimportant, distant or unreal. The measurement of masculinity is power. Dependency and powerlessness are perceived as inferiority and calls for unequal treatment. (Birkeland 1995: 59).

Thus the androcentric values leads powerful man to seek power over women, others and nature, which due to their lack of power deserve an unequal treatment. This makes science **violent**. When women, emotions and nature are constructed as the Other in scientific discourse, it reconfirms the masculine

position as being rational, superior and the standard. Rationality and theoretical reason is in this way used as an instrument for male domination over women and all others. It is a tool to eliminate and ridicule differences. However, when one lacks the ability to see the positive in diversity, and instead systematically depreciate differences, trying to make all one, it leads to **fundamentalism**. Forcing through a single rational and masculine definition of reality becomes in this way violent. Thus, there is a close link between masculinity, rationality and violence in mechanical science. These oppressive features inhere therefore also in the various scientific disciplines and in its technology. (Braidotti et al 1994: 32, 34; Des Jardins 2001: 255).

The androcentric premises also have political consequences. They protect the ideological basis of exploitative relationships. Militarism, colonialism, racism, sexism, capitalism and other pathological 'isms' of modernity get legitimacy from the assumption that power relations and hierarchy are inevitably a part of human society, due to man's inherent nature. Because when mankind by nature is autonomous, competitive and violent (i.e. masculine) then coercion and hierarchical structures are necessary to manage conflicts and maintain social order. In this way, the cooperative relationships such as those found among some women and tribal cultures, are by a dualised definition unrealistic and utopian. (Birkeland 1995: 59).

This means that power relations are generated by universal scientific truths about human nature, rather than by political and social debate. The consequence is that people cannot challenge the basis of the power structure because they believe it is the scientific truth, so it cannot be otherwise. In this way, militarism is justified as being unavoidable, regardless of its patent irrationality. Likewise, if the scientific "truth" were that humans would always compete for a greater share of resources, then the rational response to the environmental crisis would seem to be "dog-eat-dog" survivalism. This creates a self-fulfilling prophecy in which nature and community simply cannot survive. (Birkeland 1995: 59).

This type of social and political power structure is kept in place by social policies. It is based on the assumption that if the scientific method is applied to public policy then social planning can be done free from normative values. However, according to Habermas (Reitzes 1993: 40) the scientific method only conceal pre-existing, unreflected social interests and pre-scientific decisions.

Consequently, also social scientists apply the scientific characteristics of objectivity, value-freedom, rationality and quantifiability to social life. In this way, they assume they can unveil universal laws

about social relations, which will lead to true knowledge. Based on this, correct social policies can be formulated. Thus, social processes are excluded, while scientific objective facts are included. Society is assumed a static entity, where no changes are possible. By promoting a permanent character, social science legitimizes the existing social order, while obscuring the relations of domination and subordination, which is keeping the existing power relations inaccessible to analysis. The frozen order also makes it impossible to develop alternative explanations about social reality. It prevents a historical and political understanding of reality and denies the possibility for social transformation by human agency. The prevailing condition is seen as an unavoidable fact. This implies that human beings are passive and that domination is a natural force, for which no one is responsible. This permits the state freely to implement laws and policies, which are controlling and coercive. These are seen as being correct, because they are based on scientific facts made by scientific experts. One result is that the state, without consulting the public, engages in a pathological pursuit of economic growth. Governments support the capitalist ideology, which benefits the elite only, while it is destroying nature and increasing poverty for women and lower classes. The priority on capitalism also determines other social policies. There are consequently no considerations for a possible conflict between the aims of the government for social control and economic efficiency and the welfare needs of various social groups. Without having an alternative to the existing order, people become dis-empowered. Ultimately, the reaction is public apathy, which legitimates **authorative governments**. Thus, social science is an ideology, which is affirming the prevailing social, political and economic order. (Reitzes 1993: 36-39, 41-42).

In reality, it is a contradiction to apply the scientific method to social policy making. Any social policy change will alter social relations and affect the relative welfare of classes of people, which makes social decision making normative. Social policy is related to politics, which is an extension of ethics. Since values and facts are different categories, one cannot apply indisputable empirical facts to social values. It is therefore impossible to legitimize political decisions with reference to scientific knowledge. Social decision-making is a political process. When science is applied to political and normative questions, it becomes an ideology, which supports the dominant interests. Thus, the state reproduces conditions for domination. In case the contradictions become too pronounced, and the power of the state is challenged, then the ideology becomes violent. The consequence is **totalitarianism**. It is a situation where the state sets limits to what is permissible to think and teach, if necessary by coercion. Conclusively social science manipulates reality to serve the vested interests of specific social groups. The result is a dominant and violent ideology masked as science. (Reitzes 1993: 32, 34, 42-45).

Shiva also finds that scientific knowledge is directed towards violence and economic profits: 80% of scientific research is devoted to the war industry. War is aimed at violence against the perceived enemy and civilians, sometimes a country's own population. Also in peaceful domains does science relate to violence. It exploits nature for maximization of profit. Science can only include the quantifiable, profit generating properties of a resource system. Thus properties which are not profitable, but which are qualitative and stabilise ecological processes, are ignored and destroyed. The focus on power and control for profit means that science misses out on much of what is important for nature and people. Thus, science and technology choose nuclear energy, experimenting on animals and spreading deadly pesticide, while they are overlooking the least profitable, but sustainable organic farming and solar energy. Consequently, science focuses on violence and profit, which destructs human and natural well-being. (Shiva 1989: 23; Des Jardins 2001: 255).

According to Griffin (1990: 87), this destructive tendency of science comes from its reductionist world-view. With its priority on rationality, intellectual and intuitive knowledge has been separated. Since the latter is eliminated, science can only see the world in fragments. Because scientific knowledge of the parts is detailed and in depth, it creates the illusion of having knowledge of the whole. However, without intuition science cannot have any idea about or feeling for the whole. Having knowledge of fragments means that the system can only produce in fragments. This has consequences. When the scientist sees the world in pieces, he believes it is dead. This permits exploitation of nature. Oppositely, if the scientist would view the world as a whole, he would be able to see that nature is alive. Therefore, when we distance ourselves from the whole, we distance ourselves from death. The reductionist approach consequently promotes decisions for actions towards the parts which are destructive and which are causing the death of the whole. (Griffin 1990: 87-88).

As an example, Griffin tells the story about Heinrich Himmler who was Reichführer SS under Hitler in the Second World War. Himmler was in charge of the concentration camps. When he supervised some mobile killing units used at the Russian countryside, he realised that it was upsetting for the German soldiers actually to see the killing of people. He then designed a mobile killing van that would keep the killings away from the eyes of the men who were committing the murders. In this way, they did not see what they were doing. They saw the activities only in fragments. That is similar to the work of scientists who help to create weapons of mass destruction. They distance themselves from the wholeness of the experience, which makes them unaware that their work is embedded in a destructive cycle of life and death. Moreover, scientists use the concept of objectivity to distance themselves further from real life, its suffering and destruction. Modern bureaucracies are also built on scientific

principles. This keeps civil servants from seeing the implications of their actions. Such institutions reflect the way the modern culture understand consciousness: It is not embedded in life, it is separate and it help us to wage war. (Griffin 1990: 92-93).

Already after the First World War did the British philosopher, civil-rights activist and Nobel Prize-winner **Bertrand Russel** (1872-1970) contemplate on the effects of modern science and its technology. In his book from 1923 called "The Prospects of Industrial Civilization" Russel concluded that the application of science has been "*in the main immeasurably harmful*", and it would only cease to be so "*when men have a less strenuous outlook on life*". Russell found that science has been used for three purposes: to increase the total production of commodities; to make wars more destructive; and to substitute trivial amusement for those that had some artistic or hygiene values. The increase of production had its importance 100 years ago. Now it is more important to direct production wisely. Instead, science increased production and created environmental degeneration; it made wars more destructive which increased global violence and human suffering; and it trivialized cultural activities, hence destroying the quality of life. (Ullrich 1993: 276-277).

Conclusively writings such as Bacon's, should alert us to the violent attitudes in modern science. The scientific focus on explaining and predicting phenomena, is the first step towards domination of nature, poor people and women. (Des Jardins 2001: 255).

5.7. Conclusion on science

In spite of widespread criticism and available alternatives - as shall be shown below - the mechanical view of nature is still dominant in science today. It is still widely assumed that modern science is objective, value-free and produces universal knowledge of the external world. The extend to which scientific disciplines can be reduced to mechanistic mathematical models, the more legitimate they become as sciences. The most mathematical and highly theoretical sciences occupy the highest and most revered position. Seeing the universe as a living, organic entity is foreign to the Western way of thinking. Most scientists therefore prefer to follow the traditional approach, which had always been to find the basic constituents of matter. There are also other reasons why the traditional mechanical science will not easily change. Since dualised science is based on power, control, domination and profit making, such hugely important vested interest will die-hard. It may consequently take a long time before an ecological way of viewing reality will be fully implemented. In the mean time, the mechanical perspective will continuously push humanity towards artificial environments, mechanized control over human life and a loss of quality of life. The model also guides economy, industry,

technology and development, with devastating effects for nature, women and poor people. (Merchant 1980: 290-291; Capra 1989: 51-53).

5.8. Alternative to mechanical science

"A new scientific truth does not conquer by persuading its opponents and make them see the light, but rather because its opponents by time dies, and a new generation who is familiar with it grows up."
Max Planck "Scientific Autobiography", 1949. (George 1989: 291).

5.8.1. New physics declares the Universe alive

During the 19th century, new discoveries and new ways of thinking made the limitations of the Newtonian model apparent. Electric and magnetic phenomena could not be described by the mechanistic model. There was also a new trend of thinking that included the idea of evolution, change, growth and development. Evolutionary thinkers like Kant, Hegel and Engels appeared. This gave the groundwork for the most precise and far-reaching formulation of evolutionary thought - the evolution of species. Up to that time, it was believed that God created the world but the French biologist **Jean Baptiste Lamarck** (1744-1829) changed this picture. Lamarck's theory of evolution was in biology the equivalent to the Copernican revolution in astronomy. Several decades later British naturalist **Charles Darwin** (1809-1889) presented a mass of evidence in favour of biological evolution. The evolutionary concepts also emerged in physics. It started with the law of thermodynamics. All of these discoveries went beyond the Newtonian model and indicated that the universe was more complex than Descartes and Newton had imagined. At the end of the 1800, scientists were forced to abandon the Cartesian conception of the world as a machine constructed by the Creator. Thus, the Newtonian mechanistic model had lost its role as the fundamental theory of natural phenomena. (Capra 1982: 57-60, 62).

5.8.2. The relativity theory and the quantum theory

In the 20th century, physics went through several conceptual revolutions. The German physicist and Nobel Prize-winner **Albert Einstein** (1879-1955) initiated these revolutionary trends in scientific thought. The change was based on two theories. One was the **theory of relativity**, which was constructed in its complete form by Einstein himself. The other was the **quantum theory**, which was initiated by Einstein but later on completed by a whole team of physicists. (Capra 1982: 63).

The revolution happened when physicists extended their range of investigation into the realm of atomic and sub-atomic phenomena. In the process, they were forced to think in entirely new ways. The reason was that their classical concepts were inadequate to describe atomic phenomena. Only when

the physicists learned to ask the right questions could they make a consistent mathematical calculation and formulate new theories about reality. The new physics necessitated profound changes in concepts of space, time, matter, object and cause and effect. (Capra 1982: 64-65).

The emerging picture of reality was as follows: Atoms and subatomic particles are not hard and solid, but abstract entities with a dual nature. Sometimes they appear as **matter** or particles other times as **light waves**. Thus, an electron is continually transformed from being a particle to become a wave and vice versa. No atomic object has any intrinsic properties independent of its environment. Thus, the property it shows to the observer is depending on the apparatus it is forced to interact with in the experimental situation. The two properties are interrelated but they cannot be defined simultaneously in a precise way. The more one aspect is emphasized the more the other becomes uncertain. The precise relation between the two was described by the German physicist **Werner Heisenberg** (1901-1976) in his "**uncertainty principle**". (Capra 1982: 67-68).

To describe how the particle and the wave pictures are two complementary descriptions of the same reality, the Danish physicist and Nobel Prize-winner **Niels Bohr** (1885-1962) introduced the notion of **complementarity**. Each of properties is only partly correct and is having a limited range of application. Both of the properties are needed to give a full account of the atomic reality. The notion of complementarity has become an essential part of the way physicists think about nature. Bohr suggested that it might also be a useful concept outside the field of physics. Complementarity was used in the Chinese yin-yang terminology. The yin and yang are interrelated in a complementary way. Clearly, the modern concept of complementarity is reflected in ancient Chinese thought. (Capra 1982: 68).

At the subatomic level, matter does not exist with certainty at definite places, it rather shows tendencies to exist. Thus, atomic events do not occur with certainty, at definite times and in definite ways, they rather show tendencies to occur. These tendencies are expressed as **probabilities**. An atomic event can never be predicted with certainty, only the likelihood of its happening can be predicted. Hence, there are no solid objects. At the subatomic level the material dissolve into wavelike patterns of probability. In addition, the subatomic particles have no meaning as isolated entities. They can be understood only as interconnections between processes of observation and measurement. Therefore, subatomic particles are not things. They are interconnections between things. These things in turn are interconnections between other things and so on. In **quantum theory**, you always deal with interconnections. (Capra 1982: 69).

Consequently the universe must be seen as a unified whole. We cannot divide it into independently existing smaller units. It can only to some extent be divided into separate parts, made of molecules and atoms, themselves made of particles. However, at the level of particles the notion of separate parts breaks down. The subatomic particles and therefore all parts of the universe must be defined through their interrelations. Nature is therefore a complicated web of relations between various parts of a unified whole. This demands a shift from the focus and analysis of objects to relationships as the basis for all definitions. Thus, any object should be defined, not by what it is in itself, but by its relations to other things. (Capra 1982: 70).

In classical physics, local variables reside within the objects and help us predict its behaviour. It is, however, not an exact prediction. The object is also influenced by non-local variables but in the ordinary world, these are relatively unimportant. We can therefore speak of separate objects and formulate the laws of physics in terms of certainty. In quantum physics, local variables are the connections between particles and the networks of particles. The non-local variables relates to all other connections. These connections are strong in their influence and cannot be predicted in a precise mathematical way, since each is influenced by the whole universe. This influence cannot be described in details, although it has some order, which can be expressed in terms of probabilities only. (Capra 1982: 71).

Thus, systems cannot be analyzed in terms of independent parts and individual events do not always have a well-defined cause. Systems are linked by instantaneous, non-local connections. These connections transcend the conventional idea of information transfer and give a new notion of causality. Disintegration of subatomic particles may therefore occur spontaneously without any single event causing it. This does not mean that atomic events occur in completely arbitrary fashion, only that they are not brought about by local causes. The behaviour of any part is determined by its non-local connections to the whole. Since these are not known precisely, such events cannot be predicted, only the probability can be stated, which leads to statistical causality. Since atomic events are determined by the dynamics of the whole system it follows that the whole determines the behaviour of the parts. It is not the parts that determine the behaviour of the whole, as assumed in classical mechanics. (Capra 1982: 75-76).

Based on this the universe looks more like a great thought rather than a great machine. The structure of matter is similar to the structure of mind. An electron does not have objective properties independent of the observer's mind, his mind brings about the properties of an atomic phenomenon. If

the electron is asked a particle question, it will give a particle answer, if it is asked a wave question, it will give a wave answer. Thus, the dualism between mind and matter, the observed and the observer can no longer be maintained. Human beings cannot speak of nature without including themselves. Thus, science is not value free. The patterns scientists observe in nature are intimately connected to patterns in their minds. Hence, the results scientists obtain will be conditioned by their frame of mind. They are therefore morally responsible for their research. That helps to explain why some scientists may develop destructive technology that further destroys nature, while others may bring about a more organic way of life. It is up to their personal values to decide which path to take. (Capra 1982: 77).

According to **the quantum theory**, matter is always restless. When a subatomic particle is confined to a small space, it reacts on the confinement by moving around. The smaller the region of confinement the faster it will move. At a macroscopic level, material objects seem passive. However, when we magnify a piece of stone or metal, it is full of activity. Thus, there are no static structures in nature. There is stability, but one of dynamic balance. (Capra 1982: 78-79).

According to **the relativity theory**, both space and time are relative concepts. Space and time are inseparably connected and form a four-dimensional continuum, which human beings cannot experience. However, particle interaction can move in any direction of four-dimensional space-time. They move backward and forward in time, just as they move left and right in space. There is no before, no after and no linear cause effect. All events are interconnected. We can express this mathematically but not in ordinary language. The most important consequence of relativity theory is that mass is nothing but a form of energy, which can be transformed to other forms of energy. Since energy is activity and processes, it implies that the nature of subatomic particles is intrinsically dynamic. Particles have a space aspect and a time aspect. Their space aspect makes them appear as objects with a certain mass, their time aspect as processes involving energy. Thus, the being of matter and its activity cannot be separated, they are different aspects of the same space-time reality. When the particles are observed, they are dynamic patterns continually changing into one another - it is a continuous dance of energy. Thus, relativity theory gives the same lesson as quantum theory. That the human common notions of reality are limited to their ordinary experience of the physical world. However, when that experience is extended this notion has to be abandoned. (Capra 1982: 80-82).

In sum, the **quantum theory** shows that solid objects dissolve at the subatomic level into wave-like patterns of probabilities, rather than things. Sub-atomic particles have no meaning as isolated entities, they are interconnections between processes of observation and measurement. Thus, subatomic

particles are not things but interconnections between things, which in turn are interconnections between other things. Hence, quantum theory deals with interconnections. It therefore becomes impossible to decompose the world into independently existing elementary units. At the subatomic level nature has no isolated building blocks, nature is rather a complex web of relationships between parts of a unified whole. **Relativity theory** made the cosmic web come alive. It has revealed the intrinsically dynamic character of the universe, by showing that its activity is the essence of its being. The image of the universe as a machine has been changed into a view of it as an indivisible, dynamic whole whose parts are essentially interrelated and can be understood only as patterns of a cosmic process. At the subatomic level, the interactions between the parts of the whole are more fundamental than the parts themselves. There is motion but no moving objects, there is activity but no actors, there are no dancers, there is only the dance. (Capra 1982: 83; Capra 1997: 30)

At a later stage **the S-matrix theory** was developed. It is a complex mathematical structure ideally suited to combine the principles of quantum and relativity theory. It is based on **the bootstrap hypothesis**. The bootstrap approach acknowledges the perception of the universe as a dynamic web of interrelated events. Following from this any future scientific discipline must be an interconnected network of mutually consistent models, each of them being limited and approximate, and none of them being based on firm foundations. One may then use different models to describe different aspects of the subject, without regarding any one of them as fundamental. In this way, several interlocking models can form a coherent theory. Thus, researchers can focus on certain aspects of a subject without trying to generalise their findings to the subject in its totality. With a bootstrap science, various systems would be integrated into a collection of maps covering the entire range of that subject. This approach could with success be applied to all disciplines of science. Hence, any scientist who is able to view any number of different, partially successful models without favouritism is automatically a bootstrapper. (Capra 1982: 102; Capra 1989: 52, 61-62, 71-72).

5.8.3. Science can only yield approximate knowledge

One of the lessons physicists had to learn was that all concepts and theories used to describe nature are limited. Scientific theories cannot provide a complete and definitive description of reality. They will be approximations to the true nature of things. Thus, scientists do not deal with truth, but with limited and estimated descriptions of reality. These descriptions must be expressed in a systemic and ecologic way. Such a view is not unscientific. Modern physics can show that a systemic framework is scientific and in agreement with the most advanced theories of physical reality. (Capra 1982: 33-34).

In systems thinking reality must be perceived as a network of relationships. Thus, also the descriptions

must form an interconnected network of concepts and models in which there are no foundations. Knowledge must therefore be seen as a network. No properties of this network are fundamental. Hence, there is no foundation in knowledge. From this, it follows that physics is no longer more basic or more important in science than any other sciences. Each belongs to different systems levels. When reality is seen as an inseparable network of relationships, it is not possible to obtain objective descriptions, i.e. independent of the human observer and the process of knowing. The process of knowing is included in the description. Thus, the method of observation and measurement is an integral part of scientific theories and the outcome depends on our perception. Thus - as the Scottish philosopher David Hume already had stated - what we observe is not nature itself (the noumenon) it is nature exposed to our method of questioning (the phenomenon). This again means that scientists must learn to study whole systems with a self-reflective approach. Thus, a scientist does not only observe a phenomenon, he or she needs to observe him or herself observing a phenomenon. This reflective paradigm exists in psychology. Those seeking to practice psychoanalysis on their fellow creatures must submit to a prior psychoanalysis. Hence, perhaps all scientists should undergo psychoanalysis in order to understand their own deeper motivations, impulses and ego needs. (Henderson 1978: 324-325; Honderich 1995: 379; Capra 1997: 39-40).

Since understanding all relations is impossible, what we get is not certain but approximate knowledge. Thus, all scientific concepts and theories are limited and approximate. Science can never provide any complete and definitive understanding. It can make approximations, which come closer to reality every time we add more relations. No matter how many connections we take into account, we will always be forced to leave others out. From this, it follows that scientists can never deal with truth. In science, we always deal with limited and approximate descriptions of reality. Hence, the body of knowledge science has gathered over centuries, is a collection of approximations rather than certainties. There is nothing solid and sure in the universe. However, the fact that we can obtain approximate knowledge about an infinite web of interconnected patterns is a source of confidence and strength. Nevertheless, it also means that the task of science is not to discover facts, but with each scientific discovery, to ask better questions. (Rowe 1997: 214; Capra 1997: 40-41).

5.8.4. An example of systemic thinking

The American couple Carl and Stephanie Simonton who treat cancer-patients both physically and mentally find that **illness** has to be understood as a **systemic disorder**. It often has a localized appearance but it involves the entire organism - the mind as well as the body. Psychological and physical states can work together to start the disease by production of emotional stress. The stress

leads to hormonal imbalances, which suppresses the body's immune system. Malignancy is spreading exactly at the time the body is least capable of destroying it. Thus to reverse the disease and regain a healthy state requires an understanding of the sequence of events that led to the illness. One must identify the major stresses in one's life and develop a positive attitude to their solution. When the feelings of hope and anticipation are generated, the organism translates them into biological processes that begin to restore balance and to revitalize the immune system. Thus, the mind can cause and cure cancer. According to the Simontons, there is abundant evidence about the role of emotional stress in the onset and development of cancer. Thus, the question is not whether there is a relationship between emotional stress and cancer but rather what is the precise link between the two. (Capra 1989: 160, 183-185).

Thus in this perspective illness should be seen as a person's "problem solver" rather than an attack on the body. However, due to social and cultural conditioning people often find it impossible to resolve stressful problems in a healthy way. They therefore choose - consciously or unconsciously - to be sick as a way out. This includes physical as well as mental illnesses. Simontons have experienced that mental illnesses tend to exclude physical sickness. It is essentially unheard of for a schizophrenic to develop cancer, the two are almost mutually exclusive decisions. Schizophrenic people withdraw from reality and therefore do not experience the frustration that leads to stress and development of cancer. Nevertheless, both diseases are the result of unhealthy ways of escaping from a stressful life situation. Thus as science learns to cure diseases, the psyche will replace them with some other disease. The history of disease patterns show that this has been done throughout human history regarding the plague, tuberculosis and polio. As soon as the disease was handled, society moved on to something else. When the escape into physical or mental illness from stressful life situations is blocked by successful medical intervention, the person might also choose to escape into crime. Since there are three solutions to intolerable stress: physical sickness, mental illness and social illness. The latter includes any anti-social behaviour like violence, rape, drug abuse and more. Anti-social behaviour is a common reaction to stressful life situations. Thus if a society measures a reduction in illnesses, but at the same time observe an increase in crime rates, nothing has been done to improve health in society. (Capra 1989: 202-204; 214).

From the above it follows that in case any one of the four crises is reduced or resolved, while another of the crises is increased or a new crisis is generated, society only moved the malignancy from one place to another and resolved nothing. Conclusively only by a holistic, systemic approach can the crises be resolved.

5.8.5. Critique of new science; it cannot overcome dualism

Capra consequently finds that the various crises of modern times are a manifestation of applying the outdated mechanistic world-view. Since classical Newtonian physics is still used as the dominant paradigm in modern society and its institutions, multiple aspects of the global crises are continuously generated and reinforced. Capra has therefore been active in promoting the new science. He finds that based on evidence from physics other sciences must change their underlying philosophies accordingly, in order to be consistent with the new vision of reality. This radical change would be the only way to solve the urgent economic, social and environmental crises. (Capra 1989: 225-226).

Schumacher, however, did not concur with Capra's thesis. He did agree that a transformation is necessary, but he did not believe that physics could give the guidance. In his opinion, there is science for understanding and science for manipulation. The first he often called for wisdom. Its purpose is liberation and enlightenment of the person. The purpose of the latter is power. This shift from wisdom to power happened during the Scientific Revolution. "Knowledge itself is power" according to Francis Bacon. Since that time, the name of science remained reserved for manipulative knowledge. Science is consequently only concerned with knowledge that is useful for manipulation of nature and people. Elimination of wisdom has turned the rapid accumulation of knowledge into a serious threat because Western civilisation believes that manipulative science is the truth. It was physics that caused and perpetuated this error. Thus, physics got us into the mess we are in today and Schumacher did not believe that physics could help us solving the problems. Although the new physics is useful due to its emphasis on interrelatedness and process thinking, Schumacher did not see any room for quality in a science based on mathematical models. As he said, "*The whole notion of a mathematical model has to be questioned. The price of this kind of model building is the loss of quality, the very thing that matters most*". Thus, new physics cannot overcome dualism. (Capra 1989: 226-227).

Schumacher found the need for an entirely new system of thought. It must include reliance on experiment more than understanding. Because of the smallness of human knowledge, man must take small steps. There has to be made room for non-knowledge (from German nichtwissen or ignorance). The method must be to take a small step, wait for feedback and then proceed further. There is wisdom in smallness. The greatest danger arises from ruthless application of partial knowledge on a vast scale. Nuclear energy is the most dangerous example of such unwise application. Rather than destroying nature and people the world needs "*economics as if people mattered*" and "*technology with a human face*". This should be realised by ordinary people, not by physics. Hence, Schumacher and Capra disagreed about the role of physics. They entertained a completely different philosophy, although it

had the similarity of wanting to overcome the dualist world-view and to introduce an ecological vision of the future. It should be added that Schumacher's disagreement with Capra was not trivial. He often discussed similar issues with his brother-in-law, the famous physicist Werner Heisenberg, who was married to Schumacher's sister. (Capra 1989: 10, 228, 230-232).

5.8.6. Finally overcoming dualism!

As shown above the inherent dominance and violence of science relates to its dualised foundation. This came from the work of Descartes. He divided mind (the thinking thing) and matter (the extended thing). Since then the two were never again united. However, **the Santiago theory of cognition** developed in the 1970s by Humberto Maturana and Francisco Varela seems to have united them. (Capra 2002: 29).

Systemically seen all biologic life consists of cells with three characteristics: Each cell has a membrane that divides the cell from its environment, making it a closed system organisationally; it has a metabolism, making it open to a constant flow of matter and energy for self-generation; its metabolic processes form a network inside and outside its boundaries. It operates far from equilibrium, yet it is stable. However, increased energy may create instability manifested in emergence of a new state spontaneously. Thus, life is a self-generating, evolving network (autopoiesis). (Capra 2002: 7-8, 12-13).

When life is self-generating it follows that the process of knowing must be identified with the process of life. Thus cognition is involved in self-perpetuating of living networks. Or said differently cognition is the very process of life. Thus the organizing activity of all living systems, at all levels in life, is a mental activity. This means that living organisms interact with their environments cognitively. In fact, the entire structure of the organism participates in the cognitive process. This is a radical expansion of the concept cognition. In this new view, cognition involves the entire process of life, including perception, emotion and behaviour. It does not even necessarily require a brain and a nervous system. Thus life and cognition are inseparably connected. Hence, mind or mental activity and matter or physical activity are not separate categories. They are two complementary aspects of life: process and structure. At all levels of life mind and matter, process and structure are inseparably connected. To live is to know. Thus, mind and matter are intertwined at all levels of life. We therefore must see life as a system. This definition of life challenges the ancient division of mind and body and has consequently important philosophical implications for all established dualisms. (Capra 2002: 29-30, 32-33).

Descartes division between mind and matter, the I and the world, made us believe that the world can be described objectively. This objectivity became the ideal for science. However, the quantum theory showed that this could not be maintained when we deal with atomic phenomena. Now the Santiago theory shows that cognition cannot represent an independently existing world. Cognition brings forth a world through the process of living. Thus subjectivity is part of all knowing. (Capra 2002: 37).

Conclusively based on new physics and cognitive science, all biological and social phenomena must be seen as systemic frameworks. Life has three interconnected perspectives: the pattern perspective (form), the structure perspective (matter) and the process perspective. Only one of the three perspectives (matter) are quantifiable, the other two (form and process) are non-material qualities. It is therefore inadequate when it comes to living systems to focus only on material structures. This systemic understanding of life can be extended to the social domain by adding the perspective of meaning. Thus, understanding of social phenomena integrates form, matter, process and meaning. Three of these perspectives are non-quantifiable. Apart from the fact that the four cannot be separated, excluding qualitative elements would give a false picture of social reality. Hence, qualitative and any other feminine elements cannot be excluded in science. Conclusively we must reject classical science and its sub-sciences. (Capra 2002: 61-64, 70).

5.8.7. A unified, interdependent and harmonious world-view

"Experience weaves meaning and fact into one seamless robe."
R. D. Laing in "The voice of experience", 1982
(Capra 1989: 153).

Since the new world-view of modern physics is a systems view, a new science must perceive all parts as equally important. Thus science must make a complete turning around from its masculine intent to control and dominate women, Others and nature, to the idea that the whole of creation is a companion. A new kind of language appropriate for the new science need to be developed. It must be depictive instead of descriptive. It must be based on a sharing of experience represented by drawing, described by narrative means, sketched and more. As R. D. Laing says: *"It is through experience that we reveal ourselves to one another, and it is experience which gives meaning to our lives"*. Thus human experience has returned to knowledge making, after Galileo cast it out of the realm of scientific discourse four hundred years ago. This is a perspective corresponding to the way in which Karen Warren perceives theory making in ecofeminism: as being a theory-in-process similar to "quilting". (Capra 1982: 89; Capra 1989: 145, 153; Warren 2000: 66-68).

The changes to a systemic and ecological world-view are a perception parallel to mysticism. It requires us to develop an intuitive awareness of life's interdependence. If spirituality is defined as the mode of consciousness where we feel connected to the cosmos as a whole, then such ecological awareness is spiritual. Thus, the vision of reality emerging from the new science is in harmony with the visions of spiritual traditions. Charlene Spretnak sees exactly women's spirituality as the crucial link between feminism and ecology. For her ecofeminism describes the merging of the two movements and it highlights the profound implications of feminist awareness for the new ecological paradigm. Thus, science is not anymore a contradiction to the formerly dualised spirituality. The fact that new physics makes contact with mysticism is a manifestation of the intuitive mind and the unity of yin and yang. (Capra 1982: 32-33, 66-67; Capra 1989: 113, 245).

5.8.8. A synthesis of diverse perspectives and world-views

"You may be right and I may be wrong. And by an effort together we may get closer to the truth".
Karl Popper. (Chambers 1997: 203).

If the above insights are accepted, it must follow that the systems theory, Smuts' holism and the Chinese I Ching ideal of changes are all relevant world-views. They present consistent although limited perceptions of reality, but with some degree of accuracy. They are therefore each in their way useful as input to an epistemological paradigm change. Similarly, if the bootstrap approach is applied to post-modern environmental and social theories, it should be possible to combine alternative, but consistent philosophical inputs. In that case, one may use insights from both ecofeminism, Deep Ecology, social ecology and Norgaard's coevolutionary scheme, etc. If each perspective can make systemic and ecological descriptions of reality, then each model should, to a limited degree, be able to present one or more accurate aspects of reality. None of them must be considered as being universal or fundamental truths, but all of them could be seen as representing some approximations of reality. However, combining the explanations may be helpful to increase the human understanding of reality, which may lead to generation of more balanced and harmonious changes in the human and natural world.

Part II: Scientific economics; how it dominates women, Others and nature

Generation of wealth was an important part of the Scientific Revolution and its modern society. The scientific discipline of economics therefore became a significant means for wealth creation. However, since it is founded on similar dualised premises as science, also economics became a system of

domination and exploitation of women, Others and nature. The following discussion is intended to show that. The way in which economics, with its priority on masculine forces, becomes dominant relates to web-like, inter-connected and complex processes, which are not always clearly perceived. The below discussions try to show how the dualised priority of the individual over society, reason over emotion, self-interest over community-interest, competition over cooperation, and more pairs, generate domination that leads to the four crises of violence and war, poverty, human oppression and environmental degradation. The aim in sum is to show how the current perspective of economics is destroying society (women and Others) and nature.

The following discussion is consequently a critique of economics. It is meant to highlight some elements that make economics a dominant ideology, rather than a system of knowledge. It adopts a feministic view and it is therefore seen from the side of women, poor people and nature. The critique is extensive, but not exhaustive. It is **extensive** because economics is the single most important tool used by mainstream institutions for development in the South. Thus if we want to understand why development does not alleviate poverty, then we first need to comprehend why its main instrument, economics, cannot alleviate poverty. A critical analysis of economics and its influence in development is therefore important as an introduction to next chapter, which discusses ecofeminism and development. However, the critique is not **exhaustive** because it focuses only on the dualised elements in economics. It is highly likely that there are many more critical issues in economics, which should be analyzed in addition to the below mentioned. However, it would exceed this scope.

Each of the following 10 sections discusses a specific issue in economics that relates to its dualised nature. Thus, each can as such be read on its own. However, all sections are systemically inter-connected. Therefore each re-enforces the others and integrated, they are meant to show the web of masculine forces that make economics dominant towards women, Others and nature.

The first three sections intend to show that economics sees itself as a neutral, objective, quantitative and universal science, which does not need to be integrated in social and natural reality. The outcome of this is, however, that economics cannot value social and environmental needs. Hence, a few individuals become very rich from capitalising on free social and natural resources, while the health of the public and the environment is degraded. It also is shown that the exaggerated focus on monetary wealth does not increase human happiness. It rather leads to a deteriorating quality of life. Thus, the false belief in eternal economic growth may eventually destroy life on planet Earth. **The next** section shows that economics is based on dualism, with a focus solely on yang forces. This has serious

consequences for all yin issues: For example, the priority on individualism over community may in its extreme form lead to self-destruction. Similarly, the priority on rationality while excluding human emotions may end in greed, domination, poverty, violence and war. **The next** section is important as a means to understanding "rational" economics. Its aim is to clarify the psychological meaning of money. In reality, reason and emotion are interrelated parts of the human mind; they cannot be separated. Thus, economic "rationality" and its focus on eternal wealth generation are based on personal emotions like fears and inadequacies, rather than reason. The false belief in dualism means that human beings are lying to themselves, which results in disturbed minds, stupid actions with disastrous consequences. The focus on masculine forces is consequently psychologically unhealthy; it leads to domination of society and nature, and will eventually destroy the world. **The following three** sections are intending to show that the new global capitalism is doing just that. First, the neo-liberal economical scheme is presented. Secondly, its application in the Third World as Structural Adjustment Programmes and as the New Economic Partnership for African Development is critiqued. Thirdly, the extreme application of the disturbed "rational" human mind, manifested in the form of an institutional psychopath "the corporation", is discussed. After **concluding** that economics is a patriarchal system of domination, **alternative economic models**, which can support women, Others and nature, are presented.

5.9. The emergence of economics as a truth about the world

"Do not be eager to know everything lest you become ignorant of everything."
Democritus, Greek philosopher (fl 420 BC).
(Barnes 1987: 265).

Until the 16th century, economics was an integral part of human life. Throughout history food, clothing, shelter and other basic resources were produced for use value and distributed within tribes and groups on a reciprocal basis. Markets, which have existed since the Stone Age, were based on barter and bound to be local. Moral restriction against money lending for interest was encouraged, as was just prices. Values like individual gain and personal hoarding were oppositely discouraged. The very idea of profit, was either inconceivable or banned. Work was done for the use value of the group and the well-being of the soul. Trade was not habitual, but done only in order to restore the group's sufficiency. This communal economic organisation did not preclude the age-old motives of power, domination and exploitation. However, the idea that human needs were boundless was not held before the Enlightenment. (Capra 1982: 201-202).

Economics, as we know it today, emerged at the end of the Middle Ages. The triumph of Newtonian mechanics established physics as the prototype of a hard science against which all other sciences were measured. The closer scientists could come to the methods and concepts of physics the higher the standing of the discipline in the scientific community. Social sciences have traditionally been regarded as the softest among the sciences, thus social scientists have tried hard to gain respectability by adopting the methods of physics. This is especially true for economics. Nevertheless, applying the static, mechanical and quantitative Newtonian model to economics is quite inappropriate. It makes the discipline both unrealistic and dangerous. (Capra 1982: 194, 200).

Economics is embodied in the masculine or yang oriented values. It gives a high value to material acquisition, competition and expansion. It is specifically obsessed with hard technology and hard science. Due to this focus, economics has institutionalized gluttony, pride, selfishness and greed in the modern society. This encourages the pursuit of goals that are unethical and which dominates yin forces like women, Others and nature. (Capra 1982: 194, 200).

The Scottish moral philosopher **Adam Smith** (1723-1790) is generally regarded as the founder of modern economics. His book "An enquiry into the nature and causes of the wealth of nations" from 1776, was the first complete work on political economy. In it, Smith presents the basic model of the free market. He believed that social order and human progress was possible in a society where individuals follow their own self-interests. Hence, when buyers and sellers meet at the market, a pattern of production develops which results in social harmony. This happens without any conscious control or direction "as if by an invisible hand". Smith therefore also argued for a "hands off" government policy towards business. His analysis of economic forces consequently laid down the basic ideas of economic liberalism. Smith's ideas still underlies current economics policy making. Economists continue to visualise the economy as being a fluid equilibrium system managed by the "invisible hand" of supply and demand. In reality, the system has vanished, generating only statistical illusions. In spite of that, Smith's model has a great power over the minds of most economists and business people. (Fusfeld 1979b: 425; Henderson 1978: 27, 197).

Economics is characterized by its reductionist approach. Thus, economists deal with the economy as if it is an independent entity operating detached from society and nature. They consequently fail to recognize that economy is merely one aspect of a whole ecological and social system. This view prevents economics to include the structural and technological changes, which have taken place since the time of Adam Smith. Smith's model is based on a mathematical pseudo-rigor that cannot include

changes. However, in real life an economy is a continuously changing system. Its evolution is depending on transformation in the ecological and social system in which it is embedded. Since these issues involve qualitative alterations over time, they cannot be modelled by mathematical means. Due to the focus on the static Cartesian paradigm, economists neglect this dynamic evolution of the economy. They are therefore out of touch with economic reality. (Henderson 1978: 197; Capra 1982: 194-196).

This makes economics a weak discipline. It cannot produce any truth, nor be a guide for judgement. It can in fact be used to justify almost any set of policies, priorities or arrangements based on power and wealth. Thus, economists are widely seen as being analogous to lawyers, who argue and justify their client's actions or proposals. Economics is therefore a narrow discipline. It remains useful for accounting purposes, but it must forego its pretensions in macro-management and forecasting. (Henderson 1978: 34, 197).

In spite these facts economics is, according to Paul Ormerod, taught as a set of discovered truths about how the world works. Economists believe that they can identify the relevant variables, measure them, and with their model, predict the future. Thus, economists are revealing universal truths. However, anyone who is claiming access to a universal truth is making a bid for power. Moreover, those who know a universal truth are bound to have a connection to higher powers and must therefore be more powerful than the rest of us. Thus, economics focus on power in the world, rather than knowledge about the world. This makes economics an ideology. If economists would have access to universal truths, then they would be able to foretell the future, but if that was so, one may wonder with Rowe (1997: 304), why not all economists are billionaires? In reality economics is merely a product of a particular phase in the historical development of the Western industrial world. (Rowe 1997: 304, 312-313).

5.10. Economics values profit over society and nature

"Values are always with us. Disinterested research there has never been and never can be. Prior to answers, there must be questions. There can be no view except from a viewpoint. In the questions raised the view-point has been chosen and the valuation implied."

Nobel Prize-winning economist Gunnar Myrdal. (Ekins 1992: 31).

5.10.1. Prices are assumed to be objectively derived

Economics is a price system. Thus, economists deal with prices. They believe that they, by their analysis and the market forces, can derive at the "right" price or value for a good or a service.

Economics consequently believe that prices are absolute and objective. In reality, prices are notoriously inaccurate. The reason is that economists, often sub-consciously, add their personal value assumptions to weigh in their analysis. This means that prices are based on subjective expectations rather than objective research. The biased issues include peoples' imperfect observations of the world, their unrealistic expectations of resource availability, and their subjective evaluation of what is important for other people. Thus, human assessment of value is either arbitrary or erroneous. From this, it follows that economics, being the primary tool for studying the relative exchange values, must be similarly flawed. That explains why tobacco is expensive, while air is free. If prices would reflect accurately the true survival values of goods for humans, it would be opposite. (Henderson 1978: 48-49, 67).

Prices do have useful potential for allocating resources in situation where buyers and sellers meet each other with equal power and information on true costs. However, often there is a serious time lag between reports about increased pollution or depleted resources and incorporation of such data in prices. Moreover, buyers and sellers are not equal in the market. The concept of "the free market" is distorted by institutional power, interest groups, manipulative information, rapid technological change and by those human needs that lie beyond the market. In fact, free markets have long disappeared, they only exist in the textbooks. Prices therefore cannot reflect reality. (Henderson 1978: 34, 49; Capra 1982: 240-241).

5.10.2. Nature and society are seen as externalised anomalies

An important reason for unrealistic prices is the empty box called "**externalities**". These are social and environmental costs resulting from unwanted side effects of economic development. Most economists tend to ignore these variables because they cannot easily be quantified and therefore do not fit into their theoretical models. Hence, such costs stay outside economics as anomalies. This means that economists treat the air, water and natural resources as free commodities. A similar treatment is extended to the delicate web of social relations, which is severely affected by economic expansion. By excluding social and natural realities economics avoids to deal with important issues like depletion of natural resources, environmental pollution, social degeneration and the ever increasing poverty, accepting them as given. Instead, economics supports that private profit is made at public costs resulting in deterioration of the environment and the general quality of life. (Henderson 1978: 34, 49, 63; Capra 1982: 238).

According to feminists, economics' exclusion of social and natural costs is deriving from patriarchal values. In early societies, property was first and foremost communal. With the Scientific Revolution, individualism and private property became dominant values. Together with a materialistic orientation, these values led to production for profit. Patriarchalism consequently produces men who see themselves as being separate, autonomous and sharply isolated selves, embedded in liberal politics, capitalist economic ideology and an individualistic philosophy of mind. They are egos competing with other egos for scarce resources in society. The idea of a self as an isolated, competitive ego was based on the thoughts of **Thomas Hobbes** and further reinforced by the evolutionary doctrine of **Charles Darwin**. It is, however, not a natural fact. It is rather an experience of men raised in a patriarchal culture that has been universalized. However, the value has led to exclusion of social elements in economics. The definition is, however, false. The patriarchal individual depends on the fact that women at home continuously provide the necessary safety net of social relationships. Without it, men could not carry on their competitive lifestyles. Thus, the masculine individual depends on a feminine community. Excluding social costs assumes the free services of women, which makes economics exploitative. It is false concepts like this that makes economics an ideology. (Capra 1982: 202-204; Zimmerman 1987: 30-31).

Similarly with nature. Although natural resources are essential for economic profit making, their costs are not calculated. This concept derives from **John Locke** who was one of the founders of liberal capitalism. Locke argued that human labour transforms natural things. Thus natural resources themselves are seen as being value-less entities. They only become valuable when human labour is mixed with them. This perspective also influenced Karl Marx. Such concepts help to explain why both capitalism and communism has treated nature as a free object for human exploitation. (Zimmerman 1987: 29).

To become relevant economics must be embedded in society and nature and acknowledge their values. Thus to bring prices closer to reality both social and environmental costs must be accurately reflected. Many externalities can be reasonably approximated which would determine a more correct value. Such calculations would vastly improve all resource-allocation decisions. (Henderson 1978: 49-50).

5.10.3. It is considered economic efficient to destroy nature and society

Efforts to include these externalities are, however, being overlooked. This may be due to the private interests involved in economics. When externalities are not considered, individuals can win profit at the expense of destruction to society and nature as a whole. Such a view is based on a special kind of

ethics, which prioritize the concept of "**economic efficiency**" over all other actions. When the entire natural environment is externalized and considered "free goods", profit oriented activities that destroy nature are seen as being economic and therefore efficient. A non-profit oriented activity that protects the environment is oppositely labelled uneconomic and consequently seen as being inefficient. (Henderson 1978: 49-50; Schumacher 1993: 28-29).

Nuclear power is often by governments presented as being the most efficient source of energy. However, this view completely disregards its tremendous social and environmental costs. Economists also try to make us believe that solar energy is inefficient. They argue that it cannot compete with other sources of energy in the "free market". This is incorrect. When we include social and environmental costs and subtract government subsidies, solar energy is highly competitive. The priority therefore does not relate to common sense, rather to what gives economic profit. Profit seems also to be the priority of the World Bank: In spite of the fact that fossil-fuel is a non-renewable source of energy, that it is fast running out and that it is highly destructive to nature the World Bank in 2003 still directed 94% of its energy-related credit to promote fossil-fuel. Only 6% was spent on advancement of renewable energy. (Capra 1982: 242-243; Ode September 2004: 15).

The misunderstanding lays in the term economic efficiency and its profit-based value. The US farming system has become the most inefficient in the world, measured in terms of the energy used for a given output of calories. Nevertheless, it gives huge incomes to the agri-business. In fact, the whole American industrial system with its vast use of global natural resources for the benefit of a tiny percentage of the world's population, is highly inefficient seen from a global ecological and social point of view. However, it is profitable. (Capra 1982: 242-243).

Excluding social and environmental elements consequently makes economics blind to any damage it might inflict on other parts of the system. It merely assumes that the common good will be maximised if all strive to earn a profitable return on the capital employed. This means that only short-term results are important in economics. Because, as the economist **John Maynard Keynes** (1883-1946) puts it, "*in the long term we are all dead*". Thus in economics there is no concern for natural or social facts beyond the monetary situation. There is also no consideration for future generations. The only interest is to make profit. This kind of value makes economics irresponsible. Neither buyer nor seller can be bothered about anything else but to make profit for him or herself. The result is that owners of capital promote cost-benefit analyses that advocate their own profit making, while overlooking social and environmental consequences. The negative impacts of this are borne by minority groups in society,

which mainly include women, children, coloured and poor people. In addition, poor, Southern nations must carry the burden. In addition, those without a voice, like nature and future generations are forced to pay the price. However, these effects are hidden behind a statistical veil. Since the economic figures are averaged per capita, they conceal who bear the costs and who reap the benefits. (Henderson 1978: 49-50; Schumacher 1993: 28-29).

Relieving people of their responsibility is highly popular and it makes business easier. It has accordingly become a virtue to make maximum use of freedom from responsibility. It is therefore economic inefficient to sell food for a cheaper price to hungry people, or to pay more for goods when the supplier is poor. No one wants to be labelled uneconomical. It is similar to a fall from grace, since the religion of economics has its own codes of ethics. In this way, economics takes sacredness out of life. It can only include things that has a price, thus also priceless things must be given a price. However, to measure the immeasurable is absurd and destructive to society. It teaches us that the highest value in life is money. Thus, values like beauty, health, cleanliness, wisdom, social relations and ethical standards cannot survive. Since they cannot be given a price, they are not economic. (Schumacher 1993: 30-31).

Economic efficiency is consequently meaningless unless time horizons and system levels are specified. The aim is to know to whom and to what the efficiency relates. We cannot assume that any increase in efficiency will be shared on an average per capita basis. Neither must we believe that the inevitable costs this gives will burden all equally. The currently used micro-model only examines economic efficiency, while others issues are excluded. Hence, additional measures to the usual approach are needed. The efficiency to society, nature and future generations must also be measured. (Henderson 1978: 31-32).

Profit should also be redefined. Rather than referring to private profit won at the expense of social and natural exploitation and by discounting future generation, it must stand for the creation of real wealth. When more externalities are included in the price of a product, profitability will evaporate and many goods will disappear from the market. (Henderson 1978: 46-47).

5.10.4. The "free" market distributes resources to rich consumers rather than to society and nature

Alfred Marshall introduced the concept of externalities in 1890. However, those Marshall wrote about were mainly positive. It included rising levels of education of workers and the public services provided by government, from which the entrepreneur had profited, but to which he had not

contributed. Only in 1950 did **K. William Kapp** document the negative environmental and social effects of business activities. His thesis was that maximization of income by individual units would likely reduce the income of other units and society at large. Thus conventional measures of economic performance were misleading since social and environmental costs were ignored. **Jay W. Forrester** confirmed this. In his book "World Dynamics" he wrote, *"in complex, nonlinear systems the optimization of any subsystem will generally conflict with the well-being of the larger system of which it is a part"*. His colleagues later prepared the book "The limits to growth". (Henderson 1978: 66-67).

Forrester's point is based on systemic thinking, which is important for understanding economic problems. Since economics is embedded in and depending on the ecosystem, it cannot use linear thinking. Linear cause-effect relationships only exist very rarely in ecosystems, which instead are based on cyclical movements. Systemic wisdom informs us that if we do something that is good, more of the same will not necessarily be better. Thus in a system every structure has an optimal size. Maximizing any single variable, will inevitably have negative consequences in other parts and eventually destroy the larger system. One cannot just place the cost somewhere else and hope it will disappear, because there is no place as "some-where-else" in a system. Whenever something is growing, something else must be declining. In this way there is no such thing as profit unless it is taken from somebody else's pocket or gained at the expense of society, nature and future generations. (Capra 1989: 275-277).

A counter argument from economists was a dismissal of over-population, since Thomas Malthus' prediction made 150 years earlier did not take place. Resource shortage was also discounted. It was assumed that the free market would force the prices of scarce resources to rise, which would encourage technological innovation. This is, however, an insecure place to have faith. Technology is likely at a certain moment to reach a plateau, while research will yield a diminished return. Moreover, as already mentioned above, prices are merely subjective expectations and markets are not free. Thus, the market cannot address the social and environmental problems. (Henderson 1978: 34, 67).

Karl Polanyi pointed out already in 1944 that the free market is not a natural order. Markets have always existed but they were local and not inter-linked. They were also not used as the dominant resource-allocation system. Most of the world's cultures used two other major market systems: reciprocity and redistribution. However, this changed together with the Industrial Revolution. Polanyi also mentioned that the free market system was bitterly contested in England. A civil war was fought over the whole social legislation package of which it was a part. This included privatisation of land,

making it a commodity to be bought and sold. It also included appropriation of peasants' land, who then were forced to sell their labour as a commodity. These laws removed barriers to trading and set the stage for a national market, which formed the base of the Industrial Revolution. All of this happened 100 years before Adam Smith was born. Thus, he studied many small-scale economic actors buying and selling in the inter-linked system of markets with equal power and information. He marvelled that the behaviour of all seemed to be regulated for the good of all, by the market's invisible hand. However, he did not report that even at that time there were an embarrassing number of starving people, whose number seemed to grow in proportion to the productive wealth. Karl Polanyi also pointed out that the free market is not directing technological innovation towards consumer demand, as it should. If it did that, we would not have a debate about appropriateness of technology. Leaving resource allocation to a free market system therefore merely sub-optimizes the social system while leading to rapid environmental depletion. The increase in economic efficiency based on the free market has consequently been won at a terrible price in social dislocation and in-efficiency of natural resource use. (Henderson 1978: 34, 196, 322).

Thus, the market mechanisms of supply and demand are arbitrary. The industrial sector **supply** goods, but in their prices they do not include the cost of resource scarcity, pollution of nature, large corporation's price control, free human services that are valuable but not rewarded like cooperation, household production, family care and labour supply. The **demand** is neither pure. It is disturbed by the demands created by the manipulative powers of advertisements, which promote also irrational needs. It oppositely excludes real needs from poor people. In addition, it turns the focus on creating high demands for material goods, while dismissing or lowering demands for human self-development. Such values are based on the modern culture, which prioritizes material goods over spiritual well-being. Demand also cannot register the role technology plays in determining energy use and materials. (Henderson 1978: 68).

Reliance on the market mechanisms to allocate resources would therefore not satisfy basic human needs. It rather increases consumption by the affluent. This causes resource depletion, waste, pollution and human misery. Due to its requirement of more natural resources, more capital, but less labour, it will increase environmental destruction, prices, unemployment and poverty. Consequently, distribution of resources based on the market is in the long run environmentally and socially unstable. (Henderson 1978: 37).

5.10.5. Private profit is reaped on public costs

When social and natural realities are ignored, it results in an economy, which is based on past unequal division of power, class structures and distribution of wealth. Economists accept the current distribution of wealth as given. They see it as being unchangeable and since they cannot be quantified, moral issues are not included. In reality, social inequality is not an accident. It is built into the structures of the economic system. Maintaining inequalities is in fact necessary for creation of more capital. The rich expand their wealth by exploiting a country's labour and natural resources. Such activities are legalized by political power since the government gain part of the profit. Thus avoiding social issues in economic theory is closely related to its inability to adopt an ecological perspective. Social and ecological issues are interdependent, both are a source of private profit making. In this way, private profit is legally reaped on public costs. (Capra 1982: 236-238).

Adam Smith's model made us believe that wealth is generated in the private sector. It is then funnelled to the public sector via taxes, where it is invested into a democratically determined priority of public goods and services. 200 years ago with a small population and an empty resource rich continent, this model was a fairly accurate view of reality. However, today it no longer describes the economy adequately. A reality is that business is reaping their profits at the expense of escalation public costs. They also are using their lobbying power to compel taxpayers to underwrite the risks and investments, which up to now have been the chief justification for the profit system. This only leads one to conclude that economics is merely politics in disguise. (Henderson 1978: 195, 199; Capra 1989: 250-251).

To be realistic all economic calculations need to show the mounting cost the private sector produces in the public sector. When the pharmaceutical industry market thousands of patent medicines, the government is forced to test them. The state must also combat the resulting drug-addiction and crime. Moreover, they must clean up the chemical spillage the production has caused to soils and waters. All of this is paid for by taxpayers' money, because the private industry can externalise such costs. As mentioned when social and natural costs are not accounted for the concept of profit is unreal. If the correct costs were included many of the goods produced and sold "profitably" today would be too expensive and therefore not sellable at the market. One reason why profit has become that distorted is the dualised world-view, which has forced a division between the private and public sectors. It has conveniently led economists to ignore the public costs. Such dualised views falsely make people believe that a capitalist society can afford thousands of brands of patent medicines but no social services. Tobacco companies should pay a reasonable portion of the medical costs associated with

lung and respiratory ailments caused by cigarette smoking. Similarly with the social costs of alcoholism. They must be paid for by those who produce the toxic. If economics should become a respectful science, it must estimate accurately the social and environmental costs of economic activities and add these to the accounts of the private sector. In this way, one can state the comparative analysis of corporate social performance. (Henderson 1978: 13-15, 22-23, 46-47; Capra 1989: 243, 258-259).

Many of the pressing needs lay in the public sector. Market-oriented economies based on the private sector cannot deal effectively with these needs. **John Kenneth Galbraith** asked already in 1958 in his book "The affluent society" why the US economy seems to be so well supplied with hair oil, tail-finned cars and plastic novelties in the private sector, while cities decayed, air and water became polluted and land was despoiled in the public sector. To satisfy basic human needs and the needs of nature resource distribution is necessary. It cannot be done by the market. However, re-distribution is unacceptable in a market economy. Thus, market-oriented states continue to rely on a capital and resource-intensive production system as its major distribution device to citizens and nature. From this, it follows that social and natural needs are not the priority of political leaders. (Henderson 1978: 38, 41, 65).

Heilbroner (1988: 71) would agree to this. The division into a public and a private realm is for him a convenient capitalist phenomenon. It presents the public realm has having political duties, it therefore governs only. The private realm is the economic part, which carries out production only. Nevertheless, despite this appearance both realms carry out both functions. Each does their official function openly, while the other is done covertly. The public realm is openly governing, but covertly it is involved in production as well. It carries out economic activities, which would result in losses if they were privatized. Thus, the public builds infrastructure, roads and supports economic activities, which does not make profit. It is exactly because cars make money that they are produced by the private sector. If road would make money, businesses would also take that profit over. The private realm is meant to carry out production only. However, in reality it also engages in an important political task: It assures social discipline and order. It is able to make people work rather than engage too actively in governing. Even if people do not particularly like to work, they have to because they need the income to survive. Without this support from the private realm, both the government and capitalism would collapse. However, since this activity is not recognized as being public, the political activities of the private sector are done covertly. As a reward for this important political activity, the private sector is granted a certain freedom from political intervention. This is done by laws, which for example permit the private sector to externalise public costs. Gratefulness is also shown by public promotion of social norms that support consumerism, material acquisition and wealth accumulation.

Heilbroner (1988: 73) conclusively finds that the entire debate about public and private obscures the actual reality of the system. Both are supporting the other in order to keep the dominant capitalist system going. In the mean time, people are kept mystified and subordinated. It has to be like this due to the huge economic and political interest for both realms. (Heilbroner 1988: 53, 71-74).

All economic distribution has a political nature. Once wealth is produced, society, by its laws, can place this wealth at the disposal of whomever it pleases. This means that capitalist, market-oriented governments support owners of capital over the poor. In the present economic system, wealth will therefore not be distributed more equally. Thus, conventional wisdom of present day's economics can do nothing to help poor people. Only such policies are viable that result in making the rich and powerful richer and more powerful. However, in the process social cohesion and nature is destroyed. (Henderson 1978: 74; Schumacher 1993: 57).

According to Capra (1989: 250), the inability of governments to perceive economic activities within their social and ecological context prevents them from understanding some of the most significant crisis of our time. They cannot solve the continuous increasing deficits, indebtedness, environmental destruction and poverty both in the North and South. The reason lies in the dualised system of thought of economics. Economists speak in abstraction, monitor the wrong variables and use obsolete conceptual models of a vanishing reality. In the meantime people and nature are dying. (Capra 1989: 250).

5.11. Economics values quantity of money over quality of life

Schumacher (1993: 33) also found that economics is a barrier against understanding the problems of modern times. His main focus was on the quantity-quality dualism. The problem with economics is its addiction to quantitative analysis. Economists and their models cannot appreciate any non-quantifiable values. They have limited their scope to include only what can be counted. Quality, which includes human values and beliefs, cannot be counted and universalized, it is therefore excluded. Economists prefer quantitative calculations because they give economics the appearance of an exact and hard science. This is so even when the outcome of economic analyses is less than precise because vital qualitative differences are suppressed. However, with the belief of being scientifically accurate, the economists use their quantitative methods to make **cost-benefit analysis**, to calculate **economic growth** and to assess a country's **Gross National Product**. (Henderson 1978: 23-24; Capra 1982: 196-198; Schumacher 1993: 33-34).

5.11.1. Cost-benefit analysis ignores social and natural values

Value is coming from the Latin word "*valore*" which means to be strong or to be worthy. It is therefore a complex and diverse concept. However, today most people only hear the word in its economic market context where it is expressed as satisfaction of the individualistic consumer's preference. Thus, economics overlooks all other values. Both neo-classical and Marxist economics consign social values, morals, art and consciousness to dependent status. Marxists view them merely as the superstructure, while neo-classical economics sees them as being a private issue, which can be ignored. Nevertheless, we cannot deny the spiritual and emotional dimensions of humans. The human soul is determined to find meaning and cannot live by bread alone. (Henderson 1987: 23-24; Waring 1994: 156).

The values a society lives by will determine its world-view and its political and economic arrangements. The study of values is therefore of paramount importance for all social sciences. There is no value-free social science. Those who try to avoid the values underlying their theories are attempting the impossible; they may instead create an ideology. Economics determines what is valuable by studying the relative exchange values of goods and services. Economics is therefore the most value-dependent of all social sciences. However, surprisingly economics avoids the issue of values completely. Instead, economics is depending strongly on a specific, theoretical and static value system and view of human nature. This is applied to the economic models by elaborate technical language. In this way, economics converts social and moral choices into technical ones and decide unilaterally upon conflicts that should have been resolved in society politically. Consequently, the qualitative distinctions, which are crucial to understanding the ecological, social and psychological dimensions of economic activities, are dismissed. (Capra 1982: 196-198).

This can be shown by the cost-benefit analysis, which economists are using to decide upon alternative courses of action. In order to be able to compare costs and benefits fairly both must be expressed in economic terms. Since only quantitative elements can be included, environmental elements must first be translated into quantitative units. However, trying to reduce certain values into their economic costs is highly questionable. There are things on which we cannot put a price. How could we for example conduct a cost-benefit analysis on issues like friendship or democracy? Alternatively, should we accept when a comparison of costs and benefits give the outcome that the cost of a human life is not worthwhile pursuing? Moreover, should we accept that cost-benefit analyses are anthropocentric? Economists never talk about the cost and benefit seen from the side of an animal or a plant. Avoiding these question means that economists are ignoring important value-laden questions. In addition, if a

price could be put on fresh air and clean water, this would be done by economists. In this way, cost-benefit analyses are not neutral. They depend on the subjective view of the economist to determine the price for non-market goods. The economist would measure the price by the willingness of users to pay for it. This would systematically ignore the well-being of animals, plants, the biosphere and future generations. Consequently, economics dismisses nature and other qualitative elements because they cannot be quantified. (Des Jardins 2001: 54-56).

The most meaningful elements in human lives, our values and beliefs, are also dismissed by the market. They too cannot be quantified. However, the subjective preferences of consumers, even if these are silly, vulgar, dangerous, immoral and criminal can be satisfied. The market would fill the wants of a racist, a sadist, a paedophile and an alcoholic, if they pay for it. Hence, economics reduces the human being to a passive consumer without beliefs and values. Economics has consequently developed its own type of democracy based only on profit making. The ethical consideration for society and nature cannot be included. Such an institution is a threat to democracy. Value choices must be reached by democratic, political processes where the public argue for their beliefs. Conclusively economic value and its focus on consumers' preference satisfaction as a means to allocate resources efficiently are not ethical. It focuses only on monetary value while excluding human values, social values and natural values. (Des Jardins 2001: 56-60).

5.11.2. Unlimited economic growth will end human life on Earth

A fundamental economic problem resulting from the imbalance of our values is the obsession with unlimited economic growth. The model is accepted as a dogma by virtually all economists and politicians. This is so although it is abundantly clear that unlimited growth in a finite environment can only lead to disaster. The belief is a consequence of an overemphasis on the yang values of expansion, self-assertion and competition. It is a linear way of thinking that relates to Newton's notion of absolute, infinite space and time. It also relates to the erroneous belief that if something is good, then more of the same will necessarily be better. (Capra 1982: 223-224).

Economic growth is considered productive. It includes anything that passes through the market and for which cash is exchanged. There is consequently no debit side to growth. Manufacturers therefore spend huge amounts on advertising their product. They want to keep up the competitive consumption, although many goods produced are both unnecessary and wasteful, and sometimes even harmful to people. Thus, a market-oriented society is seen as being productive when it has huge industries producing pet food, cosmetics and drugs. At the same time, the government claims that it cannot

afford public services. Seen from the side of citizens it would be more productive to channel growth of consumption from the private sector, into the many public service areas of the economy where there is deficiency. This includes public transport, health care, education, sanitary service and research of energy-conversion systems and recycling. (Henderson 1978: 42; Waring 1994: 155).

Growth can also not separate healthy from unhealthy production. It is therefore, according to Waring (1994: 155), good for growth to smoke lots of cigarettes, have lots of car accidents, and of course, wars are sensational. Growth can neither perceive a legal or illegal demarcation. Thus illegal arms deal and illegal drugs trade are productive. There is consequently no need to worry so much about the Afghan drug farmers. Illegal drugs are anyway what many Southern countries produce in order to get a growth rate. Thus for economics, growth and productivity are inter-changeable and both are good. (Capra 1982: 226-227; Waring 1994: 155).

One reason for economists' faith in economic growth is the belief that economic growth is the only means to ensure that material wealth will "trickle down" to the poor. In reality, growth does not often trickle down to the poor as John Maynard Keynes described. Unless growth is combined with redistributive policies, it will do little to ease urgent social and human problems. In many countries, high growth rates have been accompanied by increasing unemployment, rising disparities in income, and deterioration of social and cultural conditions. However, the argument has been successful. With it, the world's affluent can justify inequality as being essential to the formation of new capital for investment. Thus, economists and politicians still insist that more growth will improve the quality of life for people. What they really mean is the standard of living, which they equate with material consumption. However, since increased consumption is only affordable for rich people, poor people and nature will not achieve a better standard of living. The real price paid for excessive consumption habits is the degradation of the quality of life - which for people are pure air, healthy food, clean environments and caring social relations. It can therefore no longer be defended that growth is needed to improve the lot of the poor, or to clean up the environment. Just the idea of using the current polluting production system to create resources to clean up its own mess sounds like a paradox. (Henderson 1978: 36, 42; Capra 1982: 225; Capra 1989: 252).

Nevertheless, in spite of evidence to the opposite and in the mist of environmental decline economists are still convinced that economic growth is the only way to ensure alleviation of poverty. The theory relates specifically to Third World development, thus, the concept development has become synonymous with growth. However, the argument was undermined already in 1971 by **Barry**

Commoner. He found no further justification for the trickle-down theory. In his estimate, the global resources would give out long before uneven economic growth could provide for the millions of poor. In Commoner's opinion, the excessive consumption by rich nations not only condemns the South to poverty, it also causes most of the environmental destruction: The Northern capital and resource intensive production methods disrupt nature. They use their polluting technology to synthesize artificial commodities, which produce a high profit in place of naturally produced ones with low profit margins. Since the South export natural commodities, they lose out in the competitive global market. Thus, the North dominates the Southern economies. By colonial exploitations of Southern resources, the North increased their standard of living and balanced their populations. Also after colonization, the North is using its economic power and technological advantage to expand their resource consumption. It is actions like this, which has prevented the South from achieving their own transition to stable populations and improved standard of living. Commoner's conclusion is that ecological sustainability requires social justice. (Henderson 1978: 70-71, 105).

Other studies also question the trickle-down theory. Facts are that in spite of economic growth there is a persistent trend towards an increasing inequality. If The Third World has to wait for the Keynesian trickle-down model of economic development then they will wait in the back of the line forever, until all of the people in the North have their second house and third car. Consequently, as long as Third World development is synonymous with growth, development is not a useful concept. It has become an alternative to that kind of development, which means to improve the quality of life for poor people. Such development has more to do with sustainability than anything that passes through the market have. (Henderson 1978: 70-71, 105; Waring 1994: 155).

We do not need to generate more economic growth. The real issue for poverty alleviation and environmental regeneration is the distribution of wealth. Distributing wealth through jobs is the basic issue in Keynesian growth effort. It was institutionalised in all Western countries. The theory holds that all get a part of the flow in wages, rent, interest or profit. On the surface, it looks fair. However, 76% of all corporate securities are owned by only 1% of the stockholders. Thus, most people can only rely on the hope that the flows engender jobs. Nevertheless, due to a growing global population and hence a growing need for jobs, the wealth must continuously be increased. The results are production of more unnecessary material goods for the private sector, more over-consumption of the rich and more environmental degradation. (Henderson 1978: 72-73).

Another fact is that it is increasingly monetary capital and not labour that produces growth. Increased productivity does not necessary mean increased employment. To mask this economists analyse increased efficiency related to labour only, and overlook efficiency of capital and energy use in production. It then looks as if labour has become more productive, but in reality, more capital has been made available to labour activities in the form of mechanisation. Thus, employment was not increased. Consequently, the private sector economy continually substitutes capital for labour. This taxes the environment and increases rates of resource depletion, while it does not generate more employment and income for the many. Instead, it gives a surplus of human beings and a shortage of non-renewable resources. When we oppositely make production labour-intensive, rather than capital-intensive, then natural resources will be conserved and human resources will be used for the benefit of human beings. Third World nations are therefore better off using labour intensive production. It uses the abundant human resources while avoiding to surrender sovereignty, which is the price of foreign capital. It also results in resource conservation and a more environmentally benign economy. (Henderson 1978: 35, 74).

The costs of wasteful over-consumption have been heavily criticized and well documented during several decades, but it continues to increase. According to IMF, increase of global economic growth for 2006 is expected to be 5.1%, while 2007 is estimates to be 4.9%. The most severe consequence of continued economic growth is the depletion of the planet's natural resources. Wealth is based on the availability of natural resources and energy. Economists, however, seem to doubt this reality. They are wound up in the religion of the market and the trust in technological miracles. It is such false beliefs, which have allowed economists like **Robert Solow** to argue that, "*The ancient concern about the depletion of natural resources no longer rests on any firm theoretical basis.*" Solow was also awarded the Nobel Prize in Economics for stating that production and growth can completely do away with the notion of exhaustible natural resources. Solow finds that resource exhaustion is not a problem, "*If it is very easy to substitute other factors for natural resources, then there is, in principle, no problem. The world can, in effect, get along without natural resources, so exhaustion is just an event, not a catastrophe.*" (Henderson 1978: 93; Capra 1982: 244; Shiva 1993: 208; Rowe 1997: 385; BBC Business News 14.09.2006).

However, the economists are wrong. If we do not have some natural resources to manipulate and fashion for our needs we are not only poor but also dead. If the current patterns of undifferentiated growth will continue, the reserves of metal, food, oxygen, and ozone will soon be exhausted, which will end human life on Earth. (Henderson 1978: 93; Rowe 1997: 385).

5.11.3. GNP does not bring happiness, health and well-being

For more than 50 years, the political class has taken it for granted that the central objective of economic policy is to promote wealth creation. The economic wealth is measured by the GNP or GDP. In economics, such calculations are believed to be the indicator of how economic successful a country is. Thus, a high GNP is assumed to show that the nation over-all is doing well. The first problem with this assumption is that only economic activities associated with monetary values, are added to GNP, while all non-monetary aspects are ignored. Thus, only goods and services traded in the market are measured, while all other valuable production services and amenities done outside of the market are disregarded. The overlooked activities include housework, volunteer and subsistence work but also nature's work in producing resources. The second problem is that all goods and services traded at the market are indiscriminately added to GNP, as positive contributions to social wealth. Without the use of quality, economy cannot differentiate between good or bad growth. The assumption is that all growth is desirable, irrespectively of what has grown and who has benefited. That there can be unhealthy growth is a perverse idea, which is not permitted. Therefore, GNP adds, as being valuable, activities like wars and mediation of conflicts, social costs like control of crime and litigation, health care including treatment of diseases like cancer and stress. These costs should rather be subtracted. However, it is as Ralph Nader has said, "*Every time there is an automobile accident the GNP goes up*". Similarly with the negative social and environmental effects from economic activities. Cleaning up of wastes from production and consumption, caring for human casualties of irresponsible technology and drug addiction are all counted in the GNP as positive production. The third problem is that GNP does not include intangibles like literacy and health although both contribute to the wealth of the country. A social service like education is treated as expenditure rather than an investment in human resources. As physical resources become even scarcer, increasing the skills, knowledge and hopefully the wisdom of people is one form of growth, which might be the best chance of human survival. However, it is not included in a nation's wealth. Such exclusion only confirms that peoples' quality of life is of no importance to economics. (Henderson 1978: 21-23, 88; Capra 1982: 242; Capra 1989: 250-251; Schumacher 1993: 33; Rowe 1997: 186, 426).

The paradox involved in the one-sided focus on quantities can be seen in the following example: Due to the polluting effects of industrial air pollution, statistics show that one person around the globe die every hour from asthma. Because of this, the fastest growing drugs in 1995 were those used for respiratory diseases. However, such tragedies do not concern business economists. On BBC Business News 28.10.2004, Sally Bundock informed about the business results from a British pharmaceutical company. The firm's income had decreased, after it had failed to win a court case on rights to organic

materials. However, not all news were bad, as she cheerfully said, *"Now to the good news, the sale of asthma medicine has gone up"*, which had helped the firm still to generate an acceptable profit. Such "happy" events increased the British GDP. (Rowe 1997: 218; BBC News 28.10.2004; 03.05.2005).

In spite of these obvious contradictions many still believe, with Professor Lester Thurow, that per capita GDP is the best over-all measure of standard of living. But Bob Lack from New Zealand in a letter published in the Guardian Weekly 05.09.1993 disagrees, *"If after writing his article, Prof T. has eaten a healthy meal of home-grown vegetables, gone to bed, made love with his partner and then enjoyed a good night's sleep he would have contributed precisely nothing to GDP. If, on the other hand, he had driven to a casino, got drunk, crashed his car on the way home and injured himself and some passing pedestrians he would have increased his country's GDP by thousands of dollars. The fuel, the liquor, the tow truck and the ambulance, the car repairs and the hospital bills: all contribute to GDP and hence, by his reasoning, to the standard of living. What nonsense!"*. (Chambers 1997: 242).

Although the inadequacy of such methods of accounting is widely recognized, there has been no serious effort to redefine GNP/GDP as an effective measure of production and wealth. The economists and politicians firmly believe that an increase in the GDP means increase in the country's wealth and in the happiness of its inhabitants. However, this assumption is flawed. Ever since the Second World War, the European countries have increased both the GDP and the suicide rates for young people! Thus one wonder how much richer a country really is. The GDP does not consider what the country has lost. There is no measurement of pollution, natural resource damage, loss due to unemployment or under-employment etc. If these issues were included, the end result would look differently. To determine values for the loss of social and natural goods and services is not easy. However, the economist Herman Daley tried to adjust the GDP of USA to account for the depletions in natural capital, pollution effects and income distribution. The results were that there has been no growth in the USA in the last 25 years (1969-1994). There had been only running down of inventory and natural capital. The social and natural "running-down" costs must by now be of a tremendous amount because the GDP for USA in 2006 is estimated to become 12 trillion USD. (Capra 1982: 242; Waring 1994: 157; Rowe 1997: 186-187; BBC Business News 14.09.2006).

Although the politicians still stick to it, the public knows that the equation between social well being and per capita GDP has broken down. It is for example believed that higher material living standard gives a longer and healthier life. This is not necessarily so. Income differs in the US, the UK, Sri

Lanka and China, but the longevity in these countries is very similar. According to Amartya Sen, professor at Harvard, there is no correlation between social performance, measured by life expectancy and economic performance, measured by GNP. Life expectancy in Kerala, one of the poorest states in India is higher than in South Africa; Harlem is worse off than Bangladesh. Similarly with human happiness: A 1978 study showed that the relationship between income and happiness is remarkably small. The main determinants of happiness have nothing to do with income and consumption. They include satisfaction with family life, with work, leisure and friendships. This result was confirmed by a study done by an international network of sociologists cited in the Dutch magazine *Genoeg* April/May 2004. The conclusion was that the happiest people live in Nigeria, which is among the poorest countries in the World. Relatively poor South America also receives high scores in the World Values Survey. Russia tops the list of unhappiest countries. The obvious conclusion is that the public are right and politicians wrong. A country may be rich in terms of GDP per head, but impoverished in terms of well being. It is as stated by David Marquand in *The Observer* June 1996, "*Britain's failures are social, not economic; and our failure is the product of politics with which economic success has been pursued. The goal of public policy should be maximum well being, not maximum growth.*" (Ekins 1992: 29, 111; Rowe 1997: 426; Ode September 2004: 9).

However, if a high GNP/GDP does not bring human happiness, health and well-being, why does it have such a high priority? The above-mentioned 1978 study gives an indication. It showed that the source of money satisfaction in a competitive society is not simply being rich, but about being richer than other people are. Thus, one individual's gain automatically makes others worse off. Therefore, the consumer society's accumulation, their destruction of life, of community and of the Earth has resulted in no overall benefit at all. Many believed that solving the problem of production would lead people to turn towards higher aims in life. They were wrong. Instead, consumption has become the principal cultural expression. (Ekins 1992: 29).

Humanity will not achieve sustainability, equity, harmony or happiness while the pursuit of growth measured by GNP/GDP remains its main economic objective. Research shows that issues of well being like literacy and health relates to how a country's wealth is distributed. The more evenly the wealth is distributed the more literate and healthy the country is. Hence, well being relates to social justice. Economic activities must therefore be bound by tight environmental sustainability constraints. It must be directed towards positive human values like personal development, quality of life, social participation, democracy and justice. In Adam Smith's time economics was a branch of moral philosophy, now it is based on immoral human traits like self-interest. Smith's hope that self-interest

would promote social benefits was not correct. Glorifying greed has instead led to gross exploitation of nature and society. (Ekins 1992: 182; Rowe 1997: 186).

With these obvious contradictions, the need for an alternative way of accounting for national wealth is clear. The Japanese have already begun the process. They are reformulating their GDP to a new indicator, Net National Welfare, which will deduct all the negative social and environmental costs. However, Marilyn Waring (1994: 155) is doubtful about the procedures. She does not believe that "environmental economics" is a useful solution for nature. Environmental economics emerged in the 1970s. It seeks to improve the neo-classical tradition initiated by Adam Smith. It addresses the micro level of economics and leaves the macro level unchanged. It attempts to give monetary valuation to the environment and then include it in economic calculations. Thus, the idea is to improve economics by adding the environment. It has, however, been criticized as being one-dimensional and reductionist. It still sees economic activities as being a closed system. It assumes that ecological issues are measurable, but fails to consider values, which cannot be quantified. It cannot address uncertainty, it can neither perceive the problem of irreversible environmental damage. Since environmental degradation is long-term, its short-term horizon is another problem. Thus, environmental economics is merely conventional economics, which has expanded its quantitative tools to include environmental issues. It is tempting to believe that we can empower the ecosystem by quantifying it and giving it monetary value. It is a way of trying to prove that forests and mountains have value. However, there is presently no economic instrument, which can adequately attribute market value to any part of the ecosystem or its functions. Moreover, national income accounting works inside nation-states only while nature knows of no borders. Hence, one cannot record the export of acid rain, neither can one record the import of polluted rivers. When the pharmaceutical company Sandoz pour chemicals in the Rhine in Switzerland, the pollution does not stop at the border, although it is Swiss made. In addition, how can we include in the GNP the disastrous health results from the French testing of nuclear bombs in the Pacific? The treatment of the environment in national accounts and in public policy reproduces the arrogant ideology that only money is of value and only the market is a source of knowledge. It suggests that all of life can be condensed to this narrow and soulless view. But anyone who loves nature do not want to see it appearing in the national income accounting alongside with nuclear bombs, nuclear power stations, toxic waste, female sexual slavery, trade in drugs, and everything else. That is what environmental economics offers us, and Waring (1996: 161) finds that we ought to turn it down. (Henderson 1978: 23; Braidotti et al 1994: 138; Waring 1994: 159-161).

Instead, we need "ecological economics". It places economics within the context of nature and seeks to address also the macro level, in the long-term. It perceives economic processes as being extensions of biological ones and it is therefore opposed to eternal economic growth. It redefines economic concepts and the values on which these are based. It has measures that make polluters pay for environmental degradation, making prevention profitable. It assumes that a system is open and dynamic, it embraces the principle of uncertainty, and it recognizes unpredictable outcomes. Ecological economics is consequently a radical departure from the framework of neo-classical economics. (Braidotti et al 1994: 138).

The reductionist approach of economists, their neglect of the economy's structural evolution, and their preference for abstract quantitative models has resulted in a tremendous gap between economic theory and reality. Their solutions have little, if any, relevance to public issues. Economists have conveniently left out three elements from their models: leisure, the work of nature, the work of women. All are excluded from national income accounting. It is therefore no coincidence that it is during modern economics that nature has been exploited, women have been dominated, and poverty has increased. (Capra 1982: 198-199; Waring 1994: 159).

5.12. Economics values masculine forces over feminine forces

"A people is travelling fast to destruction, when individuals consider their interests as distinct from those of the public. Such notions are fatal to their country and to themselves."

John Dickinson, a delegate to the Continental Congress, USA, 1768. (Henderson 1978: 12).

The following sub-sections are meant to show that economics consistently puts priority on the masculine forces like the individual, reason and competition. At the same time economics is subordinating all feminine or yin forces like the social, emotions and cooperation. Such a choice leads to a world of self-interested, greedy, envious and competitive individuals whose pursuit of money will cause environmental degradation, poverty, violence and war. Economics is therefore a dominant ideology, which, by the means of capitalism, produces power and wealth to the rich by abusing human emotions and social norms.

5.12.1. Individualism leads to self-destruction

In early societies, the focus was on the community. The ancient view was that production was for use value and property was first and foremost communal. Private property was justified only to the extent that it served the welfare of all. However, with the Scientific Revolution and the Enlightenment, critical reasoning, empiricism and individualism became dominant values. This led to a secular and

materialistic orientation, which prompted private property rights and production of goods for profit. The changes resulted in new social and political institutions specifically emphasizing theorizing about economic activities. The most important shift was the rise of capitalism in the 16th-17th century. (Capra 1982: 202-203).

The aim of classical economics is to achieve maximum satisfaction of individual desires. The best means is assumed to be the free market. This view is a utilitarian ethical model, which has the ultimate goal to maximizing "the greatest good for the greatest number for the longest time". Thus to determine what is good for someone is to find out what that person wants. This is shown by his willingness to pay for it at the market place. Thus, "market-utilitarianism" is seen as being both the most efficient way, but also the best way ethically, to bring about maximum happiness. Consequently, the overall good is determined by the willingness of people to pay for it at the market. In this way, economics is not neutral. It is a utilitarian system, with some assumptions. The first is the belief that market utilitarianism is the best to promote **individual freedom**, which is preferred to coercive government regulation. Individualism consequently reigns almost unquestioned in economics. Secondly, it assumes a legal system that promotes **private property** rights. Only when rights are privately held and easily transferable does the market work. Thirdly, it includes certain philosophical assumptions about human nature. The fundamental idea about human beings is that they act, primarily if not solely, on the basis of **self-interest**. Self-interest is in the classic utilitarian sense understood as a rational action that is maximizing own satisfaction or "utility". Consequently since economic theorizing is heavily influenced by certain philosophical and ethical values economics cannot offer any neutral answers. According to feminists these values, which are included in all economic frameworks, are based on patriarchal dualism. (Capra 1982: 204; Honderich 1995: 211; Des Jardins 2001: 51-53).

The foundation of economics is individualism, which is a legacy from John Locke. It prioritizes individualistic needs, while community needs are marginalized. It promotes a market-oriented society where competition is over-valued while cooperation and all the cohesive activities that bind society together are relegated to a lower status. Need for individual freedom is therefore seen as being more important than community inter-connections. The sole focus on the individual also leads to a priority of private property rights, while rights to social services are withdrawn. Due to the preference for competition, social change in a liberal society is seen as a power struggle among individuals or groups with the aim to persuade others to adopt their values or beliefs. Individualism has consequently created needless conflict and exacerbated loneliness and alienation. Henderson (1978: 12) talks about "*the curse of individualism*". The whole idea of separating the social and the individual and prioritize the

latter is dangerous. Personal freedom springs from social cohesion, hence it can only survive if there exist within society an equivalent field of cooperation. Thus, individualism alone would lead to self-destruction. In spite of this, all the cooperative activities, like childcare, voluntary work, subsistence production and domestic work, which hold society together, and of which women bear the heaviest burden, are undervalued and not enumerated. (Henderson 1978: 12, 15, 48; Birkeland 1995: 67).

The dualised values can indeed easily be seen manifested in the way economics treats "**work**". In its masculine scheme, high status jobs relate to technology and money. Thus, highly valued work involves linear activities that create something visible, big and lasting. This may include building of skyscrapers, making of planes, rockets, nuclear warheads and other capital intensive, high technology products. All products are made for profit and relates to privately held rights. Often the products of such work exist eternally, but regretfully with impacts that are often extremely harmful to the natural and social environment and to human mental and physical health. (Capra 1982: 244, 246; Capra 1989: 277-278).

Work of the lowest status tends to be cyclical work - work that has to be done repeatedly without lasting impact. The work is often invisible, but very important for daily existence. Such entropic work are generally delegated to women and minority groups and enumerated with the lowest pay. Cyclical work like house keeping, cooking, childcare, care for sick family members, voluntary work, subsistence production and other homebound services are unpaid. This kind of work is not counted in economics, in spite of the fact that it is the foundation of the family, society and essential for human survival. In addition, according to Scott Burns in his book "Home, Inc." the total amount of work done by men and women in the US household would equal in monetary terms the entire amount paid out in wages by every US corporation. However, the work is considered as being feminine by nature and it is consequently shunned. (Henderson 1978: 32; Capra 1982: 244, 246; Capra 1989: 277-279).

One reason why modern society excludes cyclical work is that it reminds people of the natural cycles of growth and decay, birth and death. Doing the work shows that human beings are embedded in those cycles and in the dynamic order of the universe. The cyclical work is precisely the kind of work emphasized in the Buddhist tradition as an integral part of the spiritual training. It is also essential in the work of Christian nuns and monks. Cyclical work therefore connects ecology, spirituality and feminine thinking which is attuned to biological cycles. This shows the clear link between ecology, feminism and spirituality, all of which science wanted to control in order to overcome death. Thus to survive as a universal and eternal model, modern economics must exclude women, society and nature.

However, by doing this modern society also lost ecological awareness. (Capra 1982: 244, 246; Capra 1989: 277-279).

How economics treats work clearly shows its normative nature. Being a discipline of science economics focus on masculine or yang forces while it under-values the dualised feminine or yin forces. This leads to a value system where cooperation, social relations, human emotions, women, children and nature are subordinate to the dominant values of individualism, rationality and competition. Although the normative values of economics are clear to many, contemporary economists are consistently avoiding acknowledging the values on which their models are based. This ignorance has resulted in highly unattractive pre-dispositions in society including material acquisition, rivalry, gluttony, pride, selfishness, shortsightedness and just plain greed. Rather than trying to strike a balance, economists accept the imbalanced set of values, which has come to dominate modern culture and all of its institutions. Such dualist exclusion will eventually end up in destruction of both society, nature and consequently also the self. (Henderson 1978: 12, 15, 48; Capra 1989: 251-252; Birkeland 1995: 67).

5.12.2. Denial of emotions leads to greed and domination

Apart from being individual, masculine economics also define humanity as being **rational and self-interested**. This would indicate that people could be persuaded by reason and motivated by enlightened self-interest to promote an equal and sustainable society. Thus when people destroy the environment for own profit making it is understood as misguided self-interest. The focus is therefore on human chauvinism and **greed** as the primary culprits, which must be corrected by self-interested or rational motives. However, history has shown that rational forms of persuasion do not motivate people. The motivation for destructive behaviour may instead be largely an irrational drive for dominance, which relates to suppressed emotional needs. Since people are motivated to act through satisfaction of emotional needs, rather than rational arguments, it is important to understand the emotions that underlie human greed. Economics and politics, however, largely ignore this reality and premise their theories on the rational model of man. They consequently exclude emotions as the dualised other. Nevertheless, when emotional needs are denied, it fosters a sense of emptiness and alienation, which can only be balanced by love, admiration and acceptance. Since these powerful emotional needs are considered subordinate, they are repressed, and instead gratification is sought in a drive for greed, power and other behavioural pathologies. (Birkeland 1995: 65-67).

Displacement of feelings therefore re-enforce dominant social relationships, natural destruction and abuse of power. Replacing emotional needs with a drive for power has a strong influence in shaping values and behaviour. People in the modern culture are manipulated into finding the rich and powerful attractive, regardless of how the wealth and power has been obtained. They consequently learn to disregard emotions, to act irrational and competitive for profit and power. The denial of the emotional self consequently causes much of the destructive behaviour in patriarchal society. Appealing to individual rationality is therefore not going to improve our destructive behaviour towards nature, women and Others. People will not abandon power and greed because a sustainable society makes sense. Rationalist approaches have thus far proven inadequate. We therefore need to focus on the underlying motives for domination and greed, and from that suggest new strategies. (Birkeland 1995: 67).

People change very quickly in order to obtain emotional, sexual or ego gratification. A society can therefore work to expose and redress the personal insecurities and unconscious motives that are underlying the drive for power and greed. This may help to demystify the social conception of masculinity as power. There is a need to end the glorification of the "corporate cowboys" and to work towards reinforcing behaviour that is not power seeking. Many men see themselves as failures because they do not measure up to the masculine stereotype. However, from socialization they are afraid of dealing with their feelings and insecurities, which may expose them as being un-masculine. If such people were affirmed in terms of a different concept of masculinity or humanity then they would be more reluctant to seek reflected glory in power. (Birkeland 1995: 67).

It is consequently futile to invest our energy in trying to win power, win arguments, or win converts to an equal and sustainable society. These strategies only generate countervailing forces. It is the denial of emotional needs, which has been socialized into the modern androcentric culture that has contributed to an excessive need for physical gratification, greed and domination. Consequently, attitudes and policies towards a peaceful and sustainable future will only change when people with power learn to embrace their feelings and cooperate. (Birkeland 1995: 67).

5.12.3. Economics exploits human emotions and social norms

The philosopher **Robert L. Heilbroner** (1988: 37) also believes that the never-ending drive for profit and wealth espoused by economics is far from rational. Rather it is motivated by unconscious emotional needs like affect. Heilbroner therefore calls economics for an ideology. The concept ideology means to be lying on behalf of an idea or an interest. Economy is an ideology because it has

statements that can be shown to be false or contradictory. This is commonly not recognized or if it is, it is overlooked, since the interests in maintaining the ideology are too huge. This makes economics a system of power. Rather than being a neutral and rational science, the economic ideology is used to create a social order based on a regime of domination. By its capitalist focus, economics directs money and power to the rich, thereby generating poverty and increasing social inequality. (Heilbroner 1988: 7, 38-39, 186, 190-191).

Traditional exchange systems were motivated by duty and obligation. These social norms are psychologically based on affect and obedience. **Affect** is an emotion related to a set of ideas, which include the capacity to identify trust, sympathy and love. It encourages cooperation and generates relationships. **Obedience** teaches us subordination to social rules and it is the basis for domination. In all societies, we find affect and obedience, but in market economies, they seem to have disappeared. Economic life dispensed with trust, cooperation, subordination and domination. Instead, the economy is presented as being an autonomous activity independent of the society in which it operates. Free agents engage in an impersonal, affect-less and equal exchange of goods and services without obedience. Their behaviour is therefore not based on duty and obligation but rationality is imperative. Participation in economic activities is consequently based on rationality, drained of any emotion and thus free of obedience and affect. However, there is a problem with this assumption: The behaviour economists describe is not rooted in human psychology. Impersonal relations are a contradiction for a child's survival and equality is too complex for a child's understanding. Thus, the ideal, impersonal exchange relationship is unnatural. (Heilbroner 1988: 15-16, 19-24).

Economists also find that **rational maximization** and **individual self-interest** are natural and deeply ingrained attributes of humankind. Such attributes are present, but they are not the roots of human behaviour. Rationality is an unclear term, individualism is a dilemma, to be self-interested and maximizing is not rational: (Heilbroner 1988: 26).

The "Tragedy of the Commons" shows that overuse of commonly held natural resources due to **self-interested behaviour** leads to destructive collective outcomes and to a less than satisfactory bargain for each individual. "The Prisoners Dilemma" *) proves that self-interested individuals, end up worse than when they cooperate. Hence, self-interested calculations are not rational, neither do they maximize benefit for the individual. These actions seem rather to be behaviour adapted to the market, since it is human nature to adapt. We therefore became self-interested because of the market. However, the behavioural assumptions necessary for an exchange system need to be widened to

include the well-being of others. Thus **affect**, must be included in self-interest; in reality the market rely on it. (Heilbroner 1988: 26).

If **maximizing** means gaining the largest possible material well-being the assumption of a rational maximizing individual implies that he will rob the blind, systematically underpay the poor, and engage in pilfering. Such behaviour may increase our income, but it will also subject us to dislikes. Since most of us do not behave in this way, we are clearly not maximizing our material well-being. The truth is rather that we are trying to maximize our mental well-being. Thus, rational maximization is nothing other than a notion, which conforms to a **cultural norm**. (Heilbroner 1988: 27).

We also need a certain amount of **cooperation** to be rational. When cooperation becomes part of all actors, it is raising the rewards and effectiveness of each. Hence, socialised norms are needed to allow the market process to operate. These norms range from truth telling to acceptance of legal contracts. They are recognized in the market economy, but neglected in economic analysis. Commerce is first and foremost a system of promises. Faith and truth is the great bond of society according to John Locke. Thus, there is a powerful underpinning of **social norms** in what is thought to be the impersonal individual realm of economic life. (Heilbroner 1988: 28-29).

The market also relies on **obedience and power**. Although the system seems to be voluntary, it is based on imposing the will of some on others. First, there is the power of laws. A market society requires that all observe existing laws. Without it, transaction costs would soar. Then there is the diverse economic powers related to different class positions, which gives unequal power relations. Thirdly, there is the uncontested ownership by capital of all value added to products, which creates an asymmetrical social domination in market operations. Finally, there is the obedience by people towards the power of market forces. The arrangement is accepted without questioning. Consequently, the capacity of the market to secure obedience while directing surplus to only one class, makes the market an instrument for a particular social order. Thus, the market system is a regime of power and privilege. It is built on deeply indoctrinated habits of **domination and subordination**. However, this escapes our recognition. The importance of the market system and its economical, rational calculations throw a veil over the underlying processes and obscures our understanding. (Heilbroner 1988: 17, 29-31).

Conclusively economics is not a neutral, rational and universal knowledge system. It is normative and deeply embedded in socio-politics. It is a regime of power and privilege built on human psychology and socialized habits. It uses obedience and affect as motivation to create a particular and privileged

social order. Production and distribution are organized in accordance with the aims of this social order. To explain and justify those complex processes, economics demands special study. Hence, economics became a science, but behind the veils of science, it remains an ideology. (Heilbroner 1988: 32-34).

5.12.4. Capitalism; a dominant regime that generates poverty

This scientific veil of economics also obscures the nature of capitalism. Capitalism has an ability to create wealth on an unprecedented scale. It values wealth not for its use, but for its exchange value. It exchanges money for commodities, which are sold for a price higher than invested, in a never-ending line. Hence, the profits of capitalism are gained from unequal economic relations and profits are its means for an insatiable pursuit of money. The economists say that this is necessary because increased wealth will better the human condition, but that is doubtful since poverty is constantly increasing. Heilbroner (1988: 37) instead believes that the motives for the greed are **gratification of unconscious drives**. Specifically the need for affect and the experience of frustrated aggression. When such strong emotions are unsatisfied, they manifest themselves as desires for prestige, power and domination. Capitalism is therefore not merely an economic system. Its pursuit of wealth fulfils the same unconscious purposes, as did the thirst for military glory or the celebration of personal majesty in earlier epochs. This makes capitalism a regime. The concept regime makes clear the gulf between the unconscious drive for power and the vision of an impersonal system, dear to many economists. (Heilbroner 1988: 35-37).

The power of capitalism lays in the way it organizes and discipline the social activity surrounding it. Due to private ownership, the capitalist has a right to withhold capital from society's use. People cannot secure a living, unless they can gain access to privately owned resources of wealth. Thus, the withholding of money becomes a means of power. People's access to capital is normally attained by a relationship of employment. From the goods produced by labour, the employer pays wages and costs and retains as a profit the remains. To increase his profit the capitalist makes his capital available where the costs and salaries are lowest. (Heilbroner 1988: 38-40).

Rationality in capitalism refers to the above behavioural paths. However, since it is based on sublimation of deeper-lying non-rational drives and needs, this kind of rationalization belongs to an ideological framework. Ideology expresses what the dominant social class sincerely believes to be the true explanation of the question it faces. The explanation system to which capitalism turn is science and its economic discipline. (Heilbroner 1988: 46-48).

Thus, science supports capitalism and the social norms that reinforce its domination. Nevertheless, in the process these interrelated forces generate **poverty**. In order to increase wealth capitalists must compete with each other. They must try and win back the money production has dispersed into the hands of the public in the form of wages and costs. This is done by commodity sale. The competition manifests itself in the search for new production processes, products, or markets, which will give a competitive advantage. This reinforces development of technology to lower costs and generate new design. Thus, capitalism constantly revolutionizes techniques of production, rationalizes management, and increases commodification of material life in a never-ending process. Its pursuit for profit includes expansion to other regions and countries where cheap labour and natural resources are available for inputs and market for outputs. This has developed a self-reinforcing tendency to strengthen the centre to which surplus is directed and weaken the periphery from which the surplus is extracted. This is called *development of underdevelopment*. (Heilbroner 1988: 51-52, 55).

Development and underdevelopment are simultaneous aspects of a unitary process. Hence, capitalism creates both wealth and poverty. Although there is a return flow to the periphery of goods, it is not equal to the out-flow. This creates a widening gap between the centre and the periphery. There are consequently two capitalist fights going on: One is for cheap labour and natural resources from the periphery, which generate profits in the centre. Thus, the difference between the advanced and the backwards areas are important for the generation of surplus. The second is the technology war, where the periphery plays no role. Technology as a means to increase profit and capture markets is a source of eternal rivalry between capitalist corporations and countries situated at the centre. (Heilbroner 1988: 75-77).

Capitalism is consequently not a means of poverty alleviation, it oppositely creates poverty. However, due to the economic interests at stake, economics as a scientific discipline spreads its ideological veil over capitalism. It allows us only to see a de-politicised and a de-socialised price system. It takes out obedience and affect, preventing us from seeing its true dominant character. It persuades us to see capitalism as a purely neutral, rational and universal economical system, not dependent on the social or political realm. (Heilbroner 1988: 192).

Historical facts seem to confirm Heilbroner's conclusions: Adam Smith justified capitalists' profits by arguing that it was needed to invest in more industries for the common good. However, he never referred to the unequal power between workers and capitalists. Instead, he wrote that workers and "other inferior ranks of people" produced too many children, which would cause wages to fall.

Similarly with the British economist David Ricardo (1772-1823). Apart from being a multi-millionaire from stock broking, Ricardo also contributed to political economy. He helped to establish the theories of classical economics and is probably best remembered from the theory of comparative advantage in international trade. In his book *"Principles of Political Economy and Taxation"* from 1817, he also supported the existing class structures. He argued that allowing businessmen to seek high profits would bring about a rapid accumulation of capital, which is a key to rapid economic growth for the nation. He countered all attempts at social improvement with the scientific argument that laws of nature were operating and the poor were responsible for their own misfortune. Thus, both Smith and Ricardo showed that their views on society were similar to other Enlightenment philosophers. Their educated middle-class status allowed them to conceive of radical ideas like equality, justice and liberty, while excluding the inferior class and women. (Fusfeld 1979a: 297; Fusfeld 1979b: 425; Capra 1982: 209-211).

5.12.5. Denial of ethics and wisdom lead to greed and war

In spite of its ideological veil and appeal to science the capitalist dominance with its abuse of natural resources and people will generate aggression between rich and poor. To prevent hostility modernism suggests, "the road to peace is the road to riches". The means are scientific rationality and technical competence. We therefore do not need to be virtuous to create peace, we only need to get rich. Moreover, in order to get rich the economist John Maynard Keynes (1883-1946) found that *"fair is foul and foul is fair"*. His point was that foul is useful to become rich while fair is not. Thus, ethical considerations are a hindrance to riches. Only when we are rich can we become good! This consequently means that economic progress and peace is only possible by selfishness, which religion and traditional wisdom normally call upon us to resist. This means that modern economy is driven by **greed**. It creates success. However, it also indulges envy. (Schumacher 1993: 11-12, 18).

According to Schumacher when a person is cultivating vices like greed and envy, he loses his intelligence. Greedy man cannot see things in their wholeness. Therefore, he cannot see that his individual success becomes a failure for society and nature. Greedy man can only compete, he cannot cooperate. Without cooperation in society economic well-being will stop. Societies infested with greed may achieve astonishing things, but lack of cooperation means that they cannot solve their most elementary problems of everyday existence. The result is that people feel frustrated, alienated, oppressed and insecure. Without intelligence, people cannot see their own interest. The social dysfunction of rich societies is therefore not a passing phenomenon that can be eradicated by science and technology. As long as greed is motivating man, the pursuit for growth does not abate when higher

living standards are attained. It is precisely rich societies that continuously pursue their economic advantage with the greatest ruthlessness. To become rich is therefore not the road to peace. Its reliance on greed and envy destroys intelligence, happiness, serenity and hence the peacefulness of man. In addition, rich people are in constant competition for resources, which leads to conflict and violence. Thus to be rich and peaceful is a contradiction in terms. (Schumacher 1993: 18-19, 24).

It is not riches and economic growth that is the basis for a well-functioning society. Family, work and the relationships established by work are the true foundations of society. If these are unsound, society cannot be sound. And if society is sick, it becomes a danger to peace. It is our unwise way of thinking and living, mainly our cultivation of greed and envy, which is causing wars. Hence, only **wisdom** can liberate us from greed and envy. Wisdom will help us to see the emptiness of materialism, to the neglect of the spiritual and the ethical. Man's needs are infinite. The infinitude can only be found in the spiritual realm, never in the material. (Schumacher 1993: 23-24).

Thus, the road to peace is wisdom. We cannot postpone virtue until we are rich. Such an approach is irrational. When wisdom is applied to economics, it is clear that there can be growth only to a limited goal. Nothing makes economic sense unless its long-term continuation is secured. Eternal economic growth is hence an antithesis to wisdom and peace. Increased material needs only increase resource conflicts. Therefore, when we reduce needs, we also reduce the tensions of violence and war. Long-term sustainable economics therefore implies that science and technology incorporate wisdom. Without wisdom, man is driven towards building a **monstrous economy**, which destroys the world. This is **the real cause of war**. We cannot create peace without first removing the causes of war. Conclusively peace cannot be built on an economic foundation. It is a contradiction in terms. Economic pursuit depends on greed and envy, the very forces that drives men into conflict. (Schumacher 1993: 19-20, 25).

5.13. The psychological meaning of money and power

"Know thyself".

Thales, Greek philosopher (625-545 BC). (Barnes 1987: 69).

From the above one may conclude that economics, due to its dualised ideological foundation, prioritizes masculine forces while feminine forces are suppressed. Acting out an unbalanced masculine behaviour leads to domination and exploitation towards everything that relates to the subordinate feminine forces. Consequently, the activities and behaviour which economics promotes become

destructive to society and nature. In order to understand why people choose activities that destroy humanity, we may follow Schumacher's advice and become wiser. It may therefore be wise to know ourselves better. In her book "The real meaning of money", the Australian psychologist Dorothy Rowe has studied the psychology of economics and its dualised foundation. Her constructivist perspective is presented below:

We often claim that our decisions are based on rationality but Rowe (1997: xxi) finds that this is not so. Our decisions arrive instead from our "**private logic**", which is hidden from others and often hidden from ourselves as well. Our private logic is concerned with our top priority, which is the maintenance of ourselves as a person. Thus, people take decisions according to their fears. Fear breeds insecurity and insecure people try to make themselves secure. Therefore, our private logic often takes precedence over rationality and our prudent choice. We are often unaware of this, but we can gain the necessary awareness and then choose more beneficial ways of behaving. Hence if we want to understand why we want money, power and privileges we need to understand which meaning these things have for us, and from that we can understand ourselves. (Rowe 1997: xxii-xxiii, 7).

We all have a "**meaning structure**". It is an interrelation of the beliefs, attitudes, conclusions and expectations, which we have developed as from our first experiences. The meaning structure makes sense of our lives. It forms our private logic, based upon which we take decisions. No two meaning structures are alike, thus each of us is a unique individual. Even when two arrive at the same conclusion, they may have gone through different paths. How we arrived there is logical to each of us, although it may be illogical for others. (Rowe 1997: 2, 37, 39).

Our private logic is one indivisible whole. However, we often try to divide it and argue one thing privately and another thing publicly. We believe we can exclude our emotions from our reasoning, and separate different interests. Nevertheless, private and public reasoning do not operate separately from each other. Public logic takes place in the space occupied by private logic: inside our brains. Thus, our private logic interferes with our public logic. (Rowe 1997: 9).

Since each individual have a unique meaning structure it follows that no two people give the same meaning to money. This means that money is not neutral, it relates to our meaning of it. Many of us believe that money can buy us security. That is a mistake. History shows that trying to gain security through money lead only to greater insecurity. There is always a bigger robber ready to carry away your loot. Money cannot protect us from uncertainty, but it can keep us fed, sheltered and physically

safe. In spite of this, we still try to acquire money in order to feel safe emotionally. (Rowe 1997: 13, 67, 70-71).

If money could bring us security, it would require money to be unchanging and absolute. However, nothing is unchanging and we do not have a sensory perception, which allows us to perceive anything absolute. All we can do is to construct a model that to some extent represent the reality which lies beyond the reach of our preceptors. Thus, our perception of the world and of ourselves is what we have learned to perceive. Hence, we make our world through our meaning structure, which means that our perception and our thoughts are intertwined. (Rowe 1997: 18-20).

When we perceive an object, we make a hypothesis. If it proves to be false we are misled. That is similar in science. When a theory is false it has distorted our world. Thus in order not to be misled, we need continuously to test our theory against reality to help us revise our hypothesis. If we do not try to get as close as possible to reality, our personal reality may get more and more out of touch with the world and disaster will follow. (Rowe 1997: 20-22).

We consequently do not experience the world directly. Instead, our brains make a wonderful trick with us. The nerve cells create a simplified copy of reality inside our brains, which make us believe that we are inside the world. In reality, it is opposite, the world is inside of us. What we perceive the world to be is what we have constructed, not what actually exist. Such constructions are meanings. Thus, our brains create meanings. Our feelings are meanings. The human essence is to create meaning. From this, it follows that we are our meaning structure. The meaning structure work according to the principle of self-organisation, which is maintenance and survival of the individual. Thus, a person and his or her meaning structure are busy with surviving as a person. (Rowe 1997: 25-26, 28-29).

Human creation is consequently ironic: we are incapable of knowing reality directly, yet if we do not try to get to know reality as good as possible, we may be misled continuously and not survive. Whenever we discover that there is a serious discrepancy between what we thought our life was and what it actually is, we face annihilation of ourselves as a person. When we have made a judgement error, we start to question every judgement we ever made. If one is wrong about an important issue one may as well be wrong about everything else. Doubting ourselves make us feel as if we fall apart. However, since we are our meaning structure, our meaning structure falls apart, not us as human beings. Falling apart is necessary for the meaning structure in order to reorganise itself into a better fit with reality. If we understand this we can ride the storm, if not we may think we are going mad.

These experiences are so unpleasant that we have found ways to avoid them. Thus, much of what we do is aimed at preventing annihilation of ourselves as a person (our meaning structure). (Rowe 1997: 30, 32).

When we take decisions, we may believe we use our rationality. However, this always includes our private logic. Since our private logic is devoted to maintenance of ourselves as a person, we may not act rationally. Thus, any decision we make is always related to our private logic, which is part of our unique meaning structure. This means that only if we include private logic can we understand the function of money, wealth, profit making, greed and aggression. (Rowe 1997: 36, 39).

Every action we do is based on how we experience our sense of existence and the threat of annihilation. Thus if we want to understand ourselves and our choices we need to understand what we see as a threat of annihilation. That will, supplies the reason why we do as we do. (Rowe 1997: 127).

To understand our deepest fears Rowe (1997: 128) categorises people into two groups whose difference is the ultimate reason for action. One group are those who are outwards looking, or "**extraverts**". They need outside stimulation. The other group are inwards turning or "**introverts**". They need quiet and peace. For the extraverts the ultimate reason for action is maintenance of relationships. Their biggest threat is rejection and abandonment. For the introverts the ultimate reason for action is achievement. Their biggest threat is chaos and loss of control. Although we all want both to achieve and to have good relations, our difference comes to the fore when we cannot get both. We will then choose what is most important to us. From this, it follows that each person judges, decides and chooses his or her action based on the private logic, which wants to prevent the threat of annihilation of the meaning structure.

(Rowe 1997: 128-130, 138).

When we were born, we were self-confident, curious, enthusiastic and interested in everything we met. We did not feel we had to be good or satisfy anyone. However, when we grew up we learned that we had to fit into a schedule given from outside. If we failed to conform, unpleasant things happened. Thus, we lost our freedom. Nevertheless, we received compensation for the things, which we lost. When we were good and did as the adults said we were rewarded. However, the reward did not give us the same pleasure as when we did not need to be good. We also found out that although we were good we did not always receive rewards, which made us unhappy. Hence, we created a meaning, and any meaning is also an expectation. Reward is expected when one is good. If we do not get the

reward, we become unhappy. But when we do get the reward, it does not satisfy us as we expected. This is the same with money. When we give money the meaning that it creates happiness and security, we expect that it will do so. However, if this meaning is a fantasy or a hope rather than related to reality then we create expectations that can never be fulfilled. The expectations that money will come as a reward when we are good, is consequently wrong. The expectation that the money we get can fill the hole in ourselves, which the childhood experience created, is wrong. Both expectations bring us unhappiness. Such meaning is based on lack of understanding of ourselves and an overestimation of the powers of money. When we do not understand ourselves and do not see life as it is, we cannot help but to suffer. (Rowe 1997: 158-159).

However, when we understand ourselves we can change our private logic. Thus to prevent suffering and to create a better world we must choose those interpretations which serve us the best. We need to adjust our meaning structure with reality and thus understand that money can be used for food, shelter and clothing, but not to maintain our sense of existence. (Rowe 1997: 177).

Nevertheless, many people are not interested in understanding themselves. Rather than changing their meaning structure to reality, they want to change reality to fit into their meaning structure. This often results in "**stupid actions**". We act stupidly when we do not consider the consequences of our actions. When we do consider consequences, we act intelligently. Thus, there are "**intelligent actions**" and stupid ones. Whatever we choose certain **consequences follow**. The consequences of our actions roll on forever. They unfold in various directions and reach unexpected places. Consequences are always different from what we expect, but they affect our whole lives. When we act intelligently, we maintain and even enhance life, but when we act stupidly, we degrade life. When we make decisions solely in response to immediate needs, it is usually motivated by the need to protect our meaning structure from threat. This always leads to some kind of disaster. (Rowe 1997: 196-198, 257-258).

When we act stupidly, it creates tension in us. We often seek relieve from this tension in drugs. The most popular drugs are those that alter the central nervous system. They alter what we feel and think. Since the pharmaceutical industry is the next biggest in the world, exceeded only by the arms trades, it follows that they do not have interest in us understanding ourselves, how we create meaning, how we feel, think and act. The pharmaceutical industry, supported by scientists, wants us to believe that our feelings and actions are a result of biochemical changes, which themselves result from the action of our genes. This also suits many people. It means that they do not have to take responsibility for their feelings and actions. They rather take "Prozac". (Rowe 1997: 218).

Economists are neither interested in us knowing ourselves. They believe that we can divide our meaning structure into separate compartment and focus on some and subordinate others. They separate quantity from quality, object from subject, economy from society and reason from emotion. However, by concentrating on quantitative things economists do not pay attention to much of what is important in life. (Rowe 1997: 305).

Economists find that there is nothing wrong with the way they separate the economy from social relations. They believe that we conduct our trade separately from our relationships. This makes economists unaware of the personal prejudices that exist in the markets. They have not noticed that many of us like to create friendship with those we trade. Economists who study an economy void of human relationships were men who saw emotion as a weakness. They took pride in their ability to separate emotion and reason, making emotion subservient to reason. Believing that emotion can be separated from reason is a delusion. Emotion is a meaning. Feeling angry is an interpretation. If you interpret a situation in such a way that you feel angry, telling yourself that you do not feel angry is simply **lying to yourself**, something that always lead to disaster. (Rowe 1997: 313).

One disaster from lying to yourself about your emotions is the inability to understand why people do what they do. We have many examples of this in development and cultural differences between North and South. A refusal to understand that we see the world only from our own standpoint has led to theories about the Third World devoid of personal experience. Economists see the world as a machine whose workings can be understood by putting together its component parts. The behaviour of the system can be deduced from a simple aggregation of these components. Nevertheless, models always leave out certain parts of the phenomena it tries to describe. Anyone who finds personal meanings disturbing is likely to leave out such things, without being aware of it. If we have learned that emotions are bad and reason is good and that we can separate the two, we will choose the latter. But if we do not understand that our so-called rationality is only our personal logic, which is busy with maintaining our meaning structure, then we are lying to ourselves. We are also lying to ourselves when we ignore events that run counter to our theories. Thus, models have little relationship to what actually happens. (Rowe 1997: 314).

An example of this comes from a 1991 textbook "Introducing economics" written by David Burningham. It begins with, *"Nearly all governments, whatever their ideology, are committed to programmes designed to promote the growth of living standards and a more even distribution of*

wealth both nationally and globally". One cannot help but to wonder on which planet such an economist live. It is certainly not on planet Earth. The assumption about altruism and wisdom of those who gain political power is as far from reality as the assumption of the rational man. (Rowe 1997: 315-316).

Rational man does not represent all who take part in the market, the economist's model have forgotten women. Economists also fail to notice that most of the world's poor are women. But then again economics has always been a masculine profession. Thus, much of the assumptions are based on the perceived experiences of adult, white, male, middle-class Euro-American economists. Due to their private logic, they fail to capture the economic reality of others. In addition, individualism is a Western cultural tradition. It is distinctly androcentric. Thus, economic man is the Western romantic hero, an individual who is able to make rational choices and attain goals. He is the wise observer, superior to those he is studying. Such models prevent economists from observing reality because people's behaviour depends on the interpretation of the economists. This bring along real bad consequences. (Rowe 1997: 315-316).

Rationality means that people are guided by self-interest and that they are consistent in their choices. Yet people often act in ways, which are not in their interest. Wars, conflicts and terrorism arise from a group of people who regard themselves as being deprived of something, which is rightly theirs. The only way to solve these problems is to organize societies on a more equitable basis. That would be wise. Hence, it is in our own best interest. However, the political leaders do not do that. Instead, the threat of war and the greed for profit is destroying our planet. The people in power who might have prevented this have failed to do so. Cockroaches can survive radiation and rats are to a far extent resistant to pollution. What does one call a species that makes the world safe for rats and cockroaches? Rational hardly come to mind. (Rowe 1997: 7, 191, 317).

So why do they forget to be rational and moral when money can be gained? That is because more money means more choices, more goodies and more freedom. We want more for three reasons: **1)** We are fundamentally insecure. We are always in danger of being overwhelmed by events in a world over which we have little control. With money, we can demand that the world should be in a certain way, and part of the world will comply with our wishes. **2)** We are trying to fill the hole left in us by a childhood of inadequate love and concern. When we have been poorly treated, we create a deep hole inside of us. We hate ourselves and other people because we expect them to dislike us. We then turn to things to fill that hole. Things can fill the space around us, but not the hole inside of us. The hole

gives us the feeling of emptiness, which we use as an excuse for being greedy and behaving dishonestly. **3)** Our consciousness always wants more. (Rowe 1997: 343, 345).

If we want to end our false perceptions of money and power, we need to stop lying to ourselves. Lying damage our ability to understand reality. Due to our physiology, we cannot be certain of what is going on around us, we only know what is going on inside of us. We can be certain about our thoughts, feelings and images. Hence, if we exclude our feelings and lie to ourselves, we lose the only certainty we have. It means that we cannot use our ability to estimate reality and to proceed in an uncertain world. Therefore lying to yourself means to deny your own certain truth. When we do not lie, we can pause and ask ourselves how we feel and we will get an honest answer. If we lie, we cannot be sure of this answer. It may tell us what we ought to feel rather than what we actually feel. (Rowe 1997: 348-350).

In order to survive and become happy we need to understand that what we experience are the meanings we have created. We need to learn to compare them to reality. To compare we need knowledge of the world around us and of the world inside of us. If the meanings we have created prevent us from having good relations with other people, or they promote us to lose our self-confidence, we need to change them, otherwise they will promote stupid actions. Changing our meanings requires introspection. However, we are bad at introspection. The world has become a dangerous place because we do not pay attention to what goes on inside of us. We have applied our scientific and technological thought to the world around us to keep insecurity a bay. However, we have not applied our knowledge to the world inside of us. If we carry on in this way, we will destroy ourselves. (Rowe 1997: 382, 384-385).

Children like to play. This is partly in order to explore the world, but also to distance themselves from worries. Society imposes on women the necessity of growing up and being responsible, and many women do. However, many men are likely to feel inside that they are still children. Thus, adult men may keep on playing games to get away from their worries and the real world. These games get bigger and bigger, and more and more dangerous. If they cannot or will not end the game then the game will end us all forever. The economic market operates as a big game. Game follows the rules of competition, and excludes the rules of trust and cooperation. Yet it is trust and cooperation, which are needed to establish a better society than the one we have now. (Rowe 1997: 391-392).

There are many reasons why we do not want to inspect our own private logic. One is the fear of what we may find if we dig open our inner world. Another reason is the fear of rejection if we would reveal

ourselves, and others may find out that we are not good and valuable. That would make us vulnerable to humiliation, ridicule or rejection. A third reason is that our meaning structure is threatened. When we share our inner world with others we must recognize the multitudes of points of view, rather than insisting on the truth of own view. However, when we fear our real selves, when we fear what other people may see in us, and when we fear other people's different point of view, we cannot promote trust. Such attitudes prevent us from trusting ourselves. When we do not trust ourselves, others also cannot trust us, and we cannot trust others since they also have a dark truth inside of them. In this way it becomes a risk to let anyone get to know you, a risk you cannot take. Hence rather than creating genuine relations we focus on things. However, we are lying to ourselves if we believe that we can keep our inner world hidden away and non-existent. What we really think does not disappear, it reveals itself often at an inappropriate moment. This happens when we feel threatened, which may take place when we believe we are public and rational and therefore without our emotions. When our survival is at stake, we act in short term and often mean and selfish ways. Our action is determined by how we have interpreted the situation. For us to act differently we need to understand our interpretations, how we created them and their implications. Our inability to understand ourselves is the root causes of our misery. We need to take responsibility for ourselves. Making the effort to understand what we do and why we do it. It means to unite the rational and the emotional, quantity and quality, the public and the personal. We need to understand politics, economics and ourselves. Because it is all interrelated. (Rowe 1997: 393-395, 428-429).

In sum, it is not possible to separate reason and emotions, the private and the public, society and economy. Acting purely rational relates to personal logic, which is founded on personal fears and personal inadequacies rather than reason. When we believe we can divide our rationality and emotions we are lying to ourselves, which results in stupid actions with disastrous consequences. Rowe consequently confirms that economics' focus on masculine forces is psychologically unhealthy. In its extreme form it leads to disturbed minds that are lacking a sound relation to reality and other people. These minds cannot make wise decisions. They continue to act stupidly, which eventually will destroy our world. The following section intends to show that the neo-liberal capitalism is doing just that.

5.14. The domination of the new global capitalism

"I sincerely believe, with you, that banking establishments are more dangerous than standing armies."
Thomas Jefferson, USA President, 1816.
(Henderson 1978: 15)

In 1973, due to the surge in oil prices after the formation of the Organization of the Petroleum Exporting Countries (OPEC), governments in the West started to embrace **neo-liberalism**. Neo-liberalism is a political system, which celebrates the economic freedom of individuals and corporations, while it prescribes a limited role for government in the economy. Neo-liberal politics goes hand in hand with **neo-classical economics**. Neo-classical economists are using sophisticated mathematical techniques based on classical concepts and values. Neo-classical economics is therefore a mixture of modern and earlier economic theories like those from Smith and Ricardo. Its main aim is to stimulate supply. This includes investing more in industries while removing unproductive environmental and social controls. The scheme is therefore manifestedly anti-ecological and anti-social. In addition, the perspective is dominated by massive corporate institutions and government agencies, which cater for them. Thus, the basic requirements to make the invisible hand function and make markets free, do not anymore exist. In 1979, Margaret Thatcher became prime minister in Great Britain while Ronald Reagan became president of USA in 1980. Both of them pursued politics of deregulation, privatization, public spending cuts and inflation reduction with increasing vigour. By the early 1990, neo-liberalism had become an economic orthodoxy. (Capra 1982: 223; Capra 2002: 119-121; Bakan 2004: 21).

At the same time, technological innovations enhanced efficiency and speed of transportation and communication. By the help of new computer information technology the political change created a new type of global economy. It is a greatly expanded capitalism, mainly structured around financial flows, where the profit margins are higher than in manufacturing. The same capital can via powerful computer programmes be send back and forth between economies in a matter of minutes, sometimes seconds, to give its owners maximum profit. To be competitive rapid processing of information and knowledge required for technological innovation are crucial. In addition, manufacturing became easier. Business corporations can scour the earth for production locations where the costs are low and then sell the goods in countries with a high income. Due to the gradual tariff reduction, which has taken place since 1948 when the General Agreement on Tariffs and Trade (GATT) was introduced, business corporations were free to move their locations around without penalties. Thus, national corporation became trans-national or multi-national corporations. Because with freedom from borders corporations did not anymore need to owe allegiance to their own country. Instead, the governments would have to compete among themselves to attract corporations to their country with provision of business-friendly policies. This required global deregulation of laws and opening of financial markets. Particularly the regulations, which protected workers and the environment, were removed. However, it also included tax reduction, which meant decreased government revenue and thus less spending for

social programmes. These deregulations have often been done without considering the long-term consequences for society and nature. (Capra 2002: 119-121; Bakan 2004: 22).

The globalization process of the neo-liberal capitalism, which is also called the "Washington Consensus", was purposefully designed. It was set in motion by the rich group of eight nations (G-8) which consists of Canada, France, Germany, Great Britain, Italy, Japan, the United States and Russia. Other important actors were the major transnational corporations and the global financial institutions: The World Bank (the Bank), the International Monetary Fund (IMF), GATT and its successor the World Trade Organisation (WTO). IMF, the Bank and WTO were the institutions to introduce the new capitalism globally. Their argument was that free capital flow, free markets and free trade would create a new world order that would benefit all. The assumption was that increased trade would increase global economic growth, which eventually would decrease poverty by the trickle-down effect. But according to Castells, this reasoning is fundamentally flawed. Global capitalism does not alleviate poverty, it exacerbates it. The main reason is the traditional and economic ideological exclusion of social and environmental costs from economic activities. This makes the whole project unsustainable. Rather than alleviating poverty, global capitalism has had a multitude of harmful, interconnected social and environmental consequences. The negative side effects include rising inequalities between rich and poor, increased poverty, rapid and extensive environmental deterioration; all of which are leading to social disintegration, breakdown of democracy, increased crime and violence. The main losers are women, children, poor people, traditional people, coloured people and nature. (Schroyer 1992: 355; Seabrook 1993: 13; Capra 2002: 113, 121, 127, 181).

The new capitalism has a complexity that makes it almost impossible to analyze. No one fully understands how it works. It does not follow any market logic. Markets are manipulated and transformed by computer enacted investment strategies, subjective perceptions of analysts, political events and turbulence caused by interactions of capital flows in the system. Such turbulence is as important in setting prices as demand and supply. Large economies can to a certain extent absorb the financial turbulence with little or no damages. But that is not the case with the volatile and small markets in the South. Due to their potential for growth, speculators invest massively in their emergent markets. But at the first sign of weakness, they remove their investments immediately. This commonly creates economic crisis, as has been experienced in Mexico, Chile and South East Asia. To regain the confidence of investors such countries will typically be required to restructure their economies according to an IMF policy package which normally deepens the crisis. (Capra 2002: 121-122).

Due to difficulties in debt-repayment, IMF and the Bank have promoted and enforced this narrow neo-classical economic development model, commonly called **Structural Adjustment Programme**, in the Third World. They have urged poor countries to concentrate on producing primary goods for export while importing most commodities. They also have enforced legal changes and de-regulation in order to open up for free trade and foreign investment. The social and environmental consequences have been disastrous. Land has been diverted away from food production and converted into cash-crops plantations. Overuse of water has caused riverbeds to dry up. Toxic chemical use has exhausted soils. Redirecting natural resources to the global market has resulted in a dismantling of rural people's traditional, largely self-sufficient ways of life. Since the profits are reaped by a small elite, the model has increased the number of landless people who are doomed to live in absolute poverty. (Capra 2002: 128-129).

With the creation of the WTO in 1993, the deregulation in the economic globalization deepened. WTO's aim is to open up the Southern markets for Northern transnational corporations. The idea is to give these corporations unprecedented rights to invest in the Third World with minimum conditions. WTO has the mandate to bar any regulatory measures, which might restrict the flow of global trade. Thus, WTO has authority to restrict laws that protect the environment and other public interests if these are perceived as being trade restrictive. This means that export of non-renewable resources like tropical hardwoods cannot be banned by member states, who also must accept imports of unhealthy food products. Elimination of environmental laws has also resulted in re-allocation of corporations' polluting industries to the South, worsening the environmental destruction. The net effect is as Vandana Shiva says that natural resources move from the poor to the rich while pollution moves from the rich to the poor. Environmental destruction is therefore not only a side effect, it is an integral part of the design of global capitalism. During its short life, WTO has developed into a powerful and corporate-influenced overseer of global governments. Rather than protecting people's health, safety, livelihoods and culture, the WTO's free trade rules undermine these basic human rights in order to consolidate the power and wealth of the corporates. WTO is also preventing countries in protecting their own citizens and the environment from corporate harms. In its own confused mind, WTO must perceive it as being acceptable for wealth creation that ecologies are ruined, that violence and social injustice are supported, that land use is altered from food crops to export crops, and that people are evicted from their natural, ancestral habitats. Somehow, this must be done consciously because the free-trade rules were negotiated behind closed doors, excluding NGOs, which are representing the interests of nature, women, poor people, human rights and democracy. (Seabrook 1993: 13; Capra 2002: 129, 186; Bakan 2004: 22-24).

The new economy and the gradual dismantling of the welfare state have resulted in unprecedented accumulation of wealth at the very top, while the majority at the bottom have become extremely poor. This is partly due to social exclusion. The global network and its flow of capital exclude all territories that are of no value for financial gains. As a result, regions or entire countries become economically irrelevant. These places are inhabited with an impoverished segment of humanity that is sometimes referred to as the Fourth World. It includes Sub-Saharan Africa, the rural areas of Asia and Latin America. But it also counts a portion of every country. These are millions of impoverished people who live in abject misery. The majority are women and children. It is a downward spiral of marginalisation, from which it is almost impossible to escape. (Capra 2002: 125-127).

Unlimited economic expansion on a finite planet can only lead to catastrophe. By increased economic growth, also environmental destruction and social integration will escalate. This has generated huge resentment against economic globalization. Seabrook (1993: 11) perceives the neo-liberal revival in the West as **a new form of fundamentalism**. It views the market economy as being sacred and the sole way of answering human need. Schroyer (1992: 370) finds that neo-liberalism is a violent system. He calls it for **Western-fundamentalism** due to its scientific advocacy of theoretical expert knowledge systems and the dis-embedded forms of modernization they coercively foster. Also those who have profited from the system find it destructive. Financier George Soros refers to the neo-liberalist doctrine as a **market-fundamentalism**, which is as dangerous as any other kind of fundamentalism. (Schroyer 1992: 370; Seabrook 1993: 11; Capra 2002: 128, 137).

The following section is meant to show how practically the neo-classical economical development scheme dominates and exploits women, Others and nature in Africa. It is a feminist critique of the IMF and World Bank imposed Structural Adjustment Programme.

5.15. Structural Adjustment; an economic model that dominates women, Others and nature

In the South, billions of dollars of loans from the World Bank and IMF have been stolen or squandered by governments under the eyes of the lending institutions. Now the lives of millions of people and nature are laid waste so that these debts can be repaid via Structural Adjustment Programmes (SAP). (Ekins 1992: 24).

5.15.1. What is structural adjustment

Structural adjustment is a term, which describes a conscious change in economic relationships within a society. It is a planned change based on assumptions and values the government has about citizen's

well-being and the economy. SAP in development issues relates to the process by which developing countries are changing their economies towards the new global capitalism. The basic activity is to phase out government control of economic activities and transfer it to the market and private business interests. It is based on the belief that the free market forces will make resources more productive and the economy more effective. (Sparr 1994: 1).

SAP came into being at the end of the 1970's, when many countries in the South faced a huge debt burden. In 1979, the WB and the IMF developed an economic reform programme with conditional loan making. It includes a short-term austerity plan and a long-term adjustment programme. The most important issues are devaluation of local currency; reduction of free social services; phasing out of subsidies; reduction of government control; liberalisation of markets; privatisation of government enterprises; introduction of laws that promote foreign investment, boost export production, and lowers domestic consumption. The assumptions are that a free market will allocate resources efficiently and create the right prices based on demand and supply. The effect is believed to be increased economic growth, assumed necessary for poverty alleviation by the trickle-down effect. It is consequently assumed that capitalism is the solution to social problems in the South. (Palmer 1991: 75-78; Sparr 1994: 2, 7-9).

In order to comprehend the inherent weakness of structural adjustment, it is valuable to understand the ideology and the theoretical assumptions, on which it is founded:

Structural adjustment was invented in a political conservative atmosphere. The majority of the countries in the North followed the conservative economic ideology of "Reaganism". Structural adjustment therefore derived from the neo-classical capitalist economic model and the neo-liberal political ideology. Capitalism and liberalism are closely connected. Both focus on the individual opposite the social. Both prefer private business from public administration. Both defend the free market and see individuality as exercising self-interest in the market. (Sparr 1994: 4, 13, 192; Honderich 1995: 483-4).

The neo-classical economic theory has the following important assumptions: It sees itself as an objective and value-neutral science, hence economic analysis can be done outside society. Being independent of society, it is assumed an economic theory that can be universally applied without adaptation. The economy's aim is to allocate scarce resources efficiently, in order to give maximum free choices in the market. The individual is the unit of analysis. The individual is seen as being

greedy and lazy, motivated by an unsatisfiable material need. The individual is also rational. This is manifested in his choice to maximize utility out of self-interest, an act that is also efficient. Efficiency means that one cannot be made better off, without someone else is worse off. It is a technical utility principle called "Pareto Optimality". Supply is promoted by competition between producers while demand comes from consumers' greed. Supply and demand (competition and greed) will in a free market determine efficient allocation of resources and hence prices. Capitalism is seen as the most efficient economic system of organisation. The government is rarely as wise in economic decision making, as the free market. The government should therefore only interfere when there is imperfect competition, to compensate for or remove imperfection. (Sparr 1994: 13-15).

Conclusively North America and part of northern Europe adopted these liberal policies. Neo-liberal politics consequently developed in a specific historical period. The ideologies were subjective choices made during this process. The choices were manifested in the modern culture, its specific scientific knowledge system and its political, social and economical organisation. The human characteristics considered attractive and superior are individualism, self-interest, rationality, maximization of utility, possession of commodities, competition, individual freedom, rights and duties. (Sparr 1994: 192).

5.15.2. A feminist critique of structural adjustment

According to feminists, SAP has various assumptions, which discriminate against women, traditional cultures, social values and nature. (Sparr 1994: 192).

The economic theory of capitalism is considered both **objective and universal**. But as stated above it derived from a specific culture and its history. It relates to a choice done by a particular race, class and gender. This refutes the claim to objective facts. The theory is developed from the experience of a handful of industrialized economies, at a certain point in their history. And that does not make it universal. The false claim to universality creates a belief in one economic system, which blinds people to alternatives. Thus, diverse organisation of societies cannot be comprehended. It also excludes the possibility that alternative societies may prefer others, for their cultures, more suitable economic systems. Consequently, the theory is not based on universal, empirical facts about human economic behaviour. The assumptions are specific, theoretical, value-laden and domineering. (Sparr 1994: 13, 15-16, 192).

Assuming itself universal the economic theory promotes dualised, one-sided, quantitative standard application of its solutions, based on the reductionist method. This limits the theory considerably. It

cannot comprehend issues that are plural, qualitative and contextual. These diverse issues require a systemic, holistic approach. This means that SAP has serious, negative consequences when applied to the complex, diverse realities of the South:

1) SAP promotes men above women: The economic theory is based on a generalized behaviour of the individual. It also assumes that individual legal rights and duties, which exist in the North, are globally implemented. Such assumptions are false. The developing countries have laws, customs and traditions, which differ from those in the North. There is little equality between men and women in the South. Women have a lower political, economic, social and legal status than men do. Women have few rights and many duties. These inequalities limit women's access to resources and consequently restrict them in the free market. In Africa, women are the main food producers. But their access to land is unequal. Women in Sub-Saharan Africa have only usufruct land rights (user right). Land is patrilineally inherited. Thus, women get land rights via their marriage. That makes women's access to land insecure. Such facts must be included in the economic analysis to prevent distortions. But the framework cannot include diversity. It is assuming that all are equal individuals, modelled by the white, male person from the North. When such a model is applied to the South it means, that men and women due to their different status will behave differently to the same economic incentives. In this way, economic outcome cannot be maximized. A worse effect is that more resources will be made available to the productive man, which consequently reinforces the gender discrimination against women. (Cornwell 1997: 14; Elson 1991: 42; Sparr 1994: 14, 17-18, 186; Wallace et al 1991: 17).

2) SAP promotes formal above informal markets: The theory assumes that all nations have fully monetized, market-oriented societies. That is a serious misconception. In the North all resources and activities are included in the economic market, thus prices can be set (almost) fairly. But the majority of the women in the South engage in productive survival strategies, which exist outside the formal market. Thus, women's productivity cannot be calculated, priced and it consequently will not be considered of any value. The same is the case with women's re-productive, domestic and social duties. When activities are not registered in the market, they do not exist for the economic system. Women's productivity is therefore not included in the economic planning. Since resources are only directed to formal productive activities, the theory overlooks women's needs for resources, which threaten women's survival strategies. Since women do not own the means of production, those resources they use, may be withdrawn and applied for maximization purpose at the free market. That has serious, negative impact on women's food production and on the general health of women and their families. In addition, since women produce 60-80% of all the food grown on the Sub-Saharan African

continent, it will also threaten national food security. But due to the rigidity of the economic system, women's productivity is non-existing, and it cannot be given relevant incentives. Only food production directed to the consumer market will get incentives. The consequence is that women cannot increase their productivity. Without resources, they will even produce less. Conclusively the system discriminates against women. Men and women are not treated equally. Instead, the status of women is lowered further. (Cornwell 1997: 12-14, Elson 1991: 40, Sparr 1994: 16, 18).

3) SAP sees the diverse household as a unity: The neo-classical theory assumes the household is harmonious. The belief is that the household is rational, that its members have common interests and that it will try to maximize joint utility. But households are not united in the South. Decision-making is not a joint and democratic process. Resources are neither equally shared among its members. Men and women have separate economic units. Men normally do not share their possible increase in income with their family. Instead, they spend the money on non-essential, often imported, luxury items for their own personal benefit. Women oppositely tend to spend their income on children and domestic needs. Increase in household income is therefore gender related and has negative implications for the welfare of the family. Conclusively the household will not respond to economic incentives in the way expected. They will not try to maximize joint utility, which will be negatively reflected in the macro-economy. (Cornwell 1997: 14-15; Elson 1991: 45-46; Palmer 1991: 29-31; Sparr 1994: 17-18, 186).

4) SAP promotes the individual above the social: As already discussed the economic paradigm focus on individualism, while society is seen as being outside of economic activity. This has consequences for social values. Specifically this element has received severe philosophical criticism. The problem is that individualism undermines itself. Individuals learn from their family and community what freedom and choice is. We are not born with this knowledge. Therefore, the social unit makes freedom available for the individual. The social becomes in this way a precondition for development of individual freedom. If we consequently dismiss the precondition, then we dismiss individual freedom all together. The liberals accept this criticism. But they argue that liberal nations had a pre-liberal sense of an individually shared solidarity, which cannot be eroded by individualism. That is probably correct, since the liberal nations prove to be reasonable stable societies. But if we accept the argument, it follows that the liberal ideology is not universally applicable. In order not to undermine itself, it requires some preconditions attached and those are specific, historical and context-bound. Thus applying the context-bound ideology, without adaptation, to the South, where the necessary preconditions are not available, means that the system may undermine itself. Unless the

social unit receive equal priority as the individual unit society may break down. Conclusively individualism dictated by structural adjustment is a neo-imperialist ideology. It overlooks the needs of women and children and undermines social values, which are a precondition for individual freedom. (Honderich 1995: 211-212; 483-484; Sparr 1994: 13-14).

5) SAP promotes freedom above security, market above state: The ideology assumes that the free market rather than the state will promote efficient allocation of resources. This is believed to give economical individual freedom, which makes social security irrelevant. This is a highly doubtful assumption. Freedom and security are two opposite, but complementary variables. None of them exists in societies in any absolute form. Both extremes are not beneficial for the individual. Absolute freedom means absolutely lack of security. Complete security means completely loss of freedom. Stable societies normally have a dynamic balance between the two. Payment of income tax limits individual freedom. But when the funds are spend on facilities like schools, hospitals and roads, it gives social security. It is exactly this kind of social security which gives the individual choices and possibilities to pursue own freedom. Consequently to create well-functioning societies where freedom thrives, society need leaders who can administer the economic benefits and distribute it justly and fairly. This makes the role of the state important. It cannot be completely dispensed with. Conclusively, a just division of social funds is essential, especially when it comes to those services, which relate to supporting the individual freedom of women and the poor part of society. (Honderich 1995: 291; Sparr 1994: 15).

6) SAP promotes quantity over quality and individual competition over social cooperation: The ideology focus on individual and quantitative elements only. It has dismissed the social and qualitative principles. This overlooks the fact that rationally and individually chosen maximum outcome, may not necessarily coincide with the social good. Consequently, the scheme cannot comprehend that social co-operation, care for the whole and a shared quality of life may give a better overall outcome than the individually chosen one. Pareto optimality is a technically self-interested activity. But what really benefits an individual both physically, mentally and spiritually is a supportive and caring community. Such a scenario creates an overall feeling of harmony and security, which again develops balanced individuals for the benefit of society and its economy. Consequently, to maximize overall social and economic well being, qualitative and relational elements must be included in economic issues. Therefore, some kind of governmental economic intervention and redistribution is essential to increase social well being. For that same reason, relevant social aspects must be included in economic analysis. Conclusively, gender inequalities, informal and subsistence production, reproduction and domestic

activities are all relevant issues in any economic structural adjustment programme. (Honderich 1995: 645; Sparr 1994: 14-16).

Conclusively the foundation of SAP is a self-interested, anti-social, western, white, male invention. It is consequently not suitable to societies in the South and neither beneficial for black women. But in spite of the feminist criticism, SAP is globally implemented. This has profound effects on the lives of women. The free market policies determine women's access to land, food, social services, education, health, birth rates, status, their roles in society and their possibilities in life. A variety of case studies has shown the negative effects of structural adjustment on women. As will be shown below the consequences are complex, web-like and they are reinforcing each other, making it a vicious circle with a grim outcome: (Sparr 1994: 20).

5.15.3. Structural adjustment's impact on women and nature

A) SAP is directing resources to men's **cash crops** while withdrawing means of production from women's food production. This has consequences: Cash crop is chemically based agriculture that exploits sensitive soils resulting in decrease of soil fertility. Thus, cash crops degrade the environment. Cash crops also do not benefit women because men spend their income on themselves. Due to traditional job division, cash crops oppositely give women a heavier workload. This takes energy and time away from women's food production and income generating activities. And as already mentioned in Chapter 2 since cash crop production takes away land from women's food production, it forces women to produce food on marginal land, which degrades the environment further. Another side effect from the focus on cash crop is a decrease in food production. This will eventually end in food insecurity at both the household and the national level. Thus, a country may have to import food, spending hard-earned foreign exchange in the process, or they may take out new loans. Thus, little comes out of the whole cash crop operation to earn foreign exchange. Cash crops consequently increase women's workload, diminish their food production and their income, which leads to further gender inequalities and tension. Decreased food availability means reduced family health, which curtail the overall social productivity. Cash crops also causes decline in soil fertility, which leads to low soil productivity.

B) Women in Sub-Saharan Africa have a heavy work burden. Without recognition or payment, they do both productive, reproductive and social work. This creates poverty of time, which must be compensated for by free social services. But due to SAP's **reduction in free public services**, essential

facilities must now be paid for. Since SAP has not boosted women's income, they cannot pay for these services. Without free health services for poor people, women's must care for more sick family members. This will enlarge women's work burden further. Also education must be paid for. Lack of income means that mothers cannot afford school fees for all children. Girls are consequently withdrawn from school. They must stay at home in order to help their mothers. Thus, girls cannot get an education, which leads to reduced productivity, poor income and lack of independence. These things taken together make women poorer and transfer poverty to the next generation along gender line. As already shown in Chapter 2 the number of poor women is higher than the number of poor men, and a bigger percentage of poor households are headed by women. Thus, women are more disadvantaged than men are. This may lead to household problems over lack of income, which increases domestic violence. Due to stress, mental health deteriorates and as a consequence behavioural problems and crime increase.

C) Deterioration of women's economic status **increase uncertainty**. Uncertainty will make women hold on to the only traditional survival strategy and security they have: biological reproduction. Due to time poverty, women need children's labour. But also for security in old age, women need support from sons, who will inherit the land. Thus, poor, uneducated women are not inclined to reduce their number of children. That will undermine all attempts of economic efficiency. It will increase the global population, which again will affect the environment negatively.

Conclusively the one-sided focus on masculine elements in structural adjustment will not increase economic growth and alleviate poverty. Ignoring the needs of women will instead lead to deterioration of societies. It will weaken the economy, create food insecurity, deteriorate the environment, generate uncontrolled population growth, with high infant and child mortality; it will increase poverty, hunger, and insecurity, which leads to increased domination and abuse of women and children; it will result in a divided and more violent society, national unrest and an overall poor quality of life. As long as we base development programmes solely on dualised, quantitative, masculine ideals of liberalism and capitalism, founded on hard scientific economic issues, we cannot alleviate poverty and solve social problems. Marginalisation of the soft, qualitative or feminine issues excludes fundamental existential elements, which relates to social cooperation, human emotions and ethics. As long as we overlook the social dimension of structural adjustment, we create a world based on egoism, greed, competition and individual maximization. This leads to violent, unhealthy, patriarchal societies in which female poverty, children's misery and social and environmental deterioration will continue.

(Cornwell 1997: 12, 14-15; Elabor-Idemudia 1994: 139-140, 148, 151, 154-155, 159; Elson 1991: 47-48; Palmer 1991: 3-4, 37, 109, 111, 134-137, 139, 177-178, 187, 195; Sparr 1994: 16-17, 23, 25, 27-28; Wallace et al 1991: 12).

5.15.4. Neo-liberal economic development; a Third World War

The presumption of the IMF and the Bank is that their neo-liberal inspired structural adjustment programmes create economic growth. But this has yet to be demonstrated in reality. In the case of Africa, the opposite has been shown. The programme has instead caused natural and social disruptions. This result comes mainly from the fact that the institutions have no environmental or social cost screening of its programs. Thus, their mentality and practice manifest a highly aggressive, economistic confidence. The whole agenda of IMF, WTO and the World Bank is puzzling. Although they officially are UN agencies, none of them report to the UN governance system. They are only accountable to their own hierarchical orders. But since these are highly accessible to the large contributors, such as the G-8 countries, it becomes clear that it is the G-8, which is promoting the aggressive economic development scheme in the South. (Schroyer 1992: 367).

The G-8 is a hegemonic system, which imposes military, economic, political and diplomatic aggressions in the South. By their actions, they overwhelm local societies and destroy nature. It is this type of economic development that many have called "**The Third World War**". (Schroyer 1992: 361).

The G-8 countries have a huge wealth. In 1992, the countries controlled over half of the world's GNP and almost as much of the world's military power. But their intention is to expand these interests. Their strategy is to promote neo-liberal states globally. Thus as from the 1980s the G-8 summit became the most effective means of insisting on "free market and free trade" solutions for every new crisis the South faced resulting from forced economic development. The scheme has a problem already before it is applied. The point is that neither free markets nor free trade exists in reality. Both economic concepts are fictions in today's world, where markets are dominated by huge differences in economic and political power. Hence the balance and freedom these models present are no longer valid, they only exist in the textbooks. Thus, the concepts are instead powerful neo-liberal **ideologies**, where the freedom involved is in direct relationship to the wealth and power of the trader concerned. (Capra 1982: 240-241; Ekins et al. 1992: 165; Schroyer 1992: 362-363).

Each G-8 summit has presented a united front to promote the neo-liberal politics worldwide. This is a project, which is purely in the interests of the richest countries. They do this together with the global institutions they control. Thus after each G-8 summit the agreed interests and targets of monetary policies are coordinated with the procedures of the IMF and the World Bank. In this way, the G-8 neo-liberal design has been implemented in every indebted state by the IMF, the World Bank and the WTO. In line with their interests the G-8 impose free trade rules on other states, while maintaining a battery of protective trade measures for their own countries. This limits the North's purchase of primary commodities from the South, preventing them from earning foreign exchange. By such practice the North has done well in their exchange with the South. The South export declined in prices relatively to the North's goods by more than 2% per year from 1972-1986. The G-8 also keeps interests rates on Southern debts high, in spite of promises to do the opposite. In this way the South are prevented from getting out of their debt, while the North are profiting from their outstanding loans. Such actions reveal the real goals of their economic developmentalism: Maximization of control over people and resources. The overall result is a massive redistribution of resources from the South to the North, increasing polarization of rich and poor and an accelerating crisis of poverty, famine and environmental degradation. (Ekins et al. 1992: 165; Schroyer 1992: 362-363, 367).

The enormous hierarchical power exerted by the G-8 system contradicts its self-justification as democratic facilitators of a "free world". **Firstly**, they prevent the South from free access to foreign trade and loans. The G-8 gives nations access to IMF and World Bank loans and inclusion into the WTO negotiations as equal trading partners. Hence only by adopting the G-8's neo-liberal economic orthodoxy of export-guided development will the South get access to loans. By this move the G-8 are enabling the transnational corporations to dominate the world's resources and undermine the capacity of Southern governments to determine their own economic future. **Secondly**, the G-8 works outside the operations of democratic governments. In this way, it is not encumbered by public accountability. Before each summit, they prepare a secret agenda, with no possibility of input from the people who are affected by their top-down global policies. The G-8 was originated as a means to mobilize for crisis management. But it has become a mechanism that manages great power rivalries. Collectively the G-8 therefore is creating a "stabilization" of the global economy. Many view this as a Third World War. (Schroyer 1992: 363-364).

The results of the G-8's forced economic modernization are devastating. It is a development path that creates regional and social conflicts. The constant result is modernization of poverty, destruction of socio-cultural identities and the environment in the South. These things destabilize countries. Most of

the 120 wars since the second World War derive from the resistance of peoples to economic development. But in spite of poverty and conflicts, the economic development is forced to go on. This is motivated by the North's greed for economic profit. Such economic development is by Susan George called, "**a low intensity warfare**". (Schroyer 1992: 361, 364-365).

Faced with the devastating social and natural consequences of their decisions one should expect the G-8 leaders to develop a bad conscience. But that is not so. Instead, the power holders in the North manifest their power by use of more mechanisms of domination: They universalise their ideological economic processes as being natural laws and forces. In this way, the beneficiaries are not responsible and not to blame. Since they get an advantage solely due to the natural laws, they should not be objects of resentment. Instead, they must be seen as a superior caste to be admired, envied and copied. Economic reason is the secret police of the capitalist. Only its arbitrary powers designate who will live and who will die. The 40,000 children who die each day in the world from malnutrition and avoidable diseases, are casualties of natural economic forces. The silent suffering of the poorest in the sight of the global plenty is determined by those same forces. Due to their remoteness and impersonality, the decision-makers in their marble and glass pyramids feel that they are absolved from any part in their fate. (Seabrook 1993: 14).

Dostoyevsky once noted that if one baby may be killed even for the salvation of the whole mankind then everything is permitted. It is therefore evil economic instruments that cause destruction of nature and such devastating human suffering. As Arthur Koestler said, "*only the pureness of means can justify certain ends*". (Zsolnai 1993: 74).

5.15.5. A New Partnership for Africa's Development; a future with increased domination

In spite of evidence of the devastating effects neo-classical economics has caused women, Others and nature there is no corrections planned. In fact the future for women, Others and nature in Africa looks bleak. Currently African leaders are proposing an economic development programme, called New Partnership for Africa's Development (NEPAD), which will only reinforce the domination:

NEPAD is a commitment created by African political leaders with the aim to place Africa on "*an accelerated path of social, technological and economic development*". The means are economic growth, sustainable development, investment in human resources and promotion of the role of women. (Karuuombe 2003: 10-11).

The document is based on similar policies and practices as SAP. Hence NEPAD has not considered SAP's failures and the disastrous effects it has had in those countries which were forced to adopt its policies. Instead of questioning the policies made by the Northern elite, NEPAD calls for a continuation. Its inventors find that there is no alternative approach to the neo-liberal one. They also appeal for assistance from the North. African leaders in fact want to make a partnership with those powers that played an active part in exploiting Africa in the first place. But the partnership NEPAD calls for cannot be established with those elites. Because a partnership is based on equality, and North-South are not equal. (Karuombe 2003: 16, 22, 24).

The theoretical strategy is highly doubtful in reality. The most important criticism is that NEPAD accepts the neo-liberal theory as given. It consequently shrinks the role of the state while giving freedom to private capital and the market. The assumption is the same as always: poverty will be alleviated when part of the wealth eventually trickles down to all citizens. It is unbelievable that history is so completely ignored. Experience has informed us that economic liberalisation commonly leads to concentration of wealth in the hands of the few, while the majority becomes poorer. Angola's diamonds and Nigeria's oil has not improved the well-being for the local population. Thus adopting the liberal stance will only exacerbate Africa's crisis. (Karuombe 2003: 15).

NEPAD was created by a small group of African leaders, without consulting the public. It was presented in Europe before it was available in Africa. This means that the general African population does not know the content and intentions of NEPAD. Hence, African leaders are acting undemocratic. They assume arrogantly that they know what is best for the citizens of the country. Rather than being directed towards people's needs the paper is concerned with the needs of the donors and investors. Consequently lack of public consultation and consideration for basic human needs questions the legitimacy of NEPAD. And NEPAD indeed needs donors. It assumes that development can be increased by more aid and credit. NEPAD demands 64 billion USD annually from outside the continent. That is a huge increase compared to the decreasing aid, which in 1998 was lowered to 14 billion USD annually. Apart from being unrealistic, the proposal also seems to overlook historical experience. Aid and credit has been granted Africa for half a century without any significant impact on poverty eradication. Rather than outside input, Africa needs to rely on African resources. Nigerian oil alone makes 1,5 billion USD a day. If such resources were used to the benefit of Africa's people there would be no reason to depend on outside financial assistance. (Karuombe 2003: 17-18).

Although it is a stated goal NEPAD will not be able to include gender equality. The focus on purely economic issues, which as per definition are quantitative, individual, public and masculine will automatically exclude qualitative, social, private and feminine issues. The latter must be in focus in order to consider gender issues. Instead, NEPAD will, like SAP, increase the burden put on women and girls. (Karuuombe 2003: 20).

NEPAD does also not hold the North responsible for historically exploiting Africa. The paper does not analyse the root causes to mal-development of which colonialism is one element. Colonialism destroyed the social structure in Africa and drove people off their ancestral land. Unequal land distribution is still a problem in Southern Africa today. In spite of this, there is no demand for compensation. The document is also soft on the African elites who have plundered the continent, enriched themselves through corruption, and kept power through military coups. There is also no analysis of the effects neo-liberalism, free trade and globalization has on poor countries. It seems to be a completely theoretical document, which, like economics, is not rooted in reality. (Karuuombe 2003: 21).

With these issues in mind, one must conclude that NEPAD is created in order to benefit the Northern and Southern patriarchal elite. Africa does not need any more economic strategies. Africans need a development strategy that will benefit its entire people equally, that will alleviate poverty, promote social harmony and environmental regeneration. (Karuuombe 2003: 25).

5.16. The corporation; a psychopath that legally destroys society, nature and democracy

To make the picture complete it is necessary to present the most frightening manifestation of the new global capitalism. The extreme application of masculine or yang forces in neo-classical economics and neo-liberal politics has resulted in the scary phenomena; **the corporation**. With its pathological pursuit of profit and power, the corporation is one of the most dangerous and threatening institutions in this time of history. Corporations are multinational or transnational business giants with assets that exceed the GNP of most nations. For example, the annual turnover of Shell in 1984-85 was 84 billion USD, while the GDP of its home place the Netherlands was 171 billion USD. Thus, the economic and political power of corporations surpasses that of many national governments. The huge wealth of the corporations is created by the deregulation of laws, which protect society and nature. Corporations become more profitable when they are relieved from restrictions that prevent them from externalizing their costs. But in most cases the cost saved by deregulation only reappear elsewhere in the system; they manifest as social and environmental crises. For example, the energy giant Shell had a 3 billion USD profit in the first quarter of 2005. Due to high oil prices, this represented a 28% increase from

2004's earnings. its competitor BP is doing even better. They had a 6,975 billion USD profit in the third quarter of 2006. Thus, their shareholders have become even richer. However, if Shell and BP were forced to pay a fair share of the environmental costs their products produce, like global warming, acid rain, drought and floods, the balance sheet would look quite different. (Braidotti et al 1994: 28; Bakan 2004: 24, 150, 153; BBC News 29.04.2005; BBC News 24.10.2006).

Due to economic globalization, the corporation's ability to evade the authority of governments in order to earn their profit is enhanced. In the Western world, corporate power permeates all parts of public life. Corporations control the legislative process; they distort public information through the media; they determine the functioning of the educational system and the direction of scientific research. Corporate leaders are prominent on the boards of academic institutions and foundations where they influence a value change consistent with corporate interests. Thus in many ways the corporations govern society. To let such power free from regulations threatens people, nature and democracy. (Capra 1982: 232-233; Bakan 2004: 24; 150, 153).

The corporations are supported by governments of the advanced industrial countries, the G-8 and the financial institutions they control. All parties have similar commercial and financial interests. The corporations and the banks want maximum profits and the governments pursue maximum economic growth. Consequently, WTO promotes policies, which have the interest of the corporations at heart, which is supported by the commerce ministers of the member states. Thus in many member countries the corporate activities are supported by the legal system. In USA, the law states that a corporation must carry out its business primarily for the profit of the stockholders. Thus, directors have a legal duty to put shareholders' interest above all other, which is to make money. Failing this means that shareholders can sue corporate managers. It is called "*the best interests of the corporation-principle*". In this way, laws have made it illegal for leaders of corporations to be humanely and ecologically responsible. They are forced to pursue self-interest and maximization while overlooking environmental and social concerns, as long as it is profitable to do so. Thus, corporate laws find ethical concerns irrelevant. The chase is after profit making. Social and natural goals may be seen as strategies to advance the interests of the company, but as ends in themselves, they can never be legitimately pursued. (Bakan 2004: 24, 36-38, 46).

This explains why science and technology often is not supportive to poor people's needs. The huge pharmaceutical company Pfizer make more money from drugs that treat baldness and impotence than from drugs that can treat diseases like malaria and tuberculosis, which are leading causes of death in

the developing world. Although such drugs would do immense good, saving millions of lives, the costs would outweigh the benefits. The reason is that 80% of the world's people who live in developing countries represent only 20% of the global market for drugs. The entire African continent represents only 1.3% of the world market. Conversely, the 20% of the world's population that live in North America, Europe and Japan constitute 80% of the drug market. Consequently, of the 1,400 new drugs developed between 1975 and 1999, only 13 were designed to treat or prevent tropical diseases. Developing drugs for treatment of personality disorders in family pets have a higher priority than controlling diseases that kill millions of human being every year. The bottom line is that corporations make drugs for profit, not to help humanity. (Bakan 2004: 49).

Thus, the nature of large corporations is profoundly inhuman. Competition, coercion, control, manipulation, domination and exploitation are essential aspects of their activities. Their desire is indefinite expansion and their ultimate goal is to maximize profit. All other considerations are excluded. As long as the Western world support their economic activities and promote deregulation, no laws can deal effectively with these giant institutions. Their growth has outstripped appropriate legal framework. They cannot be held responsible for their action, which means that they function outside the moral and ethical order. (Capra 1982: 233).

The corporate religion of maximizing profits has made everything legitimate. Using child labour, sweatshop labour and destroying nature is legitimate if it can maximize profits. One may then assume that the corporate leaders are mentally sick people. But Dr. Robert Hare, a psychologist specialised in psychopathy, finds that the managers who do these things are not psychopaths. They may be kind and caring people, loving parents and good friends. Thus, corporations are run by decent people who are doing indecent things. Yet to function these people need to compartmentalize the contradictory moral demands of their corporate and non-corporate lives. They need to disassociate themselves from their own values during working hours, since the corporation prevents them from having any feeling of empathy. It is a kind of schizophrenia, where some parts of their personalities are separated from who they are. The corporation itself, however, cannot escape the psychopath diagnosis: It is indeed self-interested, irresponsible, and manipulative, it lacks empathy and has anti-social tendencies, it refuses to accept responsibility, and it is superficial and unable to feel remorse. (Bakan 2004: 55-57).

These characteristics could be seen in the final annual report presented by the American energy company Enron. Enron pledged to place human rights, the environment, health and safety issues, biodiversity, indigenous rights and social responsibility at the core of its business operations. The

report also said, "*We believe that corporate leadership should set the example for community service*". Shortly afterwards the scandal about the management's greed and criminal activities was made public. (Bakan 2004: 57-58).

Not all corporations become self-destructive like Enron, but all are obsessed with profit, share prices, greed, and lack of concern for social and environmental issues and the breaking of legal rules. The corporation's legal structure is largely to blame for the illegalities in the corporate world. The corporate form protects those who own and run corporations from legal liability. This leaves the corporation as a main target of criminal prosecution. Shareholders cannot be held liable because of limited liability. Executives must be proven to have been the directing minds behind those actions. Such proof is difficult and often impossible to produce, because corporate decision-makings result from input of numerous individuals. Thus, the courts tend to attribute conduct to the corporate "individual" rather than to the people who run the corporations. Often the fine the corporation must pay is comparatively low, consequently not motivating the corporation to do business in a legal manner. In these way criminal fines becomes part of the normal production costs. Such legal structure has consequently resulted in large-scale corporate crime, which today is the most widespread and least prosecuted criminal activity. It should, however, in all honesty be added that the chief executive of Enron got a 24 years jail sentence when he in October 2006 was found guilty on 19 counts of fraud. (Capra 1982: 235; Bakan 2004: 75, 79; BBC News 24.10.2006).

Being institutional psychopaths, corporations want to do away with obstacles that get in their way. Regulations that limit their freedom to exploit people and the natural environment are such obstacles. And during the last 20 years (1984-2004), they have had considerable success to remove them. Through lobbying, political contributions and public relations campaigns, they have turned the political system and much public opinion against regulations. Since regulations reduce profitability, it makes good business sense to remove them. The law's ability to protect people and the environment from corporate harm has suffered as a result. For example, many corporations today do business with totalitarian regimes. The corporations enjoy the freedom they have from democratic control, in order to make profit. The job of an executive is not to protect democracy, but to avoid the obstacles it presents. (Bakan 2004: 85, 89, 95, 101-102).

Corporations therefore mobilize politically. In USA, they have set up offices in Washington where they assert their collective influence. Moreover, as from mid-1970s corporations could legally finance and donate to the electoral system. In this way, the corporation's have almost completely taken over

the American electoral process. Corporations spend money on politics for the same reason they make other investments: to advance their own and their owners' financial self-interest. As a result, they have an enormous and disproportionate influence on the political system. USA is in fact dangerously close to the co-option of government by business. (Bakan 2004: 103, 105-106).

When corporations are in charge, they will promote only their own interest. To advance the public good is not their mandate. Knowing this deregulation becomes risky. It rests upon the suspect premise that corporations will respect social and environmental interests, without being compelled by government regulations to do so. However, no one would seriously suggest that psychopathic individuals could regulate themselves; that laws against murder, assault and theft are unnecessary, because psychopaths are socially responsible! Yet oddly, we are asked to believe that corporates, institutional psychopaths, who lack any sense of moral conviction and who have the power and motivation to cause harm and devastation in the world, should be left free to govern themselves. (Bakan 2004: 109-110).

This can be seen in the **Third World** where the corporate power has been disastrous because legal restrictions are non-existent or impossible to enforce. Here exploitation of land and poor people has reached extreme proportions. Corporations ruthlessly extract resources, often with the help of their government. They use pollutive and socially disruptive technology causing environmental and political chaos. They abuse land to produce profitable cash crops for export rather than food for people. They promote unhealthy patterns of consumption and sell highly dangerous products that have been outlawed in the North. Thus, respect for people, nature and for life is not part of the corporate mentality, corporate self-restriction is therefore a paradox. (Capra 1982: 234-235).

Also Third World women are exploited by the corporations. The establishment of the Free Trade Zones (FTZ) is an example of that. FTZ are industrial zones where the state encourages investors and firms to set up factories that produce for the export market. The activities are mainly dominated by multinational corporations who are drawn by the offer of low revenues, duty and tax-freedom and cheap labour. Many FTZ were established in the South between the late 1960s and mid 1980s, mainly in East Asia. The goods they manufacture are directed for sale in Europe, USA and Japan. Kumudhini Rosa researched the conditions for women working in FTZ in three Asian countries. Some of her findings were as follows: According to ILO there were in 1986 1.3 million workers at FTZ in the South, a number that was expected to rise during the next years. 85-90% was women, mainly unmarried, between 17-29 years. They were often naive girls from the rural areas, coming mostly from

poor families. They received a salary that was below the official poverty line. Due to the state's interest in the smooth running of FTZ labour laws were not implemented and workers were prevented from striking and organizing. In Sri Lanka repression against labour organization meant that workers disappeared or were killed during the late 1980s. Thus fear was used as a weapon to keep workers suppressed. The working conditions were harsh. For a salary below the poverty line women worked on seven days shifts, with stressful minimum quotas. The women had no free time during the day to do other things. The women's domestic quarters were at best inadequate but often appalling. The industrial complex was surrounded by high walls and wire fences. Everyone entering and leaving the area were checked. No one could enter without a pass. The zone had its own armed police force, its own intelligence service and networks of spies. Thus the women were treated as prisoners. (Rosa 1994: 73-77, 81-84).

Whether one likes it or not all today's economic activity is carried on under the corporate form. Only the public sphere remains partly unharmed. This is due to the democratic belief that governments must protect citizens' rights and meet their social needs. Hence essential public interests were considered too sacred to privatize. These were therefore deliberately placed beyond the corporations' grasp, which sees it as an unwarranted exclusion from vast profit making opportunities. Thus in the last two decades corporations have campaigned for **privatization**. As a consequence, no part of the public sphere has been immune to profit seeking corporations. (Bakan 2004: 112-113).

The whole idea of privatizing public services is flawed as a long-term solution to society's problems. It rests upon a distorted and incomplete conception of human nature. Self-interest and materialism are only part of human characteristics. Human beings are much more. Hence to base a social and economic system on such limited traits is dangerously fundamentalist. At a practical level it is also a fault. Public institutions must serve the public. The corporations are oppositely required always to prioritize their own interests. Thus corporations would only promote the public good if it was profitable for themselves, but they would also sacrifice it when necessary. Therefore the outcome for society would be devastating when corporations are in charge of the basic institutions that enable people to survive and live securely. (Bakan 2004: 117-118).

Due to the corporation's increasing domination of society its ideal conception of **human nature** inevitably becomes dominant too. That is a frightening prospective. The corporation is deliberately designed to be a psychopath. Thus it is inhuman. But its goal would be to ensure that the people it is interacting with also become inhuman. To succeed it would have to remove the natural sentiments

from people like care for others, sympathy, solidarity and cooperation. The ideal is to have individuals who are totally disassociated from one another, who do not care about anyone else, whose sense of value is related only to satisfy as many wants as possible. Hence to create a society in which the smallest unit is a person with no connections to other people that is the ideal. A person is supposed only to focus on profit making, maximization, forgetting about all but self. Hence the corporation, an artificial person made in the image of a human psychopath, is seeking to remake real people in its image. (Bakan 2004: 134-135).

The corporation has consequently become the world's dominant institution, however, history humbles dominant institutions. Great empires were all overthrown, and it is unlikely that the corporation will be the first dominant institution to defy history. Corporation has failed to solve, but has instead indeed worsened, some of the world's most pressing problems: poverty, war, environmental destruction, ill health and human oppression. Thus a growing number of people believe that its rationalized greed and selfishness must give way to more humane values. The anti-globalization protesters reflect an anger that runs wide and deep in society. (Bakan 2004: 139-140).

They are aware that corporations want democracy to be moved to the market place and they resist that. In a democracy each person is equal. The poorest and richest citizen has only one vote. But at the market place the two are completely asymmetrical. The rich has such tremendous power that he can literally crush the poor completely. That is one of the reasons governments historically have felt the need to regulate markets. In addition it is ignored that most of the world's population is too poor to participate in the consumer economy. 3 billion still live in poverty. If the market should direct society some would have many votes, other only a few and the poor would have none. That is hardly a formula for a democracy. (Bakan 2004: 146).

Government regulation combines authority, capacity and democratic legitimacy to protect citizens from corporate misdeeds. Through governments citizens can pursue social values like democracy, social justice, citizens' health and welfare, environmental integrity, cultural identity. These lie beyond the narrow goals of self-interest and wealth maximization that dictate the behaviour of corporations and markets. Regulations are therefore designed to force corporations to pay for costs they would otherwise externalize onto society and the environment. When such regulations are effectively enforced, they can stop corporations from harming and exploiting women, poor people and the environment. Deregulation is therefore really a form of de-democratization. It denies the people the right to act through their democratically elected representatives in government. It is the only official

political instrument they currently have to control corporate behaviour. Democratic governments, despite all their flaws, are at least in theory accountable to the whole of society. It is therefore important to reinvigorate the democratic institutions, modelling them into a truer reflection of the ideals upon which they were founded. (Bakan 2004: 149-150, 153).

Corporations have always been a creation of the state. The state is the only institution that can bring a corporation into life. It grants corporations their rights and compels them to put profits first. Only the state can enter into international trade deals and create global institutions that support corporations such as the WTO. Without the state the corporation is nothing. It is therefore a mistake to believe that since corporations are strong, the state became weak. Neo-liberal politics and neo-classical economics introduced economic globalization, deregulation and privatization and thereby promoted corporations' interests. Overall, however, the state's power has not been reduced. It has only been redistributed. However, since the state has become more concerned about the needs of corporations than public interest, it has diminished its role in protecting the citizens from the corporations. In other words the state has expanded its role in protecting corporations from citizens. The question is therefore not whether the state regulates corporations, it always does, the question is how and in whose interest it does so. Deregulation does not scale back the state's involvement with corporations, it simply changes its nature. (Bakan 2004: 153-6).

To end domination and exploitation of women, Others and nature corporations must be subjected to robust democratic controls. The corporation is not an independent person with own rights, needs and desires. It is a state-centred tool for advancing its social and economic policy. It must have only one institutional purpose and that is to serve the public interest. Corporations must be changed into a non-psychopathic entity. They must serve and be accountable to broader domains of society than just themselves and their shareholders. Improving the legitimacy, effectiveness and accountability of government regulation is currently the most realistic strategy for doing this. But in addition there is a need to shift the ideologies and practices of international institutions like the WTO, IMF, the World Bank away from the G-8 imposed fundamentalism and facilitation of deregulation and privatization. (Bakan 2004: 158-161, 164).

Democracy is about who makes decisions. The only sovereign in this is the people and no one else. Restoring broad democratic control over the corporations is a large battle, but it is one that must be fought if we are to survive. It includes the revival of the values and practices corporations contradicts: democracy, social justice, equity, social cooperation and compassion. (Bakan 2004: 166).

5.17. Conclusion on scientific economics

In spite of heavy criticism economics is still being taught without any awareness of its underlying values of human nature. By seeing a person as a self-interested, individual, maximizer, economics has its focus on material acquisitiveness, selfishness, pride, competition, shortsightedness, gluttony and greed. This encourages people to pursue dangerous and unethical goals. In a crowded world these tendencies will destroy humanity. This is particularly serious when such characteristics are institutionalised and have effects throughout the global system, as is happening in the neo-liberal capitalism. (Henderson 1978: 27-28, 90, 317-318, 320; Capra 1982: 244; Schumacher 1993: 72).

The Social Darwinists misunderstood natural systems and evolution when they only saw competition in nature. They overlooked the subtle and pervasive cooperation and interdependence of all living organisms. Systems theory has shown that natural and social systems require balance to achieve homeostasis (maintenance of equilibrium). Hence competition needs to be balanced with cooperation, selfishness with social concern, individualism with community, material acquisitiveness with thirst for knowledge, understanding and wisdom, rights with duties etc. Systems theory has also shown that natural systems never maximize single variables, such as profit. Thus maximizing behaviour on the part of any individual is shortsighted and destructive for the larger system. We need to understand that only the system can manage the system. People must therefore end their arrogant belief that they can control and dominate the system. Instead human beings must learn humility. Only by a humble and systemic approach can the crises we have created be resolved. (Henderson 1978: 96, 321).

Although many economists are aware of the crises caused by their discipline, most still seem to believe that solutions can be found within the existing theoretical framework. But the framework is hopelessly outdated and economists must redesign their theories. Another economic theory would not do better. The various models of socialism, communism, and welfare capitalism are all too heavily dependent on increasing economic growth and technological mastery. According to Schumacher (Capra 1989: 230) there is currently no appropriate economic model. The conventional wisdom of present day's economics can do nothing to help the poor. Only such policies are viable that result in making the rich and powerful richer and more powerful. Economics must therefore completely change in order to fit into today's realities. To overcome the current crises a shift is needed from the static Cartesian paradigm to a dynamic ecological paradigm. It will make economics more consistent with reality. Economics also needs to deal with its own underlying value system, and to recognize its relation to a specific cultural context. Instead of determining a universal and quantitative system of value,

economics must be based on what different people find valuable under changing conditions. When wealth is defined within an ecological framework it transcends the present connotation of material accumulation and gives it the broader sense of human enrichment. Such notion cannot be measured in quantities, it is an issue that relates to the quality of life. Economists can therefore no longer deal with values exclusively in monetary terms. A new theory must involve a systems approach including ecological data, social and political facts, psychological issues and cultural values. Explicit reference to human attitudes, values and life styles will make this new science profoundly humanistic. Revision of the basic economic concepts and theories will in fact be so radical that the question arises whether economics itself will survive it. But it is better to let economics die than life on Earth. Therefore if economics cannot get beyond its theoretical limitation and make contact with the human realities of poverty and misery then Schumacher (1993: 58) suggests that we must scrap economics and start afresh. There are enough signs to indicate that a new start is needed. Utopian capitalism is dead and we need to look for other concepts and traditions to solve social and environmental problems. (Henderson 1978: 27-28, 90, 317-318, 320; Capra 1982: 200, 244, 247; Schumacher 1993: 57-58, 72; Des Jardins 2001: 62).

5.18. Alternatives to scientific economics

The present economic arrangement is putting pressure on the natural environment, while not providing for the needs of hundreds of millions of people. Moreover the world's population might double during the next 50 years, causing more environmental stress and human misery. Given these facts we need to create an alternative economic system that can provide for the world's population without destroying the environment in the process. (Des Jardins 2001: 60).

5.18.1. Requirements for a new economics

A new economics must therefore be directed to the well-being of people and the Earth rather than to money making; it must focus upon quality of life rather than quantity of consumption; it must promote a materially modest way of life; it must enable people to develop their own unique sustainable livelihoods that will bring them human fulfilment; it must relate to diverse cultural horizons, each of which must define the "good life"; and it must bring ethical and spiritual values back into economic life and thought, from which they have been excluded by conventional pseudo-scientific economics. (Ekins 1992: 5, 8, 12; Schroyer 1992: 369).

Thus a basic requirement in a new economics includes a dynamic tension between masculine, yang forces and feminine, yin forces. Zsolnai sees it in this way: In his opinion there are two extreme types

of economizing: **the formal**, self-interested, goal-directed mode and **the substantive**, altruistic, value-oriented mode. The formal considers resources and calculate their operations in a utilitarian way using the actual market prices. It sees resources as being comparable to one another, since market prices eliminate all qualitative differences between them. In the substantive mode of economizing actors consider resources and calculate their operations with respect to ecological and human values. Responsible economizing requires a dynamic balance between the two modes of economizing. That is done by using the full capacity of the human mind. He refers to the work of Nobel Prize-winner and neurologist Roger Sperry. Sperry discovered a basic asymmetry between the two cerebral hemispheres of the human brain. The left-brain is **logical**, algebraic, convergent, rational and realistic. The right brain is **holistic**, creative, geometrical, divergent and impulsive. The formal mode of economizing relates to the function of the left-brain, while the substantive mode relates to the function of the right brain. To attain a healthy and successful life a human being needs to use both sides of the brain. Similarly the two modes of economizing should be combined to get good results in real-world situations. Thus the formal mode (equal to yang) must be less rigorous, while the substantive mode (equal to yin) should exert more influence. Zsolnai trusts that combining the two modes would bring a healthy and dynamic tension into real-world situations. (Zsolnai 1993: 71-72).

5.18.2. Alternative economic thinkers

Economics has a relatively strong tradition of alternative thinkers. These include Karl Polanyi (1886-1964), Ernst Fritz Schumacher (1911-1977), Herman E. Daly etc. (Zsolnai 1993: 71).

Polanyi stressed that economic activities need to be embedded in their social and ecological context. Schroyer (1992: 369) agrees and adds that when economics is re-embedded into cultural practices, it will be redefined from a purely scientific model into a social and ecological model. (Zsolnai 1993: 71).

Schumacher's basic value choice was a human centred economics "as if people mattered". His choice was a Buddhist model, which he introduced to the Western world. Buddhist economics is based on the concepts of "right livelihood" and "the middle way". It sees human labour as the fundamental source of wealth. By work a man utilizes and develops his faculties; he creates goods needed for existence; and he overcomes his ego-centeredness by cooperating with others for a common task. The essence of civilisation lies in developing human character and personality, formed by work. Buddhist teaching sees work as joy and leisure as bliss, thus the two cannot be separated. Without work man would lack physical and mental nourishment and discipline. Craving for pleasurable things and having attachment to goods and wealth stand in the way of human freedom. Thus work is meaningful and it liberates

man. A Buddhist economy would therefore ensure full employment. Buddhism aims at simplicity. Thus Buddhist economics pursues given ends with minimum means. Rather than maximizing they try to optimize consumption. This is a rational way of life. Simplicity relates to non-violence. An optimal pattern of consumption and a high degree of personal development and satisfaction allows people to live a relaxed life, without great pressure and strain. Since people use resources only moderately they are less likely to compete for scarce resources. Moreover, Buddhists have a non-violent attitude to all sentient beings and nature at large. Buddhist economics would therefore not overuse natural resources, pollute the environments or exploit non-renewable resources. Such acts would be considered violent. Violence against nature is equal to and promotes violence between human beings. (Schumacher 1993: 38-42, 45; Zsolnai 1993: 71-72).

Schumacher developed his ideas while he was working with and learning from people in India, Burma (Myanmar) and Sri Lanka. His close association with the community development work of Sarvodaya Movement in Sri Lanka and similar programmes elsewhere in Asia influenced him to rethink the Western style of economic growth and its exclusion of nature and human happiness. Schroyer (1992: 369) adds that the Buddhist Sarvodaya movement in Sri Lanka, together with the Swadhyaya movement in India, and the Chipko movement in India are all examples of socio-economic regeneration. Their viable and self-reliant systems discredit the economic "universalism" and its belief that only scientific "experts" can deal with economics. (Schroyer 1992: 369-370; Zsolnai 1993: 71-72; Mendis 1994: 195).

Daly finds that the ultimate subject matter of biology and economics is one. They must therefore be treated alike. In his sustainable economic model Daly distinguishes between growth and development. When something grows it becomes bigger. When something develops it becomes different. The Earth's ecosystem does not grow, it develops. Therefore its subsystem, economics, can also not grow. It must develop. Sustainable development therefore only makes sense without growth. Economics cannot be sustainable if it is governed by consumers' wants. Since all the factors that go into production ultimately originate from nature, we can only use its resources at a rate that can be sustained over the long term. Our use must be limited by the rate at which renewable resources can be replenished, non-renewable resources can be replaced and the environment's capacity to absorb wastes. Market prices should therefore not decide the rates of flow of matter and energy across the economy-ecosystem boundary, it is an ecological decision. Neither should the market decide the distribution of resources among different people; that is an ethical decision. Daly's model is a circular eco-systemic model, based on re-cycling and re-using of resources. (Zsolnai 1993: 66-67; Des Jardins 2001: 61).

5.18.3. Economics which benefits women, Others and nature

In his book "Transforming economic life: a millennial challenge" **James Robertson** puts forward his thesis on a sustainable economy for the 21st century. The book is published for the Schumacher Society and The New Economic Foundation of which James Robertson is the founder. Robertson (1998: 9) finds that the conventional economic approach is deeply misconceived. The present economic system has inherent tendencies to destroy nature and communities, to transfer wealth from poor to rich, to marginalise people and cultures, to erode and deny the spiritual or sacred, and to create human dependency, incapacity and helplessness. For many millions of people the world economic system is violent and destructive, unfree and disorderly. The aim of Robertson and the Schumacher Society is to transform economy into a new system "*as if people and the Earth matter*". Below some of Robertson's suggestions are presented. (Robertson 1998: 6-7, 10, 15).

For Robertson the needed economic transition is one aspect of a larger historical change: The end of the modern era and the transition to a post-modern age, marked by a new awareness of our common humanity and our kinship with the rest of creation. The principles underlying this includes empowerment of people; conservation of nature and its resources; a decentralised, multi-levelled, one-world economic system; restoration of political and ethical choice in economics, based on respect for qualitative values; and respect for feminine values. (Robertson 1998: 15).

The economic system must be designed to secure economic freedom, self-reliance and democracy for all; it must be a system, which cannot be commanded by any interest group; and it must focus on needs, rights and responsibilities of people. This requires changes away from the state or market-centred towards a more people-centred economic model. It is a systemic change, which includes all levels in society. Creative changes must come largely from NGOs, movements and citizens' groups, rather than from governmental, professional and academic establishment. (Robertson 1998: 16-17, 19, 26).

The new economics must be integrated in the natural world, and its sub-processes. The idea is that waste from one sub-process provides resources for others and minimizes leftovers. Natural resources can only be used inside nature's capacity to reproduce. Also nature's capacity to absorb waste and pollution must be respected. (Robertson 1998: 22-23).

Robertson suggests three types of changes, which will transform the economic system. **The first** is changes in taxes and public subsidies, which will change relative prices. **The second** is changes in

how money works, which will affect economic behaviour and outcomes. **The third** is changes in institutions. All changes are part of a systemic framework, which should alter the underlying causes of today's poverty, inequality and much environmental destruction. (Robertson 1998: 26, 30).

The first change. The present tax and welfare system encourage over-use of natural resources, under-use of human resources, and discourage useful, unpaid work like parenting and subsistence farming. It creates poverty, unemployment and social exclusion. **An eco-tax reform** is needed which includes a shift of taxation from employment, income and savings to use of natural resources, environmentally damaging activities and land site-values. When taxes are placed on use of natural resources and pollution environmental costs are internalized. Energy, water taxes, and traffic congestion charges are other resource taxes. The idea is that people should pay for the benefits they get from using the "commons", meaning resources and values created by nature or society and not by themselves. In this way the system is taxing people on the value they subtract rather than on the value they add. Eco-taxes on fossil fuels and nuclear energy will raise the costs of the energy content of all goods and services. That will promote less energy use and thus reduce pollution. It will hit hardest on those who use much energy, which mainly are the rich. It will also promote a shift from mechanical energy to human energy, and hence increase human labour. Tax on land will also mainly hit the rich, who profit on land-speculation. The American economist Henry George has showed that shifting the burden of taxation from production to the value of land would stimulate employment and the production of wealth; the selling price of land would fall; land speculation would end; and land monopolisation would no longer pay. (Robertson 1998: 41-44).

A citizen's income (CI) is a tax-free income paid by the state to every woman, man and child as a right of citizenship. It will be age-related, with more for adults than children, and more for elderly people than working-age adults. There must be supplements for disability and other specific circumstances, but otherwise it will replace all benefits and tax allowances. A person's CI will be unaffected by their income, wealth, work and marital status. The CI will make people materially equal and hence social discrimination is prevented. The result will be progressive since the same CI will mean relatively more for poor than for rich people, and because rich people will pay more for the use of resources and land. It is unrealistic to believe that the economy can provide work and livelihoods for everyone, and that may also not be desirable. The CI will provide for basic needs, making people free to improve their capabilities to generate income without being dependent on employers. The modern division between employer-employee will then fade away and people will work for themselves. CI will also improve access to resources like land, means of production and capital. Thus people will be encouraged to take

greater responsibility for themselves and their society. CI can also give people the chance to do useful unpaid work for themselves. In fact many essential activities are already unpaid. These include parenting; domestic work; voluntary work; citizen participation in local communities, in national and international affairs. Thus citizens will have the time and opportunity to get politically involved which will improve democracy. The idea of CI is old. It goes back to Thomas Paine in the 1790's, but was also taken up by John Stuart Mill in the 19th century. Support has currently come from Samuel Brittan and James Meade both respected economists. The support to CI is increasing especially in Britain and Western Europe. Ireland is in the process of considering it. The principal underlying the idea is that *"nature and its resources are for the benefit of all"*. (Robertson 1998: 34, 44-47).

Another element is **removal of subsidies**. Robertson (1998: 48) finds the present subsidy system perverse. It damages the environment, dis-encourages employment, favours capital, energy-intensive farming and rich farmers, while it undermines food security in the South. The worldwide value of perverse subsidies range between 500 to 1,500 billion Pounds. These are a waste of citizens' money and they skew the price structure of the economy in favour of socially and environmentally undesirable activities. Democratic control over this framework is virtually non-existent. The governments do not even have to inform the public about the social and environmental impacts from perverse subsidies. (Robertson 1998: 30, 48).

The existing system of **food production** fails to eliminate hunger and it prevents people from achieving food self-reliance. Its methods also damage the health of nature and people. Changes include growing of local food for local consumption to reduce transport, a shift to organic and low-energy-intensive farming methods to increase human and natural health and to give more employment opportunities in agriculture. (Robertson 1998: 29).

Energy is a basic resource. It is required for all economic activity. The need is both to reduce the overall demand for energy and to replace damaging types of energy supply with benign ones. This means a shift to new, less energy-intensive and transport-intensive patterns of production and consumption, living and working. It includes a change from large centralised power stations to decentralised energy sources. Nuclear power is a prime example of a centralised technology, which also is potentially disastrous to humans and nature. It imposes incalculable costs and risks on current and future generations. Changes will be encouraged when taxes are shifted to natural resource use and pollution and subsidies are removed. Resistance to raise cost of energy is of course strong. The industries have forcefully resisted the proposed European carbon-energy tax and agreement on an

effective worldwide energy strategy at the 1997 Kyoto Conference. Furthermore encouraging reduction in energy consumption threatens conventional economic growth thinking in a production-oriented world. Feminists find that it also is threatening the masculine obsession with big new toys. Shifting taxation away from incomes on to energy, resources, land and removing subsidies for energy-intensive processes, will alter price and cost structures in favour of increased employment. When land is taxed its value will fall which makes it affordable for potential productive small-scale farmers. Now landowners are encouraged to keep unproductive land for economic reasons, in case land prices increase. (Robertson 1998: 30, 33-35).

More self-reliant **local development** is a key part in the transition to a people-centred, environmentally sustainable economic life. It means more use of local resources to meet local needs. Cyclic patterns of local activities will reduce imports and increase recycling of local materials. Use of local incomes and savings within the local economy will be increased. Local banks should be encouraged, enabling local people to invest in the local economy. Local indicators must be developed to monitor changes in local social, environmental and economic conditions. (Robertson 1998: 35-37).

Shifting **business** to equitable and sustainable behaviour includes new laws that must compel business to observe mandatory social and environmental standards. Benign business activities must become attractive financially. A compulsory annual publication of social and environmental audits must be presented. Only those that comply satisfactorily can get public contracts. In the long term the corporate structures should be democratised. The rights and obligations of all stakeholders including future generations must be represented in the decision-making process. (Robertson 1998: 39).

Robertson (1998: 40) believes that the above changes will help to create a healthier and more cohesive society, which would reduce demand for many types of **health and security services**. With less pollution, healthier food production, elimination of poverty, better social relationships and greater work satisfaction people are less likely to become violent or sick. Reducing economic growth is good for people and the Earth. (Robertson 1998: 40).

The second change includes the way **money and finance system** works. Today's system transfers resources from poor to rich. One reason is the way interest payments work through the economy. A 1995 German study showed that the effect of interest is that the richest section receives more than it pays, while the poorer sections receive less. The result is a substantial transfer of money from the poor majority to the rich minority. This fact is also reflected in the Third World debt: Out of the 1,200

billion USD owed by the South to the North in 1990 only 400 billion USD constituted the original borrowing. The rest was accrued interest and capital liabilities. Thus financial systems serve capital owners while making profit for themselves. The immediate need is to cancel the un-repayable debts of the poor countries. In the longer term the **Third World countries** should receive annual payments in compensation for the disproportionately large portion the industrial world uses of common world resources. (Robertson 1998: 51-53).

The third change includes a shift to **new financial institutions**. It is necessary to establish ethical, green and social banks, local development banks, micro credit banks, and other grass-roots banks. They must provide credit for people and localities unable to get it from conventional financial institutions. Various types of community banks have grown in numbers in the world in recent years. They include the South Shore Bank in Chicago, Aston Reinvestment Trust in Birmingham, and Grameen Bank in Bangladesh. These institutions will play a key role in enabling people to generate incomes for themselves in more self-reliant local economies. Public policy must support them. (Robertson 1998: 58-59).

The **institutions of global economic governance** will have to be brought under democratic control. At the moment, the World Bank, the IMF and the WTO do not represent the majority of the world's peoples and do not have their confidence. The bias towards development based on externally financed mega-projects, export-led growth and "free trade", has reinforced the economic vulnerability of many countries in the South and has resulted in widespread poverty and environmental degradation. (Robertson 1998: 61-62).

There is a rising hostility against WTO's system of free trade, which allows multinationals to contest social and environmental laws. Regulations are needed to make freedom in trade equal and encourage trade that contribute to self-reliant and sustainable development. Free trade could for example be re-orientated towards "**fair trade**". The fair trading movement enables ethical consumers in the North to support small ethical producers in the South. Backing has come from charities and NGOs concerned with Third World development. Fair-trading should be actively supported by governments and the WTO. (Robertson 1998: 61-64).

Commission on Global Governance found in 1995 a need for **global taxation**. It should be based on the use each nation makes of the global commons. It may include charges for fishing, mining, and use of sea-lanes, flight lanes, outer space and more. It includes taxes on activities that pollute the global

environment. Like tax on world trade, which would give incentive to greater national self-reliance. Another idea is tax on military and arms trade. Maybe there should be a tax on international currency exchange transactions too. Part of the revenue could finance some UN costs including international peacekeeping programmes. The rest should be distributed to all nations according to the size of their populations. This would transfer funds from the North to the South, reflecting The South's disproportionate use of the world's resources. This is consistent with the right of each individual to a global citizen's income. It could also liberate developing countries from their present dependency on aid, loans and the rich-country dominated institutions. Finally it could reduce the risk of another debt crisis. The 1995 Commission on Global Governance also agreed to the following changes: The UN system does not provide effective support for equitable and sustainable global development. It must therefore develop capacity for such a strategy. A second assembly representing the peoples of the world must be set up as a counterweight to the government representatives in the General Assembly. Policies from **IMF, the World Bank, and the WTO** must be organized in harmony and cooperation with the rest of the UN system. The **G-8** must be replaced by a more representative World Economic Council. (Robertson 1998: 64-66).

A transformed economic system as the above will empower and encourage people, communities and nations to take more control over their own economic and political destinies, to become more self-reliant, and to live in ways that are environmentally and socially benign - hence increasing the quality of life for women, children, men and nature alike. (Robertson 1998: 67).

Part III: Scientific technology; how it dominates women, Others and nature

Technology is an integrated part of both science and economics. One may call it the physical application of the outcome from scientific research and development. It is also the tool by which economics generates its profit and growth. Thus being in the same "family" as science and economics, technology is based on the exact same concepts. Therefore one must assume that technology also is dominant and exploitative of women, Others and nature. Trying to show that this is so, is the purpose of Part III. Technology is probably the most obvious element in the group of three, because people can much easier relate to its good and bad effects. The reason is that most people experience daily the pollution and climate change that application of technology is causing, while they also enjoy the electricity, tapped water and transport it has provided. But the fruits of technological progress, which some people enjoy, have come at a price. That price has been heavy on women, Others and nature.

The following six sections present different, but interconnected critical discussions about technology. Like in Part II the sections are meant to be reinforcing each other, leading to the overall conclusion that modern technology, like science and economics, is dominating women, Others and nature. **The first** section gives an example of technological application, provided by Rachel Carson. It shows that the purpose of technological research and development is to control nature and to generate economic profit, rather than improving human well-being. It also makes clear that this one-sided objective is dangerous to nature and society. **The next** section discusses the reason technology has become dangerous. Due to its inherent reductionist and deterministic approach, technology has a tendency to give systemic side effects that lead to social and natural crises. This point links to **the following** section, which states that technology, is not as assumed value neutral. Technology is oppositely founded on hidden values that prioritize yang forces over yin forces. The consequence is a priority of economic profit making over social and natural well-being. Thus masculine, profit making, hard-ware technology is produced, while feminine, unprofitable, soft-ware solutions are overlooked. This has lead to production of huge, hazardous and dominant macho technology, in the form of nuclear power and nuclear weapons. Such choice clearly shows that modern technology is inherently violent and cannot promote peace and harmony. **The next** section discusses the ultimate aim of technology: to control life itself. The current patriarchal project is to develop biotechnology that can take over the reproductive forces of women and nature. By patenting life huge profits can be made, which is reaped mainly by the corporations. Monopolization of all life forms and processes is the utmost form of domination and exploitation of women, Others and nature. The activity, in its extreme form, is likely to suffocate the life giving yin energy, leading to death of Mother Earth. To prevent such deadly outcome **the conclusion** states that the violent yang technology must retreat in favour of the subtle yin force. In this way development and application of technology will be able to include ethical considerations, for the benefit of society and nature. **The final** section of Part III is suggesting some few alternative technological models. These display a balance between masculine and feminine forces, making them appropriate for improving the well-being of women, Others and nature. Alternative technology is also highly likely to ameliorate most of the global crises discussed in chapter 2.

5.19. Technology is the means by which man controls nature

"The 'control of nature' is a phase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man. The concepts and practices of applied entomology for the most part date from that Stone Age of science. It is our alarming misfortune that so primitive a science has armed itself with the most modern and terrible weapons, and that in turning them against the insects it has also turned them against the earth."
Rachel Carson in "Silent Spring", 1962. (Carson 1995: 297).

One of the best examples of how man has tried to control nature with his scientifically developed technology is probably given by the American marine biologist Rachel Carson. Carson's wrote her influential book "Silent Spring" in 1962. It gives the story of the indiscriminate use of pesticide and herbicides like DDT. The title indicates that the result of using such toxic chemicals is the death of the songbirds, and many more living entities. According to Braidotti et al (1994: 173) the book sparked off the beginning of the North's environmental movement. In order to understand why, and to present an example that shows modern society's technological application some of Carson's important points are presented below:

Problems with insects arose with the introduction of the Green Revolution. In order to intensify agriculture immense land was devoted to a single crop. This set the stage for explosive increases of specific insect populations. In the past mixed crops have benefited from nature's own check and balance system because it limits the suitable habitat for species. But mono cropping means that one insect can build up its population to much higher levels. (Carson 1995: 10).

Spraying insects with organic chemicals started after the Second World War. When scientists tested chemicals for warfare, it was found that some were lethal to insects. These chemicals differ from the simpler insecticides of pre-war days, which were derived from naturally occurring minerals and plant products. The new synthetic insecticide have immense power both to poison and enter the most vital processes of the body and change them in often deadly ways. They destroy the enzymes that are to protect the body from harm. They block the oxidation processes from which the body receives its energy. They prevent the normal function of organs. And finally they initiate the irreversible change that leads to malignancy. (Carson 1995: 16).

The chemicals Carson's write about are all based on arsenic. They are of two families. The first is **chlorinated hydrocarbons** with the highly toxic DDT, but still it is the least toxic of the family. The others are chlordane, heptachlor, dieldrin and aldrin. The most toxic is endrin, which is 15 times as poisonous to mammals as DDT. The other family is **organic phosphor**, which are the most poisonous chemicals in the world. Some became the deadly nerve gasses. (Used by Saddam Hussein and his cousin "Chemical Ali" to kill the full population of a Kurdish village in Northern Iraq). Others became insecticide like malathion and parathion. The latter is the most dangerous in the family. If a minute amount is swallowed, paralysis and death follows immediately. There are also equally powerful **herbicides**. Pentachlorophenol is extremely toxic to man. It interferes with the body's source of energy so that the affected organism almost literally burns itself up. (Carson 1995: 18, 23-29, 34-36).

When these chemicals are blanket sprayed they enter everywhere. The worst may be the pollution of the **water**. Adding chemicals to water anywhere will threaten the purity of water everywhere. Nature does not operate in separate and closed compartments and water supply is connected. All the running water of the earth's surface was at one time ground water. Often the chemicals cannot be removed and they may not be detected by routine tests. They also develop. In the presence of air, water and sunlight the water becomes a chemical laboratory for production of new and more dangerous chemicals. In this way chemicals are combined in ways which no responsible chemist would think of in his own laboratory. (Carson 1995: 41-44).

Some chemicals persist long in the **soil**. Aldrin has been recovered 4 years after application, as converted into dieldrin. Others survive 9, 11 or 12 years. The chlorinated hydrocarbons are persistent and long lasting. Each application is therefore merely added to the quantity remaining from the previous one. Arsenic virtually poisons the soil permanently. Thus even un-sprayed crops may take enough insecticide from the soil to render them unfit for market. (Carson 1995: 58-59).

In "Silent Spring" Carson presents case story after case story about how the US department of agriculture in the 1950's and 1960's ordered blanket spray over huge land areas in order to kill off a single insect. The results to other species have been tremendous. Below only one such case is presented:

During the fall of 1959 some 27,000 acres in sections of Michigan, Kentucky, Iowa, Indiana, Illinois and Missouri were heavily dusted from the air with pellets of aldrin. The purpose was to control the Japanese beetle. There was little need for this drastic and dangerous action. For more than 30 years the beetle has been present in small numbers without any increase. In the eastern areas where the beetles have been longest established, natural controls had been set up and the population have been kept at relatively low levels. This information was available, but not used. Instead the most dangerous chemicals were distributed in a manner that exposed a large number of people, their domestic animals and all wildlife to the poison. As a result the programme caused shocking destruction of animal life. The choice of aldrin was not determined by any specific suitability for the beetle control but because it was the cheapest. It was acknowledged publicly that the chemical was poison, but people were informed that it was harmless to humans and would not hurt plants and pets. But they had not consulted the available reports from the Public Health Service, the Fish and Wildlife Service and other evidence of the extremely poisonous nature of aldrin. Data after the spraying suggested that 80% of the songbirds had been sacrificed. Plenty of squirrels, rabbits, muskrats, opossums, foxes and fish

were dead. They all had experienced a violent death. Outbreak of human throat and chest irritations were reported, as were nausea, vomiting, chills, fever, extreme fatigue and coughing. In spite of this data spraying carried on until 1961 where some 131,000 acres had been covered. With minimal funding biologists assembled facts that collectively painted a picture of almost unparalleled wildlife destruction: Specifically insect eating birds were hit. Brown thrashers, starlings, meadowlarks, grackles and pheasants were virtually wiped out. Robins were almost annihilated. Poisoned and dead earthworms eaten by the birds were probably the reason for this. Birds that were drinking and bathing in puddles left by the rain a few days after spraying were doomed. The birds that survived have been rendered sterile. A rare farm was blessed by the presence of a cat. 90% of all farm cats died. Also livestock had died. In spite of this the spraying continued. By 1961 every species of wild mammal had suffered heavy losses and birds had been wiped out. But the Japanese beetle seems only temporarily to be suppressed, and it continued its westward movement. The federal government had spent 375,000 USD and additional funds had been provided by the state. The eastern states had the good fortune to sustain their beetle invasion before the synthetic insecticide had been invented. They had used natural forces of control. Parasitic insects from the Far East were imported and fatal diseases were established. The most effective was a parasitic wasp. The female injects a paralyzing fluid in the beetle and attaches a single egg to it. The young wasp then feeds on the paralysed beetle and destroys it. Another defence was introduction of a bacterial disease that affects beetles of the Japanese family only. It is harmless to other insects. The spores of the disease occur in soil. When indigested by the beetle they multiply in its blood causing it to turn an abnormal white colour, hence the popular name of milky disease. The disease is easily spread. One only gathers the infected beetles, dry, ground them, and then spread the dust to other areas. In this way it will infect others. Thus the milky disease gave the eastern areas a high degree of natural protection from the beetle. One wonders why this was not done in Illinois and the other Midwest states. An argument was that the method was too expensive! But such accounting must have flaws. Inoculation with the spores need only be done once and that is the only cost. There were also other excuses, which were equally non-viable. **The conclusion** must be that people want immediate result at whatever costs, and therefore they use chemicals. Also in spite of the fact that chemicals need frequent and costly repetition. Those who are willing to wait an extra season for results will choose the milky disease, and they will be rewarded with lasting control that become more, rather than less effective with time. **The moral question** for Carson was how any civilization can wage war on life without destroying itself and without losing the right to be called civilized. These chemicals cannot single out one species, which we want to get rid of. Each of them is a deadly poison. They poison all life with which they come in contact. The cat, the cattle, the rabbit, the lark. We reward these supportive, innocent animals with a horrible death. (Carson 1995: 87-99).

Then there is **the human price**. The toxic materials are lodged in the fatty tissues of the body. When these reserves of fat are drawn upon the poison strike quickly. This may take many years, and one therefore cannot connect the cause and effect. Research clearly shows that various illness and symptoms are due to the exposure to chemicals. Women are more susceptible than men are, children more than adults are. Insecticide causes liver diseases and directly affects the nervous system. Delayed effects from exposure to dieldrin can be loss of memory, insomnia, nightmares and mania. Lindane may produce profound and long lasting effects on the central nervous system. Malathion has induced severe muscular weakness. Another illness is cancer. Five or six of the pesticides must be rated as carcinogens (cancer causing). Even more may be the cause of leukaemia. Most malignancy develops slowly. A period of 15 to 30 years or more has shown to pass before cancer sets in. But leukaemia is not long to start. Within the period covering the rise of modern pesticides the incident of leukaemia has been steadily rising. In all countries the recorded death from leukaemia at all ages are rising at a rate of 4 to 5% a year. (Carson 1995: 187-197, 221-222, 226-227).

To have risked so much in an efforts to mould nature to man's satisfaction and yet to have failed in achieving the goal would indeed be **the final irony**. Yet this is the situation. The process of spraying seems caught up in an endless spiral. Since DDT was released for civilian use a process of escalation took place where ever more toxic materials was applied. This happened because insects evolve immunity to a particular insecticide, hence a deadlier one must be developed, and then an even deadlier one. This chemical war is never won. Instead the environment is becoming contaminated with substances of incredible potential harm. The insects oppositely persist because they are by a process of genetic selection developing strains resistant to chemicals. (Carson 1995: 245-246).

Insect resistance is a matter of concern in agriculture and forestry but mainly in the field of public health. With the intensive application of chemicals, insect resistance is reaching alarming levels. The WHO has declared that resistance is the most important single problem facing insect-control programmes. The relation between insects and human diseases is ancient. And regrettably the list of resistant species includes practically all insects, which are of medical importance. For example resistance among mosquitoes is a threat to malaria programmes. Insects that infest crops are also developing resistance, even to dieldrin and aldrin. Ordinary resistance normally takes two to three years to develop, even up to six years. Occasionally it will take only one season or even less. The time involved varies with species and climate. Hot climate favours rapid rate of reproduction. Humans may also become resistance but it may take thousands of years. (Carson 1995: 265-267, 271, 274).

Carson (1995: 12) does not content that chemical insecticide must never be used. But she does contend that poisonous chemicals have indiscriminately been put into the hands of persons largely or wholly ignorant of their potentials for harm. These people are subjecting huge numbers of people to the poisons without their consent and often without their knowledge. She further contends that these chemicals have been allowed to be used with little or no advance investigation of their effects on soil, water, wildlife, and human beings. Carson's **conclusion** is that we need to change our philosophy. We must abandon the attitude of human superiority and admit that in many cases nature have better means of limiting organisms, which is also more economic. (Carson 1995: 12-13, 261).

There are many **alternatives to chemicals**. They are all biological solutions, based on an understanding of the living organisms they seek to control. **One** is male sterilization. If we could release a large number of sterilized male insects only infertile eggs would be produced and the population would die out. **Another** way is to use insects own venoms, attractants and repellents, as selective insecticide. Sound could also be a warning or an attraction. Ultrasonic sound will kill all mosquito larvae in a laboratory tank, but it kills other aquatic organisms as well. **Other** methods are ancient. They are based on the knowledge that insects are subject to disease. Bacterial infections may sweep through their population like a plague or they may be killed by virus, fungi, microscopic worms and other beings. It is highly unlikely that these diseases would endanger other forms of life. The reason is that insect pathogens are so specific that they infect only a small group of insects sometimes a single species. Biologically they also do not belong to the type of organisms that cause disease in higher animals or in plants. **Finally** there are the natural enemies. Species has an explosive power to reproduce when the environment and their enemies have been weakened. But a healthy environment can keep populations in check. Thus we need to improve nature's own resistance. Examples of this method are successful. The advantages are that it is relative inexpensive, it is permanent, and it leaves no poisonous residue. The animals that consume insects are of numerous types. They are our allies in keeping the balance of nature in our favour. Thus we need to preserve natural diversity. For example to be healthy a forest needs birds, ants, forest spiders, and soil bacteria, as much as it needs trees. All of these animals are effective in the control of insects. There is therefore a whole battery of armaments available for permanent solutions that preserve the natural balance. (Carson 1995: 247, 249, 278-280, 285, 287-291, 293, 295-296).

Today we may know more about the environment, and perhaps many of those chemicals Carson write about are not produced anymore. Although only two years ago DDT was found to be used on tomatoes in Spain (private correspondence). However, technology has far from stopped toxifying our

environment. Carson (1995: 12) found those days that the people engaged in spraying operations exercised a ruthless power with their abuses going unchecked in both state and federal agencies. Today even more deadly abuses are present like the nuclear technology. Thus the technological operations may have changed in kinds but they have increased in magnitude, and this time with the vocal support of governments.

5.20. Modern technology is sub-optimal, leading to social and natural crises.

"Our scientists and technologists have learned to compound substances unknown to nature. Against many of them, nature is virtually defenceless. There are no natural agents to attack and break them down. It is as if aborigines were suddenly attacked with machine-gun fires: their own bows and arrows are of no avail. These substances, unknown to nature, own their almost magical effectiveness precisely to nature's defencelessness - and that accounts also for their dangerous ecological impact."
F. E. Schumacher, 1973. (Schumacher 1993: 6).

Technology is a child of the dualised modern scientific world-view. Modernism has hailed the masculine, linear, rational modes of cognition, which produces inductive, empirical and reductionist ways of thinking. It has oppositely devalued the feminine, circular, intuitive, modes of cognition, which produces deductive, creative and systemic thought processes. This has led to a priority of products over processes, objects over their interplay, and a reward of analysis while synthesis is punished. In this masculine model technology is seen as an objective, scientific discipline. Technological assessment assumes that wholes can be understood by examining their parts. This in turn means that "problems" can be defined by analysis and "solutions" can be devised to fit them. (Henderson 1978: 328-330).

The scientific view has an implicit, almost universal, assumption that the problem under discussion has a technical solution. This is so whether the problem is political, psychological or ecological. Thus wasteful energy consumption is countered by nuclear power; lack of political and cultural understanding is compensated for by building more missiles and bombs; poisoning of the natural environment is remedied by making alternative technologies that often worsen the problem. A technical solution may therefore be defined as one that requires a change in the techniques of the natural science, demanding little or nothing in the way of change in human values or ideas of ethics. In this way technological growth determines people's lifestyles, their social organisation and the human value system, although it should be the other way around. But when means are valued, rather than ends the results is that people's freedom and power to choose the ends they really favour is destroyed. Instead the development of means dictates the choice of ends. To land man on the moon was not the result of human needs, which technology is meant to serve, but solely related to the fact that the

necessary technical means appeared to be available. This is the consequence when such a high status is given to science, compared to ethics, arts, philosophy and spirituality. The scientific view of technology has consequently led to policies, which exclude the role of human values. This often results in short-term, narrowly conceived, economic maximizing activities, which exploit subsystems at the expense of the larger social and ecological whole. Such policies lead to **technological determinism**, thus freedom of choice has become an illusion. (Henderson 1978: 328; Capra 1982: 230-231; Schumacher 1993: 36).

Another controversial issue with application of technology is its unanticipated, negative effects. In physics and economics growth has no limits. Since such views cannot fit into a limited world, technology is applied to solve the limitation. But whenever technology has solved one problem, like replacing fossil fuel energy with nuclear energy, society gets ten new problems. These problems cannot be seen as consequences of failure, because scientists see new technologies like nuclear energy as progress. The problems must therefore be the effects of technological success. The historical development of science and technology has during the last 100 years meant that dangers have expanded faster than the opportunities. This has caused growing public scepticism concerning the role of technology. People do not anymore automatically equate technology with progress, they are too aware of its unanticipated consequences in daily life. These include the formidable destructive power it places at human's disposal, the disruption of the social and natural environment it creates, and the ever-larger scale of industrial and economic operations it produces. (Henderson 1978: 303; Schumacher 1993: 16).

In the past the scale of technology was smaller and its effect localized. But as technological mastery increased, in scale and as a cumulative effect, technology began making more pervasive impacts on populations, social structures and ecosystems. Today the unanticipated effects of the growing scientific knowledge and the technologies it creates have outrun adaptive capabilities. This results in many crises, which the world seems not to be able to resolve. These manifest as specific crises like environmental crisis, population crisis, poverty crises, hunger crises etc. However, the many smaller crises are all rooted in one larger crisis, which relates to the masculine, inadequate, reductionist and dualised perception of reality. (Henderson 1978: 303-305).

When "experts" focus on only one specific crisis, the perceptions of all the other factors, which affect the crisis in question, are lost. If for example the focus is on the **urban crisis** with its over-crowding and poverty, it is important to understand that it is the result of technology. Mechanization of

agriculture was assumed to produce plenty of food and industrial employment. But it drove hundreds of thousands of farm workers and small farmers to the cities. In towns the promise of industrial work was not fulfilled for most. Instead the crowded cities produced dropouts, crime, alienation, stress and social breakdown. Since national policies overlooked alternative productive activities in the rural areas, these were drained of their vitality. The outcome was just the opposite of the dream: unemployment and famine. Thus by introducing new technology people lost their livelihoods, their land and their independence. Instead they were forced to live in urban poverty. The result is a dual society without any inner cohesion, which causes political instability. Such problems cannot be solved by applying yet another technological fix. (Henderson 1978: 303-305; Schumacher 1993: 53).

With the current advanced technology the impacts from application are global. This fact makes reductionist perceptions directly dangerous since it can and does lead to decisions based on inadequate information concerning long-term and long-range impacts. Thus many crises are created due to lack of holistic attention. But they are also the result of inadequate appreciation of how many, smaller rational micro-decisions and actions can add up, by default, to dangerous, irrational macro-decisions. When systemic perception is lacking, the consequences tends to be compounded. Thus when one technology produces unanticipated side effects, another technological "fix" is tried out to ameliorate it. In this way more and more unknown variables are added, which increase the impetus of social and environmental changes. These changes also make human lives increasingly artificial. Technology has by now created a human-made environment, which prevents people from directly experiencing their vulnerability and dependence on the natural environment. (Henderson 1978: 305-306).

The many technological mistakes come from the fact that we do not really understand them. We have as such not designed the many interacting systems from the beginning and therefore we cannot manage them. What we try to do is to manage smaller and easier systems, which, however, cannot solve our crises. Henderson (1978: 314) calls this for **sub-optimization**. She finds that most of our scientific and technological enterprises are geared toward sub-optimization. It means that we produce ill-considered, short-range technological fixes to solve problems we have created by application of other technologies. It is for example of little use merely to hire more police and buy more costly security hardware without viewing **crime** as part of the social cost which derives from maldistribution of wealth and income. Moreover there is increasing evidence that violent behaviour is part of the social costs from the commercial structure of television produced by the Western culture. Thus a holistic and contextual view is needed to better assess which of the "crises" are even susceptible to a technical "solution". Henderson (1978: 316) therefore calls the crises of war and violence, poverty, human

repression and environmental destruction for "*cumulative effects of myopic perception, narrow analyses and sub-optimization*". (Henderson 1978: 314, 316).

The priority on reductionist analysis means that modern society is unable to deal with interdependent, global systemic problems. Moreover their trust in technical fixes has developed an unquestioned belief that technology always is the answer. The consequence is that solving any crises requires technological fixes applied to parts of the problems only. Solution to the **crisis of population increases** is for example seen as being technical. The belief is that if only women in the South could be made more aware, then they would stop producing children. Women therefore need education in family planning and access to preventive technology. This analysis, however, overlooks the inter-related issues. Excluded is the fact that children often are the only social security mothers have: Children, especially girls, are a source of labour for overworked women. Boys are also important since they will inherit the land, making old age secure for their mothers. Excluded is also the dominant role men play in producing many children: Many women in the South do not have control of their own body and can therefore not limit the number of children they get. Completely forgotten is the exploitative role of past colonial regimes: Had Africa been left with an intact resource base to sustain people's livelihoods, women would not depend so much on children. Such synthesis places the rich, patriarchal countries as part of the problem, and it points logically to a solution, which includes redistribution of the world's resources. (Henderson 1978: 97; Cuomo 1994: 96-98).

The modern, reductionist approach to **the world food problem** is equally narrow and technical. It is believed that the so-called free market will solve hunger by demand and supply. But such limited views overlook that the problem of food shortage relates to power: Those with power own the resources for food production. They only sell for money and poor people have no money. Food security also relates to need as opposed to demand: But poor people's needs cannot be registered at the market as demands since they cannot pay. Analyses also overlook that the consumption of meat in the rich world is increasingly a part of the world food problem: Rather than using their land to produce own food poor countries are by the North advised to grow cash crops for export. Thus while the South grow soya beans as fodder for the Northern cows, their own children go hungry. (Henderson 1978: 97; Dankelman et al: 1988: 10-11).

During colonialism the Western powers established cash crops plantations in the South. The crops selected have negligible or no nutritional value. They included tobacco, rubber, tea, coffee, cocoa, cotton and other fibres. These crops became the leading exports from the South. At independence the

Southern economies did not develop alternative strategies for self-sufficiency but remained dependent on such exports. This has trapped the South in the world trade forcing them to use modern technologies, which is advantageous for the rich countries and their corporations: To maximize income from cash crops the production in the South must be enhanced. For this purpose the North has transferred their scientific agriculture technology. This led to unstable monoculture, which requires costly application of pesticides, fertilizers and mechanical equipment. For the South such technological fixes created further dependence on foreign exchange and outside supplies, thus it has increased debts. It has also degraded the environment and marginalized rural subsistence farmers, the majority of whom are women. In the South it is mainly the elite who benefit. The approach is, however, beneficial for Northern corporations who get huge profits from transferring their destructive technology. Since the activity is considered development aid, the bill is paid by Northern taxpayers. Cynics describe such development efforts in this way: *"Technology transfer is when you take money from the poor people in rich countries and give it to the rich people in poor countries."* Such policies conveniently avoid the ever-present issue of economical redistribution, both between nations and within their borders. (Henderson 1978: 97-99).

In a highly populated world with food scarcity and famine, giant food industries still choose technological solutions, which focus on short-term profit maximization, rather than feeding people. This attitude produces negative social and environmental costs, which can be externalized by the producers. These negative effects are borne by women, Others and nature. This kind of behaviour is parasitic on the social and natural system. Any maximizing behaviour can only be pursued at the expense of sub-optimizing the system as a whole. Therefore such technological solutions result in social and environmental crises generated by sub-optimization. However, due to our global interdependence, application of reductionist, maximizing technological strategies will eventually lead to the worst outcomes for all global players. Today it is women, Others and nature who suffer, tomorrow the effects will hit the rich and powerful as well. (Henderson 1978: 103).

5.21. Technology is not neutral but value-laden

In his 2005 Christmas message to the world Pope Benedict XVI talked about the great dangers the world faces. In his opinion these include terrorism, weapons proliferation, wars, poverty, environmental destruction, and pandemic. *"These are problems of our times... The modern age is often seen as humanity's enlightenment after an age of darkness. But ... the light of reason is not sufficient to enlighten humanity.... The man and woman in our technological age risk becoming victims of their own intellectual and technical achievement due to barrenness and emptiness of heart."* (BBC News 26.12.2005)

People in the modern culture, especially those in policymaking positions, believe that science and technology offer the only hope for solving the environmental problems, especially the ever-increasing need for energy. Since the issue is highly technical, they find that specialist must assist. Because it is assumed that science offers objective and factual answers it becomes the obvious place to look for help. Such beliefs are, however, false and holding them means that citizens relinquish the authority to take decisions about their world. (Des Jardins 2001: 6).

When we deal with problems in nature and society we are dealing with questions about human value, not technical solutions. If we therefore leave these solutions to scientific experts it only means that their values will prevail over those of the citizens. Technological choices affect all and they therefore need to be decided in the political arena with the full participation of the citizens. When we rely on neutral technical solutions we take a risk as Rachel Carson so clearly has shown. And as pointed out above technological fixes are narrow in outlook and scope and have often resulted in many new problems. (Des Jardins 2001: 7).

Science and its technology are not value neutral. The trust in both as the ultimate authority is a cultural myth. Science is a detailed, precise and documented approach to knowledge. Its aim is to minimize assumptions, eliminate bias, verify results and limit conclusions to what evidence supports. The ethics of science is then to ensure an impartial, accurate, and rational result. If practice measures up to this ethics, we may be confident about the rationality of its results. But often the method has hidden assumptions that influence scientific practice: **Firstly** science leans to the reductionist methods, thus focusing on parts only, while overlooking relations between parts and the whole. In this view society is defined as a collection of individuals, driven by self-interest. Such a method is not advisable in social sciences and in the study of ecology. Excluding relations and other complex elements in both part and wholes means that the outcome will be misleading. **Another** distortion is the use of mechanistic explanations. Science is looking for the invariable deterministic laws of nature by a linear cause-effect method. It therefore cannot include the possibility for a random change where the effect may also become the cause. Thus the outcome from reductionist and mechanistic science will overlook important issues and in this way become bias. The major problem, however, lays in the questions scientists ask. They often limit the scope of the answers. If we for example ask science how to supply more nuclear energy then we will receive factual scientific data as an answer. But if we instead consider our demand for energy in general, the research is open to other sources as well. Also here the answers are based on reliable objective facts, but the two researches will inform different energy policies. Thus asking a scientific question includes a value judgement. (Des Jardins 2001: 7-9).

Those who ask the questions in science are normally those who can pay for the rather expensive research. Hence normally only private industries and governments are involved in scientific research. This means that scientific research will be based on the values these people hold. Having confidence in the values of political leaders, business people and scientists is dangerous. Using past experiences to assess these values one can above all argue that the thinking of these people is not based on ethical principles. In addition, they lack imagination and emotion. Many scientists are prepared to do morally questionable research as long as they are paid for it. They find that scientific research must have no limits, while their application must be decided by politicians. Politicians are, however, commonly focused on singular aspects like economic growth and defence policies. This is why research in nuclear weapons financed by the US defence department lead to nuclear energy. Similarly, as also Carson has confirmed, chemical pesticides was developed after governmental research into chemical weapons. Imagine the knowledge and technology, which would have been available now regarding solar energy, if the money spent on nuclear weapons research would have been spent on solar power research. Therefore we must not cheat ourselves into believing that because science demands objectivity and neutrality then its users are objective and impartial. (Ekins 1992: 174; Mies and Shiva 1993: 94-95; Des Jardins 2001: 10).

Conclusively due to hidden basic value assumptions and a limited scope we cannot get neutral solutions from science and its technology. Any reasoning and analysis of technical solutions to the environmental crises requires a combination of all available and relevant disciplines. But since this ideal is not pursued by most governments and since science and technology is their focus the environmental crisis, the energy crisis and other crises are solved by the value, which science and technology represents: control over nature and generation of economic profit. This value gives social and natural costs. (Des Jardins 2001: 11).

5.21.1. Technology values profit over society and nature

Technological growth and economic growth are inextricably linked. The overall aim with this connection is to increase economic efficiency. For its expanding economic activities modern societies are in need of more and more electricity. This calls for larger and larger nuclear power plants. The US government has called this for being economic efficient. For such "efficiency" governments are willing to assume risks on citizens' behalf. Due to the risk involved costly and elaborate security systems have had to be invented to contain and manage the deadly plutonium, now and for thousands of years to come. Such measures are even more important in a world with terrorism. In the UK the government openly mislead the public. They claimed that atomic electricity is cheaper than other

sources and that it can reduce the greenhouse effect. That is incorrect. The costs are colossal, much higher than investment into energy conservation and renewables. They even falsified information regarding research project costs of alternative energy. In 1988-89 nuclear research received 247 million pounds from public funds compared with 37 million Pounds and 19 million pounds respectively for non-nuclear and energy-efficient research. Therefore with the risk and the huge expenses involved the use of nuclear energy cannot be called efficient. Clean and safe solar heating could provide the equivalent energy supply in a cheaper way, while creating many times more jobs than nuclear energy does. The concept efficiency is in this way becoming meaningless. If alternative energy is both safer and cheaper why do politicians then argue for nuclear energy? There are two reasons. One has already been mentioned. Nuclear priority came from the military, who want to be able to maintain their weapons capabilities. But another essential pressure came from the nuclear industry. They enjoy the power and profit the project entails and since industrial profits also benefit the governments' economic growth ambitions, their value choice will be for nuclear energy. (Henderson 1978: 312-313; Ekins 1992: 174).

The establishment of huge power plants are highly attractive for profit making. Thus companies are efficiently organised to petition for public funds to underwrite such new technological developments. The bill is paid for by taxpayers' money. Thus although citizens normally have no say in choice of technology, they still must both pay for it and endure the negative effects when technology goes out of hand. People can rarely challenge the proposals. Technology projects are backed by powerful interest groups. The potential pay-offs from such contracts are huge. This means that companies' incentives to commit funds to win these prizes are far greater than individuals' ability to organize countervailing pressures, using their own funds. No wonder then that technology promoters, developers and public agencies spare any expense to hire economists to prepare cost-benefit analyses to justify their plans and present them as significant advances in public welfare. (Henderson 1978: 315).

This kind of technological innovation destroys democracy. It prevents voters from exercising well-informed choices. Advanced technologies like nuclear power is complex and cannot be mastered fully by politicians or the voters. They therefore become inherently totalitarian. Their scale requires huge investment and taxpayers subsidies, while it precludes people's full participation in directing the choice of technological advance. Each major technological innovation also redistributes power. New and more technical ways of producing goods and services destroy some jobs and creates others. This rearranges population patterns and creates new ranks of winner and losers. Thus technology does not arise in a vacuum. There are always institutional vested interests whose interactions promote or

suppress technologies. That is why institutional and financial commitments to nuclear power have starved solar energy for decades. Technological innovation is therefore not neutral. Its pretension to be the only and true solution to a problem is preventing the public from making adequate social choices. Technology is in this way creating its own social form. It is constantly heading toward big, capital-intensive technologies, which concentrate power, wealth and knowledge in fewer and fewer hands, while making the majority poorer and more powerless. (Henderson 1978: 28, 322-323).

With the introduction of neo-liberal politics the domination of technology has increased. Due to the requirement of over-all legal deregulation high levels of technological innovation cannot be publicly controlled. It is necessary to test new technologies for their harmful side effects, which requires more regulation rather than less. Development of new technology is said to bring about a new dimension of freedom to people, but such a statement overlooks that they also tend to destroy freedom for some. New technology makes everything more vulnerable and insecure unless conscious policies are developed to mitigate the destructive effects of the technological developments. Technological advancement therefore becomes inconsistent with a free market model. Societies, which have a complex technology and laissez-faire policies, simply become unworkable. There is not yet devised a public choice system that adequately can manage the complexity which has been created. This gives rich corporations free hands to invent and apply any profitable technology to its liking even if it destroys society and nature. Hence no one is safe. Geographical distance is no longer a guarantee for safety. What modern technology-man does in one place will eventually be felt by all, because everything is connected. The Chernobyl accident is an example of that. (Henderson 1978: 28-29; Schumacher 1993: 53; Mies and Shiva 1993: 93).

Although the disaster posted a severe threat to people and nature in Chernobyl, scientists and politicians minimized the dangers. In spite of the high levels of radioactivity measured by their accurate machines, they told people that it was not so bad. They also published full-page advertisements in which they reassured the public that according to scientific analysis radioactivity was too low to panic for fear of health. These advertisements were financed by the nuclear industry! (Mies and Shiva 1993: 95).

Chernobyl made clear that there is no peaceful use of nuclear energy. Atomic energy is a war technology. Its methodology is based on destruction of life. Thus modern science and its technology is warfare against nature and society. Such kind of dangerous energy is not progress. It kills all natural - air, water, and food. The ruin of Chernobyl will contaminate the surrounding area for many years to

come. It caused death, diseases and despair for many people. People must therefore not leave the question of technology choice to the "experts" in politics, science and business. People must instead demand an immediate end to nuclear power plants and all other technologies that destroy nature and society. It is those people who choose such technologies who eventually will return humanity to the stone age, not those who protest against them. Henderson finds (1978: 314) that such actions and decision-makings only show that politicians are the products of a system, which creates leaders who are helpless, incompetent or corrupt. (Henderson 1978: 314; Mies and Shiva 1993: 95-96).

5.21.2. Technology values hardware over software

If technology is defined as knowledge systematically applied to human problem solving. Then technology includes software as well as hardware. However, in modern society the focus is on creation of hardware, while the necessary software to program its orderly functioning is overlooked. For example with hard technology an interdependent global economy was created, but in the process the software was forgotten. Everyone is now desperately trying to create the software for its operation before it catastrophically breaks down. (Henderson 1978: 310).

There are various explanations as to why the modern world over-values the creation of hardware compared to software. **It is first** and foremost rooted in the fear of death and non-existence. When human beings are building cities, dams and factories, they provide for their material requirements. But they also affirm their existence and importance. These physical artefacts are so tangible that they reassure human beings of their own reality. **Secondly**, the passion for hardware is the result of a cultural overdose of the masculine, yang forces. It is self-assertive, suitable only for central management. Masculine forces generate a consciousness, which seem more attuned to manipulating external things and objects. The female, yin forces by contrast generate a psyche more attuned to interpersonal and social relationships and arrangements. Often, but not always, this is manifested in men's obsession with technology. **A third** reason is related to the masculine forces. Due to the yang consciousness prevailing in modern culture technology is based on domination. Its active approach feels urged to manipulate the surroundings. It enjoys the sense of mastery and control this derives, together with the expression of the self in such creation. Lack of dynamic tension from the opposite yin forces means that this domination may become deadly. **Finally**, another explanation may be that human beings want to project their inner tensions and conflicts onto the outside world rather than resolving them by examining their own psyches trying to know and change their meaning-structure. (Henderson 1978: 310; Rowe 1997: 391-392).

This bias for hardware can be seen in archaeology. When archaeologists are digging for evidence of earlier cultures, they are looking for tangible remains. From the artefacts they find they infer which level of "civilisation" the culture had. Not included in the study is the possibility that cultures may have existed without them leaving a trace. They could have developed highly refined software technologies, which we would never know about. Maybe they had some techniques of conflict resolution, supportive interpersonal relations, production systems based on barter, reciprocity and redistribution, and maybe they used myths and taboos to regulate anti-social behaviour. A culture, which elaborated such software, would have little need for spears and arrowheads. Thus we cannot assume that they were less civilized just because they left few tangible remains. (Henderson 1978: 310-311).

The most dangerous manifestation of the hard, macho technology is the nuclear weapons. In at least 10 countries worldwide the military-industrial complex has by political manipulation succeeded in extracting increasing defence budgets for this destructive technology. In the USA 60% of scientists do research for the Pentagon. They use all their creativity to invent sophisticated means for killing people and nature. Thus defence problems, like all other problems, are perceived solved by hard technology. That a softer method, like research in social and cultural sciences or trying to understand human behaviour, would be relevant, has been dismissed. That would require cooperation, and interaction, which is not compatible with macho technology's need for self-assertiveness, control and domination. But by overlooking yin issues the yang approach makes technology profoundly anti-ecological, anti-social, unhealthy and inhuman. Future generations' archaeologists will not have difficulties in finding artefacts remaining from the modern era. They instead have to deal with the horrible, long-term consequences of its dangerous technology. One must advise the archaeologists to search in the USA. Because the Americans are fascinated with and produce more hardware than any culture the world has ever known. (Henderson 1978: 311; Capra 1982: 230-231; Capra 1989: 253; Mies and Shiva 1993: 94).

Our social and natural crises are increasing, thus hardware technology has failed to be the solution. It is therefore necessary to redefine the nature of technology, to change its course and to reassess its underlying value system. If we want to solve human problems by technology, it is beyond doubt that it must include software as well as hardware. We therefore need to shift attention to softer technologies like conflict resolution, social agreements and cooperation. Social security and wealth redistribution systems are as much technologies as any hardware system. Other necessary software includes institutional redesign, more open political processes, world-order meddling, alternative scientific

speculation and new hypotheses. We also need a new appreciation for the importance of psychic structures, myths, taboos. Moreover we need more internalized methods of behaviour harmonisation and self-regulation. To generate harmonious society human beings need more space for the role of self-expression in art, craft and production. This is a good path to inner, personal growth. (Henderson 1978: 310, 400; Capra 1982: 232; Capra 1989: 253).

Schumacher (1993: 122) found that modern technology has deprived man of the work he likes the most. Machines have destroyed skilful, productive work produced by human hands in touch with real materials. It has become a modern neurosis because man enjoys nothing more than to be creative and productively engaged with his hand and brains. But today a person has to be wealthy to enjoy this simple thing. If we increased the time for producing beautiful quality things with our hands and brains people would not know the difference between work and leisure. There would be less illness and little need for mindless entertainment or drugs. (Schumacher 1993: 123-125).

But most importantly we must prioritize development of software that can help us to understand our inner world and meaning-structure. Rowe finds (1997: 383) that it is the meaning we give to the world, which creates the many crises. Our meaning prevents us from having good and close relationships with other people, it leads us to hate ourselves and lose confidence in ourselves, it causes us to fill the world with technology that has the power to hurt us, and it prevents us from promoting security, happiness and success. Thus our meaning leads us to do stupid rather than wise actions. To avoid these disasters we need to understand how we create meaning, that is, to understand ourselves. Edward O. Wilson, the founding father of socio-biology, found that human beings are not able to think about themselves in a scientific way. Many people have benefited from science and technology, but in their thinking, linguistic expression, and the way in which they deal with the universe intellectually, they are still pre-scientific. Hence the world has become a dangerous place because we do not think about what goes on inside of us. We need to apply our scientific and technological thought to the world inside of us. If we do not we shall continue on the path of self-destruction. We must then be considered a short lived species with an in-built fault that led us to over-populate the world, turn the land into desert, destroy the animal, insect and plant life that sustained us, pollute the air, change the climate and kill one another, rather than co-operate. Dinosaurs lasted for many millions of years. Neanderthals for about a quarter of a million years, but homo sapiens has existed barely 100,000 years and is fast running out of time. (Rowe 1997: 383-385).

5.21.3. Technology values violence over peace and harmony

"Modern man does not experience himself as a part of nature, but as an outside force destined to dominate and conquer it. He even talks of a battle with nature, forgetting that, if he won the battle, he would find himself on the losing side."

F. E. Schumacher, 1973. (Schumacher 1993: 3).

"More, further, quicker, richer and there is no alternative" are the watchwords in modern hi-tech society. It is a forward stampede: If there is crime, the solution is more police, better equipped. If there are environmental problems, faster economic growth to pay for anti-pollution techniques is prescribed. If there is lack of natural resources, we turn to synthetics. If fossil fuels run out, we turn to nuclear energy. There are no problems technology cannot solve. But the problem is that its solutions are based on values destined to control and conquer the world. Scientific and technological solutions that poison nature, degrade social structures and generate war are inherently violent. They make the rich richer, while they create poverty and destroy life. Bigger technology means bigger concentration of economic power, which exerts greater violence against society and nature. (Schumacher 1993: 20, 126, 128, 130).

Technology can be used to dominate societies or to enhance them. Thus both science and technology could have developed in a different direction. But due to patriarchal values infiltrated in science the type of technology developed is meant to dominate, oppress, exploit and kill. One reason is that patriarchal societies identify masculinity with conquest. Thus any technical innovation will continue to be a tool for more effective oppression and exploitation. The highest priority seems to be given to technology that destroys life. Modern societies are dominated by masculine institutions and patriarchal ideologies. Their technologies prevailed in Auschwitz, Dresden, Hiroshima, Nagasaki, Vietnam, Iran, Iraq, Afghanistan and in many other parts of the world. Patriarchal power has brought us acid rain, global warming, military states, poverty and countless cases of suffering. We have seen men whose power has caused them to lose all sense of reality, decency and imagination, and we must fear such power. The ultimate result of unchecked patriarchy will be ecological catastrophe and nuclear holocaust. Such actions are denial of wisdom. It is working against natural harmony and destroying the basis of existence. But as long as ordinary people leave questions of technology to the "experts" we will continue the forward stampede. As long as economics focus on technology and both are the focus of politics, we can leave none of them to experts. Ordinary people are often more capable of taking a wider and more humanistic view than these experts. (Kelly 1990: 112-114; Eisler 1990: 32-33; Schumacher 1993: 20, 126, 128, 130).

To rid the world of nuclear weapons, poverty, racism, sexism and other isms of domination discriminations must end. As long as white males hold all the social, political and economic power, women, people of colour, poor people, children and nature will continue to be dominated while poverty and the military mentality will continue unabated. To solve the crises of poverty, violence and natural destruction very different technologies are needed. Wisdom demands that science and technology orientate themselves towards the organic, the gentle, the non-violent and the beautiful. Peace and harmony simply cannot be built on the recklessness and violence of science and technology. Charlene Spretnak (Murphy 1997: 51) finds that the purpose of cultivating ecological wisdom is an antidote to the free-floating anxiety that modern society's blind faith in technology and progress along with militarism has created. The whole culture is free-floating from the lack of grounding in the natural world, the lack of sense of belonging and the lack of healthy relationship between males and females of the species. We are entangled in the patriarchal goal of dominating nature and the female. We therefore need to develop new life styles compatible with the real needs of human nature, with the health of living nature and with the resources of the world. Human beings are alienated from nature and therefore also from the ability to recognise measure and limitation. Nature knows when to stop. There is a measure in all natural things regarding size, speed and violence. As a result the system of nature tends to be self-balancing, self-adjusting and self-cleansing. Not so with technology or man that is dominated by technology. There are no self-limiting principles and no virtue of being self-adjusting. However, any activity that ignores self-limitation is of the devil. In nature and society it acts like a foreign body and it causes crises. Thus any one who bases his or her life on materialism, which includes permanent, limitless expansion in a finite environment, cannot last long. (Kelly 1990: 112-114; Ekins 1992: 174; Schumacher 1993: 20, 120, 126-127).

There is consequently an end to the patriarchal reductionist world-view. Its activities will only be rewarded with positive feedback until the subsystems begin to show signs of stress. At a certain moment its increased technological mastery, its domination of nature and society and the huge profit it generates will affect the social and ecological sub-systems. Then the feedback turns negative. This will lead to a process of decline in the system, since decay and collapse are the proper systemic behaviour under such circumstances. That is the moment the old instrumental yang is turning into a re-emergence of the subtle yin's intuitive consciousness to restore the balance. (Henderson 1978: 329, 400).

5.22. Biotechnology; the means to control life itself

"Frankly, I trust the wisdom coming from Mother Nature's millions of years of experimentation much more than I trust fifty years of bio-chemical wizardry from Father Pharmaceutical."

Christiane Northrup, MD. (Northrup 2001: 140).

The world is a product of the technologies that have been developed over the past two centuries. The forces that push this technological development are the quest for control, power and profit. It is founded on the belief that technology has answers to any and all problems that may arise. Thus technological development is dominated by market forces and powerful interests, which brings technology into conflict with the most basic human and democratic values. The scariest current example is **biotechnology**, which is largely controlled by corporations. These profit-seeking, huge business structures are taking out extensive patent rights on reproductive life, with the blessings of most governments. This technology is so extensive that it will affect all aspects of human life through its application in agriculture, medicine, food processing, pharmaceutical, energy and warfare. (Ekins 1992: 168-169).

5.22.1. Biotechnology; colonizing the last frontier, the reproductive powers of nature

Regeneration is the central principle guiding sustainable societies. Without renewability there can be no sustainability. Modern society, however, devalue the process of regeneration. This has led to unsustainability and environmental crises. After the industrial revolution man became separate from nature. His focus was to control nature and its regeneration. This was seen as production, in which men engage. Women oppositely deal with reproduction, which is considered to be non-production. This is the patriarchal dualised, non-ecological view of nature. The earth is passive, the activity lies in the seed, which is controlled by men. This confirms man's domination over nature. The relationship between men and women is similar. Active man produces, while passive woman reproduces. This confirms the domination of men over women. (Shiva 1994b: 128).

Biotechnology is reproducing such patriarchal dualism. Its purpose is to colonize the regeneration of plants and human beings. The land, forests, rivers, oceans and the atmosphere have all been colonised, exploited, eroded and polluted. Thus patriarchy and its ever-expanding capitalism need to look for new colonies to invade and exploit for further profit. These new colonies are the bodies of reproductive plants, animals and women. Technological development has the aim to search for new areas to control and profit from. This is now done by genetic engineering. Biotechnology want to control what used to be free and self-generating. Hence the plant seeds and women's bodies, which are the sites of regenerative power, are among the last colonies. (Shiva 1994b: 129).

From its beginning scientific development denied nature its reproductive capacity. In doing that it created an agricultural system, which could not sustain itself. Sustainable agriculture is based on recycling of soil nutrients. The Green Revolution substituted this regenerative cycle with linear flows of chemical fertilisers, high yielding seeds varieties and pesticide. The earth was seen as being passive, activity lay in the miracle seed. Modern agriculture produces for the market but in the process it has created soil disaster, micronutrient deficiency and desertification. Chemical fertilisers and artificial seeds cannot substitute natural processes. Thus technology destroyed land. It is also causing global warming. Its nitrogen-based fertilisers are releasing the greenhouse gas nitrous oxide into the atmosphere. Its pesticide and herbicides are also polluting soils and water. Hence the Green Revolution contributed to erosion of food security through pollution of land, water and the atmosphere, but it has been profitable for the corporations. (Shiva 1994b: 131-132).

Biotechnology is an expansion of the Green Revolution. It has invaded agriculture with a high speed. The global area covered by trans-genetic crops increased from 7 million acres in 1996 to 74 million acres in 1998. This massive release of genetically modified organisms has added a new category of ecological and human dangers to the already existing problems. But since the new global capitalism prioritizes profit making over all other values any ethical considerations is removed from the development and distribution of biotechnology. The overriding motivation for genetic engineering is not the advancement of science, the curing of diseases, or the feeding of the hungry; it is the desire to secure unprecedented financial gains. (Capra 2002: 140).

The biotechnology advertisements portray a brave new world in which nature will be brought under control. Its plants will be genetically engineered commodities, tailored to consumers' needs. New crop varieties will be drought tolerant and resistant to insects and weeds. Agriculture will no longer be dependent on chemicals, thus there will be no more damage to the environment. Food will be better and safer than ever before and world hunger will disappear. Similar language was used when the Green Revolution was promoted. Since that time the dark side of chemical agriculture has become painfully evident. (Capra 2002: 163).

But facts are different from the fine words:

First biotechnology will increase the need for chemicals in agriculture. Genetical modification has made the seed ecologically incomplete so that it cannot produce by itself alone. It needs help from purchased fertiliser and pesticide. For example soya beans, engineered by Monsanto, was developed to

require the company's herbicide to grow. This will increase the sales and use of that specific chemical product. Hence the shift from an ecological process of productive renewability to a technological process of non-renewability production has reduced biological diversity in agriculture, it has increased farmer's dependency on expensive patented products, and it has created poverty and non-sustainability in agriculture. But it has generated wealth to the corporations. (Shiva 1994b: 133; Capra 2002: 163).

Secondly, the agro-chemical corporations plan to introduce versions of genetically sterilized seeds. This hybridisation robs the seed of its fertility. It also takes over ownership of the regeneration through property rights. Hence the seed's self-regenerative capacity has been colonised and it has become merely raw commodified material. Thus farmers can no longer select their own seed from previous harvests. Instead they are forced to buy new seeds every year, which means an end to their ability to develop new crops. This is devastating in the South where 80% of crops are grown from saved seeds. In this way private industry controls plant breeding, that is, our food. The corporations consequently represent a structure of power, control and domination based on narrow self-interested and linear views, where ethical concerns have no place. (Shiva 1994b: 132; Capra 2002: 164).

Thirdly, the claim that world hunger will be solved by food biotechnology is also false. First world hunger is not caused by global food shortage. Secondly it is highly doubtful that biotechnology will increase food production:

Re 1) According to Frances Moore Lappé and her colleagues at the Institute for Food and Development Policy the reasons for hunger are political. There is enough food supply in today's world. During the past three decades, increase in global food production has outstripped world population growth by 16%. Increase of food supply has kept ahead of population growth in every region of the world, except in Africa, during the past 50 years. Research also shows that there is no direct relationship between the prevalence of hunger and a country's population size. Moreover a 1997-study found that 78% of all malnourished children under five years in the South live in countries with food surpluses. Many of these countries export more agricultural goods than they import. The root causes of hunger are consequently unrelated to food production. Famine is caused by poverty, inequality and lack of access to food and land. People go hungry because the means to produce and distribute food are controlled by the rich and powerful. Thus world hunger is not a technical but a political problem. If we do not address the root causes, hunger will persist no matter which technologies we apply. (Capra 2002: 164-165).

Re 2) Experiments show that genetically modified (GM) seeds do not increase crop yields significantly. GM seeds may even aggravate hunger. Poor farmers will not be able to buy the expensive seeds and their implements, neither will they be allowed to store and trade seed. Thus poor farmers will become dependent and those who cannot pay will be marginalized. In this way GM seeds are creating the classical preconditions for hunger and famine. Ownership of resources concentrated in a few hands and food supply based on too few varieties of crops are the worst options for food security. (Capra 2002: 165).

5.22.2. Biotechnology; effects on society and nature: unknown

Since the cells and networks of plants are relatively simpler than those of animals are it is easier for geneticists to insert foreign genes into plants. Once a foreign gene is in the plant, it becomes part of the entire ecosystem. We know only little about the consequences of these actions. If plants are developed to be herbicide tolerant to boost a particular brand of herbicide it is likely that the plant will cross pollinate with wild relatives and create herbicide resistant "super weeds". Another serious problem is the risk of cross-pollination between trans-genetic crops and organically grown crops in nearby fields. That would fundamentally destroy the latter. (Capra 2002: 168-169).

Since the main objective of plant biotechnology has been to increase the sales of chemicals, many of the ecological hazards from biotechnology are similar to those created by chemical agriculture. The tendency towards creating markets for single products result in vast monocultures that reduce biodiversity, diminish food security and increase vulnerability to plant diseases, insects, pests and weeds. This is especially acute in the South where traditional systems of diverse crops and foods are being replaced by monocultures. That will create new health problems for rural populations. But again, the extent and degree of these problems are unknown. (Capra 2002: 170).

The health risk from genetically modified foods is often not informed to the consumers. Since government regulatory agencies support the industry they may not label the food appropriately. In the USA the Food and Drug Administration treat GM food as "substantially equivalent" to traditional food. This means that GM food avoids testing and the population cannot trace harmful effects. But GM food is not like natural food. It is considered an innovation because it can be patented unlike natural food. Thus such a law denies the citizens the right to safety and a choice. (Capra 2002: 173-174).

5.22.3. Biotechnology; patenting all life forms and processes

The patenting of life forms became common practice in the 1960s. But only in 1980 did the US Supreme Court decide that genetically modified micro organisms could also be patented. The patent covers not only the methods by which the DNA is transferred but also the underlying genetic material itself. Thus corporations now trace valuable genetic resources in the South, bring them home to their laboratories, where they genetically identify and patent them. (Capra 2002: 175).

Indigenous plant varieties are by the scientific world-view considered primitive. The genetically modified varieties are oppositely seen as being advanced. This is so in spite of the fact that germ plasm to the advanced plant is taken from the primitive plant. But the original material cannot produce cash returns. Therefore time and money has been invested in the new variety. Only when primitive germ plasm is mixed with inbred lines in laboratories by scientists then creation takes place. Thus the seeds that farmers have nurtured through centuries have no value, while the hybrid varieties have. They are protected by patent and property rights and are consequently expensive to buy. This means that the contribution of scientists working for corporations during some few years is placed over and above the contribution made by Third World farmers over ten thousand years in the areas of breeding, conservation, domestication and development of plant genetic resources. This is social discrimination. It clearly shows the racist view of science. The genetic change achieved by farmers has been far greater than the one done by science. But the economic system denies any value to nature and the work of subsistence farmers. It only shows the deficiency of the market logic, rather than the deficiency of farmers' intelligence. (Shiva 1994b: 133-134).

Hence in the future all seeds will become patented commodities. This colonisation of life processes will undermine the cultural and ethical fabric of agriculturally based societies. It will have a serious impact on Third World countries and their food security. It has traditionally been farmers' procedure to save the best seeds from own crop. But this activity corporations see as abuse and they therefore want to abolish it. Thus they demand monopoly on all life forms and life processes through patents. Traditional farmers were seen as competitors to corporations due to their rights to the genetic resources. But the patent has displaced the farmers as competitors. They are now only suppliers of germ plasm to transnational corporations and consumers of their technological product. The relationship is one in which the farmer supplies raw material free, while the corporation supply the new seeds for money. Thus the need for patent is a protection from abuse by farmers, who were the original breeders and developers of biological resources in agriculture. (Shiva 1994b: 135).

US International Trade Commission estimates that its industry is losing between 100-300 billion USD due to absence of intellectual property rights. If this kind of rights demanded by the US come into being the transfer of funds from South to North will exacerbate the Southern crisis ten times over. In addition, the US has accused the South of piracy. The estimated losses of royalties in agricultural chemicals are estimated to be 202 million USD and 2,545 million USD in pharmaceutical. However, as the Rural Advancement Foundation International in Canada has shown, if the contribution of Third World peasants and tribals is taken into consideration, the roles are dramatically reversed. In these two technological industries alone USA owes the South 2,7 billion USD. The fear of these debts means that intellectual property rights are needed. Without it the colonisation of the regenerative processes of life renewal becomes impossible. Thus some press for this change, while others push for conservation of people's seeds and rights. In this way, "progress" is taking away what rightly belongs to nature and farmers. Those who are exploited become the criminals, from whom those who exploit need protection. The North must be protected from the South, so that it legally can continue to steal the Third World's genetic diversity. This exploitative practice is legalized by WTO's narrow definition of "intellectual property rights". It recognizes knowledge as patentable only if it is expressed in a Western scientific framework. This excludes all other kinds of historically generated knowledge, ideas and innovations. Thus greedy corporations' exploitation of life extends to ancient organic knowledge and the collective innovations of indigenous communities. (Shiva 1994b: 136-137; Capra 2002: 176).

5.22.4. Control of regeneration; the current patriarchal instrument to dominate women, Others and nature

Women's power of regeneration is similarly a project for patriarchal control. Mechanisation of childbirth is evident in the multiplied use of Caesarean sections. One in every four Americans is born by Caesarean section. Increasingly the doctor is seen as the producer of babies rather than the mother. This comes from new technologies like in vitro fertilisation. Thus pregnancies and deliveries are not anymore natural processes, they are diseases that require expert's advice. In addition, there is the surrogacy, which separates women from their own bodies and uses the bodies as breeding machines. Thus, poor women are exploited by doctors and rich couples. The women have no protection, the law instead protects the adoptive parents from the biological mother. The case of Mary Beth shows this. The biological mother wanted to keep the baby after her birth. But a judge decided that a man's contract about his sperm is sacred, while the women's pregnancy and childbirth is not. From in vitro fertilisation to cloning: if patriarchal ideology persists, science will be heading towards development of technology that can completely control all that is given life. (Shiva 1994b: 138-139).

This control of regeneration is the latest patriarchal project of power over others. It is based on the separation of male and female, culture and nature, mind and body, activity and passivity, subject and object, intellectual and biological, knower and known. The dualised pairs reinforce each other and create a boundary that separates the intellectual, thinking active male from the biological, unthinking passive female and from nature. Since the male is the knower he has the ownership and power over women and nature. (Shiva 1994b: 140).

Biotechnology and its intellectual property rights is the dominant current instrument to make the boundaries between nature and culture. It is also defining the knowledge and work of women and peasant farmers as being part of nature. But these are patriarchal constructs, not natural. The transformation of value into dis-value, labour into non-labour, knowledge into non-knowledge is done by two powerful constructs: The "production boundary" and the "creation boundary":

The production boundary is a political construct. It excludes regenerative, renewable production cycles from the domain of production. That is why GNP is excluding production for own consumption. Hence female subsistence farmers who produce for their families and children in nature are treated as non-productive. They are seen as being economically inactive. Discussions at the UN Conference on Environment and Development in Rio de Janeiro referred to production for own consumption as a market failure! Self-sufficiency is therefore seen as a deficiency in economics. Real economies are confined to the market. Thus devaluation of the **work** of women and subsistence economies is the natural outcome of a production boundary created by capitalist patriarchy. **The creation boundary** does the same to **knowledge** as the production boundary does to work. It excludes the creative contribution of women, peasants and tribals. It treats them as engaging in unthinking, repetitive, biological processes. The separation of production (economic) and reproduction (biological) are treated as natural although they are socially and politically constructed. No technology is made out of nothing. There was something before the industrial process. Nature, its creativity and social labour is involved. The bio-technological seed could not exist without the farmers' seed. Hence patriarchal concepts see ecological destruction as creation, while the regeneration of nature is seen as non-creation. It is this devaluation of regeneration, which is the underlying cause of the breakdown of ecological cycles and the crisis of sustainability. To sustain life means to regenerate life. But the patriarchal wordbook sees regeneration as repetition rather than as creation. Thus the patriarchal concepts exclude women's and peasants' work and knowledge used for conservation of the regenerative capacity. (Shiva 1994b: 140-141).

The ecology movement has contributed to the awareness that mind and body, human and nature cannot be separated. Nature is part of the relationships and connections that provide the condition for our life and health. The politics of connection and regeneration is an alternative to the politics of fragmentation and separation. It implies a transformation of culture and nature to become mutually infiltrated. When ecological feminism is stating a partnership with nature, women are reclaiming their own and nature's activity and creativity. There is nothing essentialist about this politics because it is based on denying the patriarchal definition of passivity as the essence of women and nature. There is nothing absolutist about it because the natural is constructed by diverse relationships in diverse settings. Natural agriculture involves human creativity and sensitivity emerging from partnership and participation, not separation. The politics of partnership with nature is a politics of rebuilding connections and of regeneration through dynamism and diversity. (Shiva 1994b: 142).

5.23. Conclusion on technology

A major paradigm shift in society is needed, away from exploitation and pollution of natural resources, away from materialism and technological determinism. Rather than being only a hard, scientific, yang process technology must also be seen as a soft, normative, yin process. Normative technology is rooted in and responsive to changing values in society. It is based on ethical consensus about what is good and right. This will include placing certain technological developments off limits. It gives prominence to environmental conservation and is concerned about the quality of life. A new synthesis of these two modes of human consciousness, thought and perception is sorely needed. Policy makers need to understand that it is healthy to reassert normative, qualitative considerations as well as ecological concerns. Both modes must be incorporated in technology assessment. The scientific and the normative schools are interdependent. They must be accorded equal validity and shown equal respect. (Henderson 1978: 329-331; Ekins 1992: 168).

When it comes to technological issues we need to ask the right questions: Have all possible options been adequately explored? How will the costs and benefits be distributed among different groups and individuals, specifically what are the effects for women and Others? What are the overall social and environmental impacts and the future consequences? Will the new technology create irreversible changes? Can the goal be reached by any other means? If not, should the goal be further examined in light of other priorities? In the search for answers one must keep in mind that nobody is objective. Often the same agency makes both the impact statement and promotes the project. However prestigious a scientific panel may be, we cannot assume their objectivity. Organizational biases are too endemic and often below the threshold of consciousness. Therefore public participation in every phase

of such assessment is the best way to secure broader perspectives and more thorough analyses. If technology assessments are done well they are bound to turn up some bad news. And such findings must not be suppressed. (Henderson 1978: 319-320).

Citizens' movements represent an inevitable and vital social feedback mechanism to correct the course of society and its technology. They can help to open the debate about ends and values rather than means. Such a change will be difficult mainly due to the power shift it includes. When the ends of knowledge are power, science becomes the servant of the powerful. But in order to survive society must re-examine the goals of knowledge and analyse the vested interests to which it is connected. (Henderson 1978: 329-331).

5.24. Appropriate technology

"I have no doubt that it is possible to give a new direction to technological development, a direction that shall lead it back to the real needs of man, and that also means: to the actual size of man. Man is small, and, therefore, small is beautiful. To go for gigantism is to go for self-destruction.... To redirect technology so that it serves man instead of destroying him requires primarily an effort of the imagination and an abandonment of fear." E. F. Schumacher, 1976. (1993: 131).

5.24.1. Intermediate technology

The industrial world has favoured grand-scale, centralised, dependency-creating, capital-intensive and, from a human and natural point of view, fundamentally uneconomical technologies. In the conventional production-orientated economy it rarely occurs to governments to develop technologies designed to help people become more self-reliant. And since producers have been allowed to externalise their environmental and social costs, the market has provided little incentive to develop resource-conserving, non-polluting technologies. New humane and conserving technologies are therefore vital. Promoting such technologies was Schumacher's ideal, as he said, *"I know of no better way of changing the system than by putting into the world a new type of technology - technologies by which small people can make themselves productive and relatively independent"*. (Robertson 1998: 37-38).

In his book "Small is Beautiful" Schumacher says (1993: 120-121) that there is nothing in the experience as from the 1950s which suggests that modern technology can really help us to alleviate world poverty and unemployment. We therefore need to develop alternative technology, which can help us to solve our problems. That must be a technology with a human face. If technology should support people and be poverty alleviating it must make use of the best part of modern knowledge and

experience. But it should be cheap, simple, small-scale and compatible with nature's needs. It should be gentle in its use of scarce resources and designed to serve the human being. Therefore its application must be specific rather than universal. Such technology would give a more satisfactory life for both man and nature since small-scale operations are less likely to harm the environment. Schumacher called it for **intermediate technology**. It is a type, which lies between indigenous and sophisticated technology. Intermediate technology is superior to primitive technology but simpler, cheaper and more useful than the super-technology of the rich. **Affordability** is important because when people cannot pay for the technology necessary to become productive they often give up, and even cease doing those things they had done previously. In this way technology is not, as now, reserved to the rich and powerful. **Simplicity** is also important. When technology is simple it is understandable for people and suitable for maintenance and repair at the spot. Simplicity makes it easier to train people while supervision and organisation also become uncomplicated. Thus there is less vulnerability to unforeseen problems. Schumacher, however, found that it is more difficult to recapture directness and simplicity than to advance into the direction of ever more sophistication and complexity. Thus it will take insight to make things simple again. Most importantly intermediate technology must be **small-scale**. For Schumacher there is wisdom in small-scale operations. Human knowledge is small and limited and we rely on experiment far more than we may realise, due to our limited understanding. It is therefore dangerous to apply our partial knowledge on a grand scale like the one we do with nuclear energy and chemical agriculture. It is not that we should have no large-scale technology. Because for every activity there is a certain appropriate scale. What scale is suitable depends on what we want to do. Thus we need both small and large structures. But people seem to find it difficult to keep two seemingly opposite necessities of truths in their minds at the same time. They always look for one final solution, and that bring them to a universal idolatry of gigantism. It is therefore necessary to insist on the virtue of smallness. Using intermediate technology opens up constructive avenues. People can improve their skills, which gives a dynamic approach to development. The poor need most of all simple things for daily use like building materials, clothing, household goods, agricultural implements etc. They also urgently need trees, water, crop storage facilities that will bring them better prices for their agricultural produce. All these are ideal fields for intermediate technology. Thus intermediate technology will be able to create human well-being and independence, it can alleviate poverty and bring about sustainable livelihoods, all of which will contribute to a needed decentralisation of power. (Schumacher 1993: 21-22, 49-50, 120-121, 126-127, 149-150, 153-154).

And Schumacher walked the talk. He was once accused of being a crank (meaning an eccentric or odd person - but it also means a handle used to start motors). When asked what he felt about it his response was, *"Oh Yes, but I never mind because a crank is a tool which is simple, small, inexpensive, economical, efficient and it makes revolutions"*. (Carmen 1991: 75).

Conclusively due to the limitations of the human mind and the availability of natural resources technologies need to be small-scale, decentralised, responsive to local conditions and designed to self-sufficiency. Such technologies have already been developed. These technologies are called "soft" because their impact on the environment is greatly reduced by use of renewable resources and recycling of materials. Thus in the hardware loving technological cultures new "software" is emerging. (Capra 1982: 232; Capra 1989: 253).

5.24.2. Nature and society friendly technologies

For survival of the Earth it is necessary to change the modern technological approach. One way to do this is to learn from nature, rather than control her. If we try and understand nature's design, we can with advantage integrate ecological knowledge into human technologies. We can learn from plants, micro organisms and animals how to manufacture fibres, plastics and chemicals that are non-toxic. A reality is that nature during billions of years of evolution has developed technologies far superior to the human design: Mussels can produce glue that sticks to anything in water, spiders can spin a silk thread that is five times stronger than steel, abalone grow a shell that is twice as tough as our high-tech ceramics. We should therefore try and find out how these creatures manufacture their ecological materials and copy it. This is already done in a new field of engineering and design known as biomimicry or **eco-design**. (Capra 2002: 177-178).

Eco-designers are convinced that a 90% reduction in energy and material consumption is possible in developed countries with the existing technologies and without decline in people's living standards. It would mean a ten-fold increase in resource efficiency. Pursuing ecological efficiency would mean that we could almost halt the degradation of the biosphere. The current massive inefficiencies cost more than the measures to reverse them. It means that eco-design is a good business in which to be. It can reduce pollution, increase employment, and buy time for transition to a sustainable society. (Capra 2002: 212-213). Some examples are mentioned below:

An ecological alternative to hunger is **organic farming**. Organic farmers use technologies based on ecological design, rather than chemical or genetic engineering. They plant a variety of crops and rotate

them to minimize attracting harmful insects. They do not try to eradicate pest completely because it will also eliminate their natural predators that keep their number in balance. To keep the natural balance they instead enrich the fields with manure and crop-residue. Organic farming is sustainable because it embodies ecological principles that have been tested by evolution for billions of years. Moreover it is highly effective against air pollution. When soil is cultivated organically its carbon content increases and it contributes to reducing global warming. Physicist Amory Lovins estimates that increasing the carbon content of the worlds depleted soils at plausible rates would absorb about as much carbon as all human activity emits. In addition, organic farming is psychologically and socially supportive because it is labour intensive and community oriented. Organic farms are small and owner operated. Their products are sold at farmer's markets with a short distance from the farm to the table, saving energy, packing and maintaining the food fresh and healthy. And finally organic farming is successful and truly efficient. An agro-ecological project involving 730,000 farm households across Africa resulted in yield increases of between 50-100%. It decreased production costs, increased cash incomes up to as much as ten times. Thus organic farming has shown to increase production, give ecological and social benefits and to empower farmers. As a result the market for organic food has grown to an estimated 22 billion USD a year. (Capra 2002: 166-167).

Industries must also become ecological. It means that they cannot produce idle waste. Their waste must be nourishment for something else. Thus the waste of one activity must be the resource of another. A solution is an **ecologically sustainable industrial system** where resources are cycling through the whole system. An example of this is the Zero Emissions Research and Initiatives (ZERI). It was founded by Gunter Pauli in the early 1990's. It strives to eliminate the very idea of waste. Presently paper industries are using only 20-25% of a tree, discharging the remaining 75-80% as waste. However, this waste can be used by another industry. ZERI helps industries to organize themselves into ecological clusters so that waste of one can be sold as resource to another for the benefit of both. The initiative is backed by a network of scientists and learning institutions. There are at present 50 projects on five continents. The clusters are typically small-scale and local. The place of production is close to the place of consumption. No production unit tries to maximize its output, it rather wants to optimize the production process of each component. But they are trying to maximize the productivity and ecological sustainability of the whole. Due to the increase of resource productivity the eco-industries can produce a quality that is higher than other businesses can afford. In this way industries are competitive in the global market, thus no one can compete with them at home, which limits imports. It is not an economy of scale but an economy of scope. (Capra 2002: 204-206, 209).

A connected idea is **recycling** of for example steel: More than half of the steel used in the USA is produced from scrap. Steel mills are placed near the cities that produce the "waste" and consume the raw material. (Capra 2002: 210).

In a sustainable society all human activities and industrial processes must ultimately be fuelled by **solar energy** like nature's eco-system does it. Solar energy is the only kind of energy that is renewable and environmentally benign. Solar energy reduces pollution and increases employment. The shift to solar energy will benefit especially people in the South where sunlight is abundant. In 1997 a study by five American science laboratories concluded that solar energy could supply 60% of the US energy needs at competitive prices today, if there was fair competition and proper accounting of its environmental benefits. (Capra 2002: 216-218).

In order to operate cars and airplanes **hydrogen fuel cells** can be useful. Hydrogen is the universe's lightest and most abundant element. It is commonly used as rocket fuel. A fuel cell combines hydrogen with oxygen to produce electricity and water and nothing else. This makes hydrogen the ultimate clean fuel. It operates like a battery where hydrogen is split, reunited and finally converted to water. The entire operation is silent, reliable and does not generate any pollution or waste. Hydrogen is currently extracted from natural gas. However, when hydrogen can be separated from seawater by solar energy it becomes a truly sustainable system of energy generation. The government of Iceland has launched a joint venture to create the world's first hydrogen economy. The goal is a complete transition to hydrogen between 2030-2040. (Capra 2002: 218-219).

Another new development is an alternative to the current inefficient car type. The **hyper-car** is made of fibres. It is ultra light, has a high aerodynamic efficiency and is fuelled by hydrogen in a fuel cell. This design has saved at least 70-80% of the fuel used by a standard car, even making the car safer and more comfortable. Such a car is a small power plant on wheels. When it is parked the electricity produced by its fuel cell can be sent to the general electricity system and the owner will get the credit. Such massive production of electricity would soon put all other energy sources out of business. In USA it would produce 5-10 times the capacity of the national electricity company, save all the oil OPEC sells and reduce the USA Co2 emission with 2/3. (Capra 2002: 220-222).

Conclusively there exist alternative, gentle and sustainable technologies. These would be tremendously helpful to end most of today's crises, and most importantly they would be supportive of women, Others and nature.

5.25. Chapter conclusion

The sick Earth can probably in the long run be restored to health. But this requires a reversal of scientific mainstream values, a revolution of economic norms and a re-definition of technological principles. It includes adaptation of a view, which sees the universe as a dynamic web of interrelated events, where no part is more fundamental than any other part. It is a view characteristic of Eastern thought, but foreign to the traditional Western way of thinking, which is based on dualism that reduce nature to fundamentals. A restructuring will therefore be difficult, but it is crucial if people and nature are to survive. It is for this reason that the ecology movements together with women's rights and liberation are moving in the direction of reversing both the domination of women and the exploitation of nature. (Merchant 1980: 294-295; Capra 1989: 53).

The chapter had the purpose to show that science is a dualised, patriarchal project, which is dominant to and exploitative of women, Others and nature. Being based on the scientific values economics and technology became dominant activities too. From this it follows that also other scientific creations like Third World development and governmental institutions must be dominant. It was already shown that the global neo-liberal economical development programme promoted by the North and applied in the South is dominant to women, Others and nature. However, more ecofeminist development critique will be explored in the next chapter.

Chapter 6: Women, environment and development; an ecofeminist intervention in the development discourse

"Almost 40 years of international and national development efforts have passed without any fundamental changes in the lives of the poor. Something must be very wrong."

Sithembiso Nyoni, 1987.

Organization of Rural Associations for Progress (ORAP), Zimbabwe, (Carmen 1991: 69).

ORAP is an NGO, which promotes a new development strategy for the people of Matabeleland in Zimbabwe. It combines regeneration of the environment and empowerment of women. (Dankelman et al 1988: 150-152).

6.1. Introduction

6.1.1. Purpose of the chapter

Development was officially a programme meant to alleviate material poverty and bring a good life to the people in the former Southern colonies. By establishing nation-states and promoting economic growth the Southern countries were assumed to be changed into modern societies. The main pillars in this evolution were Western science, its discipline of economics and application of modern technology. Thus development in the South was built on the Northern patriarchal epistemological framework, which has been shown to be based on control, power and dominance. From this it follows that development is based on dualist values, which prioritize masculine and quantitative issues. Rather than introducing the prosperous modern life to people of the South, development instead introduced modern poverty, human repression, violence and environmental destruction. With its continuous undervaluation of feminine and qualitative issues, development automatically became a tool that dominates women, children, poor people, people of colour, traditional people and nature (women-Others-nature). In order fully to understand this perception of development an ecofeminist frame of reference must be presented. This chapter therefore discusses an ecofeminist interpretation of and intervention in the development discourse. The overall aim of the chapter is to show why, when, how, to which extend and with which results the perspective of ecological feminism has intervened in the development discourse.

6.1.2. Content of the chapter

The chapter presents and discusses various interrelated issues, all of which are pertinent for understanding the relevance of an ecofeminist involvement in development issues. To try and separate the otherwise holistic elements, the chapter has been divided into three Parts, each having a different focus. The sections are, however, consecutively numbered. Since each Part has its own introduction, only the overall content of the Parts is stated here:

Part I is meant to show that development is a system of domination. Due to its dualised conception of reality it dominates what it perceives as being "the other". Such dualism is used on ideas, values, material elements and people. Since economic, quantitative, modern, rational, masculine and technical issues are considered superior, development subordinates social, ethical, qualitative, traditional, emotional, feminine, and natural issues. This dualism manifests in a domination of women, Others and nature. The result from applying such ideology to development is poverty, natural destruction, violence and death.

Part II presents empirical and socio-economic interconnections which links the domination of women, Others and nature. It elaborates the daily, lived and felt reality of Southern, rural women and how their livelihood is interconnected to that of nature. It shows the condition under which these women try to survive on subsistence farming and to care for their families, supported by an increasingly deteriorating natural resource base. Due to the persistent exploitation of natural resources for economic growth, development is progressively destroying the organic and sustainable livelihoods of these women. Experiencing loss of their livelihood healthy protests are performed by people's movements against economic development.

Part III discusses the actual ecofeminist emergence into the subject of development. It shows how, in which way, and with which results ecofeminism has influenced the development discourse on *women, environment and sustainable development*.

6.1.3. Comments to the discussions

The critique of science, economics and technology from chapter 5 are highly relevant as an introduction to the following discussions. Having already elaborated on the general problems that science, economics and technology presents to women-Others-nature, this chapter deals with the problems these three issues pose related to development specifically. Thus, the general critique from last chapter must be kept in mind.

Mainly ecofeminist and feminist material is used in this chapter, but also writings from non-feminist authors, who chose a dualised perspective, have been useful. It should, however, be mentioned that all material in the below discussion on development is presented as seen from an ecofeminist approach. In a development context this means: to unveil the underlying structures that form the dualist and dominant relationship between men-women, white-black, colonizer-colonized, developed-underdeveloped, culture-nature, modern-traditional, quantitative-qualitative, North-South, large-small,

etc. Since the first mentioned dominate the last mentioned it is necessary for ecofeminists to perceive reality from the side of the dominated. Thus in their analysis ecofeminists choose a feminist approach. This means that the focus often is on women since they are both black, colonized, underdeveloped and traditional, but not alone. Ecofeminists analyze both parts of the dualised pair, their relations and synthesize the whole constellation, all seen in a feminist perspective.

Part I: Development; a discourse of power and domination

The first task when discussing development seen from an ecofeminist perspective must be to show that the institution of development is based on domination. Consequently the 10 sections in Part I are meant to show in different, interconnected and integrated ways how development is a dominant system. **The first** section puts the discussion in a historical context by presenting the four UN Development Decades. The aim is briefly to show which development strategies have been applied in the South and how all have failed. **The second** section tries to explain that the failures are due to the way the institution was perceived as from its beginning. It is unveiled that development from birth was based on a domineering Northern power discourse, with the purpose to control the South. **The next** section confirms that development should be seen as a continuation of colonialism, only in disguise. Development is therefore a neo-colonial invention. **The section, which follows**, is meant to show that development as an institution is founded upon modern Western science. It also discusses the view that development and science together form a violent combination which dominates women, Others and nature. **Then** the role Southern nation-states play in development is highlighted. The combination of developmentalism, scientism and statism form a complex power structure. Unified they are enforcing destructive ideologies and activities on the citizens, which result in financial benefits to the elite, while poor people and nature are marginalized. **The succeeding** section discusses the fact that development is based on a dualised value system. The consequence of a one-sided focus on quantity, goods, and rationality means that people's emotional, personal and social needs are not met by development. This priority causes the quality of life for people and nature to deteriorate. **The next** discussion deals with the poverty and misery created by the market-oriented system of development. **The following** section discusses the persistent male-bias of development. It gives evidence to the fact that development is excluding the work of women and nature in its calculations. Both are assumed to have no value in the development accounts, thus both are used as free resources for exploitation. **The next** section is drawing the issues together, concluding that development is a dominant institution. It finds that modern, scientific and economic development is inherently violent and eventually will result in death

of women, Others and nature. Ecofeminist works are commonly interacting with the works of post-development thinkers. **The last** section therefore briefly explains what the concept post-development includes and how it is inter-linked with ecofeminism.

The various sections cover important aspects of how development from a feminist perspective is considered being dominant. But the critique presented here on development and how it dominates women, Others and nature is in no way exhaustive. That is also not the aim and would be to go beyond the scope. The intention is rather to give an idea of some of the issues and elements, which have caused and still are causing mainstream development to be a dominant model.

6.2. The United Nation's four Development Decades

"Wanting to reform the world without discovering one's true self is like trying to cover the world with leather to avoid the pain of walking on stones and thorns. It is much easier to wear shoes."

Lao Tzu, Tao Te Ching.
(Esteva et al 1997: 278).

Development is something to which we all aspire. Ideas about the best means of achieving our own aspirations are as old as human civilization. The study of "development" has, however, a much shorter history. It is dating back to the 1950s when the colonial territories began to achieve independence. As a way of categorizing the development thinking the United Nations have proclaimed **four "Development Decades"** as from the 1960s to the 1990's. Each decade was diverse in the strategy and approach. (Elliott 1994: 5).

The **first** UN Development Decade was the **1960s**. The period was characterized by optimism and international cooperation. At the time it was assumed that the problems of the underdeveloped world would be solved quickly through transfer of finance, technology and expertise from the developed world. The powering force behind development was economic growth. It was argued that economic growth had brought the developed countries to their high position, thus the same would be the case in the South. Like the North also the South should focus on growth of the industrial sector to foster fast economic growth. This meant establishment of large-scale, high technology and capital-intensive projects. No investment was made into people's small-scale activities. Instead it was assumed that economic growth eventually would benefit the entire population by the "trickle-down" and "ripple" effects. (Braidotti et al 1994: 17; Elliott 1994: 5).

However, the expected trickle-down effect did not materialise, instead world poverty and inequality was rising. Although many countries had achieved economic growth as measured by increase in GNP, this "development" was not shared equally amongst the populations of these nations. Thus the optimism of a speedy end to under-development faded. Instead it was realised that other strategies had to be applied. Hence in the beginning of the **1970s** the **second** UN Development Decade stressed that development of people was a prerequisite for sustained economic growth. Growth policies were consequently combined with distribution policies with the aim to increase the productivity of the poor. The idea was to invest in human resources by distributing wealth and income equitable in the population, by establishing social justice, and by improving and making facilities like education, health, social security available for people. As an operational concept for human development the International Labour Organisation launched in 1976 "the basic needs" approach. The concern with basic needs and equity was, however, short-lived. This was mainly caused by global economic recession, but also due to declining international commitment to development cooperation: The oil "crisis", increased interests rates on large-scale loans, deteriorating terms of trade, slow growing export markets, net capital outflows, all lead to a deteriorating economic situation and a debt crisis for the South: **The oil crisis** was not a crisis of shortage of oil. It was rather a joint strategy by the oil-producing countries (OPEC) to limit oil production. By the scarcity this created, oil prices increased and made industrial production more expensive. This forced the South to increase their foreign debt. **The higher interest rates** resulted from the emergence of monetarist solutions for inflation in the early 1980's. But it was also caused by the ongoing recycling of OPEC dollars for speculative development loans. Moreover, the North failed to help lowering the interest rates that would enable poor countries to get out from the debt. The price increases resulting from these changes made import of technology from the North more expensive. This generated an **imbalance in the terms of trade** between North and South. To make things worse the North repeatedly undermined **the export commodities** from developing countries. In spite of the North's promise to purchase Southern product they failed to do so. The North rather wanted to develop synthetics that replaced Southern exports such as sugar, rubber and copper. Another strategy was to pay subsidies to their own farmers making domestic products cheaper and therefore more competitive than the products from the South. This meant that the South could not earn the needed foreign exchange to repay loans. The situation was combined with a slow down of growth in Western economies, which resulted in budgetary constraints for development aid allocation. Many countries realised the long-term nature of underdevelopment and therefore prioritized their own development needs rather than those of Southern countries. (Schroyer 1992: 366-367; Braidotti et al 1994: 17-18; Elliott 1994: 6, 54).

The result of these changes was a more rigorous and economistic approach to development. Thus neo-liberal politics and the neo-classical school of economics entered the scene. This ideology questions the usefulness of development policies altogether. Instead a liberal and free market style of development was introduced. Thus the **third** UN Development Decade in the **1980s** was a liberal response to the economic crises. It included an emphasis on short-term economic management, which replaced a coherent development strategy. This led to a neglect of the human development idea of the 1970s. (Braidotti et al 1994: 18).

Between 1970 and 1989 the external debt of the developing nations grew by over 1,800% from USD 68.4 billion to USD 1,283 billion. Thus debt-service obligations were huge. In order to remove imbalances of payment, Structural Adjustment policies were created and implemented by IMF and the World Bank in many Third World countries. This meant that internal economic policy in the South was increasingly under external control. Acceptance of IMF's monopoly over economic policy was the cost of continued access to foreign loans. By 1986 the developing countries were paying back 30.7 billion USD more to the commercial and multilateral banks in the North than they were receiving in new loans. Thus the servicing of these debts actually reversed the overall flow of capital from poor to rich countries. Schroyer (1992: 366) has calculated that poorer nations between 1980-1990 transferred over 600 billion USD to the richer countries! The necessity to repay debt forced a shift in government spending. Rather than providing their citizens with social services, governments directed funds towards stimulation of production of internationally tradeable goods to earn foreign currency. In addition, governments were advised to withdraw as prime movers of development in favour of the private sector, in line with the neo-classical economic thinking. Free market mechanisms were needed, and the private sector was the most important one to provide economic growth, the Northern invented theory assumed. The neo-liberal turn gave serious consequences for poor people as well as for the environment. It is widely documented how poor women had to compensate for the cuts in social services by an increase in their unpaid work. This led to social regression, which resulted in an increase of poverty. The environment also came under heavy pressure. Natural resources were exploited in order to increase production of export crops to earn foreign exchange for debt repayment. The result was that satisfaction of local needs for fuel, water, food and fodder became more and more difficult. These were drastic short-term measures to survive the debt crisis, but in the long term the cost inflicted upon the environment became high. It has reduced the potential for sustainable development in the South, including the governments' capacity to deal with protection and rehabilitation of the environment. Thus the 1980s are in development studies frequently referred to as "**the lost decade**". (Schroyer 1992: 366; Braidotti et al 1994: 18; Elliott 1994: 54-55).

In order to minimize the negative effects from structural adjustment UNICEF proposed a modification called "Adjustment with a Human Face". The economic policy package from the World Bank henceforth included policies aiming to protect the poor. But the practice of structural adjustment as a disciplinary measure was not fundamentally questioned by UNICEF. It was not pointed out that structural adjustment made the countries more dependent on export led growth; that they became increasingly vulnerable to world market prices; that they became dependent on investment from transnational companies, and had to accept their demands and highly questionable practices in search of quick profits. (Braidotti et al 1994: 18-19).

The constantly deteriorating situation gave rise to a new effort to deal with increasing poverty. Thus the **fourth** UN Development Decade in the **1990s** saw a re-emerging of the concept human development. It is a development model that includes more humane values and respect for human life. It has two main themes. One is investment in people, the other is a focus on human-centred development. It has been promoted by the World Bank and the United Nations Development Programme (UNDP). The World Bank's human development strategy remains firmly committed to economic growth as the central objective of development policies. It contains all the elements in the basic needs strategy, excluding, however, environmental issues. And needless to say, women hardly figure in these reports. UNDP's conception goes further than that of the World Bank. It is seeing economic growth only as a means to achieve human development, not as an end in itself. It also covers environmental degradation, militarization and unequal North-South relations. Suggestions comprise restructuring of the World Bank and the IMF and creating a UN Development Security Council. How the top-down approach is to be changed to a bottom-up approach is, however, not addressed concretely. Although these changes from within some of the mainstream development institutions may be seen as theoretical and minimal, they do imply a recognition that far-reaching changes in development practice is needed. (Braidotti et al 1994: 19-20).

After the collapse of the USSR bloc the global situation changed. The European countries, US, Canada and Mexico and the Asia-Pacific countries united to form separate blocs, which will strengthen their internal relations and give them economic power. Thus development assistance to Africa, Latin America and large parts of Asia is becoming increasingly uninteresting for the North. The North's interest in the South largely focuses on issues of global environmental degradation and population growth. This interest is motivated by economic and environmental self-interest. Addressing human misery and increased poverty hardly figure as reasons in themselves. Thus the imperative of economic growth for the North dictates the terms of the development discourse. (Braidotti et al 1994: 20).

In the 1990s the major criticism of development practice was its neglect of the increasing environmental destruction. This led to the United Nations Conference on Environment and Development (UNCED) or the Earth Summit in Rio de Janeiro in 1992. Northern governments acknowledged the need to change their production and consumption patterns. Yet the need for fundamental changes in the prevailing power structures was carefully excluded from the discourse. The global economic and political processes work in favour of the Northern countries and the elites in the South. Their focus is on economic growth and prosperity. However, due to limited natural resources, the flip side of growth in the North is poverty in the South. It is a world of over-consumption by the few and marginalization of the many. 80% of resources are used by 20% of the world's population. Most of them are living in the North. Global natural resources simply cannot sustain a lifestyle of over-consumption as a norm for all people. (Braidotti et al 1994: 24).

Conclusively after four Development Decades the majority of people living in the South are still waiting for the promised trickle-down effect and well-being from development. It seems that the practices have been inconsistent compared to the words.

6.3. The discourse which created the underdeveloped Third World

"Many men perform the foulest deeds and practice the fairest words".

Democritus, Greek philosopher from 420 BC.

(Barnes 1987: 266)

Jan Nederveen Pieterse has pointed out that the theme development is based on Western hegemony. It was constructed in a particular history and culture but presented as being universal. Its aim is to incorporate non-Western societies into the dominant mode of economic development in which the terms of discourse are shaped by Western thinking. According to Gilbert Rist (1997: 1) this was possible because of the strength of the development discourse, which is powerful in seducing people, in every sense of the term. It is able to charm, to please, to fascinate, to set dreaming, but also to abuse, to turn away from the truth, to deceive. How can one possibly resist the idea that there is a way of eliminating the poverty by which one is so troubled? How dare one think that the cure might worsen the ill, which one wishes to combat? Development has the aura of self-evidence. It is a concept that is supposed to command universal acceptance. Although development constantly is criticized for its lack of success, it still appears to be justified beyond all disputes. To explain this ability of the development discourse it is necessary to go back in history, to the period after the Second World War. (Braidotti et al 1994: 20; Rist 1997: 1-2).

It all began with the Inaugural Address on 20 January 1949 made by US president Harry Truman. His "Point Four" postulated that the larger part of the world was "underdeveloped" and that these countries consequently should be assisted to be developed. This was setting the trend for the development age. Truman's idea was based on *"making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas"...* *"The United States is pre-eminent among nations in the development of industrial and scientific techniques. The material resources which we can afford to use for assistance of other peoples is limited. But our imponderable resources in technical knowledge are constantly growing and are inexhaustible. I believe that we should make available to peace-loving peoples the benefits of our store of technical knowledge in order to help them realize their aspirations for a better life. And in cooperation with other nations, we should foster capital investment in areas needing development."* ... ***"Greater production is the key to prosperity and peace. And the key to greater production is a wider and more vigorous application of modern scientific and technical knowledge."*** (emphasis added for clarity). Consequently development assistance to the Third World was to be founded on transfer of Western scientific and technical knowledge together with capital investment. The purpose was to increase Southern productivity, which was assumed to give economic prosperity and lead to global peace and happiness. (Braidotti et al 1994: 21; Rist 1997: 71-72).

It was the first time the adjective "underdeveloped" had been used as a synonym for "economically backwards" to a wider public. Thus the notion of development included a change in a given direction towards a final state, which was capitalism. The concept development replaced colonialism. It meant that the dualised relationship between North and South was changed from colonizer-colonized to developed-underdeveloped. It was a continuity of substance, although the two dualised terms differ relatively: Underdevelopment was not the opposite of developed. It was rather an incomplete form of developed, a lack. But by economic growth one could bridge the gap. Implicitly it therefore suggested that there was only one way to develop: earning money. Development was seen as an internal, self-generating activity done by individual nations, with assistance from the outside. Thus each nation should develop itself but the "laws of development" was supposedly the same for all. As Rist says (1997: 75) one clearly recognizes the capitalist ideology of equal opportunities and the "self-made man". Through hard work and perseverance a worker can become the boss and a movie actor can become the head of state. The discourse cleverly suggests that the conditions, which lead some countries to become developed while others became underdeveloped, are acceptable. Underdevelopment is seen as a state of poverty that exists without having a cause, while development is a state of affluence and wealth that keeps growing and never is exhausted. There is nothing in

between. Thus responsibility for the effects of conquest, colonization, and slave trade is dismissed. The European global actions were done out of necessity for their development. Each had to "*win their way through with iron necessity*". Thus also out of necessity for development the European path must be reproduced elsewhere. It follows from this that development is both necessary, possible and universal, and it is based on conquest of colonies. It is also assumed that the context in which the South is being developed, is not influenced by the fact that the Northern countries already are developed. All have the same chances. (Rist 1997: 72-76).

This new way of dividing the world was attuned to US interests. It shows just how much the exercise of power is bound up with word usage. Rhetoric is always preferable to force if it serves its purpose of persuading people. And it worked. **First** and foremost it effectively ended colonialism from which USA did not benefit. **Secondly**, it justified US intervention in the Third World, on the grounds that one cannot remain passive when confronted with extreme need. This intervention was put in different ways like, we have, "to make resources available" for development, or we have "to help others to help themselves" or we must "encourage everyone to produce more." **Thirdly**, the rhetoric placed USA at the top of the value hierarchy. It had the highest level of prosperity and happiness, simply because it produced more. To measure this value, Point Four imposed a new standard called Gross National Product, which placed the US at the top. Rather than linking primacy to level of civilization, national statistics with their mathematical aura of objectivity seemed to offer a much more acceptable basis of comparison. This proposal was genuinely hegemonic, because it appeared to be not only the best, but also the only possible one. (Rist 1997: 75-76).

The way Point Four was put forward suggests that development was an almost religious activity. An American evangelist would have said the same as Truman said. His rhetoric corresponded to the truth proclaimed by the Church, which made it sound much more convincing. Thus Truman's "truth" was shared by all who belonged to a salvation religion. In this way the speech was affirming the necessity of development as the only solution to the problems of humanity. Consequently development could not be questioned. One may discuss in which form to accelerate growth, or how to make its effects more equitably, but development as an economic issues that permitted intervention into the internal affairs of underdeveloped nations, was not to be challenged. That would have been the same as to attack a programme designed to lead to universal happiness. You just do not argue about the obvious; the most you can do is try to improve it. (Rist 1997: 77).

Thus Point Four was the opening act of a new era: the development age. It represented a discourse of a reality in the making. It was a way of using power, not to change reality, but to insert reality into a different problematic, proposing a new interpretation and by that supporting the illusion of change. As Rist (1997: 78) points out, power always belongs to the one who can make himself the master of words. Thus although the programme of development primarily served the interest of the world's most powerful nation, it was formulated in such a way to suggest that it had only the common good at heart. In spite of the underlying values in Point Four, development was claimed to be beyond ideology. It was presented as a set of technical measures outside the realm of political debate. It included activities like utilizing scientific knowledge, promoting growth of productivity, expanding international trade etc. By defining underdevelopment as a lack, rather than a result of historical circumstances, and by treating the underdeveloped as being poor, without seeking the reasons for their destitution, development policy made economic growth and aid, conceived in technocratic and quantitative terms, the only possible answer. (Rist 1997: 76, 78-79).

The development discourse for the post-war era was also based on the construction of different "worlds". The First World was the modern, capitalist West. The Second World was the socialist East, which was entirely left out of the development discourse. The Third World was the traditional South, the main category. The label Third World helped to subsume the variety of societies in the South under one unitary category. The main line of differentiation was their political alliance to either the capitalist West or the socialist East as development models. The clear distinction between capitalism and socialism was a political move. The intension was to present them as being two completely different roads to progress, and thus opposites. (Braidotti et al 1994: 21).

The result was that as from 1949 and onwards more than 2 billion inhabitants of the planet found themselves changing their name. They were no longer Africans, Latin Americans, Asians, for not to mention Shona, Zulu, Balinese or Mongol. They were now officially regarded as being the others, which are underdeveloped and living in the Third World. That was how they appeared in the eyes of the Northern masters. They were called upon to deepen their Westernization by forsaking their own values. By affirming this, the colonized would gain the equality, which earlier was refused them. On the surface it looked as if they had all to gain - respectability and prosperity - but they lost the right to self-definition and self-determination. Thus political independence meant that they forfeited their identity and their economic autonomy. They were forced to travel the development path, which was mapped out for them by others. (Rist 1997: 79).

Henceforth all countries were supposed to compare themselves to the developed USA model, and follow the same track. Development was a necessity, and should take place by integration into the world economy. It was agreed that development above all was an economic matter of production and accumulation, based on private investment and external assistance. To implement the development path a number of new international institutions were introduced to manage development and the new form of economic management. The most important structure was establishment of Western-style nation-states, meant to administer development. Development practice became in this way a devaluing of non-western systems of knowledge, cultures, institutions and social arrangements. Western educated local elites functioned as prime movers of development. They had learned from their Western exposure to see economic growth as a prerequisite for progress in their own countries. They also accepted the definition of development because it was a way to asserting their claim to benefit from the aid that was supposed to lead to development. (Braidotti et al 1994: 21; Rist 1997: 79, 85).

The institutional approach was by the US seen as necessary both to enforce the development path but importantly also to prevent any communist insurgence. This was in spite of the fact that the communist model of development had the exact same objective as the North American i.e. economic growth. Only the content of the ideology differed. Thus the claim that development is beyond ideology is a contradiction in terms. (Braidotti et al 1994: 21; Rist 1997: 76).

The development discourse was shaped within the newly emerging institutions founded to administer and implement development of the South. These included the World Bank, the IMF, the UN institutions, US state departments and the national development ministries. New development experts gathered large quantities of data and devised statistics, which served as a basis for comparison and hierarchisation of realities in the countries of the world. Based on such data development plans were drawn up for the South. The discourse formed the objects of which it spoke: The populations in the South. It grouped them, united them, identified birth and death rates as being too high, and literacy as being too low. It had the effect that the objects of the discourse came to see themselves as underdeveloped and backwards. (Braidotti et al 1994: 22).

With the help of this development discourse new practices of intervention in the South were introduced and new mechanisms of control became possible. These include the development experts; the plurality of development issues; the professionalization of development; and the global, national, regional and local institutionalization of development. According to Escobar the only success of development was its ability to penetrate, manage and control countries and populations. The underlying political

character of the whole enterprise was put in the language of science and transformed into a technical problem. But in reality development was not a matter of scientific knowledge, theories and programmes concerned with true progress. It was more correctly political ideologies intended to shape, control and dominate the reality in the South. (Braidotti et al 1994: 23).

Conclusively by the development discourse the North was able to create, control and manage the underdeveloped Third World politically, economically, sociologically and culturally. Development must therefore be seen as a neo-colonial institution. (Braidotti et al 1994: 21).

6.4. Catching-up development; a neo-colonial invention

"If you change a man's way of life, you had better have something of value with which to replace it."
Kikuyu proverb (Kenya). (Elliott 1994: 67).

The central thesis of development is that changes occur in pre-established, organic patterns with predictable logic and direction. The modernisation theory describes this pattern of change. According to Walt Rostow all societies can be identified in their economic dimensions as lying within one of the five categories: The traditional society, the pre-conditions for take-off, the take-off, the drive to maturity, and the age of high mass-consumption. These evolutionary stages were seen as being universal. Thus general laws could be used in development, which would apply to all societies. For Rostow traditional societies have no history. It is a natural state of underdevelopment, with low levels of productivity due to ignorance of modern technology, which allows nature to be rationally exploited. Preconditions for take-off are a disintegration of the traditional society with its backwards beliefs and technology. Take-off happens when resistance is overcome and growth is the normal condition of the economy. Thus development happens naturally like a butterfly emerges from its chrysalis. It is an irresistible force that removes all obstacles to growth. The drive to maturity includes structural and cultural changes based on technology, major investment and entrepreneurial spirit. The age of high mass-consumption is characterized by American Fordism. Productivity gains are distributed to the workers in order to raise consumption and the "Welfare State" is put in place. It is an evolutionary, linear concept of progress brought about by Western science and technology. Consequently modernization was assumed a historical, unavoidable, linear and universal path available to all. Some had reached its peak, others would follow if they would do more efforts, get more scientific education and become more developed. In the process modernism did away with the old, traditional way of life including its values, its know-how, its creativity and its equality. It was never considered that the gains of progress also claim many casualties. (Braidotti et al 1994: 22; Rist 1997: 94-98).

Thus the ideal of development was to modernize the entire world according to the mode of the West. It was assumed that progress and development would improve well-being for all. The idea of a "good life" is that which is prevailing in the affluent societies of the North. To obtain this standard of living the South had, according to Rostow, to engage in "catching-up development". This involved industrialization; progress in technological ability; and capital accumulation by economic growth. As an input for the whole process natural resources were to be utilized. Economic development and increased production for the global market became imperative in order to attain the desired goal of development. Gross national product, economic growth rates, export rates became the all important evaluation for development and well-being in any given country. Since these categories were used in the North with success, they were also applied without adaptation to the newly independent Third World countries in the South. (Shiva 1989: 1; Shiva 1990: 189; Mies and Shiva 1993: 55-56, 70; Braidotti et al 1994: 22).

There was, however, a problem. The North gained its economic wealth and progress from their colonies. Early industrial development in Western Europe was built on exploitation of natural resources extracted from the Southern colonies. This method built strong Northern economies, while destroying local Southern economies. Due to the need for limitless natural resources colonialism seemed to be a necessary condition for capitalist growth. Without colonialism the new world could not grow. Since there were no more countries to be colonised and exploited, development of the South had to be done differently. Instead of conquering external colonies, internal colonies were created. As input for industrialization and economic growth natural resources had to be appropriated, and in the process traditional peoples were displaced. Thus land, water and forests were removed from the management of local people. This destroyed the natural resource base from which these people lived. Hence development made national power structures stronger, to the detriment of local people. The increased centralization has consistently meant that development activities erode people's control over their lives and use of natural resources. Development consequently transforms both people and nature into resources to be used for the benefit of the elite. In this way development becomes a specific way of wealth generation. Its process of creating wealth for some is always associated with creation of poverty for others. Hence, although colonialism officially had ended, it continued in the form of development. (Shiva 1989: 1-3; Shiva 1990: 189-190; Mies and Shiva 1993: 55-56, 70-71; Braidotti et al 1994: 24).

Development has therefore left large parts of the population in the South worse off than a few decades ago. The drive to catch up with the North has led to large debts and increased violence, rather than

prosperity and peace as Truman promised. Dual societies with economic inequalities have been created. The development process has benefited mainly the urban middle classes while it has marginalized and impoverished an increasing number of people, particularly women. According to Patankar (1995: 25) development has gone hand in hand with exploitation in every social era. Only the forms of exploitation have changed. The prosperity of a few has been accompanied by the poverty and exploitation of the majority. Each new era has brought along its own theory, used to create support against the old system. But when the new system is established, a new form of exploitation emerged. (Braidotti et al 1994: 26; Rist 1997: 71).

Accordingly colonialism is not a past phenomenon, it is very much alive. Colonial relationships exist between North and South; urban and rural areas; man and nature; men and women. The colonized are under the overall domination and control of the white man. In order to maintain this colonial relationship, force, violence and manipulation is essential. The colonized or the Downs must accept the lifestyle of the colonisers or the Ups as the only model of a good life. In the process the Downs devalue their own lifestyle and culture. This value was during colonialism enforced by violence. Later on it was re-enforced by propaganda, education and change of laws. It is further maintained by the Downs's economic dependence on the Ups. In this way the Downs become socialised to accept the situation as being a natural state of affairs. (Mies and Shiva 1993: 56).

Thus developmentalism replaced colonialism, but the net transfer of capital from the South to the North has been maintained since colonial times. Even the aid flow from the North largely flows back to the donors as payment for expert advice and technical equipment. In spite of the fact that development has not delivered its promise of freedom from poverty and the experience of plenty, the development industry is thriving. It is benefiting plenty of development experts, development agencies, development study departments, consultant firms etc. (Braidotti et al 1994: 24).

Consequently development promotes the hegemony of Western culture. It is an extension of its patriarchal, modern, wealth accumulation. It is based on destruction of other cultures and exploitation of nature. The victims are women, peasants and tribal people. The only difference is that this time around, it is not the colonial powers that are engaging in the actual exploitation, but the national elites. However, the ideology is still masterminded by the global forces controlled by the former colonialists in the North. The fact that people are worse off now than before should under normal circumstances lead to questioning development and its practices. At least it should not be given as a remedy more of the same. But because it is based on ideologies and due to its vested interests development goes on.

That is why women, peasants and tribal peoples throughout the Third World are struggling to free themselves from development, exactly like they earlier struggled to be liberated from colonialism. (Shiva 1989: 1-3; Shiva 1990: 189-190; Mies and Shiva 1993: 71; Simmons 1997: 248).

6.5. Scientism and developmentalism; a violent combination

"It is better to be approximately right than precisely wrong."

Lord Keynes. (Chambers 1997: 41)

According to Truman's address science was meant to be the foundation in Third World development. Thus development was perceived as a purely technical and quantitative issue. The previous chapter showed that science is a knowledge system based on control and domination of women, Others and nature. Thus when an inherently violent science is applied to development, it must logically follow that development also will be dominant. The result must be assumed to be exploitation of people and nature. Wolfgang Sachs confirms that science, together with the strengthening institution of the nation-state, are indeed the immensely powerful forces behind development. Put together scientism, developmentalism and statism have managed to divide society into three groups: the beneficiaries, the servants and the dispossessed. As well as creating an explosion of commodities, technologies and material expectations, these forces have brought humanity to the brink of wars, caused human repression, poverty and environmental collapse of a potentially terminal nature. (Ekins et al 1992: 164; Ekins 1992: 202-203, 207).

Radford Ruether (1993: 20) has a similar opinion. She points out that the application of science to technological control over nature and economic development took place in the North simultaneously with their colonisation of the South. From the 16th to the 20th centuries Western Europe would appropriate lands of the Americas, Asia and Africa and reduce their population to servitude. The wealth accrued by this vast expropriation would fuel new levels of scientific revolution and economic growth in Europe. The means were confiscation of natural wealth from other continents and exploitation of the labour of their indigenous peoples. Thus science and economic development are built on injustice. They combine their forces to exploit nature and people. It is a domineering system that benefits the few, but which is harmful to the many. It has created poverty of huge proportions, including an ever-widening gap between rich and poor. It has also degenerated the global environment. (Radford Ruether 1993: 20).

Michel Foucault's opinion is that science exploits people and nature because science is intimately linked with power relations. Western political and economic institutions are based on scientific discourse, thus its centres of truth is identical with its centres of power. Consequently by producing truth claims about development the North has the power to reshape reality to a picture that benefits their own economic interests; with some profit to the Southern elites. They have globally created images of progress as being an urban life style with white-collar jobs and high consumption. Although the poor can never hope to gain this life style simply because natural resources are too limited, the North falsely suggests that the modern way of life is possible for all. Such false claims has assisted the centres of power to displace traditional peoples, appropriate their lands and exploit the natural resources for scientific and economical progress benefiting the elite. (Braidotti et al 1994: 10).

Kuhn, Feyerabend and Polanyi have similar opinions. They convincingly argued that modern science is not universal true knowledge but a single mode of thought, amongst many. There is also no method, which can unveil reality as it is. Thus, science cannot state that it deals purely with facts. Scientific facts are in reality socially constructed categories. They relate to a choice of a context of discovery. This context determines which properties are included, while the outcome is a political choice. Hence science is based on value-laden choices. These choices were early in history made by a Western, middle class, patriarchal attitude. Since they perceived nature as a resource for profit maximization, this became the focus of science. Since this is backed up by a political choice the scientific perception of reality prevails, while other ways of knowing are excluded. This means that science is based on power. It is a system of political values, rather than facts. It cannot keep facts and values apart. In spite of these clearly value laden choices, science is still called objective and the universal law of nature. But a fact is that science generates knowledge with economic aims in mind. Thus applying science to development creates the domination of the South by the North, of nature by man, of traditional man by modern man, of poor by rich, and of women by men. Thus knowledge, power and economic development are linked and it generates inequalities and domination. (Shiva 1989: 26-29).

There is consequently a profound relationship between science and development. They cannot be understood in isolation from each other. Alvares (1993: 221) compares them to the horse and the carriage. Development was desired by non-Western societies because it was associated with science, and science was desired because it made development possible. Thus they are interrelated in a circular form of "I scratch your back, you scratch mine". If development did not have any special relationship with science, there would have been no need to displace the subsistence living of traditional peoples and replace it with a modern standard of living that science proposed. (Alvares 1993: 221-222).

Both capitalist and socialist political systems subscribe to modern science, as it has evolved in Europe over the last three centuries. Both see its resulting technology as the engine for development. Only the ideology differed. But in both systems it has caused environmental crises and human disasters. The process of chemical and radioactive contamination of soils, air and water; decreased biodiversity; depletion of natural resources, deforestation and desertification, all have global impacts which threaten the survival of life on Earth. However, eastern European countries have fared specifically bad in their development technology. They are faced with the effects from high levels of industrial pollution and the Chernobyl disaster, which contaminated a vast landscape. The belief in the limitless mastery of nature by science and technology for the purpose of economic development has consequently rendered entire landscapes uninhabitable and beyond repair for the next centuries. And it has displaced its original inhabitants. Such disasters are the unavoidable side effects from scientific development and technological progress, also in the South. (Braidotti et al 1994: 1).

Braidotti et al (1994: 9) find that the problem is that scientific development and technological progress has a one-sided focus on economic goals. This has become implicit in development of the South as well. The South has consequently experienced a ruthless application of technology. Especially in the form of big-scale development projects, like large dams, which serve urban and industrial interests only and thereby the modern economy. This has displaced thousands of people from their land and consequently removed their means of livelihood. Such adamant development practices are important factors in the environmental destruction; but the real force behind the global environmental crisis is Western science. Shiva (1989: xviii) draw the same conclusion: Science and its technology is responsible for the current economic and ecological crises.

In response to the loss of livelihoods local people have staged impressive protest actions against development projects. And also other groups in society are battling for a fair share of scarce resources. This popular pressure has resulted in an increasingly militarized world. In order to preserve the elite's unjust monopoly on material resources most nations have been using a huge share of their state budgets and/or foreign loans for weapons to repress their own impoverished masses. This has only reinforced the power of the North. Since the rich countries have the technology, they have become the major exporters of weapons to poor nations. Militarization has consequently boosted the wealth of the North and increased the indebtedness of the South. War and violence; abuse of human rights; environmental exploitation and destruction; and the consequential devastating poverty are all derived from a system of domination, based on science and development. (Radford Ruether 1993: 20).

Willis Harman (Ekins 1992: 203-204) finds that mechanical science has been successful in its effort to create a true picture of knowledge. It has accomplished to predict, manipulate and control the physical environment with its reductionist method. Projects are therefore called scientific, when reductionist concepts are used to create uniformity and central control. Hence development introduced scientific agriculture, husbandry and water management. However, applying reductionist and uniform concepts to a world, which is whole, interrelated and diverse, is an act of violence. The cosmos described by modern science is devoid of meaning. It lacks relationship to the profound spiritual insight from human experience during thousands of years. If we want to deal more adequately with wholes, with living organisms, and specifically with human consciousness, we need to complement reductionist science with another kind of science. A knowledge system, which is fragmented, inadequate, incomplete and mistaken in its basic assumptions, cannot create a well-functioning society. Instead it is leading to the above four crises. (Shiva 1989: 14; Ekins 1992: 203-204).

The error lays in the fact that modern science is not so modern after all. It has failed to keep up with its own advance. In spite of new scientific thinking in physics, which emphasises uncertainty, subjectivity, interconnections, and subordination of individuality to relationship, scientism has remained a mechanistic, deterministic, materialistic, atomistic, and anti-ecological world-view. This is exactly because it is guided by economic and political factors that mechanical science is a powerful controlling tool. And since science is benefiting the elite, they determine that it is the only valid way of knowing the world. Any new-thinking is consequently disregarded and the accumulated wisdom of the majority of humankind is dismissed. Instead science is universalised as the only version of true knowledge, which consequently is applied to development and used as a means to dominate people and nature. (Shiva 1989: 33; Ekins 1992: 203).

The close relationship between science and development and their common domination of nature and people can be seen in India. The modern Indian state is in its constitution committed to science. Thus in the hands of the national elites it is the primary force for the destruction of the environment. India has become a regional super power with massive government spending on militarization, rather than on social services. Western educated elites have adopted affluent consumerist life styles, while huge parts of the population are marginalized. Large-scale projects like dams and nuclear power plants have displaced people from their land with devastating effects. All of this has been done in the name of scientific development. Indian society today is extremely exploitative of its poor population and their natural resource base. (Braidotti et al 1994: 109).

Indian scholars have criticised this dominant development model. They are questioning its foundation - the epistemological framework of Western science - as the only valid way of knowing, and its claim for universal truth. Science is presented by the state as a cognitive basis of development, but it is overlooked that science is the product of white, Western, male thinking. However, this is convenient since Western science is their means of domination and a justification for institutionalized violence. Vandana Shiva and Shiv Visvanathan perceive the Western scientific mode of development as violence and terrorism in theory and in practice. Visvanathan calls development "**a slow genocide**" while Vandana Shiva names it "**mal-development**". (Shiva 1989: 4; Carmen 1991: 70; Braidotti et al 1994: 109).

In their opinion the root of the problem is that reductionist science is serving the interest of the global market economy, rather than the interest of nature and people. The reductionist ideology includes only properties of a resource system, which generate profits through exploitation and extraction. Properties which stabilise ecological processes and support subsistence living, but which are commercially non-exploitative, are ignored and destroyed. Thus a forest is reduced into a single component with a single function - commercial wood. And by scientific technology forests are manipulated to produce more commercial wood. Such actions are considered to increase productivity, although it decreases the output of water and reduces the diversity of species. Thus the living and diverse ecosystem is violated and finally destroyed by scientific forestry. In this way reductionist science is the root of the ecological crises. It transforms nature to fit its own purpose and destroy organic processes and regenerative capacities. The knowledge of women and traditional peoples who live in the sustenance economy and produce wealth in partnership with nature has holistic knowledge about nature. But since such alternative modes of knowledge are directed towards social and ecological well-being rather than profit, they are not included in the reductionist paradigm. Reductionist science therefore establishes a monopoly on knowledge, which is used in the interest of economic pursuit. It serves an economic structure based on exploitation, profit, maximization and capital accumulation for the North and elites in the South. The results and rationality of the reductionist knowledge system is never evaluated. It is declared superior and it is politically supported by the state. Development policies support it financially, materially and ideologically so it can appropriate nature for profits. Thus the state supports the myth of science. The people and nature have to bear the costs of progress while not reaping the benefits of development. They learn to see it as "a minor sacrifice for the national interest". Since the state, the elite and surplus value supports the reductionist paradigm it becomes powerful. Without this support science is weak and ineffective in its knowledge about nature, but as a knowledge system for the market it is powerful and profitable. Consequently modern science and its development project

supports and is supported by the socio-political-economic system of Western capitalist patriarchy. Both dominate and exploit nature, women and the poor. (Shiva 1989: 23-25; Braidotti et al 1994: 9, 109-110).

It is often argued that the problem is not science per se, but science is misused politically which leads to violence. But Shiva (1989: 31) finds that this is not correct. Science is intrinsically violent and destructive to nature. Science creates ecological disasters, it supports militarism, and its technology develops ways of controlling and dominating others. That is not misuse of science that is in fact science. When antibiotics create super-infections; when flood control measures increase floods; when fertilizers rob the soil of its fertility, then it is not a discussion of use or misuse of scientific technology. The problem is rooted in the knowledge creation process of modern science. Science is now more occupied in solving problems created by scientific development than busy with solving problems posed by nature itself. A quarter of the world's population is threatened by starvation due to environmental problems. The reason for these disasters is the chase for economic growth supported by science. Its technologies have become a major source of genocide. The killing of people by the murder of nature is an invisible form of violence, which today is the biggest threat to justice and peace. (Shiva 1989: 31, 34, 36).

A development, which is directing natural resources to the market economy, away from people's survival economy, generates conflicts and instability. In response local people have increasingly staged protest actions against development projects. Such protests are due to the massive destruction of local cultures and lifestyles, and the displacement of people leading to poverty. The Chipko movement in India, which will be presented in Part II, is often mentioned as an example of the clash between the modern Indian state integrated into the international economy **and** the local people's survival interests. There is a high pressure on the natural resource base in the Himalayas, where Chipko is located. The national economy needs water and electricity as well as timber for urban mass consumption, while the rural economy needs water, fuel and fodder for local survival. Thus local survival and national mass consumption interests are clashing. (Braidotti et al 1994: 9, 109-110).

The struggle of peoples is not only about limited natural resources. The issue at stake is also that the modern way of life is not desirable for all. Apart from being unable to alleviate poverty, the greatest criticism on modern development is its static, monistic, inescapable and deterministic model, which allows for no alternatives. According to Max-Neef (Carmen 1994: 18) the imposition of a single development model on the global scale has resulted in the disruption and transformation of age-old

diverse cultural inheritages and often in their destruction. Movements like Chipko are working against that. (Seabrook 1993: 9; Radford Ruether 1993: 20; Braidotti et al 1994: 10).

Foucault points out that resistance to power start from the margins. Part of the political protest is the resurrection of the subjugated traditional knowledge and culture of local people. Thus articulation of how to live a good life depends on a participative democratic process involving all actors, not solely the norm-setting elites. Furthermore, what a good change means in a particular social and cultural context may vary from society to society. Thus a reconstruction of Southern life styles will have to include multiple development modes. And there are already thousands of alternative development activities in the world. These give hope to those people who are either not assisted by the mainstream model or who are dominated by it. (Seabrook 1993: 9; Braidotti et al 1994: 10, 107).

Thus the four crisis of war, poverty, environmental destruction and human repression stem from the modern picture of reality; it is the reality of scientific reductionism. The antithesis to scientism is the knowledge and wisdom of common people. The world of scientific experiments and beliefs needs to be extended to those experts who have been excluded from it - women, peasants and tribal people. In this way we can validate a scientific system in practice as a real-life activity in society and nature. Traditional knowledge is increasingly seen as a cultural resource that is both valid and valuable in its own context. Such knowledge is the only possible basis for anything that may be called development. It is a development that can enhance people's capability to increase the control over their daily lives while maintaining a healthy relationship with the natural processes, which sustains it. Such development needs to start from what people know already. This knowledge may be combined with science, but it will only be effective if it is rooted in the culture and experience of those who are developing. (Shiva 1989: 36; Ekins 1992: 204, 207-208).

6.6. Statism, scientism and developmentalism; a network of absolute power and control

"Power tends to corrupt, absolute power corrupts absolutely".
Lord Acton, 1887. (Chambers 1997: 245; Rowe 2000: 353)

It is unlikely that science and economic growth could by themselves have worked in the name of development. For their enforcement the state is required. The sovereign nation-state is an institution, which legitimized exercises absolute power over the lives of its subjects. And nation-states in the South were focused on modernization and economic growth. Increase of productivity leading to economic profit can, however, only take place where there are competitive exchange markets. As long

as resources for the market are controlled by communities and goods are produced principally for self-consumption, as in traditional subsistence societies, competition cannot take place. Hence the nation-state redefined property rights, which directed productive resources to exchange oriented elites. When communal user rights were changed to legal individual rights, market competition started. Thus the state is reinforcing the dominant development model. (Ekins 1992: 205-206).

The notion of nation-state is a recent one for most of the sovereign countries, which now comprise the United Nations. The great majority of them are formed after the 2nd World War. 60 of these were decolonized by Western nations. Most of them have been constructed along boundaries which suited the bureaucracies or former colonisers, but which had little to do with peoples' social realities. Thus boundaries were made without consulting internal cultural groups. The result of giving these artificial political entities absolute power has been disastrous for millions of people. Many governments have been irresponsible in the conduct of national affairs. They have wasted resources on arms, prestige projects and luxury life styles. They have created wars, using their armies to attack their neighbours and to repress their own citizens. They have ruthlessly enforced the dominant development model on their poor people in order to finance their projects and life styles. In the process they are laying waste their natural environments. Supported by modern technologies today's nation-states have received a penetrating power unknown to earlier tyrants. Many traditional communities who have lived largely free from outside interference for thousands of years are now feeling the oppressive, often genocidal impact of the power of the nation-state. Thus statehood and development has been a cruel and violent deception. (Ekins 1992: 206; Schroyer 1992: 375-376).

Ivan Illich finds that modern economic development imposed by the new nation-states was likely to create violence and wars. The reason is that development attempts to force cultures to become alike. Where groups are being coerced into nation-states, without being recognized for their uniqueness, the potential for internal wars is never eliminated. This was revealed in the former Soviet Union, Yugoslavia and lately it is experienced in Iraq. Moreover, economic development is based on scarcity. Since the "nature" of capitalist man living under the condition of scarcity is competition, then economic development means that one party wins only if another one loses; hence human survival is war! Thus Illich holds that modern economic development imposed by the nation-state can produce wealth, but in the process it is destroying the means of popular peace. (Schroyer 1992: 375-376).

The reason is that unifying diverse groups into a nation-state and imposing modern economic development on all, promotes the loss of local, embedded socio-cultural practices. When cultural

distinctions and social differences disappear, a socio-cultural crisis emerges that force confrontations, chaos and violence between groups of peoples. Violence is like an infection; it is contagious. The more injustice, the more revenge. This releases a cycle of reciprocal violence upon a social community. For this reason all ancient communities created their own unique ritual practices or sacred purifications that gave protection from increase of violence and maintained peace. In this way a social technology of violence control was created. But such protection is local and last only for the time that cultural institutions maintain a stabilizing differentiation. By introduction of the nation-state, customs were replaced by law, and subsistence practices by formal economics. The passion for scientific knowledge blinded the leaders for the ongoing relevance of custom, subsistence living and embedded social solidarities. When these solidarities were colonized by modernisation, violence began. Consequently peace, according to Illich, begins with sustaining local, social communities and remains when each culture has the possibility to flower in its own incomparable way. (Schroyer 1992: 377).

A general observation is indeed that a huge majority of the former colonized regions have failed to develop peaceful and viable nation-states. Overlooking the negative consequence from loss of cultural uniqueness may be due to the fact that the nation-state, like all other modern institutions, is a structure invented and imposed by Europe. The state model started after the treaty of Westphalia in 1648. Although a contractual element had already entered the civic space by the 13th century, the treaty gave formal institutional status to the emerging concept of the state in Europe. But it was only after the French Revolution that the state got power. It was done by linking the state to nationalism. This was seen as the best guarantee for the stability of the state. Nationalism gave a sense of unity to otherwise diverse groups and cultures in the state. Thus from the beginning nation building became one of the goals of the modern state. But rather than creating real unity, nationalism was more correctly a cultural and ideological homogenization of a country's population. The concept assumed that the diverse realities due to ethnicity became united. Homogenization and nationalism may eventually have succeeded in Europe, but it only developed after much conflict and tension. Nationalism was also important because it gave a central role to the state, and it saw the state as the main instrument of social change. Change in a European context meant that the state was the promoter and protector of modern, scientific institutions associated with industrial capitalism. Thus statism and developmentalism are closely connected. However, this does not mean that the nation is united. (Nandy 1993: 264-265).

When one reads the Charter of the UN, one must assume that governments of nation-states and its people have something in common. But today this assumption must be strongly questioned. The independence movements, which succeeded to mobilize the people to throw off foreign domination,

only replaced colonialism with a new tyranny, which even was legitimized by state sovereignty. In cases where the new nation-states are not directly violent, as it currently happens in Sudan, they dominate their population in more subtle manners, like it is done in South Africa: Despite celebrating more than 10 years of democracy, the white minority - a mere 10% of the population - still owns 85% of the country's agricultural land. According to Luis Lopezllera Mendes (The Popular and International Group for Grass Roots Initiatives in Mexico) development in the South done by nation-states has meant "*progress for the few and poverty for the many*". Replacing the ruling government with the opposition does not improve matters. Experience from Nicaragua and Mexico shows that the opposition parties soon become counter revolutionary when they run the government. Taking state power is therefore not the answer. The solution must be that people create their own power and promote their own development. Thus the focus should be on social and collective initiatives rather than state imposed activities. (Schroyer 1992: 356; Ekins et al 1992: 164; Ekins 1992: 207; Ode June 2004: 19).

This is what is often done by ecological grassroots movements. Sharma has made an analysis of 6 such movements in the South. He finds (2001: 380) that one reason for the formation of ecological movements is that the neutrality of the state system has been eroded in favour of the dominant class. Hence the state has betrayed the masses by aligning with the elite for sharing of profits from exploitation of natural resources. This is in accordance with the opinion of Plant (1990: 126) who finds that today's political leaders do not work for the well-being of people and nature. They have instead become handmaids for national, multinational and transnational corporations. The corporations are major actors on the global economic scene without control by any international or national mechanism. The negative effects from their operations on people and exploitation of natural resources are often completely neglected. They are even supported by the governments who want the industrial system to be maintained for their own economic benefit. Another source of enrichment is when governments accept that the North can export redundant, highly polluting chemicals to the South in exchange for hard currency. Such a situation was observed in the Ivory Coast in October 2006 where a Dutch corporation dumped poisonous substances. Up to now 9 people have died from the toxins. It is the government and the elite who gain the benefit from such activities while poor people pay the price. Such state bias was also confirmed by a Tsunami follow-up report. The report found that those people who were affected by the Tsunami in December 2004 had not been supported by their governments. The governments of the individual states had oppositely been un-helpful to people. Some had even allowed that dominant groups in society exploited the precarious situation of the victims. This included "legal" appropriation of their lands. The goal of people's grassroots movements is therefore to

change the existing state hegemony and dominance. They want to create an egalitarian society with an alternative indigenous paradigm of development. (Plant 1990: 126; Braidotti et al 1994: 26; Sharma 2001: 380, 382; BBC News January and October 2006).

To bring back in focus the quality of life for people and nature the state system requires a transformation done by a process of participation and democracy. A truly democratic state has a vital role to play in people's own development. It must provide basic institutions to frame the market so that its mechanisms can work to the general advantage. It must guarantee that people have continued access to resources for production and development. It must implement basic norms of social justice. Such a transformation will not be initiated by the state itself. The state must be pushed towards these changes by people's initiatives. Only this can produce a fruitful interaction between the state and people. To secure peace and harmony a search for revival of diverse traditional customs and social solidarities is essential. Many of those who are opposing ecological degradation and externally imposed development are also searching for socio-cultural institutions equivalent to traditional ritual protections. How they can be regenerated in communities is the task of people, rather than nation-states. (Ekins 1992: 208; Schroyer 1992: 377).

6.7. Developmentalism; a dualised, masculine perspective

"Half of our mistakes in life arise from feeling when we ought to think, and thinking when we ought to feel."

John Collins. (Jordaan et al 1995: 595)

Being a project derived from science, development can hardly avoid but to be an activity based on dualism. In its eternal focus on masculine or yang issues, development has backgrounded feminine or yin issues. Due to development's priority of the objective, the quantifiable, the material, the individual, the modern and the rational, the subjective, the qualitative, the human, the social, the traditional and the emotional dimension of development has been marginalized. This has consequences for women, Others and nature. (Birkeland 1995: 68).

As stated above progress was seen as having three categories: scientific knowledge, technology and economic development. This is manifested in a monolithic model of development including industrialisation, modernisation and economic growth. Its progress is measured by monetary aggregates based on economics. Promoters of development therefore decided that the principal social objectives of all countries must be commodity consumption and capital accumulation. Either it seduces people to join consumerism in order to generate demand or it forces them to compete in the

market economy by taking away their natural resources for supply. The result is that resources and social structures which are outside the markets, but which gave people security, are ruthlessly assaulted; families and communities are ruptured; water, land and biomass are expropriated. All is justified in the name of economic efficiency and wealth creation. As Shiva says (1989: xiv) along the way conserving life was sacrificed to progress. (Ekins 1992: 205).

Thus **developmentalism** is part and parcel of economics. With its preference for what it perceives to be objective, **quantifiable** and exact economics takes its cues from (mechanistic) physical science. Accordingly GNP is the main indicator of progress and development. Development is therefore seen as a planned, uni-directional, cumulative, coordinated strategy towards a preset target. Although mechanical physics has become obsolete, and the quantum and relativity theories took over, economic laws are still mechanical, like all of its concepts. (Carmen 1991: 68).

Economics starts with scarcity. But surprisingly it does not include and calculate scarcity of natural resources, even those that are non-renewable. This is a contradiction since natural resources are the input for production of commodities, which are considered scarce. Another limitation is that economics only include what is **visible** and what can be counted. This means that non-quantifiable resources are excluded. These qualitative resources include social-cohesion, creativity, solidarity, dedication, cooperation and many more. All of these are people-resources, which, opposite natural resources, increase the more they are used, but are lost when they are not used. Hence economics paradoxically exclude what is relevant for people and what should be counted to make development a good change. Instead all commodities, including human beings, are measured in terms of money. From this it follows that all social, cultural, economic and political behaviour is based on the economic values of individualism, self-interest, greed, scarcity and competition. This automatically excludes any consideration for social and ethical issues. Thus individual greed takes over and balance in society can be maintained only by use of violence. Consequently disregard of qualitative issues in the economic system makes developmentalism reckless, exploitative and violent in its pursuit of production and consumption. (Carmen 1991: 68, 69; Patankar 1995: 28).

Schumacher agreed. He found (1993: 160) that all-important insights are missed if we see development mainly in quantitative terms and in vast abstractions like GNP, terms of trade, foreign investment etc. These have no relevance to development problems as such. They also did not play the slightest part in the actual development of the rich countries. The common criterion of a success, namely the growth of GNP is utterly misleading, it is imposed by the North and has resulted in neo-

colonialism. This may not have been intentional, which only makes the problem worse. Unintentional neo-colonialism is far more deceitful and more difficult to combat than neo-colonialism intentionally pursued. It results in the mere drift of things, supported by the best intentions. Thus poor countries are pushed into the adaptation of production methods and consumption standards, which destroy the possibility for self-reliance and self-help. The results are unintentional neo-colonialism and hopelessness for the poor. (Schumacher 1993: 160, 162).

With the focus on quantitative issues means that development is based on material things. Whatever is visible is easy to plan, count and it can be purchased. Thus development is thought of in terms of physical creation. But such a view overlooks the preconditions for successful social change, which are invisible. The ruling philosophy in development has according to Schumacher been (1993: 138): *"What is best for the rich must be best for the poor"*. Since the rich often focus on goods, material factors of poverty is the priority. However, in development the material and quantitative aspect is quite secondary to the human and qualitative aspect. Money and material goods do not always do the trick. If the underlying policy is wrong, money will not make it right. Development does not start with goods, it starts with people, their education, organisation and discipline. Without these all material resources remain latent and potential. Thus alleviation of poverty depends on removal of deficiencies derived from lack of adequate human skills. That is a gradual process because these elements must evolve step by step. Development therefore requires a unique process of evolution rather than creation. Instead of increasing the GNP, the task of development is to make all three skills the property of society. Introduction of any economic activities that depend on education, organisation and discipline not inherent in the society, will not promote healthy development. Such activities are more likely to exacerbate the difference between rich and poor. Consumer goods and life styles that suits affluent and educated people are unlikely to suit poor peasants. It is a misunderstood belief that poor Southern people can adapt to the styles and methods of the sophisticated modern North. People cannot adapt to methods, it is methods, which must adapt to people. Thus development must be a conscious and determined shift from goods to people, from quantity to quality. Without such a shift the results of development will become increasingly destructive. People are the primary and ultimate source of wealth. If they are left out, then nothing can ever yield real fruits. (Schumacher 1993: 136, 138-140, 158-159, 162).

Hassan Zaoual (Carmen 1991: 72) is also concerned about the destructiveness of purely quantitative development. He finds that development is a fiction of the mind, a false problem. It is based on the belief that there is, like in economics, an objective world, which is disassociated from and not

grounded in the social reality of the local population. Without relating to a real human world and to the way people perceive their quality of life, development becomes an invasion leading to cultural alienation. Hence any "progress" that does not emanate from local cultural values can only have a negative effect on the community. The whole idea of mobilizing and transferring development is fundamentally wrong and self-defeating. It aims only to reach a preset, objective target of industrialization, modernisation and consumerism, while it overlooks the quality of people's life. Zaoual consequently finds that any development activity, which is detached from the socio-cultural context and people's quality of life, will kill. The destructiveness of quantitative, economic development is manifested in dictatorial regimes and their armies, which are waging wars against their own populations. The unifying social myth from Western societies does not exist in the South. Without such unity a society can only be governed by force. It is issues like these that motivates Aruna Gnanadasan to call development for "**development destruction**", while Max Neef speaks of "**anti-developing countries**". (Carmen 1991: 70, 72).

When development destroys the quality of life it also destroys cultures and the psychological structures of life in society. If there is nothing left for parents to teach their children or children to accept from their parents, family life will collapse. Life, work, happiness in all societies depends on psychological structures. Social cohesion, cooperation, mutual respect, self-respect and courage in face of adversity - all disintegrate when the psychological structures are damaged. A person is destroyed by his inner conviction of uselessness. No amount of economic growth can compensate for such losses. And of course no economic growth can in fact take place when people feel useless, because still the people are the promoters of such. But these issues are not part of the theories of development economists. Development failure is for them due either to insufficient development aid or deficiencies inherent in the societies and populations. (Schumacher 1993: 159).

Apart from quantitative and material issues economic development also prioritize **rationality**. This means that emotional needs of human beings in question are overlooked. Thus a one-sided focus on rationality blocks an understanding of human needs and motivation. Without the human, emotional element development policies will fail to become sustainable. They will instead destroy traditional societies, cultures and nature in the South. Birkeland (1995: 68) believes that ignoring the significance and diversity of human emotional needs and personal relationships is a major reason why the whole development program has failed. When the personal, emotional dimension is backgrounded it means that development only has to deal with provision of physical, tangible needs like food, medicine, clothing and shelter. By doing that even the most well intended development activity has deprived

people of community, self-reliance and sustainable lifestyles. It has generated a sense of loss of connection among individuals and an alienation from community and nature. Instead villagers have been displaced into the consumer economy where supposedly their physical needs will be met. In reality this does not happen because when development has destroyed their community and appropriated their natural resources, the villagers have become physically and economically destitute as well. The end result of such development is marginalization of women, Others and nature. (Birkeland 1995: 68).

How development economists can perceive this as a rational outcome of development planning, requires an explanation: Development is based on the liberal scheme, where society is seen as an aggregate of individuals. Thus distribution of resources is a matter of balancing competing interests, choosing the most pressing ones first. This leads to a decision-making method that is weighing rights and preferences. Based on this development proposals are balancing costs and benefits and the relative interests of the parties. Such a method must necessarily disadvantage the have-nots, the non-humans and the not-yet-born. Because in a rational, economic scheme all are seen as having a lower stake in the outcome. Those who have more economic power, have more to win or lose, they consequently have a higher stake. Thus the interests and needs of the poor, other species and future generations are traded off for the wants and needs of consumers and producers. The interests of the latter are in a liberal scheme seen as being more immediate and pressing. In this way the balancing process does not balance the outcome. Because when balancing the rights of humans against those of other species; the rights of the dominant culture against those of indigenous peoples; the needs of the living against those of future generations; or the interests in development against the needs of nature, the politically weaker half of each pair will eventually be dismissed. However eco-centric human values may be, the rights of animals will never be balanced equally with the rights of humans. Thus balancing interests, rights and needs result in a division that minimizes immediate conflicts over resource allocation to the benefit of rational development interests. The losers are women, Others, nature and future generations. If development should be sustainable it requires a system that can, at a minimum, ensure biospheric health and promote human fulfilment. These fundamental goals cannot be achieved in a rational decision making system that resolves competing demands for resources according to rights and interests. But by recognizing that the masculine, economic model of human beings is not universal, it is possible to develop an ethic of selfless care, reciprocity and responsibility, without having to justify these values in terms of rights. In any case the norm of balancing rights and preferences is no more rational than the norm of preparing for a safe and secure future. (Birkeland 1995: 69-70).

Thus development is much wider than the economists' quantitative calculations like economic growth, GNP per capita and material consumption. Development decisions based on rational costs and benefits methods are also limited. The dualised masculine approach to development is in fact completely inadequate if the main function of development is to improve the quality of life for people. It must as a minimum include assuring people's livelihood in a sustainable natural environment. Thus the roots of development lie outside the rational, quantitative, economic sphere, in qualitative issues like education, organisation, healthy environments, political independence, democracy and a social consciousness of self-reliance, integration and cooperation. Quality of life for people in the South cannot be produced by transfer of Western modernity, done by foreign technicians or the indigenous elite. It must be based on a broad popular movement with emphasis on utilisation of the drive, enthusiasm, intelligence and labour power of everyone. Since economic growth in most cases destroys the natural environment and rarely improve well-being for the masses, a different type of policy, which will improve key social and environmental issues must be found. Hence, to measure development and progress, social and environmental indicators must be used. A real measure of success must be seen in nature, its quality, its extent and its complexity, including the quality of the bodies and minds of those living in that ecosystem. (Carmen 1991: 68; Schumacher 1993: 170; Zsolnai 1993: 72-74).

6.8. Development; the source of poverty and deprivation

"Earth provides enough to satisfy every man's needs but not for every man's greed."
Mahatma Gandhi (1997: 306).

Development is founded on the principle of the market economy, which aims at maximization of profits and capital accumulation. The intention is to let the market mechanisms manage the needs of nature and humans. The ideology is therefore to bring all natural resource into the market for commodity production. What, however, is overlooked is that these resources are needed by nature for self-renewability and by women and traditional people for sustaining their livelihoods. Thus the diversion of resources to the market economy is creating a scarcity. It is a scarcity, which threatens ecological stability and creates new forms of poverty for all, especially women and children. (Shiva 1989: 9, Shiva 1990: 196-197; Mies and Shiva 1993: 71-72).

In order to understand poverty it is useful to separate the Northern idea of poverty, from real poverty since the conception of poverty is culturally bound. In the North poverty is perceived as a material issue. Hence experts have defined poverty as lack of commodity-based consumable goods. This means that subsistence economy by definition is an underdeveloped activity done only by poor people.

But that is not poverty, it is people who live from and by their natural resources. They are not poor, they are only perceived as being poor. There are consequently at least two kinds of poverty. *Poverty of subsistence* and *poverty of deprivation*. The latter is poverty. It is created by scarcity, because of dispossession and deprivation of natural resources. (Shiva 1989: 10; Mies and Shiva 1993: 72; Braidotti et al 1994: 22).

Self-provisioning societies are not poor in the sense of being deprived. But due to a cultural perception the ideology of development declares them poor. People are consequently defined as poor when they do not participate overwhelmingly in the market economy. They are poor when they do not consume Western-style commodities distributed through the market. They are poor when they do not buy commercially produced and processed foods. They are poor when they do not live in cement houses. This is a mis-conception. Subsistence living does not include a low quality of life. Houses made out of natural material are better adapted to the local climate than cement houses are. The local millet is also nutritionally far superior to most processed foods. (Shiva 1989: 10, Shiva 1990: 197; Mies and Shiva 1993: 72).

In spite of this logic modern cultural perception has decided that subsistence living is poverty. Poverty is therefore required to be removed by a process of development. This is done by increasing the productivity of natural resources. Thus, to alleviate poverty development must bring self-provisioning people and their natural resources into the market economy. Natural resources are therefore diverted towards "efficient" use in the resource intensive commodity production. The lands, soils and waters of traditional people are consequently used for commercial crop production and industrial food processing. However, since traditional people lack both capital and education they are marginalized in the economic market system, where competition is tough. Since people's natural resources are diverted towards economic profits, they also cannot anymore be self-provisioning. Hence, people become poor in the sense of deprived and their natural resources become exhausted. Thus, development destroys wholesome and sustainable lifestyles, creates scarcity of basic needs and generates real poverty or misery. When cash crop production take land and water resources away from sustenance needs it excludes an increasing number of people, largely women, from their entitlement to food. Hence, people are deprived from their own food due to profit making. Industrialisation of agriculture is responsible for more hungry people than the whims of nature. Development becomes in this way a threat for the survival of the great majority. Rather than alleviating poverty it is creating poverty and environmental destruction. (Shiva 1989: 10; Shiva 1990: 197).

Thus scarcity of water, food, fodder and fuel created by the destructive activities of development is the real cause of the poverty crisis in the South. When scarce land, water, and other resources are used for goods to the export market, local people do not benefit. The profits flow to corporations that have no interest in feeding hungry people without money. The poverty crisis touches women most severely because, together with nature, they are the major food producers in society. In this way new poverty is created by the Western model of development when it is neglecting nature's work and women's work. Development is consequently a source of deprivation of basic needs and a creator of new poverty. At the root of this new poverty lies an economic paradigm that cannot see beyond market and profits. It cannot assess its own appetite for resources and it cannot assess the impact of this greed on ecological stability and survival. (Shiva 1989: 5, 11; Shiva 1990: 193, 198).

The advanced market economy is also wasteful in its resource use. It has long production chains, which require high level of energy and resource inputs. This makes needs satisfaction expensive and it is therefore limited to rich people. Thus the market economy excludes need satisfaction of a large number of people who cannot buy the products due to lack of purchasing power. Since it is the resources of these people, which have been used for production, they can also not produce for themselves. They have become deprived. (Shiva 1989: 12; Shiva 1990: 198).

Apart from preventing satisfaction of basic needs, the Western societies also create artificial needs. The idea is to increase demand and consumption of industrial goods. It is based on the economic idea that consumption is a good thing. But increased demand requires increased production and hence increased use of energy and resources. In this way scarce resources are overused for artificial needs. This leads to a disregard for nature and poverty for those who depend on it. Traditional economies may not be advanced but they are more than sufficient to satisfy basic needs for all, in fact traditional peoples are rich. Amazonian tribes have for thousands of years had their needs satisfied by their rich rain forests. Their poverty begins by its destruction. (Shiva 1989: 12; Shiva 1990: 199).

The erosion of traditional people's resource base is consequently caused by demand for their natural resources by the market economy. And the market economy is dominated by global forces. These forces do not consider social or ecological requirements. They do not have to since the costs from resource destruction are not paid by those who consume or produce. Ecological destruction is borne largely by women and subsistence people. They cannot buy the expensive food and they are deprived from their subsistence living. (Shiva 1989: 12).

In this way development is a paradox. It falsely and culturally perceives subsistence as poverty. The solution is to increase commodity production to satisfy basic needs and thus overcome poverty. Satisfaction of needs, however, means that fewer resources are available. This scarcity of natural resources impoverishes people. Hence resources, which supported traditional people's livelihoods, are absorbed into the market economy, from which they themselves are excluded. Conclusively the market economy, on which development is based, is a system of greed causing impoverishment for women, Others and nature. (Shiva 1989: 13; Mies and Shiva 1993: 73).

6.9. Development; a male-dominant, gender-blind project that does not count women and nature

"When men are oppressed, it's a tragedy. When women are oppressed, it's tradition."
Bernadette Mosala. (Loer 1997: 279).

1/5 of the world's people live in absolute poverty. 70% of these 1.3 billion absolute poor people are women. It is a 50% increase in poverty for women during the period 1970-1995, compared to a 30% increase for men. Thus, more women than men experience poverty, and poor women are usually worse off than poor men are in the same category. Reasons for women's poverty vary but it is partly due to the breakdown of the traditional system of social security. This includes availability of land for food production and access to common natural resources. These issues are again caused by the increasing degradation of the environment. Other causes are women's unequal access to productive resources, education, health services, security and leisure. An additional reason is the unequal role women have been ascribed in society both traditionally and legally. It is not only unjust, but almost as if men and women live in different worlds. The poverty of women is also exacerbated by the global capitalist economy. Women are affected by change in trade regulations, technological "progress", alterations in industrial production, transition in market economies, structural adjustment and the global financial market powers. These have created new inequalities due to women's lack of assets, training, employment and lack of physical and social mobility. (Heyzer 1995: 3, 5; Tadria 1997: 169, 173; Cornwell 2004: 53).

Cornwell (2004: 52) finds that the constantly deteriorating position of women in society can in large parts be blamed on male-dominant theoretical constructs and development practice, informed by such constructs. Gender-neutral development policies are fundamentally non-existing. The majority of the past and contemporary development approaches, which have dominated the development discourse, have increased women's vulnerability and contributed to feminization of poverty. Impacts from development has failed to reduce the gap between males and females, instead disparities have

increased. Thus development efforts informed by mainstream development paradigms are inherently flawed. (Cornwell 2004: 53).

Feminist scholars have already for many years exposed masculine development ideologies, which legitimize and sustain the subordination of women. But the worsening situation for women in the South has intensified the feminist critique of development in theory and praxis. The critique includes in general the concepts upon which development is founded, and specifically its related methods that lead to gathering of male-bias data. When male-bias data is used in statistics it results in development activities, which benefit men and dominate women. The main problem is development's priority on economic progress. The consequence of this one-sided focus is that only quantitative data are gathered and included in development. Hence qualitative issues are not measured and therefore all, which relate to human beings in cultural, social, community, spiritual and political relations is excluded from development policies. The consequence is that women's subsistence, domestic, community and reproductive work is made invisible, while only men's work in the market place is considered. Such errors shapes a prejudice picture of reality in the South and gives a different effect from development on men and women. More recently ecologists and feminists have combined their critiques. They have shown that development's gender bias not only undervalues women, but undermines all other feminine issues too. Hence development also exploits nature. Degradation of the environment has a serious, negative impact on traditional communities, where specifically women are affected. Women's problems and those of the nature are therefore interrelated, both are marginalized by existing development policies. The outcome is consequently an ecofeminist critique, which argues that development dominates both women, Others and nature. (Bunch and Carillo 1990: 73-76; Heyzer 1995: 9).

The main gender bias relates to the economic indicators of productivity and development. In her book "If women counted" from 1988 Marilyn Waring is challenging the economic system that undervalues both women's work and natural resources. Her critique is aimed at the **United Nations System of National Accounting** (UNSNA). UNSNA serves as a standard for economic measurements. It selects which transactions count as production for calculating GDP and GNP. It is used for the appraisal of economic performances at both global and country levels. Its information therefore determines future policy guidelines. When the UN institutionalized UNSNA as a universal economic tool and applied it to development performance, it was based on Western values and economic standards. These were without adaptation applied to different realities in the Third World economies. One consequence was that the whole area of traditional sustainable agriculture was excluded as a factor of economic well-

being. Subsistence living was instead seen as being backwards. The UNSNA system has also excluded the whole area of women's activities from the definition of productivity. Hence the home based tasks which overwhelmingly are performed by women are not only unpaid, they are also ignored by economic analysis. Those who perform those tasks are by the system categorized as being "economically inactive". Thus fetching of water, collection of firewood, housework, caring for children and other dependents, are all systematically excluded from the national accounts. The flawed economic perception formed by such omissions is deeply discriminatory. It undervalues women compared to men. It fails to acknowledge that women and men are social constructs. The two sexes occupy different positions in society, which shapes their appropriate roles and determine their chances in life. This has a direct impact on their access to resources and services, which defines their relative social, economic and political power and the relation between men and women. Since women's labour is seldom paid, it is seen as having no monetary value and it is consequently considered to be valueless labour. Women are simply considered as being unproductive members of society. This is surprising when statistical material show a different reality of women's productive performance: The growing of food for the family is in the South women's task. Thus women's productive activities are an essential contribution to national food security. Also women's economic input is overlooked despite the major role they play in the informal economy; a sector which is not acknowledged but from which poor people survive. (Ekins 1992 et al: 18, 68; Braidotti et al 1994: 139; Birkeland 1995: 57-58; Cornwell 2004: 54).

Apart from the discrimination, not counting women's work in the international economic balance sheets has also other negative effects. Since the economic system cannot respond to values it does not recognize, it will overlook women's food production and direct its investment towards cash crop production. This creates a bias in favour of large-scale, capital-intensive projects. It promotes that land is transferred from food production to cash crop production. The result is often that the scientific agricultural methods destroy the precarious local ecology, while the population's food self-sufficiency deteriorates, leading to malnutrition. Low food production may at the national level result in a need for import of expensive staple food, bought for foreign exchange earned from export of cash crop. Thus overlooking women's food production ends in a negative circular activity, lacking truly positive results for the population, nature and the state. Moreover when policies favour cash crops, which traditionally are grown by men, and women lose access to resources for growing food crops, it makes women worse off. Lack of resources to increase productivity weakens women's economic situation and their status in society, including their bargaining position in the household. This reinforces domination of men and makes women's daily lives increasingly unmanageable. Thus by uncritically accepting the

economic system and its assumptions development advisors are contributing to feminisation of poverty. There is no logical or practical reason sufficient to explain the exclusion of women's work from what is measured and contributing to the GNP. Men's work is equally difficult to measure, but it is included. Only sexism can fully account for this difference. (Ekins 1992 et al: 18, 68; Braidotti et al 1994: 139; Birkeland 1995: 57-58; Cornwell 2004: 54).

When one understands what is measured, and what is not counted in the UNSNA one gets an idea of the hidden side of economic growth: The system does not measure the beneficial production and reproduction done by nature, women and traditional peoples. The system only measures the goods and services produced in the monetary economy regardless of their effects, many of which are not beneficial. For example UNSNA puts a price on destructive activities like production of military equipment including arms, missiles, nuclear weapons and devices for torture. Thus war, violence and human repression is perceived as a contribution to development. Oppositely there is given no value to peace and harmony. The cleaning up of chemical spillage from waterways and the rehabilitation of damaged and polluted soils, produce additional value and contribute to economic growth. There is on the other hand no price on a clean river, fertile soils, and virgin forests. The UNSNA has no method of accounting for nature's own production until the products from nature enter the cash economy. The health of the environment does not count as having a value. UNSNA also measures increased costs from crime, human casualties and increased cost due to growing bureaucracies. But no value is counted for individual and social well-being. People's health also does not count as a valuable asset. Increase in the UNSNA does therefore not mean that social welfare has increased. It rather measures what needs to be corrected because something went wrong. The paradox of the system is that expenses like pollution control are seen as being benefits, while other damage is not measured. Among these hidden costs are the new burdens created through ecological destruction. These are heavy on women. They include longer walks for water, fodder and fuel. Thus an Indian women's 8 hours walk to fetch firewood for cooking food, from far due to deforestation, is seen as an unproductive activity. But when her husband cuts down more of the local forests, which forces her to walk even further for firewood, then it is perceived as being productive! The system consequently perceives value as arising when predominantly men interact with the market. This is yet another method of exploitation. The Ups made it legal to externalize the social and environmental costs of economic growth to the Downs. Thus as GDP rises one cannot conclude that wealth and welfare has increased proportionally. In fact GDP is progressively becoming a measure of how real wealth - the wealth of nature, the wealth produced by women for sustaining life - is rapidly decreasing. The UNSNA is therefore not an innocent scientific statistical method. It perpetuates the reductionist economic values on which it is

based. It is a patriarchal instrument that is producing an economic reality, which contributes to the destruction of the environment and the continued subordination of women. As a measure of real progress the accounting system is more or less useless. (Shiva 1989: 7-8; Shiva 1990: 194; Mies and Shiva 1993: 58-59, 71; Braidotti et al 1994: 140; Gaard 2001: 161).

Also in the North the growth model causes misery. Homelessness and poverty is increasing, especially among women and children. Crime is rising. Drugs and other addictions are also advancing. Mental depression and suicide have escalated in affluent societies. Direct violence against women and children is also growing. In USA a woman is battered every 5 seconds according to an Oprah Show on SABC 3, July 2006. It has been calculated that USA in 1993 had a lower quality of life than it had 10 years previously. Conclusively there must be an invert relationship between GDP and quality of life. The more GDP increases the more quality of life deteriorates. (Mies and Shiva 1993: 61).

This exploitation of women is not only an injustice in itself it has an effect on the community and on the family, an institution in which women are traditionally the backbone. With women increasingly being the sole breadwinners in households, and at the same time dealing with household work and reproduction, it is not surprising that families are cracking under the strain. Thus family unity and harmony runs counter to development's ideology and its economic focus. When women are exploited, the family is undermined. The result is family break-up, where children suffer the most. (Ekins et al. 1992: 20).

Apart from women's work also nature's regenerating processes must be included in the process of economic development. When the hidden costs are internalized they would be so huge, that they would bring an immediate end to the myth of unlimited growth promoted by the patriarchy. We do not have limitless natural resources to feed production. Empirical evidence shows that we inhabit a limited world. The consequence is that one person's over-consumption of natural resources, deprives someone else. 6% of the world's population live in USA. Annually they consume 30% of the fossil energy produced on Earth. It is then obvious that the 80% of the world's population, who live in the South, cannot consume energy at the same level. If the present world energy were to be shared equally, Americans would have to limit their consumption to only 1/5 of the amount they presently consume. This clearly shows that catching-up development and limitless growth is not possible in reality. The act of progress is based on the existence of someone or something to exploit. Under colonialism Europe progressed by exploiting the South. Under patriarchy it is nature, women and traditional people who are exploited. (Shiva 1989: 7-8; Shiva 1990: 194; Mies and Shiva 1993: 58-60, 71).

However obvious these arguments may seem, the system will not easily change. The reason is that the accounting system is convenient for those who profit. As long as development is measured by financial indicators, side effects like environmental destruction and creation of poverty associated with the development process, cannot be demonstrated. Thus clear felling of natural forests will continuously add to economic growth, also when it leaves behind impoverished ecosystems and communities. (Mies and Shiva 1993: 71).

According to Shiva (1994a: 5) it is the dualised perspective, which is the reason for excluding women and nature from the economic accounting system. Patriarchy sees production and reproduction as two separate and opposite activities. Production is above and distinct from subordinate reproduction, like man from women and culture from nature. Thus only production is included as an economic activity while any productive role is denied to women and nature in the economic calculus. Excluding women's work and nature's work from accounting also means that, rather than recognizing them, both conveniently can be used as free resources for exploitation. The construction also relates to another dualised patriarchal assumption, which sees women and nature as being passive. Thus activity and life is denied to both. The consequence is that traditional societies and their organic method of agriculture are seen as being unproductive. Women, tribal and peasant societies are unproductive because they produce for need, rather than for economic profit. Such attitude is assumed to lead to poverty. They are also seen as being unproductive because they do not use modern technology and partake in commodity production. That is so, even if these technologies are destroying life. Nature is also assumed unproductive. Western culture view water as a means to its own ends, a servant to the dominant population. Water cannot be seen as having a purpose of its own. Hence in patriarchal discourse a clean, natural river is unproductive. Only when it has been developed with dams and its force is used as a source to create energy then it has become productive. Because only then can man's engineering methods make profit from water. The water that rural women carry from the well or river on their heads to their home has no cash value, but the water carried through pipes has value. In this way water and women are unproductive, they do not count in the international market economy. Similarly with natural forests. They are also unproductive. In order to be called productive they need to be developed into monoculture plantations of commercial species for the market. (Shiva 1989: 4-5; Shiva 1990: 191; Gaard 2001: 161).

In reality, there is no universal and neutral concept of productivity. Productivity simply means different things according to choice of perspective. For capitalist patriarchy productivity is a measure of the production of commodities and profit. From the point of view of Third World women and

peasants, it is a measure of producing life and sustenance. Since development focus on economic growth and capital accumulation it cannot perceive this latter kind of productivity. Not even although it is central to survival. This reflects the modern patriarchal domination and their economic categories that can see only profit, not life. (Shiva 1990: 192).

Thus patriarchy has, under the label of development, taken a new and more violent form. For Shiva (1989: 4) it is a development, which is anti-life, she therefore calls it mal-development. It works against nature's ability to renew itself, and women's ability to sustain themselves and their families. Economic development is therefore against life of nature and people, and for profit and surplus. (Shiva 1989: 4, Shiva 1990: 191).

The focus on economic quantities prevents people from working in harmony with each other. It creates competition, inequality, injustice and violence. It ruptures co-operation; separates man from women and nature, and places him above both. Thus economic development is based on man's domination of and control over nature and women. Both are seen as being passive, unproductive resources available for exploitation. Their role as creators and sustainers of life is undermined. In this way development has become a new source of male-female inequality. Under subsistence conditions, the separate male and female domains of work were based on diversity rather than inequality. This traditional equality is threatened by the development model. (Shiva 1989: 6; Shiva 1990: 192).

The philosophical reason behind this is that development, like science, is founded on a system of dualism, universalism and reductionism: **Dualism** cannot comprehend equality in diversity. It cannot understand how activities can be equally valid even though they are different. In a dualist frame of mind things are either similar and thus equal, or diverse and hence unequal. Diversity and equality is unattainable. The result is that men's development becomes synonymous with the underdevelopment of women and nature due to sexist domination and ecological exploitation. In this way the dualised model imposes roles, institutions and forms of power upon the world. It places the Western male above women, non-Western people and nature. Thus dualist concepts and values declare nature, women and indigenous Third World people as being deficient, in need of development. The concept of **universalism** relates to the patriarchal ideology, which regards its own self-interest to be universal, and therefore imposes it on others. This means that the male "head of the household" can universalize his needs, which lead to a disregard for the needs of other beings in nature and in society. The **reductionist** ideology cannot see connections and integration. It can only see separation where it should see unity. It therefore destroys the wholeness of everything, including the mind. Together with

dualism it sees women as being separated from and dominated by man; nature is separated from and exploited by man; society is torn apart by fragmented thought and action. This is all done due to projection of reductionist duality, division and dichotomies, where they in fact do not exist. Thus when these values are imposed on a diverse and integrated world it violates the wholeness, integrity and harmony of people and nature and the harmony between men and women. It destroys cooperation and unity of the feminine and the masculine. It puts men above and separate from nature and women. In this way development becomes the root of injustice, exploitation, inequality and violence. (Shiva 1990: 192-193).

Conclusively, the violence to nature and women arise from development's dualised, universal and reductionist ideology, which sees nature and women as "the other", as the passive, as the unproductive, as the non-self. Activity, productivity and self-assertion are exclusive qualities of men. Nature and women are consequently transformed into passive objects that can be dominated and exploited. (Shiva 1990: 194).

The economic system, which is informing development action and counting development success is consequently not gender neutral. It is rather gender blind or gender biased. It is therefore not a surprise that the feminist Barbara Holland-Cruz finds that the term main-stream development more correctly should be called "**male-stream development**". Since the system is based on false assumptions about gender relations and how development takes place, there is a need to re-examine its assumptions and values. This may prevent that also new ideas and theories become inspired by dualised, male-biased theoretical concepts. But Cornwell warns (2004: 60) that the focus should not be on women. It would imply that the problem and solution lies with women. Instead the need is to focus on social relations and their interconnections by which women are positioned as a subordinate group in division of resources and responsibilities, capabilities, power and privileges. (Kuletz 1992: 74; Cornwell 2004: 54-55, 59-60).

Since the UNSNA is the backbone of the growth model, one of the strategies to change the dominant model of development is to work out alternative accounting systems. Solutions proposed by Waring include counting women's work, ecological accounting, distinction between destructive and creative production, and introduction of economic welfare measurements. But the most urgent issue for Waring is to change the value system on which economics is based. (Braidotti et al 1994: 140).

6.10. Conclusively the dominant development perspective breeds violence, destruction and death

"A man is ethical only when life as such, is sacred to him, that of plants and animals as well as that of his fellowman, and when he devotes himself helpfully to all life that is in need of help."

Albert Schweitzer. (Jordaan et al 1995: 552).

In development money is the only sacred element. Life does not have a value and is therefore not counted in economic affairs. Exploitation and destruction of nature has become a source of profits. Thus development is leading to a shrinking pie for the people in the Third World. There is less water, less fertile soil, less genetic wealth because of the development process. This scarcity has impoverished women; marginalized traditional people and destroyed ecosystems. Markets flourish as women, poor people and nature perish, because any increase in capital accumulation results in a decrease in nature's life-producing potential. Development has consequently become a process, which replaces life and sustenance with cash and profit. (Shiva 1989: 25; Shiva 1990: 199).

Development that focuses on increased production and economic growth will destroy nature and fail to remove poverty. It is a culture of destruction and death. Gustavo Esteva has called development "**a permanent war waged by its promoters and suffered by its victims**". Claude Alvares calls it "**The Third World War**". It is a war waged in peacetime, without comparison but involving the largest number of deaths and the largest number of soldiers without uniform. Development is founded on patriarchal ideologies and must therefore be rejected. Alleviation of poverty requires a focus on sanctity of life. Wealth must be seen as production of life thus progress must be redefined to an activity, which is enhancing life. (Shiva 1989: 13; Shiva 1990: 199).

The collapse of the catching-up myth and the hopes attached to it has in many countries caused increase of fundamentalism directed against minorities. Women are the main target. Due to the patriarchally defined identity as the Other, women are seen as someone over whom men must have control. This often amounts to abuse and violence against women. The crumbling of the hope of development has also developed into increased crime, terrorism and wars often combined with a new nationalism that increases militarization of men. If they cannot catch-up, they can at least show their male-hood by carrying a machine gun. Thus the myth of development is continuously increasing the crises of environmental destruction; poverty and exploitation of the South; violence against women and other human rights abuses; wars, violence and militarization of men. (Mies and Shiva 1993: 64).

Consequently mal-development is a new world order based on control of people and resources for the sake of economic profit for the elite. Due to the patriarchal dualist perspective the South is perceived

as being lower than and unequal to the North. Such inequality permits the North to dominate the South, which results in an increasingly unequal global situation. It also permits men to dominate women and nature. Mal-development is therefore built on colonization of women, foreign people, their lands and of nature. Instead of alleviating poverty and improve well-being for all, development has destroyed ecologically evolved indigenous knowledge systems, devalued the sustenance economy, and created cultural and ethnic crisis. This has lead to injustice between classes and cultures, inequality between men and women, economic and ecological crisis. Thus modernisation, development and its progress is responsible for the degradation of the natural world, poverty and violence. The present world system is a general threat to life on planet Earth. In the long term it will lead to a certain death of women, indigenous people and nature. (Shiva 1989: 26, 44-45; Mies and Shiva 1993: 2).

6.11. Ecofeminism and post-development

The development discourse and the role of the North as a model for global development is challenged both from within the North and from the South. Post-modern writers have announced an end to modernity and its concepts. This includes an end to linear progress based on European Enlightenment rationality. It is done by de-constructing the Western myths of dualism, universalism, and reductionism. In a post-modern world the stress is on difference, plurality, locality and culture. Thus many ecofeminists would consider themselves as promoting, what may be called an era of post-development. (Braidotti et al 1994: 27).

At least the opinions of Vandana Shiva and Mira Mies are in line with those of post-development. Both deconstruct a variety of development concepts like progress, poverty, productivity, wealth, work etc. Shiva's works also appears in post-development anthologies like "The development dictionary; a guide to knowledge as power" edited by Wolfgang Sachs from 1993 and "The post-development reader" edited by Majid Rahnema and Victoria Bawtree from 1997. Due to such connection this section will briefly explain what post-development is, how post-development writing overlap with the works of ecofeminists, which shows the connection between post-development and many ecofeminists.

6.11.1. What is post-development

According to Jan Nederveen Pieterse (2000: 175-176) post-development is a radical reaction to the dilemmas of development. It expresses an extreme dissatisfaction with standard development rhetoric and practice. This includes a disillusion with alternative development and their popular approach. Development is rejected as being the religion of the West. It is imposing science as an ideology to gain

power over nature and people. It promotes cultural homogenisation. It brings environmental destruction. And most importantly it does not work. Piles of technical reports have been accumulated which show that development does not work; stacks of political studies have proven that development is unjust. However, development is rejected not merely because of its lack of results, but because of its intentions, its world-view and its reductionist mind-set. Thus post-development focuses on the underlying premises and motives for development. (Sachs 1993: 1-2; Pieterse 2000: 175-176).

Post-development was inspired by Foucault, post-structuralism and post-modernism. There are many overlaps between critical theory and counter-culture in the West and anti-modernism in the South. Schumacher for example found inspiration in Buddhist economies, while Capra joined Eastern mysticism. Although post-development is not theoretically developed, various writings overlap. They often coalesce with environmental critiques and ecofeminism. (Pieterse 2000: 176, 179).

The main issue of post-development is to examine and call attention to the ethnocentric and violent nature of development concepts. The development discourse is made up of a web of key concepts. These concepts evolved during modern Western history and were then projected to the rest of the world. Each concept has assumption, which shows the Western perception of reality. But each concept highlights only certain aspects of reality, while excluding others. Thus a particular civilizational attitude, adopted during the course of European history, is presented as being universal. This has eliminated all other ways of relating to the world around us. Post-development therefore require a deconstruction of these concepts, which may liberate the mind from development as a tool of domination. (Sachs 1993: 4-5).

Part of the critique of modernism is the critique of science, Cartesianism, enlightenment thinking and positivism that are seen as means to achieving mastery over nature. The critique of science, its methods and concepts runs through the works of Shiva, like many other ecofeminists and feminists. The critique of science has in fact now become a defining feature of new social movements in both the North and South. Although these ecological movements also use scientific methods, they do so for different ends than previously, being non-domineering. (Pieterse 2000: 176, 179).

6.11.2. The arguments of two post-development writers

The first appearance of the word "post-development" was in 1991 in Geneva, when the first international meeting was organized under this concept. **Majid Rahnema** was one of those who joined. Rahnema views development from the perspective of the "losers" and their friends. In his

opinion development has been a nightmare for millions. Development was from the beginning deceitful. The leaders of the newly independent countries persuaded people to believe in development's ability to bring freedom. But it has been a tool of division, exclusion and discrimination, rather than liberation. Development strengthened new alliances that united the interests of the post-colonialists with those of the new Southern leaders. Thanks to these alliances "modernized poverty" was extended to all developing countries. Thus under the banner of development and progress a tiny minority of local profiteers supported by foreign patrons set out to devastate the very foundations of social life in these countries. A merciless war was waged against the age-old traditions of communal solidarity. The virtues of simplicity, traditional wisdom and cooperation were considered "underdevelopment". (Rahnema 1997: x, xix).

Rahnema (1997: xii) presents his work as having three qualities: It is subversive, human-centred and radical. **Subversive** means according to Cardinal Arns "*to turn a situation round and look at it from the other side*"; that is, the side of "*people who have to die so that the system can go on*". **Human-centred** is a perception of the "development" reality from the perspective of the human beings involved in the process of change. **Radical** means that the analyses are going to the roots of the questions. (Rahnema 1997: xi-xii).

Another post-development writer is **Wolfgang Sachs**. In his opinion development was based on four founding premises, which are outdated by history. **The first** was the idea that developing nations should use the United States as a model. The reason was that US, who invented the concept development, together with other industrialized nations were at the top of the social evolutionary scale. However, this premise of superiority has been shattered by the ecological predicament. If all countries should "successfully" follow the industrial example, five or six planets would be needed to serve as mines and waste dumps. It is therefore obvious that the "advanced" societies are no model. Following the modern path holds more threats than promises. **Second**: When Harry Truman launched the idea of development his intention was purely political. The rising influence of Soviet Union forced him to come up with a vision that would engage loyalty towards the USA from the decolonizing countries. This would sustain his struggle against communism. Thus development was invented as a competition between political systems. In a post-Cold War world, this competition is over. Consequently development has lost its ideological motivation and remains without political ideals. The same goes for the concept "Third World" which was invented by the French in order to designate the territory of the two superpowers. **Thirdly**, Truman's project now appears to be a blunder of planetary proportions. In 1960 the Northern countries were 20 times richer than the Southern, in 1980 46 times. The rich

countries will always move faster than the rest in the capitalist race. Thus the campaign to turn traditional man into modern man failed. The old ways have been smashed, while the new ways are not viable. People are therefore caught in the deadlock of development. They are expatriates in their own countries, forced to get by in the no-man's land between tradition and modernity. **Fourthly**, Suspicion grows that development was a misconceived enterprise from the beginning. It is therefore not the failure of development, which has to be feared, but its success. From the start the development agenda was nothing else than Westernization of the World. The result has been a tremendous loss of diversity: a simplification of materials and buildings worldwide; the universalizing powers of the market, state and science; and standardization of desires and dreams. People's mental space is largely occupied with Western imagery, thus the innumerable ways of being human has vanished with development. Industrial, growth-oriented societies have crippled humankind's capacity to meet a different future with creative responses. Hence cultural evolution has been impoverished. However, although development has no content, it does have a function; it allows any intervention to be sanctified in the name of a higher goal. The term creates a common ground on which political right and left, elites and grassroots fight their battles. (Sachs 1993: 1-4).

Sachs conclusively finds that development is **a perception**, which models reality, **a myth** that comforts societies, and **a fantasy**, which unleashes passions. Perceptions, myths and fantasies, however, rise and fall independently of empirical results and rational conclusions; they appear and vanish because they are promises which become irrelevant. (Sachs 1993: 1-2).

6.11.3. Critique of post-development and response

However persuasive post-development may sound Pieterse (2000: 187) finds that post-development offers no politics. It belongs to the world of "post" be it post-modernism, post-structuralism or post-colonialism. All are direction-less because of the lack of interest in translating critique into construction. Thus post-development is a negative critique but it offers no positive programme, no construction. (Pieterse 2000: 188).

Nanda agrees (1995: 86) with Pieterse. Nanda's critique is directed towards post-development in general, but specifically to the works of Shiva. Nanda finds that deconstruction of concepts is a powerful tool for exposing traces of the excluded elements in any privileged and universalized entity. She also appreciates the anti-racist and democratic impulse that lies behind most post-modern theorizing. It is a self-reflective questioning of modernity's certainties and promises of equality and freedom, a way to make them more real and substantial. But what post-modernism brings in theory it

loses in practice. It cannot understand that the difference is a result of concrete social structures and realities. Nanda (1995: 104) oppositely finds that development is as relevant as modernism is. Those who rather want to move beyond development fail to understand that most problems are historical products of unjust social structures and cultural traditions. The present gender inequalities, which are ascribed to the Western patriarchy, deny local history and social relations. It is convenient to blame colonialism for both its own cruelty and for that of traditional cultures (in this case India). In Nanda's opinion Western science and technology can potentially liberate women and other marginalized groups in the South. (Nanda 1995: 89, 104).

The critique that post-development writers lack politics or a programme for the future is, however, contented. Sachs and Rahnema would not agree. For Sachs (1993: 4-5) the idea of post-development is not only to critique, but also to open a window to other and different, ways of looking at the world and to get a glimpse of the riches and blessings which has survived in non-Western cultures, in spite of development. For Rahnema the end of development should not be seen as an end to the search for new possibilities of change. It should only mean that the dual, the mechanistic, the reductionist, the inhumane and the ultimately self-destructive approach to change is over. It should be the beginning of a long process aiming at replacing the present dis-order by an aesthetic order. This order is constituted by concrete particularities based on respect for differences and the uniqueness of every single person and culture. It is an alternative to the rational order, which presses towards generality and uniformity. It should represent a call to the "good people" everywhere to think and work together. An important element for a better world in Rahnema's opinion is that everyone starts the genuine work of self-knowledge. This includes improving our human skills by self-discovery, learning the ability to cultivate relationships, learning the art of listening more carefully to others, and learning to be more attentive to each other. Rahnema's focus is on what he calls the "inner world" which is a type of spirituality similar to the Gandhian path. (Rahnema 1997: 391, 394, 399-401).

Some of the ingredients in a post-development world include an end to the illusions about how things should be. The need is instead to focus on things as they are. People should not try and save the world and humanity, but rather save themselves and their own needs for comforting illusions. Another important element is respect for "the right size" of everything. Overlooking this has disastrous consequences as pointed out by both Gandhi, Illich, Kohr and Schumacher. The shift of focus should therefore be from bigness and quantity to the right size and quality. This includes specifically human communities. (Rahnema 1997: 279, 392-393).

For Rahnema post-development represent a different age. It is a world of harmony which can come about only if all people have their existential need satisfied, if people are permitted to live differently, and if people witness their own truth, and cultivate friendship. This requires that we all begin working with our inner selves as an artist does with the object of his or her creation. Thus post-development is a different way of thinking. Pieterse should therefore not expect operational or spectacular "plans of action" or "strategies" from post-developmentalists. (Rahnema 1997: 401-402).

6.11.4. Conclusions

Post-modernism and post-development are consequently similar world-views and both are inter-related to ecofeminism. The major difference is probably that ecofeminism consistently focus on the links between the domination of women-Others-nature and uses a feminist approach. This can be, but is not always the case with post-modern and post-development writers. Moreover ecofeminism is more than only an academic analysis of domination and deconstruction of concepts. Most ecofeminists are engaged in imagining, inventing and creating alternative futures, as will be discussed in the next chapter. It should finally be added that only promoters of modernism are eager in placing ideas and philosophies into limiting, universal categories and give them a label, like post-this and post-that. Exactly such reductionist activities generate the dominant activity of dualism. Hence most promoters of post-modernism do not appreciate its generalising and limiting label.

Part II: Empirical links and socio-economic interconnections between the domination of women, Others and nature

One of the important input from ecofeminism to the development discourse is provision of empirical evidence which shows the interconnections between the domination of women, Others and nature. As an extension of empirical evidence also the socio-economic links are presented. Empirical and socio-economic interconnections are data that link women, children, poor people and people of colour with environmental destruction. This data documents real, felt and lived experiences and it shows how both women and nature are dominated by development. The data is also meant to show the need for and to motivate actions for a critical feminist analysis of environmental concerns. (Warren 1996: xiii; Warren 2000: 25).

The empirical data provided by ecofeminists and other feminists is significant philosophically for the following reasons:

- 1) It suggests **historical and causal ways** in which environmental destruction disproportionately affects women and Others.
- 2) It shows the **epistemological significance** of the invisibility of women, especially what women know, for policies, which affect both women's livelihood and ecological sustainability.
- 3) It shows the **methodological significance** of overlooking issues about gender, race, class and age in framing environmental theories and development policies.
- 4) It shows how **mainstream concepts and assumptions** continuously and disproportionately have adverse effects on women, children, people of colour, traditional people and the poor.
- 5) It shows the **political and practical significance** of women-initiated protests and grassroots organizing activities for both women and the natural environment.
- 6) It shows the **ethical significance** of empirical data for theories about women, people of colour, children and nature.
- 7) It shows the **theoretical significance** of ecofeminist insights for any politics, policy or philosophy.
- 8) Finally it shows the **linguistic and symbolic significance** of language used to conceptualize and describe women and nature. (Warren 1997: 13-14).

Empirical women-nature links are of various kinds. The data includes the health risk due to scientific and technological activities, which disproportionately is felt by women and Others. This issue was discussed in both chapter 2 and 5. Empirical and socio-economic data also includes development policies and their environmental practices, which contribute to the inability for women and poor people to provide adequately for themselves and their families. That issue was discussed partly in chapter 5 and is the ongoing subject of this chapter. (Warren 1996: xiii).

The intension with Part II is to show the general living conditions of rural women in the South. Although women's realities are diverse, unique and multiple, research does show that the well-being of women and nature are interconnected in various complex ways. This connection between women and nature is to a far extent based on gender roles. According to Tadria (1997: 168) gender is the socially constructed, defined and prescribed characteristics of women and men. These attributes help to define roles, responsibilities and privileges together with the control and ownership of resources between men and women. Hence due to women's gender roles as providers and carers for the family they depend, in many cases but to various degrees, on natural resources for their livelihoods. Because of this long-term dependency, women do also, to a far extent, ensure that nature can renew itself. This close relationship with nature is not uniquely related to women only. It includes also, but in different ways, most traditional, tribal and subsistence people. The main focus here is, however, on the situation of women.

The reason for this priority is the additional domination that women experience as a result of the obvious gender inequality. Empirical evidence shows that when nature is exploited, women and Others are exploited too. When natural resources, from which women and Others live, become depleted, their livelihoods become depleted too. The result is environmental degradation and unmanageable living conditions for women and Others, which eventually results in poverty and deprivation. Consequently empirical evidence, as presented in Part II, shows the link between the domination of women and nature and how both are overlooked, marginalized and exploited in the patriarchal economic development system.

The below material is based on various feminist and ecofeminist studies but the main sources are the 1988 book written by Irene Dankelman and Joan Davidson "Women and environment in the third world; alliance for the future" and Vandana Shiva's well-known book from 1989 "Staying alive; women, ecology and development".

Each of the below 10 sections discusses the interconnections seen from different angles. **The first** section gives an impression of the gendered division of work and the heavy duties and workload performed by and expected from Southern, rural women. **The next** section presents a specific ecofeminist perception of the links between women and nature developed by Shiva. It is an analysis of the scientifically based Green Revolution techniques, applied to the Indian environment, and the effects it has on nature, traditional people and women. Shiva contrasts two extreme types of interaction with nature. One is the organic approach of traditional people, which she calls for the feminine principle. The other is the scientific approach of development, which she names the masculine principle. The method of contrasting the two approaches will be used continuously during the presentation of women's relationship to nature. **The following** section deals with women's relation to nature when it comes to food production. The section shows the sharp contrast between the organic method and the scientific approach. **Then** women's relationship with water is discussed. The section shows how the scientific approach to water management decreases water availability with negative consequences for nature and women. **The subsequent** section deals with the traditional relationship between women and the forests. The section shows how the focus on economic profit has degraded natural forests, which has had serious negative environmental and social consequences. **The next** section is an extension of the preceding one. The effect of deforestation also means scarcity of wood-fuel, which creates a severe energy shortage. This gives a vicious circle for women's productivity and livelihoods. **The successive** section explains that also in provision of education and training are women dominated and unjustly treated. **The next** section draws a conclusion on women's relationship

to nature. It is also an introduction to how women and tribal people organise themselves in movements as a protest against the depletion of their livelihoods. **After that** two ecological movements are presented: the Chipko movement from India and the Green Belt movement from Kenya. The section has its own introduction. **The final** section of Part II presents and answers the critique, which has been directed to the work of Shiva.

6.12. Rural women's living condition in the South

"In Africa women bear exclusive responsibility for child care, cooking, cleaning, processing food, carrying water and gathering fuel; they grow 80% of the food, raise half the livestock and have 27 million babies a year."

State of the World 1989. (Ekins et al 1992: 68).

Although generalising is difficult, in fact impossible, it is still educative to outline a certain general shape of women's living conditions in the rural areas of the South. Based on multiple researches one can at least say two general things: rural women are poor and they have a huge work burden. (Dankelman et al: 1988: 3).

As stated already the poor population largely and increasingly comprises of women and children. Thus gender is an important issue when it comes to poverty. Feminization of poverty is to a far extent connected to natural resource depletion. But it is also the result of women receiving a lesser share of the world's wealth compared to men. As Chapter 2 showed although women do 2/3 of the world's work, they receive only 10% of the world's income (1997 figures). Moreover equal work still pays women less than men. In Africa 80% of the women live and work in the rural areas doing agricultural work mainly with food crops. These women work 12-13 hours more than men per week. This workload has increased for the poorest women due to environmental crises. In Tanzania women work on average 3,069 hours per year, men only 1,829. In Uganda men work two hours a day, women do the rest. It should be added that African men on average work less than European men. Time studies show that women not only work longer hours than men do, they also perform physically heavier work. In addition, they do most of the unpaid domestic work. In spite of their impressive workload women control fewer resources than men do. They own only 1% of the world's property. Women-headed households are a growing phenomenon worldwide, with 80-90% of poor households headed by women. Although women typically have longer working hours than men, fewer assets and lower income, they have as many dependent to support as men do. Thus the rural women are the invisible workforce, the unacknowledged backbone of the family economy. (Dankelman et al: 1988: 3; Warren 2000: 8; Adepoju 1994: 17, 23; Simmons 1997: 251; Tadria 1997: 168, 172).

In most low-income, rural, Third World households women have a triple role. Some of women's duties were already mentioned in Chapter 2, however, Caroline Moser (1993) has made a more detailed categorization, which gives a good overview. It is therefore used below:

Firstly women have a **productive role**. It comprises of work for payment in cash or kind. In agriculture it includes market production with an exchange value and subsistence production with a use value. It covers work as independent farmers, peasant's wives and waged workers. Agricultural work is commonly divided according to gender. Normally women do un-mechanised sowing, weeding, crop maintenance and harvesting. Men are responsible for the field preparation, which often is mechanised work. Food crops for subsistence are almost exclusively a women's task, while men to a far degree grow cash crops. Women, however, often also participate in the husband's production of cash crops. If they have own land, women may also grow own cash crop. Furthermore, women contribute substantially to the family budget by informal income-generating activities. These include food processing and sale, trading of homegrown agricultural products, handicrafts, beer brewing and many more activities. These tasks are important especially in the growing number of female-headed households, but also because income-generation for the household is commonly segregated. As already explained in Chapter 5, studies show that women spend more of their income on family welfare, while men spend most of their income on their own needs. (Dankelman et al: 1988: 4-5; Moser 1993: 31, 33; Tadria 1997: 172).

Secondly women have a **reproductive role**. This comprises the childbearing and child-rearing responsibilities together with the domestic tasks. It includes the care of husband, infants, school going and adult children. It is a free contribution to society, which secures reproduction and maintenance of the work force. Sub-Saharan Africa has the highest birth rate in the world. On average a woman gets 6 children. 30% of the children are likely to die before they reach five years of age. Death of infants and children from 1-5 years account for 50% of all deaths in Africa, the highest in the world. As already pointed out in Chapter 2 due to poor health facilities, low nutritional level and early pregnancies birth giving is a risky activity. The African woman has the lowest life expectancy in the world: she may on average reach only 52 years. Men are, however, worse off with an average life expectancy of 49 years. Women are also the givers of care to the sick and the aged. Domestic work is done entirely by women and older children. The extreme drudgery of this work experienced by the vast majority of Third World women, whether they are rural peasants or urban slum-dwellers, whether they are from Africa, Asia or South America, is only too apparent: Supply of water for the household is women's work. It can be a huge task. Normally it uses 12% of a woman's calorie intake. However,

when water is collected from steeper areas, it may use up to 27% of the calorie intake. Fuel collection is also women's duty. Energy use in rural areas is based on biomass. 90% of Africa's energy comes from biomass. This includes fuel-wood, crop residue and manure. Due to limited natural resources, collection of fuel is taking increasing time and energy away from women and her other duties. Cleaning, food processing and cooking are also women's work. These are varied and lengthy tasks. For example in Peru it can take up to 4 hours to cook a meal (ILO 1986). Reproductive work and domestic duties are not by society seen as being "real" work, it is considered a women's "natural" task. It is therefore a constant activity without any clear demarcation between work and leisure. Caring for children has no beginning and no end. Thus women are the first to rise in the morning and the last to go to sleep at night. Since both time and food are scarce, women are often the last to eat and the one to eat the least. This has a hugely negative effect on women's health and consequently on their ability to care for their children and earn an income. (Dankelman et al: 1988: 4-5; Moser 1993: 29-20; Adepoju 1994: 20, 21; Cornwell 1997: 12).

Thirdly women have social tasks. Women's **community managing role** comprises activities undertaken primarily by women at the community level, as an extension of their reproductive role. It ensures the provision and maintenance of scarce resources, which are collectively consumed such as water, health care and education. It is in general voluntary, unpaid work, undertaken in women's "free" time. Like reproductive work, these social tasks are seen as being "naturally" women's task. In the current economic climate the activity is significant because it helps low-income households to resolve their community-level problems through self-help solutions. Thus women's social relations include not only the household but also the neighbourhood. Mobilization and organization at the community level becomes a natural extension of women's domestic work. Research shows that in case there is confrontation between community and state or NGOs for infrastructure provision, women most frequently take primary responsibility for the formation, organization and implementation of local-level protest groups. Some of these develop into movements like Chipko and Green Belt. This will be elaborated at the end of Part II. The cutbacks in state provision of social services and infrastructure has meant an increased time-pressure in women's role as community managers. (Moser 1993: 34-35).

Although women fulfil a great number of essential tasks their labour is often unrewarded. They have only very limited access to and control over income, credit, land, education, training and information. Thus women have a triple work burden, compared to men. This triple work takes women's time and energy away from productive income generation activities, which otherwise could have helped them out of their poverty. (Dankelman et al: 1988: 5; Cornwell 1997: 12).

In the following sections the various productive tasks performed by women in nature is elaborated. The focus is on the close link between the productive work of women and the reproductive work of nature. Each is dependent on the other in a reciprocal relationship. Natural resources sustain the livelihoods of women and women perform tasks in nature that promotes its reproduction. This relationship is, however, being destroyed by the scientific development model. Due to its perception of productivity and progress, its priority on economic profits, its mechanistic approach and its violent technology, development dominates both women and nature to the extent that the survival of both is threatened.

6.13. The framework of Shiva's analysis of the effects from scientific management in India

"There is a reason to suspect the assumptions of the human brain when it becomes too elevated from the earth that nurtured it."

John Hay. (Loer 1997: 279).

In her book "Staying alive" Shiva analyzes the results from introducing scientific agriculture, also called the Green Revolution, in India. Shiva has used the Chipko movement as a basis for this analysis. The book focuses on the struggle of the Indian women in her efforts in sustaining and conserving life. Although nature is central to human survival, progress is slowly killing the forests, soils, waters and air. Hence women are questioning the meaning of a "progress" that threatens survival. Progress is based on modern scientific knowledge and economic development. It was meant to increase human well-being. But along the way, progress began to destroy life. The sanctity of life was substituted by the sanctity of science and development. (Shiva 1989: xiv).

According to Shiva nature in Indian tradition is seen as a powerful living force, Prakriti, which is sustaining and renewing life. It is symbolised as the embodiment of "**the feminine principle**", a term from Hindu cosmology denoting the life-giving force. The feminine principle is non-gender based and not exclusively embodied in women. It symbolises activity and creativity in nature, women and men. In the Hindu cosmology one cannot really distinguish masculine from feminine or man from women. Each pair is inseparable although distinct. They are two aspects of one being, given life from the feminine principle. Thus in the Hindu perspective all things are inter-connected. Nature is therefore also an integral part of humans. This view is opposite to the scientific reductionist view, which sees a dualism between man and nature, the masculine and the feminine. Shiva calls this dualist and reductionist perception for "**the masculine principle**". The masculine principle sees nature as being passive, uniform and mechanic. Nature is separable, distinct from man, and fragmented within itself. Nature is the dualised other, which is inferior to man and which therefore can be dominated and

exploited by man. The essential difference between the two views is that the first survived over centuries and sustained people. The latter generated mal-development, domination of women and traditional people, and it created ecological crisis. (Shiva 1989: xviii, 38-40, 52).

Many women in the South have a special connectedness to their local environment. It is a relationship based on reciprocity. Nature provides women with resources for subsistence and productive activities; while women make natural things grow. The Indian women see economics as the production of sustenance and basic needs satisfaction. Because of their participation with nature traditional women and men have knowledge of nature. Their knowledge is diverse and plural depending on context and culture. Consequently women and nature made a partnership of organic growth, which gave them a close relationship. (Shiva 1989: xviii, 42-43).

With colonialism this ecological concept was undermined. Modern economic life interrupted the traditional relationship between women and nature. In its place the patriarchy introduced a knowledge system, which uses methods that undermine women and exploit nature. From then on the work of women and nature was perceived as being unproductive. Instead man must produce market commodities for profit, using women's work as a free resource and nature's wealth as free raw materials. To institutionalize the system management of nature was centralized with the purpose of promoting economic growth. In this economic model the wealth created by nature and women's work became invisible. But when nature is exploited it dies. With the death of nature comes also the dispossession of women and traditional people. The result is environmental degradation, marginalization of traditional people and women, poverty, violence and eventually death. In order to make development sustainable, Shiva finds that the feminine principle must be recovered. (Shiva 1989: 40-43).

In "Staying alive" Shiva examines, compares and contrasts the organic or feminine and the scientific or masculine principles. To show how they work, she is applying them to agriculture, forestry and water management in India. Such analyses clarifies a) the relationship each of the two principles have with the environment; b) how both women's and nature's work simultaneously are dominated by the masculine principle; and c) how the masculine principle, unopposed, will generate environmental crises, poverty and eventually destroy life. The below presentation show how practically the two principles are manifested in food production, forest and water management according to Shiva. To make the discussion wider and more descriptive the researches of other author's have also been included.

6.14. Women and food production

"It is men who own the world's resources even when it is women who make them productive."
Haleh Afsar. (Dankelman et al: 1988: 172).

As mentioned earlier although women commonly do not own land they produce more than half of the world's food - without machinery. In areas with food scarcity they produce more. According to United Nations Food and Agriculture Organisation (FAO) the Sub-Sahara African women account for 80% of food production in 1985, a figure that is increasing. Thus when one speaks about African farmers, one is talking about women. In Asia women produce 50-60% of the food. Such figures make women the centre of food production. (Dankelman et al: 1988: 4, 9; Heyzer 1995: 3; Warren 2000: 9).

In 1988 it was estimated that 500 million people were malnourished while the world food production was increasing. Thus hunger is not necessary. The world can provide more than enough food for all. Food scarcity is based on complex matters. One issue is land inequality. The most productive land is owned by a few rich people, while many rural families are landless. The number of landless people is growing especially in Pakistan, India and Bangladesh. Of these the majority are women. Even land reforms commonly do not give land to women. Lack of land forces the poorest to use marginal lands with negative consequences for food production and nature. But, as already discussed in Chapter 5, food security is more than a matter of availability of land. It is also about food distribution, economic control over food resources and politics. Thus food security relates to social, political and economic power; of which poor people have none. (Dankelman et al: 1988: 7-8, 12).

Many believed that the Green Revolution would improve the availability of food. However, it did not increase per capita food consumption. In some cases it even reduced the yields. There are various complex reasons for this. For Shiva the Green Revolution is a **masculine principle** based on scientific agriculture. Its aim is to commercialise agriculture in order to provide commodities for the market, which will generate economic profit. Since natural processes are too slow and unproductive for this purpose, the yields need to be increased by genetic manipulation. Thus scientific agriculture is meant to make nature more efficient artificially. Consequently the traditional organic agriculture for sustenance was changed into production of agricultural commodities. (Shiva 1989: 96-98, 103).

To make nature "productive" the scientific experts created a **high yielding variety** (HYV) of crop by genetic engineering. The HYV is a dwarf-like plant with heavy grains. Since all its energy is used to make grains, it is weak to pest, diseases and drought. The crop therefore requires input of chemical

fertilizer, insecticide and irrigation. The HYV is highly responsive to input of chemical fertilizer and irrigation, but without such application it may fail. Since the chemical inputs are expensive, farmers are forced into cash crop production. Moreover the farmers are forced to buy new seeds every season since the HYV cannot reproduce. Hence the HYV gives excellent commercial profit to the agribusinesses. Farmers are persuaded to use the HYV by introduction of government subsidies and donor aid. Use of the HYV is also attached to credit access and agricultural inputs. (Shiva 1989: 121-124, 128).

Scientific farming considers **mono cropping** as efficient although the method increases the crop's vulnerability and decreases its yields. Since HYV has little straw and is not inter-cropped scientific farming gives too little crop residue for humus to the soils. This reduces the soil's fertility and consequently the yield. It also gives less animal fodder, which put a higher pressure on forest products or cash for fodder. When the value of the full yield is counted, the HYV gives less output, than the traditional crop. Hence the HYV provides poor sustainability for nature and people. (Shiva 1989: 114, 121-124).

The hybrid crops require high nutrition intake, but give low organic returns to the soils. This lack of nutrients cannot be made up for artificially. Chemical fertilizers cannot strike the nutrient balance in the soils. They either lack trace elements, which exhaust the soils, or deliver them in excess, which toxifies the soils. Thus chemical fertilizers cannot optimally support the crop. They are either depleting the soils of its nutrients or toxifying the environment. (Shiva 1989: 142-146).

The HYV has a high demand of water and low water conservation. Since efficiency requires multiple cropping, **irrigation** is required all through the year. This introduces more water into the ecosystem than it can handle. The result is that the water table rises and water is logged. Water logging reduces soil aeration and restricts root development, which affects plant growth. Another problem is salinisation. Soil in arid areas contains unleashed salts. By irrigation salt is brought to the surface, which poisons the soils with the result of crop failure. Water logging and salinisation have caused otherwise fertile areas to degrade, which means loss of land to grow food. In India 7 million hectares cannot be used for crops due to salinisation and 6 million hectares are waterlogged (1989). (Dankelman et al: 1988: 10-11, 31; Shiva 1989: xvi, 142-149).

The HYV is vulnerable to pests and requires a heavy use of pesticide. **Insecticide** is, however, a violent manner to remove pests. The poison kills indiscriminately. Also the natural pest-predators are

killed, which increase the amount of pests. Since the pests mutate quickly, new forms of pests resistant to insecticide develop, which increase crop vulnerability. In this way the poison creates ecological imbalances, which function like drug-addiction. To keep a balance, more and stronger pesticide is needed. Furthermore, the imbalance caused by pesticide cannot be contained in one field, it destroys the ecology in the whole area. It causes new pest to develop which also will wipe out traditional crops. Although the poison has been unsuccessful to eradicate pest, it is still sold worldwide. This kinds of technology clearly link science to violence and killing for profit. (Shiva 1989: 123, 153, 156-159, 164).

Science has also displaced traditional seed varieties, which were adapted to the context. By introducing the HYV, reliable, drought resistant, traditional food crop, which were superior in nutrition are lost. In Sri Lanka there were 123 varieties of red rice, now only 4 remain. The HYV are more vulnerable to severe conditions and due to the necessary input and its price, farmers need to increase the yields continuously. In this way science have sown the seed for famine. (Dankelman et al 1988: 11, 18; Shiva 1989: 129-130 & 155).

The scientific method is expensive, its application has therefore increased local farmers' dependency on the economic system. Additionally, since it destroys natural organic systems it has caused women to lose control of their subsistence living. Furthermore the HYVs are not fulfilling local needs. In Ghana women were reluctant to use the new hybrid maize seeds for various reasons: The crop had an unpleasant taste, it was hard to prepare, it was less resistant to drought and insects, it required different from traditional storage methods and could not be stored for a long time, and it depended on chemical fertilizers, which changed the taste. Moreover, the HYVs required expensive input in order to grow, which meant that farmers needed increasingly more surplus to use them. These rational objections were, however, not considered by the development agency. Thus, new technology has reduced farmers' choices and self-reliance. (Dankelman et al: 1988: 11, 18).

Apart from the environmental destruction scientific agriculture is causing directly, it also promotes environmental degradation indirectly. Large-scale, mechanised, high technology and chemical agricultural systems like the Green Revolution require high levels of capital investments. This has concentrated land with the elite, leaving the poor to overuse marginal lands, which has lead to additional environmental destruction in the form of over-cultivation, over-grazing and deforestation. Deforestation and over-grazing is turning 6 million hectares of land into desert annually (1988). When vegetation is removed, soils are exposed to solar radiation and rains, which is part of the reasons for

desertification and soil erosion. The scientific agriculture's focus on profit also promotes another problem. Land in the South is increasingly used for growing crops, which is exported to the North. For example a greater part of USA hamburgers are made from beef produced on cattle ranches in Latin America. The small European country, the Netherlands, uses a land area in the South, which is 5 times the size of its own cultivated land. This land supplies fodder for the Dutch cattle and raw materials for Dutch food products. In this way fertile land in the South is taken away from local food production. (Dankelman et al: 1988: 10-11, 31).

Cows are treated similarly to seeds. Seen from a scientific perspective cows are milk machines, which should be manipulated into giving maximum output. The Indian indigenous breeds have therefore been cross bred with high yielding European varieties. The HYV is a weak cow, prone to local diseases. It needs medical attention, clean water and special fodder. It is fed 6 times as much food as it provides in output. Its milk is not meant for local use, but for the commercial market. 70% of the milk produced in India is manufactured into butter, cheese, ice cream and chocolates, which are consumed by 2% of the population. Thus with the HYV-cow, context bound characteristics of the traditional Indian cow will be lost. With that also goes the farmers' draught power, the bio-energy, the fertility for the soils and the health of the Indian children. (Shiva 1989: 166-168, 171-172).

As the money market penetrates into traditional subsistence life, women's unpaid roles give less respect. The transition to cash crops and capitalist economies has given women more work and a lower social status. Commercialisation of agriculture means constraints on land. Since cash crop normally is under male control, while food production is a female activity, land is used for cash crops and less food is produced for the household. The cash profit belongs to the husband who rarely spends it to buy food for the family. Women's food production has consequently become harder and it takes place on more marginal land. Moreover women are expected to carry out their traditional tasks in men's cash-crop fields while also cultivating their own food crops. Such work is normally heavy since farm machinery has been used to ease men's workloads only. Research shows that introduction of modern tractor and ploughs in Sierra Leone resulted in decrease of men's working day in the rice fields, while women's manual tasks of weeding and crop maintaining increased. Since economic value is prioritized, women's subsistence economy is considered inferior. Thus as development penetrates Indian rural areas, the status and power of women has been down graded. Because of this women are seen as being available for discrimination, exploitation and domination. In India this has caused **violence** and femicide. Women can be dispensed with, and it is done in various ways from dowry death to abortion of female foetuses. (Dankelman et al: 1988: 13; Shiva 1989: 113-120).

Capitalism and industrialisation has also drawn men away from rural communities. This means that their labour has been removed from subsistence farming and the responsibility for the entire family rests with the women. (Dankelman et al: 1988: 16).

And paradoxically, in spite of political rhetoric, cash crop produces less cash over time. The reason is that an increased output of cash crops causes world prices to fall with declining returns as a result. The price for imported technology and goods oppositely increases. This results in a deficit, which means that more cash crops must be produced to make a balance. Thus more land must be used for cash crops causing even less production of food for local people. This may lead to food scarcity and the need for food import. Lack of foreign exchange means that high-interest loans have to be obtained in order to pay for imported food. Since food is bought from the commodity market, it has now become expensive. Hence poor people cannot afford it and must therefore decrease their nutrition intake. Consequently the development of large-scale, mono-crop industrial agriculture with a high resource input has increased dependency upon a global economic order that excludes poor and hungry people. In sum, cash crop degrades the environment; it increases food scarcity; it lowers rural diet causing poor nutrition and decrease of people's health; it escalates debt, inflation, and prices; and it intensifies the domination of women. Consequently cash crops magnifies poverty of women, Others and nature. Africa's economies have since the 1960's been depending on export-oriented cash crops. That is largely the reason for Africa's ecological, economic and human crisis. (Dankelman et al: 1988: 11, 14; Shiva 1989: 137-138).

The government structure is not supportive of women's subsistence efforts. Women are overlooked in legal and social structures. Already during colonisation, laws, which were harmful to women, were imposed. Where women had traditional rights, power and privileges European patriarchy undermined them. Inheritance laws, land ownership and social restrictions limit women's activities. Furthermore, common lands, which women use for subsistence are often being privatized. Since women only have communal rights, and are not supposed to own land their needs for land are completely overlooked. Such structures have normally been continued by the new independent governments. It is such discrimination and segregation, which makes Adepoju (1994: 17), concludes that the typical rural African woman probably is the most under-privileged human being in the world. (Dankelman et al: 1988: 15; Adepoju 1994: 17).

Women in subsistence agriculture are also ignored by development professionals. In spite of their amazing achievement in food production women do not have access to agricultural credit, training, extension and other productive resources. Hence the main food producers in Africa receive less than 10% of the credit to small farmers, and only 1% of the credit to agriculture in general. Access to credit is limited since women do not own land or other assets. Without assets they cannot become members of farmers unions or cooperatives through which credit is available. Similarly extension services are often only available for members of farmers' clubs. Besides, less than 4% of the extension workers are women in Africa. Since religion and cultural issues often hinder a close man-women relationship in learning, female farmers cannot get assistance. Technologies exported from Northern countries only exacerbate the problem of resource shortage for women. In spite of women's huge contribution to food security, men are the primary recipient of access to machinery and irrigation systems. Thus development technology is gender bias. Male opinions are treated as facts. Ignoring gender issues means that also solutions are not gender specific, it includes one gender only. A peasant farmer is considered to be male. Therefore cash crops get priority over food crops. Being gender-blind, development also undermines traditional, ecologically sound, agricultural knowledge. Women are as the major food producers dependent on a healthy environment. Due to this dependency rural women have important knowledge about their natural environment. Women's methods are old and adapted to the environment, they are sustainable and make no long-term damage to the land. This knowledge gives women security. But it is overlooked as being non-scientific and thus irrational. There is also an economic pressure against traditional knowledge. Indigenous methods do not require financial investment for chemicals, insecticide, hybrid seeds and sophisticated machinery, it therefore does not profit agro-businesses. Since it is not recognized, women's knowledge disappears. This has negative consequences for women, their families and the environment. (Dankelman et al: 1988: 17-19; Heyzer 1995: 3; Tadria 1997: 171-172; Warren 1997: 9; Warren 2000: 8-9).

Northern development policies and practices have failed to realize the extent of women's contribution to food production. This has increased the invisibility of women in agriculture. It has prevented development "experts" to see how the female farmer and her children are affected negatively by development decisions and projects. Economic development activities have instead depleted the resource base on which women's productive activities depend. And women have very little power to change this. (Warren 2000: 10).

Based on this analysis Shiva concludes that *the masculine principle of food production* involve violent and life-threatening activities. Scientific agriculture has shifted control of food production from

local people to international agri-businesses. It has violated nature's balance, women's productivity, society's food security and created poverty. Commercial food production is not anymore meant to feed people but to produce profit. If agriculture is to become sustainable the masculine principle must retreat and give room for integration of the feminine principle. (Shiva 1989: 96-98, 105, 111).

The feminine principle of food production is a circular, interconnected and holistic process, which meets the needs of both the soils, crops, animals and people. These processes are understood by indigenous peoples who have cooperated sustainably with the ecological system for more than 40 centuries. The work is mainly done by women. They integrated forestry and animal husbandry with farming. (Shiva 1989: 96-98).

In order to protect the **fertility of the soil** and prevent erosion organic matter or humus (crop or animal residue) is applied to the fields. This increases the soil's water retention preventing desertification. It also makes the soils healthy, productive and prevents pest attacks. Specifically manure is excellent since it generates more earthworms. Soils with worms, have an optimal level of moisture, improved drainage system, and increased nutrients. (Shiva 1989: 106-108, 140).

Another organic method is **mixed cropping**. It provides people with a balanced diet and gives safety against crop failure. When cereals and pulses are intercropped it secures nitrogen fixing and thus enhances soil fertility and increase yields. **Rotation of crops** is also an element in organic farming. It helps the soil to keep its nutritional balance and prevents soil exhaustion. (Shiva 1989: 107, 123, 139, 141-142).

Traditional crops have evolved over centuries. They are suitable to the specific environment and to the needs of people. Millet or ragi is a miracle crop: It has protein similar to milk; it is drought resistant; it can be grown in poor and stony soils; it is pest and fungus free; and it can be stored underground for decades. It is therefore excellent for food security during drought and in arid zones. (Shiva 1989: 154).

Pest control can also be managed organically. Resistance to pest is an ecological stable and balanced state. Thus the most effective pest control method is to keep the crop healthy through organic manuring, crop diversity and inter-cropping. This will keep the pest down. besides, the natural enemies of pests are nurtured just as the crop is. (Shiva 1989: 157-161).

The cow is the foundation of agriculture in India. The Indian cow has evolved over centuries and adapted fully to the tropical climate. It is a draught animal, milk provider, energy maker and soil fertilizer. It provides more food and energy than it consumes. It lives from crop residue, which it converts into organic matter that is fertilizing the soils. Half of the cow dung is used as energy, which meets 2/3 of villagers energy needs. Its dairy products are an important nutritional addition for rural children. Indian women are traditionally the experts in animal husbandry and breeding. (Shiva 1989 165-173).

The feminine principle of food production is consequently a partnership between nature and women. It includes productive activities, which are life conserving and life enhancing. The needs of people, animals and the earth are in focus. (Shiva 1989: 176-177).

6.15. Women and water management

"Only when you have felled the last tree, caught the last fish and polluted the last river, will you realize that you can't eat money".
A native American saying.
(Shiva 1993: 208).

The global **water** cycle is a desalination process. Each year 38,000 cubic kilometres of water is transferred from oceans to clouds to lands. The water refills streams and rivers, ponds, lakes and wells, above and below the ground. It ultimately returns to the ocean, after having supported life wherever it went. Water is a renewable resource due to its endless cycle between sea, air and land, but it cannot be increased. The availability is limited by the water cycle. Water can only be diverted and redistributed. When it is used within its limits, water is available forever. (Shiva 1989: 182, 185, 205-206, 214).

Trees, soils, rocks and sand help to conserve the water and the cyclical process. Natural forests are the best mechanism for water control. The soil is also a water reservoir. But its capacity depends on the vegetative cover and its organic content. Humus helps to retain water in the soil. Thus in arid zones, which are dependent on rainfalls, the only viable mechanism for water conservation in the soil is to add organic matter. It is an insurance against desertification and it gives food security. (Shiva 1989: 182, 185, 205-206, 214).

Ancient societies used river water to benefit man. They worked with the logic of the river. Irrigation was traditionally done as a round river. Water was divided off its course, towards farmland and then it went back again to the river. The water use was always kept within the limits of its renewability. Such

kind of irrigation works are adequate, it requires only maintenance and repair. For Shiva this is an example of *the feminine principle in water management*. Water is in abundance if people participate with its cycles and support the water process. To do this one must think like a river. Water sustainability is therefore based on cooperation with water. (Shiva 1989: 182, 186-187, 189, 215).

When scientists took over water management, participation with the water cycles was found unnecessary. Water was considered a passive resource, which could be manipulated and exploited for profits. The scientific expert's linear mind cannot understand the cycles of water. Instead water is seen as a passive, limitless resource, which should be made productive and generate economic profit. Thus dams, water reservoirs and canals were planned and build. But when human beings try to control water, when its course is disrupted, when it is exploited, then water dries up. (Shiva 1989: 182, 195).

When humans interfere with the environment by their scientific land management practices they damage the balance of the ecosystem and negatively affect the water cycle. This is the worst form of violence to nature. It breaks down the cycle of life and threatens the survival of all. When water is diverted against its logic, it has consequences. Shiva gives the example when a dam is built:

The first violence against nature is deforestation of the catchments area. That will inevitably reduce rainfall and consequently reduce river discharge. Most rain falls in the catchments forest area where it contributes to the overall precipitation of the area. 75% of the rainfall in a rainforest is contributed by the forest itself. When we destroy forests, we decrease the rainfall. It is falsely believed that one can plant trees elsewhere. But plantations elsewhere cannot perform the ecological processes required. It is an unnatural, man made forest. Thus before the dam is built there is already less water available. (Shiva 1989: 189).

Secondly, the command area, to which the water is directed, is not meant to contain so much water. It will react with water logging, siltation and salinisation. 10 million hectares of land has become waterlogged; salinisation has globally damage 1.5 million hectares of agricultural land (1988). Salinisation and water logging means that there will be even less water available. Furthermore, by time the dam will have only salty, muddy water before it will finally dry up. (Dankelman et al 1988: 31; Shiva 1989: 190-191).

Thirdly, division of water prevents the river from recharging ground water sources down stream. This will create water scarcity. The rivers also renew water below the ground. Without rivers, the ground

water will inevitably dry up, which creates desertification and famine. The Ethiopian famine is such an example. When the Awash river was dammed it dried up the land down-stream, and flooded the land up-stream. The water was meant for irrigation of sugar canes, cotton and banana plantations belonging to foreign companies. Before the damming the river supported 1,5 million local agricultural people in the valley. Building the dam resettled more than 20,000 people and the local traditional pastoralists were marginalized. The famine, which followed, killed more than 1 million people and affected another 8 million. (Shiva 1989: 193).

Fourthly, the inflow of fresh water to the sea is reduced. Water is not wasted when it runs into the sea. It is an essential link in the whole water cycle. If the link is broken the balance between land and ocean, fresh water and seawater is disrupted. The result is that saline water will intrude inwards and seawater will erode the costal line. This would deplete marine life due to lack of the nutrients that fresh water brings. The Aswan Dam is such an example. Fishing has been disrupted due to lack of the nutrient the Nile brought to the basin. (Shiva 1989: 185-186, 194).

Thus when rivers are imprisoned in dams they are prevented from performing their multi-dimensional functions which maintains the ecological diversity of life. Every major dam project in India has displaced thousands of people from fertile river valleys. 1,554 large dams were built between 1950's and 1980's. The size of the human suffering, this scientific damming has caused, is indescribable. (Shiva 1989: 188, 190).

Thus the **drying up of the water sources** in India and Africa are man made. The major causes for this are submersion of catchments areas, division of surface water by large dams and depletion of ground water by irrigation. In all cases water is diverted from its natural course in order to support scientific agriculture and industries for economic profit. According to WHO less than 8% of the world's water is fresh. Of this irrigation uses 73%. Its efficiency in increasing yields is low. Moreover only 20-30% of the water gets to its destination, thus the water waste is huge. Industries use 22%, while only 5% of global fresh water resources are used for domestic purposes. Heavy use of ground water depletes waterways and lowers water tables because natural recharging cannot keep up with the use. The result is that millions of people have difficulties to get sufficient clean water for a healthy living. In more than half of the developing countries less than 50% of the population has a source of potable water or facilities for sewage disposal. Thus when land use is changed into economic profit, it causes water shortages for many people. It often also pollute people's water source. Those living down stream from cash crop farming and industrial sites get polluted water due the heavy use of chemicals. This may

contaminate the drinking water. 70% of the ground water in India is polluted. 85% of all diseases in developing countries (diarrhoea, trachoma, parasitic worms and malaria) are due to contaminated water and inadequate sanitation. It is calculated that 25 million deaths are due to water related illnesses. UNICEF estimates that 15 million children die every year before they are five years old. That is approximately 40,000 per day or 1,700 per hour or 28,5 per minute. Half could be saved if they had access to safe drinking water. (Dankelman et al: 1988: 14, 31-32; Shiva 1989: 179, 183; Curtin 1997: 85; Warren 1997: 7; Warren 2000: 6-7).

A related issue is **drought**. In regions where there is no river, water is provided from wells, tanks and ponds. Water in these is supplied from rainfall, which is stored in underground catchments systems. The belief that groundwater is drying up due to lack of rainfall, is not correct. It is rarely a seasonal reduced rainfall that triggers drought, human pressure on land is the primary cause. Ground water is accumulated over thousands of years. It is only exhausted, because it is used in excess. Even with good rainfalls, water tables are falling due to overuse. Water exploitation rarely takes place for survival needs. It happens in connection with cash crop production, irrigation and water pump systems. Besides, since human economic activities are removing the vegetation and disturbing the soil systems that absorb and store water, land becomes more drought prone. Thus water is diverted from sustenance functions to commodity production, which creates water famine. No wealthy person dies from drought or hunger. Thus, both drought and hunger are economic and class oriented, but also a gender and age issue. Mainly poor women and young children are negatively affected. (Shiva 1989: 193, 195, 202-3; Warren 2000: 8).

UN's 1995 report finds that **water scarcity** is a special concern for women and children. The majority of countries in Africa and Asia are considered water-scarce. Thus exploitation of water for economic profit, has resulted in water scarcity for poor people. Access to clean drinking water is increasingly low. The World Health Organisation found already in 1980 that more than 70% of the rural population in Kenya, Tanzania and Angola have little or no access to safe water. In urban areas of the South only 25% have access to in-house water source. In these countries women and children perform most of the water collection work. Due to scarcity they must walk farther for water. Studies show that women and children spend up to 43 hours per week collecting and carrying water - on their heads. (Dankelman et al: 1988: 14, 31-32; Curtin 1997: 85; Warren 1997: 7; Warren 2000: 6-7).

Madhya Pradesh in India had forest and plenty of water. But afforestation and planting of eucalyptus caused underground water sources to dry up. In 1985 a water crisis was declared. The people were

stealing and fighting for scarce water. Thus, water scarcity has led to **violence** and crime. The same is the case in neighbouring Orissa. 40,000 people left the district to escape starvation. Women and children stayed behind. Thus water scarcity has not only serious ecological consequences it also has deteriorated the livelihood of poor people. Water scarcity consequently creates violence and poverty and it will slowly but surely extinct life on planet Earth. Conclusively *the masculine principle in water management* violates the water cycles, which generates water scarcity that causes social and ecological suffering and death. (Shiva 1989: 180-181, 213, Dankelman et al 1988: xii, 32).

Water is needed for many purposes in the household like cleaning, sanitation, waste disposal, childcare, food processing and vegetable growing. Moreover, women need water for their economic activities like vegetable growing, animal keeping, beer brewing, baking and washing of people's clothing. Provision of water is therefore essential if women are to become more effective income earners. Time saved in water collection influence their ability to be successful in income generation. This in turn provides women with a better chance to fend for themselves and their families, to improve their health and consequently their productivity. Thus the time women save in water collection benefit both the women, their families and the community at large. (Dankelman et al: 1988: 32).

Women were traditionally the water experts. Over centuries they acquired extensive knowledge about water quality, health and sanitation. Women are concerned with health care, sanitation and hygiene due to their traditional work. Hence they know where to collect water, how to draw it, transport and store it. Women are able to compare water source quality, to the purpose. They can purify water with simple techniques. They also know how to cope with scarce supply and how to re-use water. They continually exchange information and share their knowledge, often at the water source. In this way women create their own health-care networks. (Dankelman et al 1988: 29, 32-33; Shiva 1989: 212).

But women's knowledge in water management has been neglected. Traditional norms have often restricted women from interference in decision-making processes. This patriarchally bias view is similar in development activities. When water projects are planned women are not encouraged to partake, especially not if it includes modern technology. Normally large-scale, prestigious water schemes are preferred compared to small-scale water projects, although the latter is more useful to local people. When, however, small-scale water project are established, they are decided upon by men. In this way water control is in the hands of men. That limits women's access to water. Only local men are trained in water control, management and maintenance. Women are considered irrelevant to train. One reason is that women are seen as not being technically minded. It is therefore assumed that

women cannot maintain a water point. Another reason is that many women are illiterate. Lack of education often exclude women from decision-making and also prevents them from expressing their needs and concerns. However, all these assumptions are false. Evidence shows that when women are in charge, the water sources are well maintained and water points function more effectively. It is also evident that women's involvement in water management will benefit society as a whole. Conclusively it is essential for both nature and society that women are involved in water management. (Dankelman et al: 1988: 29-30, 32, 34).

6.16. Women and the forests

"What do the forests bear? Soil, water and pure air"
The Chipko Movement. (Chipko 2004b: 5).

Forests are important to sustain the global ecology and human life. They protect watersheds (the ridge which divide two river systems), regulate water flow, absorb rain and they cause evaporation, which generates more rain. They maintain ecological balance, regulate water supply, and protect agricultural lands, especially downstream. Through their root system and their foliage forests play an essential role in soil protection. Forests provide 66% of the primary productivity of terrestrial ecosystems. Tropical forests in particular account for 3/4 of this, with their exceptional diversity of plant and animal species. For 200 million people forests are their only home. It provides them with major part of their livelihoods. Forests cater for people's food needs like vegetables, fruits, nuts, honey, spices; they furnish people with home products like material for house building, household utensils, gardens tools, organic fertilizers, fuel, dyes and medicine; they provide raw materials for processing like oils, gums, rubbers, waxes, fibres, bamboo; they produce animal fodder and various items for income generating activities. These so called "minor forests products" are crucial for people living in and around the forests ecosystems. (Dankelman et al. 1988: 42).

For centuries women have gathered forests products. Through generations they have learned about the many uses of various trees and that trees and forests are multi-functional. In Sierra Leone women were for example able to list 31 products they gather from bushes and trees. In the Indian civilization forests were seen as a model for society's evolution. Thus its diversity, harmony and self-sustenance were the guiding principles of the Indian culture. The Indian Mohwa tree for example produces 40 kg of flowers and seeds annually. It is a reliable tree, which is persistent in its production even in drought years. Oil for energy or cooking can be extracted from the seeds. The seeds can also be used for margarine, soap and glycerine. The fruits can be eaten or used for flour. Thus the Mohwa tree is the

tree of life in India. It is never felled. Its value is much more than for a one time commercial felling. (Dankelman et al: 1988: 42-43; Shiva 1989: 56-57, 60).

The feminine principle of forestry is consequently based on subsistence economy and reciprocity. It is management of an integrated system to satisfy basic needs. (Shiva 1989: 64).

When the British colonialized India their first priority was extracting of timber for commercial use. That was the beginning of **scientific management of forests**. The activity laid huge areas bare with various negative ecological and social effects. Similar commercial forest policy was carried on by the post-colonial government both in India and in other countries in the South. (Shiva 1989: 61).

Originally the Earth must have been covered with 6,000 million hectares of forests and woodlands. In 1954 4,000 million hectares remained. In 1988 the figure was under 3,000 million hectares. Deforestation is one of the world's most pressing land use problems. It is caused by commercial timber logging, conversion of forests to agricultural land, resettlement, land speculation, large-scale construction projects, and expansion of commercial ranches. Locally forests fires, firewood, fodder demands and grazing contribute to loss of forests. Women gather wood and other biomass for energy wherever they can. They, however, rarely cut trees. This means that destruction is limited. But as the forests degrade, women have to walk further for products. Thus women must spend more time to gather basic necessities, which increases their daily workload. Consequences from deforestation are severe, it causes ecological imbalance, which leads to drought and flooding. Such natural disasters disrupt local livelihoods. (Dankelman et al: 1988: 43, 45-46).

In Africa 1.3 million hectares of closed broad-leaved forests have been cleared annually during the period 1975-1985. Around 2.3 million hectares of open woodlands are being lost each year. More than half of the loss takes place in West African countries. Madagascar accounts for the greatest East African loss. 200,000 hectares of forest disappear each year from tree-felling and bush fires. From 1976 to 1980 Asia has lost 1.8 million hectares of closed forests. The highest rate of deforestation is in Nepal with 3.9% per year. Thailand follows with 2.4% annually. Over the past 30 years Himalayan watershed forests have declined by 40%. Each year in Latin America 4 million hectares of forests are cleared or converted to other uses (1986). Deforestation rates have outstripped reforestation by up to twenty times. Reforestation is assessed to be less than 10% of what is necessary to supply minimum needs in many countries of the South. (Dankelman et al: 1988: 45).

When forests are cut, it both destroys a self-reproducing system, and a commons shared by a diversity of social groups, where the poorest have rights. That cannot be mended by afforestation, which rarely considers local people's multipurpose use of forests. Instead **scientific uni-dimensional forestry** is planted which serves commercial interests. Politicians only consider the economical value of forests. They consequently promote capital intensive, grand scale plantations with imported high yielding varieties and expatriate forests experts. The focus is only on timber yields, which can be exported to earn foreign exchange. Thus afforestation is guided by profit, which has serious social and ecological consequences. Local varieties are dismissed, although they are adapted to the climate and they support people to maintain their livelihoods. In this way people's reciprocal relationship with the forests is broken, together with the indigenous knowledge and species. Commonly **eucalyptus** is grown for export. Eucalyptus is, however, unproductive ecologically. It has a high water demand, which destroys the water cycle. Instead of producing humus for the soils, eucalyptus produces terpene. Terpene is unsaturated hydrocarbons, which are toxic to the soil organism and inhibits growth of other plants. Consequently eucalyptus exhausts soil fertility and water, which decreases production of food crops. The economic return it may give does not include the costs of soil destruction, water depletion and food scarcity. (Dankelman et al 1988: 47, Shiva 1989: 64, 78-82).

Conclusively due to increased demand for commercial wood, traditional customs of forest protection have broken down. Commercial interests do not consider the multipurpose use of forests for local people. They are neither concerned about ecological needs. They cut down traditional trees, which have little commercial value, and replace them with uni-dimensional scientific forestry, which serves commercial demands only. This has serious negative consequences. It disturbs the natural balances and cannot meet the needs of the local people. *The masculine principle of forestry* is therefore based on violence, anti-life activities and profit making. Only commercial needs are included, not basic needs of people and nature. (Dankelman et al: 1988: 47-49, 51).

There is consequently a conflict between the reductionist (masculine) and the ecological (feminine) approach to forestry. In economic development the priority is to satisfy industrial requirements, while ecological and social needs are overlooked. The issue is therefore which needs and whose needs are important. Ecofeminism finds that the needs of women as primary managers of household economies are important for at least three reasons: (Warren 2000:4).

Firstly, in the South women have to feed the family and are therefore more dependent than men are on trees and forest product. Women suffer more when forests are depleted. When trees become scarce,

women must walk further for fuel wood and carry heavy loads. Men often earn money on felling trees. But in case there is lack of income men can leave the area and seek employment in cities. This means that women must carry out men's jobs in addition to their own, which increases women's workload. The consequence is that women have less time and energy available for income generating activities and childcare. When trees are used for industrial purpose and cash economies women's essential needs for survival are overlooked, as is nature's own need for survival. Thus shortage of trees has a significant, direct and disproportionate impact on women. UN's publication "The World's Women" from 1995 found that 60% of women in 31 African countries are affected by fuel wood scarcity. In 18 Asia countries 80% of women are affected. (Warren 2000: 4).

Secondly, women are already disadvantaged. They face constraints that men do not face regarding customs, taboos, laws and time. Men commonly have rights to own land while women only have user rights via their fathers and husbands. Women are often without the institutional support needed to participate in and control outcome of local development activities. Moreover women in rural areas often have a low status and a heavy workload. Hence taking away women's traditional access to forests produce creates yet another barrier. (Warren 2000: 5).

Thirdly, key assumptions about commercial Western forestry increase women's disadvantage. **One** assumption is that the outsider knows best. The expert from the North believes he knows how to solve the problem with trees. But this is a false assumption. Often the insider is the expert, not the scientist. Local people have indigenous technical knowledge, which goes beyond that of the experts. **It is also** assumed that activities, which fall outside commercial fibre production, are unimportant. These activities are exactly those women engage in on daily basis. Thus women's activities become unimportant and invisible, which result in the assumption that policies of orthodox forestry are not gender-biased. But that is a false assumption. Scientific foresters literally cannot see the multi-purpose use of trees. **A third** assumption is that large-scale production using a small number of species is more efficient than small-scale, community-based forestry using a wide variety of species. However, it is small-scale production, which supports the livelihood and well-being of women. (Warren 2000: 5-6).

Kenyan women have been in the forefront of forest development for many years. They are dependent on nature's abundance, have therefore developed relevant knowledge, and close relations to their natural environments. But although they play a major role in tree planting, they are left out when it comes to paid employment and decision-making. Main decision makers are men who cannot consider

women's priorities and needs. Men are concerned with the supply of enough timber for the industry, not with firewood. Minor forest products are also not found in the planning. Moreover officials in charge of the forests are normally not local, which means that they lack indigenous knowledge. They consequently promote fast-growing, exotic trees rather than indigenous species. This is done even though it is known that exotic plants suffer from disease and pest attacks, to which indigenous species are resistant. (Dankelman et al: 1988: 63-65).

The absence of women at the decision making level is not only due to exclusion by planners, it is also based on socialisation. **One** issue is that boys commonly get better education. A **second** reason is that some jobs, including forestry, are seen as being universally male. **Thirdly**, forestry jobs are often planned in a way that makes it difficult for women to join. They have to work in remote areas often policing huge government-owned forests. Since their domestic duties are not taken over by men, they cannot leave home. In 1971 the Kenya Government, however, established a Rural Afforestation Extension Programme with the aim to take forestry to the people. The outcome was that women make good extension workers. They have been able to network with many organisations involved in tree planting for the benefit of nature and society. The close relationship between women and trees in Kenya will be elaborated later on when the Green Belt Movement is presented. (Dankelman et al: 1988: 65).

6.17. Women's energy crisis

"..we (humans) are estranged from reality and inclined to treat as valueless everything that we have not made ourselves."

E. F. Schumacher (1993: 3).

Discussing deforestation in the South includes the issue of energy. Energy is essential for human well-being and the driving power behind economic development. Within households energy is used to cook food, boil water, to heat and light the home. These are women's tasks. Thus energy links environmental conditions directly to women. Most domestic energy comes from biomass sources. They include wood-fuel (firewood or charcoal) and bio-fuels (animal and crop residues). These are the main source of energy for some 2,500 million people. Electricity and oil does not reach the poor. If electricity is available it cannot be afforded. Thus traditional energy sources are predominant in the South. In Malawi wood amounts to 90% of the national energy consumption. This high level of firewood use is often blamed for deforestation. But for household use people normally need dead wood. It is easier to cut, lighter to carry and it burns better than green wood. It can be that branches are cut off, but whole trees are rarely felled. Rural industries and agricultural processing outside the

household use large quantities of wood for energy. 90% of Tanzania's industrial fuel comes from wood. (Dankelman et al: 1988: 66-67).

With depletion of fuel-wood supplies poor people are forced to use other biomass substitutes like straw, crop residue and animal dung. In 1985 800 million people in the world relied on residue for their energy needs. According to FAO 100 million people suffer acute fuel-wood scarcity. This relates mostly to the arid regions of Africa, the mountains of Asia and the Andean plateau of Latin America. The energy crisis of the poor is serious and worsening every year. (Dankelman et al: 1988: 67-68).

Since women have the responsibility to supply energy for the household the burden of fuel-wood collection rest on them. Throughout the world women are carrying loads of up to 35 kg over distances of up to 10 km. The weight exceeds the maximum weight permissible by law in many countries (20 kg according to ILO). The heavy burdens damage the spine and cause problems with child bearing. The heavy work of collecting, cutting and transporting wood exacerbated by poor nutrition, undermines women's health further. The longer they have to walk the more they are affected. Over a decade (1976-1986) time spend on firewood collection in parts of Sudan increased four-fold. In Gambia women spend from midday to nightfall every day gathering the evening's supply of energy (1986). (Dankelman et al: 1988: 69).

Women are often confined to use firewood from common lands. But access to common land is declining. Alternatively they may collect firewood from another person's land and pay for it with their labour. If they have to buy fuel, they need an income. But without energy it is difficult to generate income. Thus it becomes a vicious circle. Women cannot increase their income because they are not in control of productive resources or land. Alternative energy sources like cattle dung, crop residues, coconut husks, rice hulls, millet stalks or herbs can be used. These fuels are more abundantly available, but they are less convenient for cooking. They take less time to collect, but require more work for fire maintenance. Cooking also takes longer time. Furthermore the smoke from these sources is more poisonous. In addition, the use of cow dung and crop residues as fuel seriously affects land fertility. Lack of residue is reducing soil and mineral retention, which causes a loss in agricultural output. For 1 tonne of cattle dung burned, there is a loss of approximately 50 kg. of good grains. In the South 400 million tonnes of cattle dung are burned annually, which gives a loss of 20 million tonnes of grain per year (1978). Loss of agricultural productivity means lack of adequate food, which places an additional burden upon women. (Dankelman et al: 1988: 70).

Fuel and food are complementary needs. Most rural foods are inedible without cooking (whole grain and legume staples). If there is less fuel available, cooking habits change. Lower-income groups eat food which require little cooking, while wealthier families consume more fuel-intensive meals. Poorer families consequently reduce the numbers of meals from the usual two meals a day to one. This has been observed in Bangladesh and the Sahel (1986). In Rwanda 62% of families cook only once a day and 33% cook even less frequently. The number of cooked meals is relevant for the health of the family, especially for young children, who need at least 3 small meals a day. (Dankelman et al: 1988: 71).

Fuel shortage also means a shift to food which needs less energy to cook, but which also is less nutritious. In the highlands of Mexico, beans have been the principal source of protein for the poor. They, however, require big quantity of wood (15 kg wood per 1 kg of beans). Thus poor families eat less beans. A shift to more raw food, to partially cooked food, or to cold leftovers is becoming commonplace. This has negative consequences for the health. In addition, women are in many communities the last to eat, eating only leftovers. Thus both fuel shortage, lack of time and food shortage affect cooking patterns and contribute to inadequate nutrition. (Dankelman et al: 1988: 71).

Furthermore there is the direct toxic danger to female cooks. Emission from the biomass fuels is dangerous. They contain pollution concentration higher than fossil fuels. According to WHO a cook can inhale an amount of benzopyrene (a poisonous gas) equivalent to 20 packs of cigarettes a day. Respiratory and eye diseases are caused by wood and other biomass burning. If respiratory defence is impaired, exposure can bring acute bronchitis, pneumonia and death. Also cancer can be developed if emission is high in carcinogens (cancer producing) concentration. Women and children are in general increasingly developing environmental sensitivities, allergies and asthma. (Dankelman et al: 1988: 72; Warren 2000: 10, 13).

Due to scarcity of fuel-wood the prices are increasing. In urban areas prices have doubled in 10 years. In some cities like Ouagadougou, Burkina Faso urban families pay up to 30% of their income for cooking fuel. Thus energy places a high demand on limited household income. This again limits income-generating activities that require energy: food-processing, beer-brewing, fish-smoking, pottery. Consequently the scarcity of firewood makes women worse off. (Dankelman et al: 1988: 73).

6.18. Women and education

"Educate a boy and you educate one person. Educate a girl and you educate a nation".

A. Ibn-Badis, Algerian Muslim reformist 1889-1940. (Dankelman et al: 1988: 123).

As already mentioned in Chapter 2 inequality between men and women in education is a vital constraint in women's progress. Although education does not guarantee that women can improve her situation, evidence shows that most women who are educated also improve their status in the family, the community and the nation. Mother's education is proven the most important determinant for a family's health and nutrition. Mortality rates among children and mothers are high due to poor sanitation and nutritional status, limited health facilities, poverty and high fertility. However, when mothers are educated it has a positive influence on infant survival. There is also observed a close relationship between advances in a woman's education and low fertility rates. Women with secondary school are shown to have 2-3 children fewer than women who have not completed their primary education. In Zimbabwe women with no education have 7 births on average, those with some primary education have 6, secondary education or higher have less than 4. Thus education is the strongest tool a women have to control her life. Educating girls may therefore be one of the best investments a country can make. Reason for female discrimination in education varies, but one reason may be the fear that girls will rebel against the patriarchy if they become better informed. (Dankelman et al: 1988: 123-124; Adepoju 1994: 22, 26-27; Tadria 1997: 172).

Although women's access to education has increased, they still make up 2/3 of the worlds illiterate. Africa's illiteracy rates are the highest in the world: 75% for women 54% for men. In many countries women complete 2-3 years of primary education. In some countries boys attend school ten times more frequently than girls. The drop out rate of girls is three times greater than that of boys. Girls are the first to leave the school due to financial crisis. Girls also have domestic duties parallel to school work. They are therefore tired, in a poor state to learn and therefore get poor grades. Depletion of natural resources lowers girls' education further. Loss of forests and deterioration of water resources give girls more domestic cores for firewood and water collection. Thus when the mother cannot anymore cope with the workload, she will need permanent help from her daughters. (Dankelman et al: 1988: 123-124; Adepoju 1994: 22).

Lack of formal education does not mean lack of knowledge. Women have skills in household and childcare. However, such kind of knowledge is undermined and does not qualify women for a share of power and decision-making. Women are also custodians of indigenous knowledge and culture. They

have always been involved in traditional medicine, farming, processing and preservation of food, water management and more. This type of knowledge is vital for the survival of families, communities and the environment. It needs to be valued, protected and developed together with acquisition of new knowledge and skills from which women are still largely excluded. Women are also the first environmental educators. It is through contact with their mothers that young children learn to perceive and to understand what happens around them and how they are related. But in development women are commonly not taking part in environmental training. They are normally invited to partake in training related to health, nutrition and sewing which do not make women equal in society. Paradoxically, although women are the major food producers they receive only a fraction of the available agricultural training. Women also need to develop their capacity for income generation, leadership and technology. Attitudes towards the training of women will therefore have to change. It requires more resources and better coordination, but first and foremost it requires a gender approach to development planning. (Dankelman et al: 1988: 124-125).

6.19. Conclusions on Southern women's relationship to nature

According to Victoria Chitepo, former minister of natural resources and tourism in Zimbabwe, 90% of the Third World's women depend on the land for their survival. Due to their work, women have profound knowledge of ecological processes. This is especially true in Africa where women grow most of the food. But women are also the principal victims of ecological deterioration. Women's problems and those of the environment are interrelated. Both are dominated and marginalized by the existing development policies. Women are losing their traditional rights to natural resources and nature does not get a chance to recover. With the decline of nature also women's lives are becoming increasingly unmanageable. Women are excluded from airing their concerns in development programmes, thus women's needs are overlooked and their knowledge in natural conservation is lost. As a result the close relationship women have with nature, which is build up over generations, is breaking down. This displacement of traditional practices has accelerated environmental degradation. The result is that Africa in a period of 40 years has moved from a position of self-sufficiency in food production to food deficit, with devastating effects on its people. (Dankelman et al 1988: ix, xi, xii, 172-173).

Women already suffer from an inferior position compared to men in the household, the family and in the community. They work harder and get a poorer diet. Their health is poor and the health care is inadequate. They have little or no control over cash, resources and land. One in three women is illiterate. Women get the lowest paid jobs and the poorest working conditions. Their survival depends on using free natural resources, thus environmental destruction hits women the hardest. (Dankelman et al: 1988: 173).

In spite of these adversities women are the ones that can make a major contribution to environmental rehabilitation. They have their traditional knowledge and skills of natural resource management to be built on. Women also have a remarkable ability to work together. They can share their skills and take action. The Chipko and the Green Belt movements, which will be discussed in the following section, are examples of that. Being the primary socialisers of children, women also have a powerful influence over the new generation. They can change people's attitude to nature, generating a lasting habit of environmental protection. Therefore restoring women's access to natural resources will improve their status and independence, which again will increase the well-being of their families. It will also result in a healthier environment. Consequently due to women's work there is a major convergence of interest between environmentally sound development and the development of women. Dankelman and Davidson therefore find (1988: 174) that it is necessary to move on from the perception of women as victims of the environmental crisis and instead empower them as major agents of rehabilitation. (Dankelman et al: 1988: 173-174).

It is, however, highly unlikely that the patriarchal institutions voluntarily will end the exploitation of nature, poor people and women due to the attractive economic profit this domination provides. This fact has caused both women and men all over the world to stand together, defend, and restore the ecosystem and their livelihood. When women and traditional people can no longer sustain their survival needs, they must struggle for their lives and that of nature. The Indian Chipko movement and Kenya's Green Belt movement are examples of such struggles. Both are non-violent and organic alternatives to scientific forestry and water mis-management; both are empowering women and traditional people to take more control of their own development. According to Shiva, movements like Chipko want to recover women's productivity and their rights to provide for a sustained survival of both society and nature. Such ecological movements therefore protest against destruction, not only of their homeland, but also of the entire civilisation. (Dankelman et al: 1988: 47-49, 51, 176; Shiva 1989: 92, 95, 188, 215).

6.20. Ecological grassroots movements in the South; the Chipko and the Green Belt movements

"Revolt is just as necessary to a nation as loyalty. There is no danger when a rebellion fails; what is dangerous is that a whole generation may go by without protesting."

N. P. van Wyk Louw.

(Jordaan et al 1995: 802).

6.20.1. Introduction

The two famous movements Chipko and Green Belt are both considered ecofeminist movements. The reason is that both were established based on a perceived link between the domination and exploitation of women and Others **and** the domination and exploitation of nature. The purpose with the section is therefore to show how people in these two movements perceive the link, what they have done to defend their livelihoods and what their alternatives are. The section consequently presents the two movements and discusses their history, goals, methods and results. The section is concluded with a general analysis of ecological movements in the South. (Dankelman et al. 1988: 49).

6.20.2. The Chipko movement of India

The forests in India are a critical resource for the subsistence of rural peoples. This is evident throughout the country, but especially important for those who are living in the hill and mountain areas. Since agricultural activities cannot be carried out easily in these localities, the forests are essential for people's livelihoods. Forests are providing people with food, fuel, fodder, medicine and building material, but importantly they also are stabilising soil and water resources. As the forests have increasingly been felled for commerce and industry, Indian villagers have organised themselves in order to protect their livelihoods. Chipko is such a movement. It is promoting resistance founded on the Gandhian approach of *satyagraha*. Satyagraha is a method of direct social action, based upon principles of courage, non-violence and truth. In this method, the way a person behaves is seen as being more important than what he or she achieves. Because how one behaves is assumed to determine the results. Satyagraha was used to fight for India's independence from colonialism and to bring about social change. The Chipko Movement received the Right Livelihood Award in 1987. (Bondurant 1979: 27; Seabrook 1993: 91; Chipko 2004a: 1).

The background of the Chipko movement

The forests of India have always been owned by the community, which depend upon them. Because of this, rules and practices for common use in order to meet peoples' needs have evolved over generations. Thus during pre-colonial history management of common property resources was decentralised to the relevant community. The first time forests came under government control was in 1805. Since

England needed timber for building of trading ships the teak trees from India was felled. It started in the teak forests of Malabar. That was also the start of community revolts. During the colonial period, the state introduced scientific management for rational use of natural resources and private ownership. Thus forests became commodities used for private profit and state revenues. With the escalation in tree felling also the uprising of local people increased. A revolt in the Himalaya region in the early 20th century became part of the independence movement, which took inspiration from Gandhi. (Seabrook 1993: 92; Sharma 2001: 383-384).

In the post-colonial period India adopted a development path of modernisation by scientific industrialization. This included unstrained use of natural resources to promote economic growth. Hence state control and demand of natural resources increased. Between 1950 and 1972 India lost 3,4 million hectares of forests. From 1980 to 1982 9,2 million hectares of trees was felled. The whole economy of the Indo-Gangetic plain was being threatened by deforestation. Development consequently dispossessed people of their ancient right to satisfy their basic needs from the natural environment. This has in a collective and organised way been opposed by local people. The struggle of the forest people is therefore about safeguarding access to the resources of their habitat. Hence the Chipko movement has, like most other movements, its roots in the state's disregard for local people's customary rights to use natural resources for vital and basic needs. (Seabrook 1993: 92, 94; Roopnarian 1999: 76; Sharma 2001: 384-385).

Chipko's traditional values

The Indian culture was nurtured in the forests. That is where the *sages* (wise persons or gurus) lived. Eight years old girls and boys were traditionally sent to the ashrams of these sages for education. The children of rich and poor families lived, worked and discussed problems together and with their teachers. From shared experience they reached the conclusions that there is life in all creation and that human life is not necessarily superior to other forms of life. The sages had a worshipful attitude to all life. Austerity was honoured, because it takes less from living nature. The values of Chipko are a continuation, as well as a renewal of this ancient Indian culture. Everything including trees, rivers and stones are conceived as living entities. Each individual is part of others life and non-life and all are part of the Earth. This concept requires respect for everything that surrounds us since part of the self interrelates with the rest of creation. The Western civilisation, on which modern development is based, oppositely teaches us that nature is a commodity, and that society consists of human beings only. Humans consequently see themselves as masters of the environment, which has led to the death of nature. (Seabrook 1993: 93).

In addition to the traditional Indian values, Chipko is historically, philosophically and organisationally an extension of the Gandhian satyagraha. It started in pre-independence and it continued in post-independence. This continuity has been provided by **Sri Devi Suman, Mira Behn and Sarala Behn**. The latter two are European women, who were close associates of Gandhi. As disciples they were equipped with the Gandhian world-view of development based on justice and ecological stability. With this wisdom they contributed quietly to the growth of women's empowerment, social justice and ecological consciousness. They generated a new brand of Gandhian activism, which provided the foundation for the Chipko Movement. (Chipko 2004b: 1).

Much of the early work was done by Mira Behn. She established an ashram in Rishikesh of the Himalayas. Floods raged in the area and Mira Behn realised that it was caused by ecological problems. In an 1952 article Mira Behn stated that there was "something wrong in the Himalaya". Year after year the floods in the north of India seemed to be getting worse, and that year the floods were absolutely devastating. This "something" was not only due to deforestation. It was also because of a change of forest species. This change was mainly a replacement of the traditional Himalayan oak *Banj* with the pine *Chir*, promoted by the state forest department. The *Chir* is commercially very profitable, yielding both timber and resin. The *Banj* oppositely is lacking any commercial value. However, ecologically the change destroyed the mechanism for water conservation in the mountain watershed (the dividing line between two adjacent river systems, such as a ridge). The *Banj* leaves fall annually and create a rich black mould in which a thick mass of underground develops. These bushes, creepers and grasses add in turn their leaf-mould deposit. The result is a forest floor in which almost all rainwater is absorbed. Some of the water evaporates back into the air and generates rain. The rest percolates slowly down to lower altitudes providing sweet and cool springs elsewhere. Thus the *Banj* forest has an essential ecological value as an ideal shock absorber for the monsoon rains. The *Chir* produces the opposite effect. It makes a smooth dry forest carpet, which absorbs nothing and even prevents the development of any under-growth. Thus when the torrential rains of the monsoon beat down on the slopes of the Himalayas the pine-needle carpet gets washed away and soil erosion takes place. It was these early lessons in ecology, which later on became the basis of Chipko's ecological perspective. (Shiva 1989: 66-70; Seabrook 1993: 94; Chipko 2004b: 1-2).

The people in Chipko

Chipko's leaders and activists are primarily village women, who due to their traditional work are most closely affected by the loss of natural resources. **Dhoom Singh Negi, Bachi Devi** and many other

village women were the first to save trees by hugging them. They coined the slogan: "*What do the forests bear? Soil, water and pure air.*" (Shiva 1989: 72; Chipko 2004a: 1).

But men are also involved in Chipko. One prominent person is **Sunderlal Bahuguna**. He is a well-known and highly estimated Gandhian activist and philosopher. He joined the independence movement at the age of 13 years and was influenced by Sri Dev Suman. Later on Bahuguna worked with Mira Behn and was trained in her ecological vision. Bahuguna has been active in spreading the information about Chipko in India. Later on he also spread the information about the aim and purpose of Chipko to the wider world. Bahuguna is the leader of the **Crusading Gandhians** which by Sharma (2001: 385-386) in his research about ecological movements has been categorized to be one out of three different strands of the Chipko movement. It should, however, be added that Chipko does not in its own material divide the movement into different strands. The Crusading Gandhians are *opposed to industrialisation*. In their opinion ecological problems are related to industrial promotion of materialism and consumerism, which they see as moral problems. Another branch of Chipko, according to Sharma (2001: 386) is a Marxist ecological group called **Uttarkhand Sanharsh Vahini**. They *oppose capitalism*. In their opinion unequal access to natural resources is causing ecological problems. The group also protest about wider issues like illicit liquor sales and mining. **Chandi Prasad Bhatt** is one of the earliest Chipko activist. He started in 1959 when he met Bahuguna at a bus stop. He founded **Dasoli Gram Swarajya Sangh** (DGSS). DGSS is an NGO promoting creation of local small-scale industrial cooperatives based on sustainable use of forest wealth and appropriate technology. Bhatt's special strand of Chipko (Sharma 2001: 386) *blames the modern development paradigm for ecological destruction*. Mainstream development has an urban bias and its technology is directed to large-scale activities. Such a model works against local, economic and ecological self-reliance. The group's values are Gandhian. They also protest against liquor sales, untouchability and the forest contractor system. Due to the overlapping and interrelated goals, all of the above groups joined forces in the Chipko movement against forest destruction. Another important inspiration to the movement is the poet **Ghanashyam Raturi**. Raturi's songs have been echoing throughout the Himalaya hills, mountains, forests and valleys of Uttar Pradesh. Together with the above-mentioned people Raturi helped to regenerate traditional ecological awareness. In 1972 Raturi wrote the famous Chipko poem describing the method of embracing the trees to save them from felling: "*Embrace the trees, and save them from being felled; the property of our hills, save them from being looted.*" The concept of saving trees from felling by embracing them is old in Indian culture. It originated from historical events some 260 years back in the early part of the 18th century. In the Bishnoi community of Rajasthan a large group from 84 villages led by Amrita Devi laid down their lives in an effort to

protect the trees from being felled on the orders of the Maharaja (King) of Jodhpur. After the incident the Maharaja gave a strong royal decree preventing the cutting of trees in all Bishnoi villages. However, in the new context Raturi's poem is the earliest source of the now famous name "Chipko". (Seabrook 1993: 91; Mawdsley 1998: 39; Sharma 2001: 385-386; Chipko 2004a: 1-2; Chipko 2004b: 1-3).

Although Chipko normally is presented as a women's movement men have genuinely been committed. In addition all age groups as well as all caste groups have participated without any conflict. Although the leadership is completely inside based, Chipko has also been supported from the outside by the press. Moreover some scientists have also played a positive role for the movement. Since both men and women have participated Sharma (2001: 392) does not consider Chipko a feminist movement. Mawdsley (1988: 44) differently finds that most of the activists at the beginning were men but later on the movement was sustained by women. Shiva (1989: 72) argues that Chipko to a far extent was lead by women. Dankelman and Davidson (1988: 49) agree to this. They add that Chipko has become known worldwide as an ideal example of an ecofeministic movement for sustenance of life. The reason women have been most active in Chipko is that they in their daily duties mainly feel the consequence of the deforestation. Men oppositely are earning money on tree felling and by working in the sawmill. Women resist tree felling because felled trees cannot regenerate themselves, and therefore cannot anymore be used for subsistence. When the trees are dead, it is also the death of women. This view is supported by one of the Indian women Gurli Devi. She is the president of a women's forum in the remote Himalaya village of Gadkharkh. It was here the Chipko movement started in the late 1970s. In this case women took action and called a halt to deforestation. Gurli Devi argues that "when men governed the forest, it was destroyed: therefore we have taken the responsibility for protecting the jungle into our own hands." However, a young man, Sachidanand Bharati, joined the Chipko early and was a catalyst in the activities. He later on became a college lecturer, but is still guiding his community. Thus also some men were involved. But Gurli Devi's view on the gender issue is clear, (Dankelman et al 1988: 60) "Women have more discipline to carry out any movement. Women can take it to the end, men change their minds." However, whether Chipko is a women's movements or not is of no great importance. The issue at stake is that Chipko was organized due to an experienced link between a domination of women and Others **and** a domination of nature. (Dankelman et al 1988: 49, 58-60; Shiva 1989: 72; Mawdsley 1998: 44; Sharma 2001: 393).

Events that brought life to the Chipko movement

In the 1960's road construction opened the Himalayan forest area to outsiders. The roads made the

forests easier to access for contractors and workers. The consequence was that the rate of tree felling increased. Connecting the mountain areas to the cities also meant that many local men travelled to the urban areas looking for jobs. Commonly the men spend their cash income on clothing, radios, alcohol and cigarettes for themselves. Their families did not benefit from the income. Instead the women and children stayed in the hills, where they had to live on an increasingly impaired resource base. That gave them multiple difficulties. With the city life also the liquor shops were spreading in the hills. When the men's drinking habits escalated the suffering of women and children increased. This hardship led in 1961 to Gandhians organizing themselves into an anti-liquor movement, which became the basis for women's organisation. Thus the women faced two interrelated problems: drunken husbands who became violent, and deforestation, which was violent to their livelihoods. With increased awareness of interconnections in the situation the focus of the women soon changed from concerns about alcohol to concerns for the forests. At that early stage it was believed that contractual felling of the trees was the problem. The demand was therefore abolishment of the contractor system and transfer of raw material to local units. At the same time people established forest based small-scale industries. The conflict over commercial use of forests became increasingly frequent and vocal in the beginning of the 1970s. December 1972 saw the most widespread organised protests against commercial exploitation of forests. It was during these protests that Raturi composed his famous poem describing the method of embracing the trees to save them from felling. This became the foundation for Chipko. Consequently Chipko challenged the commercial forestry system but tried also to "decolonialize" the minds of the local men who had become addicted to the greed of the economic profit system. As Shiva says (1989: 77) those who only can see the commercial value of forests have "a crisis mind". (Shiva 1989: 72, 77; Seabrook 1993: 92, 94; Chipko 2004a: 1; Chipko 2004b: 3).

It was a combination of specific events that activated Chipko. One important issue was that the forest department neglected the interests and needs of local people. The staff instead connived with external contractors. This made the tree felling system corrupt. It also promoted excessive tree cutting that resulted in deforestation, which in the early 1970 caused disastrous floods. The relationship between local people and the forest department staff further deteriorated when local users were charged higher prices for wood than outside industries. It added to the tension that the forest department and its contractors preferred to employ migrant workers rather than giving jobs to local men. These issues had already caused a variety of protests in places. However, the last straw came in April 1973 when the forest department denied 10 ash trees to a local cooperative in Mandal, Alaknanda Valley. The trees were needed for production of agricultural implements. At the same time the department had auctioned 300 ash trees to an outside industrial sports company. The Mandal cooperative was engaged

in DGSS, which, under the leadership of Bhatt, together with local women, decided to intervene with the axe-men. They went into the forest, formed a circle around the trees, preventing the men from cutting them down. Having succeeded in stopping the tree felling in their own area the demonstrators alerted nearby villagers. Since it was now their forest, which was under threat, the women, offered to help defending them. Later on, in December 1973, there was a demonstration in Uttarkashi with participation of thousands of people. And in March 1974, 27 women, under the leadership of Goura Devi, saved a large number of trees from being felled in Reni. After the Mandal success actions spread to many districts of the Himalaya Uttar Pradesh. By time resistance to forest destruction expanded throughout India. It became known as the Chipko movement. It was formed from the result of hundreds of decentralised and locally autonomous initiatives. (Seabrook 1993: 91; Mawdsley 1998: 39; Sharma 2001: 385; Chipko 2004a: 1; Chipko 2004b: 4).

Following the 1974 Reni demonstration the state government of Uttar Pradesh was in 1975 forced to abolish the private contract system of felling. This was the first major achievement of the movement. However, the co-operative that took over where the contractors left, made no difference. Hence by 1977 Chipko demanded that there should be a ban on all tree felling. Consequently at first Chipko demanded supply of forest products for local industries. But when the ecological devastation became obvious, the demand evolved into environmental control of forests to ensure supply of water, food and fodder. When the authorities realised that the problem had developed into an ecological issue, they became more hostile. The state wanted their revenue from tree felling, whether it came from external or local industries. A ban on felling would mean economic loss. The central government, which had little to loose, agreed to a ban, but the local government protested. Therefore, the latter sent axe-men to Adwani forests in 1977. But large groups of women led by Bachhni Devi came forward to save the forests. The women guarded the forests day and night. They hugged the trees and cried at the axe-men, who got scared and fled. They tied sacred threads to the trees as a symbol of their vow of protection. They also recited ancient text continuously. It was here that the Chipko ecological slogan "*what do the forests bear? Soil, water and pure air*" was born. The government can only perceive forests as timber and foreign exchange, but the women see it differently. For them forests are the basis of life, which is sacred. Although the police was called by the contractor, the women were not intimidated. Each tree was guarded by three volunteers who embraced it. Hence the level of awareness of the village people defeated the police, who withdrew before nightfall. This type of consciousness has spread all over the country, which has made it difficult for the state to have it their own way. (Seabrook 1993: 95-96; Chipko 2004b: 5).

Bahuguna says that the state has two principal weapons, which are fear and greed. Chipko's main task is therefore to make people fearless and greedless. These are alternative weapons. If fear is fought with fear more terror will be created. The winner will need an ever-bigger army to maintain the victory. Similarly, people become more and more greedy by the promise of rewards. They cannot find a limit. Even when they achieve their objective people will ask for more. Hence to fight devilish weapons, divine weapons are needed. Therefore when the opponent becomes fearless, he is elevated from inside and becomes noble. (Seabrook 1993: 95-96).

In 1980 the Chipko Movement achieved a major victory with a 15-year ban on commercial felling of the Himalayan forests in Uttar Pradesh. It was ordered by the late Mrs. Indira Gandhi. The movement was also putting a halt to clear felling in the Western Ghats and the Vindhayas. The success gave Chipko breathing time to expand their base. It was in this connection that Bahuguna undertook a 4,780 km long Chipko foot march from Kashmir to Kohima. The aim was to contact villagers in the Himalaya range to spread the message of Chipko. At the same time activists spread the movement to other mountain regions in the country. With the ban the Chipko movement generated a pressure for establishing natural resource policies, which are sensitive to people's needs and ecological requirements. But the achievement of Chipko is more. It spread to many parts of India; it raised ecological awareness; and it inspired various movements and actions. Many Chipko members expanded their activities to protest against other attacks on their resource base. An example is the successful protest against limestone quarrying in the Doon Valley in Uttar Pradesh. The Doon Valley receives good rainfalls during three months of the year. This water is kept in natural storage tanks underground. But when limestone mining began, forests were cut down, and the underground tanks were destroyed by debris from the mining. When it rains the water runs off the slopes, creating floods and causing soil erosion. Although the lease had expired in 1982, mining carried on. In 1986, when 12 water springs had gone dry, the women took action and started a Chipko movement. Through common efforts they made an effective blockade against the mining operation in the area. Thus the women of Doon Valley regained their power, and decided to take over management of their own natural resources. The Chipko movement consequently expanded their peaceful and caring embrace from trees to include mountains and water. Another more recent activity was Bahuguna's hunger strike against the proposed Tehri Dam. He grew up in Theri and knows the area well. Local people are against the project because the rocks on which the dam is to be constructed are deformed and unlikely to bear the weight of the vast volume of water. If the Theri Dam is ever finished it would be the highest dam in the world and an invitation for a disaster of epic proportions. The public profile of Chipko has helped it to be seen as an ecological sustainable movement. It has turned to reconstruction

providing a new knowledge system and a new development paradigm rooted in Indian tradition. (Shiva 1989: 207-210; Seabrook 1993: 97; Roopnarian 1999: 77; Sharma 2001: 416, 418; Chipko 2004a: 2; Chipko 2004b: 5).

The Chipko movement's demands and methods

Overall Chipko wants an alternative path of development, which includes political and economic decentralisation. Production should be based on technology that promotes self-reliance, social control and ecological stability. In details the aims are **first** and foremost a demand that the contractor system of tree felling is completely stopped. Instead village industries should be set up. They should be based on minor forest produce manufactured through ecologically sound technology. This would increase local income and reduce migration. **Secondly** Chipko wants ownership of natural resources to be returned to the villagers. Only people living in the area can establish a harmonious relationship with the forest, hence they should be in control. **Thirdly** the people in the area should be organised for conservation and development. The minimum resource needs for local people should be established and satisfied. Landslide and soil erosion areas must be identified and reserved. Trees of use to villagers should be planted near the village so people do not need to go into the reserved areas. Reconstruction activities have been established. They include afforestation, soil conservation, energy saving devices and eco-development camps for consciousness-raising. In 1978 people planted 1 million trees with a survival rate of 75%, against the government sponsored 14%. The Chipko movement promotes sustainable forestry. Only specific mainly indigenous trees and vegetation should be grown. Local people know what to grow and what can live. Apart from Banj they plant walnut, soap nut, bakin, roon, China pear, mable, orange and lemon, Bhimal, cedar, poplar, and williw. A hundred years ago the hills were more than self-sufficient with things like honey, herbs, wood, dairy products. The traditions and resources of the people are still there. Thus Chipko have faith in their system and in their ability to restore this self-sufficiency. (Seabrook 1993: 97; Sharma 2001: 401).

Mawdsley (1998: 41-43) finds that the Chipko also has developed into an independence movement. The Uttaranchal region was historically separated from India. However, under colonialist rule it was taken over and exploited for its forests. After colonialism independence was not supported by its hill people. But in July 1994 independence became a mass movement. Most people see a separate state as being the solution for their lack of political voice. The movement for independence have similar demands as the Chipko. Consequently Mawdsley (1998: 51) finds that the Chipko movement is much more complex than many authors describe it to be.

Chipko has been using a variety of means to be heard. They have taken confrontational actions at several occasions. Their main methods include demonstrations, road blockades, hunger strikes, foot-marches, and hugging trees. They also use communication like folk poetry, folk songs and ancient religious texts. They have been writing articles in newspapers and magazines and participated in international conferences. (Sharma 2001: 406).

Both the state and the contractors tried to take control over Chipko, but they failed. The contractors tried to dis-mobilize the movement by dis-integration. They spread rumours about parts of the movement to other parts. But they did not succeed. The state tried to cheat the villagers. They called the men to town while at the same time sending tree felling contractors to the forests. This attempt failed, because it was the women that protected the trees. The state did, however, not try to repress Chipko. One reason for this is that the movement did not provoke the state as such. Rather the movement blamed mainly the local forests officials for exploitation. In addition, two important leaders of the movement, Bahuguna and Bhatt, are staunch Gandhians who enjoy a good name and fame in India. Therefore repression would not have benefited the state. (Sharma 2001: 409, 412, 416).

Sharma (2001: 401) argues that the aim of the Crusading Gandhians is to return the economy to a pre-industrial level. Mawdsley, however, (1998: 42) disagrees. The people do not want to return to a idealised traditional past, which may or may not have existed. Instead they want to control their own natural resources according to local needs, and they want to formulate their own development planning. This seems much in line with what the Chipko themselves express:

Chipko - a paradigm shift in development

Both the early forest satyagrahas and the contemporary form of the Chipko movement are rooted in conflicts over forest resources. They are similar cultural responses to forest destruction. What differentiates the current Chipko movement from the earlier struggles is its ecological basis. This relates to the alarming signals of rapid environmental destabilization. Villagers were no longer self-sufficient with food; soil fertility in the hills was declining; water sources began to dry up; floods and landslides began to occur in river systems, which used to be stable. Thus the initial concern for distribution of material benefits, evolved to distribution of ecologically generated costs. The existing model of scientific and technical forestry is limited to viewing forests only as sources of commercial timber. This gives rise to prescriptions for forest management that should maximize commercial wood. It is achieved by destruction of biomass, which has no commercial value, but which is important to people and has ecological significance. Thus non-commercial biomass is destroyed to

ensure increased production of commercial biomass. Consequently the ecological capital, which has evolved over thousands of years, is being mined for profit. (Chipko 2004b: 6).

The contemporary Chipko movement is consequently the result of multi-dimensional conflicts over forest resources. It is directed to scientific, technical, economic as well as ecological levels at the same time. It is not anymore about distribution of forest resources but a demand for ecological rehabilitation. The awareness the Chipko actions has raised has exposed the social and ecological costs of short-term growth-oriented forest management. (Chipko 2004b: 7).

There is a perception that ecological concerns are separate from development. Ecological movements are seen as being interested only in non-material issues, while development is seen as being focused on material realities. But this is a false and dangerous dichotomy. It disguises the real dichotomy between a model of sustainable development, which is ecologically balanced, and development based on unsustainable and ecologically destructive economic growth. The latter is achieved through destruction of life-support systems and material deprivation of marginal communities. Genuine development can only be based on ecological stability, which ensures sustainable supplies of vital resources. Gandhi and later on his disciples Mira Behn and Sarala Behn clearly described how and why development is not necessarily a contradiction to ecological stability. By questioning the destructive process of growth, ecological movements like Chipko are not obstacles to the process of providing material welfare. On the contrary, by constantly keeping ecological stability in focus, they provide the best guarantee for ensuring a stable material basis for life. Thus Chipko promotes a paradigm shift in development. The ecological science of the Chipko slogan "*What do forests bear? Soil, water and pure air*" stands in clear contrast to the modern scientific slogan "*What do the forests bear? Profit on resin and timber*". The insight in these slogans also symbolises the cognitive shift in the evolution of Chipko. The movement underwent in 1977 a qualitative transformation from being based mainly on conflicts over resources, to conflicts over philosophical perceptions and scientific approaches to nature. The slogan has therefore become the philosophical and scientific message of the movement. It has laid the foundation of an alternative forestry science, which is ecologically and socially based. (Seabrook 1993: 97; Chipko 2004b: 7-8).

Scientific forestry is in its present form a reductionist system of knowledge, which ignores the complex relationships within the forest community, between plant life, soil, water and air. Its resource utilisation is based on increasing productivity. By ignoring the system's linkages resource use generates instability in the ecosystem, which leads to counter productive results at the eco-systemic

level. The destruction of the ecosystem adversely affects the interest of those people who depend on a diversity of resources. These resources include provision of food, fodder, fuel, fertiliser and soil and water stability. (Chipko 2004b: 8).

Thus movements like Chipko are simultaneously a critique of the reductionist scientific system with its focus on private profit **and** the articulation of an alternative framework for science based on ecology and public interest. The alternative framework defines productivity, yield and value for the integrated ecosystem and its multi-purpose utilization. In this way the meaning and measurement is entirely different from that which is used by the reductionist model. It is a shift similar to the shift from the Newtonian to the Einsteinian physics. Also here the term "mass" changed from a velocity independent term to a velocity dependent concept. Hence in ecological forestry there is also a change of terms from eco-systemic independent concepts to eco-systemic dependent terms. Although herbs, tubers, fibre and gene pool is not seen as being productive in the one-dimensional scientific view, these are useful and indispensable parts of the overall productivity of the ecosystem. (Chipko 2004b: 9).

The substitution of Indian natural forests by eucalyptus plantations has been justified on the grounds of improving the productivity of the site. This, however, is a conflict between reductionist scientific forestry, which responds to industrial and profit requirements only **and** ecological forestry, which considers the interest of nature and human beings. It is a conflict over which and whose needs are most important. The concern for human and ecological needs is symbolised in Bahuguna's well-known slogan "*Ecology is permanent economy*". The urgency of establishing a new economy of permanence, based on ecological principles is felt with each new environmental disaster in the Himalaya region. Chipko's demand is not only conservation of local forest resources but the entire life-support system, and with it the option for human survival. This is in line with Gandhi's mobilisation for a new society in which neither people nor nature is dominated, exploited or destroyed. (Chipko 2004b: 10).

6.20.3. The Green Belt movement of Kenya

Wangari Maathai and the Green Belt movement of Kenya received the Right Livelihood Award in 1984, Women of the World Award in 1989, and the Nobel Peace Prize in 2004. (Seabrook 1993: 49).

What is the Green Belt movement?

Maathai is a professor at Nairobi University, trained in veterinary anatomy. She is also the chairperson of Kenya's National Council of Women. It was here, the idea of the Green Belt movement (GBM) was

born. GBM is a national, broad-based grassroots tree-planting activity. It is a grassroots struggle against desertification, deforestation, soil loss and fuel wood scarcity. The main practical objective is to reclaim land, replenish soils and conserve water by planting trees. But the aim is also to promote environmental conservation, rational land use and to give employment opportunities to rural women. In addition, the goal is to provide a forum in which women can be creative and effective leaders. Working with the GBM gives women the ability to change their environment and make their own decisions. GBM is also committed to increasing the public awareness of the relationship between environmental degradation and issues of poverty, unemployment, malnutrition, mismanagement of natural resources and the impact these problems have on the political and economic situation throughout Africa. Thus thousands of Kenyan women are playing an active part in a nationwide environmental protection. For them the tree is a symbol of hope, and an indicator of what must be done to conserve the environment and ensure development. The first trees were planted on World Environment Day 5th June 1977 in Nairobi. By 1992 GBM had over 1,000 nurseries. More than 10 million trees, with a survival rate of 70-80%, have been planted in Kenya. GBM has produced income for over 50,000 women and up to 80,000 women are involved in the work at the nursery sites. Since the objectives are valid for many countries in Africa, the movement has spread to 12 other African countries. The hope is to establish an All-African Green Belt Movement Network. (Maathai 1992: 23-25; Seabrook 1993: 49; Roopnarian 1999: 75; Women Aid International 2004: 1-2).

The values of the Green Belt movement

GBM is a rediscovery of traditional values and knowledge of farming and forest maintenance, which was in use before European farming practice displaced them. When the movement began Kenya faced severe decline of soils, land and forests. Its forest cover had been reduced to 2.5% of the land area and approximately 60% of the land was degraded. A related crisis was lack of fuel-wood. A large part of Kenya's foreign exchange is spent on import of fuel energy. But the poor do not benefit. Instead they rely on bio-energy. With an annual population growth of 3.8% there is pressure on scarce fuel-wood in Kenya. This is exacerbated by industrial uses of wood. A related problem is decrease of agricultural production. Where fuel-wood is un-available, cow dung and organic residues, which previously was applied as fertilizers to the soil, is now used for fuel. Lack of fuel-wood has also meant that women must alter eating habits. They replaced wholesome traditional food, which needs longer cooking, and thus more fuel-wood, with easy cooking refined carbohydrate meals like tea with bread or rice. This disrupted traditional, balanced feeding patterns and lead to malnutrition in children as well as adults. Thus women found themselves in an impossible situation. They had to produce food from increasingly impoverished fields, spend long hours in search of fuel-wood for cooking, while being less physically

strong. But this has changed with the GBM. Since GBM is identified with survival it calls for a powerful response in women. GBM relates to the needs and problems of Kenya and focus on solutions based on traditional knowledge. Thus GBM is using indigenous expertise and local resources. It encourages people to help themselves. The aim is to create confidence in local people. GBM's therefore discourage participation by technicians and managers from outside. Local people are easily overwhelmed by experts, because the experts make people feel incapable and backwards. Thus GBM wants to transfer technology from experts to the people. They have demonstrated that old non-expensive traditions are beneficial to revive. They focus on planting indigenous trees suitable for the specific environment, and they want to protect the genetic resources of Kenya. GBM has in this way shown that forest techniques are not the sole prerogative of experts. It is embodied in the popular practice of women. In this way GBM has become a mass movement. (Maathai 1992: 25; Seabrook 1993: 50; WomenAid International 2004:1).

Practical methods of the Green Belt movement

It is normally the communities or individuals who contact GBM. Before an agreement about planting trees has been reached GBM informs communities about the problem of desertification. The movement also consult people about local issues. Groups that wish to participate must then prepare the available land to meet specifications. A member of the Green Belt staff inspects and approves of the land before application can be filled out. Before the planter receives any trees a Green Belt promoter discusses the physical demands and maintenance requirements of new seedlings. Care is taken to ensure a thorough understanding of participants' obligations in order to foster a high survival rate for the trees. After planting the activities are followed up by nursery attendants and Green Belt rangers. The Green Belt rangers periodically check the progress and care of the trees and offer advice on any problem. This helps to ensure success. Many of the rangers are poor and handicapped individuals. In GBM they are provided with employment that would otherwise be unavailable. (Seabrook 1993: 61; WomenAid International 2004: 1-2).

Before planting the participants recite a personal commitment to the country and future generation, which goes as follows:

"Being aware that Kenya is threatened by the expansion of desert-like conditions, that desertification comes as a result of misuse of land by indiscriminate cutting down trees, bush-clearing and consequent soil-erosion by the elements, and that these actions result in drought, malnutrition, famine and death, WE RESOLVE to save our land by averting this same desertification by tree planting, wherever possible." (Seabrook 1993: 61).

When a large green belt is planned the movement organises a ceremony inviting important guests of honour. This is done in order to emphasize the significance of the event and to heighten community awareness of the project. It also provides the opportunity to connect the National Council of Women with community leaders and make networking possible between women's groups and other organisations. (WomenAid International 2004: 2).

The benefits from the Green Belt movement's activities

GBM offers both short and long-term benefits. Trees are planted to meet the immediate community needs like fuel-wood, fencing, building and shade. But gradually people learn that trees also prevent soil erosion, which leads to loss of soil fertility, poor crop performance and famine. Thus GBM recreates readily available sources of energy and bring nutrition to both humans and livestock. It restores damaged environments, conserves soils, encourages rational land use and provides work. (Maathai 1992: 25; Seabrook 1993: 61).

Promoting a positive image of women is very important for the GBM. Involving women as equal participants in and developers of the green belts leads to a positive self-image and provides models of significant female achievement. (WomenAid International 2004: 1).

Tree nurseries and afforestation programmes offer the chance of more employment in rural areas. By integrating the physically disabled and the young school-leavers GBM is giving opportunities to groups in society who may not otherwise have be able to generate an income. The hope is that people will be encouraged to remain in their communities, rather than migrating to the urban areas in search of job or charity. This again stops the increase of urbanization and the spread of city slums. (Seabrook 1993: 61; WomenAid International 2004: 1).

The most important improvement, however, relates to GBM's impact on the environment. This is done by educating both adults and children. GBM helps people to understand the relationship, which exists between a healthy environment, food production and human health. Small-scale farmers learn to appreciate the connections between conservation of forestry soil and their own need for wood. Also children gain exposure to environmental issues through GBM projects at their schools. (WomenAid International 2004: 1).

Thus GBM integrates environmental, social, political, economic and gender issues. It is involving the whole population, children, the disabled, women food producers and other farmers. It proves that

much can be accomplished through grassroots projects as long as they respond to the multitude of real, felt needs. It confirms that improvement of women's condition also improve the overall social situation. (WomenAid International 2004: 2).

The reasons for the Green Belt movement's success

Maathai (1992: 25) finds that the good results and the strong local support to GBM relate to the following points: The programme responds to local needs and it makes good sense for people. The activity is honest and it benefits people. Motivation may develop slowly, but GBM is patience when necessary. In this connection it is of great importance that the activities give both short-term and long-term results. GBM also finds it important to reach decision-makers at the same time as the rural communities. When leaders are committed to the activity, it gives an extra motivation for local people. Rather than telling people what to do GBM work with people, which give good relationships and good results. The activity creates a forum for continuous dialogue. People have much to learn from each other and protecting the world is benefiting everyone.

The challenge ecological movements present to the state

Wangari Maathai is a prominent member of the opposition party in Kenya. When they formed the new government Maathai was appointed Deputy Minister of Environment. However, under Arab Moi's government Maathai was repeatedly harassed, beaten and arrested. She and other women were fired on by the Kenyan police when they tried to plant seedlings in Karura, Nairobi replacing trees felled by real estate developers. She shared the fate with many of those who work at the limit of what is tolerable to those in power. (Seabrook 1993: 61; Roopnarian 1999: 75).

In the modern state model, the natural environment and its resources are normally controlled by the state. It means that the state provides criteria for people's access to resources. Due to the state's priorities and the government's lack of recognition of gender roles, rural women feel the consequence of the bias towards economic activities. Due to gender roles women's reproductive work makes them dependent on natural resources. This need is, however, not recognized by those who want to exploit the environment for production. Thus the debate that links women and environment is a debate about the restricted access particular groups has to natural resources. Activism by the GBM, Chipko and other movements is asserting a claim over the environment and its resources, which women are often denied. Hence such movements are contesting political and gender roles, both of which are sensitive issues. The reason movements like GBM and Chipko become strong is that protecting the forests from commercial interests is for the women a matter of survival. Thus GBM and Chipko have become

effective movements that want to transform existing power relations and balance women's gender interests with sound environmental policy. (Roopnarian 1999: 75-76; Seabrook 1993: 61).

Ecological movements - a paradigm shift in development

A reality is that women's legal, traditional and practical control over basic and necessary resources is deteriorating. This creates gender conflicts and lower women's status. Women are also not represented in the institutions, which makes decisions about resources. Lack of resources means increase of women's work. More hours are spent on water and fuel-wood collection and less time is available for agricultural production and childcare. In addition, development strategies devalue indigenous knowledge and skills. Women are also excluded from institutions through which modern science is created and transmitted. Movements like Chipko and GBM are making aware of the problem, which can have a huge impact on both improving the environment, correcting gender inequalities and consequently changing mainstream development planning worldwide. This is of great importance, specifically in times when the new economic globalisation is spreading, resulting in increasing exploitation of natural resources and marginalisation of women and poor people. Thus women and poor people need to organise due to their own and nature's survival. (Roopnarian 1999: 77-78).

6.20.4. Some conclusions on Southern ecological movements

Sharma (2001) has analyzed 6 Southern movements including Chipko. He concludes that they have some similar elements and principles:

- * A movement is a conscious, collective and organised effort to challenge a system to meet some commonly perceived goals. (Sharma 2001: 379).
- * Ecological movements mainly focus on critical life issues like livelihood, culture, spirituality and morality. (Sharma 2001: 382).
- * It is mainly the rural lower and lower-middle classes, which lead the ecological struggles in the South. (Sharma 2001: 382).
- * The dominant contradiction is normally between the local users and defenders of natural resources **and** the exploiters of natural resources being elites from both North and South. (Sharma 2001: 382).
- * Movements find that the neutrality of the state system has been eroded in favour of the dominant class. Hence the state has betrayed the masses by aligning with the elite. The goal of such movements is therefore to change the existing state hegemony and dominance. They want to create an egalitarian society with an alternative indigenous paradigm of development. (Sharma 2001: 380, 382).

* Southern movements are questioning the Euro-centrism of science and technology and the catching-up development aimed at Western modernisation, together with the Western extremist culture based on competition and the Olympics principle of "more, higher, faster, better". These are the issues, which are hidden beneath the crises of the arms race and war, mass starvation and poverty, and destruction of nature. Movements do not reject progress and science per se. What they want is a science and technology that include indigenous culture and knowledge. They want to redefine the development paradigm to be holistic, gender-equal, democratic and ecological sustainable. (Sharma 2001: 380).

* Environmental problems are multi-dimensional, hence solutions requires a multi-pronged strategy. When the movement becomes broad-based it tends to be more successful. Alliance between different ecological movements is necessary to share experiences, to get support, to overcome internal conflicts and to jointly fight the exploitative system. (Sharma 2001: 380).

In general Sharma (2001: 381) finds that ecological problems in the South are largely generated by the patterns of over-consumption and mass-production in the North. Globalisation has generated a massive demand for material resources from the South, hence a dominant and exploitative relationship has emerged. This includes both external and internal factors. The **external factors** include exploitation from the global capitalist system promoted by the G-8 and the multilateral financial institutions. Both are supporting industrialism for profit and consumerism and both are promoting mega development projects in the South. An exacerbation is the WTO and its so called "free" trade, which for the South means adverse terms of trade. Finally there is the inadequate technology transfer. All of these issues are partly responsible for poverty and ecological problems in the South. **Internal factors** are also significant. Some issues of relevance is the unequal distribution of means of production, commercial exploitation of natural resources by the national elite and state connivance with the upper class. (Sharma 2001: 381-382).

Conclusively ecological movements are a social process of organised resistance over a sustained period of time that challenge the political and economic system. It comes about because people in one way or another are dis-empowered. Their focus is on critical life issues. They want to create an egalitarian and autonomous political space in society for the lower classes. This is seen done by restraining the activities of the state, the elite and the market. They find that people have a right to participate in activities that affect their economic, social, cultural and political life. They therefore demand decentralisation and democracy in governance, and all want an alternative paradigm of development. Any change must be based on decision making from the bottom and up; it must include dignity and cultural identity; it must be without ecological destruction and human displacement; and it must be

gender equal. They want a need-based production system with soft technology, integrating both indigenous knowledge and modern science. It must be a production systems without conspicuous consumption pattern. The ultimate goals are: Maintenance of local people's cultural identity; collective self-empowerment and self-reliance; ecological stability and sustainability; economic, social and political equity; in a justice based society. (Sharma 2001: 380, 385, 403, 419-420).

6.21. Shiva's work; critique, response and conclusion

6.21.1. Critique of Shiva's work

Many authors have criticized Vandana Shiva's work. The most repeated critiques are presented below. They include mainly two issues: **a)** Shiva's "the feminine principle" and her use of "women" are seen as being essentialist concepts. They do not include diversity, nor do they analyze gender roles and the power underlying them; **b)** Traditional tribes may have lived more organic than modern society, but they were not necessarily free from dominating women and nature. It must be stressed that although various writers disagree with Shiva's perspective, they do not question the ecofeminist foundation: that there is an interconnection between the domination of women and Others **and** the domination of nature. The disagreement relates to the type of connection.

Davion finds (1994: 20-21) that Shiva glorifies the feminine as a principle rather than analysing it as a gender role. Although she does not define it, Shiva combines the feminine principle with nurture and conservation. Davion finds Shiva's argument regarding mal-development convincing (presented in Part I), but her inclusion of the feminine principle blurs the analysis. In this way Shiva assumes that gender roles is not the problem, the problem is rather the devaluation of the feminine role. This is questionable and has to be shown. It is dangerous to assume that there is something natural and good in gender roles. It suggests that there is a natural division of labour and that the problem comes from a devaluation of the feminine side. (Davion 1994: 20-21).

Braidotti, Charkiewicz, Häusler and Wieringa (1994: 112) also find Shiva's arguments regarding mal-development persuasive. But at the same time Shiva tends to idealize everything that is local and traditional. Both Mies and Shiva are overly critical of all things Western, while being much less so of traditional economies and cultures. Such focus leaves out the indigenous structures of exploitation and domination. Examples are the caste structures in India, the moneylenders, the class conflicts, and the patriarchal subordination of women. Moreover religious fundamentalism in India and in the Arab world is also associated with the recovery of traditional cultures; these have serious negative consequences for women's status. (Braidotti et al 1994: 95, 112; Mellor 1994: 119).

For Braidotti et al (1994: 112) it is a mistake to negate the validity of Western science and modernity. It is not feasible to go back in history. There are positive and negative elements in both tradition and modernity. They find that the choice today is more between what they call critical modernism and critical traditionalism. The possibly best solution is democratic negotiations between different interests, allowing for the means of survival for all. In such negotiations the questioning of trade, consumerism and the destruction of nature that these cause are crucial. (Braidotti et al 1994: 112).

Braidotti et al (1994: 94, 172), however, focus their main critique on essentialism and women as being naturally more attuned to the environment. They support Bina Agarwal's work, which argues that women should not idealize their position but aim to deconstruct the power structures that ideologically and materially constrain women. (Braidotti et al 1994: 173; Mellor 1994: 121).

In spite of their critique Braidotti et al (1994: 169) acknowledge the importance of Shiva's contribution to the rethinking of gender and development, calling for multicultural alliances that acknowledge "the subjugated knowledges of oppressed people". (Mellor 1994: 119).

Bina Agarwal has strongly criticized ecofeminism. It is unclear whether her critique is directed to ecofeminism or to Shiva. In her text she continuously mentions ecofeminism. However, she writes (1998: 62) that she refers in general to India and specifically to Shiva's work. Agarwal (1998: 57) argues that ecofeminism cannot promote gender equality. The reason is that ecofeminists do not analyze the political and economic factors, which are underlying women's subordination and nature's degradation and their interlinks. Ecofeminists consequently ignore gender inequalities that are independent of the environmental questions. This for Agarwal seems to relate to the fact that ecofeminists do not challenge traditional inequalities. They instead support traditional institutions and practices that increase gender inequalities. (Agarwal 1998: 57).

Shiva presents the pre-colonial period as one of ecological sustainability and social harmony. Agarwal disagrees with this perspective. Women have historically always had limited property rights, they were excluded from public decision-making and they had a double burden of productive and reproductive work. These three elements of gender inequalities underlie the negative effects on women from environmental degradation. Ecofeminism says little about how to change this. This lack has resulted in gender inequalities in the Indian community institutions (Joint Forest Management programmes) that presently work to re-generate forests. Thus past institutions are being re-installed without changing gender inequalities. This may green the environment but it also sharpen gender inequalities

and increase violence against women. Consequently when the community takes back control over resources it can empower local groups, but also strengthen local patriarchal power. The solution is to increase women's bargaining power by giving them independent economic and legal status. For this women need support from the state, NGOs and formation from outside the community. (Agarwal 1998: 65-66, 68-70, 72, 79, 83, 85-86).

Agarwal refers to the Indian Joint Forest Management programme (JFM), which in recent years has been established in order to re-regenerate local forest. It is based in reviving traditional village institutions. The aim is to promote traditional forest dweller's right over their forests and reduce unequal access to forest resources. Among the basic objectives was meeting the requirements of fuel-wood, minor forest produce and small timber of the tribal populations. The idea was to create a massive people's movement with involvement of women. However, according to Sargin this did not happen due to traditional gender differences. In the past forest women were valued members of the community, but they could not participate politically, neither did they ever have property rights. Re-establishing traditional institutions therefore means that the assembly is virtually an all-male institution. Lack of participation of women has resulted in scarcity of firewood locally, environmental erosion where firewood is taken from, and violence towards women when they steal wood. Also the tree species women prefer are not regenerated. Instead planting needs are targeted to the male head of the household and benefits are not shared in the household. Women are treated as passive beneficiaries of decisions taken by men. The JFM consequently reinforce women's traditional subordination and increase their poverty. The JFM will also not benefit from women's knowledge and experience as the main users of forest produce. (Sargin 1995: 83-90).

Instead of ecofeminism Agarwal (1998: 80) wants to promote her own model. She finds that it is a version, which can better predict environmental action than ecofeminism. She calls it *feminist environmentalism*. In brief it says that people's relationship with the environment is shaped by their material reality; their dependence on nature; the social and political tools at their command. Women, especially but not only, in the South do suffer in gender specific ways from environmental destruction. This is based on unequal division of labour, property and power. Women in India have been active in environmental movements. This is not because of their natural relation to their environment. It is because their position in society makes them mostly affected by environmental decline. They are consequently also more interested in resisting it. (Braidotti et al 1994: 173).

Agarwal model may on the surface seem to be an alternative to Shiva's perspective, but the intelligent reader may already have observed that Agarwal's model is a type of social ecofeminism. Since she recognizes the links between the domination of women, Others and nature, she is within the ecofeminist perspective. Thus her model is not as such a new one. Sturgeon (1997: 188) adds that Agarwal's criticism of ecofeminism is a perfect example of how essentialism slides into other categories, which are not really about essentialism. Thus most of Agarwal's criticism can be answered by pointing to the variety of ecofeminist arguments. (Sturgeon 1997: 188).

Regarding domination in traditional societies it should be added that different authors present different facts. Andy Smith for example argues (1997: 22) that traditional Indian societies were in general not male dominated. Women served both as spiritual, political and military leaders. Violence against women and children were unheard of. There existed a division of labour, but men and women's labour were accorded similar status. Native societies have normally always tried to achieve balance in all things. With colonisation begins the domination of women and the domination of nature. Thus Smith concludes that the domination is identified as relating to the scientific revolution. (Smith 1997: 22).

6.21.2. Shiva's response to the critique and conclusion

Shiva has not been active in responding to the various critiques of her work. However, in some of her writing she does clarify some of the points:

In "Ecofeminism" Shiva and Mies explain why women can overcome their diversity when it comes to degradation of nature. The basic reason is that the impact of ecological destruction is harder on women than on men. Therefore women are the first to protest against environmental destruction. Realising that their lives are threatened the survival instinct has come out in various women's movements. This common concern brought women together. They link with other people in **solidarity**. Wherever in the world women have protested, their shared concern overrides their differences. That gives a sense of solidarity, which perceives differences as enriching experiences, rather than as a boundary. Mies and Shiva are aware that this common ground may be difficult to see for many middle-class women who are laying under for the capitalist patriarchy and its dualism. Because this perspective sees "the other" as an object that is different and therefore an enemy that needs to be eliminated. In the following struggle the one will eventually win by either subordinating or appropriating the other. This concept of dialectics was developed by Hegel and applied by Marx to describe history and progress. It is also part of Darwin's evolutionary theory, where life is seen as a struggle for survival. These concepts are integral to the European project of modernity and progress. Thus both social and natural evolution is

perceived as a constant struggle between the stronger and the weaker. Such a world-view has a need to standardize, homogenize and violently to eliminate diversity. (Mies and Shiva 1993: 3, 5-6).

In "Close to Home" Shiva tackles more directly the critique of essentialism and the denial of the category "women". She is arguing that women acting together in spite of their diversity are not equivalent to the essentializing of women as a uniform category. She also answers the assumed return to the traditional past issues raised by Agarwal and Braidotti et al. (Shiva 1994a: 8; Mellor 1994: 122).

First it may be wise to repeat what essentialism stand for. Essentialism is the practice of making generalized claims about a group based on notions of an *inherent similarity*. Generalized claims assume that there are common characteristics within a group, which is making it impossible to identify important differences among the group's members. Thus an essentialist approach creates exclusionary barriers between groups that have particular characteristics and those that have not. Further, essentialist discourse portrays social differences because of *inherent qualities* instead of the result of inequalities of power. Essentialism is consequently leading to dualised perception and dominating action. (Sturgeon 1999: 257-258).

Shiva writes that she has observed that **essentialism** is a common criticism levelled at ecological feminist approaches. Relating environmental issues to women in a specific way is seen as an essentialist world-view. Yet the charge itself comes from a paradigm that splits part from whole, fragments and divides. It either sees the part as conquering the whole or the whole as defeating the parts - in other words essentializing both. There are, however, other paradigms in which the whole and the part carry each other. In these alternative views the parts are not separate from the whole, they are its embodiment in change. Quantum theory is probably the best illustration of how parts embody wholes. Quantum subsystems, which have been part of a system, do not behave as individual, unconnected fragments on separation, they have connected histories in spite of separation. The famous Einstein-Podolsky-Rosen (EPR) paradox raises major philosophical issues related to this non-reductionist, non-hierarchical relationship between parts and wholes (see the experiment in Capra 1982: 72-75). The whole is consequently not external to the parts in all paradigms of nature and society. This is what David Bohm is pointing to through his concept of "enfoldment" and the implicit order in which the whole is enfolded in the part and unfolds through it (see explanation in Capra 1982: 87-88, 328). (Shiva 1994a: 7-8).

A second aspect of those who charge ecofeminism with essentialism subscribe to the view that nature is passive, inert and without intrinsic value. By failing to recognize nature's diversity, its re-generative capacity and its production of life, this view essentializes all production onto human or technological intervention. (Shiva 1994a: 8).

A third aspect of the charge of essentialism comes from those who see difference as so essential that it makes solidarity and commonality impossible. This again is based on the patriarchal paradigm of sameness; if people, things, organisms are different, then the assumption is that they can have no relationship and no overlap. This leads to solipsism (an extreme form of scepticism that denies any form of knowledge apart from own existence) which interpret relating and connecting as sameness. Thus the search for common ground for women's concerns and actions develops into essentializing the category "women". There is, however, no essentialism involved in partnership or solidarity. Women acting together in spite of their diversity are not equivalent to the essentializing of women as a uniform category. (Shiva 1994a: 8).

Another common criticism of reconnecting with nature is that it involves **a return to the past**. This criticism arises from externalising nature in space and time where connections then imply a "return" to another time, another place. But when our perceptions are ecological, then nature is perceived as a complex web of processes and relationships that provide the conditions for life. In this view, nature is not external, it is also not spatially and temporally separated from our being. Ecological processes that maintain life cannot be treated as part of the world-view of technological obsolescence. The moment we accept conditions for life as obsolete aspects of a primitive past, we invite death and destruction. In fact this chronological or temporal colonisation of living processes are based on false and artificial constructions of concepts like traditional, modern, and post-modern. These are seen as being in a linear temporal hierarchy of past, present, future that underlie the subjugation of nature and women. This colonisation of life cycles and time separates production from reproduction like in biotechnology. The separation of the conditions of life from our economic and scientific activity, and ourselves and the location of these conditions in the past, is a major cause of the destruction of ecosystems and our bodies. The issue at hand is to attempt to reconstruct both "women" and "nature" and to show that nature as the ecological web of life is not out there in space and time, it is us. (Shiva 1994a: 8).

Across the world women are rebuilding connections with nature. They renew the insight that what we do to nature we do to ourselves. There is no division between the environment and our bodies. Environmental hazards are also body hazards. Pesticide and waste do not only pollute our fields and

air they also pollute our bodies. Destruction of biodiversity does not only impoverish nature it also impoverish societies. These links exist in the real world, even though they have been denied by fragmented and divided world-views. For Shiva the aim is therefore to rebuild the connection between ecology and health to create a more holistic approach to the contemporary crisis of survival. (Shiva 1994a: 9).

Shiva does not anywhere specifically defend the critique directed at her use of the **feminine principle**. However, based on her above systemic views the masculine and feminine principles can probably best be understood inside the systems theory, Smuts' holism and the Chinese ontological philosophy of I Ching, which were described in chapter 3. Shiva's ideal is a non-reductionist, non-dualised reality with a dynamic tension and thus harmonious balance between the feminine and the masculine principles. Hence comparatively the feminine principle refers to the yin force or integration, while the masculine principle refers to the yang force or self-assertion. Since all existing elements have both a yin and a yang side, masculinity is not a characteristic belonging to men alone, neither is the feminine manifested only in women. Yin and yang are interdependent part of each and every women and man. They are systemic forces, which keep a balance by dynamic interaction. Thus any one of the forces is not more valuable than the other. They are non-dualised, integrated pairs. Inside this perspective Shiva describes the consequence of favouring the masculine (yang) as superior to the feminine (yin). Modernist philosophy has done exactly that, as was described in chapter 3. It is this choice, which has resulted in imbalance between the forces and caused the contemporary crises. Since the masculine yang force is characterized by being demanding, possessive, dominating, aggressive and competitive the yang force will, when lacking the feminine or yin tension, focus on maximization of economic profit resulting in exploitation of natural resources and domination of women, both of which are yin forces. The reason is that the linear yang mind cannot comprehend cyclical, ecological or integrative yin processes. It can also not appreciate feminine intuition and cooperation. Consequently yang development will, without a balanced input from yin development, end in masculine domination of all that is feminine like women, Others and nature, done in a self-assertive and violent manner. Such a development paradigm will end in death of yin forces, and eventually of yang as well, since yin and yang really are only an aspect of the very same element. Shiva's conclusion is that we must integrate the feminine principle or the yin force, in order to balance changes. The dynamic tension between yin and yang will help to create harmonious changes in society and in its respective environment. It is this recovery of yin or the feminine principle, which is the main goal of ecofeminism.

Other authors have also responded to the critique of **essentialism**. Mary Mellor has reviewed "Ecofeminism" by Shiva and Mies and finds that the style of writing can lead to accusation of essentialism. However, in reality Mies and Shiva have made a complex and interconnected materialist analysis. They do not claim that women's relationship with the environment is an essentialist one. They base their arguments on women's material experience in patriarchal and capitalist societies. The starting point of their analysis is that patriarchy-capitalism denies its embeddedness in and fundamental reliance on the natural world and women's role. (Mellor 1994: 119-121).

However, Mellor finds (1994: 124) that both Braidotti et al and Mies and Shiva forget analysis of class issues. There is no sign of a worker, man or women, black or white. In spite of this, she finds the discussed issues important. Mellor is (1994: 125), like Braidotti et al, Mies, Shiva and others, convinced, that the key to understanding our present situation lies in the patterns of domination that exploit women, nature, and the people of the South, but also working people globally. These patterns are the same as "the left" traditionally has analyzed, but often in a limited perspective. Ecofeminism therefore help us to see all around. Ecofeminism learns us to perceive the interconnections that lie behind policies and practices in the overall economic, political and social situation, all of which are influenced by patriarchal and capitalist ideology and practice. Mellor (1996: 161) concludes that in spite of the very real criticisms one can direct at ecofeminism, as a social theory and a political movement, it has a great deal to offer. (Mies and Shiva 1993: 293-294; Mellor 1994: 118).

Part III: Women, environment and sustainable development; an ecofeminist intervention in the development debate

There has been an increasing recognition of the scale of the environmental crises, the failings of conventional development activities, and a growing concern for the situation of women. The recognition of the limits to economic development by nature has fuelled the search for sustainable solutions to the crisis. In women's attempts to conceptualise sustainable development the recognition of the links between the domination of nature and the domination of women provided important insights. This stimulated the discourse on **women, environment and sustainable development**. All three issues are now firmly placed on the international agenda and all have influenced development theory and practice. One important event was the emergence of ecofeminism, which, as an "applied" scholarship, has been highly influential within the debate on women, environment and development. It has, however, been a complex intervention, which has caused much criticism. (Dankelman et al: 1988: 174; Braidotti et al 1994: 1, 59; Shah and Shah 1995: 75; Sturgeon 1997: 7).

The theme "women, environment and development" (WED) originated in the context of economic development of the South. It was part of the discussions on the subjects "women in development" and "environment and development". It, however, also emerged within Southern social movements such as the Chipko and the Green Belt movements. In the North the theme "women and environment" evolved within the women's movements in the mid-1970 with the emergence of ecofeminism. The relation between women and the environment also emanated as an issue for many women who were involved in the peace movements. Thus the subjects women, environment and development are closely knit to ecofeminism and it has been influenced from both the North and the South, from the academia as well as from social movements. Due to a fundamental dissatisfaction with developmentalism, the WED questioned both the sustainability of development in the South and the sustainability of the dominant development model in the North. (Braidotti et al 1994: 77).

The purpose of Part III is to contextualise the emergence and intervention of ecofeminism in development theory; to discuss its methods of intervention; and to try and draw some conclusions on the effects of this intervention by an example. **The first** of 9 sections starts with describing how the problems of women in the South evolved historically in a development context, and how the subject "women in development" entered the development discourse. **The next** section explains how the subject "environment" was added to the debate. But although both were incorporated in programmes of national and international development institutions, neither women nor the environment benefited much from their activities. **The following** section presents ecofeminism and explains the way in which this perspective engaged in the debate on the subject of women, environment and development. **The succeeding** section presents the important events that led to a further proliferation of the debate on women, environment and development. What follows is **then** a discussion of the various strands in this debate. **The next** section presents a critique of the ecofeminist intervention in the discourse on women, environment and development. However, some find that the critique of ecofeminism is a-contextual and therefore unjust. To understand ecofeminism one must see it as a strategic and flexible tool used, at the right moment, to insert the concerns of women and nature into the international development discourse. Noël Sturgeon calls this for the "ecofeminist moment". **The subsequent** section therefore describes what is meant with the "ecofeminist moment". The section shows how ecofeminist politics was helpful to give women, Others and nature a voice in international development discourse at the 1992 UN Conference on Environment and Development in Rio de Janeiro. **The successive** section concludes the discussion about an ecofeminist intervention in the development discourse. **The final** section of Part III presents a diverse ecofeminist perspective in development practice. **After this** some conclusions are drawn to chapter 6.

6.22. The discourse on women in development

Throughout the Third World there has been a proliferation of policies, programmes and projects designed to assist low-income women. This concern coincided historically with recognition of women's important role in economic development. Since the 1950s many different interventions have been formulated. These reflect the changes in macro-level economic and social policy approaches to Third World development, as well as state policy towards women. (Moser 1993: 55). Caroline Moser (1993) has categorized these different policy approaches in the following way:

During the **1950s-70s** development policies sought to meet practical needs of women through their reproductive role. Thus women were targeted for programmes in family planning and population control, health care, nutrition and home economics. They were also targeted for top-down handouts of food aid and measures against mal-nutrition. The purpose was to bring women into development as better mothers, wives and homemakers. Caroline Moser names this **the welfare approach**. It is the earliest approach to Third World women. It has three basic assumptions: that women are passive recipients of development; that motherhood is the most important role for women in society; and that it is most effective for economic development that women focus on child rearing. Women's role is consequently seen as being entirely reproductive, while men's role is productive. The approach was introduced by the colonial authorities and continued after independence as a social welfare programme under the modernisation or economic development model. It is a non-challenging approach and therefore still widely used. It is popular especially with governments and traditional NGOs. (Braidotti et al 1994: 77; Moser 1993: 56, 58-60).

The welfare approach consequently disregards women's productive roles. However, this perception changed in 1970 by the book "Women's Role in Economic Development" written by Danish development expert Ester Boserup. In the book Boserup documented the considerable contribution women make in the productive sectors, especially in agriculture. Boserup also showed that women's impoverishment increased already during colonialism. The colonial powers changed legislation in their colonies to fit their own advantage in various ways. One important change was the displacement of traditional, common property cultivating rights for both men and women. This was replaced with laws, which decided that land was private property with ownership rights for men only, with payment of revenue to the state. Colonial rule also limited women's access to other resources like technology and employment. This negatively affected women's possibility for self-support. Expansion of industrialization of agriculture further undermined women's food production. Thus women were often left in rural areas with meagre resources to feed and care for themselves, their children, the aged and

the infirm, when men migrated to seek jobs in the towns. Boserup also gave evidence to the fact that women do not benefit from development. Instead women's role and status often deteriorate compared to that of men by the effects of development. Men were commonly drawn into the modern agricultural sectors, producing export crops with the support of technology. Women oppositely stayed in subsistence agriculture, using increasingly marginal land, having no access to credits, training and technology to ease their workload. Development planners simply ignored women's major contribution to food production and in other productive activities. Boserup also made aware that intra-household dynamics are important. Due to men's traditional control over capital and land they benefited from modern agriculture, while women normally did not benefit equally. Boserup concludes (1990: 24) that colonial rule and the succeeding Western development model strengthened the male position, while weakening the role of women in the South. This is due to the fact that Western culture was strongly anti-feminist. Boserup's work was an essential contribution to women in the South. It highlighted the importance of gender issues within the process of development. Boserup's goal was to increase gender equality as part of the modernisation process, not to challenge its fundamental idea of development. Hence her work was inadequate regarding structural gender issues, but her work helped to improve the understanding of women in development. (Boserup 1990: 15-16, 23-24; Shiva 1990: 190; Braidotti et al 1994: 77-79; Sturgeon 1997: 142; Sturgeon 1999: 267).

The consequence was that the "**women in development**" or **WID** approach was institutionalised in the Northern development bureaucracy in **the mid-1970s**, which did make women more visible. WID became a respected area of study and publications on the subject expanded. There was consequently an increase in the understanding of life in rural communities, of women's role in the local economy, and of the traditions under which it is determined. As a result the first UN conference on Women and Development was held in 1975 in Mexico City and the period 1976-1985 was declared the Women's Decade. The outcome of the decade was the formulation of the "**Forward-Looking Strategies for the Advancement of Women**" in Nairobi 1985. The document outlined the aims for equality and for women's full integration into the mainstream of economic development. The main concern was the inequality between men and women in both public and private spheres of life and across socio-economic groups. The goal was to give women equal access to health, education, training, technology and information, land, income and credit. The origin of women's subordination is in this model seen as being both in the context of the family and in the market place. There was therefore considerable emphasis on economic independence as being synonymous with equality. Moser calls this **the equity approach**. It is **the first WID approach**. It sees women as active participants in development. It recognizes women's triple role in society (productive, reproductive and as community managers). It

seeks to meet strategic (or structural) gender needs through direct state intervention, giving political and economic autonomy to women by reducing their inequality with men. The approach challenges women's subordinate position in society and as a consequence it is considered to be threatening. It is therefore unpopular with governments. The approach has also been critiqued as being based on Western feminism. (Moser 1993: 56, 62-64; Braidotti et al 1994: 80; Sturgeon 1997: 142; Sturgeon 1999: 267).

The second WID approach was a toned-down version of the equity approach, which Moser calls for **the anti-poverty approach**. It was introduced from **1970's** and onwards. The purpose was to ensure that poor women increased their productivity. It saw women's poverty as being a problem of under-development, rather than due to subordination. It recognizes women's productive role and seeks to meet practical gender needs by helping women to earn an income, particularly through small-scale generating projects. The approach has the tendency to isolate women as a separate category, only recognizing their productive role. Due to the reluctance of governments to give aid to women, the approach was and still is popular with small-scale NGOs. The focus is mainly on inequality in income (practical), rather than on the unequal relations between men and women (strategic). The latter was considered a sensitive issue which development agencies were reluctant to interfere with. (Moser 1993: 57, 66-68).

The third and predominant WID approach is one that Caroline Moser calls for **the efficiency approach** to women's development. In the **1980s** the economic situation and the debt crisis in the South led to increased misery and to what has been called the "feminization of poverty". An additional number of women became providers of family subsistence, while men often migrated in search of employment. To compensate for the deteriorating economic situation it was found important that development became more efficient and effective. The efficiency argument was that 50% of human resources available for development were being under-utilized. Thus women's economic contribution had to be included. It is a top-down approach with no gendered planning procedures. The model relates to economic stabilization and structural adjustment policies designed by IMF and the World Bank. In effect it shifts costs for social services from the paid to the unpaid economy, particularly through the use of women's unpaid work. It relies on all of women's three roles including an elastic concept of women's time. Cuts in government spending on social services saves public costs, for which women has to compensate by an increased workload. The approach was and is still very popular with governmental and multilateral agencies. It shifts the emphasis away from women towards development on the assumption that women's increased economic participation automatically

is linked with increased equity. (Moser 1993: 57, 69-73; Braidotti et al 1994: 80-81; Sturgeon 1997: 142; Sturgeon 1999: 267).

During the decade on women (1975-1985) both Northern and Southern feminists began the process of constructing an international feminist movement. The **1980s** were therefore a period of growth in the women's movements in the South. Especially Southern women criticised Northern development policies. They also accused Northern feminists of being ethnocentric and tools of Western neo-colonialism. In response Southern feminists were organizing to influence the international political processes surrounding the United Nations institutions. Hence in 1984 the organisation **Development With Women For a New Era (DAWN)** was created. DAWN included a group of researchers from the South who criticised the WID approach for its acceptance of the Western development model and its failure to focus on empowerment of women as a primary goal. They formulated alternative ideas, which were presented and discussed during the 1985 NGO Forum held parallel to the UN Conference on Women and Development in Nairobi. It was found that women should not simply be an added-on element in development, instead gender relations should be analysed. The aim was to contextualise cultural specificities and illuminate power inequalities within gender relationships. These were manifested in household forms, marital customs, land ownership, land use etc. This approach stimulated Northern researchers to see alternative visions of development, according to feminist ideals, including a transformation of patriarchal societies at large. The aim was for women to gain control over their lives, bodies, and sexuality in relation to men and social institutions. Autonomous women's organisations were seen as being important institutions for women to formulate their own demands. This approach is the most recent, made by and for development of women in the South. It arose out of the failure of the equity approach. It has by Caroline Moser been termed **the empowerment approach**. Its purpose is to empower women through greater self-reliance. Women's subordination is seen as deriving both from male domination and originated in colonial and neo-colonial oppression. The model is based on a bottom-up mobilization of women to confront oppression in any form. It is challenging and consequently unpopular except with Third World women, their NGOs and supporters. It has the potential to challenge the patriarchal power structures. (Moser 1993: 57, 74-76; Braidotti et al 1994: 81; Sturgeon 1997: 143; Sturgeon 1999: 267-268).

The WID approach was concerned with increasing women's participation and benefits, making development more effective (practical gender needs). It, however, did not transform unequal social or gender relations (strategic gender needs) and hence did not empower women. It consequently was transformed to the **"gender and development" approach or GAD**. It is a shift in theory away from

preoccupation with women towards an approach that focus on gender relations. The idea is to de-essentialise understandings of women's role in their diverse societies and to change unequal gender relationships along with development. It therefore questions the underlying assumptions of the current social, economic and political structures regarding gender. Its aims are a better integration of women as agents of change and a re-examination of social structures and institutions. In addition the GAD approach demands full equality of women within the framework of economic development. Although GAD is important to bring about changes within development institutions, it has an important weakness. It does not fundamentally question the assumptions of the dominant development paradigm itself. It is firmly rooted within the logic of modernisation and the economic growth model. It has a tendency to address women's problems partially. Women's lives and problems are rarely seen in their full complexity. If and when the full complexity is included they cannot be addressed effectively within the limited confines of development projects. Effectively meeting gender inequalities would imply more radical changes in society at large. (Braidotti et al 1994: 82-83; Sturgeon 1997: 143; Sturgeon 1999: 267-268).

Thus approaches like WID and GAD alone cannot solve the poverty crisis and the domination of women. They do not address the roots of the oppression and its epistemological foundation, which affect both women and men. Moreover the effectiveness of WID and GAD depends on the goodwill of governments in the South. Since these are mostly represented by men, changes depend on their willingness to allow for far-reaching improvements of women's status in their countries. (Braidotti et al 1994: 83).

6.23. The women, environment and development debate

At the time of the WID there was a growing concern about environmental issues as part of development studies. This included a focus on women, due to their gendered roles and the link between environmental problems and population growth. The "oil crisis" in 1973 and the large-scale effects from drought in the Sahel, made the North realise that natural resources were not infinitely exploitable. Thus, a more systematic energy planning was needed. The majority of people in the South depend on fuel-wood for their energy needs, since oil and other sources of energy are too costly. However, as the Southern environment degraded from development activities fuel-wood became increasingly scarce in many areas. Those most affected were the women who need energy for sustaining their families. Thus women, in their role as cooks, became the target of energy saving methods like wood-saving cooking stoves. The focus was also on increasing wood supply by afforestation. These activities were, however, often misconceived. The main reasons were that

Northern development agencies generalized their approach and lacked an understanding for the women they worked with. This led to a bias and universal picture of people in the South. Thus the North created a powerful image of poor people in the South having too many children and using too much fuel. High population growth was therefore assumed to lead to deforestation, desertification, depletion of the ozone layer and global warming. Poor people were perceived as having no choice but to destroy nature. In this way poor rural women from the Third World became scapegoats within development planning. They were blamed for population growth and environmental problems. It was overlooked that deforestation in reality is due to commercial tree felling rather than domestic fuel consumption. In this way the responsibility of industrialised nations, which consumes most of the world's resources, was overlooked. During the 1970's such views were widespread in reports like "Limits to growth", which were heavily criticized by feminist groups. (Braidotti et al 1994: 2, 84; Sturgeon 1997: 144; Sturgeon 1999: 268).

Consequently in light of global economic problems, environmental degradation, and the feminization of poverty in the South the debate on how these processes specifically affect women gained momentum. Thus the relation between environment, women and development got increasingly embedded in development studies. Research, policy and movement formation focused on women and environment as interactive. The feminist agenda was to make women's agency visible and to promote women's economic and political empowerment. (Braidotti et al 1994: 85; Sturgeon 1997: 144; Sturgeon 1999: 268).

The first major international conference on the environment was held in Stockholm in **1972**. It was called the **UN Conference on the Human Environment**. At the parallel NGO Forum many listened to Sunderlal Bahuguna, a male Indian activist, who reported about local Indian people's initiatives to protect their forests. Bahuguna was one of the leaders of the now widely known Chipko movement. He presented the Chipko as a women's movement. It was an example of community based, environmentally sustainable practices. The success of the Chipko women's activities later inspired other local environmental initiatives in the South. This kind of movements also motivated those who wished to stimulate bottom-up, people-oriented development work. Since Bahuguna presented women as the main actors in Chipko, it was concluded that rural women understand that it is in their own interest to protect the environment. (Braidotti et al 1994: 85; Sturgeon 1997: 144; Sturgeon 1999: 269).

In the 1972 Conference the problems of environmental degradation was placed firmly on the UN agenda. Thus development agencies had to address environmental issues within the process of economic development. In this connection the United Nations Environmental Programme (UNEP) was established. It had to co-ordinate environmental issues within the UN. The Environmental Liaison Centre International (Liaison Centre) was also set up. It deals with the concerns of NGOs regarding development and environment. Both organisations have headquarters in Nairobi. In 1980 UNEP issued a series of brochures, which identified the relationship between women, natural resources and the environment. These helped to prepare the key resolutions for the Forward-Looking Strategies presented at the final UNEP Women's conference of the UN Decade for Women (the Conference), held in Nairobi in July 1985. (Dankelman et al: 1988: 161-162; Braidotti et al 1994: 85-86).

Leading up to the Conference in Nairobi UNEP launched a programme to encourage the participation of women in environmental management. In addition, UNEP provided funding for the Liaison Centre to organize a workshop on women and the environment as part of the NGO Forum. UNEP also formed a committee called Senior Women's Advisory Group on Sustainable Development. These senior women were interested in environmental issues, and they were willing to promote women's equal role in reversing the environmental degradation in their home countries. Some of the women were serving as their nation's delegate for the Conference, others were women in leadership positions on environmental matters. They all came to the Conference to encourage adoption of key paragraphs in the Forward-Looking Strategy; to introduce a resolution calling on women to take a leadership role in achieving sustainable development through environmental and natural resource management; and to present a framework that connects women and environmental issues to development and peace. (Dankelman et al 1988: 153, 162-164; Braidotti et al 1994: 86).

For the Conference UNEP prepared background documentation outlining the connections between the environment and other subjects like employment, health, education, food, agriculture, water, industry, trade, science, technology and energy. Moreover UNEP made available facts sheets on specific environmental problems like desertification, deforestation, water scarcity, the ozone danger and health. UNEP also suggested actions that individuals and institutions could take in order to address the problems. (Dankelman et al 1988: 153).

Over 800 delegate leaders representing 157 countries and 263 NGOs attended the UNEP Women's Conference in Nairobi. The Conference helped to focus the thinking on the relevance of environmental issues to development policy and peace. It had two principal goals: a) to review the

achievements of the Women's Decade and discuss the obstacles to further success **and** b) to develop future strategies. (Dankelman et al 1988: 153; Braidotti et al 1994: 86).

Although the Women's Decade brought a better understanding of the role and position of women in development, women's situation worldwide had not improved much. In some countries it had even deteriorated. Regarding the environment, several UN agencies including UNEP, UNDP and WHO focused on the relationship between women and the environment together with the problems degradation of the environment poses for them. In the Conference deep concerns were expressed over the profound economic and social crises that women and children were experiencing, especially in Africa, because of droughts, famine, external debt and the effects of the global economic situation. A key resolution was generated at the conference, which later on was adopted by the UN General Assembly. It urges international agencies to provide more information on women's role in conservation; that governments consider environmental factors in their development projects; that social as well as economic criteria are applied in development; and that sustainable development is promoted. (Dankelman et al 1988: 154).

The main outcome of the Nairobi Conference was the Forward-Looking Strategies, which formed the final paper of the meeting. As a document the Forward-Looking Strategies were accepted by all 157 countries and later on adopted without a vote in the UN General Assembly in resolution 40-108 on 13th December 1985. It dealt with a range of issues including equality, development and peace. However, what really signalled a change was the fact that for the first time in the history of the Women's Decade, the issue of environment, as it related to women, was taken up. Hence because of the Conference the subject "**women and environment**" entered the UN agenda. (Dankelman et al 1988: 153-155; Braidotti et al 1994: 86).

The Executive Director Dr. Mostafa K. Tolba of UNEP had an address ending the Women's Decade at the Conference in Nairobi. It was called "*An Alliance with Nature: Women and the Earth's Traditions.*" In it he asked women to join in redirecting the course of development in order to prevent further environmental catastrophes. In his opinion, the burden of the environmental degradation has always fallen and is still falling on women, especially in the developing countries. Women often suffer first and are consulted last. Women must live with the effects of decisions because they have no forum in which to voice their objections. Women who have influence have a special duty to represent those who suffer from environmental crisis. Women are half of the human race and they must mobilize. Dr. Tolba asked women to join, "*If there must be war, let it be against environmental contamination,*

nuclear contamination, chemical contamination, against the bankruptcy of soil and water systems; against the driving of people away from their lands as environmental refugees. If there must be war, let it be against those who assault people and other forms of life by profiteering at the expense of nature's capacity to support life. If there must be war, let the weapons be your healing hands, the hands of the world's women in defence of the environment. Let your call to battle be a song for the Earth." (Dankelman et al: 1988: 163).

The recommendations echo a long-held philosophy, rooted in ecofeminism: *"Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination"*. It was said by Rosemary Radford Ruther, on World YWCA (Young Women's Christian Association) Day in 1982. (Dankelman et al. 1988: 176).

Parallel to the Conference in Nairobi the Liaison Centre organised a workshop in the NGO Forum on women and the environmental crisis. Here case studies were presented about women's special role in environmental management and their crucial involvement in sustainable development. Active at the forum were women like Wangari Maathai, leader of the Green Belt movement and Vandana Shiva, whose thinking and writing has been inspired by the Chipko Movement. These two women, and more, became the spokesperson on behalf of the South's poor women. In the years that followed various programmes for women, environment and development was initiated by the Liaison Centre. One issue was the formation of a network of African women researchers, called WEDNET. The activities included workshops and exchange within Africa on forestry, environmental security and sustainable development linking up development organisations, community groups, researchers and NGOs etc. (Braidotti et al 1994: 86).

By the mid-1980s the media were increasingly presenting images of poor women from the South burdened by heavy loads of fuel, fodder and water. These images served to alert the public and development agencies in the North to the problems of women in the South brought about by environmental degradation. (Braidotti et al 1994: 87).

In 1986 the UNEP was appointed the leading agency on women and environment. The UN International Research and Training Institute for the Advancement of Women (INSTRAW) assisted in making a significant increase in literature available regarding issues on women's various roles in forestry, agriculture, health etc. It documented the gender specific tasks women performed and

illustrated the effects of environmental degradation on women, and their responses. The Brundtland report, published in 1987, brought along the term sustainable development. In the following years the WED debate therefore focused on women's involvement in strategies and programmes aimed at sustainable development. Gradually the theme women, environment and development became women, environment and sustainable development. (Braidotti et al 1994: 87).

Implementation of the objectives from the Conference in Nairobi has been monitored over the years. Central to the review and appraisal is the UN Commission on the Status of Women. But there are also other UN agencies that specialise in the position of women. These include The UN Development Fund for Women (UNIFEM) in association with the United Nations Development Programme (UNDP) and the Branch for the Advancement of Women at the Centre for Social Development and Humanitarian Affairs. Other agencies also recognize the crucial part women play in environmental management. For example the International Union for Conservation of Nature and Natural Resources (IUCN) is trying to achieve true participation of women in their work. Furthermore the World Conservation Strategies (WCS) also included issues regarding women, environment and sustainable development in their policy paper. They recommend that women's role in environment and development should be recognized and supported. Moreover women must be integrated fully into sustainable development and natural resource conservation and management. Hence the World Bank, the Regional Development Bank, the European Union and UN agencies like UNICEF and WHO have all made adjustments, to incorporate the issues of women and the environment. These were encouraging signs, but the practice often fell short of the ideals set out in the Forward-Looking Strategies: Projects which would help the poorest were often starved of funds, there were too few safeguards of women's interests in major aid projects, there was too little participation by women and their organizations in the development process, training for women was inadequate, and many projects failed. (Dankelman et al: 1988: 156-160, 165, 168-169).

Many governments and donor agencies only recognize issues on women and the environment officially in their written policies. But the good intentions are often not implemented. Moreover few have been able to link women and the environment. A related problem was that many "experts", who were dealing with women's issues had too little knowledge about the reality of gender roles in the South. This gave false assumptions about what women and men do, which often lead to environmental projects where women are added on as free labour force. Consequently only the role of women as mothers and wives were considered by most development planners. Thus women's productive activities and their full-time role as carers remained invisible. Because of these many false

assumptions development programmes have been disastrous. Some of the false beliefs have been directly detrimental to women's interests. An example is the belief that the overall increase of household income is good for women. In reality improved male income will rarely "trickle down" to wives and children. Another false assumption is that men are growing food for the household, while women are cooking it. Thus in Malawi development experts taught the men to grow soya beans, while the women were taught how to cook them. But children never eat the healthy beans because the women could not cook them, since they did not know how to grow them. Men never started growing soya beans, since it traditionally is women's task to grow produce for home consumption. Not being helpful is one thing, however, many projects have even been profoundly damaging to women. A social forestry programme in Karnataka, India designed to help poor farmers, had the effect that women had to walk further to collect their fuel-wood. An Integrated Rural Development Project in Zambia, which was promoting cash crops indirectly increased malnutrition among local children. Since the women according to traditional gender roles had to work on the men's cash-crop fields, they did not have time to feed and care for the children adequately. (Dankelman et al: 1988: 165, 167-168; Braidotti et al 1994: 88; Birkeland 1995: 57-58).

Where development assistance is directed to women it often presupposes their role as passive recipients of aid rather than active agents of change. Such aid is inappropriate to address women's needs. Thus involving women in tree planting may only give them an increased work burden. Unless women are given control over the land on which the trees are growing, and wider social changes are promoted to give them decision-making power over the sale of forest product, they will not benefit from the project in the long run. Overall the focus of much governmental development assistance is directed towards large-scale prestige projects, which tie aid to exports and the promotion of foreign policy objectives. Thus governmental agencies are not meant to help the poorest and not designed to include issues of gender. The effect of this is that the problems of poor women are not tended too. (Dankelman et al: 1988: 165, 167-168; Braidotti et al 1994: 88; Birkeland 1995: 57-58).

6.24. The emergence of ecofeminism in the WED debate

Though it is one of the youngest responses to the crisis of our civilization, ecofeminism has a rich history. When it emerged, it promised to expose, to challenge and to change dominant power structures within the framework of meaning, in gender relations, and in economic systems. These promises were expressed in the first anthologies of ecofeminist writings: "Reclaim the Earth: Women speak out for Life on Earth", edited by Leonie Caldecott and Stephanie Leland (1983) "Healing the wounds. The promise of ecofeminism", edited by Judith Plant (1989), "Reweaving the world: on the

emergence of ecofeminism", edited by Irene Diamond and Gloria Orenstein (1990). The idea was that the potential transformative power of ecology and feminism would create a new, movement for cultural and social change. A number of ecofeminist writers and feminist critiques of science also hoped that ecofeminism would bring about an epistemological shift. (Braidotti et al 1994: 161).

Ecofeminism is not only a theoretical position. It is also a new and rather diversified and decentralised social movement with a number of groups, consisting not of women alone but also of men. One of them is the Women's Environmental Network in Britain. Their main strategy is to campaign for green consumerism. The other is the Women's Pentagon Action in the USA, the country with the biggest stronghold of the ecofeminist movement. The Women's Pentagon Action organized a conference called "**Women and Life on Earth: Ecofeminism in the 1980s**". It was held in Amherst, Massachusetts in 1980. The "Unity Statement", because of this conference, covered a wide range of issues like, the call for an end to the arms race, demand for an end to the exploitation of people, resources, and nature, a call for social, economic, and reproductive rights. This document can be seen as a direct predecessor to "**Women's Action Agenda 21**"; one of the most comprehensive and radical documents made on sustainable development. (Braidotti et al 1994: 161-162).

A common platform for the different positions within ecofeminism is a critique of the patriarchy, its epistemological framework, and how both dominate women and nature. The male centred way of knowing the self, society and the cosmos are perceived as the roots of this oppression. It is antagonistic, hierarchical and dualistic. Most ecofeminists contrast dualism - associated with patriarchal epistemologies and the oppression of women and nature - with connectedness and mutualism perceived to be inherent in women's way of knowing. Beyond this common ground there is a vast area of differences. Perhaps there are as many ecofeminisms as there are ecofeminists. In a development context Braidotti et al. see the ecofeminist categories as follows: (Braidotti et al 1994: 162).

Social ecofeminism is based on the recognition of the social construction of gender. The position, however, plays only a marginal role in development discourse and is largely contained within academia. The focus is on developing conceptual tools for working towards ecological and social change. The works of Karen Warren, Carolyn Merchant and others illustrate the attempts to enrich the social-feminist tradition with environmental perspectives. (Braidotti et al 1994: 165).

Some of the most powerful inputs to ecofeminism have, however, come from **cultural feminism**,

which sometimes also is called nature feminism. By now this stream within the feminist movement is largely known under the name of ecofeminism. This makes the concepts confusing, since it does not leave space for other branches of ecofeminism, like social ecofeminism. Thus most critiques of ecofeminism direct their critique at ecofeminism at large, while they mean cultural feminism. (Braidotti et al 1994: 162).

Cultural feminists accept the association between nature and women. They include writers like Mary Daly, Susan Griffin, and Starhawk. These women condemn male culture for its aggression, individualism, and hierarchical thinking. They see both nature and women as oppressed and subjugated; the victims of patriarchal power structures. They claim that women's essential features, such as empathy, caring and the female ways of knowing based on connectedness, can help to develop new, better, less violent and more sustainable ways of living and social relations. Critiques, like Janet Biehl, have pointed out that the identification of women with nature is not freedom but a return to regressive social definitions from which feminists have fought long to emancipate women. This may theoretically be a valid critique, however, as Carolyn Merchant has noticed (1990: 102) "turning the perceived connection between women and biological reproduction upside down becomes the source of women's empowerment and ecological activism". This force of ecofeminism will be explored in details later. (Braidotti et al 1994: 162-164; Merchant 1990: 102).

Thus cultural feminism reverses the patriarchal structures and places women at the top of a new value hierarchy. This approach has attracted and mobilized many women to work towards changing their every day and global realities. In the preparation for the Global Forum in Rio de Janeiro 1992 and at its workshop Planeta Femea the key message was that women are caring, non-violent, concerned with their local and practical issues, and therefore have the right to be involved in debates on the environment. It was implied that women know better than men to save the Earth and themselves. This assumption was not questioned but presented as if all women, worldwide, agree to it. Despite its powerful mobilizing potential, Braidotti et al finds (1994: 165) that the model may become a self-defeating strategy, in particular because it has marginalized other approaches in ecofeminism. It has also led many women in the environmental movement to detach themselves from ecofeminist positions. (Braidotti et al 1994: 164-165).

6.25. Events which led to the proliferation of the WED debate

In the late 1980s national and international events organized on the WED theme gained increased momentum. It resulted in the transformation of the images of poor Southern women as victims of

environmental degradation, into images of their strength and resourcefulness. It was initiated by Northern and Southern women who gradually joined forces to draw attention to the problems of poor women in the South. These are the women who shaped the WED debate. They include outstanding personalities like Joan Davidson, Irene Dankelman, Vandana Shiva, Bella Abzug, Wangari Maathai, Shimwaayi Muntembe, and many more. With the many different individuals also arguments differ. Specifically since the mid-1980s there has been a shift in positions and political priorities in the WED. The connections between the crisis in development, the global environmental crisis, the growth of poverty and gender inequalities were integrated and the social aspects in sustainability was stressed. (Braidotti et al 1994: 2-3; 87-88).

In 1987 a group of women experts from different organizations met to discuss how women's concerns could be brought into the World Conservation Strategy, an important international document which first issue was written jointly by the World Conservation Union, the World Wide Fund for Nature and UNEP in 1980. In 1991 the Second World Conservation Strategy was published. The document has gender issues included as a result of these women's comments. (Braidotti et al 1994: 88).

In the 1980s various important documents were written about women's concern in conservation strategy. The first book on the topic was published in 1987. It was written by Irene Dankelman and Joan Davidson and called "Women and Environment in the Third World". By presentation of case studies of women's environmental activities in the South, the book gives clear empirical evidence regarding the link between women and the environment. The views expressed were shaped by the women from the South in their capacity as researchers or development personnel. Its emphasis is on the close and special connection between women and the environment. (Braidotti et al 1994: 88).

In 1989 a seminar was held in Paris organized by the Expert Group of Women in Development from the Organization for Economic Cooperation and Development (OECD). The seminar included women from the World Bank, the World Conservation Union, UNEP and more. They met to discuss the nature of the connections between women and the environment and to implement the outcome of the debate into policy guidelines for WED projects. An important result from the policy meeting was recognition of the need of women's empowerment. It was stated that if women had to improve the environment they also had to benefit. Thus women's status had to be raised. (Braidotti et al 1994: 89).

In 1989 the above-mentioned UK based consumer group Women's Environmental Network organized a workshop on women, environment and development in London. The relation between women and

the environment was seen by the participants as one of mutual caring and nurturing as well as the basis for a critique of the dominant development model. The workshop also recommended that mainstream development integrate women and environment into their work and focus on women's empowerment. Women's Environmental Network has gained international prominence in the field of WED. The reason is the success the group has had in mobilizing UK women around consumer actions and press their government for introducing more environmentally friendly production processes. They have also inspired other Northern women's groups to engage in similar consumer actions. In this way they are promoting the cause of WED in the North. Another important event in 1989 was the publication of Vandana Shiva's book "Staying alive". Since the book has already been discussed above, it needs no further introduction here. These events and books helped to change the view on women. Thus in the late 1980s the image of poor women in the South had been transformed into that of strength and resourcefulness. The women, environment and development subject consequently slowly became a recognized professional field. (Braidotti et al 1994: 88-90).

6.26. The diverse stands in the WED debate

The WED debate encompasses several main streams of thought: Some find that if only women and the environment are considered in development practice the environmental crisis can be solved. Other approaches tend towards anti-development, which asserts that the Western model of development is fundamentally flawed. This is evident by its negative effects on women, the environment and the people of the South. An **economistic line** of thinking sees WED from the viewpoint of women's work. This includes the sexual division of labour, which has led to women's particular role in managing natural resources. This role is seen as a product of the historical evolution of patriarchy, which gave women a lower status connected to economic production. A more **cultural approach** sees women's position as essentially closer to nature. Due to women's gender-related work they have developed a close relation to nature. It finds that the knowledge women have accumulated about natural processes is different from and more appropriate than that of men. Consequently it is assumed that women are privileged as environmental managers. Thus the women-nature relation is perceived as being one of reciprocity, harmony, mutuality and interrelatedness, due to women's close dependence on nature for subsistence needs. Women have successfully used both the economistic and the cultural lines of argument as the basis for political struggles, in accordance with different strategies. (Braidotti et al 1994: 92-93).

The perspective of mainstream **development agencies** is to try and minimize the negative effects of economic development by targeting women as recipients of assistance. Simultaneously they consider

the effects of development on the environment. The line of argumentation on WED is, however, set within the frame of an improvement of the present practice. The conceptualisation of women and nature is implied as being special due to the gender division of labour. Thus women depend on nature directly for survival, while men are engaged in cash crops production for the market. Women's increased workload due to environmental degradation is another important element in the argument. It leads to a call for implementation of more women's development projects related to natural resources. However, there is rarely made a connection between macro-economic and political processes: That it is the over consumption of natural resources by the few in the North that generates poverty of the many in the South. (Braidotti et al 1994: 92, 95).

The positions taken by many Northern and Southern NGOs on WED have been strongly influenced by Shiva. Thus her work has had an important impact on the environmental movement specifically in the North. Many have whole-heartedly embraced the idea of women's privileged position in environmental management and their closer connection to nature. Often they take the thoughts of her strand of ecofeminism as a source of inspiration. The arguments propagated by Shiva and agreed to by NGOs and development agencies in general are that the interest of women and the interest of the environment are identical. There is, however, a difference. The difference lays in the solutions. Shiva finds that the development model needs to be radically re-thought. But the development agencies and some NGOs are more moderate. They only want to improve the development model. However, as will be shown later on, these two stands merged into a united critical position against the dominant development model by women worldwide at the UN Conference on Environment and Development in Rio de Janeiro in 1992. (Braidotti et al. 1994: 95-96).

Consequently the emergence of ecofeminism in the evolving debate on WED shifted the image of poor Southern women from being victims of the environmental crises to being privileged environmental managers. Because of their closer relationship with nature, women derive an intimate knowledge of natural processes, which makes them the solution to the environmental crises. Thus women are seen as privileged knowers of natural processes and therefore the most valuable resource in the process towards achieving sustainable development. This has prompted development planners seriously to consider women's roles in environmental projects. However, implementation of such rhetoric is lacking due to women's status in society. Women rarely benefit from planting schemes although they invest valuable time in it. The reason is that trees for local uses are rarely planted, since trees with commercial values are preferred. But commercial trees are not useful for women's subsistence needs, and the profit from sale is reaped by the men. Thus women's involvement in environmental projects

has often clashed with the market orientation propagated in most development projects. The solution is then to combine women's participation in environmental projects with strategic policies that ensure women's access to and control over resources. If women are involved at all stages of the activities, sustainable development can be achieved. In this way environmental projects may facilitate women's empowerment in society. In this approach women's empowerment is understood as their increased access to and control over resources including their own bodies. This is linking the common interests of both women and the environment: Women care for the environment and this eventually facilitates their empowerment. Wangari Maathai uses this argument in the Green Belt movement. The movement's primary concern is to restore the environment in the rural areas of Kenya. As a welcomed by-product tree planting will facilitate women's empowerment because women can show that they make a valuable contribution to the economy. That in turn gives them confidence and status in their own communities and in society. This approach may be effective in the involvement of women. However, Braidotti et al (1994: 98) find it risky to assume that the environmental crises will be solved by women's participation alone. Such an approach overlooks the wider social, political and economic changes needed to create a sustainable model of development. For movements in the South, such as Chipko and Green Belt, the assumption of an inherent women-nature connection as a basis for political action is acceptable. It accords with traditional notions of women as natural carers in the societies in which they originate. But it does give the problem that the empowerment of women must take place within the confines of the traditional division of gender roles. Environmental regeneration should rather promote a change in gender ideologies. (Braidotti et al 1994: 97-98).

Criticism of this WED approach expounded by Shiva and subscribed by many NGOs, North and South, comes largely from members of Northern women and environmental movements. They argue that the equation between women and nature has reinforced women's subordination to men. But that critique is because Northern women see the dualised man-women relationship as being one of superior-inferior. Many Southern women oppositely find that their male-female relation traditionally was complementary. Thus women in the South find it easier to identify with nature and can therefore use this argument in their struggle. (Braidotti et al 1994: 98).

6.27. Critique and response to an ecofeminist intervention in the WED debate.

However, a more serious criticism is directed towards Western ecofeminists. They have been criticised for appropriating the environmental activism of Third World women as being ecofeminist. They have also been accused of using essentialist conception of indigenous women as being closer to nature. Sturgeon (1999: 255) finds that such criticisms have merit, but she also believes that the critiques may

have negative implications when it comes to a global political context. The strand of ecofeminist theory that was prominent in the late 1980s and early 1990s privileged indigenous women as the ultimate ecofeminists. This was seen in the two ecofeminist anthologies: "Healing the wounds: the promise of ecofeminism" from 1989 edited by Plant, and "Reweaving the world: the emergence of ecofeminism" from 1990 edited by Diamond and Orenstein. Native American Indian women are used as models for ecofeminists, and Third World women are reduced to peasants or to tribal Asian Indian women. Especially the Chipko movement captured the imagination of the authors in both books. Chipko attained talismanic status in ecofeminist writings of that period. Shiva, in her book "Staying alive" from 1989, portrayed the Chipko movement as an example of women resisting the destructions of the patriarchalist capitalist development. Thus Chipko becomes the image of the Third World rural women, who are seen as natural environmentalists. It is an idealized picture of tribal women integrated into nature through their daily, lived activities. The other common Southern example is Wangari Maathai's Green Belt movement in Kenya. However, specifically the image of women hugging the trees to save them carries a symbolic force and therefore Chipko reappears often as the Third World ecofeminist example. (Sturgeon 1999: 258-259, 261).

The use of indigenous women as ultimate ecofeminists has been criticized on three grounds:

- 1) It ignores the material basis upon which grassroots and indigenous women act, and gives them a theory, which they may reject. (Sturgeon 1999: 262).
- 2) It may legitimize development strategies to use women as "natural resources" for sustainable development programmes, which may not have the long-termed interest of women at heart. Women may for example be ideal workers in conservation programmes without benefiting from the activities themselves. (Sturgeon 1999: 262).
- 3) It locates solutions only with indigenous people and their practices. This excludes focus on urban problems; it does not account for class differences; it prevents information about appropriate technology; and it overlooks the environmental responsibilities of Western nations. (Sturgeon 1999: 263).

Moreover the term indigenous woman is a dualist concept. It erases all differences between and within the category. The indigenous women are constituted as Others to a white self that is Western, modern and industrialised. (Sturgeon 1999: 263).

Brinda Rao, Bina Agarwal, Cecile Jackson and Melissa Leach have rigorously criticized ecofeminists who portray women as in their essence closer to nature. They find that ecofeminism portray indigenous women as the primary victims of the link between environmental problems and sexism, and as the inspirational sources of activist resistance to these problems. There is, however, a problem with that critique: the essentialist discourse is not an ecofeminist origin. But in spite of the fact that also other perspectives should be criticised for essentialism, ecofeminism becomes the "straw-women" in such debates. The critiques consequently use a reductive technique, which helps them to concentrate on ecofeminist essentialism only. (Sturgeon 1997: 136-137; Sturgeon 1999: 256).

Jackson's main target is development discourse about women and the environment, but she is directing her critique against ecofeminism. She has reduced ecofeminism to an essentialist discourse and thus abstracted it from its historical and political context. The portrayal of women as closer to nature has already been contradicted by many ecofeminists like Warren and Merchant. They see women's relation to the environment as socially constructed or arising out of materialist conditions. These writers see women's environmental mobilization as coming from women's political agency rather than their essential similarity to nature. (Sturgeon 1997: 137).

Rao finds that whether the link between women and nature is biological, material or socially produced it still perpetuates an essentialist construction of women. She relates her criticism to Shiva's work but in the process decides that all ecofeminist work is essentialist. (Sturgeon 1997: 138).

Leach gives a more fair treatment of the relationship between ecofeminism and other development discourse. She notes three strands within development discourse dealing with women and environment. And she finds that essentialist notions of poor and rural Third World women and nature were common in the women in development (WID) discourse before ecofeminism became part of development politics. She also distinguishes between two different strands of ecofeminism. One makes essentialist arguments (cultural feminism), the other analyses various historically and culturally constructs of women and nature (social ecofeminism). She finds the second potentially useful for understanding the process of development. (Sturgeon 1997: 138, 142).

Agarwal also notes that there are both essentialist and anti-essentialist versions of ecofeminism, but continues to insist that all ecofeminism sees women as unitary category and fails to differentiate among women by class, race, ethnicity etc. She therefore leaves out numerous ecofeminist arguments for racism, classicism and other forms of domination. (Sturgeon 1997: 138).

A common aspect in these critiques is that they rarely deal with the full diversity of ecofeminist position and writers. If they find essential discourse in the writings of Vandana Shiva, all of ecofeminism is being blamed for all essentialism in all development discourse. (Sturgeon 1997: 138).

Fixing essentialism to ecofeminism in general or to Shiva's work in particular lies in the fact that ecofeminism is not a fixed set of theoretical positions in development discourse. It should rather be seen as a flexible political intervention. Ecofeminism continually shifts its discourse in relation to its negotiation with dominant forces in development politics. This ambiguity allows ecofeminist writers various political positioning within development studies and international political structures. Thus ecofeminist discourse must be seen in a context. However, none of the critiques above is able to capture this advantage. Essentialist notions do have dangers and they should not be overlooked. Sturgeon (1999: 266) is, however, more concerned about the possibilities the strategic discourse of ecofeminism opens up within a particular historical moment in international politics. (Sturgeon 1997: 139; Sturgeon 1999: 266).

Attention must be paid to the difference between academic and activist arenas. Academically essentialism is problematic. It produces bad scholarship, ignoring important differences between groups of women. In activist circles essentialist discourse becomes problematic when they create exclusive categories. But claiming the existence of a collective of "women", has contributed to the creation of political, environmental and other movements. These movements intervene effectively in the on-going contests over power. Hence although Sturgeon (1999: 257) is sympathetic to anti-essentialist critiques, she also believes that they can have damaging political consequences when they are dividing the feminist environmental academic intellectuals and the activists. Such critiques are not trying to understand social movements within their political context. (Sturgeon 1999: 256-257).

It must be recognized that essentialism is part of the oppressive ideology. The dominant elite used it to gain their power. But essentialism is a tool, which also can be used to take the power back. Essentialism can facilitate communication among the subordinate groups and provide new means for resistance to power. And ecofeminism is one of more political locations where international feminist coalitions can be formed. This can be done despite the academically problematic essentialist claims. (Sturgeon 1999: 257).

Seen in this way ecofeminism can contribute as follows: **1)** Ecofeminism identifies Southern women as experts, thought it may limit that expertise to stereotypical "indigenous" qualities. **2)** The anti-

domination intensification of ecofeminism and their desire to idealize nature, women and indigenous people may bring tension, but also opportunities to debate those essentialists' notions that already exist within development discourse, especially when such debate is including the opinion of Southern women. 3) Ecofeminism inserts feminist analyses within a hegemonic discourse of "globalizing environmentalism" at an important historical moment. To do so it must at least momentarily gather a political collectivity called "women". (Sturgeon 1997: 139; Sturgeon 1999: 266).

These positive aspects are not included in the analyses of Agarwal, Rao and Jackson. Leach discusses ecofeminism as a mixture of essentialism and anti-essentialism. She cannot see that such a mix is a strategy that can be used to gain entrance into dominant political discourse. She neither understands that it contains the seed of destabilizing not only its own but also the dominant discourse's essentialism. Hence the critiques are academically one-sided. They cannot see ecofeminism as a strategy that can be inserted into political discourse. (Sturgeon 1997: 139; Sturgeon 1999: 266).

The interweaving of ecofeminism and development discourse in several books on women and development shows that ecofeminism has become an international political movement. The links, which are made between women, gender, environment and development show, that the issues are brought together according to ecofeminist theory. This can be seen from Sturgeon's interpretation of the history of women in development policies. (Sturgeon 1997: 140-141).

Women in development or WID showed a shift in development policies in the early 1970. It changed women from being mere mothers and housewives to seeing them as economic actors. Thus the WID approach made women more visible. However, the resulting programmes did not often stress the need for gender equity. Rather women became the subject for research aimed at creating more efficient and effective development policies. Women's work was seen as an important resource for the success of development projects, even when they benefited men more than women. Indeed as Leach points out essentialist notions were common in WID. However, this was before ecofeminism became a player in development discourse. (Sturgeon 1997: 142; Sturgeon 1999: 267).

During the decade on women (1975-1985) Northern and Southern feminist began the process of constructing an international feminist movement. Especially Southern women were active in their critique of Northern development policies. DAWN critiqued the WID approach for its acceptance of the Western development model and its failure to focus on empowerment of women as a primary goal. Rather than adding women to development activities, gender relations should be analyzed. The aim

was to contextualise cultural specificities and illuminate power inequalities within gender relationships. The approach was called **gender and development or GAD**. The idea was to de-essentialise understandings of women's role in their diverse societies and to change unequal gender relationships along with development. (Sturgeon 1997: 143; Sturgeon 1999: 267-268).

At the time of the WID there was a growing concern about environmental issues. Due to the high-energy prices and increased use of firewood, a connection was made between women, environmental degradation, Southern population growth and poverty. Thus the North came to perceive Third World people as the source of environmental degradation. Consequently poor rural women from the South were blamed for population growth and environmental problems, while the polluting and resource consuming North was overlooked. (Sturgeon 1997: 144; Sturgeon 1999: 268).

However, at the parallel NGO Forum in Stockholm in 1972 Sunderlal Bahuguna presented the Chipko women's movement. According to Bahuguna the Chipko women were natural environmentalists. Thus Chipko became a Southern challenge to the Northern idea that Third World women are environmentally destructive. It was this opening that later was seized by ecofeminists such as Shiva. For Shiva, the Chipko movement represented women not just as natural environmentalists, but also as active, political agents with expert knowledge about the environment. Thus ecofeminism, through Shiva's intervention, entered into an international context in the late 1980's. It combined earlier feminist efforts and transformed WID to a newer environmentalist paradigm that was called **women, environment and development or WED**. (Sturgeon 1997: 144; Sturgeon 1999: 269).

Seen in this context Shiva's argument of women's greater knowledge about the environment became an important political intervention at that specific time in development history. This was done successfully, despite the problematic essentialism in some of her discourse. In this specific context "ecofeminism" meant this feminist intervention into environmentalism. This "ecofeminist" position did not represent a set of new, independent theoretical arguments or a coherent social movement. Instead it produced crucial arguments that linked feminist and environmentalist concerns in a political arena where environmentalist questions are seen as vitally important. That this was sometimes done through problematic claims about women as natural environmentalist does not remove the need for a politics that connect feminism and environmentalism. (Sturgeon 1997: 145; Sturgeon 1999: 269).

In a pattern similar to the move from WID to GAD also the WED, which could be seen as the "ecofeminist moment", was challenged by **gender, environment and development (GED)**. The latter

is a position that pays attention to gender relations in households, property rights, labour relations and kinship systems. These determine a different relationship between women and their environments depending on age, marital status and other factors. GED scholars argue that these nuances must be taken into account in policy planning. They also find that assumptions of women's natural tendency to protect the environment are deeply misguided. Agarwal, Jackson, Leach and Rao are concerned with this debate. They concentrated their critiques on "ecofeminism" and its essentialism. But they were not able to see Shiva's arguments as part of an ongoing process of political struggle, stimulated by feminist interventions, aimed at creating collective subjects. (Sturgeon 1997: 145; Sturgeon 1999: 270).

Nevertheless, it is clear that the "**ecofeminist moment**", provided particular political interconnections and working links between Northern and Southern feminists. In this political context "the environment" has served feminists as a medium to connect their criticism of militarism, capitalism and neo-colonialism. Thus the argument that women have a stake in environmental politics becomes an important strategic position within an international context of "**globalizing environmentalism**". (Sturgeon 1997: 145; Sturgeon 1999: 270-272).

With the term globalizing environmentalism Sturgeon (1999: 270) means the combination of complex and critical concerns in a post-Cold War struggle for dominance. She finds that there is a shift from the Cold War discourse about democracy versus communism to a new hegemonic discourse about environmentalism versus catastrophe. Although democracy was seen as a worldwide good, the world had to pay the price by militarism and wars. It now seems that also environmentalism is a two-edged sword. The fact that environmental problems are global can give two rather different results: On the one hand it may be the source of hopes for a new global cooperation tied to a radical environmentalist analysis of the need for sustainability. Alternatively and more likely, it may serve the interests of multinational corporations and the technocratic elite. That would include a conservative perception of poor people as environmental threats, which would lead to imposing further unjust conditions on them. In this way environmental discourse can be used as a new justification for the imbalanced relationship between North and South: Western countries are the location of sane, world-saving, scientific and political practices. The people in the South are oppositely backwards, dangerous polluters and thus in need of international environmental policing. (Sturgeon 1999: 256, 270-271).

This can be seen from an article written by Taylor and Buttel in 1992 titled "How do we know we have global environmental problems". It is a discussion of the various forces at work behind the rise of

globalizing environmentalism. One puzzling issue is that modern environmentalism has been surprisingly ready to accommodate the needs of the free market. While they reserve their rights to criticize the World Bank about environmental destruction resulting from particular projects, environmental groups have worked with the Bank and IMF in a harmonious manner in implementing conservation-preservation policies and programmes in the Third World. They can do that because their interests coincide. The Bank gains legitimacy in the North for their efforts in implementing a green policy. Due to its economic powers the Bank poses a threat to the South, which is useful in securing the South's compliance with environmental initiatives. In return most environmental organisations have not included the world debt crisis, the net North-South drain, and the global monetary order as fundamentally contributing to environmental degradation. (Sturgeon 1999: 271).

Positioning women, as environmental activists is therefore in Sturgeon's opinion (1997: 145, 1999: 272) *"one moment in a dialectical process of negotiation between dominant interests in development policies and feminist efforts to insert women's concerns into an international arena"* (bold added). While it is important to criticise the limits of such interventions, it is equally important to see the way in which these linkages can operate as two-way streets between activists from the North and the South. This is particularly the case when ecofeminist arguments contain a tension between essentialist and anti-essentialist analyses. Because it gives an opening for debates about operative definitions of "women" and "nature", which again opens the door for more nuanced analyses. (Sturgeon 1997: 145; Sturgeon 1999: 272).

6.28. The "ecofeminist moment" in development discourse

That women take a strategic position in environmental politics is therefore important especially within a global context. The significant outcome this may give was seen from the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. Specifically important was the role played by **Women's Environmental and Development Organisation or WEDO** during the preparations for the conference. (Sturgeon 1997: 146).

6.28.1. Women's Environmental and Development Organisation

WEDO is a grassroots organization founded by two white US women. One is Bella Abzug a prominent feminist who was formerly a Democratic Congress woman from New York. The other is Mim Kelber an activist and writer. WEDO's action is directed towards institutional change, primarily within the UN. For the UNCED preparations WEDO therefore mobilized a diverse constituency of women on the basis of materialist versions of ecofeminism. In order to generate interventions into UN

political arenas an essentialist discourse on "indigeneity" was employed. Despite the occasional use of essentialist rhetoric it successfully promoted a feminist analysis of environmental problems. The limits of WEDO's intervention are clear, given the limits of UN politics themselves, nevertheless WEDO's presence opened up a space for Third World women to have access to powerful arenas of action. (Sturgeon 1997: 146, 150; Sturgeon 1999: 272-273).

6.28.2. The UNCED workshop "Women and Children First"

The preparations for the UNCED took place in May 1991 in Geneva. The workshop was called "**Women and Children First**". In the proceedings of the workshop participants from both North and South stated the need for a new development paradigm. Far-reaching changes were recommended including an end to violence and militarization; to economic growth; to misdirection of science, technology and industry; to oppressive economic, social and political structures; to the destruction of basic human and ethical values; and to the general exclusion of women's concerns. As it was stated, *"We are determined to change the a-symmetric and dominant relationship of the economy with nature, of men with women, and of the North with the South. Our aim is nothing less than a revolution on behalf of women, children and the environment."* (Braidotti et al 1994: 102).

In the workshop the impact of poverty and environmental degradation on children and women was examined. Poverty was defined as a process that deprives people, especially women and children, of the basic means for **sustainable livelihoods**, which undermines their physical, cultural and spiritual well-being. The term sustainable livelihoods was invented in 1987 by Robert Chambers. He used it to provide a bottom-up, people-oriented approach to the concept of sustainability. Sustainable livelihoods emphasize the relation between environment and poverty, fulfilment of basic needs, low risk and security. Although the term is not explicitly defined, sustainable livelihoods includes increasing people's capacity to use resources in order to determine the shape of their own lives. The workshop saw sustainable livelihoods as being distinct from sustainable development as defined by the Brundtland report. The latter was understood to denote sustaining the dominant mode of development and it was therefore dismissed. Women in the workshop consequently adopted the term sustainable livelihoods. Hence the woman at the Global Forum in Rio de Janeiro repeatedly stressed that their aim was sustainable livelihoods for all people rather than sustainable profits for the rich. (Braidotti et al 1994: 90, 134).

6.28.3. The UNCED conference "**Women and Environment - Partners in Life**"

Until the mid-1991 the theme of women within the governmental preparations for UNCED had not been an explicit concern. Only in the NGO preparatory process had women and their groups been active in consultations. However, by networking women won over some UNCED delegates with the result that the subject of women got a mandate in UNCED. Women's participation in UNCED was also furthered by two global women's conferences held successively in **Miami in November 1991**. The first one was "Women and Environment - Partners in Life". It had 500 invited guests from development organizations. The participants listened to 218 accounts from women all over the world documenting how they successfully were addressing environmental problems in their communities. The second UNCED workshop "The Global Assembly of Women and the Environment" was held parallel to an NGO Forum called "**The World Women's Congress for a Healthy Planet**". This NGO Forum was organized by WEDO. (Braidotti et al 1994: 3, 90-91; Sturgeon 1997: 151).

6.28.4. The NGO conference "**The World Women's Congress for a Healthy Planet**"

The World Women's Congress for a Healthy Planet was attended by 1,500 women from 83 countries, of these 1/3 was from developing nations. Its aim was to formulate recommendations and an action plan for a healthy planet for the next century seen from women's point of view. The plan of action was called "**The Women's Action Agenda 21**". The document was meant to be a manifesto used for a feminist intervention into the process of UNCED in Rio de Janeiro, June 1992. It referred to "Agenda 21" a document produced by the governmental bodies for the Rio-conference. Women's Action Agenda 21 outlines what needs to be done to avert the global environmental holocaust, which we are heading for if things do not radically change. It is an outcome of an unprecedented process in which women from diverse backgrounds arrived at a common and united position that is critical of the dominant development model. (Braidotti et al 1994: 3, 90-91; Sturgeon 1997: 153, 157).

While the official UNCED forum brought women together to tell their environmental success stories. The women in the parallel NGO forum oppositely told their environmental horror stories. Witnesses gave their testimony to the 1,500 big assembly, many of whom also attended the official UN conference. Each speaker gave evidence of the costs of development policies and environmental degradation for women in their country. The evidence, included case studies telling how the North was dropping radioactive waste in the South; how women were delivering "jellyfish babies" due to poisoning from radioactive fallout from nuclear tests; how environments and people were poisoned from wars, industrial pollution and oil drilling, and much, much more. The testimonies covered topics like poverty, mal-development, mis-allocation of resources, food security, trade, debt, refugees, nuclear

power, public health, biotechnology, bio-genetics, population policies, sexual policies, people's rights, sustainable development etc. (Sturgeon 1997: 151, 153).

The conference, which included many Third World feminist activists, researchers and grassroots activists from around the world, had an active debate. It successfully gathered support for the need to organize a women's agenda for environmentalism. The outcome was the drafting of the Women's Action Agenda 21, which represents a historical landmark. Despite their widely differing positions, political persuasion and geographical origin, women collectively agreed to challenge the dominant paradigm of development. All perceived the global environmental problems as coming from wasteful over consumption in the North and inappropriate development in the South leading to debt and structural adjustment. This has resulted in increased poverty, land and forest degradation, environmental damage due to pollution and toxic waste, excessive military spending and war. (Braidotti et al 1994: 102; Sturgeon 1999: 273).

In the Women's Action Agenda 21 women from the South argue that the present dominant Western model of development has led to a ruthless plundering of the Earth's resources and created increasing poverty for most people in the South, especially women. Women, mainly from the North, criticized the effects of industrialisation on the health and well-being of their families. Women from all divides criticized the global economic, military, and industrial system. These systems are based on economic growth and a free market ideology, which is the root causes of the problem. Development crisis and environmental crisis are inextricably connected with militarism, the nuclear threat, growing economic inequalities, violation of human rights and the persistent subordination of women. (Braidotti et al 1994: 5).

The Women's Action Agenda 21 represents the foundation for a paradigmatic shift in development as demanded by women globally. It provides detailed information of how to deal with it. It is based on the principles of global equity, resource ethics and empowerment of women. Women demand their rights to bring their perspectives, values, experiences, and skills into policy-making on equal footing with men. They call for a healthy planet where participatory democracy, access to information, accountability, ethical action, justice and full participation of women are realized. They suggest a more holistic notion of politically, socially and culturally sustainable development, i.e. sustainable livelihoods for all. (Braidotti et al 1994: 102).

The Miami Conference was consequently a major breakthrough. Women from all divides came up with a common critique of development and a collective position on the environmental crisis. It was

arrived at in a participatory and democratic process. Problems of poverty, war and environmental degradation was no longer seen as being confined to the South, it is a global crisis with different regional manifestations. (Braidotti et al 1994: 103).

The Miami NGO Forum was prepared by a 50-member WEDO committee, which included prominent women like Belle Abzug, Peggy Antrobus, Thais Corral, Maria Eugenia de Cotter, Elin Enge, Farkhonda Hassan, Wangari Maathai, Chief Bisi Ogunleye, Vandana Shiva and Marilyn Waring. These women demonstrated long-term commitments to the intersections of the issues of development, environment and feminism seen from a Southern perspective. WEDO also had several prominent ecofeminists in leadership positions including Thais Corral and Vandana Shiva. But like many other grassroots women's activists WEDO avoids to use the name ecofeminism. This is so, although they still argue for women's environmental action in ecofeminist terms. (Sturgeon 1997: 150, 152).

Since the NGO Forum clearly linked feminist and environmental positions it presented ecofeminist politics similar to the ecofeminism developed by Karen Warren and Val Plumwood. It was grounded in explorations of women's daily problems and material constraints, but presented within a framework of international diversity. The different issues brought together an analysis of the interconnection of multinational capitalism, colonialism, sexism, racism and environmental exploitation - locating women as the primary victims of these forces as well as the most effective political agents against them. WEDO published various materials as a unity for women, based on their exclusion from male-dominated policy-making institutions worldwide, as well as their social roles as caretakers. (Sturgeon 1997: 155).

That WEDO promotes ecofeminist discourse can also be seen from its statement published by the organizers at WEDO's start in 1989. It is entitled "A declaration of interdependence" and displays a perspective recognizably ecofeminist. It states that sexism and environmental degradation are ideologically and materially linked: *"It is our belief that man's domination over nature parallels the subjugation of women in many societies, denying them sovereignty over their lives and bodies. Until all societies truly value women and the environment, their joint degradation will continue."* (Sturgeon 1997: 155-156; Sturgeon 1999: 273).

WEDO's closeness to an ecofeminist perspective can furthermore be seen in the language of Women's Action Agenda 21. It contained a list of specific demands aimed at the governments participating in UNCED. The document also required a permanent gender-balance in UNCED including

representation of indigenous peoples and grass roots organizations. It also demanded redressing of the current gender-imbalance in the UN staff including increased funding for UNIFEM. (Sturgeon 1997: 157).

6.28.5. The NGO Conference "Roots of the Future"

In December 1991 the Liaison Centre organized an NGO conference in Paris called "Roots of the Future". It was the major preparatory meeting for the NGO community before the NGO Global Forum in Rio de Janeiro, held parallel to UNCED. At this conference worldwide participating groups synthesized their statements into the one called "Citizen's Action Plan for the 1990s: Agenda Ya Wananchi". It fully endorsed the Women's Action Agenda 21 drafted in Miami one month earlier. (Braidotti et al 1994: 91).

6.28.6. The UN Conference on Environment and Development

The UNCED, also called the **Earth Summit**, was held in Rio de Janeiro in 1992. The participants of the official UNCED were also those who to a large extent have been responsible for bringing the dominant mode of development to its natural limits. The solutions to the crisis are by these people seen to be measures that contributed to the environmental crisis in the first place: More economic growth to pay for environmental recovery, more funds for environmental projects, more technology, and altogether more and better management of the environment. However, one important shift at the UNCED within mainstream Northern positions was the admission that not only the growing populations in the South, but also the North itself, with its high levels of consumption of natural resources, has been responsible for the global environmental crisis. (Braidotti et al 1994: 3-4).

UNCED was instrumental in setting up the necessary legal framework for implementing sustainable development on a global level. The plan of the governmental UNCED process in Rio de Janeiro was to ratify several documents, primarily Agenda 21, the programme for action for the 21st century. This long term plan for environmental and development addresses: Social and economic issues like development assistance, population control and the alleviation of poverty; protection of nature and management of natural resources; the role of NGOs and other social groups in sustainable development; and financial means for implementation. Other plans were ratification of binding conventions on climate change like limitations of emissions of greenhouse gases; the biodiversity convention; and a forestry convention. (Braidotti et al 1994: 126-127).

Parallel to the UNCED the **Global Forum** was held. It was attended by social movement groups, NGOs, business communities, churches, youth groups and more. The citizen's movements do not subscribe to the governmental UNCED results. Instead the Global Forum was critical of the current development model and advocated a radical departure from the present model of development itself. The issues included the role of excessive military spending, the dynamics of aid, unjust international trade mechanisms favouring rich countries, the effects of structural adjustment programmes, disempowerment of local people and erosion of control over their natural environments, to mention a few. These were seen as results from the dominant and unsustainable development model. Most of these issues had been left out of the UNCED agenda. The Global Forum also devised alternative strategies for the future. These included the need for democratization of the development process in a bottom-up approach, linking democracy with community control over resources, rethinking the relationship between humans, nature and life-styles. Integrity and interdependence of all life forms was seen as being integral to a new relation between humans and nature. (Braidotti et al 1994: 3-4).

Inside the NGO Global Forum the Brazilian Women's Coalition and WEDO organized and hosted a separate event called "**Planeta Femea**". It was attended by women across the board. It was a concentrated programme of presentations in daily workshops structured around the themes of the Women's Action Agenda 21. The conference presented a summary of the Women's Action Agenda 21, a Population Treaty and a Women's Treaty. The outcome was also a drafting of a Declaration that criticized the UNCED agenda for excluding such crucial factors as economic and military systems, which are leading to environmental degradation. It also urged world leaders to ensure the full implementation of the Women's Action Agenda 21 as drafted in Miami. (Braidotti et al 1994: 4, 91-92).

A women's caucus at the governmental UNCED conference also lobbied the official member country delegates. They succeeded in getting specific mentioning of women's issues in 33 of the more than 40 chapters of the Agenda 21. It was also stressed that successful implementation of the UNCED Agenda 21 depends on the active involvement of women in economic and political decision-making, and implementation of the plans of action adopted by UN earlier: The Nairobi Forward-Looking Strategies; the Convention on the Elimination of All Forms of Discrimination Against Women; the ILO and UNESCO conventions to end gender-based discrimination and ensure women's access to land and other resources, education and equal employment; and the 1990 World Declaration on the Survival, Protection and Development of Children and its Plan of Action. In addition, a chapter was specifically addressing the importance of considering women as agents of environmental change, as well as the

relation between sexism and environmental degradation. The chapter incorporated the political perspective fostered by WEDO into the heart of the formal government agreements. It represented a significant feminist intervention into development politics. With a recognizable ecofeminist voice the Preamble of the Women's Action Agenda 21 argues for interconnections between various political struggles stating that *"As long as nature and women are abused by a so-called free market ideology and wrong concepts of economic growth there can be no environmental security"*. Thus WEDO's argument representing all of the women at the conference corresponds exactly with an ecofeminist perspective. (Braidotti et al 1994: 92; Sturgeon 1997: 158).

But despite these similarities WEDO organizers shied away from the label ecofeminism. The reluctance seems to be related to ecofeminism's connection to counter-cultural politics or a-politics based on spirituality. Some also find that ecofeminism is too much of a single-issue movement, not able to address the structural processes that have produced women's inequalities and environmental degradation. Consequently some are seeing ecofeminism as being less concerned with institutional politics and more with philosophical arguments or direct action. However, most do not display thorough knowledge of the complexity of some ecofeminist arguments. But in spite of the official denial, many still found the parallel Forum to be ecofeminist. (Sturgeon 1997: 158-160).

A fact is that WEDO has created an umbrella under which different kinds of women and feminists can make a coalition. The WEDO organizers clearly felt that an appeal to women as a collectivity, to their similarities despite their differences, is an effective organizing practice. WEDO also finds that if women would participate equally in politics it would produce more environmentally sound practices. Their underlying politics privileges the Southern critique of the Northern versions of development and the interconnection between radical environmentalist, feminist, anti-racist and anti-capitalist analysis. WEDO consequently finds that every issue is a women's issue. (Sturgeon 1997: 158-160).

The rhetoric of WEDO moves between what might be called **an essentialist ecofeminism**, calling upon women in their roles as mothers and healers to take on environmentalist causes; and what might be called **an anti-essentialist ecofeminism**, paying attention to difference within a framework of analyzing the operations of political, economic and social power. This mixed essentialist account of women which WEDO uses were a success in Rio de Janeiro. Thus WEDO continued it beyond UNCED 1992. (Sturgeon 1997: 161-162).

Despite its success in influencing UN processes WEDO has obvious limitation. The UN has little or no enforcement capabilities to ensure that agreements made by governments will be carried out. Such agreements are often compromised by successful national lobbying. Being aware of this WEDO has concentrated its energies on mobilizing women in their own countries, to insist that their governments comply with the international agreements on women, environment, development and population. (Sturgeon 1997: 165).

6.28.7. The results from the Earth Summit

Much less than originally planned was achieved at the official UNCED, due to clashes of interest. The United States played a key role to water down the formulations of prepared texts. The biodiversity convention suffered from President George Bush's tough stand of not sacrificing any national interests. Also the proposed climate convention was blocked by the US delegation that refused to cut greenhouse gas emissions. The money promised to implement the proposed changes amounted to 2.5 billion USD, a fraction of the 70 billion USD needed. But all industrialized countries committed themselves to increase financial assistance, specifically for environmental development projects. The World Bank is one of the institutions through which this increased assistance to the South will be channelled. This is, however, controversial due to the World Bank's record of undemocratic proceedings, lack of transparency, and its domination by the interests of Northern countries. All these are good causes to questioning the benevolent impact of future projects to be funded. (Braidotti et al 1994: 126-127).

A non-binding declaration of forest management principles and preservation of forests was signed at UNCED. It largely ignores the rights and survival needs of indigenous forest-dwellers. Conservation of existing forests was not addressed, instead conversion of forests to plantation and other uses was promoted. (Braidotti et al 1994: 128).

Within the official UNCED process a fundamental rethinking of the Western development model and the global economic system did not take place. Ironically even a substantial increase in funds for environmental recovery in the South amounts only to a fraction of the environmental destruction created in the South through export of natural resources to the North for debt repayment and luxurious consumption. (Braidotti et al 1994: 128).

Reference to transnational corporations' activities has been deleted from Agenda 21. The corporations succeeded to remain free to pursue their activities without accountability to any government or international body. Also regulations regarding export of nuclear wastes from the North to the South

were not in the declaration. There is also no reference to a ban on testing nuclear weapons. The climate and the biodiversity treaties were signed only in watered-down version. They were not signed by the US, but President Clinton rectified this. Also the biodiversity convention leaves the biotechnology industry free to continue exploiting them. And finally Action Agenda 21 is not binding. (Braidotti et al 1994: 128).

The Commission on Sustainable Development (CSD) was set up to monitor the follow-up of UNCED and the implementation of Agenda 21. To compliment CSD an alternative, independent organisation The Earth Council was set up. Its aims are to liaising with the CSD and the NGOs active in the UNCED process. It sees itself as an ombudsman on sustainable development matters from a moral rather than a political perspective. (Braidotti et al 1994: 128-129).

6.28.8. The outcome of the Global Forum

An overall important result from the Global Forum in Rio de Janeiro, is that Northern and Southern NGO groups and social movements have stronger links. This gives an increased potential for collective struggles. It connects environmental issues with issues of global power structures. Thus many environmental groups are also criticizing economic issues like aid, debt, terms of trade etc. Some Northern movements have also started to advocate for changes in the Northern lifestyles. Thus the Global Forum revealed a growing polarization and a rise of conflicting strategies for sustainable development. (Braidotti et al 1994: 130).

Arguing that women have a special connection with the environment has undeniably had the effect of forcefully bringing out the right to be heard by other actors involved in the environmental debate and within the UNCED process. As Bella Abzug stated repeatedly, "*Women care, therefore they have the right to be heard when the future of the planet is at stake*". (Braidotti et al 1994: 104).

The consensus between North and South was based on the assumption that women had a privileged position in relation to nature and therefore they had a right to be heard regarding the planets future. This common assumptions and the crisis that threatens us all seemed to have set aside differences in class, race and geographical origin. Thus although women's supposed link to nature has been a justification of their subordination, it also became a source of inspiration for women in their struggle against oppression. However, inside this collective criticism and common position at Planeta Femea there were differences. Reproduction of patterns of domination, dualism and reversal of hierarchies were not always avoided. Also the question of appropriate representation of women globally was an issue. (Braidotti et al 1994: 5).

Thus all could agree that there is a connection between the domination of women, Others and nature. However, not all agree on how the link between the oppression of women-Others and the degradation of nature came into being. Are women's subordination naturally given or socially constructed? Is the link due to the fact that both women and nature are objectified as the "other" by a patriarchal rational subject? Are women and nature subordinated by a male drive for progress? Are women special victims of the natural destruction? Is the link due to male dominance or because women are excellent carers? Are women both carers and victims because of gender-based division of work? Is it the ideological structure, the epistemological institutions and the philosophical foundation that need criticism? These are the questions, which open up the discussion of essentialism and biological determinism. (Braidotti et al 1994: 7).

Most agree that being a women alone does not qualify anyone to manage the environment better than anyone else. Thus the sex is not the most important aspect of the interconnections between women, the environment and sustainable development. It is also evident that no single group can assume a monopoly on providing valid solutions to the crises of poverty and environmental destruction. The task calls for alliances of all parties. But it is important that all groups recognize the interconnections between gender inequalities and the environmental crisis. It is also essential that changes are done without reproducing patterns of domination. What is needed is a qualitative new relation between women and men, not a reversal of the present situation. (Braidotti et al 1994: 8).

It is imperative that women globally increase their networking and collective strategizing, despite inevitable differences, in order to maintain the momentum created in Miami. At the same time women must increasingly form coalitions with environmental and other movements on specific issues. Events at the 1992 Global Forum made clear that a major task for women will be to push for women's perspectives and needs to be considered, not only in theory but also in practice, by governments as well as NGOs. However, women involved in this process must take care to avoid reproducing value hierarchies and reversing dualisms in the process of forming new coalitions. New types of democratic politics and non-dominating epistemologies are essential in order effectively to address the continuous spread of patterns of domination. (Braidotti et al 1994: 104).

6.28.9. Conclusions

The activities of WEDO and other international feminist movements in the UNCED show that ecofeminist intervention into UN processes creates a network, a space for debate. It was based on a strategic coalition among dis-empowered people. But more intervention is needed. Ecofeminist

discourse may effectively intervene within hegemonic processes in a context of globalizing environmentalism. Ecofeminist discourse may serve to destabilize the essentialism used in their rhetoric and produce valuable political effects. Construction of these arenas may create new opportunities for the less powerful to gain political leverage. It can promote intervention of environmentalism, feminism and anti-colonialism into policy-making. It can also promote strategic coalitions among dis-empowered people, and between privileged and under-privileged people in one political collectivity. Thus political collectivities may be constructed by essentialist discourse, but it is also possible that some are built on hard-won unity across great differences. Sturgeon conclusively finds that we may need to tolerate, at least initially, essentialist rhetoric, which calls women from different locations to act together against power. (Sturgeon 1997: 166; Sturgeon 1999: 273-274).

Not all agree with Sturgeon. Braidotti et al find (1994: 167) that ecofeminism has provided important insights into the roots of the ecological crises. However, the continuous success of ecofeminist intervention depends on its ability critically to approach the reproduction of dualism within its theory and practice. The attempts to overcome dualism and value hierarchies on which the Western frame of mind is built, are fraught with contradictions and ambiguities. (Braidotti et al 1994: 174).

6.29. Diverse ecofeminist discourse in Third World development

It was earlier explained that the ecofeminist development discourse by its critiques was equated with cultural feminism. This error has meant that many failed to notice the diverse conceptions of ecofeminist discourse and practice in development. This is an omission which Braidotti et al (1994: 164-165) have pointed out and which they regret. To give fair space for the ecofeminist variety the final section of Part III is devoted to a brief presentation of an alternative perspective of ecofeminism and its analysis of development practices. The purpose is to try and show the diversity of ecofeminist discourse in development.

6.29.1. Third World development is an ecofeminist concern

In Chapter 4 it was stated that nature is a "feminist issue". This conclusion was derived at from the definition of ecofeminism being concerned with *the connection between the unjustified domination of women, people of colour, traditional people, poor people and the unjustified domination of nature*. What makes something a feminist issue is that an understanding of the issue, contributes in some important ways to an understanding of the subordination of women. Hence an increased conception of the domination and exploitation of nature, will help us to comprehend the domination and oppression of women. Consequently racism, classism, ableism, ageism, heterosexism, anti-semitism and colonialism ("isms of domination") are also feminist issues. Understanding these issues help us

understand how the domination of women, Others and nature are interconnected. The reason for the feminist embracement of all forms of domination is that women are both white, black, poor, lesbian, young, colonised etc. (Warren 1990: 127; Warren 1994: 2; Warren 2000: 1, 62).

Curtin (1997: 86) stresses that development theory has, like science, progressed from what can only be described as racist and sexist beginnings. Development programmes are commonly anti-women, and due to the gendered division of labour, men's status has often increased by its technology, while women's status has decreased. Therefore since development is gender blind also development issues are ecofeminist issues. Therefore when Ekins (1992: 202) is re-naming development to "developmentalism", due to its hegemonic, monopolistic force to dispossess and make the majority of the world's people into servants, while benefiting the minority, it is fitting. Development is consequently part of the "isms of domination" that unjustly is dominating women, Others and nature. (Ekins 1992: 202-205; Curtin 1997: 86; Warren 1997: 9).

Since ecofeminism in its analysis includes interconnections among all social systems of domination, ecofeminism is also analyzing the institution of development. Being an ecofeminist concern means that such analysis requires a feminist or gender approach. This is not because domination of women is more important than other kinds of domination. It is because a gender-oriented approach reveals the interconnected systems of domination: **A)** In all groups of people that are harmed by the destructive forces of development it is often women who suffer disproportionately more harm than men. **B)** Female gender roles are often not considered as part of development, in ways that male gender roles are. **C)** Some of the Western ideologies that underlie the conception of development are male gender bias. Therefore to unveil gender features in the human system of domination, ecofeminism often, but not exclusively, focus on women. (Warren 1997: 3; Warren 2000: 2).

Ecofeminist analyses include the historical, material, socio-economic realities of a given situation, which vary culturally, temporally and geographically. Analyses of such interconnections are complex and only in their beginning. A fuller exploration of ecofeminism will need cooperation of teams that can bring together a variety of knowledge. Furthermore there is a need for visionaries who can construct new socio-economic systems and a new anti-dominant cultural consciousness. (Ruether 1993: 14; Buege 1994: 47; Warren 1994: 2).

6.29.2. Ecofeminist analysis of development activities

Many of the inequities of international development arise from the scientific world-view of the developer, which is based on lack of respect for women, indigenous people and the environment. Thus development experts need to become more sensitive to their own world-view, if development is to become more inclusive. As it is now local cultures, women and nature are oppressed groups in development. Ecofeminism is therefore offered as a counter-balance to the current dominant world-view in general and to development specifically. (Wells & Wirth 1997: 300).

There is no ecofeminist method. Ecofeminism is an inclusive praxis. It would include a combination of three groups of issues: appropriate science, technology and development; local knowledge and culture; feminism or gender relations. All three groups of issues provide an ecofeminist development rationale. Praxis is therefore practice achieved through the conscious commitment to inquiry. The researcher participates and becomes a part of it. It starts with concrete personal experience and moves on to broader analysis and generalisations about responsibility, interest, values. It is an analysis based on pattern discovery. Ecofeminism tries to uncover, articulate and assess patterns in such a way that generalisations do not defeat variety. (Well & Wirth 1997: 303-304, 306).

Consequently in any development activity ecofeminism has three overlapping areas of concern: **1)** feminism (gender issues); **2)** science, technology and development; and **3)** native, local or indigenous perspectives (culture). All three factors are important as input to the interconnected women-Others-nature issues. If policies do not include concerns for all three group of issues, then they are inadequate. If for example local women cannot maintain their livelihood when a river is diverted to a dam, or when a forest is felled, then the programme has not accommodated feminism and local perspectives and as a result the outcome will be harmful. Hence any development policy, which makes it difficult for local communities to maintain sustainable livelihoods, will as per definition fail to accommodate the combination of all three areas. (Warren 1997: 4; Warren 2000: 44).

Combining science, local perspective and feminism in all development activity is essential for a sustainable outcome

Modern science and technology has always had an extremely high priority in development work in the South. But when scientific knowledge is applied to a different society than the one, which shaped it, it requires a contextual understanding for guidance. This is because scientific disciplines are limited. Each discipline cannot see the whole picture and the interrelations of the parts. In order to include these elements local knowledge is needed. The local voices can see connections and relations across

disciplines and relate them to their everyday life. Consequently local knowledge is both legitimate and important. If science would include understanding of the cultural context in any project, in any place, it would become an enhanced system of knowledge. It would make science a global rather than a Northern project. (Loer 1997: 282, 284-286, 288).

Joseph R. Loer is an American engineer who for a period was stationed in Kenya as a water expert. In his work he experienced how lack of concern for local voices continuously are generating mal-development in water supply projects. His team was installing hand pumps over drilled boreholes in northern Kenya. Since each water point would be the only available, clean source of water in the area, people would bring their livestock herds from miles around to drink water. Thus hundreds of cattle and goats trotted the area every day and eat the grass. Because the land is semiarid this treatment wiped out every trace of vegetation and the area slid into desertification. This is an example of mal-development. Perhaps the clean water improved the lives of people, but it led to ecologically unsound changes of habits. In addition strife occurred. The person who previously used the land was forced to allow communal use. He lost his land and objected. These negative effects were not considered before installing the water pump, and afterwards there were no good and easy solutions to them. Although the pumps were simple, they were still examples of inappropriate uses of technology compared to the local context. Thus a water engineer's knowledge alone is inadequate. This kind of activity only considers the scientific technological issues, which cannot include the specific situation. Local knowledge, had it been included, might have informed of such effects, and helped to develop a better approach. Consequently mal-development occurs when science and technology fail to connect to the cultural context and its local knowledge. But this is rarely acknowledged in development planning. Too often the scientifically educated development expert sees himself and his knowledge as being superior. In reality the scientist's voice is not more important than the local voice, and both are equally necessary for the overall view. (Loer 1997: 286-287).

This is similar with feminism or gender issues. Science could benefit by incorporating issues from feminism. Dualised feminine traits, which traditionally are seen as being inferior, would enhance the scientific knowledge system. Applying subjectivity, feeling and intuition would expand the way of thinking, and make science a human, rather than a masculine project. (Loer 1997: 282, 284-286, 288).

Loer shares another experience: In the remote rural Kenyan region of Tharaka, tap water provision in villages was by Western experts done exclusively on a technology-based approach. For decades these projects had a high failure rate. The running water system often broke down due to a broken pipe or valve. Although this may seem insignificant for some, such problems could not be solved locally due to lack of technical skills and availability of spares. When the water was running the life of the village clearly improved. Women had less work collecting water and thus more time for other activities. The result was that children were healthier, as were the animals. When the village did not have running water the women had to walk long to get water from a spring, which resulted in a deterioration of the health of the community. Thus running water was an asset for the village. (Loer 1997: 279-280).

To include the local perspective meant to let the villagers decide how, where and when to make the water system. It also meant that the local people had to build the system together with the specialists, contributing local materials and labour. In addition they had to be trained in the functioning, maintenance and repair of the water system. This required a longer and more complicated process lasting 4 months, compared to the 3 weeks it takes for experts alone to install a water point. However, in spite of the prolonged period it successfully included the local voices. (Loer 1997: 281).

The feminist perspective was, however, the most difficult issue to include. The reason was the dualised perspective of the Kenyan society. Male values like mind and reason are seen as being separated from female values like body and emotion. Thus for generations men have assumed the rational male roles of thinking and decision making, while women remained responsible for the caretaking female roles, which men perceived as being morally inferior. These values directly affect water projects. In the villages all leaders are men. Thus although collection and distribution of water, and maintenance of the water point is a women's task, men would decide about the water project. Men would also demand to be trained in the system's repair and maintenance. The reason is that men as "thinkers" are considered to be better capable of being trained. Thus the knowledge of maintenance would be left with the men, while the women would be the ones to implement maintenance of the water point in the daily life. In this way maintenance could not be done. It became consequently clear that women are intrinsically necessary for implementing long-term sustainable solution for a water project. If that is not understood and accepted by all, the project is doomed. (Loer 1997: 282-283).

In a village called Kondo the water department succeeded to make women part of the water committee. Women also received the necessary maintenance training. However, the women were still not enthusiastic about the project. There were reasons for that. The first problem was the location of the

village tap. It was placed at the house of the chief, rather than where the women had suggested. Women's preference was based upon the shortest distance for them to carry the water, but this rational argument did not prevail. The chief instead influenced the vote based on his prestige. Secondly, maintenance would give difficulties. The local storeowner did not want to keep spare parts for the water system, since it did not give him any profit. The spares were instead available at a shop in the nearest township 64 km away. Although the women would be able to identify the need for spares, and do the repair, it was highly unlikely that they would be able to travel so far to obtain them. Hence the feminist aspect could not be accommodated due to inherent gender issues. This meant that the water project could not be sustainable long termed. It would last for approximately two years. It was therefore with good reasons that the women were not enthusiastic. Loer's (1997: 284) had to conclude that without a discussion on gender issues ending in strategic and structural changes, it would be impossible to implement a sustainable water system. Therefore in order to make changes sustainable and beneficial the marriage between all three issues is necessary. (Loer 1997: 283-284)

Ecofeminist philosophy is consequently calling for a merger of the voices of feminism, science and local knowledge. This is a new way of knowing. It integrates science with nature, local cultures and feminism. Such an approach would improve understanding and make the scientific expert more human. He would become connected to women, Others and nature and mal-development would be prevented. Conclusively in order to make development the agent of an improved life one must use the insight of all three fields, specifically where they overlap. As Warren puts it: the point where feminism overlap with local perspective and science, technology and development; that is ecofeminist philosophy. (Loer 1997: 282, 284-286, 288).

The difficulty of incorporating feminism in a masculine and scientific development analysis

Only by seeing development from a feminist perspective can we recognize that it is based on a patriarchal, dualist framework. Even a bottom-up approach with local participation does not ensure inclusion of a feminist approach, as the above example showed. Development has a masculine bias that in general promotes application of modern, universal, scientific and large-scale technology solutions. This undermines the traditional, indigenous, local, small-scale and appropriate technology, which is what women often need. Part of the problem is lack of identification of gender roles and gender knowledge. Women and men have different types of knowledge. It is acquired from different sources and they have different ways of communicating it. Due to difference in roles some types of knowledge are primarily relating to the domains of women. But since women's tasks often are invisible also their knowledge and needs are not considered by patriarchal social institutions. Since

men's knowledge is in line with the one of the expert, their world-view prevails with the result that women are denied benefits of development. But when women are excluded from development and refused access to resources the effects reaches far beyond the women themselves. It will negatively affect the family, society, nature and future generations. (Curtin 1997: 87-89; Well & Wirth 1997: 302, 304).

Due to gender roles women's practices are often related to nature, mothering and caring. Women's daily work is to accommodate the needs of the family based on resources from the environment. This care holds the family together and support future generations. In order to include feminism in development a revaluation of women's caring labour is required. That is done by reinventing the ancient indigenous knowledge of women. This is what the Chipko movement in India and the Green Belt movement in Kenya are doing. (Curtin 1997: 87-89).

Although one cannot universalize one can say some generalisation about women's knowledge. It is rational since it relates to a concrete, relational space between individuals. Relations include the entire ecological community and not only humans. It is therefore collaborative knowledge. It is temporal, it grows out of an actual context and is future directed. Women's knowledge is commonly sustainable due to their responsibility to their children - the future generation. Women in the South can therefore not escape time and place. Meals must come with regularity, so fuel and water must be collected on time, medical care is unpredictable and cannot wait. Hence survival depends on women's activities. Men can often avoid time and space and construct themselves as being independent and autonomous. This is based on a scientific view of abstract knowledge, which is isolated and related to autonomous individuals. Patriarchal conceptual framework work to boost this delusive construction. (Curtin 1997: 90, 92).

One may easily miss women's knowledge. It appears as indecisive or as an accidentally true belief, rather than being rational knowledge. It is qualified and tentative. It is often expressed through a group, rather than by individuals. For the outside male scientific expert it is hardly possible to enter into the world of hands-on expertise, characteristic of women's knowledge. They are therefore two different worlds of discourse. Each has its own standard for knowledge and success. The rules are normally known only by the insider. To outsiders it is not considered knowledge at all. Gender bias is therefore not always malicious. Often it is because the insider knowledge is not or cannot be revealed to one from another world. (Curtin 1997: 91).

We must therefore question if the social and symbolic world of women can be understood using the theories and methods that explain the social relations of males. Western categories restrict the private and informal world that exists outside the male-defined division of labour. It has already been shown that counting the GDP/GNP excludes the subsistence and informal economies of women and traditional people. The uncounted and unpaid labour of women in the household alone would add 1/3 to the world's annual economic product. Another obstacle is the bureaucracies. Women are governed by public structures that do not benefit them and in which they rarely are actors. Hence women's knowledge, which is reflecting their life experiences, is not included in the official structures. (Well & Wirth 1997: 305).

Consequently traditional development schemes elevate men while further marginalizing women. Without including feminism such inequalities and its harmful effects cannot be corrected. An example is the masculine bias regarding the issue of *over-population*. The dominant development theory sees the size of human population as a central causal factor in the destruction of the biosphere. Thus it is essential to reduce the human population due to a limited carrying capacity of the Earth. Often this is done by various more or less coercive programmes directed at women. However, the real causes of the population size are not analyzed. An ecofeminist analysis of causes and effects of a large human population includes, apart from ecological facts, also a feminist analysis of scientific models, human reproduction and sexuality, race and ethnicity, histories of class oppression and economic disempowerment of the oppressed. (Cuomo 1994: 91, 93-94; Curtin 1997: 86).

A critical analysis of the factors, which contribute to the size of human population shows, that many are related to various forms of oppression. Some factors are **general** and relate to false assumptions about human impact on the environment on which scientific theories like "carrying capacity" is based. Carrying capacity is founded on **ideological inclinations** rather than on eco-systemic givens. It is not necessary the population size alone that impacts negatively on the environment. It may more importantly be the use of natural resources and waste disposals. Thus a large population group may have a low negative impact and a small population group may have a very high negative impact on the environment, due to their consumption patterns. Members of a high-impact technological society have a greater moral obligation than less destructive societies to minimize their impacts. Human's living standards are not biological givens, neither universal. Thus the flourishing of the quality of life for both human and nature requires more than a quantitative size of population. (Cuomo 1994: 93, 95).

Other dominant issues are **international**. The increased world population is also an unanticipated effect of international exploitation. Most Third World countries were former colonies. Much of their wealth was diverted to the Northern countries, where it improved the living standard of the populations there. This process continues today. Many countries in the South remain colonized in an economic sense. Trade, debt, interest rates, foreign investments and other dominant global structures has meant that the Northern exploitation continues to increase the affluence of the (neo) colonizers and prevents the Southern population from improving their standard of living, which may reduce the rate of population growth. The most effective way to control population growth is to help people improve their level of well-being. It is a matter of social justice and will require a global **redistribution of wealth**. Some of the world's wealth must be returned to the countries that have played a major role in producing it. (Capra 1982: 228).

Yet other dominant issues are **local** and include a variety of issues: An analysis must first assess why some women bear many children. This relates to complex and intersecting factors. **1)** In many societies women are **sexually dis-empowered** hence many are unable to refuse sex with male partners. Also normally the man is a barrier in use of family planning. In some contexts it gives men social prestige to have many children. Abundance of offsprings may prove a man's virility and reproductive ability. Thus men's need to perpetuate their names, ancestral spirits and descent lines is high. Local social forces therefore support high fertility rate. Customary abstinence gave spacing in pregnancies but this was weakened by modernization. Hence until women can control their own reproductive lives, it will be impossible to decrease the human reproduction rate by birth control targeted to females. It falsely places reproductive decision-making with women, while it is an action that blames the victim. **2)** An analysis also needs to include the specific social and political **meaning of the concept motherhood**. This meaning may limit women's lives severely and make it impossible for women to choose alternatives. Women without children could in some contexts be considered as outcasts. **3)** Another issue is the **class (economic) or caste (race) oppression**. Industrialisation created a disastrous level of poverty among people of colour, which has lead to increased infant death rates. In Africa 1/4 of all born infants die. This has caused increased fertility rates. Constraints due to enforced structural adjustment programmes have also resulted in an escalation of child mortality and therefore it has meant higher birth rates. Furthermore, in many places a large family means a large work force, which is needed rather than family planning. The more the economic and environmental problems increase, the more the workload of women grows, which multiply the economic value children have as a work force. Education has been shown to make the most important difference in fertility. But often poverty keeps girls away from school. And due to early pregnancies - 75% of African teenagers are

mothers - opportunities for education, training and employment deteriorate. Moreover, due to coercive sterilization programmes, the trust in Western health care is low. Therefore the link between overpopulation, poverty, class and race is a complex matter that must be specifically analyzed and addressed. **4)** Other issues to examine are **cultural beliefs, values and rights** in reproductive practices. These are often dictated by male members of society and they may contribute to unquestioned human reproductive practices. Some types of birth control may for example be prohibited, while diverse types of family units may promote differing birth rates. In addition lack of women's legal rights also interfere reproductive practices. In many places children is the bond between husband and wife. They are seen as a source of security, joy and esteem, thus often people want as many as possible. Children give status and they are the link of the kinship. With male children the wife gets the right to the husband's assets and access to land, which gives her security in old age. Another issue is polygyny, which is widely practised. 33% of married women are in such unions in Uganda. These wives are competing over number of children in order to get most access to husband's assets. Thus religious, cultural and traditional factors support high fertility. **5)** And finally women are often alienated from their own bodies by **modern scientific medical practices**. Such ignorance has consequences for women's health and birth rates. (Adepoju 1994: 24-29; Cuomo 1994: 96-98).

Consequently no solution to the population size may be possible until women have real choices about procreation. Women are in many cultures regarded as property to some extent. Thus in a time where slavery is abolished, women still do not own their own bodies, men do. If women had physical security and control over their bodies, and if they were not subject to androcentric cultures, then overpopulation and child mortality may very well significantly decrease. Similarly men's liberation would also help to solve the population problem. Patriarchal values place pressure on men to produce many offsprings. Ecofeminism therefore aims to dismantle the oppressive frameworks, which harm women, men and non-humans alike. Ecofeminism conclusively engages in extensive, almost bottomless questioning about the many factors, which contributes to the current environmental dilemma. The analyses and solutions are complex. But whenever one discusses environmental problems an imperative that emerges continuously is the ethical necessity of women's empowerment. This is because social issues are systemically interrelated with environmental problems. To treat social and environmental concerns separately is to misconceive the character of both. They are intrinsically, historically, practically and conceptually interrelated. Given these links of feminist and environmental issues one cannot expect to establish sustainable solutions to any social or environmental problem unless both feminism, local knowledge and science are combined. (Cuomo 1994: 99, 102; Birkeland 1995: 57-58).

6.29.3. Conclusions

The ecofeminist praxis is humanly inclusive. It wants to free nature, women and poor people from domination by a science and a development that does not respect nature and people. That requires challenging the fundamental conceptions science and development hold about nature, women, and indigenous cultures. We must examine both theory and methods of development and science to identify gender-centred biases and make appropriate substitutions. When organisations and institutions are part of the problem rather than the solution we must change, redesign or create them again. Institutions do not reform themselves. Change comes slowly. According to Spretnak the most effective, but not the easiest, strategy is to lead by example. (Well & Wirth 1997: 310).

The path to appropriate solutions is not simple and easy. Sometimes support to women may mean that also the patriarchal system is kept intact. That requires a trade-off between two values ecofeminism holds dear. It may also not always be possible to make ecologically perfect decisions. Since the institutional structures themselves are unjust it is often difficult to make truly just decisions within them. The best we can do is to support policies, which ensure that present day women are able to maintain a daily livelihood, while also challenging the structures that keep the unjustified domination of women by men intact. But the aim of ecofeminism is to include both feminism, nature and local perspective in science and development and to restructure all dominative structures. (Warren 2000: 45).

6.30. Chapter conclusion

According to Simmons (1997: 251) Third World development is a stronghold of patriarchal traditions. Its effects benefits only a small elite, while it destroys the environment and reinforces the marginal position of women, children, poor and traditional people. Ecofeminism wants to end this unjustified domination of women, Others and nature in development. The domination in development inheres in its economic system, which increases the power of the patriarchy and its inequalities. Sustained economic growth is a vicious circle. It increases exploitation of limited resources, which results in a further marginalization of indigenous people that live from natural resources, which leads to more oppressive systems that ends in worsening of the four crises of war and violence, poverty and inequality, environmental destruction and human rights abuses. Consequently those who support economic growth they also, by default, defend patriarchal privileges and their oppressive systems. (Simmons 1997: 250).

Due to development the resources of fuel, water and food are becoming increasingly depleted in the South. Women in the subsistence economy feel the immediate effect of natural degradation since they are responsible for the family's daily livelihood. Research shows that when environmental contamination increases, women's health declines. Thus women's and nature's health correlate. Both affect the children women bear and the well-being of the families women care for. Since women's livelihoods are resource based they want natural conservation and sustainable development rather than economic growth. These issues are essential for women's livelihoods. It is consequently urgent to search for alternatives to the present dominant development paradigm. The last chapter therefore shows, in a limited way, that different, non-dualised perceptions of reality can generate anthropologies and epistemologies that help to promote sustainable ways of living, which are inclusive of all men, women, non-human beings and nature on Mother Earth. (Heyzer 1995: 10-11).

Chapter 7: "The ways things could have been"; ecofeminist thoughts on a possible non-dominant world

"I believe that there are possible worlds other than the one we happen to inhabit... It is incontrovertibly true that things might be otherwise than they are ... I therefore believe in the existence of entities that might be called "ways things could have been". I prefer to call them "possible worlds"". The American philosopher David K. Lewis, 1973. (Zsolnai 1993:71).

7.1. Introduction

Chapter 2 argued that the modern, mechanistic, scientific world-view to a large extent is responsible for the four crises. Its over-reward of quantitative activities means that the quality of life for society and nature is deteriorating. Chapter 5 and 6 discussed that science - especially the discipline of economics and its technology, together with the scientific program of Third World development - consistently are dominating and exploiting women, Others and nature. The root cause relates to the fact that only masculine or yang forces are included in the scientific view of reality. Feminine or yin forces are oppositely excluded. This dualised patriarchal ideology must logically manifest in domination of women, Others and nature. Science, economics, technology, politics and social organization consequently only include half of reality. The other half is considered of little value and as a resource for exploitation. Hence not only women, Others and nature, but also all other feminine or yin issues are considered as being subordinate. This imbalance has meant that there is an exaggerated focus on **masculine human characteristics**, like rationality, individualism, competition, egoism, greed and profit-maximization. At the same time the feminine human characteristics of emotion, community, cooperation and conservation have been overlooked. This has led to unethical human behaviour and dominant relationship among many people, specifically between men and women, adults and children, white and coloured people, modern and traditional people, rich and poor people. The priority on masculine traits has also resulted in an almost complete lack of relationship between human beings and nature. Deficiency of balance between yang and yin has moreover meant that feminine experiences including indigenous knowledge cannot officially be included in the current **masculine knowledge system**. The product is a distorted knowledge system. Since this knowledge system is the foundation of modern political, economic and social organisation, it has resulted in absence of care and concern for creation and maintenance of sustainable **social and natural inter-relations**. The exclusion of feminine attributes has consequently created disharmony, which has culminated in the crises of war and violence, poverty and inequality, environmental destruction and human repression. The main sufferers from these crises are women, Others and nature.

Since these crises continuously are intensifying, and extinction of the human race has become an issue of public concern, it is increasingly important to change the masculine perception of reality. This dissertation suggests that the solution must be a replacement of the exclusive, masculine world-view by an inclusive ontology, which has a dynamic tension between masculine and feminine elements. In chapter 3 Smuts' holism, the general systems theory and the Chinese I Ching (yin/yang) schemes were suggested as possible alternatives. They present a shift from a reductionist to a holistic perception of reality, hence all three models would logically include the perception of women, Others and nature. Such a transformation would require a re-definition of the current basic scientific concepts like its definition of a person; its quantitative knowledge generation; its perception of human communities, and essentially its militaristic manner of enforcing peace. The aim of this chapter is, in a limited way, to try and suggest what should be included in these new, holistic concepts.

The main purpose with a shift of world-view is to end domination. Thus any dualised model must be excluded. This can be done by including the voices of women, Others and nature. Moreover all other dualised feminine, quality or yin forces, including human emotions and social cooperation, must be given equal value to all masculine, quantitative, yang forces. Since the crises are systemic the assumption is that when the root cause, which is the end of masculine or yang domination, is harmonised, then it will lead to amelioration of the four crises discussed in chapter 2.

The big question is of course, how would a non-dominant world look like? No one knows. But some ecofeminists have taken up the challenge from Lewis and philosophized or contemplated about such a possible world. The main issue is which concepts a holistic, non-dominant anthropology and epistemology would include. It is these thoughts, which are presented here. The ideas focus on the underlying philosophical values of a new world-view where the main requirements is a holistic approach, where both yin and yang forces are included.

No one has formulated and presented a complete new paradigm. That would anyway be a too huge task for any one individual. It would also be against the ecofeminist ideal. Ecofeminist theorizing excludes as per definition any universal and static model. The below contemplations are instead presenting some of the consequences a shift to a holistic ontology would have for the **definition of human characteristics**, for **knowledge generation**, and for **social and natural interrelations**. Or said differently how would we view a person, human knowledge making, social and environmental relations, when nature again is being declared alive; when the world is seen as a place where all men, women, children and nature are perceived as being equal, inter-dependent and inter-related; when

quality of life is a priority; when human beings are welcome to, and from early age on learn to, feel their feelings.

This chapter is consequently attempting to discuss some of the elements a holistic world-view would include. **The first** section contrasts the current definition of a person with an ecofeminist perception of anthropology. It considers which traits would be included in a holistic definition of a person. **The second** section relates to epistemology. It tries to synthesize which issues would be relevant in a knowledge system that includes feminists and ecological issues. **The third** section discusses modern child rearing, as being the root cause of human violence and conflicts. The assumption is that a human being who has a healthy relation to both his rationality (yang) as well as his emotions (yin), would be harmonious and not harm others. Thus a world with harmonious people may overcome the constant increase of human hatred and aggression that lead to violence and war. **The fourth** subject regards human communities. It has some ideas and suggestions of how human beings and nature may co-exist in a harmonious and sustainable manner.

The following contemplations, thoughts, ideas and imaginations of a possible non-dominant world may by some be dismissed as being a utopia. But that will not deter any of us who are optimistic about the future, because according to Raff Carmen (1991: 70) "*A utopia is a reality that is desirable, hence utopia is a positive ideal.*"

7.2. A whole, interrelated, mutual person; anthropology that embraces the feminine, yin forces

7.2.1. Why it is important to redefine the concept of "a person"

A person is someone who is able to reflect on him or herself. Thus a person could be called the thinking dimension of the universe. When thinking about the meaning of the human being one cannot only define a person, it is also necessary to accept the challenge it is to become creators of ourselves and our world. One should therefore start from scratch and not be limited by the current patriarchal definition, and the growing isolation it has imposed on people by introduction of liberalism, instrumentalism and the capitalist economic system. According to these models there is no need for people to think. We only have to let authoritative technocrats think for us, define us and then act accordingly. However, in order to break the domination of this powerful, patriarchal structure it has become urgent to rethink our understanding of the human person. (Gebara 1999: 67-68).

The notion of a person is central in all aspects of our lives. It is the foundation on which we build the human understanding of philosophical, political and economic theories, of social actions and of

religious practices. The concept of a person is also not static. It has developed historically. It is in fact of great importance that we, as human beings, constantly correct our understanding of ourselves, together with the affirmations and certainties we have acquired. If we fail to rethink the image we have formed of ourselves and our values, we may create an internal imbalance that will manifest outside of ourselves, in our environment and in the universe at large. Regretfully human beings have the tendency to generate such imbalances. When we discover something that is very good, we tend to emphasize on it. Eventually we exaggerate it, which results in us losing our sense of proportions. For example the good food that we eat could harm us if we exaggerate it. Thus when we over-eat, we create an imbalance. Exaggerated emphasis on only one kind of solution to a problem, bring along the risk that we create another problem. In the extreme case our behaviour may become destructive, which will lead to a variety of crises. (Gebara 1999: 68-69, 72).

Gebara's point is parallel to what the cosmologies of I Ching, the systems theory and Smuts' holism discussed in chapter 3: An exaggerated focus on yang forces (parts or self-assertion) will lead to an imbalance between yang and yin (parts and wholes, self-assertion and integration). In its extreme form the imbalance will destroy the healthy tension between yin and yang leading to collapse of the system. To sustain the natural balance we need to understand that too much yang or too much yin is equally unhealthy. What is healthy is a dynamic tension between the two parties. Since everything in the cosmos, including people, is a mixture of both yin and yang, it is important to find a dynamic tension between these two opposite forces. To establish this seems to pose a difficult challenge for people. But lack of moderation will unavoidably lead to crises. The human tendency is to drift from one extreme to the other, urged by passions and pursuit for individual security. Humans are therefore prone to make certain behaviour radical. It means that humans are able to change positive learning into negative values. But people are also able to make good things emerge from disastrous predicaments. This tendency has appeared again and again in human history. (Gebara 1999: 70).

Beyond this rather consistent human characteristic Gebara (1999: 70) is committed to develop a more open-ended attitude towards all the established concepts of a human being. It means that any concept is no more than one perspective, a tentative point of view, adopted in order to deal with everyday life at a certain time in history. Anything we can say about human beings, describe only a narrow aspect of reality. It is our subjective opinion based on our limited experience, which is hampered due to our constricted ability to grasp the multiplicity of persons in the universe. Hence our reference point is restricted and relative. We, however, often forget this human limitation and treat our personal opinions as being universal and absolute truths about what it means to be a person. (Gebara 1999: 70).

7.2.2. "A person", as defined by patriarchy

"A human being is a blind man who dreams that he can see."

Friedrich Hebbel. (Jordaan et al 1995: 329)

At an early stage Christianity affirmed the autonomy and freedom of every person. It defended a value of every human being, in order to counter the previous society, which had lived according to a hierarchy that ostracized many human groups. This society had established a disdain for poor people, outcasts, invalids, sick, foreigners, women and children. Hence in order for life to continue to prosper in all its forms, it was established that God was present in everyone, especially the "little ones". This was an important step in the right direction for all of humanity. But like many other positive actions and processes the beliefs in freedom and autonomy were radicalised and ended up becoming destructive. (Gebara 1999: 71-72).

After 2000 years of increasing autonomy and freedom appalling behaviours are obvious. The originally affirmed value has been promoted in a dogmatic, absolute and unlimited way. Autonomy and freedom has been interpreted as promoting unrestrained individual actions for possession of power. It has led to an extreme form of instrumentalism. Multi-national corporations are an example of an institution that exercise exaggerated autonomy and freedom by expanding the original concept. It respects neither persons nor nature, but uses both as instruments for its own benefit. Corporations have become a group in society with so great political and economic powers that it has been able to make its own laws, and thereby removing any restrictions for its freedom to maximize profit making. Calling such actions for autonomy and freedom easily leads to the next step, which is intervention into other people's and other nations' freedom and autonomy. Political, economic and military intervention has been justified in the name of self-determination and development of people. It was seen as being necessary in order to "help backwards and underdeveloped peoples" to arrive at a level of evolution more in accord with the progress of the Western part of humanity. Thus "assisting" others legitimized intervention, interference, coercion and murder. In order to foster "development, democracy and freedom" it became acceptable to displace other people's customs, beliefs and divinities. Conclusively in the name of progress man gave himself permission to destroy the planet and its inhabitants. The only important thing was that those who possessed "the truth" became victorious. (Gebara 1999: 72-73).

These conquerors abolished any traditional understandings of personhood and imposed one exclusive model. In Latin America like in so many other Third World regions such a model of a person appears

to be the white, Westernized, wealthy man, the possessor of political and economic power. He is a person due to a relationship of superiority. He defines himself according to his ability to subjugate and dominate others. The concept of a person has therefore been constructed in a framework of domination. It is founded on an over-value of the masculine characteristics, specifically based on an exaggerated reliance on reason and the idea that all others, including nature, are instruments for exploitation. (Plumwood 1993: 24; Gebara 1999: 73-75).

From this it follows that the meaning of a person is formed by domination and exclusion of women, Others and nature by a white, mainly male elite. Plumwood (1993: 23) calls this "the master model". It is a concept that is created as a contrast. The white, largely male elite are the human model, while the feminine is seen as a deviation from it. Women and Others must endorse this model if they want value. Hence women must become more masculine and rational. When they do, they become "free" to exploit Others and nature since the dualist relationship in itself is not up for renegotiation. Inside the dualised framework women's freedom is therefore based on a put down of Others and the non-human world. (Plumwood 1993: 23-27).

In such a set up the definition of a person becomes problematic. Its freedom and autonomy is based on dualised instrumentalism, which is leading to exploitation of nature, women and Others. Hence the political process will continuously recreate such dominant values. Dualist instrumentalism means that the upper does not respect the lower's independence of being, nor does the upper acknowledge the lower's agency. The upper only wants to subsume the other maximally. When Descartes declared nature for dead, he encouraged instrumentalism of nature, which is a characteristic of modernity. It leads to the modern economic model. Its focus on rational egoism and instrumentalism has led not only to exploitation of nature but also mistreatment of people who are seen as closer to nature and hence inferior to the Western man. This has historically been and is still manifested in colonialism, racism, slavery and sexism. The logic of domination is based on the simple fact that each group includes inferior others. (Plumwood 1993: 142-143).

Part of the liberal perception of a person is egoism and altruism, which are presented as dualised alternatives. Egoism is viewed as the dominant rational mode, while altruism is a subsidiary, praiseworthy, but irrational exception. Egoism is assumed the implicit male and class model. Hence for males, whose identity is formed via the public sphere, rational egoism prevails. Altruism traditionally relates to women whose identity is formed via the private sphere. Both models are built on inequality. Egoism requires that there is instrumental value present to be egoistic about. Self-

sacrifice needs something to sacrifice oneself for. Each is therefore defined by and presupposes its complement: Masculine achievement in the public sphere denies but presupposes the backgrounded female support of the private sphere. (Plumwood 1993: 143).

Even in the case of "enlightened self-interest" dualised instrumentalism is present. Although the term sounds as a new and alternative concept of a person, it is based on "politics as usual". It therefore does little to subvert the dominant, dualised paradigm. The term was promoted by the green movement as well as the liberal reformists. They believe that saving the planet means engaging in an intellectual or spiritual competition for the hearts, minds or voters of the public. But reliance on politics as usual entails an acceptance of its underlying dualised, androcentric premises of instrumentalism and liberalism. It takes for granted that humanity is defined as being rational and self-interested or masculine. This again leads to the assumption that people can be persuaded by reason and motivated by enlightened-self-interest. But rational and spiritual forms of persuasion do not address what really motivates people. People are motivated to act through emotional needs, rather than rational arguments. But in a dualised notion of a person the feminine emotions are either undervalued or not addressed. However, excluding emotions and hence empathy means that the self cannot feel motivated by the other's needs. The result is that although the other's welfare may be considered, this can only be done secondary. It is not the primary set of ends. A person is defined as being hyper-separated and self-contained. There is no equal relation that binds upper and lower to one another, goals are therefore exclusive, not overlapping. Moreover enlightened self-interest as an approach to social change cannot work fast enough. It requires that the system builds up a number of enlightened people who, through rational and/or spiritual persuasion, must reform corrupt and greedy institutions, structures and individuals. Inside the present political and economic system it will take too long time. It would first and foremost require a non-dualised ethical foundation, which is not forthcoming in a neo-liberal world. (Plumwood 1993: 144; Birkeland 1995: 65-66).

Due to the exaggerated focus on masculine characteristics the central problem for modern society is exactly the lack of proper ethical foundation. Thus the dominant ethical mode may be called ethical nihilism. Nihilism is an extreme form of scepticism that systematically rejects all values and believes in existence. In particular it finds no justification for morality. In its fanatic form it may lead to the practice of terrorism. Thus the self erases the other, who is seen as a resource for the self's own needs. This reduces the world to the status of complete instrumentalism. Everything and everybody is seen as a resource for man's exploitation. Since there is a sharp boundary between self and other there is no possibility for identification or sympathy. (Plumwood 1993: 145-146; Honderich 1996: 623).

Thus in a liberal society the self-interested individual employs a conception of reason as the use of both other humans and the world's resources as a means to own satisfaction. Others play no essential role. If the needs of Others are satisfied, it is only accidentally, contingently related to the person's own ends. Thus in the founding contract society is an instrumental association driven by person's self-interest. Society's purpose is creation of individual security by making infrastructure available for the economic market that generates economic profit to the elite. Hence the person is a self-sufficient, lone wanderer. The well-being of others is not an essential part of the person's well-being, merely a contingent mutual arrangement of convenience. All modern institutions are based on this instrumental and dis-embedded account of the self. Society and nature is therefore not connected to the definition of a person. Instead the rational master-self, constructed in the public sphere, backgrounds the contribution of all others; although he can only reach his goals through these subordinate others. But he denies this dependence. Instead he takes for granted the resources of women, the private, the social, labour and nature. Nature, women and Others are consequently assumed providers of limitless resources and absorbers of eternal wastes. They are noticed only when they threaten to fail to perform for the benefit of the master. (Plumwood 1993: 151-153).

In Gebara's point of view such persons are not human. They are nature's greatest predators and humanity's greatest murderers. In the name of economic profit and personal security such persons justify all kinds of violence. They compete ferociously to affirm individual autonomy and use aggressive conquest of the Earth in order to reach freedom. Hence the notion of a free and autonomous person has been co-opted by the ruling classes, by colonialists and neo-colonialists, by the supporters of the free market, by contemporary warmongers, by promoters of advanced technology, and by their dualised ideologies and religions. These groups have redefined freedom and autonomy in order to foster antagonism, while marginalizing women, poor people, people of colour and native peoples. They use the concepts to uphold the power of the elite so that they can enjoy the advantage from all the good things on Earth. (Gebara 1999: 73-75).

Many more, than only declared ecofeminists like Gebara and Plumwood, can also not agree to the Western definition of a person. They too do not perceive a human being as an autonomous, free individual that compete in order to exploit women, Others and nature. Gebara (1999: 69) shares her experience from a women's group in Brazil. These poor women found themselves not regarded as persons within the regime of economic liberalism. But they oppositely argued that the dictators, generals, torturers and those who rob people should not be regarded as persons. Despite their poverty this group of women considered themselves more truly persons than men. The women take

responsibility for their families while the men abandon them. These women were reflecting upon their own experience within the world of values, based on their every day life. For them personhood is a quality, yin element. (Gebara 1999: 69).

Thus the traditional understanding of a person has historically produced many casualties. Women, the poor and ecosystems are among the victims. These groups manifest the consequences of the unlimited freedom of the individual and the instrumentalism and type of economic development such a person is promoting. For Gebara (1999: 82) the destruction is going on around her, in her neighbourhood, in her city, in her and other countries. It is not a distant war, but a conflict in which we all are directly involved. Thus extreme individualism demand corrective measures. Even our finest discoveries will lead to destruction if we place too much emphasis on them and fail to recognize the integrity of life. We therefore need to return to moderation and harmony. There is consequently a need to re-create a balanced tension between the dualised feminine or yin force and masculine or yang force. Versfeld (1979: 68-69) agrees. In his opinion Descartes' exaggerated focus on yang in creation of his legendary dualised world-view, relates to the fact that he lost his mother when he was a baby. This caused an internal imbalance in Descartes. However, the yang phase of the modern Christian culture needs to change. It can find many correctives in the Eastern notion of yin and yang. They are offering great opportunities of nuancing and subtilising our human harshness and balancing our masculine antagonism. (Versfeld 1979: 68-69; Gebara 1999: 76, 82).

7.2.3. "A person", as defined by ecofeminism

"Similarity of mind makes friendship".
Democritus, Greek philosopher (420 BC).
(Barnes 1987: 268)

An ecofeminist understanding of a person helps humanity to recreate a balance between their innate yin and yang forces. It supports respect for life and restores justice. But it makes no pretence of being the final word on the human person. It is only one contribution among many. In the course of the process of life, definition of a person is bound to be re-considered, re-worked, re-phrased and improved upon, just as all previous versions have been. Thus the concept person is in an ecofeminist perspective a tentative construction. However, an ecofeminist input to the ongoing definition is important. Because it assures that a new understanding of a person overcomes dualism, instrumentalism and domination in all types of relationships. (Gebara 1999: 76, 81-82).

The first issue to affirm about a person is its collective nature. Of this, **relatedness**, is the most important dimension. Thus humans are socially embedded and relational rather than being only individual. Relatedness is constitutive of all beings. It is more elementary than the awareness of differences, autonomy and freedom. When we contemplate on relatedness, we must acknowledge that we are more than a self-contained individual in a closed system. Seeing a person as an individual is a limited view that gives a misleading picture of reality. It impoverishes the most significant part of our social and natural experiences. Oppositely relatedness embraces everything in the universe. It is therefore the founding reality of all that exist. Relatedness confirms consciousness as a comprehensive reality, opposite to Descartes' narrow definition. Human consciousness is one among many kinds of consciousness. What we call consciousness is dependent upon our relatedness. Hence consciousness has personal, social, cultural and natural dimensions. (Plumwood 1993: 153; Gebara 1999: 84, 86; Warren 2000: 90).

Catherine Keller (Zimmerman 1990: 148) finds that men as well as women are relational beings. But in early childhood the boy is forced to separate in accordance to a misguided patriarchal conception of masculine individuation. However, this quest for total autonomy and independence is an illusion. The Swiss psychiatrist and psychoanalyst Carl Gustav Jung (1875-1961) wrote about this phenomenon. He called it "authentic individuality". It refers to an experience of a self as being fundamentally connected to all of life. The process often comes later in a person's life. It entails that the person sacrifices the ego's illusion of autonomy and reaffirms his relationship to the world. It relates to a human need to reconnect to life from which the ego separated early. An ego-transcending selfhood is therefore massively relational. Hence men and women of today need to develop a non-patriarchal version of individuality that integrates the relational part of themselves. It is a new way of defining a person. It challenges specifically males to modes of relatedness that does not require them to sacrifice their maleness, but rather to let go of their egos' rigidities and their manipulation of women. When we become uniquely ourselves, we become harmonious; this should not be confused with separateness. (Zimmerman 1990: 149).

Hence selves are "selves-in-relation". This means that also the context is important. A relational account of a person therefore promises an improved account of human beings, society and nature. It is a necessary condition for a more adequate, less dualistic account of the self and its social and ecological embeddedness. Relationality can explain non-instrumental concepts including respect, benevolence, care, friendship and solidarity. These present alternatives to the instrumental mode within existing liberal societies. They assure that the goals of the previously dualised other become

part of our own primary ends. Hence when we view a person as a self-in-relation it provides an appropriate foundation for an account of a person in non-instrumental social relationships. In this way the dualist division of means and ends breaks down. Recognizing relationality and interdependency of concerns and ends also provide an appropriate foundation for an account of the ecological self, the self in a non-instrumental relationship to nature. Because humans are also related to the land. It is a spatial and temporal relatedness since one cannot identify any human essence that exists independently of any historical context. Thus each of us belongs to a specific geographical area on Earth during the time we are alive. This place provides the foundation of our existence. Thus when a person is seen as having an interdependent relationship with nature, then natural resources cannot be viewed as means for the person's ends. Hence the ecological self cannot dominate and exploit the environment. (Plumwood 1993: 153-155; Gebara 1999: 90; Warren 2000: 91, 101).

A person is also an **individual**. Plumwood (1993: 156) calls the combination of the related self and the individual self for "the mutual self". It is a self that demands a balance between two conflicting roles. Developing the balance of the mutual self can be done through inter-subjective interaction, which is an encounter where each transforms and limits the other. It is a dance of interaction with mutual transformation and recognition. The external other is recognized as being alike but different. He is separate but not hyper-separated. He is seen as an active, self-determined participant. He is distinct and not merged. Union between the two occurs in active exchange with one another where both contribute enough difference to create a boundary to each self. Mutuality is consequently the dialectical movement between kinship and difference. (Plumwood 1993: 156).

It is important to clarify in which way the mutual self is different from the dualised, self-interested person. Mutuality is the opposite of the dualised situation where only one of the pair is recognised. In the latter mutuality is lost. Instead one controls the other, who ceases to exist. However, when the other is non-existing, the self-interested person cannot recognise his own independent existence. Thus he is dependent on the existence of the other. In this way it becomes clear that true independence must include both asserting the self and recognising the other. Domination is the consequence of refusing this condition. Thus when differentiation breaks down it leads to domination and instrumentalisation. (Plumwood 1993: 157).

As already mentioned the self-contained master person has the tendency to exaggerate. He is not satisfied with enough, but needs to maximise on the expense of others. Due to this focus he has no awareness of the limits of his own needs and desires, which he then imposes on the other. In this way

dualism creates a dilemma between two extreme alternatives: Hyper-separation versus incorporation. The option to consider the other as a self-determined, different person with boundaries is not available. Hence both are distortions. They represent a false choice between twin totalising forms of society, which deny the other through the failure to recognise diversity. The liberal, capitalist form of societies exists in such denial. They fail to recognise dependency and relationships. Instead of hyper-separation or incorporation we can negotiate a balance between difference and community. It allows for social, non-fused selves. It does not oppress people into unity or reduce individuals to social wholes. Mutuality therefore resists both holistic reduction and atomism. Consequently the truly social self is the mutual self. He recognises the social other as another subjective self. Integrating Plumwood's explanation into the concepts of I Ching, the systems theory and Smuts' holism, means that the mutual self is a person who has developed a dynamic tension between yang and yin, parts and whole, self-assertion and integration. (Plumwood 1993: 158-159).

7.2.4. A new definition of a person requires a new ethics

The patriarchal structure oriented us to certitudes about ourselves as human beings and about our world. The idea was continuously to make distinctions between the good and the bad, the just and the unjust, the masculine and the feminine, the human and the natural, the mind and the body - with clear boundaries. Its Christian religions promised us eternal life and taught us that we were souls without bodies. It also preached that we are belonging to heaven. But that is not so. We live in our bodies and on Earth. Our concrete realities are both evil, death, suffering and our future are unknown. We, however, also live with joy, love and hope. We do not know what heaven is, neither what God is. We even do not know what a person is. All we know is a particular story of humanity, told and interpreted by ourselves. We cannot say that humans are good or bad by nature, neither do we have a pre-existent essence, prior to our physical life. We only know what exist in our concrete world. And in that world many people experience domination and exploitation. Many people struggle against injustice and evil. That evil is part of humanity, just as goodness, love and mercy are. With this human diversity we cannot embrace any ethical-anthropological or meta-physical system as being the right one for all humans. Neither should we go back to native naturalism. Traditional cultures in Latin America, as well as indigenous cultures in many other regions, were not free of their own form of violence, dominance and evil. We should not assume that good existed in the beginning and evil was introduced later as an accident. We need to accept the mystery of our origins. When we acknowledge this, we can start to think about an ethics with new foundations and reference points, which are adequate for each human group and context. Lack of certainty is a challenge to human beings. It means that we, in our ethical search, must proceed with care and respect, taking small steps at a time, and welcome the

greater mystery that envelops us. However, the philosophical references we consult are no longer Platonic, Cartesian, Darwinist or Locke's liberalist scheme. Our concrete experiences have opened up a new world of understanding and meaning creation, which we must use to develop an ethics that is suitable to the inter-related, embedded, mutual person. (Gebara 1999: 94-99).

The patriarchal definition of a person generated distortions in ethical theory, including in environmental ethics. Reasons to consider the other morally needed a cancelling of difference in order to get the egoistic self to transfer its self-regard to others. In this way others will be recognised ethically to the extent that they are labelled as self. Those we cannot mark as self are returned to the heap of instrumental, useful ones, outside any ethical consideration. This resulted in exploitation of the feminine category including women, Others and nature. The ecofeminist non-dualised definition of a person is oppositely including differences, which leads to an **ethics of care**. Recognition of and respect for the intrinsic value of the other is an essential element in an ethics of care. An adequate account of the mutual self must recognise both the otherness of the other and his continuity with the self. An ecological self would also find that the thriving of nature is related to the self's own thriving. This recognition requires no merger or loss of boundaries between the self and others. In care, friendship, love and respect it is crucially important to maintain both empathy and the sense of difference of needs and desires. In order to care we do not need to assume any of the other's specific goals instead of our own. That would be to go from egoism to altruism or hyper-separation to absorption. Instead we include among our essential interests and desire some of the general goals of the other's good. This would develop a healthy, dynamic tension between the feminine and the masculine, yin and yang, whole and parts, integration and self-assertion. A balanced outcome is bound to become harmonious. (Plumwood 1993: 159-160).

7.2.4. Conclusions

Ecofeminism is the struggle to end both patriarchy and capitalism and the effort to intertwine the terrains of female-male and nature-humanity that have been artificially separated for a too long time. Part of this endeavour entails to redefine the patriarchal notion of a person. By applying the ecofeminist framework some have taken up the challenge to think of a human being in categories that are no longer dualistic and oppositional, but inclusive. The result is to perceive persons as selves that are relational, embedded, partial, attached, interdependent and historically situated. Hence in an ecofeminist inspired social justice, ethics and morality people must be seen not only as individuals but also as communal beings. Attention must therefore be paid to both social and ecological groups. A human being is not only a rational, self-interested pleasure maximizer, humans are also selves-in-

relations. They are both individuals and members of a social and ecological community. In fact human beings are a mixture of everything, which may cause internal contradictions. But if we develop a dynamic tension between these opposite forces - the yin and yang within - we can become balanced human beings having harmonious relationships with each other and the universe. (Murphy 1995: 7; Gebara 1999: 108; Warren 2000: 106, 185).

7.3. A whole, experiential, and contextual epistemology that embraces feminism and ecology

"Think of your own body. When you are healthy, you are not aware of any of its myriads of parts. Your awareness is that of being one single organism. It is only when something goes wrong that you become aware of your eyelids or your glands. Similarly, the state of experiencing all of reality as a unified whole is the healthy state for the mystics. The division into separate objects, for them, is due to a mental disturbance."

Phiroz Mehta, Indian scholar and sage. (Capra 1989: 49)

7.3.1. Opening up epistemology to gender and ecology

Epistemology might as well be called human knowing. It is an invitation to think about how one can know oneself, other people, nature and things in one's everyday surroundings. Thus ordinary people can take part in epistemology. It is therefore not an activity that belongs only to experts, although it is considered so. (Gebara 1999: 20-21).

Philosophical theories of human knowledge have historically been narrow and engagement in them has been limited to only the elite. These theories therefore refer to the experience of only one part of humanity, as being the experience of all. Hence scientific knowledge, philosophical knowledge and theological knowledge all point to knowledge gained and disseminated by middle-class, white men. What was left for the poor, the coloured and women was the so-called experimental knowledge. That is knowledge based on everyday experiences, which was not recognized as real knowing. Hence knowledge of women and poor people was associated with the lowest levels of science and wisdom. In the patriarchal world the hierarchy and dualism in knowledge therefore runs parallel to the hierarchies and dualisms regarding gender, race and class. From this it follows that knowledge is based on exclusion of the majority of people. It is meant to benefit a male elite who also monopolize political and economic power. This domination and exclusion in knowing is manifested in many societies of the world. It is reflected in its media, which for the most part ignore the life of the poor and marginalized. Instead they dictate the attitude people must accept, which is to the benefit of the rich elite. In this way people are seduced to believe that social systems unavoidably are hierarchical and dominating. People therefore internalize and reproduce the model in their lives. That is our patriarchal heritage. But such a knowledge system is a paradox. By excluding the experience of

women and traditional people and by exploiting nature on which human survival is founded, the scientific system lays the condition for the global crises, which eventually will lead to its own self-destruction. (Braidotti et al 1994: 47; Gebara 1999: 25-27).

Hence knowledge in a patriarchal structure is limited to a particular perspective on reality, determined by a specific group. Its conditions for epistemology have been androcentric (based on male interests) as well as anthropocentric (based on human values). The issues relating to ecology and feminism were not included in traditional epistemology. Hence understanding of life was done without women and nature. Both were present, but unacknowledged. It is this epistemology, including its claim to rationality, objectivity and universality, that ecofeminism is challenging. Ecofeminism seek to introduce alternative ways of thinking and knowing, which can dismantle the patriarchal domination of women, Others and nature, and include reality seen from the perspective of ecology and feminism. (Warren 1996: xiv; Gebara 1999: 21-22).

Ecofeminism find that there is an ethical dimension to all human knowing. Every act of knowing includes a chosen understanding of the world and human beings. Value is a part of this choice and therefore also a part of its consequences. Neutrality is not possible. To know is to take a stand or a position in relation to other living beings and to one self, even if that is without reflection. Thus a person's way of knowing affects the quality of his actions and his relationships. Ethical judgements are therefore implicit in epistemology, which means that knowing has consequences. The relationship between epistemology and ethics is consequently not abstract but rooted in concreteness of our daily lives. (Gebara 1999: 23-24).

Ethics of knowing is therefore of extraordinary relevance. It means that society cannot propose unrestricted scientific research without asking questions about which and who's interests lay behind it. Thus ethics may force us either to redirect or limit our knowledge. Ethics must also demand that gender and ecology become constitutive parts of knowing. By such inclusion humanity may reach a new understanding of reality. To achieve relevant knowledge, the hierarchical and dualist ways of knowing must be overcome and the focus must be on understanding the interconnections of everything in the universe. It is an immense task, which includes a reconstruction of cultural and cosmic reference points. Thus an ecofeminist way of knowing is seeking new relationship with all beings. (Gebara 1999: 21-23, 25).

Ecofeminist epistemology consequently introduces the issues of gender and ecology as ways of understanding the world and human beings. Both are constitutive for human reality, although they have not been allowed to be part of human history. But in a social re-construction of human knowledge the masculine and the feminine need both to express their particular ways of being in the world. There is no a priori masculine character to social knowing. Hence the over-generalization and universalization of the masculine knowing must end. Human knowledge must be re-examined by acknowledging that women, oppressed people and the ecosystem were never part of its history. This will give the important insight that the masculine is not a synonym of the human. It will also give the understanding that nature is not an object to be studied, manipulated and exploited by human kind. Opening up epistemology to gender and ecology brings in new frames of reference for knowing. They are deeper and broader than those established by the patriarchy. It contextualises knowing on the basis of men's and women's own daily and concrete experiences seen in relation to each other and their ecosystem. Such an approach would increase knowledge, alter the underlying principles together with the concrete expression of knowing. Bringing in gender and ecology would challenge traditional cognitive processes and lead to a change of perspective, content and conclusions of knowing. It makes earlier truth relative and correct mistaken facts about the inferiority of women and their cognitive abilities. It is therefore justified to speak about some, few, interconnected characteristics of an ecofeminist epistemology that is in the process of developing: (Gebara 1999: 57-59).

7.3.2. Human experience is the guiding principle of knowing

A central feature in the process of generating knowledge about oneself and one's environment is experience. Thus the first step of knowing is to experience. It means to get a feeling about what is happening. The second step is to express this in words, although words are only a limited translation of the experience. This process of knowing is, however, normally not followed. In cultural settings people are often faced with absolute truths that exist beyond people's own experience. When these truths are handed down and repeated, people come to accept them without questions. This develops an authoritarian knowledge system that promotes manipulation and fear. It also builds dominant institutions with control and power over people. Such truths are rejected by ecofeminists. They also deny the existence of a unitary consciousness of the human species. This kind of knowledge is seen as being the result of imposition of form on the world rather than the result of discovery. It makes power implicit in the production of knowledge. However, insisting upon raising questions based on experience about these absolute truths is to democratize such powers. Thus the ecofeminist perspective recovers the human experience as the guiding principle of epistemology. (Braidotti et al 1994: 45; Gebara 1999: 48-50).

Experience does not provide immediate knowledge. It provides a particular perspective. Thus it has room for more kinds of experiences and the means to evaluate the state of affairs. Hence there is no universal human experience, although it often seems so. But that is only because some privileged people receive a platform to speak, while others are relegated to the sidelines. Ecofeminism find that some experience cannot be privileged over others. Knowledge claims must emerge from an equal community dialogue, which provides a forum for all experiences. Hence human experience has value, above and beyond the words and expressions used to describe them. This must not be limited by authoritarian, unequal systems. Instead human experience must be complemented with a wider biocentrism, acknowledging the central importance of all life forms. (Braidotti et al 1994: 45; Gruen 1994: 129-133; Gebara 1999: 48-50).

7.3.3. Knowing is a matter of interdependence

Reflection of human existence does not exist in isolation. When human beings consciously reflect, they realise their kinship with all other beings. It is because of my own breathing that I perceive the air and sense its presence and importance to all living things. But since the air is larger than my breathing I can speak of it with some degree of authority only to the extent that I experience it as vital for myself. Knowing is therefore a matter of interdependence. This relates to all elements in the world. We can conclude this from experience with our own bodies. A headache does not only affect the head, but the whole body. Moreover by reflecting we realise that this interdependence goes beyond ourselves, to other human beings, to nature and includes the universe itself. Thus knowing is an act. It refers to the human form of conscious processes. Contemplating upon cosmic interdependence raise the awareness of being part of a greater body, without which individual life would be impossible. This interdependence is not mechanical, like when a car depends on diesel to run. It is a sacred interdependence between life and all its multiple interconnections. By becoming aware of the larger whole and its importance, people will also become able to care for and respect the whole as well as its parts, rather than dominate and exploit them. It would make it possible to make a communion with all elements, rather than seek to conquer them. It would help people to be better able to cooperate and diminish competition. It would open up the human abilities to increase qualities and unity, which are yin issues that have been forgotten in the dualised, yang domineering modern system. This kind of understanding would eventually require modification of economic and political systems, which fail to respect that life of people, cultures and nature is sacred. (Gebara 1999: 51-52, 54).

7.3.4. Knowing is holistic

This means that knowing is holistic. When we live in a model, which sees one world as being superior to the other, which prioritizes mind over body and men over women, it means that we think and act as if the universe contains these dualisms. Within an ecofeminist perspective these separations disappear. Mind and body are united, all is made up of both matter and energy, thus everything is one whole. There is beauty in unity. When we comprehend unity of all things we may also understand and welcome our own mortality, together with that of the birds and the flowers. (Gebara 1999: 57, 62).

7.3.5. Knowing is a process

Knowing is a process, that varies according to changing circumstances and contexts. There is therefore not one true or best way of knowing, which can be set up as a paradigm to other ways of knowing. Knowing is relative to the world in which it is carried out and it is relevant to the context in which it is developed. Knowledge is therefore a product of unique historical experiences in a specific cultural context. This makes knowledge situated and contextual. (Gebara 1999: 54-56).

7.3.6. Knowledge is situated and contextual

"Situated knowledges" is a term based on Donna Haraway's theorizing, which has provided feminism, post-modernism and post-colonialism with correctives to current epistemological limitations. It recognizes that knowledge is necessarily context bound, partial, particular, diverse and culturally bias. All of us are laying under for these values. The culture, history and society in which we grew up and received our formal education shape our beliefs, opinions, hopes and desires. The questions we prioritize to ask, the methods we choose to answer them and our interpretation of the answers, all include our subjective perspectives. Thus how people interpret the world depends on their context. Ecofeminism takes the consequence of this and includes the way context shapes human understanding, explanation and interpretations of the world. One may then state that an ecofeminist epistemology is an account of knowledge, which is based on people's social, cultural and sexual reality related to a process of participation that emerges historically over time. Apart from including women's voices and experiences also nature is part of such knowledge construction. It means that knowledge develops out of local contexts, long before it is open to a more global perspective. Hence there is no universal truth in knowledge. It is not possible to take some criteria from one place and apply it to another place without problems. Given that people are situated in various and diverse contexts, any claim to a universal outcome must be rejected. Instead concrete, contextual, interdependent affirmations are stressed. The only universal part of knowing is the fact that people learn in a local way. This universality marks everyone. Knowledge is neither objective. The observer is not rationally,

disembodied and detached observing a passive natural object. Such claims are, according to Haraway, based on patriarchal ideologies of control and domination. It makes the male knower not only invisible, but he also avoids responsibility for what he sees. She calls that the "god-trick". This knower must be replaced by an embodied subject that discloses the position from which he is seeing and speaking. Thus we shift from disembodied to situated knowledges. Furthermore, nature is not a resource for man's exploitation. Nature is rather an active subject with whom one can converse and who contributes to what humans know about "it". Hence subject and object engage in "conversations" on a more equal footing. Seen from this perspective science becomes a socially and politically charged conversation with nature. Haraway consequently argues that knowledge is pluralistic, subjective and situated. A scientist can only provide knowledge claims that are grounded in specific social and material contexts and according to his or her perception. Harding agrees and adds that since the social location of the knower is crucial in order to understand and address epistemological claims it makes local knowledge important. Only by listening to the perspectives of indigenous people can outsiders understand environmental issues and solutions be reached. The local people have relevant technical knowledge, because it is based on their daily, lived experience as users and managers of their environment. Such information is not readily available for those who live outside of the culture. Much of the problems human beings have with nature stems from their removal from it. Since experts from the North have not experienced a clear-cut forest, they do not understand the devastation that accompanies the modern culture's consumption of large quantities of paper. Claims from people who have the actual experience are more truthful and valid than any knowledge of experts. Such claims become knowledge in the context of the community dialogue. It does not need to be an experience from that specific community, learning from others may avoid clear-cutting of forests elsewhere. But when all community members participate in such a dialogue and all voices are heard, so that all ideas can be tested, it may end in becoming valuable knowledge. In this way community knowledge justify the value of nature. But not just any community will do. Ecofeminism seeks a community, which is oppositional to any kind of oppressive and domineering conceptual frameworks and institutions. It must include self-reflective members who are challenging possible discriminatory privileges and include diversity. Such challenges play a crucial role in creating better knowledge and value claims. Ecofeminist epistemology is consequently based on actual community-based experiences. With the features of experience, community and situatedness it provides justification for human knowledge of, and obligations to the natural world. (Braidotti et al. 1994: 51-52; Gruen 1994: 124, 126-129; Murphy 1997: 53; Well & Wirth 1997: 301, 306; Gebara 1999: 60-62; Warren 2000: 33-35).

7.3.7. Knowledge is affective

Knowing involves an affectionate approach to the things and people one wants to know about. Affection relates to the emotions and senses that lead one to discover things that would otherwise pass unobserved in the act of knowing. This makes it impossible to draw a sharp line between objectivity and subjectivity. The researcher learns to see other people's reality from within, but without pretending to be the other. This approach to research becomes one of compassionate conversation between agents. It prevents re-construction of dualism because the parties are equal. Equality also means that, although one agent was dominated in earlier knowledge generation, it is not ground for a privileged access to superior vision. Subjugation might provide clues that are less prone to distortion but subjugation in itself holds no key to better or more objective vision. Affection opens up the world of emotions as a source of knowing rather than being the dark side of reason. Reason anyway cannot be separated from emotions. Reason does not have an autonomous existence. That would lead to imprisonment of creativity and alienation from the reality on which it depends to nourish itself. Human beings are reason, emotion, sentiment and passion wrapped up in one. People are an extraordinary blend that is able to emphasize one aspect of themselves at one time and another aspect at another time. Thus the dualist distinction that masculine beings are more rational while feminine beings are more emotional cannot be accepted. It is an unnatural division. Emotions and rationality are manifested in all men and women according to their individual characters, life situations and cultures. Emotions and rationality are interconnected elements that allow human beings to be what we are. (Braidotti et al 1994: 52; Gebara 1999: 63-64).

7.3.8. Knowledge is inclusive

Ecofeminism does not believe in a singular world-view that would provide the same meaning to all people. Such a view ignores diversity, complexity and richness of people's lives. An ecofeminist epistemology therefore recognizes the diversity of human experiences. This calls for a rejection of an objective stance or a unified theory based on facts about human similarity. People are not guided by one single model or paradigm. There is not one criterion for determining what authentic knowledge is. This stand has ethical consequences. It means that people's inclination towards diverse ways of life, cultures, religions, and sexual orientations must be acknowledged. This inclusive character of knowledge also influences its various "independent" disciplines. In reality one study opens up to other fields and is in a certain sense dependent upon them. Thus, a specific discipline has some autonomy, but it is not independent of other fields of knowledge. Everything in the process of knowledge making is interdependent. In this way reductionist and mechanical theories of knowledge, which sees parts as being independent of the whole, can be overcome. (Gruen 1994: 123-124; Gebara 1999: 64).

7.3.9. Conclusively, ecofeminist epistemology is relevant knowledge

Seen in this post-modern light ecofeminist theory is not an irrational perspective. It is holistic, based on interdependence between science, society, nature, reason and emotion, facts and values. Recognition of such interdependence is the first step towards legitimate knowledge. It is the only way to assure that all voices, and the environment in which they are uttered, are included. One unified view of the world is bound to exclude the lives and experiences of many people, it therefore creates fragmented knowledge, which contributes to the various global crisis. A commitment to context, pluralism and diversity does, however, not mean that truth and values will be abandoned. Instead we need to face the fact that truth and values are constructed. They play a central part in our conceptual framework. Since we have different backgrounds there are also alternative true and right world-versions. It is not that there is no objective, external reality, but those objects are both materially given and socially constructed. Thus how we conceive natural objects must be understood in the broader social and institutional context. Attention to these must play a central role in deliberation about moral obligations to nature. We therefore need more than only objective facts. Knowledge claims are not facts, they are influenced by the values of the culture in which they are generated. Hence ecofeminism believes that facts are theory-laden, theories are value-laden and values are moulded by historical and philosophical ideologies, social norms and individual processes of categorization. However, Gruen (1994: 133) warns that generating this kind of relevant knowledge requires methodological humility. It requires deep respect for differences and the assumption that one cannot immediately understand concepts or events. It encourages people to withhold early judgement, to learn to listen, and to see themselves relationally. (Gruen 1994: 124-126, 134; Warren 2000: 34).

In sum, an ecofeminist epistemology is based on interdependent, subjective and diverse experiences. It is holistic, process-oriented, context-bound, inclusive and affective. It is consistent with the elements in systems theory, Smuts' holism and I Ching. Since feminine, yin and masculine, yang forces are considered equal it is a non-dualised knowledge system. It is consequently believed that an ecofeminist epistemology would lead to dismantling of patriarchal dominance in all its form. It would increase the quality of life for both humans and non-humans alike. It would help to create more peaceful ways to resolve differences. It would therefore be important for ameliorating the four crises. (Gebara 1999: 65).

7.4. Creation of lasting peace; a non-dominant society cares about children and their emotions

*"People don't you understand,
this child needs a helping hand,
or he's going to be an angry young man some day.
Take a look at you and me
are we too blind to see,
or do we just turn away and look the other way
- while the world turns."
Elvis Presley "In the Ghetto".*

7.4.1. Introduction

The main focus in the preceding discussions has been on the domination of women, poor people, traditional people, black people and nature, while less has been said about the patriarchal domination of children. This will be rectified in this section. Being the future generation, children are of utmost importance for continued life on Earth. If the hope is for a healthy non-dominant future where all living are respected and cared for, children must be educated in a caring manner. They must be permitted to be in contact with their whole self, others and nature. They must consequently learn to have access to their rational ability (masculine or yang force) as well as being in touch with their emotions (feminine or yin force).

How this may come about can best be understood by showing the opposite. Because it is a tragic fact that traditional child-rearing practices, promoted by the patriarchy, are abusive to children, causing them traumata. To overcome the psychological and physical abuse endured during the up bringing, a child must separate his rationality from his emotions. He must repress his feelings and from then on live a life as a fragmented person, who is not able to show empathy. Such a child cannot develop into a stable and caring adult person. He cannot generate friendly and respectful relationships with other people or connect to the world at large. He consequently cannot live a balanced and fruitful life. He is likely instead to become a cold, distant, fearful, hateful and aggressive individual, who perpetuates violence. Without harmonious adults there can be no hope for creation of peaceful societies. There is consequently an urgent need to change the current practices and educate children with the love and care they deserve.

The following sub-sections discuss the traditional child-rearing practices and the consequences they have for the child in his adulthood and society at large. The discussion is inspired by the works of the two psychologists Alice Miller (German) and Dorothy Rowe (Australian) who both made an in-dept study of child-rearing methods in modern society. The below is not an exhausting presentation of the

subject in question. It is limited and only meant to give an overall picture of the issue. But the debate should still be comprehensive enough to raise awareness of two issues: First, it is harmonious, balanced and satisfied people who bring world peace, rather than increased militarism and weaponry; Second, such happy and peace-loving people are the consequence of a caring, respectful upbringing done by loving, self-conscious parents. Such parents make sure that their child develops both his rationality (yang force) as well as his emotions (yin force).

Although "the child" in the following discussion is a boy and therefore is called "he", does not mean that only boys are abused as children. That would be far from the truth. The use of the masculine pronoun is merely a simplification. "He" should therefore be understood as "he/she".

7.4.2. Patriarchal domination of children; creation of violence by traditional child-rearing methods

According to German psychologist Alice Miller violence and war stem from the way in which modern society brings up children. Her thought-provoking research was presented in her 1987 book "For your own good; hidden cruelty in child-rearing and the roots of violence". Miller's (1987: 9) aim with the book was to expose the roots of hatred, which only a few people seem to recognize. She also wanted to find out why there are so few of these people.

Miller examines traditional methods of child rearing, which she calls for "poisonous pedagogy". The basis of these practices is to educate children by the means of deception and punishment. They include various tools. A child may be beaten (corporal punishment), threatened with corporal punishment, and exploited, taken advantage of, manipulated with, neglected, threatened with banishment from the home or threatened with divine retribution. Also included are techniques of various kinds that may be used to arouse guilt, shame and humiliation in a child. The purpose with these methods is to teach the child a certain behaviour and thought pattern preferred by the parents. These activities are widespread and accepted, but according to Miller such child-rearing approach is based on abuse. (Miller 1987: 1-6, 281; Rowe 2000: 228).

Dorothy Rowe (2000: 223) has also studied the history of childhood. She found that the centuries have been a Holocaust for children. It is founded on a pattern where the parent generation are using the children for their own ends. When such children become adults they take revenge on their own children, other people and some also revenge on their parents generation, who now are old and frail. Thus few learn from their experience. Instead they repeat the pattern of using children for their own ends. This creates a vicious circle of violence that spread into all parts of society. (Rowe 2000: 223).

Cruelty towards children was echoed by the research done for the Truth and Reconciliation Commission in South Africa in 1998. It showed that it was the young people between 15 and 25 years of age that bore the brunt of human rights violations. *"Children and youth were killed, abducted, raped, tortured, poisoned, imprisoned for long periods without trial, denied rights (granted by laws) while imprisoned, and harassed merciless for actions taken and beliefs held in relation to political conflicts or for just being in the firing line..."* It was not only the black youth who suffered. *"Millions of white adolescent were militarized through participation in the school cadet system. During compulsory military service in the townships, they were forced to participate in the oppression of their fellow South Africans."* (Rowe 2000: 223-224).

7.4.3. The motives for dominating children

According to Miller poisonous pedagogy fills the needs of parents, rather than the needs of children. Thus the aim cannot be to educate children. In reality the methods have shown either to discourage the child's development or to prevent it. Corporal punishment is in fact the most ineffective way of educating children. Children do learn from it, but never what the adult intended them to learn. (Miller 1987: 16; Rowe 2000: 227).

For thirty years Murray Strauss at the Family Research Laboratory, at the University of New Hampshire, USA has been researching the effects of corporal punishment on children and on the adults they subsequently become. The results, along with results of other studies showed quite clearly that *"The more corporal punishment was used the greater the tendency for antisocial behaviour to increase subsequent to the corporal punishment.."* Studies also show that talking to children including pre-speech children, increases neural connections in the brain and cognitive performance. Thus one may assume that avoiding corporal punishment and increasing verbal interaction will enhance a child's cognitive ability. The benefits of avoiding corporal punishment are likely to reduce juvenile violence and other crimes too. It is also likely to lead to less adult violence, less masochistic sex, an increased probability of completing higher education, an improved potentiality to obtain higher income, and it results in lower incidents of depression and alcohol abuse. (Rowe 2000: 227-228).

Despite of all the unfortunate outcomes from traditional child rearing it remains popular with parents, mainly because it is sanctioned by the community. Such actions require little thought and allow the parents to rid themselves of their own anger, fear and feelings of inadequacy. To terrify a child into obedience is also the easiest way. Bringing up children by listening to them, trying to understand them, taking their point of view into account in every decision the parents make is the most difficult

way to bring up children. Hence the real motives for using the traditional methods of child rearing are rather the unconscious need of parents: to pass on to their children the humiliation they underwent when they were children; to find an outlet for their repressed affect; to possess an object to manipulate and dominate; to idealize their own childhood and parents, by applying their parents' principles to their own child; to suppress the fear that their own feelings may reappear in the eyes of their own child; to suppress their fear of freedom; and to live out their need of revenge for pain they suffered. Thus by physically or mentally abusing their children, parents are struggling to regain the power they lost to their own parents when they were children. Since they have found someone who is weaker than themselves, they can fight back. Rather than increasing their self-awareness and thereby facing reality they rationalize the abuse away by suggesting that the treatment is "for the children's own good". But Miller (1987: 17) disagrees. Mistreatment of children is always degrading. A child is unable to defend himself and since a child is dependent on the parents, he is even forced to show gratitude and respect to them in return. This requirement is emotionally contradictory and can therefore have devastating effects for the child later in life. Consequently parents use traditional child-rearing methods for their own psychological needs, not for the good of the children. (Miller 1987: 16-17, 97; Rowe 2000: 228).

7.4.4. The consequences from traditional child-rearing

When a child is punished by his parents his first feeling may be anger and hatred to the parents for the action. This is a normal reaction to injustice. It is a defence that helps the child to overcome consequences of abuse. But in traditional child rearing the child is prevented from expressing these feeling. Parents who punish their children often demand the child's love at the same time. This creates confusion in the child. He depends on his parents and must show gratefulness to them, but he is also angry with them. He is therefore in double jeopardy. He both hates and loves his parents. His solution is to redefine the situation. Rather than defending himself he chooses to identify with the parents and decides with them that he is at fault. The conclusion is that he is "bad" (or wicked, inadequate, stupid), and therefore being rightly punished by his good parents. From then on the child will find himself being bad and it is therefore just to punish him. But when a child is not permitted to react appropriately to hurt, humiliation and coercion, then these experiences cannot be integrated into the personality. Instead the feelings are repressed. In case there also later on is no possibility to articulate them to a caring person, the situation may cause severe psychological problems. It is a well-known fact that neuroses are the result of repression, not of the events themselves. If children experience disasters like war and hunger, but during the ordeal feel they are being taken seriously and respected as individuals by their parents, then they will not become ill because of these actual traumata. The experience may even enrich their lives later on. It is therefore not the trauma itself that is the source of

psychological problems. It is the unconscious, repressed and hopeless despair over not being allowed to express what one has suffered, and the fact that one is not allowed to show, and is unable to experience the natural feelings of rage, anger, humiliation, despair, helplessness and sadness. Thus neuroses and psychoses are not direct consequences of actual frustrations. They are expressions of repressed traumata. Consequently, it is not the suffering caused by the abuse that is leading to emotional illness. It is rather the fact that the child is forbidden by the parents to experience and articulate his suffering. This impedes the child's natural growth and creates the condition for pathological development. (Miller 1987: 7, 14, 254, 259; Rowe 2000: 67, 214).

Adults are free to get angry if they are deceived, ignored, punished unjustly, confronted with excessive demands or lied to. Children oppositely are not allowed to reproach their parents and teachers. They are not permitted to express their frustrations. Instead they must repress or deny their emotional reactions. But emotion hidden does not disappear. It comes back in nightmares and in fantasies that contain a murderous rage, which then has to be guarded against in obsessive and compulsive ways. Hidden emotions, too, wears away at the body affecting the autoimmune system, which, once it begins to lose its efficiency, leaves the person prey to all kinds of diseases. Children's unexpressed anger consequently builds up inside. Over time it is transformed into a more or less conscious hatred directed against either themselves or substitute persons. In adulthood it may finally be discharged, not on the object that caused them, but in various ways permissible or suitable for the particular adult. Thus the hatred may be taken out on their own children or on other people. This means that instead of learning when it is appropriate to become angry and how to deal with violent emotions, people learn to direct their unavoidable feelings of anger towards others they perceive as being enemies. That generates hatred, conflicts and violence and may lead to criminal behaviour or murder. If the hatred is directed against one self it may manifest in emotional illness or addictions. For some it may end in suicide because life seems no longer worth living, if a person is unable to live out all these strong feelings that are part of one's true self. (Miller 1987: 61, 254, 259; Rowe 1993: 124; Rowe 2000: 221).

One aim of poisonous pedagogic is to condition a child to be well behaved. Thus when a child gets something wrong adults may call him names or shame him. By that he learns what he ought to feel, rather than what he does feel. He learns that acceptance and love can be gotten only by denying one's own needs, impulses and perceptions. He then becomes what his parents want and need him to be. Only if he is this way can he be loved. But constant assaults on a child's understanding of what is going on inside and outside of himself can have devastating effects. Due to our limited perceptions the only reliable knowledge we can ever have is the knowledge of ourselves, our own thoughts and

feelings, our own personal truth. Everything else is guesswork. Thus when parents tell their child that his own feelings and thoughts are wrong, he loses his self-confidence. He may react by turning away from what goes on inside of him. By that he will let go of the only certain knowledge he has: his feelings and thoughts. If his parents deny a child's external reality he may live in doubt about his own perceptions and thus eventually lose connection to the outside world. Such a child may live in a fantasy world. To prevent this from happening it is natural that a child resists, when his parents try to impose their truth on him. In trying to enforce their ideas on the child, the parents are threatening the child's meaning structure and hence to annihilate the child as a person. That is how the child experiences it. But since the child is not allowed to resist in a healthy manner the only other alternative is to obey. These children surrender their selves, which has consequences. One is overuse of drugs, because it gives the person a sense of control over his feelings. Another may be either anorexia or bulimia. Both reflect the way people were treated as small children, which is the way they have learned to treat themselves, often for the rest of their lives. If a child's truth is denied continuously he may even end up schizophrenic. Thus people may impose the most agonizing suffering upon themselves because they cannot escape the inner tormenter. It is like someone has taken full control of the body and mind. Enslavement of the body and exploitation of the will are the result of poisonous pedagogic. Hence drug addiction and anorexia begin with an attempt to escape parental control. (Miller 1987: 121, 131, 133; Rowe 2000: 66-67, 80).

Yet another consequence for a person who was abused as a child is insensitivity to other people's pain. The abused child may be able to remember what happened to him, but in most cases the emotional content of the experience has been repressed. Since a child has not sufficiently developed the Self, which can retain the memory of the feelings from the suffering, these emotions will stay subconscious. This will later on prevent the adult from empathizing with others. We are all born with the capacity to empathize with other people. But innate characteristics can be overridden. It is with empathy like with a muscle, if you do not use it you lose it. Such a person cannot differentiate a person from an object. He therefore treats other people as objects. This means that he either manipulates people, uses them as instruments for his own benefit or ignores them. On occasions he destroys them. Thus battered children may grow up without acquiring the model of relationship that is developed by the interaction with a caring adult. Because of this they cannot develop the model psychologists call for "conscience" or "superego". These children live their adult life without guilt and become executioners, prison guards, or concentration-camp supervisors. Others become criminals. However, many may fear the punishment that breaking the law would bring and live apparently normal lives. They may become politicians, lawyers, economists or managers of multinational corporations. Yet others may

become the most powerful member of a family. These people will believe that what was done to them was for their own good and therefore they must not question it but accept the treatment as an essential part of life. Therefore, their behaviour may make life for others, who are in contact with them, difficult or even unmanageable. They may tell lies, inspire guilt in other people, they may dominate, be highly jealous, selfish, greedy, competitive, exploitative or manipulative. (Miller 1987: 115; Rowe 2000: 73-74, 163).

When a child blames himself for his parent's abuse and following defines himself as being bad, it causes him to lose his self-confidence. He then believes that he must work hard to be good. During his up bringing the abuse is repeated and it becomes the "right" way of life. Thus the child has learned a lesson he will use in adult life: Like his parents, he will punish all who are bad. This generates a violent behaviour. Without it fundamentalist groups could not exist. Thus cruelty is handed down from one generation to the next. The people who were punished, now punish others. Generations after generations of parents have justified the cruelty they perpetrate on their children by saying, "I was beaten as a child and it never did me any harm". They fail to understand that the damage the abuse did to them was to rob them of much of their humanity. In order to endure the pain inflicted upon them by their parents they had to become indifferent to their own pain, but that also lead to indifference to the pain that others suffer. Such people have lost their ability to relate, their conscience and their contact to their own feelings. (Rowe 2000: 214-215).

An adult who is mistreated will not doubt the tragic nature of his experience. He will also not try to convince himself that the horrors were for his own good. Moreover he will not be forced to empathize with his persecutors. Instead he can share his despair and suffering with other people. Adults are free to hate their persecutors, which prevents them from surrender their selves. The abused child does not have any of these options. He is alone with the suffering. He is helpless and cannot even create a place in the self to cry out the pain. Since he is also not allowed to hate his parents he is confronted by a tormenter he loves. This complication will have a devastating influence on his entire life. As he is not able consciously to experience his helplessness, he can only identify with the aggressive side of his psyche. Hence for the future the child will identify with the aggressor and repeat the story out of an inner compulsion, without any feeling of sympathy for his future victims. To prevent this situation the child needs the help of an understanding adult, but often no such person is available. Had he got help, he would have been able to see himself as weak and helpless. He could have integrated this feeling as a part of the self. But without such a person the child is likely to split off his feelings. (Miller 1987: 116-118).

A final consequence of child abuse is indoctrination of dualism. If a person has been abused as a child and following repressed the feelings of pain and anger, he may in adult life lack respect for those who are weaker than him. In order to divert his anger away from his parents, and to deal with his sense of badness he must blame those people, whom he has learned from his parents to see as being the other in their dualised group. These are made into enemies. This gives relief. When a person can project his own badness onto others he can see others as being worse than himself and then he feels better. Relieved from his own feelings of badness and seeing the dualised other as a worthless object leads to grouping of like-minded people. These people join racist, nationalist and fundamentalist groups, or they may enrol in the military. In these groups they have a clear-cut enemy whom they are permitted to hate freely. Here they also enjoy appreciation by the leaders, thus they are willing to do things people with a conscience may not be prepared to do. Hence young people may be willing to fight one another in a war, just as their lives begin. They may be willing to join terrorist groups or street gangs and harm innocent people. Such youngsters are willing to die for someone else's cause. In their upbringing they internalized the patriarchal dualised perspective - us versus them - from this racism, sexism and all other isms of domination are developed. Consequently abused children may as adults lack respect for life and its laws. Every brand of fascism lacks this respect. These attitudes will eventually stifle all creativity. (Miller 1987: 64, 171; Rowe 2000: 216-217).

In sum; the individual psychological stages in the lives of many people are as follows: 1) to be hurt as a small child without anyone recognizing the situation; 2) to fail to react to the resulting suffering with anger; 3) to show gratitude for what are supposed to be good intentions; 4) to forget everything; 5) to discharge the stored-up anger onto others in adulthood or to direct it against oneself. (Miller 1987: 106).

The anger stemming from early childhood represents a healthy, vital source of energy. Those who were permitted to react appropriately in their childhood to the pain and wrongs inflicted upon them, will retain this ability and react appropriately in later life. When someone wounds them as adults they will be able to recognize and express this verbally. They will not need to be violent to themselves or others. Hence if we consciously are experiencing our own victimization, it will provide a protection against sadism; i.e. the compulsion to torment and humiliate others. Living out hatred is the opposite of experiencing it. If the path to experiencing one's feelings is blocked, by the needs of the parents, then these feelings will have to be lived out. This can occur as being destructive or self-destructive, or both. Consequently the greatest cruelty that can be inflicted on children is to refuse to let them express their feelings of anger and suffering. (Miller 1987: 65, 106, 197).

7.4.5. Adolf Hitler; the abused child, the cruel adult

For her research Alice Miller studied the childhood of drug addicts, dictators and killers. Her main research subject was Adolf Hitler. Miller wanted to use Hitler as an example to show that even the worst criminal of all times was not born a criminal. (Miller 1987: 197).

Hitler's family structure could be characterized as the prototype of a totalitarian regime. The only, brutal ruler was the father. The wife and children were totally subservient to his will. They had to accept humiliation and injustice unquestioningly and gratefully. Obedience was their primary rule of conduct. Since the mother would rule when the father was not around, she could to some extent take the humiliation she suffered out on the children. That is a similar function the secret police has in the totalitarian state. But the children were oppressed, mostly the youngest. Small Adolf was constantly beaten and humiliated by his father. Nothing he did or said could change it. He had to deny the pain, deny himself and identify with the aggressor. The fate of Jews became similar. A Nazi could at any time he liked it beat a Jew and do with him as he pleased. There was no way the Jew could escape. Similarly with Adolf, he had no escape either. Thus Nazis could publicly humiliate Jews, take off their clothing, dirty them and laugh. That was what Hitler's father did to him. (Miller 1987: 146, 163).

It was not only Hitler who was abused as a child. Among all the leading figures of the Third Reich, Miller has not been able to find a single one who did not have a strict and rigid upbringing. That should give food for thought. Adolf Eichmann and Rudolf Haess were examples of a "perfectly successful" upbringing, which had formed them with no vital spontaneity left. This training never lost its effectiveness. To the end of their lives these people carried out the orders they were given without ever questioning the content. They carried them out not because they were right, but because they were orders. In prison Haess was asked to write an account of his early life. Like all other demands from the authorities he dutifully carried out the order. Haess explained how he as a child learned to obey promptly the wishes and commands of all adults. What they said was always right. Thus when the authorities asked him to run the machinery of death in Auschwitz he performed the duty faithfully. (Miller 1978: 65, 67-68).

Don Foster (Rowe 2000: 369) noted in his article "Perpetrators of gross violations of human rights" in *Journal of Community and Health Science* 4 (2) 1997, that *"the most astonishing aspect of ploughing through masses of literature on atrocities of all kinds is to find the sheer neglect of the fact that they are almost exclusively committed by men. There were some women among the guards in the Nazi concentration camps and some women warders in ordinary jails have been noted for their brutality.*

Some women are violent to their children, and some violent to their menfolk, and women have never been averse to murder...., but the majority of women ... would not contemplate carrying out atrocities, much less actually doing so." Hence men commit atrocities against other men, but they also commit atrocities of rape and murder against women. Patriarchy as an ideology serves to sustain relations of domination of men over women. In a patriarchal society women do suffer at the hands of men, but they suffer in all societies and especially in a war, where most atrocities take place. Many men grow up with an intense hatred of women, and treat this hatred as something not to be combated and eradicated but to be shrugged off - "that's the way men are". Boy babies normally have a passionate love for their mother. However, if they come to feel that their love is not returned, if they find that their mother frustrates and disappoints them, they may develop a hatred which they then via the dualised model direct at all women. (Rowe 2000: 369-370).

Torturers are consequently men, but what kind of men? Primo Levi, who endured it, wrote about the SS (Schutzstaffel) which was a paramilitary organization within the Nazi. SS worked as security forces, concentration camp guards and as Hitler's bodyguards. These men were average human beings, averagely intelligent, averagely wicked; save for exceptions, they were not monsters - but they had been reared badly. They were, for the most part, diligent followers, obedient, some even fanatically convinced of the Nazi doctrine. Many were indifferent, or fearful of punishment, or they desired a good career. All of them had been subject to the terrifying mis-education provided for and imposed by the schools created in accordance with the early wishes of Hitler and his collaborators. This education was completed by the SS drill. Thus in the Third Reich the military service provided the best opportunity to continue the established pattern of taking orders. Many people were longing for someone to tell them what to do. Hence when Hitler claims, just like Father, to know what is good, right and necessary for everyone, it is not surprising that many people welcomed him and helped him to rise to power. He was a father substitute, without which they were unable to function. (Miller 1987: 70; Rowe 2000: 372-373).

Foreigners easily saw through Hitler's weakness. The German people could not. A child cannot consciously acknowledge the negative sides of his father. His ability to perceive these attributes has been blocked by early obedience training and by suppression of feelings. Hence if a father suppresses his child's critical faculty then the father's weaknesses will never be found out by the child. The child will agree to anything the father says. As an adult the child will be attracted by precisely these negative sides in the father substitutes he encounters. That happened to German adults when Hitler appeared on the scene. When a man like father comes along, people will surrender to him without

being aware that it is a continuation of their childhood. Thus the dependency from childhood continues with no escape. A child cannot run away from his parents, like a citizen of a totalitarian regime cannot free himself. The only outlet is abusing one's own children. Thus the citizens, who were captives of the Third Reich, had to rear their children to be captives as well, if they were to feel any trace of their own power. An outsider will have troubles in understanding the German people's devotion to Hitler, but when the German child-rearing practices are unveiled, the mystery around Hitler is solved. (Miller 1987: 72, 74-75).

Hitler also presented another way to make the struggle against the humane impulses easier for the citizens of the Third Reich. They were offered the Jewish people as an object to blame for their own inner bad feelings. If everything they had feared in themselves since childhood could be attributed to the Jews, then they could feel good about themselves. Hence Jews were persecuted and killed. This pattern was repeated in Yugoslavia and Rwanda and it is going on in the Darfur region of Sudan at this moment in time. Thus the world is still threatened by repetition of similar crimes. To change the situation we need to understand the origins of such behaviour and the psychological mechanism behind it. (Miller 1987: 80).

It is often believed that rationality can prevent crime against humanity. But according to Miller that is not possible. Studies show that both Hitler and Stalin had a surprisingly large number of enthusiastic followers among intellectuals. Thus the human capacity to resist manipulation by dictators' cruelty has nothing to do with abilities to reason. Such attributes are oppositely capable of innumerable rationalizations. Our ability to resist manipulation is rather based on the degree of access we have to our true self, our emotions. This explains why the German philosopher Martin Heidegger became Hitler's follower. Heidegger had no trouble breaking with traditional philosophy and leaving his teachers behind. But he could not see the contradictions in Hitler's ideology, which should be obvious to someone of Heidegger's intelligence. (Miller 1987: 43).

The German way of bringing up children has consequently had serious consequences for its society. Miller's research also showed that 60% of German terrorists from recent years, are children of Protestant ministers. The latter wanted to inculcate in their children the values of good behaviour, unselfishness and gratefulness. For these admirable ends the parents were willing to use the means of force. When these children show violent behaviours as adults they express both the un-lived and suppressed side of their own childhood and the un-lived and hidden side of their parents' psyche. Thus when terrorists take innocent women and children as hostages in the service of a grand cause, they only

do what was done to them. When they were small children full of vitality their parents sacrificed them to high religious values, with the feeling of performing a great deed. These intelligent and often sensitive people, sacrifice themselves as adults to another, often opposite ideology where they allow their innermost selves to be completely dominated, as in their childhood. Hence violence is done for a noble cause. Since people like to see themselves as being good, they rationalize their actions as being good with arguments provided by an ideology. Ideologies consequently furnish the means for people to act violently, although ironically they believe that they are acting in terms of worthy, noble, morally righteous reasons. This is the unrelenting, tragic nature of an abused person's unconscious compulsion to repeat. The action of terrorists can either be understood or misunderstood. If it is understood life can be saved. (Miller 1987: 65-66; Rowe 2000: 367).

Some people are extraordinarily susceptible to the dictates of extreme and manipulative leaders and groups, while others are immune to these influences. Those who refuse to adapt to a totalitarian regime are not doing so out of a sense of duty or because of naivety. They rather do it because they cannot help but be true to themselves. Thus courage, integrity and the capacity to love are not virtues as such, they are consequences of being in touch with one's emotional self. Those who have spontaneous feelings can only be themselves. They have no other choice if they want to remain true to themselves. Rejection, ostracism, loss of love and name-calling will not fail to affect them, they will suffer, but once they have found their authentic self they will not want to lose it. When they sense that something is being demanded of them to which their whole being says no, they cannot do it. These are people who were sure of their parents love, or people who later in life regained their lost self by awareness of their past abuse. They will not be willing to relinquish it again for any price in the world. (Miller 1987: 84-85).

Hitler would never have been able to banish his father from his mind. Thus the world would have had to pay dearly had Hitler lived any longer, since the spring of his hatred flowed unceasingly. The unconscious cannot be destroyed by destroying the world, it requires self-consciousness. (Miller 1987: 174).

7.4.6. Children suffer, while society turns its head and look the other way

Miller (1987: 240) consequently finds that the destructiveness of criminals, drug addicts, murderers, terrorists, dictators etc. is the discharge of long-pent-up childhood hatred, and its displacement onto other objects or onto the Self. It comes from children who grew up in an environment of cruelty, where they were mistreated and humiliated. The healthy reaction to such treatment would be rage.

But this rage is suppressed and the child has no one to whom he can confide his feelings. In order to communicate his suffering, when verbal communication is blocked, is to live it out (unconscious enactment). Only when this happens does the world react, not while the child is battered. The enactments are a cry for help and understanding. We may therefore better understand cruel and self-destructive people, if we trace the fate of the individuals back to the concealed tragedy of their childhood. Understanding the root of the tragic nature of the compulsion gives us hope for a better world. (Miller 1987: 240-241).

Hence Miller (1987: 132) truly believes that all absurd behaviour has its roots in early childhood. Children who are being abused learn to abuse others. Behaviour is learned from parents and siblings. Hence destructiveness is a reactive rather than an innate phenomenon. But the cause will not be detected as long as the adult's manipulation of the child's psychic and physical needs is interpreted as child rearing, instead of as the cruelty it really is. Many find it difficult to believe that every persecutor was once a victim. Yet it is obvious that someone who was allowed to feel free and strong from childhood does not have the need to humiliate another person or destroy themselves. (Miller 1987: 132, 142, 249; Rowe 2000: 226).

It is therefore a tragedy that children as adults are unaware of what was done to them. Countless institutions in society profit from this fact, not least in the totalitarian regimes, but also in otherwise democratic societies. Manipulation of people is always weapons in the hands of those in power even if these are disguised with terms like education, military service or therapeutic treatment. But since the abuse of power over others usually has the function of holding one's own subconscious feelings of helplessness in check, rational arguments can do nothing to impede this process. (Miller 1987: 278).

We can also not prevent nuclear annihilation of the human race by rational agreements. That is fundamentally an irrational, wishful thinking. It contradicts all experience. As recently as in the Third Reich, not to mention countless other times, has it been shown that reason constitutes only a small part of the human being, not even the dominant part, at that. All it took was a Führer's madness and several million "well-raised" Germans to extinguish the lives of countless, innocent human beings in the space of a few short years. If the world does not do everything to understand the roots of this hatred, even the most elaborate strategic agreements will not save humanity. Stockpiling of nuclear weapons is only a symbol of bottled-up feelings of hatred and of the accompanying inability to perceive and articulate genuine human needs. (Miller 1987: 144).

Although the 20th century in the West was the century for self-understanding, little knowledge from child-rearing activities seeped into public life. When Miller did her research there had already for some years been proof that the effects of traumatization of children due to up bringing take their toll on society. This knowledge should have motivated fundamental changes, which did not happen. Many parents still find that their children are their property. Some even find that since they gave life to their children, they also have the right to end it. In the UK every six or eight weeks a parent, usually the man, kills his children and then himself. In Australia family murder-suicide occurs twice as often as in the UK. In the USA, where guns are readily available, the rate is higher still. The deaths can be counted, but nobody counts how many parents threaten their children with murder. As long as society continues to choose to use traditional methods of child-rearing, rather than changing attitude, violence will escalate. The easier it becomes to destroy human life by weapons of mass destruction, the more important it is to understand why someone wants to extinguish the lives of millions of human beings, and then to do something about it. (Miller 1987: 17, 281; Rowe 2000: 222, 225).

Thus behind every crime a personal tragedy lies hidden. If we would investigate these backgrounds more closely we may be able to prevent crimes. Although not all who are beaten become murderers, we do not know how a child will and must react to the injustice he has suffered. Neither do we know yet how the world would look like if children were to grow up being respected and taken seriously as persons. But it is known that a person who enjoyed respect as a child will not as an adult have the need to put other human beings to death. The need to commit murder is the outcome of a tragic childhood. But because the relationship of child beating to subsequent criminality is not perceived, the world reacts with horror to the crimes committed and overlooks the conditions giving rise to them. The belief is that murderers fall out of a clear blue sky. Whenever a child commits a murder, the reaction from the media shows that if there still were public executions there would be no shortage of crowds to watch children die. No one wants to understand what happened and how it can be prevented from happening again. Rowe (2000: 225) believes it is because people do not want to discuss child rearing. They are fearful of hating their own parents and fearful of admitting what they have done to their own children. They are also jealous. They find it unfair that a child who has committed murder should have understanding when they did not get it. (Miller 1987: 177, 195, 196, 280; Rowe 2000: 225).

The bottom-line in child-rearing methods is that parents want to have the power and control over their children. This power they do not want to lose. Over the past years a number of countries have passed legislations, which protects children against assault in the same way as adults are protected by law against assault. Such legislations were not passed without difficulty. In South Africa where horrific

violence threatens the very stability of the state and where traditionally teachers relied on corporal punishment to keep order, the organization Christian Education South Africa, an association of 205 Christian schools across the country, applied to the Constitutional Court to have the ban on corporal punishment declared unconstitutional. Fortunately the Court rejected on technical grounds the Christian claim that it is right to inflict pain on children. However, such behaviour creates confusion. It leads Rowe to comment: was beating children what Jesus meant when he said, "Suffer little children to come unto me"? (Rowe 2000: 226).

Governments have no control over people's private thought, but they can influence shared ideas through the laws they pass and through honest advocacy. It was law that originally ended slavery and child labour. It was law that ended the death penalty in Europe. This action caused public opinion to follow. When the British government banned the use of the cane in schools, slowly the idea spread that corporal punishment is not necessary in the education of children. Laws such as these influence public opinions as long as governments are consistent in their demand that the law is upheld. But often politicians exhibit massive hypocrisy, particularly when they talk about children. They claim that children are our future, yet their actions ensure that for many children the future is grim. If adults really cared about children no child in the world would live in poverty, lack food, medical care and education, suffer the effects of conflict either in the family or in society. The fact that many millions of children are deprived shows that most adults do not see children as being fellow human beings. Thus children get the kind of upbringing that forces them to repress their feelings. If a child grows up in poverty or with war, or in a family where he is abused, beaten, unloved or with parents who set high standards, where failure is unacceptable, then he needs an enemy on whom to project the bad feelings, which he can express in no other way. There is consequently only a short step from being a child who was seen by adults as an object of no importance or as a possession to be used - to being a man with a gun in his hand or a woman who terrorizes her children. However, both Miller and Rowe find that there is justifiable hope that society will not be passive forever. According to Rowe (2000: 221) there has during the last 40 years been a change in the way in which some parents bring up their children. These parents treat their children with the same respect and dignity as they treat adults. Because the key to change hatred, violence and war lies in the way we bring up children. The more gently and tolerantly children are brought up the less need they have to hate others and to make enemies. Moreover many people are searching for inner awareness in spite of abuse and coercion. The hope lies with these people. A fact is that the human soul is virtually indestructible. It has an ability to rise from the ashes, which remains as long as the body draws a breath. (Miller 1987: 177, 195, 196, 280; Rowe 2000: 221, 492).

7.4.7. The way to forgiveness of the abuse endured in childhood

If one has endured injustice as a child the way out is not to deny the old anger, but to face it head-on. If a person can feel anger of the injustice he has suffered, then he can recognize his persecution and acknowledge and hate his persecutor for what he or she has done. Only then will the way to forgiveness be open to him. Rage and pain can apparently pass quickly if one is free to express them. If one is proud of one's self-control, some of the pride may turn to rage; rage at the realization that all this time he has been cheated out of free access to his feelings. This rage, if it is really acknowledged and experienced, can make room for a feeling of sorrow over the meaninglessness of the sacrifices. Thus only when the history of abuse in earliest childhood can be uncovered will the repressed anger, rage and hatred cease to be perpetuated. It will be transformed into sorrow and pain, over the fact that things had to be that way. The change from rage to sorrow makes it possible for the vicious circle of repetition to be broken. If the anger is followed by grief over having been a victim, then it can also be followed by mourning the fact that his parents were victims too. As a result understanding of his parent's childhood will come. And he can finally be liberated from his own hatred and experience genuine sympathy. (Miller 1987: 248, 273).

To be free to express resentment does not mean that one becomes resentful, rather the opposite. Being permitted to experience these feelings means that one does not have to use surrogate figures. Only hatred felt for surrogates is endless and insatiable. This is because the feeling is separated from the person against whom the hatred was originally directed. Free expression of resentment against one's parents represents a great opportunity. It gives access to one's true self, opens the way to mourning and with luck reconciliation. It is an essential part of the process of psychic healing. Without experiencing the underlying rage, there can be no reconciliation. (Miller 1987: 251).

People need to understand that hatred is a normal human feeling and a feeling has never killed anybody. There cannot be a more appropriate reaction than anger or hatred in response to the abuse of children, rape of women, marginalization of black people or torture of the innocent. A person who has been allowed to react to his frustration with rage will internalize his empathic parents and will later be able to deal with all his feelings, including his hatred, without need for analysis. It is not experiencing hatred that leads to act of violence; it comes from hatred that is bottled up. (Miller 1987: 261-262).

One of the hardest things one has to do is to accept that those people who in an ideal world would have loved him are limited by their own sense of being unloved, by their jealousy, envy and hatred. To admit that by unlucky chance one was born into a family where love is in very short supply, a person

takes that sadness to the grave. The best he can do is not to blame himself for being unlovable, to see the situation clearly, and to do what he can to protect himself from further hurt. So instead of concentrate on trying to change these difficult people, he should treat them like he treats bad weather; something that is there and from which he must protect himself. (Rowe 2000: 418-419).

7.4.8. Awareness may bring about a peaceful world

If the hope is to create a world where people live peacefully together, treating a person as a means for own ends must be considered unacceptable. Viewed in this way the corporal punishment of children is unacceptable. Anyone who is ignoring the right and wishes of another person behave in an unacceptable way. If anyone is criticizing others, using them or treating them with discourtesy, then they behave in unacceptable ways. Hence creation of a peaceful world requires that people become aware, get in contact with their feelings and change their behaviour. Most do not like change, although the world is changing all the time. However, to generate peace people need to learn to respect one another. It is not possible to create friendships when some are treating others as their possession or as objects to be used. Neither can friendship be based solely on competition. The person who always want to be right, and compete with other people about being right, cannot make friends. He is generating a situation of a predator and a prey. People need to learn that the dualist categorization of people is fundamentally false and alienating. No one is inherently inferior or inherently superior, each individual is unique, having his or her own way of perceiving reality. Others must tolerate that fact, even though they cannot always approve of a person's view. However, rather than seeking conformity people should celebrate the difference there is between each and every person. Because living in a complex world with a variety of ideas is more rewarding and interesting than living in a box with a few simple ideas. (Rowe 2000: 433, 484, 491, 506, 508).

The well-known development author Robert Chambers has also in his writings been inspired by the works of Dorothy Rowe and Alice Miller. He agrees with them that family relationships are hugely formative. What sort of people we are depends on the powerlessness we were exposed to as children. Thus the most powerful input in development is to change the way adults treat children. Those who are violent as adults are often those who experienced violence. Since research shows that Hitler, Stalin and Ceausescu all endured violent abuses as children, it is strange that the treatment of children by their parents is not a matter of massive global public concern. Organisations like UNICEF and PLAN International, which are committed to children, should make this a priority. For Chambers (1997: 233) the bottom line for change is to be nice to people. This includes to show courtesy, respect, patience, consideration, generosity, and to be sensitive to others' reality. Such virtues are the core of personal

and interpersonal well-being and it includes the very youngest. A world without violence and war must conclusively start with caring about its children. (Chambers 1997: 233).

7.4.9. Concluding remarks

Militarism and violence are continual features of a patriarchal society because they reflect and instil patriarchal values and fulfil needs of such a system. It is a predictable system. Hence one may say "of course" when an abused child becomes an abusive adult, or when a sexually violated child as an adult sexually violates children. Thus a patriarchal society, is a vicious circle that becomes an unhealthy closed system. This is in Warren's (2000: 211) opinion where ecofeminist spiritualities come in. Ecofeminist spiritualities have the power to heal the wounds of patriarchy by providing survival and empowerment strategies to those who dare to care about themselves and others in non-dominant ways. They provide opportunities for like-spirited people to be genuinely present to each other, to dare to listen, to grieve, to feel, to share, to give, to receive. By simply being present to each other - without solving, recommending, teaching, evaluating - ecofeminist spiritualities provide the space within which healing can occur. This healing may include rage with compassion, which is a sense of being present to oneself and others. The healing is a spiritual movement **away from** unhealthy life-denying communities based on unjustified power-over, domination, control, manipulation and violence **towards** healthy, life-affirming, intentional communities based on non-dominating interaction and cooperation. These are respectful communities, which do not breed domination. They are communities of hope. Spiritual care is, according to Joan C. Tronto in her 1995 article "Care as a basis for radical political judgements", part of what we can do *"to maintain, continue, and repair our world" so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web*". Such caring and life-sustaining communities are discussed in the following. (Warren 2000: 210-212).

7.5. Building sustainable, non-domineering, non-dualised societies

"It is not that we should simply seek new and better ways for managing society, the economy and the world. The point is that we should fundamentally change how we behave".
Vaclav Havel, 1992. (Chambers 1997: 210).

7.5.1. A future without the "isms of domination"

Robert Jungk, who received the Right Livelihood Award in 1986, has devoted his life to help people retrieve their future. In his opinion the future of the modern, Western world is easy to predict. It contains only domination and violence. It is a world that attempts to control and manipulate conflicts as well as markets, and where people have no say. Instead of accepting such a future, Jungk tries,

through his Future Workshops, to rekindle people's creativity and spirituality to think about the future in new and innovative ways. Since the future is coloured by visions we have of it, Jungk finds that we better be creative and optimistic. The workshop's aim is therefore to awaken people's deeper needs and desires and to find spaces for their partial realisation in society. The workshops consequently produce, via creative energies, a flow of ideas and experiments, visions and projects that find their way into society. These activities are catalysts of social transformation. (Seabrook 1993: 217).

These ideas and visions manifest in society. Over the past three decades it has resulted in the emergence of millions of new **citizens organisations** in the world. They develop because the existing institutions do not successfully cope with the problems people are faced with. Hence new forms of organisation are invented. In Indonesia there was only one independent environmental organisation 20 years ago, now there is more than 2,000. In Bangladesh there is 20,000 NGOs dealing with development issues, almost all were established during the last 25 years. India has well over a million citizens organisations. In France during the 1990's an average of 70,000 new citizens groups were established each year. In Canada registered citizens groups have grown by more than 50% since 1987 reaching close to 200,000. In Brazil during the 1990's the number of registered citizens groups jumped from 250,000 to 400,000, which is 60% increase. (Ode June 2004: 35).

There is also an awakening in **professional organisations**. Often government structures are not the ideal vehicle to carry out social development or to create new businesses. Creating new models to solve problems often demands an entrepreneur's single-minded vision together with a fierce determination along with lots of energy and time. These models are increasing. They are called the independent sector, the non-profit sector, the third sector or the citizen sector. While overall employment grew by only 4%, employment in citizen sector grew by 25% in New York City. A study of eight developed countries found that between 1990-1995 employments in this sector grew 2½ faster than for the overall economy. Due to its success the sector has drawn attention. Hundreds of universities are studying it; governments and agencies are routinely enlisting advice from these citizens groups; and the more traditional businesses increasingly form marketing partnership with them. This is a dramatic shift from the centralised top-down governmental institutions to the non-commercial or social business structure of society. (Ode June 2004: 36).

There is also a general renewal of spirituality, revival of the intuitive, visionary, affective elements in human nature, which draws especially women. Moreover there is plenty of social creativity experimenting with community living. This includes new family constellations, environmental

friendly energy sources, socially useful production, satisfactory work and inspirational education. As part of this evolution a new generation of social leaders is rising up. They are called **social entrepreneurs**. They dedicate their creativity and passion to a better world. Due to changing political realities new opportunities have been created for citizen involvement. Hence alternatively thinking people use their talents to create a meaningful existence for themselves and others. They do not rest until they have realised their aim. They are usually inspired by ideas to restore the environment and improve people's lives. They share the desires of people everywhere: to apply their talents in ways that bring security, recognition and meaning - and to have some fun. Eventually the mainstream will adopt these ideas and hence pay tribute to people's wisdom. (Seabrook 1993: 219-220; Ode June 2004: 34, 37).

With such development Jungk find that we should be full of hope and optimism about the future, because there is much to celebrate: Major barriers like government obstruction, lack of access to capital and communications costs all have declined. The technocratic paradigm is falling apart. The existing order is fragile. The powerful are weaker than they thought, and the powerless are stronger than they know. Some dissidents from the elite realise that not only the poor, but also themselves are at risk from the current world-view and its practices. No one is exempt from the effects of pollution and radioactivity. Such situation opens the previously unthinkable alliance between poor and rich. This includes an increasing demand for the overthrow of "value-free" science and a growing realisation of the inter-connectedness between humans and nature. (Seabrook 1993: 219-220; Ode June 2004: 36).

From this experience Jungk sees the outline of **a new world-view**. It is a future of liberation, rather than domination. It is a future that is chosen rather than imposed. It is one, which cherishes diversity and tolerance. It focuses on the indigenous, the local and the traditional. It prefers popular creativity, sustainable innovation, decentralisation and an empowerment that goes beyond existing democratic forms. It is a future that will include a new appreciation of the connectedness between the natural world and humanity. This world-view represents a different paradigm from the prevailing values of modern society, with its exploitative domination of nature by humans, of women by men, of poor by rich, of black by white, of South by North, of weak by strong. It is a change of relationship that requires no theory or dogma. It is nourished by living. It is an already existing worldwide movement of hope and emancipation. (Seabrook 1993: 217, 220).

7.5.2. Reconnecting humanity to the web of life; learning from the wisdom of nature

"This we know - the earth does not belong to man, man belongs to the earth. All things are connected like the blood which unites one family. Whatever befalls the earth befalls the sons of the earth. Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself".

Chief Seattle. (Shiva 1989: 19).

Based on Jungk's experience a future world must develop philosophies that lead to a new connectedness between the natural and the human world. It must be based on values that lead to non-domineering behaviours. It must be founded on perceptions that willingly give space for all species, genders and races including building and nurturing of sustainable communities. It is a reconnection to **the web of life**. The overall aim must be that all members are able to live a good and constructive life, that they can satisfy their needs and aspirations without diminishing future generations to do the same. In order for this to happen we need to learn from ecosystems, which live as sustainable natural communities. It requires us to understand the principles under which ecosystems exist and then apply them to human communities. Hence to change the human destruction of the planet it is important to become eco-literate. During more than 3 billion years the planet's ecosystems have organized themselves in order to maximize sustainability. This wisdom of nature is the essence of human eco-literacy, which needs to be implemented in human education, social management and politics. (Seabrook 1993: 220; Capra 1997: 289-290).

The modern perception sees a human society as a group of similar, independent individuals, who in a linear fashion compete with each other in order to maximize their own benefits, in a static, mechanical world, with universal and absolute truths. These basic principles of modernism are, however, quite limited and opposite to those used in ecosystems. Hence if the aim is to organize sustainable, ecological human communities other characteristics must be applied:

All members of an ecological community are interconnected in a network of relationships based on **interdependency**. It is the web of life. Each member derives their essential properties, their existence, from their relationships to other elements. Thus in order to understand how an ecological community functions, we need to examine the multiple relationships in the system, rather than focusing on the parts only. This is not an easy task and requires a careful approach by a humble attitude. It also demands a shift of perception from objects to relationships, from contents to patterns, from individual to community. Nourishing the community means to care for its relationships. (Capra 1997: 290).

Being a network the relationships among the members of an ecological community are nonlinear. Linear chains of cause and effect exist very rarely in ecosystems. It is a theoretical scientific concept, which is mainly found in a test laboratory with specific conditions. In real life a disturbance will not be limited to a single effect, it will spread out in wider and wider patterns and affect the whole web. Thus the **cyclical nature** of ecological processes is an important principle in ecology. It is an essential part of the sustainability of the system and means that the ecosystem as a whole remains without waste. All organisms produce waste. But what is waste to one species is food for another. Communities of organisms have evolved in this way over billions of years, continually using and recycling the same molecules of minerals, water and air. Hence also people's sustainable patterns of production and consumption need to be cyclical, imitating the process of nature. This requires a fundamentally redesign of the present methods of production, consumption and the underlying economical principles. (Capra 1997: 290-291).

All organisms need energy. For nature the primary source of energy is the sun. Solar energy is the only kind of energy that is renewable, economically efficient and environmentally benign. Hence sustainable human communities need to use solar energy. When environmental and social costs are internalized solar energy becomes economically efficient. This requires a change in economic theories and political practices. An essential change is introduction of ecological taxes. Tax must be added to products, energy, services and materials, making prices reflect the true costs. In order to give technologies and consumption patterns time to adapt to the new situation, the process should be done as a slow and long-term process. Such a reform would gradually drive wasteful and harmful technologies and consumption patterns out of the market. (Capra 1997: 291-292).

Partnership is an essential characteristic of sustainable communities. The cyclical exchanges of energy and resources in an ecosystem are sustained by cooperation. Partnership is the tendency to associate, establish links, live inside one another, and work together and to collaborate. It is one of the hallmarks of life. In human communities partnership means that communities cooperate based on equality and democratic principles. Each member of the community plays an important role, hence as the partnership proceeds partners co-evolve and become empowered. (Capra 1997: 293).

To make ecological communities strong and resilient to outside disturbances two more principles are needed, flexibility and diversity. The **flexibility** of an ecosystem brings the system back to balance when there has been a deviation due to changing environmental conditions. Changes and disturbances happen all the time since nothing living is static. To compensate the ecosystem needs to remain in a

flexible state. The more variables that keep fluctuating, the more dynamic are the system, and the greater is its flexibility and its ability to adapt to changing conditions. Popularly one could say that ecological communities live according to the rule "adapt or die". Applying this principle to a social system means that people must find the optimal value for the system's variables. Thus trying to maximize any single variable, instead of optimizing it, will invariably lead to the destruction of the system as a whole. The flexibility principle also suggests a corresponding strategy of conflict resolution. In every society there are contradicting opinions, which cannot be resolved in favour of one or the other side. All communities will need to have a certain amount of stability as well as some change. It also needs security as well as freedom etc. Not all can agree upon the degree to which two conflicting values should be applied. Such conflicts must be faced and need to be resolved by establishing a dynamic tension between the opposites, which creates a balance. Both sides of any conflict are important and necessary. The contradictions inside a community should be seen as a sign of its diversity and vitality. Thus they contribute to the system's viability. (Capra 1997: 294).

The role of **diversity** is closely connected with the system's network structure. A diverse ecosystem will be resilient because it contains many species with overlapping ecological functions that can partially replace one another. If a species is destroyed other part of the network can partly fulfil the function of the destroyed species. Thus the more complex or diverse a network is, the more resilient it will be. It means that a diverse ecological community is a resilient community. In sustainable human communities, gender, ethnic, racial and cultural diversity can play the same role. Diversity includes many different relationships and thus many different approaches to the same problem. In this way a diverse community become resilient and capable of adapting to changing situations. But it requires that the diversity is sustained by a web of relations. If the community is fragmented into isolated groups and individuals, diversity can easily become a source of prejudice and friction. But if the community is interdependent, diversity will enrich the relationships and the community as a whole together with its individuals. In such a community information and ideas flow freely through the entire network. The diversity of interpretations, of styles of learning, including making of mistakes, will enrich the entire community. (Capra 1997: 295).

These ecological principles are similar to the teachings of I Ching, Smuts holism and the systems theory discussed in chapter 3. They are also manifested in the new physics presented in chapter 5. In these cosmologies the focus is on the whole system and its relationships rather than on parts only; on the dynamic tension in the relationship between yin and yang; on integration as part of self-assertion. Exaggerated focus on or maximization of any one element means lack of dynamic tension in the

relationship, which leads to an imbalance. In the extreme case this imbalance may develop into crises and eventually a breakdown of the system. This explains how the modern world-view with its exaggerated focus on masculine or yang forces has generated imbalance in the system and caused the current social and natural crises. In order to keep a system harmonious the focus is on optimizing all elements involved. Sustainability consequently demands an equal inclusion of feminine or yin forces. Hence social care and cooperation, ethics and all other quality issues are necessary to include in order to sustaining a harmonious community. Conclusively if the above premises are accepted it must follow, due to consistency, that a continuous domination and exploitation of women, Others and nature and a persistent exclusion of all feminine or yin elements eventually will lead to a collapse of social and natural systems. To prevent this we need to adapt an alternative, holistic world-view.

It is such a new cosmology that ecofeminism promotes. It is a model, which must recognize that nature, and human beings are interconnected and that life is maintained by cooperation and mutual care and love. Only in this way can we respect and preserve the diversity of all life forms including their cultural expressions as a true source of our well-being and happiness. Seen in this way ecofeminism is a new term for an ancient wisdom. Ecofeminists are protesting against the patriarchy and its life-destroying world-view. By doing that they are being loyal to life, to the planet and to future generations. Ecofeminism is a rediscovering of the interdependence and connectedness of everything, including the spiritual dimension of life. It is a part of human life, which was denied and denigrated by capitalist and Marxist materialism. This spirituality is seen as a life force in everything. Only if people start to respect life and perceive all life forms as being sacred then the Earth can be preserved. It is not located in an otherworldly deity, but in everyday life. (Mies and Shiva 1993: 6, 13-14, 16-17).

When it comes to creation of sustainable communities, often indigenous cultures have been an inspiration for ecofeminists. Traditional people, specifically subsistence producing women in the Third World, regard the Earth as a living being, which guarantees survival. These people respect the Earth's sacredness and resist its transformation into raw materials for commodity production. They also respect the diversity and limits of nature, which cannot be violated if they want to survive. It is this kind of materialism, rooted in the every day subsistence production, which is the basis of Mies and Shiva's position. Ecofeminism for them is a perspective, which starts from the fundamental necessities of life, which they call "**the subsistence perspective**". This perspective will be presented below as an overview, since some of the issues mentioned have already been discussed elsewhere. (Mies and Shiva 1993: 19).

7.5.3. An ecofeminist perception of development; a perspective that will free women and nature

The goal of the global economy is to maximize the wealth of power to its elite. But it is ecologically and socially unsustainable. It is part of the cause of the current crises. In the capitalist society the value of moneymaking goes hand in hand with glorification of material consumption. It is believed that material goods are the road to happiness, the very purpose of our lives. USA uses its tremendous power in the world to maintain optimal conditions for the perpetuation and expansion of production. The central goal is not to expand its territory, nor to promote freedom and democracy, but to make sure that it has global access to natural resources and that the markets around the world remain open to its products. Accordingly, political rhetoric in USA moves swiftly from freedom to free trade and free markets. The free flow of capital and goods is equated with the ideal of human freedom. Moreover monetary greed and material acquisition is portrayed as a basic human right and the road to happiness. This model of a good life is based on a reductionist, life-destructing cosmology and anthropology. (Capra 2002: 230).

In contrast a holistic, life embracing cosmology and anthropology as promoted by ecofeminism implies a concept of freedom different from the above. Freedom does not come from conquering and dominating nature and people. It does not come from material acquisition or financial riches. This kind of exploitation is responsible for the ecological crisis the world is now facing. Such logic will not emancipate women and nature. Freedom, happiness and a good life must be found inside the limits of nature. It must be based on **a subsistence perspective**, rather than on a modern model of consumerism. Human consumption cannot transcend nature. Thus freedom within the realm of necessity is available to all, while freedom from necessity is available only for a few. (Mies and Shiva 1993: 7-8).

The subsistence perspective has informed and inspired many ecological and feminist grassroots movements. Its main feature includes creating an ecologically sound, non-colonial, non-exploitative society based on feminine values. It perceives freedom and a good life as being different from the present concept. However, also its ideas of economics, politics and culture are alternatives to current thinking. A subsistence perspective requires a process of **changing the socio-economic structures** that mediates a domineering kind of relationship between humans and nature. For that three types of changes need to occur simultaneously: change in the economic system (including science), change in the practice of democracy, and change in cultural beliefs. (Mies and Shiva 1993: 318; Gaard 2001: 168).

A subsistence perspective demands a new paradigm of science, technology and knowledge. An ecologically sound, feminist oriented, subsistence science and technology must be developed in participatory action with the people. It must be a grass-roots and people-based model. Specifically an alternative **ecological economic system** is needed, which can function to make a society sustainable. It must include ecological accounting that reflects the life-sustaining value of nature. Economic activity is not meant to produce an ever-growing mountain of commodities for an anonymous market. Neither should an economic system give priority to greedy corporations. Instead any overuse and pollution of nature must be counted and paid for, including its negative influence on people's quality of life. The true aim of economic activity must be to create and re-create life. In such a model the market plays a subordinate role. Economic activities are instead promoted by a process of self-provisioning and self-sufficiency, with the aim to satisfy fundamental human needs for all. Hence those who work in local industries should receive liveable wage. Local subsistence and economic activities must be based on use of local resources, without exploitation. Hence all further privatization and commercialization of the commons will be resisted. Instead there will be common responsibility for preservation and regeneration. (Mies and Shiva 1993: 319-320; Gaard 2001: 168).

Ecologically based economic activities relates to new types of relationships among people and between people and nature. It includes a respect for nature in her richness and diversity, both for her own sake and for a precondition of survival of all. Human interaction with nature is therefore based on co-operation and reciprocity. In this way humans learn to see themselves as being part of nature. It also includes a different relationship between modern and indigenous peoples and between men and women. The spiritual value indigenous people give to their homelands must be respected. Similarly men need to learn to value the work of women. Men must share in women's unpaid subsistence work and in the practices and responsibility for creation and preservation of life on the planet. This requires a change in division of labour and a parallel change towards values like mutuality, solidarity, reliability, sharing and caring, respect for the individual and responsibility for the whole. Thus many men will need to redefine their identity. This will in itself bring about more harmonious relationship, but it will also give a positive side effect: being involved in these activities will keep aggressive men busy so they do not have time to pursue war. In this way a subsistence perspective will contribute to de-militarization of aggressive men in general and of society in particular. Since a subsistence perspective does not base its concept of a good life on the exploitation and domination of nature and other people, all can **live in peace**. In this way trust and security is generated for all. Subsistence communities are consequently based a network of peaceful, stable, reliable and non-dominating human and natural relations. (Mies and Shiva 1993: 319, 321-322; Gaard 2001: 168).

Currently governments are heavily influenced by corporations and not responding to citizen needs and input. Thus modern democracy is basically non-functioning. The first step to restore and generate democracy requires that corporations are brought under control of the government and that the government is serving the people for whom it stands. This is a model of **participatory democracy**. Secondly the political system must recognize the citizenship of nature as well as humans of all races and classes. In this way **democracy also becomes ecological**. Thirdly, a subsistence perspective promotes a grassroots engagement in all political, economic, technological and social decisions. Problems are interconnected and cannot be solved in isolation. Hence social problems must be solved together with ecological ones. This interconnectedness of all life, of problems and solutions, is one of the main insights of ecofeminism. Hence a subsistence perspective requires a "multidimensional synergic problem-solving approach". It means that all divisions between sectors, including the public and private spheres, must be abolished and state bureaucracies must be decentralized. The intention is that citizens assume political responsibility in a communal and practical way. This is a type of **face-to-face democracy**. Fourthly, for ecofeminism a sustainable future require that the public decision making arena can address the ethical issues underlying the environmental and human crises. This demands development of new structures, processes and methods based on ecological principles. It includes evolution of institutions and practices founded on **feminist ethics**, which has responsibility and caring reciprocity as its primary values. Such an ethics is suitable in a society with a sense of empathy, interconnectedness and responsibility, like the subsistence community. Since institutions embody and reinforce values, institutional change will over time stimulate transformation of social values. Improved social relations will result in empowerment of citizens. This will lead to a needed collective decision-making process that can counteract the problem of internalized patriarchal structures and values. (Mies and Shiva 1993: 319-320; Birkeland 1995: 70; Gaard 2001: 168).

Democracy is not inherently ecological, feminist or anti-racist. It is the people within them that make them so. Currently the Northern democracies do not give full citizenship to people of the non-dominant race and genders. Such exclusion is anti-democratic. By the use of dualism they maintain domination of people and nature. Rather than a domination culture ecofeminism suggests a **partnership culture** that recognizes human identities as fundamentally interdependent with human and non-human Others. A subsistence perspective also demands a reintegration of culture and work. Work can be both a burden and a pleasure but its main aim is happiness and a fulfilled life, where spirit and matter are reintegrated. Hence **ecological spirituality** is also part of this cultural shift. It recognizes the immanence of the sacred here and now and in the interdependence of all life. (Mies and Shiva 1993: 320; Gaard 2001: 168).

7.5.4. Conclusion

When we reach a non-dualised, pluralist, subsistence society, as the one ecofeminism promotes, there may not be an ecofeminism anymore. The term ecofeminism may not survive for long, and that is of no importance whatsoever. When the goal is reached the means, ecofeminism, becomes redundant. The important thing is that the values embodied in the vision are respected along with local articulations. (Gebara 1999: 82, 128).

7.6. Chapter conclusion

In patriarchal dualist culture competition, expansion and an object-centred consciousness are favoured and rewarded. These are the values, which are underlying global politics and economics. This one-sided focus has resulted in devastating social and ecological crises. Groups of people, even whole regions, and their environments are suffering because of implementing these values. Chinese wisdom has informed us that these yang forces are associated with the masculine side of human nature, which cannot stand alone. To prevent crises the masculine, yang values need to be balanced by their feminine or yin counterparts. Hence competition must exist in a dynamic tension with co-operation, expansion with conservation and the focus on objects must co-exist with a focus on relationships. The movement towards such a balance is consistent with a shift from mechanistic to ecological thinking and knowing. (Capra 2002: 231).

Consequently the most pressing challenge today is to change the exaggerated yang focus and make global politics and economics compatible with the demands of human dignity and ecological sustainability. It requires a change of values and behaviours. Values are not natural laws, they can change and the process of change has already begun. According to sociologist Manuel Castells (Capra 2002: 191) social change does not originate from within the traditional institutions of civil society. Change develops from identities based on the rejection of society's dominant values: patriarchy, domination and control of nature, unlimited economic growth and material consumption etc. Among the many grassroots movements that are working for social change, the feminist movement and the ecology movement advocate the most profound value shifts. The former does it through a redefinition of gender relationships, the latter through a redefinition of the relationship between humans and nature. Both have been dominated by patriarchalism and both can contribute significantly to create an equal, peaceful and sustainable society. (Capra 2002: 191, 228-229, 231).

By challenging the patriarchal structure and its value system, the feminist movement has introduced a new understanding of personhood and knowing. A person is not defined in relationship to his or her material possessions, it is rather based on an alternative awareness. It includes women's experiential knowledge, the idea that all life is connected, the need to be in touch with one's emotions and the realisation that human existence is embedded in the cyclical processes of nature. Feminists believe that humanity can find fulfilment in caring and nurturing relationships, rather than in accumulation of material goods, economic and political power, which lead to domination. Such values are available for women as well as for men, when we accept that all human beings are made up of both yin and yang forces. Or said differently, all human beings must ensure to obtain access to their rationality as well as to their emotions. (Capra 2002: 231).

The ecology movement arrived at the same position as the feminists, but from a different approach. Ecological sustainability requires systemic or holistic thinking; thinking in terms of context, patterns, relationships and processes. It requires a transition from an economy of goods to an economy of service and flow. In such an economy matter cycles continually, so that the net consumption of raw material is drastically reduced. As wastes turn into resources new products are created and productivity increased. It will improve resource productivity, reduce pollution, boost employment and revitalize local communities. In a sustainable system there are no limits to innovation, development, diversification and creativity. (Capra 2002: 231-232).

Thus the rise of feminist awareness and the movement toward ecological sustainability combined their forces in order to promote a profound change in perception and values. It is a shift from linear to cyclical thinking, from focus on dead objects to a focus on living processes, from use of natural resources to use of human resources, from seeking happiness in material consumption and possessions to finding a good life in nurturing relationships and subsistence living. It is a value-system that truly would emancipate women, Others and nature. This is the essence of ecofeminism. (Capra 2002: 232).

The big question is whether there is enough time for the change of values and behaviours required to resolve the present crisis, or whether humanity will be extinguished before it happens. Because the task is huge. It includes halting and reversing the current domination that causes environmental destruction, poverty, human rights abuse, wars and violence. In its place non-domineering societies must be built. In these societies all humans in spite of their sex, colour, age, sexual orientation, religion, physical and mental ability must be respected, cared for and treated justly. It also entails the end of environmental exploitation. **In sum**, it requires a dismantling of dualism and its fragmented

way of thinking. In its place a holistic world-view based on caring relationships must be established. The task may seem overwhelming, but it is not impossible. Many who are involved in these changes are optimistic and hopeful. (Capra 2002: 233).

*You may say I'm a dreamer
but I'm not the only one
I hope some day you'll join us
and the world will live as one.*
John Lennon "Imagine"

Imagination is more important than knowledge.
Albert Einstein. (Jordaan et al 1995: 491)

Chapter 8: Summary, conclusion and recommendations

"Power, in the last analysis, is not about weapons or money or brute strength or feminine wiles, but about having the right to make your definition of reality prevail over all others."

Dorothy Rowe (1994: 356).

8.1. Introduction

8.1.1. The aim of the chapter

At the end of each of the preceding chapters, and each of the three parts in chapter 5 and 6, a conclusion was drawn. The purpose with those conclusions was to round off each specific discussion. All of these conclusions are relevant to the overall conclusion of the study. However, they were not formulated with the purpose, clearly to answer the research questions. The study is therefore still missing to state whether the initial goal of the dissertation has been reached and with which result. This chapter will try to do that. The aim with the chapter is therefore to answer the research questions stated in chapter 1.

8.1.2. The research questions re-stated

Chapter 1 stated that **the purpose** of the study was to discover, how the ecofeminist perspective, may suggest improvements to Third World development. This was based on **the problem** that mainstream development was assumed to have failed its purpose. Robert Chambers (1997: xiv) has defined development as a good change. One may accordingly deduce that the aim of development was to implement some changes that would produce a good life for people in the South. However, instead of experiencing improvement in their quality of life, people in the South increasingly suffer from crises of war, poverty, environmental destruction and abuse of human rights. If this is the outcome of development, then it becomes urgent to analyze development's ideology in order to understand what went wrong. **The central issues** of the study were consequently: **First** to show - by means of some of the various ecofeminist interconnections between the domination of women, Others and nature - how and why mainstream development has failed; and **secondly** to explore if, how and to which extend ecofeminism could help redirect development towards improving the quality of life for Southern people and their environments. This includes a debate on the strengths and challenges of ecofeminism, and how its ideas practically may be applied to development. Since a good life is an ethical issue, the overall intention with the study was to search for ethics in development.

The central issues of the research questions were as follows:

- 1) Seen from an ecofeminist point of view, how and why has mainstream development failed the promise of a good life for people in the South?
- 2) What is ecofeminism, and how may its various elements improve the present negative results from development?

Sub-ideas to question 2: What are the strengths and challenges of ecofeminism seen in a development context? How may ecofeminism improve development practice?

8.1.3. The form and content of the chapter

A method of summary is used to answer the two research questions. The idea is to scan the content of the dissertation. However, the author of the dissertation has chosen the formulation. This means that the various writers, whose ideas and works have been used in the study, cannot be held responsible for the formulation. Hence, only a few references are made.

The answer to the **first research question** is structural. This means that it is expressed according to the argumentative form of the dissertation rather than its practical content. The reasons to draw a structural conclusion are two-folded. **First**, it gives a clear overview and a summary of an ecofeminist critique of development. **Secondly**, since a structural conclusion needs to be built up logically on consistent premises, it has, if successfully done, the advantage to be quite convincing. Or said differently, if ecofeminism is able to show by consistent, logical arguments that the dominant structures of modern patriarchy are the root causes of the global crises and the reasons for the failure of development, then ecofeminism comes over as being a credible perspective.

The answers to the **second research question** and its **sub-ideas** are formed as recommendations to changes in development studies and development activities. The intention is to present possible alternative ways of perceiving development compared to the issues that were criticized in research question 1. These alternatives are, however, also a summary of the most important ecofeminist ideas, thoughts, and imaginations about a non-dominant future.

Each of the two research questions is answered by some sub-conclusions and one conclusion. The system is first to state the premises. Based on these a sub-conclusion is drawn and stated. Finally, all sub-conclusions are combined into one conclusion, which is the answer to the research question, in a brief form. The chapter ends with a brief discussion on the outcome of the search for an ethics in development. After that, the grand conclusion is finally presented.

8.2. Why did development fail its purpose?

The intention with the development programme was fundamentally to produce economic growth, assumed necessary to ensure a good life for people in the South. However, rather than improving people's situation, economic development brought along poverty, violence, war, human rights abuses and environmental destruction. What happened? How could such good intentions go so terribly wrong? The answer to this question is drawn from four sub-conclusions all of which are concentrating on the root causes to the current destructive effects of development.

8.2.1. The patriarchal structure of dualism and domination

Ecofeminism starts its analyses from a feminist, ecological position. In practice, it means that any ecofeminist analysis must include sex, gender, patriarchy and nature. It is a view from "the other side". Hence, ecofeminism perceives reality from the side of those that patriarchy has defined as being "the other" compared to the masculine. This group includes women, Others and nature; "Others" (with capital O) stands for a diverse human group that embrace children, poor people, traditional people, coloured people, old people, frail and sick people, disabled people, homosexual people and other marginalized ones. "The other" also includes any category considered to have feminist traits. This comprises important human characteristics like feelings and emotions; human relationship issues like care, empathy and cooperation; and quality elements like spirituality, ethics and aesthetics. The patriarchal dualised perspective is dichotomous. This means that the groups defined as belonging to the other category (the non-masculine) are not only considered as being different from the masculine but also as being subordinate (Downs) to the superior category (Ups). This dualised structure was created by the Western, middle-class, white male who considered himself as being the superior category. It is, however, important to keep in mind that dualism has changed over time according to need. Both categories may therefore today include other groups as well, depending on the context. Hence those who are categorized as Ups and Downs may differ according to the following hierarchy: man over women, human over nature, white over black, rich over poor, adult over child, North over South, developed over undeveloped, modern over tradition etc. The procedure is that the first mentioned dominates the last mentioned. Each group may include women as well as men, minus of course the first mentioned. Hence in modern society it is highly likely that most sometimes belong to the category that dominates (the Ups) and at other times to the category that is subordinated (the Downs). However, in order to belong to the Ups it requires that one agree to assume the masculine characteristics. It will be discussed a bit later what these are. However, in the final analysis it is the modern, white, Western, rich males who are at the very top of the dualised hierarchy, while the traditional, black, Southern, poor women and nature are at the very bottom.

Due to its dichotomy, value dualism is a violent model. It perceives the dualised, subordinated others or Downs as objects and instruments that exist for the benefit of the superior category or Ups. This inevitably leads to the "isms of domination". The "isms of domination" is a concept that embraces all types of domination. It encompasses sexism, racism, classicism, colonialism and any other isms. The result of such patriarchal domination is that life for the dualised others become unmanageable. Hence women, Others and nature cannot prosper inside this dualised perspective.

The dualised structure together with the isms of domination is the foundation of the modern, Western world. Hence, people who live in modern societies grow up and learn these values. This means that the whole society is coloured by it. The consequence has been that the modern scientific knowledge system, the modern political organisation, the modern national and international institutions, the modern economic activities, and the modern society, including the modern project of Third World development - are all built on the patriarchal dualised, dominant values. Being based on such values, one may quite simply draw the logical conclusion that development cannot avoid but to be dominant towards women, Others and nature. This merely looks like an obvious assumption. However, ecofeminism did not just take a theoretical leap to such a conclusion. Instead, they derived the conclusion by careful analyses of the three pillars, on which development are founded: science, economics and technology. The result of these analyses will be discussed a bit later.

The dualised structure means in practice that knowledge creation, together with political and socio-economic decision-making, are based on the perceptions of reality of the Ups. Due to differences in sex, gender, culture, socialization, race, age, history and experience, human beings do not perceive reality in the same way. Thus reality, as perceived by at least half of humanity, is not considered and therefore not included in science, economics, and political organisation. From this, it follows that the perception of the Ups determines political policymaking. Similarly, socio-economic activities are planned with the advantages of the Ups in mind, while the needs of Downs are excluded. Hence, natural resources, human resources, financial resources, laws and policies are all directed to and created for the benefits of the Ups. However, such one-sided activities have consequences: When natural resources are directed away from the use of the Downs in order to increase the wealth of the Ups it means that both nature and the Downs suffer from poverty. However, also the Ups suffer. Since the human tendency is to want more of what is good, the Ups want more and more of everything, and cannot limit themselves. Thus, the Ups become extreme and develop the human "dis-ease" called greed. Living out this bottomless greed in a limited Earthly reality has disastrous consequences. It means that the Downs get less and less of the world's resources. Some get too little and cannot sustain

themselves. At the same time nature starts to show reproductive exhaustion, which leads to diminished output of natural resources. With fewer natural resources available, the Ups need to compete harder amongst themselves, and to take away by force if necessary more of the Downs' resources, in order to have their ever increasing needs satisfied. This leads to a more and more aggressive and violent world, which has painful consequences, mainly for the Downs. The greed of the Ups and the poverty of the Downs manifests in an increasingly unmanageable life for women, Others and nature. It manifests in the crises of violence, poverty, environmental destruction and human rights abuse.

Since the patriarchal dualised system of domination is socialised into people, it is difficult to notice consciously its values. Thus although the Ups have obvious privileges in society compared to the Downs, it is often accepted. Due to lack of awareness, it is commonly seen as a natural, innate system that just cannot be any different, although it generates envy. Hence, domination has become a social habit, which may not be intended, although all institutions are set up to direct ever more privileges to the Ups. The injustice this presents to the other in the dualised model is often extremely painful and may therefore cause emotional instability, which affects society negatively. It may manifest in protests, civil disobedience or unrest. The Ups commonly tackled such instances by increased control of the Downs. This is easy to implement since the latter sits on the political and economical powers and the armed forces. Since suffering and envy often leads to frustration and anger, the response from some Downs may be aggression and retaliation. This may prompt a vicious circle of increased control, violence, crime, even civil wars, and human rights abuses. These crises have the tendency directly or indirectly to increase poverty and natural degradation. Hence the crises are systemic and their effects are felt mainly by women, Others and nature.

In a patriarchy, reality is consequently perceived from the dominant position. However, when one perceives life from this reductive reference point, one automatically misses a more comprehensive point of view. Thus, one becomes blind to reality in its total form. Only when reality is seen from the side of the subordinate, where it is compared and contrasted to the perception of the dominant, then a full circle can be drawn and the diversity of perceptions can become clear. By this approach, an ecofeminist perception of reality becomes an alternative to a patriarchal view. It is a perspective that helps to raise awareness about unequal and unjust social, economic and political relationships. Increased consciousness about such injustices help society to understand the reasons why the world is in the mist of a variety of devastating crises, which only increases. The essence is that patriarchy directs privileges to the Ups, rather than distributing them equally and justly. It makes the Ups increasingly rich, greedy and dominant while the Downs become increasingly poor, subordinate and

angry. These human emotions bring about actions that cause a variety of systemic crises. In this study these systemic crises are defined into four categories namely the crises of poverty and inequality; violence and war; environmental destruction; and abuse of humans rights. A study of the effects from all four crises shows that women, Others and nature are the main sufferers.

Conclusively ecofeminist analyses bring awareness about the existence of an institutionalized patriarchal structure. The structure is founded on value dualism and the isms of domination, which ensure subordination, and exploitation of those the system defines as "the other". The other include women, Others and nature which are seen as being inferior compared to the superior masculine. Due to its self-interested, violent and aggressive attitude, the patriarchal model leads to the four systemic, global crises. The serious, negative consequences from these crises are mainly suffered by women, Others and nature.

8.2.2. The domination by science, economics and their technology

By its thorough research into the origin of science, economics and technology feminists, ecologists and ecofeminists have shown that all three systems are dominant perspectives. **Science** is founded purely on a masculine perception of reality, while all feminine elements are excluded. Science consequently overlooks and undermines the experience and knowledge of women and nature. This has led to domination and exploitation of women, Others and nature. Moreover, marginalization of all that relates to the feminine has resulted in a method of knowledge generation, which can only include quantitative elements. The result is that everything, which cannot be counted, is considered of no importance and value in science. Hence, knowledge generation excludes smell, taste, sound and colour, as well as ethics, aesthetics and spirituality. This is consistent with the patriarchal perception of reality, which is fragmented and discriminatory. Hence, also patriarchal science became reductionist and biased. The sad result of this is that science has become inadequate as a knowledge system. Furthermore, science was created with the value that nature consists of passive, unchanging parts. Thus, science has propagated the false social belief that the living Earth is a dead machine. These values combined are of great advantage for the patriarchy. It permits the Ups to focus on knowing nature only to the extent that man can control it, with the purpose to manipulate it and exploit its natural resources for economic profits. Since women and Others are excluded, and nature is dead the scientific system ensures that there is so much more wealth and luxury for the greedy patriarchy.

In order to support this profit-making system science developed the discipline of **economics**. Economics is firmly founded on dualised values. It has therefore prioritized hard, masculine

characteristics as being mannerly in economic profit making. It has ensured that all soft, feminine traits are considered as being subordinate and disgraceful for the economic individual. Hence, superior reason is selected over inferior emotion, competition over cooperation, self-interest over community-interest, maximization over optimization, and the needs of the individual over the needs of society. The first mentioned are superior human qualities that belong to the Ups, while the second ones are inferior traits that relate to the Downs. This bias focus on masculine characteristics has produced societies that consist of rational, competing, self-interested, and profit maximizing individuals. These individuals are often men, but may also include women, as long as they are willing to identify with the masculine traits and behaviour. The highest goals of these individuals are profit making for their own benefit. To maximize this objective the Ups are using the Downs as instruments. Hence, any rational individual with respect for himself would be exploiting nature's resources together with the free or cheap labour of women and Others. This means that all Downs are perceived as being instruments for the profit making of the Ups.

Modern **technology** is the means to generate economic profit. Since the greed of the Ups is pressing, the need to generate more wealth is urgent. This means that technologies commonly are developed in a rush, without careful consideration about the effects from its application. The result is that modern technology often causes pollution of both society and nature. This leads to serious suffering on the part of women, Others and nature. The rational individuals may notice these effects but since the priority is maximization of economic profit making and the Downs anyway are considered of a lower value, the polluting activities are rationalized away as being necessary for the benefit of all. The rational individual has consequently no human empathy for the pain and suffering his activities are causing the dualised other. The reason for this is straightforward and simple: Human emotions of empathy, care and concern are feminine values, which are seen as being soft, naive, unimportant and disgraceful in the hard, rational, masculine, competitive, individual world.

What commonly makes a **society** healthy and harmonious is the shared sense of mutual relationships. These are built on cooperation and reciprocity based on the human emotions of care, concern and sympathy between people in a community. Such a support system is needed for a human being to develop in a balanced manner. It commonly is founded on the unpaid activities of women and Others. Thus in order to succeed rational man needs, expects and takes for granted this feminine support. However, being greedy for maximum profit rational man overlooks the importance of directing some resources to the feminine social support system. This causes it to wear out. Hence rather than being a place of cooperation society increasingly becomes a battlefield where self-interested individuals

compete for scarce resources. Hence, modern society has become a dominant, exploitative, and violent place to live. Its children cannot grow up in secure and caring social surroundings to become balanced adults. Such a society breeds aggressive people who re-create a vicious circle of crime, pollution, human misery, poverty, ethnic conflicts, terrorism, and sometimes civil war. The main sufferers from these crises are women and Others. Hence, the greed of economic man has led to an unhealthy social system. However, instead of trying to restore social health, the maximizing individual sees it as a great opportunity, because strife is profitable. Thus, violent technology is made available to the conflicting groups. This will increase the fighting and amplify the crises of war and violence, human rights abuses, poverty and natural destruction. The victims are mainly women and Others.

Nature is by the economic individual perceived as being a heap of dead parts laying idle for his profit making. It is therefore rational to make nature productive by exploitation. However, due to lack of holistic awareness and his ever-increasing greed the maximizing individual overlooks the reproductive necessities of nature and the natural limits this brings to his profit making. Hence economic man's greedy and limitless resource exploitation results in increased scarcity of natural resources and degradation of the environment. Since people need food, shelter, clothing, medicine and other necessities provided by nature, increased scarcity means that less resources are available to sustain the lives of women, Others and nature. Thus, when the political system and its economic market direct natural resources to profit-maximization of rational man, women and Others cannot produce food, clothing and shelter for themselves and their families. This gives a vicious circle of hunger, malnutrition, ill health and poverty that ends in death. Thus, the crises of poverty suffered by women and Others are mainly caused by economic man's greed for natural resources. Economic man also makes nature poor. The continuous exploitation and pollution of the environment will eventually lead to nature becoming as dead as science perceives it to be. That may then be called a self-fulfilling prophecy, however, with one logical blunder: when nature dies, also humanity will perish.

Conclusively ecofeminism combines ecological and feminist insights in their evaluation of the patriarchal structures. This holistic view brings awareness to the domination that inheres in modern, reductionist science, economics and technology. All three are patriarchal inventions meant to produce profit to the Ups. All three prioritize the masculine traits of competition, maximization, self-interest and individualism. At the same time feminine characteristics of cooperation, optimization, community-interest and social needs have been subordinated. This has had devastating consequences for society and nature and has resulted in the four global crises. The main casualties from these crises are Women, Others and nature.

8.2.3. The domination by Third World development

The modern, Western world invented the programme of Third World development. They founded it on three pillars: modern science, economics and technology. Its official and stated intention was to assist former colonies to establish modern nation states in line with those of USA and Northern Europe. Thus, modern democratic governments were installed with the main purpose to generate economic growth. Advice, technology and some financial assistance were to be provided by the North. The goal was to change the traditional Southern way of life and firmly establish modern societies. This change was seen as progress, because it would alleviate what was perceived as being material poverty in the South. However, being founded on patriarchal structures and values meant that development became a devastating experience for women, Others and nature in the South.

The conclusion, which was drawn above regarding science, economics and technology, has tremendous consequences for development. If the above premises and conclusions are considered valid, one is required, by demands of consistency, to accept that everything that is founded on the patriarchal reductionist values of dualism and domination will as a consequence of this also be a dualised and dominant system, which will subordinate and exploit women, Others and nature. From this, it follows that not only science, its disciplines and their technological manifestations, but also modern national and international governmental institutions, and their economic development programmes all are based on masculine, quantitative values. Since these exclude the realities, needs and experiences of women, Others and nature, application of their discriminatory values will as per definition destroy the quality of life for women, Others and nature. The continuous application of the modern, economic development model will consequently increase the four crises, causing an escalation of the suffering for women, Others and nature. In this way, development has become a contradiction in terms: it does not alleviate poverty but creates it.

When the dominant web of development is unveiled, it becomes easier to understand why its activities cannot alleviate poverty. The reductionist perception of Ups finds that the main instrument of development must be economic growth. The assumption is that, although profit earned from increased production by use of natural resources first may benefit the Ups, it will eventually by the "ripple" and the "trickle-down" effects reach the poor segments of society and alleviate their poverty. However, since economic generation is based on exploitation of the dualised feminine category, which includes women, Others and nature, then it cannot alleviate poverty. It will automatically direct natural resources away from the traditional subsistence life style of women and Others, towards the economic market that is ruled by and benefits the Ups. The profit of the Ups will not as assumed trickle down to

women, Others and nature. Instead, greedy man will spend the profits according to his enlarged needs for more political and economic powers and his ever-increasing greed for a luxury life style. The result is that every time economic growth increases, poverty of women and Others and destruction of the environment also increases. Seen logically it can only be this way.

This means that development in reality is a means for producing wealth to the masculine Ups, most of who are situated in the North. However, some newly developed Southern Ups also profit tremendously from the system. By calling it "development", patriarchy invented a new and more acceptable concept for an old colonial activity. However, the results are the same: During colonialism, natural resources and their economic profits were extracted from the South and directed to the benefits of the patriarchal Ups in the North. During modern developmentalism, the very same thing happens. The only difference is that colonialism was a dominant and exploitative activity, which was obvious to all. Development is oppositely entangled in a patriarchal structural network of official and legal departments, agencies and institutions. This puts a veil over its activities and their underlying causes, which makes the domination and exploitation less obvious. The final deception is done by the "self-sacrificing" concepts, which are applied to development. However, thanks to an alternative perception from ecofeminism this complex patriarchal network is unveiled. The revelation shows that the "self-sacrificing" activity of development cannot succeed, because it is based on domination and exploitation of South by North, of women by men, of poor by rich, of traditional people by modern people, of coloured people by white people and of nature by science, economy and technology. Consequently, development cannot support its main target group assumed to be Southern, poor, traditional, coloured women, children and men. Due to its inherent values development will continuously prioritize the needs of the superior, economic man, over the needs of the inferior, dualised other. Development therefore cannot reach women and Others for poverty alleviation. Instead, it destroys the natural environment and the cultural tradition of subsistence and community on which the Southern people's quality of life is based. This amplifies poverty for women and Others, and destroys their natural environments. Development is consequently a contradiction in terms.

Conclusively ecofeminism argues that development is a patriarchal project. It is founded on domination and exploitation, which inhere in science, economics and technology. Due to its dualised values and its focus on quantitative elements, development cannot alleviate poverty and bring a good life to the South. Instead it destroys the quality of life for women, Others and nature. This makes development a contradiction in terms.

8.2.4. The domination by governmental structures

The current global, political organisation is based on the Western system of the nation-state. Its governmental agencies and the various national and international institutions connected to this system are all part of the patriarchal network. This modern web of domination penetrates every area in the world. It is by the North seen as being the best system of governance, because it allows people to choose its political leaders. Completely overlooked is the fact that the model was created in a specific, historical process in Northern Europe, which took place at the same time science, economics and exploitation of nature was established. The Northern European state system was therefore founded on scientific values, hence its underlying aim is to control people and nature in order to generate economic profits for the Ups. Although the model is specific, the North presented it as being a universal system to which there existed no alternative. In the South, completely different historical processes had been experienced, and therefore regions had reached diverse systems of political organisations. However, still the Northern model was installed in the South as being the best. Even though history showed that various tribal communities in the South were successfully self-governed, Western patriarchy decided that this was an impossible and naive model. Instead, a handful of scientifically educated political leaders were put in charge of the Southern nation-states. These rational men were seen as being much more efficient than the traditional chiefs, to promote and implement the unavoidable, evolutionary steps towards modern economic nation states.

People in the North, especially women, were also dominated by the patriarchy in early history. In order to free themselves from feudal exploitation these people had to struggle for several centuries. Since patriarchy eventually would have collapsed under the pressure, democracy was introduced in the North, while colonialism was introduced in the South. Hence the Northern states collected natural resources from the South, invested them at home in order to expand the privileged group of Ups in the North. This means that the Northern middle class expanded and many women were permitted to join in the patriarchal domination. This approach eased the frustration from domination in the North and created reasonably balanced societies. Instead, domination became concentrated in the South. Exploitation of the African working force and extraction of Southern natural resources became a rational and accepted way of satisfying the ever-increasing greed for wealth in the expanded Northern patriarchy.

Over time some groups in society critiqued this obvious kind of exploitation, hence patriarchy had to find other ways to gain access to Southern resources. By giving freedom to the former colonies, while installing the patriarchal state model to control the resources in the South, the problem was solved.

Thus, patriarchy invented new and confusing controlling concepts like "free" markets, "free" global trade, foreign investment and financial loans. With these structures in place, supported by legal, Southern governmental institutions, resources were again flowing from the South to the North. Only now, it was done in a much more complex manner, less obvious to even well-educated people. It was now the Southern governments, which controlled these transactions. The leaders of these governments were people who had been educated in the modern patriarchal system. They were consequently well aware of the tremendous profits that could be gained by leaving the Down category and join the Ups. They therefore went ahead. The first activity was to centralize ownership of people's natural resources. Hence as from "independence" nature belonged to the modern state, who could use her as it saw fit. The priority was to invest natural resources in productive activities that would increase economic growth. This was seen as being suitable because economic growth, as per definition, will benefit the Ups. Since the new leaders belonged to the Ups category, they would personally profit from the strategy, together with their supportive Northern counterparts. Consequently after having received "independence" from Northern colonisers, women, Others and nature were again colonized. This time it was done by their own modern governments.

Most Southern people had at the time of independence no experience with the Western governmental system. They were only familiar with their traditional tribal system, where chiefs were evaluated based on their just and fair dealings. Thus, people believed that the new political leaders would have similar values. They did not know, as Europeans have learned through historical experience, that politicians mainly are focused on own powers and wealth, and therefore cannot be trusted. People in the South therefore became easy prey to the new Southern patriarchal elite. People were mesmerized by political promises and many fell for their propaganda. In the North, citizens knew from long experience that in order to be held accountable the powers of political leaders must be limited. However, since Southern people did not have that experience, they were not able to limit the continuous expansion of political powers to a few dominant individuals. The result has been that hundreds of thousands of people in the South have been and still are terrorized by dictators. Hence, instead of generating development that will support improvement in the quality of life of their own citizens, Southern governments have joined forces with their Northern counterparts and the Northern multinational corporations. The aim is to generate economic growth by use of the state owned natural resources. The system brings revenues to the state, which will support the power position of the governments and the luxury life style of their leaders. However, since natural resources are scarce, the state takes away the natural resources from which people subsist. The result is that people cannot anymore live from their natural environment. Instead, they are moved to the city slumps where they

live in abject poverty. Moreover, due to the leaders' ever-increasing greed for economic profits, natural resources are overused, which causes the environment to degrade. If people protest to this exploitation, the state is quite able to defend itself. The far majority of the state budget, has since independence been invested in a huge and very modern military machinery, provided by the North, rather than being spend on provision of basic health and education facilities to people. This military force is so powerful that any protest aired by the population will be stopped immediately. Conclusively establishment of the Western patriarchal nation-state model in the South has lead to the four crises of violence and war, inequality and poverty, environmental destruction and human rights abuses. The main victims are women, Others and nature.

Conclusively the Western governmental system was installed in the South as being the best democratic, political model. Its main duty is to promote economic development assumed to benefit all citizens. However, since the model is founded on the patriarchal values of dualism and domination its activities automatically take away resources from the use of women, Others and nature. This increases the four crises and escalates the suffering of women, Others and nature.

8.2.5. The answer to research question one

Conclusively ecofeminist analyses bring awareness to the fact that science, economics, technology, the nation-state model and Third World development all are based on a Western, dualised, dominant patriarchal structure. The system values masculine traits and the quantity of money, while feminine characteristics and the quality of life are subordinates. Such reductionist perception of life has lead to the four crises of violence and war; inequality and poverty; environmental destruction; and human rights abuses. The main sufferers from these crises are women, Others and nature. Development was meant to bring a good life to people in the South. However, due to its patriarchal values, it will only amplify the crises and the suffering of women, Others and nature. Development is therefore a contradiction in terms and it cannot bring a good life to people in the South.

8.3. What is ecofeminism; how may it improve development

Ecological feminism or ecofeminism is an umbrella term for a variety of different positions concerned with the connection **between** the unjustified domination of women, children, poor people, people of colour, traditional people, **and** the unjustified domination of nature. Hence ecofeminism combines insights from the feminist movement and the ecological movement in order to end the domination of women, Others and nature. The aim is to reshape the basic socio-economic relations in society and their underlying patriarchal values that keeps women, Others and nature subordinate.

Starting its researches from the point of view of the subordinate others (women, Others and nature), and contrasting the findings with the ideas of the dominant ones (patriarchy), ecofeminism has the ability to perceive reality holistically and systemically. These holistic observations have shown that only masculine perceptions and values are included in describing reality, while feminine issues are marginalized. Hence, its holistic approach has enabled ecofeminism to draw alternative conclusions regarding the reasons for the failure of Third World development. The approach has also enabled ecofeminism to recommend new and alternative ways of perceiving reality. These suggestions may play an important part in making development supportive of the quality of life for women, Others and nature. The following changes are consequently considered to be needed:

8.3.1. An alternative, holistic cosmology is needed

Ecofeminism finds that modern patriarchy clings to an outdated, reductionist, mechanical world-view, which is unhealthy, unjust, violent and out of balance. Establishing a new cosmology is therefore essential. It must be a world-view that is holistic and systemic, hence including feminism and ecology. In this study, three models have been suggested: the systems theory, Smuts' holism, and the Chinese philosophy of changes I Ching (yin and yang). All are suitable as alternative cosmologies, because all are based on non-dualist, non-dominant philosophies. These three models manifest the change from a reductionist or masculine perception of reality to a holistic or combined feminine and masculine world-view. The masculine force (which throughout this study also has been called yang, parts or self-assertion) and the feminine force (which has been named yin, whole or integration) are seen as being complementary and innate in everything in the universe. The theories assume that harmony is the outcome from a dynamic tension between these two forces. In practice, it means to give equal value to men and women, people and nature, reason and emotion, quality and quantity, parts and whole and to their interrelations.

Being inspired by such holistic perceptions ecofeminism has been able to explain issues a reductionist framework cannot elucidate. Pointing to the flawed world-view of patriarchy, ecofeminism is able to demonstrate why poverty exists mainly among marginalized, traditional and coloured people; why women and children are seen as subordinate and among the poorest of the poor; why nature is being exploited; why the world has become progressively violent, fighting so many harmful wars; and why human rights abuses are increasing. However, ecofeminism does not only critique. Its holistic perception of reality also helps to suggest solutions: It is based on the belief that by dismantling patriarchy and reintegrating the dualised pairs, a more harmonious world will emerge. Trying, as the modern, Western world does, to be all yang and suppress the yin leads to destruction, which manifests

in the four crises. Oppositely creating a dynamic tension between the complementary forces is assumed to create balance and harmony. Resolving the world crises is therefore fundamentally about creating harmony by application of a more balanced perception of reality. It entails a dismissal of the philosophy of value dualism and a recreation of the necessary dynamic tension between the feminine yin and the masculine yang.

This suggestion applies to Third World development as well. In order to become "a good change" for women, Others and nature development must reintegrate the two opposite, complementary forces and create a dynamic tension that gives positive energy for change. It is therefore time to reunite men and women; quantity and quality; large and small; hard and soft; people and nature; mind and body; head and heart; reason and emotion; rationality and intuition; theory and practice; public and private; white and black; modern and traditional; North and South; competition and cooperation; individual and social; analysis and synthesis; linear and cyclical; reductionist and holistic; domination and subordination; exploitation and conservation in order to create balance. This is expected to promote a universal harmony and a rich, new intellectual insight into reality.

Conclusively development studies, development programmes, in fact any development enterprise may improve the quality of life for women, Others and nature if those in charge are able to change their perceptions of reality. This requires them to abandon the modern, reductionist prescription of progress and its exaggerated focus on masculine forces. Instead, a dynamic tension between the dualised pairs should be installed. This may not be easy due to habitual ways of perceiving reality. It can, however, be assisted by gaining increased awareness, which may come from understanding holistic perspectives like ecofeminism, systems theory, Smuts' holism and the Chinese philosophy of changes. Alternative, systemic and ecological thinking in development studies should therefore be encouraged. There is not one single world-view. This dissertation tried to view reality and development from the perspective of feminism and ecology. Other studies may reach similar outcomes by using different paths, as Richard Norgaard has done with his co-evolutionary perspective (1994). The importance is therefore not so much ecofeminism. Of real significance is that development studies encourage debates on, development of and awareness about alternative, systemic and holistic world-views, which are non-dualised and non-dominant. In this way, development studies can alter the development paradigm into becoming a good change for people in the South.

Conclusively ecofeminism does not only critique development, it also suggests alternatives. One fundamental action ecofeminism finds necessary in order to resolve the present crises is to develop and apply an alternative cosmology. It must be a world-view that is holistic, systemic and ecological, which is able to integrate masculine and feminine forces. Promoting, developing, creating awareness about, debating and implementing such systemic and holistic views would be an important challenge in development studies.

8.3.2. An alternative, holistic anthropology is needed

When a human being is examined from a holistic perspective, it becomes clear that people's actions are based on emotions rather than rationality. There is nothing like satisfaction of emotional needs that can motivate a person. Rationality alone is on the other hand a poor motivator for action. However, in the final analysis emotion and reason are two integrated parts of a whole human being. They should therefore not be seen as separate entities. Patriarchy, however, believes that reason and emotion can be completely detached. Based on this false assumption patriarchalism prioritizes the masculine faculty of rationality. Superior reason is therefore used to suppress inferior emotion, and to rationalize away the disastrous consequences from application of an exaggerated masculine force. The result of such false beliefs is that political leaders and business people are pursuing economic profits due to their unsatisfied emotions. They develop a greedy approach to life, because they lack affect and have been forced to repress emotional needs. However, to save face they argue that it is rational and therefore good. In order to compensate for inadequate emotional satisfaction they pursue maximization of economic profit, material acquisition, advanced technology and power. Such people find it rational to expand economic growth, arguing that it will alleviate poverty. However, in reality economic growth is not rational. It is oppositely highly irrational since it is causing poverty for women, Others and nature. It is founded on the treasured patriarchal human characteristics of competition, maximization, greed, self-interest and individualism. Since these masculine, rational traits lack a dynamic tension with the complementary but opposite feminine emotional forces of cooperation, optimization, conservation, community, and social care they become exaggerated and destructive. This destruction is manifested in the four crises. To generate harmony inside a person, among people, and between people and nature the human mental function of reason must be balanced with the dualised, opposite, but complementary human emotion.

Reintegrating the full human mental faculty is important in order for people to understand themselves. A human being will not succeed in becoming a happy, healthy and harmonious person as long as society teaches that a person is superior, only when he or she is defined and act as being masculine.

Masculinity is only one part of a person, which cannot stand alone. It needs to be seen in a dynamic tension with its complementary feminine part. Thus, a person is much more than only rational. If the emotional side is undermined, a person will never fully know him or herself. That would be a huge loss. It would prevent a person from becoming a balanced, whole human being, who can venture into the world with an open mind and deal appropriately with challenges that come his or her way. Oppositely, a fragmented, rational human being, cannot know him or herself. Lack of self-knowledge will lead the person to commit "stupid actions", the consequences of which will roll on forever and ever and lead to unhappiness, destruction and crises. It is therefore necessary that a person is defined as a whole human being. To function, a person needs to develop rationality as well as emotions. Only then will the person be able to deal with the challenges of the world, including amelioration of the current crises.

Such a new, holistic anthropology must be part of development studies. Development studies are a multi-disciplinary subject that includes the economic, political and social aspects of people's realities. However, the mental or psychological reality of people is lacking, when it should be an integrated part of the studies. Only few development authors have included the mental (emotional) aspect of the people they study in their research. Robert Chambers was perhaps one of the first to make psychology a natural part of his work. However, also E. F. Schumacher focused on the full human being and his feelings in the development context. Since then more development academics have joined, but seen from a subjective point of view, most authors in development studies still focus on masculine, quantitative issues and objects, rather than on a quality of life for real people. Many for example still argue that "political will" can solve development problems. These people consequently lack the insight that this concept does not exist in human psychology. Politicians are human beings who are motivated to act according to their individual emotions, rather than due to their political rationality. If they have suppressed their emotions, they will not be able to feel empathy or care for women, Others and nature. They consequently will not be motivated to alleviate poverty, even though they may have plenty of political will.

It is for this reason political leaders decide that their own economic advantage is more important than ending the rape and genocide of women and Others in the Darfur region. It is also for this reason that leaders in the World Bank and managers of multinational corporations find it economical to place polluting activities in the Third World. When women, Others and nature are harmed or killed by the poison, compensation is cheap and profit is high. Since emotions is the dualised other and empathy is part of these inferior feminine feelings, showing care and concern for women, Others and nature is not

what a superior, rational, masculine individual does. Instead, he rationalizes the human suffering away: He may argue that the dualised other is lazy or stupid and should therefore be seen as a lower levelled being that has little economic to lose and who is happy with some handouts. He may see women and Others as being passive and hence responsible for their own misery. He may believe that had these others only done as the Ups, then they would not belong to the Downs. Women and Others are therefore seen as being inferior ones who deserve subordination. Thus he falls into the trap psychologists call for “blaming the victim”. That is easier than to examine oneself. Conclusively, as shown throughout the dissertation, rationality cannot prevent domination, exploitation and violence of women, Others and nature. Scientific rationality is in fact promoting these violent trends.

When we understand ourselves enough to realize that, it is our human feelings that drive us rather than our rationality then we can reconcile our fragmented selves and find peace. When we get in touch with our emotions then we have a good chance to develop as human beings and become respectable, caring, balanced and happy persons. Such a person would not permit that children live in poverty, he would also not abuse other adults, neither would he rape women nor kill anyone. He would also not destroy nature. Due to his inner balance, he would not need to commit such atrocities. Hence, when we include the full spectre of our human faculty, we may be able to develop caring relationships between men and women, adults and children, white and blacks, humans and nature and we would find that rational. The outcome of knowing ourselves and pursuing inner balance may in the end, result in a world without crises and "development problems".

Ecofeminism is a struggle for survival of people, nature and the future generations of both categories. In order to succeed in this a new anthropology is required. It must be one, which can define human beings as a whole person, hence integrating the masculine reason with the feminine emotion. When we are fully integrated people, we would not need to bring up our children by the traditional means of reward and punishment. The abuses against children need to stop. It is inhuman and cruel. Only when we get in contact with our own emotions will we be able to understand the suffering of these children, and end it. Caring for children means that they can grow up, becoming caring adults. This is highly likely leading to a non-dominant, non-violent world. This is another challenge for development studies. It could play an important role in promoting a new anthropology that includes emotion and ensures that children are cared for. As Robert Chambers already has pointed out, improving child-rearing in a development context, is essential in order to promote a future generation of people that will care about women, Others and nature. Conclusively psychology deserves to play a central role in development studies.

Conclusively an important part of a new cosmology is a new anthropology. It must be one that in its definition of a person can include the feminine characteristics of humanity. A person who has integrated the masculine and feminine characteristics will not need to make stupid actions that generate negative consequences, which roll on and on and finally manifest as the four crises. A holistic definition of a person is especially important when it comes to nurturing future generations. If we are able to produce the next generation as balanced human beings then no one would need to dominate women, Others and nature. Debating, developing and including a holistic anthropology are yet another challenge for development studies.

8.3.3. Perceiving indigenous knowledges as relevant is needed

Knowledge is about knowing oneself, other people, nature and things in one's surroundings. It is therefore not an activity that belongs to experts. In spite of that, modern science was created as a monopoly that belongs to the patriarchy. Being a measure of control science was introduced as a rational, universal and objective system of knowledge that presents the truth about reality. Thus, science excluded the experiences and knowledges of women, poor people and indigenous peoples. These people's perception of life was considered the lowest kind of knowledge. Hence dualism and its domination of women, Others and nature included their knowledges. Apart from being a means created to control and dominate, science was also meant as a tool to exploit nature for economic profit of patriarchy. In this way, science, with its reductionist focus on quantities, its persistent abuse of nature, and its exclusion of the experience of women and Others, has led to the condition that created the four crises. Since resolving the global crises requires improving the quality of life for women, Others and nature, science will be inadequate as a tool. Instead the perceptions, experiences and knowledges of women, Others and nature are essential.

Ecofeminism has challenged the exclusion of ecology and feminism from a scientific understanding of life. It has instead suggested alternative, holistic ways of thinking and knowing. The aim is to dismantle the domination of women, Others and nature and to see reality from an ecological and feminist point of view. Hence, people's experiences, and their feelings about what happens in the process, should be the foundation of knowledge. According to this alternative perception, knowledge relates to a particular perspective that is situational, contextual, subjective and affectional. It is interdependent with people's environments and based on a historical process related to a specific culture. Such situated knowledges are based on diverse experiences, with no universal or single view. It is relevant knowledge that will help women, Others and nature to produce, reproduce and sustain their quality of life. It is therefore a kind of knowledge, which will alleviate poverty and regenerate nature.

This is knowledge to which outsiders normally do not have access, acquiring it therefore demands a humble attitude in learning from local people. This is not easy and quite an opposite scenario from the usual situation where the scientifically educated outsider teaches local peoples the absolute truth about their indigenous reality.

An ecofeminist model of plural knowledges is different from the singular reality promoted by the modern world-view. This means that situated knowledges are threatening the monopoly of science, its disciplines, its technology and its institutions. If local knowledges are recognized, then science cannot anymore be considered the carrier of absolute truth. Instead, it becomes only one perspective of various "truths". Such a move would be part of dismantling the power-base of patriarchy. However, many people have been socialised into believing in the superiority of science and the universality of scientific institutions, change towards a plural perception of reality will therefore be painful and come hard. This is where development studies come in. In order to alleviate poverty and regenerate natural health, it is necessary that the quality of life of women, Others and nature is improved. Since this requires inclusion of indigenous knowledges, development studies must support it. Such support may include researches into and documentations of how indigenous knowledges can increase the quality of life for women, Others and nature. If studies would clearly show its effectiveness in poverty alleviation, they may spread awareness of the importance of indigenous knowledges. This may convince some flexible development agencies about its relevance and persuade open-minded development workers to take local people's experiences seriously. Such awareness will develop slowly, but it is a step further towards the goal of including in development, reality as perceived from the perspectives of women, Others and nature. Or said differently: being aware of the importance indigenous knowledges play in poverty alleviation means that any development activity that would overlook the experiences of feminism and ecology must be considered a reductionist, masculine and dominant enterprise, the outcome of which will only reinforce the four crises.

Conclusively indigenous knowledges play an important role in improving the quality of life for women, Others and nature. It is therefore an appropriate challenge for development studies to promote that realities, experiences and knowledges of women, traditional peoples, and poor people, together with ecological knowledge are integrated in any development endeavour as being both legitimate and relevant knowledges.

8.3.4. A holistic approach to development research is needed

The above analyses have shown that the root cause to the failures in development relates to the dualised, dominant patriarchal values. These values were developed by the Western world and then exported together with the "development project" to the South. This means that development's failure relates less to activities in the South. It is rather caused by the uncritical application of unexamined Northern, patriarchal values. Hence searching for reasons to development's failures in the South will be misdirected and hence unsuccessful. That is because it would be a reductionist activity, which would exclude the North and as usual the perceptions of women, Others and nature. From this it follows that lack of a holistic approach would prevent a study from exploring the root causes to the crises. Hence, necessary clarity and awareness could not be gained and appropriate changes could not be initiated. This shows the limitation one deals with when reality is perceived from only a masculine scope.

If the above argument is accepted it follows, that development in the South cannot be studied separate from Northern values and activities. Neither is it possible to understand development problems without including the North-South interconnections. A balanced picture of reality therefore demands a holistic, systemic approach. It requires an inclusion of parts, their interconnections and the whole. Hence, a study that focuses only on the situation in the South, in search of causes for development failures, must be considered a reductionist and consequently a masculine approach. Development has to be seen in a bigger context. The discussion cannot be confined to a problem that was created and therefore must be solved in the South. Development crises of today relate to systemic problems that are much bigger than the South. If a study focus on the Third World only, it is likely to miss the real reasons for development failures, which here is argued to be the Western dualised, dominant world-view that has filtered into every aspect of life on the globe. Conclusively development studies will come closer to relevant results if it adapts a systemic and holistic approach in its research.

Conclusively an ecofeminist study shows that a holistic and systemic research approach that includes perceptions of women, Others and nature together with Northern values lead to a better understanding of the root causes of development's failures. A reductionist approach to the situation in the South could not have unveiled that the modern, Western patriarchal world-view is the main cause leading to the four crises.

8.3.5. The answer to research question two

Conclusively by including the reality as seen from the point of view of women, Others and nature ecofeminism makes development studies aware of the need for a holistic and systemic cosmology, anthropology, epistemology and research methodology. Only through a holistic approach will it be possible to improve the quality of life for women, Others and nature and to ameliorate the four crises.

8.4. The strength and challenges of ecofeminism in development

The main **strengths** of ecofeminism have already been mentioned in the answer to research question two. In sum, it covers its ability to raise awareness of the patriarchal dualised and dominant structures; its ability to suggest alternative perceptions of reality; its ability to assist in ameliorating the current global crises due to its holistic view of life i.e. by including all feminine forces, perceptions and realities. If listeners are able to overcome the threat the concept "feminism" may pose to them, then they may find that the content of the ecofeminist message is sensible, caring and convincing, meant to free both men and women from domination. Seen in this way ecofeminism is an important perspective in development. Its message has been influential in connecting women from diverse backgrounds. These women have the common goal to insert the concerns of women, Others and nature in the international development dialogue. By combined force, they have made essential changes. Ecofeminists must continue this important influence.

However, ecofeminism also has **challenges**. The ecofeminist development discourse has been critiqued for being essentialist. It came from the misconception that ecofeminism as a whole was equated with cultural feminism. This critique is regretful because it created a barrier between ecofeminist theory and practice. The conflict relates to the way in which the interconnection between women and nature is conceptualized. One way to perceive the link is as a historical, cultural and social construction, based on value dualism and the logic of domination. Another way is to view the link as biological, due to similar reproductive characters. A third way is to see the link as being spiritual. The academic version is the first, the other two options are used by the various ecofeminist movements. While the first is kept anti-essentialist, the latter two are considered essentialist. The first provides important analysis and concepts regarding the interconnections between women and nature, which helps to raise important awareness about patriarchal domination. It may be called **the constructionist stand**. The last two help women to empower themselves and promote actions for change. They may be called **the essentialist stands**. Both activities are important if ecofeminism should be influential in changing and redirecting the international discourse on development. The question is therefore how to resolve the conflict.

The subjective stand taken here to the controversy, follows the opinions of Birkeland (1995), Gebara (1999), Knill (1992), Norgaard (1995) and Sturgeon (1997) expressed in chapter 4. These authors see humanity as being a combination of essence and construction. It is due to women's historical experience as caregivers that they are more likely to see themselves as being integrated in relationships with others. Thus, women would naturally view the world more organically or holistically than men would, although there are exceptions. Hence, both biological and cultural elements have played a role in forming the link. However, how much is biological and how much is cultural cannot be determined. The reason is that biological and cultural factors have co-evolved over generations and have ultimately become inseparable. Hence, to ask the question, or to attempt to separate them, is to think reductionistically, like a man. It is also irrelevant to decide which interpretation is right, because the fact remains that all, which is feminine consistently, is under-valued in relation to the masculine. Furthermore, nothing is unchangeable. Reality shows that men can decide to develop their feminine traits and become more integrated and caring, while women can choose to develop their masculine side and become more assertive and individual. The discussion of essentialism vs. constructionism is therefore to a far extent impertinent. Making the issue into a conflict is a privilege belonging to a group of unaware academics. They seem to have the luxury and time to discuss such theories. However, the same academics oppositely have a weak commitment when it comes to dealing with the real situation of women, Others and nature. In view of the ongoing destruction of our ecological life-base, the increasing male violence against women, the escalating abuse of children, and the intensification of aimless wars, such a discourse seems out of place. It only creates a barrier between academical, theoretical feminism and the activist practices of feminist theory. The aim should instead be to create a more inclusive and politically engaged ecofeminist movement that can work towards amelioration of the four crises.

It is however, important not to overlook the real challenges that ecofeminism is faced with. Braidotti et al (1994) and Zimmerman (1990) are concerned if ecofeminism can overcome reproduction of dualism and domination. Some ecofeminists are seeing women, especially indigenous Southern women, as being privileged actors in the reversal of natural destruction. This approach is, however, dangerous. It could end up in also reversing the patriarchal hierarchy, thus placing women above men. This weakness relates to the inability of some to acknowledge that not only men, but also women have been distorted by the effects of patriarchy. The Western frame of mind is built on dualism, therefore to think in non-dualised terms is a huge and difficult perceptual change. Many people sub-consciously think about differences in terms of being either good or bad, superior or inferior rather than just different. It is therefore hard to recognize diversity without adding a value judgement. However, this

is where the Chinese philosophy of change, with its yin and yang opposites, comes in to help. It teaches us that neither yang nor yin is either good or bad. What is bad or unhealthy is an imbalance between the two. What is good or healthy is a dynamic tension between the two. Exaggeration of any one of the two forces is expected to result in negative consequences. This does not mean that they always are present in equal amounts. Some times a dynamic tension may require more yin than yang, other times it may be the other way. Learning about this simple and healthy perception of reality, may help those of us who have incorporated value dualism to adjust our perception and see reality more adequately. The success of ecofeminism and other holistic schemes consequently depends on their ability to overcome their own dualism, mainly in practice. Or said differently ecofeminism must not only take the perceptual leap from reductionism to holism theoretically, they must also take up the challenge it is to "walk the talk".

To realize the transformative potential of ecofeminism women and men have to work together. Each must acknowledge the other's equitable inputs; women must recognized the suppressed longing of many men to be caring and to express their feelings; and both must recognize that women also have internalized the patriarchal strategies of domination. It requires a careful process of transformative politics building, while at the same time deconstructing existing systems that reproduce structures of domination. In the process of creating new realities, one should be careful not to construct any new universal theories. According to Foucault, any type of universalism presents a danger of domination, even if the aspirations of universalism in question are positive. The role of grassroots movements is therefore crucial in the articulation process, and the involvement of people's own visions of how to deal with their problems is imperative. (Braidotti et al 1994: 10, 167).

The biggest challenge for ecofeminism is perhaps the fact that patriarchy continuously will dismiss its ideas. The reason for this is obvious: ecofeminism is a threat to the patriarchal power and privileges. Those who promote ecofeminist thoughts and perceptions must therefore be aware of this, but not lose courage and hope. History shows that all empires eventually collapsed due to its own inflexibility. Afterwards a new and improved reality will appear. This is the turning point from a yang dominant reality to an inclusive yin and yang perception of life.

Conclusively ecofeminism's theoretical strength lies in its awareness raising ability. This comes from its holistic philosophical perspective. Ecofeminism's practical strength lies in its ability to transform international development dialogue. This comes from its background being a grassroots movement. The challenges of ecofeminism is to overcome the conflict between ecofeminist theory and practice, to

implement their non-dualised, non-dominant perception of reality in practice, and finally not to lose courage and hope when faced with the dominant patriarchy.

8.5. How ecofeminism may improve development practice

Many development activities are based on lack of respect for women, indigenous peoples and the environment. This can hardly be any different when the development paradigm as a whole is founded the modern, dualised world-view. Due to its dominant origin, development therefore oppresses local cultures, women and nature. This is where ecofeminism comes in. By being a counter-balance ecofeminism can make development more inclusive. Warren (1997, 2000) and Wells and Wirth (1997) have explained how this practically may be done.

Ecofeminism is not a method, but an inclusive praxis achieved through conscious commitment to inquiry. Its analyses would combine three groups of issues in order to uncover, articulate and discover patterns that may include both generalisations as well as varieties. The three groups are 1) appropriate science, technology and development; 2) local perspective, knowledge and culture; 3) feminism or gender relations. All three groups of issues provide an ecofeminist development rationale. In addition, all factors are important as input to the interconnected women-Others-nature issues. Hence, if policies do not include concerns for all three groups of issues, then they are inadequate. In addition, it is recommended that development agencies in the field support women via their own movements and initiatives. Moreover, it is of great importance that development agencies in their daily work try to influence decisions and actions at all political and institutional levels. Development workers may use the awareness ecofeminism brings to insert concerns of women, Others and nature in the development discourse. This may over time change the development discourse. When we learn to perceive reality holistically, when we learn to keep a dynamic tension between the masculine and the feminine forces, when we become more balanced ourselves, then development activities may change to become non-dominant, which eventually may lead to resolution of the four crises. Then there will be no more need for ecofeminism. That is when it becomes clear that ecofeminism was "a moment".

Conclusively an ecofeminist praxis would analyze appropriate science and technology; local knowledge and culture; and gender relations in all development activities. To uncover patterns is relevant in order to make development inclusive for women, Others and nature. Support of women's own initiatives is also recommended. Finally, it is important to influence the development discourse at all levels, in order to insert the concerns of women, children, poor people, traditional people and the environment.

8.6. The search for ethics in development

The initial purpose of the study was to search for ethics in development. Reasons for the lack of such an ethics have now become obvious. Traditional ethics is based on the reason-emotion dualism. The masculine reason is seen as being superior and a relevant tool for moral agency. The feminine emotion is oppositely seen as being inferior and morally irrelevant. Thus, ethics excludes emotion. Moreover, if dualised others should be considered morally it requires a cancelling of difference between self and other. Hence, the egoistic self can only transfer his self-regard to others if they are labelled as self. Those that cannot be marked as self are returned to the heap of instrumental, useful ones, outside any ethical consideration, available as resources for exploitation. Since the inferior realm of the dualised others include, apart from emotion, also women, children, poor people, traditional people, black people and nature, traditional ethics can only result in domination and exploitation of women, Others and nature. To apply a rational ethical system to development and expect it to include ethical concern for women, Others and nature would consequently be a paradox.

Various ecofeminist writers like Gebara (1999), Plumwood (1993) and Warren (2000) all recommend an ethics of care: When a person is defined in a non-dualised way both feminine and masculine characteristics are included. This would lead to an ethics of care. In order to think and behave ethically a person needs to be in contact with his or her emotions of empathy, care and concern. Only when an ethics is based on care will it be able to recognize and respect the intrinsic value of the other. There is no merger or loss of boundaries between the self and the other. Instead, there is a mutual caring relationship based on friendship, love and respect. Since each person has different needs and desires, empathy ensures that each can include among their own interests and desires some of the other's general goals. Similarly, with nature. A mutual self is also ecological and will find that the thriving of nature is essential for the thriving of all. Since an ethics of care is not universal or objective, it must be developed based on concrete experiences. It needs to be suitable for an interrelated, embedded and mutual person. Hence, new foundations and reference points adequate for each human group and context must be found. Such an ethical search is uncertain. It must therefore proceed with care and respect, taking small steps at a time. An ethics of care would consequently develop a healthy, dynamic tension between the feminine and the masculine, yin and yang, whole and parts, integration and self-assertion. A balanced outcome is bound to become harmonious.

Conclusively an ethics of care as recommended by ecofeminism can include ethical concerns for women, Others and nature. It would therefore be suitable as a development ethics.

8.7. Grand conclusion

It has been a great exploratory experience to be engaged in this ecofeminist study. Subjectively seen it has unveiled much more about development and people than I imagined it possible at the onset. It is therefore a personal privilege to be able to say, at the end of my Masters studies in development, that most of the issues, which I expressed as being confusing from my practical development experiences, became clear. The grand conclusion seems to be the importance of knowing one self. This kind of wisdom is almost completely overlooked in modern society. Self-knowledge is not prioritized in its social institutions including schools. Instead being competitive, pursuing external physical goals are encouraged and treasured. People who have money, a high position, a big house, with plenty of technology in it, are seen as being successful in their achievements in life. Oppositely people who have found inner balance, who are happy and harmonious, but have few material items to show off, are in the modern definition considered to be less successful compared to the first mentioned. The latter may even be seen as being a bit naive. However, promoting material values have consequences. Exaggerated striving for happiness in external objects and consumption, reinforces our masculine human traits, which may lead to antagonistic relationships and crises. It is exactly because material achievements and economic growth are prioritized, that the world is faced with the four crises. Changing focus towards internal growth would oppositely ameliorate the crises. If we prioritize knowing ourselves, we may be able to produce a dynamic tension between our inner feminine and masculine characteristics and become balanced people. Balanced people are more likely to choose a balanced behaviour, to act intelligently with positive consequences. A person with a genuinely balanced behaviour is also a convincing teacher to others, because he teaches by own example. In the end, such changes may increase the total sum of positive consequences from human actions. Combined these would have a tremendously positive ripple and trickle down effect on women, Others and nature. The changes would also help those Ups, who still are suffering from the painful dis-ease of greed. This is not a religious issue, neither is it about spiritual enlightenment, nor about any long-term commitment to years of meditation living in a cave. It relates to a social and personal choice to integrate psychological knowledge, which already is available. If we change our definition of what counts as human success and achievements, and incorporate these values into social and political discourse and institutions, it is highly likely that the four crises will be turned around. This is an important insight, which should be taken seriously, because the crises are very real. They are threatening to extinguish life on Earth in a very painful manner.

If we change our social priority from treasuring external, material and competitive (masculine) issues to value internal, emotional and cooperative (feminine) elements, it may bring about effects, which

may help us to live in peace with each other and with nature. It may enable us to connect with each other in caring ways. If we would have our needs for affective and kind relationships satisfied, it is likely to motivate actions, which would increase harmony, peace and happiness. In a harmonious world, there would be no need to dominate and exploit women, children, poor people, traditional people, black people and nature. Because harmonious people would understand the positive long term benefits from discussing, debating, negotiating and cooperating to create a dynamic tension between our differences and disagreements in order to solve our conflicts with a balanced outcome - but we can do that only together.

"We can be prosperous only together, we can be free only together, we can be safe and secure only together. It applies to South Africa and it applies globally. We can't win wars against terror as long as we have circumstances and conditions that make people desperate."

Desmond Tutu, Archbishop of Cape Town, South Africa
(BBC "A nation's conscience" 09.10.2006).

Chapter 9: Bibliography

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