

**BIOPROSPECTING AND INTELLECTUAL PROPERTY RIGHTS  
ON AFRICAN PLANT COMMONS AND KNOWLEDGE: A NEW  
FORM OF COLONIZATION VIEWED FROM AN ETHICAL  
PERSPECTIVE**

**By**

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## DECLARATION

Student Number: 3439-393-5 (1)

I declare that BIOPROSPECTING AND INTELLECTUAL PROPERTY RIGHTS ON AFRICAN PLANT COMMONS AND KNOWLEDGE - A NEW FORM OF COLONIZATION VIEWED FROM AN ETHICAL PERSPECTIVE is my own work. I acknowledge that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

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Ms. Puleng LenkaBula

## SUMMARY

This study engages in an ethical examination of contemporary socio-ecological and economic issues which takes seriously the plight of Africa, African communities, indigenous knowledge and biodiversity. It studies the impact of bioprospecting, biopiracy and intellectual property rights regimes on the protection, use, access to, and conservation of biodiversity and indigenous knowledge in Africa. The study also examines the ways in which northern multinational pharmaceutical and biotechnology companies and their agents prospect and convert African resources (biological commons and indigenous knowledge) into their intellectual property as well as private property. It argues that the transfer of African biological commons and indigenous knowledge is exacerbated by economic globalisation and the neo-colonial mentality of conquest concealed under the guise of commerce.

The study demonstrates through concrete case studies the tactics used by northern multinational corporations to claim these resources as their intellectual property rights and private property. It observes that the privatisation of biological commons and indigenous knowledge only brings about nominal or no benefits to African communities who have nurtured and continue to nurture them. It also observes that this privatisation results in fewer benefits for biodiversity as they lead to the promotion of monoculture, i.e. commercialisation of all things. To address the injustice and exploitative implications of bioprospecting, biopiracy and intellectual property rights, the study recommends the adoption and implementation of the African model law, the establishment of defensive intellectual property rights mechanisms, and the strategy of resistance and advocacy. It suggests that these measures ought to be grounded on the African normative principle of *botho* and the Christian ethical principle of justice.

## **KEY WORDS**

Bioprospecting, biopiracy, intellectual property rights, patents, ethics, *Botho/ ubuntu*, justice, colonialism, globalization, privatisation, multinational companies, TRIPS.

## SIGNIFICANT ACRONYMS

AU	African Union
IPR	Intellectual property rights
CBD	Convention on Biodiversity
FAO	Food and Agricultural Organisation
GATT	General Agreement on Trade and Tariffs
IMF	International Monetary Fund
MFN	Most Favoured Nation
NT	National Treatment
OAU	Organisation of African Union
TBB	TRIPS, Bioprospecting and Biopiracy
TRIPS Rights	The Agreement on Trade Related Aspects of Intellectual Property
WB	World bank
WIPO	World Intellectual Property Rights Organisation
WTO	World Trade Organisation
UPOV	International Union for the protection of New Varieties of Plants

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# CHAPTER ONE

## INTRODUCTION

### 1.1 STATEMENT OF THE PROBLEM

The problem that this study seeks to address is the expropriation of African plant commons and public knowledge by northern pharmaceutical and biotechnology companies through bioprospecting and trade related aspects of intellectual property rights. Trans-national biotechnology and pharmaceutical companies, such as Monsanto, Syngenta, Dupont, GlaxoSmithKline, Novartis, Cargill, Phytopharm, Phytera, Pfizer, Molecular Nature Ltd and others, often collect information on biological or genetic resources of plants in third world countries through the aid of bio-prospectors, academics, or international and national institutions involved in scientific, environmental, medical and biotechnological research. These companies generally aim to synthesize and modify active biological compounds in the laboratory that are derived from the resources and knowledge of indigenous communities” (Shand et al. 2000: 3). **This is in order to develop new medicines and/or biotechnological products.**

“Bioprospecting” is a word which describes the practice of collecting and screening plants and other biological material for commercial purposes, such as the development of new drugs, seeds and cosmetics” (Dutfield 2001:1). It is the exploration of plants and animals by scientists in the search for commercially viable genetic and biochemical resources. Scientists and multinational companies engage in bioprospecting to search for new leads for the development of new pharmaceutical, diagnostic, genetically modified organisms and other medicinal materials. Biotechnology and pharmaceutical companies that sponsor bioprospecting expeditions often expect to acquire useful information and plant resources from local people, including, in the case of drugs, native healers (Dutfield, G. 2001: 1).

Bioprospecting is often followed up by claims of intellectual property rights on African

plants and their knowledge without the consent and participation of African people. Yet since time immemorial, Africans have depended on these plant resources and their knowledge for food, medicine shelter, work and leisure. Intellectual property rights (hereafter IPR) result in the privatization of African commons and indigenous knowledge associated to them. African indigenous knowledge of plants and genetic resources thus become the exclusive private property of western scientists, businesses, corporations and individuals who reap massive profits from them and are seen as “creators of new knowledge systems” (Shiva 2001:1). Yet the fact is that, in most cases, the patented knowledge,<sup>1</sup> biological and genetic resources are often stolen or pirated from Africa and other parts of the third world. Because of their exploitative nature, bioprospecting and IPR claims - such as patents on African indigenous knowledge - are equated to biopiracy and/or theft by third world and African scientists or Scholars. This is because, after collecting and screening plants and/or other biological material, the companies involved claim private ownership and monopoly control of these plants and knowledge without acknowledging the contributions of African communities whose knowledge they have used. In this way, IPR claims tend to be controversial.

By not acknowledging the contribution of indigenous knowledge to the nurture and care of the prospected biological resources, they consequently lead to the violation of community rights as well as community survival strategies. The contradiction is that, although IPR negate the importance of indigenous knowledge by not awarding them intellectual property rights status, they reward and recognize the rights of individuals and companies who/which modify biological resources in laboratories and make them applicable to industrial production, thereafter claiming them as their inventions. The result is that bioprospecting and IPR, such as patents, subsequently become conduits for the privatization of African commons and indigenous knowledge. They also become instruments or tools for the exploitation of African communities. They facilitate the looting of plant resources and knowledge of African communities by northern biotechnology and pharmaceutical companies as they do not question how assignments of ownership of such resources are made. They are also problematic because they unfairly transfer ownership of plant knowledge and resources from the public sphere to

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<sup>1</sup>Patented products refer to knowledge exclusively protected under intellectual property laws in

private hands, thus ultimately rendering communities to become dependent on pharmaceutical and biotechnology companies for medicine, nutrition, health and their livelihood.

The impact of these actions on African communities is, therefore, that communities in Africa become victims of abuse and exploitation by pharmaceutical and biotechnology companies. They lose control over their biodiversity, as this becomes the domain of private companies. Strathern (quoted by Posey 2000:6) argues that for African communities, bioprospecting of plant resources and IPR claims on plant commons and indigenous knowledge result in the removal of life forms and knowledge from their cosmic connections and evoke moral indignation because they destroy the sacred balance. They also result in the domination of communities in Africa, because they extend control of biological wealth or biodiversity to pharmaceutical and biotechnology companies as patents. These patents often run for a period of 20 years before anybody can freely use patented information. Communities also become dependent on the market for plant knowledge and medicines that they have lived or depended on for generations. Bioprospecting and IPR claims on plant commons and indigenous knowledge thus undermine African systems of ownership. They therefore become tools of exploitation and alienation of African communities, as current intellectual property rights laws do not recognize community property rights. Whereas communities in Africa consider biodiversity, air and water as commons (see p. 20 below) to be shared by humanity and other creatures of the earth, biotechnology and pharmaceutical companies see these as commodities to be privately owned and sold in the market place. Dutfield illustrates this point clearly, when he makes the following comment:

In principle, application of intellectual property rights to biological resources should not be exploitative, as anyone has the right to apply for - and enjoy the fruits of - an invention based on a biological discovery. In practice however, patent rules tend to favour corporations rather than indigenous communities. A native healer, for example, may have developed a therapeutic plant extract or herbal formulation. But acquiring a patent would be extremely difficult, first because the applications usually require inventions to be described in technical language, and secondly because the cost of applying for a patent is likely to be prohibitive (Dutfield 2001: 1).

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particular patent laws for 20 years.

In view of the fact that the genes of living organisms, of plants, and the knowledge associated to the conservation and preservation of biological resources are seen by multinational biotechnology and pharmaceutical companies as raw materials for modern biotechnology, the scramble for Africa by those multinational companies has intensified. The scramble for Africa to acquire monopoly ownership of biological resources and indigenous knowledge associated to their conservation, preservation and nurture through bioprospecting and intellectual property right claims, manifests itself in ways which are comparable to the colonization of Africa in the 17th to the 19th centuries. It is the new version of control and might.

## **1.2 PURPOSE OF THE STUDY**

In view of the stated problem, the primary purpose of this study is to explore the impact and implications of bioprospecting and intellectual property rights on African plant commons and indigenous plant knowledge by multinational pharmaceutical and biotechnology companies. This study is pursued in the discipline of ethics; in particular, it uses an interdisciplinary approach involving the sub-disciplines of social and bioethics. The aim is to illustrate the ways in which these companies deploy international laws, particularly those of the World Trade Organisation's (WTO's) Agreement on Trade Related Aspects of Intellectual Property Rights (hereafter TRIPS), to facilitate expropriation of African plant resources and their knowledge. It is also to determine the impact of bioprospecting and TRIPS on African communities and biodiversity. The study hopes to demonstrate the differing perceptions about access, use and ownership of biological resources by African communities and northern communities and institutions. For the communities in Africa, biological resources in the commons nurture the lives of all human beings as well as other creatures; for multinational companies, biological resources seemingly ought to be removed from the public domain, they ought to be privatized in order to promote the ideals of capitalism, market economy, corporate control and monopoly, and the maximization of profit.

The study further seeks to assess the similarities and dissimilarities between the



contemporary phenomena of the scramble for Africa (and its plant resources and their knowledge via bioprospecting and TRIPS), on the one hand, and the colonization of Africa in the 17th to the 19th centuries, on the other. The colonization of Africa in the 17th to the 19th centuries was underlined by, among other things, the political and economic agendas of conquest and domination and the search for control of the world's resources. In comparing these two processes, we shall evaluate the economic and political rationale behind the current genetic rush, expressed through bioprospecting and IPR claims on biological resources and knowledge held in common by African communities. The reason is that colonialism and bioprospecting deploy international laws to validate their conduct. In the case of bioprospecting, multinational biotechnology and pharmaceutical companies resort to the use of TRIPS to facilitate the expropriation and privatization of indigenous knowledge and commons. In the case of colonialism, the doctrine and law of acquisitions of territories, in particular, the doctrine of '*terra nullius*', was used to facilitate the colonization of Africa. According to Fisch (1988:354) the term "*terra nullius*" describes "an original acquisition of a territory which belongs to no one until the moment of acquisition, until which time, in terms of international law, it was ownerless." Fisch (1988:354) further points out that "where dereliction has already occurred, if the previous owner has given up his title: territory thereby again becomes *terra nullius*." Although Africa was already inhabited by African communities, had its governance systems and structures, however different from or similar to those of Europe, it was considered *terra nullius*. In Fisch's words, "in so far as it was not already under European dominion, Africa was considered *terra nullius*. For that reason, original and not derivative forms of acquisition of territory were spoken of. Each power that treated Africa as a *terra nullius* henceforth had the blessing of the Berlin Act" (Fisch 1988: 356).

Given that bioprospecting and claims on intellectual property rights take place in the contemporary context of economic globalization, it would seem important to investigate how economic globalization facilitates bioprospecting and IPR claims on African indigenous knowledge and plant genetic resources. It is also imperative to examine the role that international financial and regulatory institutions, for example, the WTO, IMF, and WB play as these are key multilateral institutions which govern global policies, international trade and intellectual property rights in the world today.

Finally, the study aims at locating this discussion within the discipline of Christian ethics, particularly the sub-disciplines of social and bioethics. Ethics is understood, in this study, to refer broadly to the exploration, reflection and decision on how people ought to act in their relationships with one another, as well as toward other creatures on earth; and how human institutions and human activities ought to be organized. Ethics in this sense is understood as the reflection on morality and the configuration of alternatives to conduct, whether by individuals, groups or institutions. It thus enables us to imagine and participate in the search for viable alternatives to current exploitative and abusive forms of bioprospecting and use of intellectual property rights against African communities. This implies that one of the primary purposes of ethical analysis in this study is to enable us to critique current forms of bioprospecting and abuse of intellectual property rights and to formulate ethically viable models of advocacy and praxis against their harmful methods or approaches. It is also to enable us to ground these alternatives on African ethical norms, in particular the Sesotho ethical concept of '*botho*', and the Christian ethical principle of justice.

### **1.3 IMPORTANCE OF THE STUDY**

This study locates the analysis of bioprospecting and intellectual property rights, which have been the domain of public policy makers (the departments of agriculture, law, trade and industry, arts and technology, as well as of scientists and lawyers) in social ethics and bioethics. Most studies in social ethics, specifically Christian social ethics and bioethics, have not systematically analyzed how biological commons and indigenous knowledge, which are used as the raw materials for the development of new products or knowledge, are acquired by multinational biotechnology and pharmaceutical companies. Instead, ethical discourses related to ecology have often centered on whether genetically modified organisms developed by biotechnology companies are good, artificial and/or panacea for world poverty. They also dwell, in most instances, on whether or not biotechnology or genetic engineering procedures and techniques are ethically justifiable. Questions on where the antecedents of intellectually protected biological products, for example, biotechnologically engineered organisms, come from, how they were taken and

from whom they were taken, are not often explored by mainstream ethicists, intellectual property rights lawyers, economists and/or companies which claim intellectual and private property rights on plant resources. IPR claims on modified organisms in many instances come about in spite of the fact that most genetically engineered organisms, and/or their products were developed based on information or knowledge embedded in local and indigenous communities in third world countries. Also important, is the fact that questions relating to where the knowledge which gave leads to the discovery of new substances that resulted in the development of new drugs, diagnostics, genetically engineered organism (GMOS) as well as how these biological resources were taken and who they were taken from, and whether these acquisitions were negotiated and consented to, are not normally explored in ethics. Raising and trying to find answers to these questions within the discipline of ethics makes this study original in the context of Africa.

To my knowledge, the closest systematic analysis of bioprospecting and the use of intellectual property rights to transfer ownership of resources from countries of the third world is the work of the Indian Academic and gender, ecological and social justice activist, Vandana Shiva. Her book, *Biopiracy: The Plunder of Resources*, discusses biopiracy of Indian plant genetic resources such as Turmeric, the Neem tree, and rice by American pharmaceutical companies. She situates her study in India and demonstrates the ways in which northern companies misappropriate genetic resources and knowledge from the third world. Its context and its methodological approach are not, however, matters of social ethical concern. This is the gap which this study intends to fill.

Bioprospecting and IPR claims are often understood as impartial and objective. They are regarded as important to the development of research and innovation. In many cases bioprospecting is seen as a normal part of scientific research, yet its consequences are not neutral. Intellectual property rights are also understood by proponents of capitalist market economy (economic globalization) to be core to freedom and human rights. Yet in many ways, when community rights are neglected by permitting the violation and privatization of the resources and knowledge which have sustained humanity for generations, the whole intention behind rights - that is, of recognizing the inherent dignity of all human

beings - is undermined.

My aim is thus to demonstrate that the standard of scientific objectivity claimed by scientists, researchers and multinational companies involved in bioprospecting and IPR claims masks the truth that such claims are not based on novel or new information. It also masks the fact that bioprospecting and IPR support the theft of knowledge and resources from Africa and the south in general by northern multinational companies. This study thus aims at challenging the fallacy of scientific objectivity when applied to bioprospecting of, and intellectual property rights on, African resources and indigenous knowledge by Western or Northern companies.

My commitment is further to expose the fact that the proclaimed neutrality of bioprospecting and intellectual property rights is flawed because these determine who benefits and who loses out on the knowledge and resources of the earth. The government of South Africa, in seeking to address part of this problem, announced in 2000 its commitment to bridge the gap between the so-called developed countries and developing countries in biotechnology research. This commitment has been consolidated with increased financial support and investment toward biotechnology research. What has been lacking, particularly in public discourse, is the debate, exploration and analysis of the impact of such a commitment in enhancing this kind of research on indigenous public knowledge, plant commons and genetic resources. The questions of who benefits and who loses out when bioprospecting and biotechnology are entrenched have not been adequately addressed. This thesis, therefore, is an attempt to raise such ethical questions and to explore challenges resulting from bioprospecting and intellectual property promoted by TRIPS on African plant commons.

After completion of this study, the hope is to share its observations by disseminating them to ecumenical organizations, churches and society at large. In this way it is hoped that it will contribute to advocacy initiatives of churches and communities whose resources are bio-prospected by biotechnology companies. This study, therefore, will hopefully benefit its readers by exposing them to the exploitative practices of bioprospecting and intellectual property rights. In turn, they will be able to make

informed decisions on how to combat or challenge such conduct. It is also expected that social ethicists, bioethicists, and environmental ethicists, and primarily political and economic ethicists, will read this work. Other scholars in the areas of social sciences, ecumenics, development and environmental studies are also expected to find interest in it. Finally, it is also hoped that policy makers in Africa, social and environmental movements, communities and educational institutions will make use of the information contained in the study.

## **1.4 METHODOLOGY**

### **1.4.1 Method of Research**

Information relevant to this study is drawn from a variety of sources. These will include books, research papers, journal articles, and popular print media on these disciplines. These sources are complemented by archival material from newspapers and other popular documents such as brochures, magazines and pamphlets from different stakeholders, professionals, and active players from research centers, biotechnology companies and government officials working on similar themes. To balance the lack of, or minimal information on, biotechnology and intellectual property rights which focus particularly on Africa I shall seek information and resources available from other contexts of the third world, such as Asia, particularly India, where work on indigenous knowledge systems, biopiracy or bioprospecting and intellectual property rights have been systematically evaluated. Some literature will be derived from desktop research. This is due to the fact that most recent debates and controversies on bioprospecting, biopiracy, biotechnology and intellectual property rights are found in electronic media on a variety of sources, organizations and Internet sites.

### **1.4.2 Method of presentation**

A number of approaches will be adopted in the presentation of this study. The method will be descriptive, analytic, interpretative, comparative and critical. First, we shall present, in narrative and descriptive form, factual case studies on the bioprospecting of

African plant resources and knowledge systems. Secondly, I shall analytically determine the reasons behind multinational biotechnology and pharmaceutical companies' bioprospecting assignments and IPR claims. I shall also examine the rationale behind the rush to exploit and expropriate African genetic resources and indigenous knowledge. I shall also compare the similarities of the scramble for the colonization of Africa in the 17<sup>th</sup> to 19<sup>th</sup> centuries and the current phenomena of IPR and bioprospecting/ biopiracy. Embedded in the comparison, will be the analysis of the impact of colonialism and bioprospecting and TRIPS on African communities and biodiversity. Finally, I shall critically define, describe and analyze the role that TRIPS play in promoting the expropriation of African commons and public knowledge.

### **1.5 LIMITATIONS**

There are a variety of limitations to this study. First, a systematic reading on bioprospecting of African plant resources and claims of intellectual property rights on these resources and knowledge by biotechnology and pharmaceutical companies reveals that there is not much literature on the subject by African scholars, particularly from the perspectives of social ethics and bioethics. This means that finding relevant information from African scholars for this study will present one of the limitations of the study. African ethicists rarely analyze or critique the ways in which African plant resources and knowledge systems which are used as basic resources in biotechnology are obtained. This is in spite of the fact that rigorous debates and social analysis on the rightness or wrongness of bioprospecting and intellectual property rights claims in other parts of the third world are taking place.

The study will not undertake to analyze public ventures of bioprospecting by communities or institutions that directly benefit African communities and their biodiversity. It will, further, only be limited to three case studies on bioprospecting and intellectual property rights claims, studies based on the African countries of Gabon, Zimbabwe and South Africa.

Further, only trade related aspects of economic globalization in relation to bioprospecting

and intellectual property rights will be analyzed, so that the role that the context of economic globalization plays in facilitating expropriation of African plant commons and knowledge will be elucidated. The reason behind this is that intellectual property rights are currently tied to global policies on trade, financial liberalizations and economic reform. These policies, in many instances, are used to motivate and justify bioprospecting activities by biotechnology companies under the guise of research and development. This, implies, consequently, that when companies claim intellectual property rights on African plant resources and knowledge, and privatise these, ideals of economic liberalization are lived out.

## **1.6 OUTLINE OF THE STUDY/ PROCEDURE**

This study will consist of 9 chapters including the introduction and conclusion. The present section concludes the task of the introduction. Chapter 2 will present three case studies on the bioprospecting of African plant commons and indigenous knowledge by multinational companies. These case studies will be derived from South Africa, Zimbabwe and Gabon. This will be to demonstrate, concretely, the ways in which northern multinational companies expropriate knowledge from Africa and claim it as their own. After presentation of these case studies an analysis will be made of how these companies - sometimes, through collaborative work with international and local research centers, universities, local institutions and other local individuals - work together to identify, document and appropriate knowledge on the medicinal and nutritional values of plant resources for commercial purposes.

The aim of presenting concrete case studies is to ground the study on the concrete experiences of African communities, a methodological approach which is employed and supported by African women theologians and ethicists who see this method as part of the process of hermeneutic and liberative praxis. Finally, this chapter will also explore the views of companies that engage in bioprospecting and those of communities whose plant commons and knowledge are appropriated and claimed as private property through the use of intellectual property rights.

Central to Chapter 3 is the analysis of TRIPS and the role that it plays in the bioprospecting of African plant commons and knowledge. I shall describe the core principles embedded in TRIPS and its requirements for World Trade Organization (WTO) members. I shall then display the ways in which multinational pharmaceutical and biotechnology companies deploy TRIPS to claim ownership and control of plant genetic resources and knowledge which have been in the public domain in Africa for generations.

I shall also draw attention to international and local laws which govern the acquisition of intellectual property rights on biological products, key instruments and institutions that facilitate claims of intellectual property rights in order to compare them to TRIPS. Further, the international institutions which design policy measures on the applications of intellectual property rights, for example the WTO and World Intellectual Property Organisation (WIPO), will also be analyzed and critiqued.

Chapter 4 examines the link between the bioprospecting of African indigenous knowledge systems and plant commons by biotechnology companies, on the one hand, and economic globalization on the other. The purpose is to find out whether economic globalization influences bioprospecting and claims on intellectual property rights or not. If so, to what extent and what are the implications of such influence. In order to understand comprehensively the role that economic globalization plays in promoting these issues, we shall explore the role of international trade laws, trade and financial liberalization measures which make it possible for African knowledge and plants to be expropriated and appropriated without any inhibitions by northern companies.

I shall provide detailed analysis of what economic globalization entails, some of its theories, values and its history and impact, particularly in relation to African biodiversity in general, and bioprospecting in particular. I shall also identify elements that reveal or give evidence to, or dispute, the belief that economic globalization facilitates privatization of African public commons and knowledge. Finally, I shall investigate the role played by biotechnology companies in appropriating these public commons and how they use international trade laws or trade rules to justify their conduct.



The purpose of chapter 5 will be to investigate the relation between the colonization of African countries or communities in the 17th to the 19th centuries and the contemporary phenomenon of the rush for genetic resources from plant commons and indigenous knowledge systems by northern multinational companies. The aim is also to map out the similarities and differences in the conduct of colonists and biotechnology and pharmaceutical companies in their confiscation and seizure of colonized lands and African knowledge and commons. In particular, I shall compare the ways in which colonizing countries used the legal doctrine of '*terra nullius*' to claim legal ownership of land in Africa, although there were people who already inhabited these lands. This will be compared to TRIPS, which are deployed by pharmaceutical companies to claim as private property indigenous knowledge and plant commons which have for generations been used by communities in Africa. Since bioprospecting and TRIPS impact on communities in Africa, I shall map out the ways in which communities allow, contest or resist the expropriation and appropriation of their resources and knowledge systems. The intention is to explore the implications of bioprospecting, biopiracy and TRIPS on social and faith communities which were impacted by colonialism and which today are faced with the challenge of their resources and knowledge being expropriated by biotechnology and pharmaceutical companies.

Chapter 6 will attempt to outline, describe, compare and analyze ethical arguments and theories made by proponents and opponents of bioprospecting and TRIPS. It will attempt to give clarity to the debates and to point a direction in which these arguments will be judged as liberative or oppressive to communities whose public knowledge and commons are expropriated and claimed as private property.

Chapter 7 consists of an attempt to configure and formulate ethically viable models against expropriation of African plant commons and knowledge by biotechnology and pharmaceutical companies via bioprospecting and TRIPS. The chapter will draw heavily from the latent wisdom of African ethics, culture and ecological justice. In particular, it will draw lessons from the concept of '*botho*' in Sesotho and similar notions from other African cultures or Wisdom. It will synthesize these with the norms and principles of

justice as articulated by social ethics and bioethics, which support the fair and just access, use and distribution of the resources and knowledge of the earth. In this chapter, therefore, our focus will be limited to discussing justice and ‘*botho*’ as guiding norms in the access, use and sharing of the earth’s resources for humanity and other creatures.

These principles of ‘*botho*’ and justice will also be used as the basis for configuring and advocating for justice and fairness against harmful uses of bioprospecting and intellectual property rights in Africa.

The aim of chapter 8 will be to explore models of sharing public knowledge and plant genetic resources which are based on ‘*botho*’ and ecological and distributive justice. *Botho*, distributive and ecological justice demand that the resources of the earth ought to be shared and used for the benefit of all humanity and other creatures. These norms, in the context of globalization, bioprospecting, biopiracy and TRIPS, require benefit sharing agreements. They also require the establishment of institutional, ethical and legal mechanisms and strategies to address abusive bioprospecting/ biopiracy and IPRS. This chapter, therefore, identifies three alternative mechanisms or models against bioprospecting/biopiracy and the harmful effects of TRIPS on Africans and their biodiversity. These models, I believe, are ethically viable as they seek to promote fair and equitable sharing of the earth’s resources. They also aim at protecting the rights of African communities, which are marginalized by these practices. The first institutional and legal alternative I suggest is the institution of a regulatory framework which engenders the protection of community rights and rejects the privatization and commoditization of life via intellectual property regimes. I suggest the application and implementation of the African Model Law, which was developed by the Organization of African of Unity (now the African Union) and which seeks to protect community rights, shape benefit sharing agreements, and protect Africans from ongoing colonialism and exploitation. The model law, as the name suggests, is only a framework that is aimed at helping African countries to shape their laws regarding the access, use and management of biological resources. Among other things, the African model law is an initiative of Africans, supported by social justice movements in Africa and worldwide.

The second model I suggest is the intensification of the pursuit for ‘botho’ and justice, particularly against the ethics and ideology of economic globalization. The primary concern of economic globalization is to extend market monopoly, control and to commoditize all aspects of life. I believe that life is not just subject to the market; that there are other values that shape our relationships, beyond the market profit motive; this therefore implies that the articulation of all other values that are important to life, beyond the market, would be a call to justice, and in turn will be the subversion of the supremacy of the market. I believe the market is one aspect of life, it is sometimes necessary, but it ought not to shape all there is to life.

Chapter 9 will conclude the observations made in this study. It will state how the study has achieved its goal of analyzing and configuring alternatives against the harmful effects of bioprospecting and TRIPS in the context of economic globalization. Not only will chapter 9 provide a summary of the study, but it will also identify and reassert the sources of hope fundamental to promoting justice and equitable access, use and sharing of the earth’s resources for the survival of African communities and biodiversity. It will assert the imperative for the fullness of life for Africans and their biodiversity, and for all other humanity.

## CHAPTER TWO

# BIOPROSPECTING OF AFRICAN INDIGENOUS KNOWLEDGE AND PLANT COMMONS BY MULTINATIONAL BIOTECHNOLOGY AND PHARMACEUTICAL COMPANIES - THEFT OR SCIENCE?

### 2.1 INTRODUCTION

Africa is a continent endowed with enormous biological resources. “The vegetation is characterized by unsurpassed natural variance; from the tropical forests in West and Central regions with their high degrees of endemism, to the huge savanna belt, which includes the famed rift valley; from the unique cape floral kingdom to the desolation found in the Sahara, Namib and Kalahari deserts” (Iwu 1997:181). Africa, with its wide-ranging vegetation, long history of human use of plants as medicine, food, work and leisure, is a rich source of leads for the development of new biological agents.

Many modern pharmaceuticals and everyday herbs owe their origin to Africa. Examples include the antileukemic plant drug *Catharantus Roseus*, *Rauwolfia Vomitoria* noted for its antiarrhythmic and antipsychotic activities, and Calabar bean, *physostigma venenosum*, the source of the glaucoma drug physostimine, which is currently being evaluated for the treatment of Alzheimer’s disease. Several other African plants are sold as phytomedicines and nutraceuticals in herb shops throughout the world. Major examples include *Agathosma Betulina* (Buchu Oil), *Aloe Ferox* (aloe bitters), *Apalanthus linearis* (Rooibos tea), *Cyclopia spp.* (honey bush tea), *Harpagophytum procumbens* (devils’ claw), *Artemisa Afra* (African worm-wood), *Scilla natalensis* (ingusuza), *Warburgia Salutris* (Bhaha), *Catha Edulis*, *Tebernathe iboga*, *Cola spp*, Coffee Arabica and pygium Africanum (Iwu 1997:181).

Although several important plants (medicinal, nutritional and cosmetic) owe their origin to Africa, how they have been expropriated and commercialized has not been deeply explored by scholars in Africa. Many of these plants have become international commodities through processes of bioprospecting and trade related aspects of intellectual

property rights.

This chapter sets out to explore how African plant commons and indigenous knowledge associated to them are prospected, and thereafter claimed as private property and patent rights by northern multinational pharmaceutical and biotechnology companies. In order to do this, I first present three case studies on bioprospecting by these companies in South Africa, Zimbabwe and Gabon. My central purpose is to illustrate concretely the ways in which they expropriate and appropriate knowledge from Africa and claim it as their own. These case studies include the prospecting of knowledge and plant resources from South African Hoodia Cactus, for the development of a slimming medicine against obesity; the bioprospecting of Gabon's berry, J'ouble, and knowledge about it as well as its development into a sweetener; and the bioprospecting of *Swatzia Madagascariensies* and claims of private and intellectual property rights on knowledge about it. These case studies demonstrate the ways in which northern companies acquire ownership of genetic resources and knowledge of African communities through bioprospecting and trade related aspects of intellectual property rights.

After a presentation of these case studies an analysis of the ways in which these companies operate will be made. Bioprospecting often takes place through collaborative work among international and local scientists, as well as between local and international public and private research centers, universities and other media. In most cases it is aimed at identifying, documenting, screening and appropriating biological resources and knowledge on the medicinal and nutritional values of plant resources for commercial purposes.

The aim of presenting real case studies on bioprospecting and intellectual property rights (IPR) claims on African plant commons and indigenous knowledge embedded in them is to ground the study on the concrete experiences of African communities. African women theologians, feminist scholars, ethicists, contextual and liberation theologians often employ case studies as pedagogical and hermeneutical tools, as well as to gain insights for their ethical discernment. The rationale behind presenting case studies is to demonstrate that ethical discernment ought to be shaped by reason and emotion. It is to

demonstrate that human beings claim their integrity not only from thinking but also from feelings, among other factors. It is also to subvert the dominant idealist view, contained in the words of the French philosopher, Rene Descartes, 'I think therefore I am' (cited by Kumar 2000:1). An understanding of ethics which takes seriously the experiences of people on earth is necessary for their liberation from aspects of life which deny them the fullness of life.

Finally, this chapter will evaluate the views of companies that engage in bioprospecting and those of communities whose plant commons and knowledge are expropriated, appropriated and claimed as private property through bioprospecting and intellectual property rights.

## **2.2 DEFINITIONS AND CLARIFICATION OF TERMS**

Some of the keywords used in this study are: indigenous knowledge, biodiversity, bioprospecting, biopiracy, trade related aspects of intellectual property rights and commons.

### **2.2.1 Indigenous knowledge**

The term 'indigenous knowledge' refers to knowledge that has been gathered by indigenous communities over time, which is not the prerogative of any one individual or group of individuals. According to Shiva, "such knowledge belongs to a pool of knowledge and any further knowledge gained through innovation is added to this common pool" (Shiva et al 1997:172). Indigenous knowledge is shared freely and does not become the exclusive property of any one person or community, because knowledge about it has been developed collectively. Brush (1996:4) suggests that "indigenous knowledge includes the botanical or pharmacological lexicons of peasants and tribal people, farmers' knowledge of soils, hunter's knowledge of animals, knowledge of yeast and dough, shaman's ability to read oracle bones, and the rules of football played in schoolyards and sandlots around the world." He is of the view that broadly defined, indigenous knowledge entails the systematic information that remains in the informal

sector, usually unwritten and preserved in oral tradition rather than texts. He also refers to it as “the knowledge systems of indigenous people and minority cultures” (Brush 1996: 4).

### **2.2.2 Biodiversity**

Biodiversity includes all biological resources that are normally classified as ‘wild’ or cultivated. Species or varieties considered ‘wild’ have been called ‘gifts of nature’ and hence are supposed to be the common heritage of humankind to which communities cannot claim any form of rights. However, communities have used their knowledge and innovation to develop cultures that maintain and protect the ecosystems in which these wild species exist. This implies that wild species embody cultural and intellectual contributions of communities. Shiva et al (1997:173) suggest that

species which are categorized as cultivated or domesticated also embody the cultural and intellectual contributions of communities who have identified, screened, selected and bred these varieties, constantly maintaining them and improving them ... For legal purposes biodiversity may be classified into agricultural biodiversity, medicinal and plant biodiversity.

### **2.2.3 Bioprospecting**

The term ‘bioprospecting’ refers to the search for leads to finding new information and genetic resources through screening plants, animals, people, *inter alia*, from countries of the south to be processed in the industrialized countries. The primary objective is to find useful biological products for the development of new commodities, such as genetically modified organisms (GMOS). Suthersanen (1999:53) suggests that bioprospected resources can be grouped into organic and informational resources.

Organic resources encompass not only plants and their chemical diversity, but also microbial diversity and marine and species diversity. Organic resources can be available in tangible organic resource form of the chemical or genetic knowledge stored within the plant or animal, both in the phenotype (the observable characteristics of individual plants and animals), and the genotype (the genetic composition of plant or animal).

Suthersanen says informational resources are often derived from various sources, including established gene banks, seed banks, databases or compilations of information. She says human cultivated information, more often than not, resides in indigenous/local communities and peoples and it is normally expressed through oral tradition. It can sometimes be found in written form. In order to access both organic and informational resources for bioprospecting, “pharmaceutical and biotechnology companies are interested not only in microbes, plants and indigenous knowledge systems... [;] they are also interested in the very bodies of indigenous peoples” (Suthersanen 1999:53).

To substantiate the view advanced in the above paragraph, Kimbrell (<http://www.resurgence.gn.apc.org>). makes the following point:

For decades the United States and other industrialized countries have been buying the blood of the poor in the third world and selling it on open market. Now scientists and researchers are tracing to locate, identify and find commercial uses of human genes from various indigenous populations. The search for valuable human genetic material is fuelled by the fact that human genes and cells are now patentable. Over the past decade the US patent office has allowed patents on human genes, cells and cell lines. The lure of patent profits is leading a growing army of international gene hunters hoping to find potentially profitable genetic materials from third world peoples.

#### **2.2.4 Commons**

Commons are resources of the earth, which cannot be claimed as anyone’s property. They are sometimes referred to as products of common heritage. They are “resources to which no single decision-making unit holds exclusive title (Wijkman, quoted by Vogler 2000:2). Vogler further suggests that the term, “commons”

has its origins in the medieval times when pasture and woodland were by custom set aside for the joint use of villages. In England the common lands were transferred to private ownership in various waves of enclosures in the sixteenth and then the eighteenth and nineteenth centuries. Elsewhere in the world a variety of common property regimes have continued to exist, exercising collective stewardship over fisheries, pastures and irrigation systems. These ‘village commons’ have a small scale community basis and in many parts of the world, rights to common property resources are all that separates the landless and the land-poor from destitution (Vogler 2000:2).



### **2.2.5 The Agreement on Trade Related Aspects of Intellectual Property Rights:**

The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) forms part of the legal obligations of the World Trade Organisation (WTO) which undertake to oblige countries to protect the following seven types of IPR, namely, copyrights and related rights, trademarks, geographical indications, industrial designs, patents, layout designs of integrated circuit, and undisclosed information. It was agreed to by members of the WTO in 1995. According to Watal (2001:2) it is by far, the most wide-ranging and far-reaching international treaty on the subject of intellectual property to-date and marks the most important milestone in the development of international law. It has undertaken many new areas which were not considered the purview of international law in the past, for example:

- Prescribing detailed standards for domestic enforcement of TRIPS;
- Providing IPR protection on life-forms, including micro-organisms, food, pharmaceuticals;
- Prescribing the control of anti-competitive practices in the licensing of IPR
- and, ensuring that it becomes a binding treaty for all WTO members.

It is also one of the first international agreements which has increased the level of minimum standards of IPR laws.

These key words are important in order to understand fully the contextual analysis of the problem under discussion, which is the bioprospecting of African plant commons and knowledge (by northern multinational companies) and their privatization through the use of intellectual property rights regimes, such as the agreement on Trade Related Aspects of Intellectual property rights (TRIPS). In the next section we, outline three examples of bioprospecting of African knowledge and resources.

### **2.3 CASE STUDIES OF BIOPROSPECTING AND BIOPIRACY IN AFRICA**

The following case studies illustrate how African commons and indigenous knowledge are appropriated and patented by northern pharmaceutical companies, institutions and

individuals from industrialized countries.

### 2.3.1 Case Study 1: The San and P57 Anti-Obesity Agent from Hoodia Cactus

In 1997, the pharmaceutical giant, Pfizer, acquired a license from Phytopharm, a British biotechnology company which had struck a licensing deal with the South African Council for Scientific and Industrial Research (CSIR). Phytopharm sold to Pfizer the rights to develop and market P57- an active ingredient of the Hoodia Cactus - as a potential slimming drug and for the cure of obesity, a market which was claimed to be worth more than £6 billion. The *Basarwa*, commonly referred to as the San, who live around the Kalahari Desert in Southern Africa, bordering South Africa, Namibia and Botswana, have traditionally eaten the Hoodia cactus to stave off hunger and thirst in the dry desert and desolate conditions they live in. Upon hearing of the possible exploitation of their traditional knowledge and plant common, the San people threatened legal action against the CSIR on grounds of biopiracy. They claimed that their traditional knowledge and plant common had been used to locate p57- the useful agent for curbing appetite. They further claimed that the CSIR had failed to act in accordance with the rules of the Convention on Biodiversity, which oblige prospectors to seek prior informed consent of the users of knowledge and resources in the public domain. They also challenged CSIR, Phytopharm and Pfizer, on the grounds that prior informed consent of all stakeholders, including the original discoverers and users, ought to be established.

When the chicanery was uncovered, Dr. Marthinus Horak, head of the CSIR Project, swore that he had always intended to tell the San about the spoils ... he was first waiting for the drug to be approved and patented before telling them...Richard Dixey, Phytopharm's CEO ...claimed that he had set up phytopharm to help indigenous people benefit from their ancient medicinal knowledge, yet he added [that he had] 'honestly believed that these bushmen (the San) had died out(Commey <http://www.mpelembe.mappbiz.com>).

Dixey, however, "claimed that it was the CSIR which had told him that the San were extinct, and that agreements had been signed to assist local

communities” (Commeey <http://www.mpelembe.mappbiz.com>). In March 2002, a benefit sharing agreement (which was confidential) between the CSIR and the Basarwa, which recognizes the Basarwa as the custodians of traditional knowledge associated with the Hoodia cactus, was reached.

### **2.3.2 Case Study 2: Gabon’s J’ouble: A Patented Sweetener**

Gabon has one of the sweetest berries known to the local people as J’ouble (*Pentadiplandra Brazzeana*) and internationally as Brazzeine berries. They are claimed to be “2000 times sweeter than Sugar” (Commeey <http://www.mpelembe.mappbiz.com>). Goran Hellekant, a Swiss scientist, watched locals eat J’ouble and decided there was something of value in it. After observing the uses of J’ouble from the Gabonese, he and his team of researchers, from and funded by the University of Wisconsin, screened j’ouble, isolated, sequenced and synthesized its DNA information and genetically modified it in a laboratory for the development of sweetener. Hellekant and his team of researchers thereafter claimed intellectual and private property rights over the genetically modified derivative of J’ouble. They were granted three patents by the government of the United States of America between 1994 and 1998 despite the fact that the uses and qualities of j’ouble have long been known by the people of Gabon and West African people in general. “These are US patent number 2,326,580; US number 5, 346,998 and US 5,527, 555 on proteins isolated from berries indigenous to Gabon and known locally as J’ouble” (Action Aid 1999).

The University of Wisconsin, which had funded Hellekant’s research, supported his claims for patents as the sole inventor of the potentially lucrative sweetener from J’ouble. Goran Hellekant and his research team were thus rewarded and granted patent rights for isolating, modifying and providing DNA information on J’ouble. The consequences of bioprospecting and intellectual property rights claims on J’ouble are that it provided industry the opportunity of producing large quantities by artificial means at low cost.

However, it rendered Gabon's method of production outmoded and redundant, thus marginalizing Gabonese people from their means of survival. When Hellekant and the University of Wisconsin claimed the three patents listed above they did not acknowledge the local knowledge and innovation of the West African people associated to Brazzeine berries. The contradiction was that "the isolation and reproduction of the berry in the US laboratory has been acknowledged"(Action Aid 1999) through the granting of the three patents listed above. Gabonese people, who had used them, were neither acknowledged nor compensated for their knowledge and effort in conserving and preserving J'ouble.

### **2.3.3 Case Study 3: Privatization of Zimbabwe's Knowledge on 'Swartzia Madagascariensies'.**

In Zimbabwe, the Community Technology and Development Association (CTD) and the Zimbabwe's National Healers Association (ZNHA), with the support of an international non-governmental organization, Berne Declaration, have since 2000 been objecting to the granting of patent rights (US 5, 929,124) to several applicants. These included a Swiss scientist and professor at the University of Lausanne, Doctor Kurt Hostettman; the University of Lausanne; and Phytera - an American pharmaceutical company - all of whom claimed patents from the United States on an anti-microbial diterpenes based on public and traditional knowledge from Zimbabwe and from the roots of a tree, '*Swartzia Madagascariensies*', found in tropical countries within the African continent. "*Swartzia* is a perennial non-climbing shrub used as wood, toxin or medicine" (Commey <http://www.mpelembe.mappbiz.com>) in Africa. Commey (<http://www.mpelembe.mappbiz.com>) further points out that "neither the State of Zimbabwe nor the traditional leaders affected by this bioprospecting were informed. There was no prior informed consent for the search of genetic resources in Zimbabwe and no benefit."

## 2.4 BIOPROSPECTING AS BIOPIRACY

‘Bioprospecting’ is a word that has recently been coined to describe the practice of collecting and screening plant and other biological material for commercial purposes, such as the development of new drugs, seeds and cosmetics. Suthersanen (1999:53), in agreement with this description, suggests that a wide definition of bioprospecting is “the search for valuable wild genetic resources found in wild plants, animals and micro-organisms. The main output is to gather enough resources so as to enable the successful development of new products including drugs, crops, industrial products and consumer products.” Bioprospecting generally denotes the search for crude material from countries of the third world to be processed in the industrialized countries. The primary objective is to identify biologically active compounds to be developed into pharmaceutical agents and/ or genetically modified organisms. According to Iwu (1997:182), four methods are usually employed in the selection of plants for biological tests: (1) the random approach, in which species’ are collected at random to cover as many species’ as possible; (2) the taxonomic and chemotaxonomic approach, which utilizes the classification of plant species as guide to select plants to be screened; (3) the ecological approach, and (4) the ethno biomedical approach.

Bioprospecting of African resources and those of other countries of the third world by northern companies has given rise to some ethical issues that need to be attended to. For instance, some scholars argue that bioprospecting has become a form of biopiracy. This piracy, they argue, is aided by international laws such as TRIPS, which predominantly advantage corporate sectors and disadvantage communities whose resources are prospected. In agreement with the above sentiment, the Rural Advancement Foundation International (RAFI) and Karen Lutz (1999:8 [http:// www.biotech-info.net](http://www.biotech-info.net)) argue that biopiracy should be understood as “the legal claims of ownership of biological resources, products and processes that are based on the innovation, creativity and genius of the South.”

Biopiracy, therefore, refers to the use of intellectual property rights systems to legitimize exclusive ownership and control over knowledge and biological resources without

acknowledgment, recompense or protection of the contributions of local or indigenous community innovators. Dutfield notes:

The bioprospecting /biopiracy debate has pitted corporations against a number of developing country governments and indigenous peoples, who claim that they are being exploited by such practices. It has also led to tensions between academic researchers who have long studied biological resources from primarily scientific reasons and maintain that ethically sound and non-exploitative bioprospecting is possible ... some researchers have concluded that bioprospecting is another name for biopiracy” (Dutfield 2000:1).

Vandana Shiva, an Indian Academic and social justice activist, equates bioprospecting in the South by Northern multinational companies to biopiracy. Shiva (2001:65) says the metaphor for bioprospecting is borrowed from the ‘prospecting of gold or oil,’ and it operates under the pretext that the resources that are being bioprospected lay “buried unknown, unused and without value”. For Shiva, bioprospecting hides the prior use of these resources and knowledge by local communities, as if communities did not know the values and uses of such knowledge and biodiversity. She argues that bioprospecting is being promoted as the model for relationships between corporations which commercialize indigenous knowledge, and indigenous communities which have collectively innovated and evolved the knowledge (Shiva 2001:63). For Shiva bioprospecting is merely a sophisticated form of biopiracy.

In *Protect or Plunder? Understanding Intellectual Property Rights*, Shiva defines biopiracy as “the use of intellectual property systems to legitimize the exclusive ownership and control over biological resources and biological products and processes that have been used over centuries in non-industrialized cultures” (Shiva 2001: 49). She further points out that intellectual property systems of countries of the North promote biopiracy of the knowledge and plant resources of the Third world in three ways. She uses the example of the United States intellectual property systems to illustrate this, arguing that the promotion of piracy is not an aberration in the US patent law. It is intrinsic to it. She asserts that this is due to the fact that intellectual property rights (IPR) regimes are based on the ideals of the market, free trade and trade liberalization.

According to Shiva, intellectual property rights become the conduit and instruments for

pirating resources from the third world at three levels. These are:

- a. Resource piracy: “in which the biological and natural resources of communities and the country are freely taken, without recognition or permission, and are used to build up global economies.
- b. Secondly, intellectual and cultural piracy, in which the cultural and intellectual heritage of communities and countries is freely taken without recognition or permission and is used for claiming IPR such as patents and trademark even though the primary innovation and creativity has not taken place through corporate investment.
- c. Thirdly, economic piracy in which the domestic and international markets are usurped through the use of trade names and IPR, thereby destroying local economies and national economies where the original innovation took place and hence wiping out the livelihoods and economic survival of millions (Shiva 2001: 62).

Shiva argues that patent claims by northern companies over biodiversity and indigenous knowledge based on the innovation, creativity and genius of the people of the third world, are acts of biopiracy. She is of the view that, since a patent is given for an invention, a biopiracy patent denies the innovation embodied in indigenous knowledge.

The rush to grant patents and to reward invention in the countries of the north consequently leads northern multinational corporations and their governments to ignore centuries of cumulative and communal innovation of generations of rural communities of the South in general and Africa in particular. Shiva also alleges that biopiracy occurs because of the inadequacy of western patent systems and the inherent western bias against other cultures and knowledge systems. In her words, “Western culture has suffered the ‘Columbian blunder’ of the right to plunder by treating other people, their rights and their knowledge as non-existent,” (Shiva 2001: 50). She thus refers to this phenomenon as “Bio-nullius” (Shiva 2001:50).

In Shiva’s words, “bio-nullius refers to treating biodiversity knowledge as empty of prior creativity and prior rights, and hence available for ownership through the claim to

invention” (Shiva 2001:50). The definitions of bioprospecting provided above do not seem to display an elaborate distinction between bioprospecting and biopiracy. In other words there appears to be no distinction between the two words. Consequently, it seems appropriate to consider bioprospecting, when applied exploitatively, as a form of biopiracy. Our purpose in the next section will be to illustrate briefly how plant and informational resources are prospected. It is also to explore the history and reasons behind bioprospecting in Africa. This will be followed by an exploration of how multinational pharmaceutical and biotechnology companies work with institutions, both international and local, to source information and plants for biodiversity prospecting.

## **2.5 A BRIEF HISTORY OF BIOPROSPECTING/BIOPIRACY:**

Indigenous knowledge, or what other scholars, for example, Brush (1996) refer to as ethno-botanical knowledge, is considered as a conveyor of experiences based on the direct dependence on natural systems. The phenomenon of harvesting ethno-botanical knowledge is not new, and has often been anchored to some sort of economic extraction and production cycle.

Suthersanen (1999:53), like Shiva, links bioprospecting to colonization of the third world and Africa, in particular.

Early colonial expeditions yielded the discovery of chocolate, tobacco, maize and potatoes as a result of ethno-botanical knowledge. The field of ethno-botany, introduced in the nineteenth century was promoted as a socio-economic cause which would eventually offer valuable information of methods of husbanding resources, the distribution of plant species, trade route and new lines of manufacture (Suthersanen 1999:53).

According to her, what is equally ancient is the subsequent use of indigenous knowledge. The recent rush in expropriating resources and indigenous knowledge from the countries of the third world has been aggravated by a number of events. Examples include the 1980 court case of Diamond Vs Chakrabaty. Another is the signing and enforcement of TRIPS as an internationally binding multilateral regime, for members of the WTO, on intellectual property rights. To demonstrate how the two examples above influenced bioprospecting of biological resources and indigenous knowledge, Kimbrell remarks that



“modern-day biopiracy is not just the product of new science and corporate greed, but also of the new law”(Kimbrell, <http://www.resurgence.gn.apc.org>).

The economic trigger for bioprospecting, according to Kimbrell , was provided by a little-known 1980 US Supreme court decision on Diamond VS. Chakrabarty. The judgement to this case made it an unheralded court decision, one of the most important judicial decisions of the twentieth century as it facilitated claims of property rights on plant materials. The case began in 1971 when a United States citizen of Indian descent and a Microbiologist, Ananda Mohan Chakrabarty, an employee of General Electric (GE), developed bacteria that could digest oil. That same year, GE applied to the US patent and Trademark Office (PTO) for a patent on Chakrabarty’s genetically engineered oil eating bacteria. This became a landmark case and an inspiration for the multinational corporate sector to engage in biodiversity prospecting and to claim intellectual property rights on plant resources and knowledge associated to it. It was the first time that a court of law allowed products of nature to be patented. Before this case there had never been a law that allowed the patenting of products of nature.

The second reason which spurred the scramble for the plant commons and knowledge from the South through bioprospecting was the signing of the Marrakech agreement, particularly the component on TRIPS. Dasgupta (1999, <http://www.flownnet.com>) says that multinational companies (MNC’s) began to scour poor countries in April 1994, following the signing of the Marrakech Agreement, particularly the TRIPS component, when countries which were a party to the agreement were asked to protect (individualize) their plant varieties by means of patent legislation.

Time-bound proprietary rights began to be bestowed on individuals or companies instead of on the communities with a traditional knowledge base...only; the patent holder is legally authorized to produce or to regulate production by selling, leasing or mortgaging such rights. Anyone producing those products without the permission of the patent holder, obtained in exchange of a fee or royalty, would be violating the holders’ legal rights (Dasgupta 1999, <http://www.flownnet.com>).

These two issues, to a large extent, spurred the scramble to Africa and the expropriation

of biological resources and indigenous knowledge held as commons by communities in Africa. Since these resources and indigenous knowledge associated to them are not seen as private property, and their access or use is not protected by international intellectual property regimes such as TRIPS, they became susceptible to bioprospecting ventures of multinational companies which want to expand their products, markets and corporate control. This was also because, according to intellectual property laws, all knowledge which is not in the mainstream of western systems, and not protected by any intellectual law, can be taken by anyone and converted into private property, as long its products and processes are new and display an inventive step.

## **2.6 THE REASONS BEHIND BIOPROSPECTING AND BIOPIRACY**

There are other reasons that lead multinational pharmaceutical and biotechnology companies to engage in bioprospecting of knowledge and plant commons of African countries. Dutfield (2000), Suthersanen (1999), and Reid (1993b) refer to a number of reasons that have spurred bioprospecting and claims of intellectual property rights on indigenous knowledge and plant commons in Africa and the South in general. According to Dutfield (2000:1, <http://www.scidev.net>), “companies that sponsor bioprospecting expeditions, in particular from the pharmaceutical or food industries, hope to find information from the biological resources they collect that will lead to new products, for example, novel drugs. Some of these expeditions also seek to acquire useful information about such resources from local people, including in the case of drugs, native healers”. Suthersanen (1999:52) attributes the increase in bioprospecting to a number of things. First, to the fact that:

The biotechnological landscape has altered considerably since its inception from a purely laboratory-base activity to the active prospecting for useful information in plants, animal and insects, the latter activity being concentrated in areas high in biodiversity material... second, to the successful and profitable gains that have accompanied the discovery of some chemical compounds, such as the detection of *taxol*, an anti cancer drug, in the fungus of yew tree Montana (Suthersanen (1999:52).

Thirdly, she attributes the intensity of bioprospecting to the continued improvement and advance of biotechnology. According to her, the developments in biotechnology

guarantee that bioprospecting activities will increase.

Reid et al (1993:12) agree with this third view. They say that “biotechnology has also opened the door to greater use of biodiversity in agriculture. Genetic diversity has always been a key raw material in agricultural research, accounting for roughly one half of the gains in the US agricultural yields from 1930 to 1980.” According to them what has made this possible is that “whereas, previously, only close relatives of crops could be used in breeding programs, now the genes from the entire world’s biota are within reach,” and the genes of different species can be used in genetics (Reid et al 1993:13).

In demonstrating the influence of biotechnology on bioprospecting, Reid et al (1993:13-14) cite the examples given by Molnar and Kinnucan (1989) and Gasser and Fraley (1992) on how the improvements in biotechnology have spurred the search for new genes. One example is that a gene responsible for a sulfur-rich protein found in the Brazil nut has been isolated, cloned, and transferred into tomatoes, tobacco and yeast. And pest resistant genes from the bacterium *Bacillus thuringiensis* (Bt) have been transferred to tobacco, tomatoes, potatoes and cotton. The hope by biotechnology companies, therefore, is to find groundbreaking knowledge or plant resources which would deliver similar results as the above example.

Reid et al (1993:14) also point out that the demand for genetic resources in agriculture is thus likely to grow substantially as techniques for genetic manipulation are improved and investments in research begin to pay off. While much of this demand will be for genes from domesticated species, wild species too will increasingly be the focus of searches for novel genes. The driving force behind the evolution of new institutions and activities concerned with biodiversity- bioprospecting has been the growing demand for new genes and chemicals and a growing awareness that an abundant and virtually untapped supply of these resources exists in wild land biodiversity of countries in the south, such as Africa, Asia and Latin America. While genetic and biochemical resources have long been important raw materials in agriculture and medicine, biotechnology is opening a new frontier.

Another quite different stimulus to natural products research has come from decades-old ethno-pharmacology - the study of medicines used by traditional communities. Leads based on the use of plants or animals in traditional medicine can greatly increase the probability of finding a commercially valuable drug. For small pharmaceutical companies, drug exploration based on this indigenous knowledge may be more cost effective than attempting to compete in expensive random screening ventures (Reid et al 1993:7).

The authors point out that many industries using genetic and biochemical resources produce high value commodities and thus enjoy substantial gross earnings from the commercial products.

They say,

While bioprospecting can return profits to source countries, institutions, and communities, the amounts involved are likely to be small relative to the market value of the final products, and a decade or more may pass before significant revenues materialize. A good chance exists that no commercial drugs will be produced and late comers may find a market already saturated with suppliers. On the other hand given the scale of revenues generated in the pharmaceutical industry, even a relatively small share of net profits may amount to extremely large revenues for a developing country. And if nations add value to genetic resources domestically and build technical capacity from improving resources themselves, biodiversity prospecting could become an important component of a nation's economic development strategy (Reid et al 1993:18).

Andre Kimbrell also supports this view. For him "bioprospecting is a potential gold mine for both science and business, since genetic material found in the developing world may yield cures for diseases as well as cash" (Kimbrell , <http://www.resurgence.gn.apc.org>). He argues, however, that

what also looms on the horizon, and in fact is already occurring in many parts of the developing world, is 'biopiracy', where corporations use the folk wisdom of indigenous peoples to locate and understand the use of medicinal plants and then exploit them commercially without acknowledging or even sharing resources with communities or countries where these are taken from (Kimbrell <http://www.resurgence.gn.apc.org>).

To illustrate the exploitative nature of bioprospecting, he says scientists from the US and Europe, hoping to find cures and billions of dollars, have gone to the extent of even taking “samples of the blood, hair and saliva of indigenous peoples. Indigenous people’s knowledge, their resources and even their bodies are being pirated, yet they receive little or nothing in return” (Kimbrell, [http:// www.resurgence.gn.apc.org](http://www.resurgence.gn.apc.org)).

Given the evidence that pharmaceutical companies tend to be the beneficiaries of bioprospecting and claims of intellectual property rights, it would seem important to find out how communities participate in bioprospecting activities and how they challenge exploitative forms of bioprospecting/biopiracy. We assess below how northern multinational biotechnology and pharmaceutical companies work with different players in engaging in bioprospecting and what forms of challenges communities encounter when their knowledge and plant resources are exploited. We also identify the different players that biotechnology and pharmaceutical companies collaborate with in bioprospecting activities. Thereafter we identify the roles of communities and the ways they challenge bioprospecting, particularly bioprospecting that is tantamount to biopiracy.

## **2.7 LOCAL AND INTERNATIONAL INSTITUTIONS IN BIOPROSPECTING AND BIOPIRACY**

Karen Lutz suggests that multinational pharmaceutical and biotechnology companies use a variety of approaches to source biological resources and indigenous knowledge held in common, which they lay their hands on. She says:

Bioprospecting companies often depend on their skills (or sagacity) in order to have access to biodiversity, to control it and patent it. Their objective is to have exclusive rights to enter into an area of great diversity (almost always in the southern hemisphere countries), to extract from there, microbes, bacteria, living tissue, blood, etc., to carry out experiments on this material and then to patent any product that turns out to be useful” (Lutz 1999:8).

She highlights that agreements are generally signed with governments of the countries with great biodiversity in the South. Lutz is of the view that the signing of these agreements often includes direct or indirect monetary compensation, plus, sometimes, a

portion of the royalties generated by the commercial exploitation of the resulting products. She says that often the lawyers of these companies try to see that the agreements grant them exclusive and unrestricted access to biodiversity of these countries.

Pharmaceutical and biotechnology companies increasingly work with intermediaries from private and public sectors such as Universities, non-profit organizations, private-for-profit businesses that provide companies with plant genetic resources and information about them (Lutz 1999:8, <http://www.biotech-info.net>).

In concurrence with the above statement, Reid et al (1993: 28) suggest that bioprospecting companies or their intermediaries “can support or undermine the conservation and sustainable use of biodiversity, whether they are public or private and whether they are located in the source country or in a foreign land.” Bioprospecting has resulted in the evolution and emergence of new intermediary arrangements which facilitate access to genetic and biochemical resources and which transfer their ownership to the pharmaceutical agriculture of biotechnology industry.” They also point out that a wide range of institutions which are aimed at bioprospecting already exists, and many more are being planned. They give as an example INBio, which is a non-profit organization which was established by the government of Costa Rica to facilitate bioprospecting of biodiversity by public and private entities. INBio uses its income and donations to support a wide array of conservation actions. It also collaborates with the national government Ministry of Natural Resources, Energy and Mines, and facilitates bioprospecting activities with the private sector to support its conservation mission.

Collaborative bioprospecting activities by pharmaceutical and biotechnology companies, local universities and institutions, and international research institutes often take place in a variety of honest and sometimes dishonest ways, where representatives or intermediaries of these companies either declare their intentions of bioprospecting or where they operate under the pretext of promoting biodiversity conservation. For instance, some claim to be pro-conservation because they promote local activities such as saving representative samples of wild biodiversity in protected wild lands. Sometimes

they pretend to be eco-tourists when they are actually locating and mapping where biodiversity is and where it is to be found in the wild lands as well as what is available in it. Finally, bioprospecting representatives or bioprospectors often operate under the pretext that they are admiring nature and aesthetics when actually they are gathering information from local people on the importance of their biodiversity. Reid et al (1993: 27) argue “that nearly all of bioprospecting programs have a commercial agenda”.

The case study on Hoodia Cactus illustrates to some degree the way that multinational companies work with both private and public institutions in bioprospecting activities. First, the initial bioprospecting was conducted by the Council for Scientific and Industrial Research (CSIR), which is a parastatal national institution. CSIR first prospected information and knowledge from the Basarwa, embarked on the screening of Hoodia Cactus and after discovering P57, the agent that staves off hunger, it (CSIR) patented it in South Africa. Thereafter CSIR sold the license to develop and market the product to Phytopharm, which is a small pharmaceutical company based in Britain. After buying the license to produce commercially and market P57, phytopharm decided to sell to and license Pfizer, a large multinational company, to develop the slimming product based on the knowledge on Hoodia Cactus. The silence around the sale of P57 to phytopharm by CSIR, and to Pfizer by both CSIR and Phytopharm reveals some of the imprudence that such collaborative activities yield. It is clear that if the Basarwa had not evoked the *Convention on Biological Diversity* and challenged the patenting of P57 and the use of their knowledge without their consent, which was the basis for the discovery of P57, they would not have been compensated.

## **2.8 CRITICAL ANALYSIS AND KEY ISSUES ON BIOPROSPECTING AND BIOPIRACY IN AFRICA**

There are a variety of problems that result from the prospecting and piracy of African knowledge and plant resources by northern companies. Firstly, bioprospecting operates under the pretext that no knowledge already exists on plants that are bioprospected. Moreover, “patenting from bioprospected plants and knowledge to a large extent violates the principles of ‘novelty and non-obviousness,’ which are core to intellectual property

rights” (Dasgupta 1999, <http://www.flownnet.com>).

In concurrence with this statement Shiva suggests that:

The *modus Operandi* of MNCs has been to collect the plant varieties and their germplasms from poor countries in order to cross breed them with other varieties, and claim that they had invented something novel, non-obvious and of practical use (which are requirements for acquiring patent rights), and then to patent them in their own countries or in any other country of their choice (Shiva 2001:63-64).

Secondly, bioprospecting leads to the enclosure of commons by taking biodiversity and intellectual heritage of indigenous communities and converting them into commodities protected by IPR, which action consequently erodes the collective innovation of many persons who contributed to such plants and knowledge over time. Thirdly, bioprospecting, followed by claims of invention and ownership of knowledge and plant resources of the South, reveals a Western bias in delimiting ownership and property rights. This is done in a way that causes public resources to be transferred from common ownership to private ownership, thus consequently resulting in the transfer of the control of biodiversity from communities which have owned them for generations, to multinational companies.

Fourthly, because it diverts public commons to the private sector, bioprospecting results in threats to food security and survival of communities whose knowledge and plant commons are commercialized. This is because when plant resources and knowledge are publicly owned, communities can use them for sustenance of their lives without having to buy them in the commercial sector. Farmers can also save and reuse seeds in ways that sustain the livelihoods of their families and communities. Privatization of plant resources and knowledge about them through bioprospecting leads to erosion of community rights to the use of such resources. In the end, this leads to the monopoly control of life by biotechnology and pharmaceutical companies that engage in bioprospecting, and alienates communities that have used these resources for centuries. For example, when resources or microorganisms of bioprospected plant commons are privatized, communities have to seek permission to use these plant resources from pharmaceutical and biotechnology companies which prospected them from communities, thereby



rendering communities dependent on the market.

Fifthly, bioprospecting is also harmful because it lacks equitable sharing of the benefits accruing from it. Equity refers to the quality of being fair or balanced. These companies do not counterbalance the knowledge and plant resources of the countries of the South which they prospect. Brush (1996:10) says those who stress the inequity of the current intellectual system and bioprospecting often downplay the importance to less developed countries of germplasm and other technology deriving from industrialized countries' public research and international development.

Finally, bioprospecting and intellectual property rights deriving from bioprospected information or plant resources promote exclusion and secrecy. For instance, this is explicit in the case of Hoodia Cactus, where CSIR knew about the patenting of P57 and its sale to Phytopharm and Pfizer, while communities and Basarwa in general were not aware of these developments.

According to Lutz, the problem with bioprospecting agreements is that they are "rarely known about prior to the signing, nor is there any provision for the gathering of opinions from interested parties in 'host' countries" (Lutz 1999:9, [http:// www.biotech-info.net](http://www.biotech-info.net)). This view is true the case study on Hoodia Cactus. The Basarwa, who had utilized these products for ages, only recognized what CSIR, Phytopharm and Pfizer were doing when the bioprospecting activity was in its advanced stages. What is also instructive is the fact that had the Basarwa not intervened, CSIR, Phytopharm and Pfizer could have enjoyed the commercial benefits of bioprospecting and intellectual property rights deriving from Hoodia Cactus without sharing the benefits with them.

A similar trend can be noted from the case studies on *J'ouble* and knowledge based on *Swartzia Madascrarensies*. The patenting of a sweetener from *j'ouble* by the University of Wisconsin, and of *Swartzia Madascrarensies*, were both based on the indigenous knowledge of communities in Gabon (West Africa) and Zimbabwe. Claims of ownership of these products by these companies and individual researchers were awarded to these individuals and institutions by the United States Patent offices, as illustrated in the case

studies, as if these products were novel and ingenious discoveries whereas communities in Africa had used them for generations. Firstly, those who patented them pretended as if the information was new and was their individual discoveries, yet African communities had provided leads and information about them.

Secondly, not only did bioprospectors patent the stolen knowledge and plants; they also pretended to be innovators of such knowledge, yet it had been in the public domain in Africa for ages. Thirdly they also did not share the benefits accruing from the patenting of these plant resources and knowledge with communities that gave them clues to their importance. Fourthly, another tendency that can be observed is the fact that the resources and the knowledge that facilitate the discovery of important elements, such as P57 in the case of Hoodia Cactus, Sweetener in the case of j'ouble and healing medicine from *Swartzia Madascrencies* are taken without the *consent* of the communities which have used them for generations.

The lack of honesty and transparency by prospectors seems to reveal that bioprospecting is a form of refined theft and piracy, which is sanctioned by international law, science and unfair relationships. It is theft and not science. It seems fair to contend, therefore, that while bioprospecting is labeled as science, it is not different from biopiracy or from stealing. It thus raises a number of ethical questions, which need to be addressed. Our next concern is to outline briefly the views of proponents and opponents of bioprospecting and TRIPS.

## **2.9 DIVERGENT VIEWPOINTS ON BIOPROSPECTING AND BIOPIRACY**

Supporters of bioprospecting, as already seen, are normally multinational pharmaceutical and biotechnology companies, scientists and corporate sectors from the north, and their collaborative partners in countries of the South, including countries in Africa. They tend to benefit individually or collectively from bioprospecting activities and they argue their case in different ways. More often than not, they argue from a mercantilist perspective. For instance, Smith Brush (1996:2) argues that “cultural or indigenous knowledge [should] be treated as a form of intellectual property in order to increase the economic

return from biological resources maintained by peasants and tribal people.” Brush’s view is that monetary profit made from these resources and knowledge will compensate biological stewardship and encourage conservation because stewards and users from the third world tend to under-invest in their conservation. He says

[W]hen biological resources are public goods, such as knowledge and biological resources; private investment is inadequate to protect them. Turning public goods, such as knowledge and biological resources, into commodities that can be bought and sold could possibly enable tribal herbalists, peasant farmers, or governments to profit from their knowledge and from conserving plant resources” (Brush 1996: 2).

Brush argues that, from a mercantilist perspective, there are four reasons why indigenous communities should control and market their knowledge and resources. These are because indigenous people control and maintain significant amounts of biological resources. “Second, because plants and information are useful to industry and to the world community, third, because, both indigenous people and biological resources are threatened and finally, because intellectual property is an accepted way to encourage the creation and sharing of intellectual goods such as knowledge of plants” (Brush 1996: 2).

Brush further argues that indigenous communities can benefit because incentives such as intellectual property for indigenous knowledge, commercialization of indigenous knowledge and plant life through bioprospecting are seen as part of the rush to capitalism (private ownership) at a time when there is aversion to common solutions to public problems. He also suggests that when done well, bioprospecting can contribute greatly to environmentally sound development and return benefits to the custodians of genetic resources—the national public at large—the staff of conservation units, the farmers, the forest dwellers, and the indigenous people who maintain or tolerate the resources involved. However he does not explain what doing bioprospecting well means or looks like.

Reid et al (1993: 2), however, note that when bioprospecting is carried out “in the mold of previous resource-exploitation ventures, biodiversity prospecting can have a negligible or potentially harmful effect on biodiversity conservation and environmentally sound development”. However, they also do not explain these effects.

The arguments by these proponents of bioprospecting, in my view, are quite limited and reductionist, in the sense that they tend to promote or give value to knowledge and plant resources only in monetary terms or as commercial value. They do not address the alienation, exploitation and theft of knowledge and plant resources as well as the privatization of the latter as observable in the manner in which corporate sectors involved in bioprospecting conduct their activities. Their avoidance of dealing with issues such as the lack of benefit-sharing by companies that prospect, as well as the lack of transparency by these companies, also limits their position.

Opponents of bioprospecting, on the other hand, argue against bioprospecting on the grounds that it leads to the impoverishment of communities, it alienates people from biodiversity; it erodes community property rights from communities in Africa and in the third world in general and transfers them to the private companies in the North. They also argue that bioprospecting is a form of stealing based on unfair perspectives of the North, which undermine other cultures and other knowledge systems and yet constantly steal from them. For instance, some go to the extent of likening bioprospecting initiatives to past colonization endeavours and the prospecting of resources such as gold, diamonds and oil in Southern and West Africa, exploitative legacies of which are still ravaging countries of Africa even today.

In arguing their point, proponents of bioprospecting such as Gurdial Nijar ([http:// www.iss.org.uk](http://www.iss.org.uk)) point out that “the concept of patenting and owning life is antithetical to all culture in the third world. Furthermore, it denies the ‘cumulative innovative genius’ of farmers over the generations”

Shiva (2001: 63) also points out that bioprospecting is presented as a positive development for countries of the South whereas it is not. She says bioprospecting is often promoted as a solution to blatant acts of biopiracy. However, when analyzed carefully it is a carefully crafted form of stealing and therefore no alternative to biopiracy. She says bioprospecting is being promoted as a model for relationships between, on the one hand, corporations which commercialize indigenous knowledge and, on the other, indigenous

communities which have collectively innovated and evolved the knowledge.

According to Shiva, bioprospecting is merely a sophisticated form of biopiracy in the sense that, firstly, it promotes the patenting of knowledge that already exists, which totally violates the principles of novelty and non-obviousness, principles which are core issues that ought to be considered before a patent is granted. Secondly, “granting patents for indigenous knowledge amounts to stating that the patent system is about power and control, not inventiveness and novelty” (Shiva 2001: 64).

The appropriation of indigenous knowledge which is vital for food, medicine, and for work, its conversion into an exclusive right through patents, “and the establishment of an economic system in which people have to buy what they had produced for themselves is a system which denies benefits and creates impoverishment, not a process which promotes benefit sharing. It is the equivalent of stealing a loaf of bread and then sharing the crumbs” (Shiva 2001: 64).

Shiva therefore concludes that bioprospecting is harmful for communities and nations of the third world. She mentions three specific reasons why bioprospecting by northern multinational companies in countries of the South, such as African countries, should be discouraged. These are:

- Bioprospecting contracts promote inequity because more often than not, they compensate individuals for leads into information on resources on knowledge. They also pit the individual against communities which have used and contributed to collective innovation in biodiversity-related knowledge.
- Bioprospecting is based on a double exclusion, which takes place, first, when communities of users/ innovators are excluded and one local group is treated as holding the knowledge exclusively. The second exclusion occurs when the commercial enterprise signing a bioprospecting contract takes an IPR on the knowledge transferred from an indigenous community as an (unjustified) innovation.

- It is often presented as a means of making the poor rich. However, what it actually does is that it creates poverty for communities as a whole and only brings money to few individuals in the community.
  
- Further,
  - The poverty creating impact of biopiracy and bioprospecting can only be perceived if one recognized that there is a difference between the material economy and financial economy. If people have rich biodiversity and intellectual wealth, they can meet their needs for health care and nutrition through their own resources and their knowledge. If, on the other hand, their rights to both resources and knowledge have been transferred from community to IPR holders, the members of a community end up paying high prices or royalties for what was originally theirs and which they had for free. They therefore become materially poor (Shiva 2001: 67).

## **2.10 THE IMPLICATIONS OF BIOPROSPECTING AND BIOPIRACY FOR COMMUNITIES**

When knowledge and resources of communities are taken by corporations which commercialize and transform these into proprietary knowledge and commercial products through intellectual property rights regimes, a number of impacts are felt by communities to whom these resources and knowledge belong. These impacts are briefly highlighted as follows:

- a. When knowledge and resources are patented, pharmaceutical and biotechnology companies often tie them to the prohibition of free exchange between individuals and communities, and this leads to alienation of communities from productive use of these resources and knowledge. It also results in the monopoly control over biodiversity and knowledge by multinational companies which claim them as private and intellectual property.
  
- b. Commercialization of biological products and indigenous knowledge globally results in the diversion of biological resources from meeting local needs to feeding international greed, thus leading to scarcity and price increases.

- c. Over-exploitation of indigenous knowledge and plant commons can lead to extinction.
- d. The local scarcity of resources and knowledge after they have been bioprospected and commercialized eventually takes the resources and their products beyond the access of the communities whose knowledge and resources have been used.
- e. Local communities, which provide knowledge and resources, lose to emerging markets their rightful share of resources based on their knowledge.
- f. A culture of dependency is created where communities, which had used knowledge and resources, have now to rely on commercial interest and products.
- g. Action Aid argues that bioprospecting “threatens to extinguish farmer expertise in selecting seed and developing locally-adapted strains” (<http://www.socialistfuture.org.uk>). Since local farmers in the countries of the South often depend on saving seeds or exchanging seeds with neighboring farmers, patents limit them from sharing and exchanging their knowledge and resources, thus rendering them to become dependent on commercial proprietors.
- h. Bioprospecting promotes global or worldwide monopoly of biodiversity and knowledge of biodiversity to commercial companies such as pharmaceutical and biotechnology companies.
- i. Action Aid points out that the patents system is weighted against the poor in the developing world. They highlight that securing a patent on a plant or gene can cost at least \$1 million in northern countries and this prevents the poor communities from protecting their genetic resources through patents. Challenging patents on bioprospected plants or knowledge is also costly and often thwarts third world communities from challenging bioprospected or biopirated knowledge.

The implications of bioprospecting of knowledge and plant resources cited above highlight the intensity of the problem that bioprospecting generates for communities in Africa.

Dasgupta (1999, <http://www.flowtnet.com>) says that one way that communities embark on in combating the menace of biopiracy “is by challenging the patent claims by MNCs in the courts of the rich countries”. However, he says, “such legal battles are expensive and time consuming, and not easy to fight in each and every case. The main difficulty, even assuming that the judicial system is neutral, is that the courts in the developed countries rely mainly on documentary evidence. Such documents are hard to come [by]” (Dasgupta 1999, <http://www.flowtnet.com>), particularly for countries that have not had a systematic method of written documentation, and which depend on oral information passed on from one generation to another. This becomes a major inhibition for communities which legally challenge bioprospecting MNCs. “Without documents, patent application cannot be challenged in a foreign court on the ground of prior art” (Dasgupta 1999, <http://www.flowtnet.com>).

Another method that communities use in challenging multinational companies “is [to] counter TRIPS with the United Nations Convention on Biodiversity (CBD)” (Dasgupta 1999:2, <http://www.flowtnet.com>), as was demonstrated by the communities of the Basarwa against the patenting of an agent from Hoodia Cactus. Accordingly, “The CBD recognizes collective rights of the village communities, and not those of individuals and companies. It further decrees that a country’s demand for patent rights should not be at the cost of the overriding need for the conservation of plant diversity” (Dasgupta 1999 <http://www.flowtnet.com>). Another way of combating bioprospecting/biopiracy is by not sharing the knowledge or resources with bioprospectors. However, this is unlikely because the culture of collective sharing is inherently normative in African culture.

## **2.11 CONCLUSION**

The flurry of interest and enthusiasm in bioprospecting is taking place in a policy vacuum in Africa. Biotechnology and pharmaceutical companies do not have legislated



guidelines which delimit their activities. This chapter examined the ways in which African plant commons and indigenous knowledge are prospected and claimed as property rights by northern multinational pharmaceutical and biotechnology companies. In order to make the discussion easily comprehensible, the chapter began by defining and describing the key concepts relevant to this study. These are biodiversity, indigenous knowledge, bioprospecting/biopiracy, and commons. In order to follow a liberative pedagogical approach we presented three case studies on bioprospecting of indigenous knowledge and plant commons. The idea behind this was to expose strategies employed by multinational companies, the effects of bioprospecting on biodiversity and African communities, as well as finding whether the benefits that are touted by proponents are feasible for African communities and biodiversity.

It was also pointed out that, on the one hand, proponents of bioprospecting see it as a positive, mercantilist exercise that has potential to yield profit and spur economic benefits for those who engage in it. On the other hand, opponents of bioprospecting and TRIPS highlight that the benefits touted by proponents only accrue for northern multinational companies and scientists, while communities in the South, whose resources are used as leads for the development of new drugs, for example, lose out. They also equate bioprospecting and intellectual property claims on resources and knowledge held by Africans in common to theft.

Finally, this chapter demonstrated that the appropriation of biological resources from Africa by northern multinational companies takes place in a legal and institutional vacuum. As a result, the existence of international law does not cover or acknowledge the contribution of Africa's biological resources and knowledge to the use of biodiversity. It is also noted that bioprospecting is spurred by economic globalization which endorses the supremacy of commerce, trade and the privatization of all life. Other considerations, such as moral implications, cultural and biological diversity, are negated and undermined by economic globalization. The implication is, therefore that there is a great need to develop ethically viable guidelines and laws aimed at protecting biodiversity, indigenous knowledge, and community rights.



## **CHAPTER THREE**

### **THE TRIPS AGREEMENT AND ITS IMPLICATIONS FOR AFRICAN BIODIVERSITY AND INDIGENOUS KNOWLEDGE**

#### **3.1 INTRODUCTION**

This chapter aims at analysing the World Trade Organisation's (WTO's) agreement on Trade Related Intellectual Property Rights (TRIPS) and its implications for African biodiversity, indigenous and local knowledge. I first give a brief historical background and context of TRIPS. Second, I give an overview of the TRIPS agreement, particularly the clauses which directly or by inference affect biodiversity and indigenous knowledge. Third, I compare TRIPS to the Convention on Biodiversity (CBD), which is one of the key international conventions on biodiversity and indigenous knowledge. I then investigate the roles of international institutions such as the WTO and the United Nations World Intellectual Property Organisation (WIPO) which govern and manage intellectual property protection. I shall also demonstrate the ways that biotechnology and pharmaceutical companies exploit TRIPS to convert publicly owned knowledge and plants into private property. Finally, I examine the implications of TRIPS to communities in Africa.

#### **3.2 HISTORICAL BACKGROUND TO TRIPS**

Intellectual property broadly refers to the legal rights which result from intellectual activities in industrial, scientific, literary and artistic fields. The WTO ([www.wto.org](http://www.wto.org) 1995a:1) defines intellectual property rights as "the rights given to people over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creations for a certain period of time." One of the underlying concepts of an intellectual property right system is that a person should be able to control and reap the benefits of their innovation and creative use of knowledge. Intellectual property is traditionally divided into copyrights and industrial property. Copyrights include "rights granted to authors of literary and artistic works, and the rights of performers, producers of phonograms and broadcasting organisations. The main purpose of the protection of copyrights and related rights is to encourage and reward creative

work” (<http://www.wto.org>, 1995a). Industrial property includes the “protection of distinctive signs such as trademarks and geographical indications, and industrial property protected primarily to stimulate innovation, design and the creation of technology. In this category fall inventions protected by patents, industrial designs and trade secrets” (<http://www.wto.org>).

Among arguments generally advanced in favour of intellectual property rights are that they encourage and safeguard intellectual and artistic creation; disseminate new ideas and technologies quickly and widely; promote investment; provide consumers with the results of creation and investment; and provide increased opportunities for the distribution of these effects across countries in a manner proportionate to national levels of economic and industrial development (Cohen and Komen <http://strategies.ic.gc.ca>).

Intellectual property rights are different from physical property rights, although they sometimes share many of the characteristics associated with real and personal property. Intellectual property is an asset that can be bought, sold, licensed, exchanged or gratuitously given away like any other form of property. A noticeable difference between intellectual property and other forms of property is that it is intangible. “In the context of genetic resources and biotechnology, ownership of the physical resource plant [or] animal, is governed by property laws, while ownership of the genetic information contained in the plant or animal is governed by intellectual property laws” (<http://www.strategies.ic.gc.ca>).

Intellectual property rights have existed, in one or another form, for centuries. IPRs were traditionally not granted as rights “but as a privilege to promote industry and secure its benefits for the citizenry by rewarding creativity, originality and inventiveness” (Bugbee 1997, <http://www.strategies.ic.gc.ca>). WIPO (<http://www.wipo.int>) claims that the importance of intellectual property rights was legally acknowledged as early as 1883 through the *Paris Convention for the Protection of Industrial Property* and the *Berne Convention for the Protection of Industrial Property and the artistic works* of 1886. Intellectual property rights on biodiversity were addressed in the early 1900s to encourage conservation of biodiversity as well as the protection of endangered species in international conventions such as the 1900 *Convention for the Preservation of Wild Animals, Birds and Fishing in Africa* (commonly known as the London convention 1900). Intellectual property rights are also affirmed in the 1947 Declaration of Human rights and are understood to be “part of the institutional

infrastructure of the market-based economies” (Tansey 1999:3). It is, however, important to note that before the institution of the Declaration of the Human Rights Charter, intellectual property rights were not linked to trade. As well, there was no existence of internationally obligatory intellectual property regimes and countries could voluntarily choose to sign, ratify or accept being parties to a particular convention or regime. The process toward such an IPR regime began in 1947.

In 1947, at the United Nations conference on trade and employment in Cuba, a proposal was made to create an international trade organisation (ITO) to complete the post-war economic reconstruction and to lead “the multilateral economic regime begun after the Second World War” (Mwalimu 2000:1). At the time, the administration of post-war reconstruction was overseen by a regime consisting of the International Monetary Fund (IMF) and the international Bank for Reconstruction and Development, now known as the World Bank. “The ITO was to be the third pillar...[However] it did not come into being as the United States of America - a country that had initiated the process - did not ratify it” (Mwalimu (2000:2). At the time “Canada and 22 other countries had begun discussing the process of lowering trade barriers (mainly tariffs) among themselves” (Mwalimu (2000:2). In 1947, at a meeting held in Geneva, these 23 countries adopted a provisional agreement known as the General Agreement on Trade and Tariffs (GATT) whose institutional structure precedes the current WTO. The main purpose of GATT was to reduce custom duties and other barriers to trade and to eliminate discrimination in international trade. Under the GATT treaty, countries had to allow the principles of the ‘*the most favoured nation*’ (MFN) and ‘*national treatment*’. The most favoured nation principle states that an advantage conferred to any country must be extended to all members of GATT. This is understood as the principle of compulsory reciprocity in trade. The national treatment principle, on the other hand, compels states which are WTO members to grant to nationals of other countries treatment that is no less favourable than that which is accorded to the member’s own nationals with regard to trade.

GATT held a number of multilateral trade negotiations to intensify trade liberalisation and to allow members to negotiate trade issues. According to Said (<http://www.dpmf.occasional> papers), “between 1948 and 1995, about eight rounds of trade negotiations were undertaken by GATT.” Among these was the 8<sup>th</sup> round of negotiations known as the Uruguay round. The

main purpose of the Uruguay round was to create international policies on trade and to address all other trade issues that were considered to be outstanding, such as trade in services and intellectual property issues. The Uruguay round commenced in September 1986 in Punta del Este in Uruguay. It was concluded on 15 April 1994 in Marrakesh, Morocco, with the signing of *'The Final Act Embodying the Results of the Uruguay Round on Multilateral Trade Negotiations'*. *The Final Act* contains a number of agreements. Amongst these agreements, is Annex 1C, known as the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), which entered into force on 1 January 1995.

TRIPS agreement became significant for the world for a number of reasons. First, it associated intellectual property rights to trade. Second, it endorsed the extension of intellectual property rights to life forms which were previously denied by many countries. Third, it resulted in the globalisation of intellectual property as it compelled members to change their domestic laws to conform to TRIPS. International laws governing intellectual property had been in existence as early as the 18<sup>th</sup> century. They had, however, tended to be plurilateral in nature, meaning that they were agreements entered into by different countries although they were not mandatory. This meant that countries could decide whether or not to include their prescriptions into their local legislative framework. Before the advent of TRIPS countries determined the content, scope and implementation of intellectual property rights laws to suit [their] "ethical and socio-economic conditions" (Shiva 2001:97. Repetto and Calvanti also emphasize a similar point.

Before the adoption of the agreement countries were free to determine the terms for patentability, the rights conferred to patent holders and the duration of patent protection. The establishment of the areas of non-patentability was also left to countries' own discretion. It is not surprising that patent law was thus tailored to follow countries' own economic interests. This resulted in diverging standards among members which inevitably caused substantial tensions in global trade relations (Repetto and Cavaltini 2000:7).

The lack of mandatory IPR protection internationally prompted developed countries to lobby for IPR inclusion in the trade agenda of GATT. One of the reasons that prompted countries such as the United States of America to advocate for GATT to institute mandatory intellectual property rights at a global scale, and also to relate intellectual property rights to issues of trade, was the economic recession of the late 1980's. Said suggests that the US became a major actor in GATT negotiations, partly due to this country's concern to promote the reduction of tariffs

on manufactured goods which benefited industrialised countries. The fierce lobby of the US to associate intellectual property rights to trade was also due to “the mounting technological competition from the South East Asian countries” (Oram 1999: 1-2). “Within the framework of these [GATT] negotiations there was a request from the United States of America to include a multilateral agreement on minimum standards for intellectual property rights” (Repetto et al 2000:2). The USA “even threatened to boycott the negotiations if its call for some sort of international legislation governing intellectual property rights were not met” (Oram 1999: 2). The USA favoured the inclusion of IP issues into the WTO because they believed that this was “the only mechanism that would ensure member states could be effectively sanctioned if they failed to comply with international IPR laws” (Oram 1999: 1-2). Repetto and Calvacanti point out that the US lobby was partly due to the fact that, before the TRIPS agreement,

Countries were free to determine the terms of patentability, the rights conferred to patent holders and the duration of patent protection. The establishment of areas of non-patentability was also left to countries’ own discretion. Patent law was thus tailored to follow countries’ economic interests. This resulted in diverging standards among members, which caused substantial tensions in global trade (<http://www.fao.org>).

There was some resistance by countries of the South, including those from Africa, on the implementation of an internationally mandatory IPR agreement. Their principal concern was that an internationally binding agreement on IPR would “enable industries from the North to appropriate and privatize the wealth of biodiversity that constitutes the basis for food security and health care for millions in their countries” (Oram 1999:2). They were also apprehensive because they held that internationally binding IPR measures would upset the cultural, economic structures and fabric of traditional societies in their countries.

### **3.3 AN OVERVIEW OF TRIPS AGREEMENT**

The TRIPS agreement is the most comprehensive multilateral agreement on intellectual property. Its major aim is to harmonize and strengthen minimum standards of protection of IPR. The objectives of TRIPS, as stated in the preamble to the agreement (<http://www.wto.org>), are:

- To introduce new rules and disciplines for global trade regarding the provision of adequate standards and principles concerning availability, scope and use of trade related intellectual property;
- To provide effective and appropriate means for the enforcement of trade related intellectual property rights;
- To provide efficient and expeditious procedures for multilateral prevention and settlement of disputes between governments

TRIPS agreement is divided into seven parts. This chapter will however concentrate on the parts that are relevant to biodiversity and indigenous knowledge.

### **3.3.1 Summary of TRIPS**

- Part I deals with general provisions and general principles;
- Part II addresses standards concerning the availability, scope and use of intellectual property rights;
- Part III deals with enforcement of intellectual property;
- Part IV addresses acquisition and maintenance of intellectual property rights and related inter-parties' procedures;
- Part V deals with dispute prevention and settlement;
- Part VI deals with the transitional arrangements for implementation of the agreement by different members of the WTO and;
- Part VII addresses institutional arrangements and final provisions on IPR.

### **3.3.2 Part I (articles 1-8)**

Article 1 of Part I outlines the IPR implementation framework set for WTO members. It compels governments to comply with mandatory minimum standards of intellectual property in their legal systems and practice. It declares that members are not obliged to implement more extensive protection than is required by TRIPS in their domestic laws. It lists the types of IPR covered in the TRIPS agreement. These are copyright and related rights, trademarks, geographical indications, industrial designs, patents, integrated circuit; layout-designs and trade secrets or undisclosed information. Article 2 affirms that all other international treaties



on IPR passed before TRIPS will not be abrogated by it. Articles 3 and 4 compel members to respect the principles of *national treatment* and ‘the *most-favoured-nation treatment*’ explained in section 3.2 of this study. Article 5 declares that the principles above “do not apply to procedures provided in the multilateral agreements concluded under the auspices of WIPO relating to the acquisition and maintenance of intellectual property rights” (<http://www.wto.org>). Article 6 suggests that in cases where IPR disputes occur, nothing “shall be used to address the issue of the exhaustion of intellectual property rights” (<http://www.wto.org>). Article 7 claims that

the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare and to a balance of rights and obligations (<http://www.wto.org>. 1995a:323).

Article 8 requires members to implement measures necessary to guard public health and nutrition. It also obliges them to support public interest in sectors of vital importance to their socio-economic and technological development. It insists that such measures ought to conform to TRIPS. Governments are also compelled to provide measures against abuse of IPR by right holders.

### **3.3.3 Part II (article 9-40)**

Part II deals with the different kinds of IPR and establishes standards for each category. The relevant categories for this chapter are the sections dealing with geographic indications and appellations of origins, section 5 focusing on patents and the protection of new varieties, section 7 addressing the protection of undisclosed information and trade secrets, and section 8 dealing with the control of anti-competitive practices in contractual licenses.

#### **3.3.3.1 Geographic indications**

Article 22 of Part II, defines geographic indications. It refers to them as “indications which identify a good as originating in the territory of a member or a region or locality in that

territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin” ([http:// www.wto.org](http://www.wto.org) 1995a: 328 ). Article 24 deals with exceptions to the provisions of geographic indications. “It requires members to avoid distortion of prior trademarks” (Repetto and Cavalcanti 2000, [http:// www.fao.org](http://www.fao.org)). Members are also not compelled to protect geographic indications which cease to be protected in their country of origin or which have fallen into disuse.

### 3.3.3.2 Patents

The subject of section 5 Part II is patents. A patent is an IPR granted to inventors. It gives exclusive rights to an inventor. This implies that the patent right holder has the right to “exclude any other person from making, using, selling or importing the invention protected by the patent, for a certain period of time in a given territory” (Repetto and Cavalcanti 2000, <http://www.fao.org>).

Article 27.1 states that “patents shall be available for any inventions, whether products or processes, in all fields of technology, provided they are new, involve an inventive step and are capable of industrial application” ([http:// www.wto.org](http://www.wto.org)). According to the WTO ([http:// www.wto.org](http://www.wto.org)), “the terms ‘*inventive step*’ and ‘*capable of industrial application*’ may be deemed by members to be synonymous with the terms ‘*non-obvious*’ and ‘*useful*’ respectively.” Article 27.2 states,

Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by law ([http:// www.wto.org](http://www.wto.org)).

Article 27.3 outlines the exceptions to the rules of patentability. It states,

Members may also exclude from patentability:

- a. diagnostics, therapeutic and surgical methods for the treatment of humans or animals;
- b. Plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than

non-biological and microbiological processes.

However, members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO agreement (<http://www.wto.org>).

Article 28 states that exclusive rights will be conferred to the holder of patent rights for both products and processes by preventing third parties who do not have the consent of IPR holders from making, using, offering for sale, selling or importing such products or processes. Article 28(2) states “patent owners shall also have the right to assign or transfer by succession, the patent and to conclude licensing contracts. The conditions of patent applications are outlined in Article 29(1) which states that

members shall require that an applicant for a patent disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art and may require the applicant to indicate the best mode for carrying out the invention known to the inventor at the filing date or, where priority is claimed, at the priority date of the application (<http://www.wto.org>).

Article 31 states that compulsory licensing is applicable in the case where the owners of a patent and a license applicant have failed to agree on commercial terms and within a reasonable period of time. It includes provisions which allow for the issuance of compulsory licenses under defined conditions “and which require the payment of adequate remuneration to the patentee in each case” (Repetto and Cavaltini 2000, <http://www.fao.org>). It also states that governments are equally subject to the terms of licensing

### 3.3.3.3 Protection of Undisclosed Information

Article 39 obliges members to develop national legislation to protect trade secrets from being disclosed to, acquired by, or used by others without the consent of the right holders. Trade secrets which warrant protection are outlined in article 39.2. For instance, a trade secret has to have the following qualities. It must:

- be a secret in that a person skilled in that discipline cannot precisely configure or assemble it or its components without information from the innovator;
- have commercial value because it is a secret;

- follow “reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret” (<http://www.wto.org>).

Article 39.3 declares that approval of marketing of pharmaceutical or agricultural chemical products which utilize new chemicals should be accompanied by submission of undisclosed tests or other data and to protect such data or tests against unfair commercial use. In addition, “members shall protect such data against disclosure, except where necessary to protect the public or unless steps are taken to ensure that the data are protected against unfair commercial use” (<http://www.wto.org>).

#### 3.3.3.4 Control of Anti-Competitive practices

Article 40 compels members to control anti-competitive practices in contractual licences and to ensure that no form of licensing is in contravention to TRIPS or restrains competition in trade.

#### 3.3.3.5 Enforcement Procedures of IPRs

Part III consists of Articles 41-61, which deal with the enforcement procedures of IPR. Article 41 commits members to develop remedies and procedures under domestic law to ensure that IPR are effectively enforced for both national and foreign right holders. Articles 42-60 oblige members to ensure that implementation of IPR comprise of fair procedures that are effective against any infringement of these rights. They also include civil and administrative procedures that have to be taken on infringing goods (imitations to intellectually protected goods). Article 61 requires members to provide for criminal procedures and penalties in cases of intractable counterfeiting or piracy on commercial scale.

#### 3.3.3.6 Procedures for acquisitions and maintenance of IPR

Part IV of TRIPS deals with procedures for acquiring and maintaining IPR. Article 62 requires that these procedures and rules be fair, reasonably expeditious, not unnecessarily complicated and costly.

### 3.3.3.7 IPR Dispute and Settlement Procedures

Part V, in articles 63 and 64, lays down the dispute prevention and settlement procedures of TRIPS. It suggests that these will be similar to those laid out in the integrated settlement mechanisms of the WTO.

### 3.3.3.8 Implementation of TRIPS

Articles 65 to 67 of Part VI lay down the transitional arrangements for TRIPS implementation. The deadlines for implementation were to be counted from 1 January 1995. Developed countries had to comply by 1 January 1996 while developing countries had to conform to TRIPS by January 2000. The least developed countries were given up to 2005. During these transitional periods, members were not allowed to reduce the level of IPR protection below those provided by TRIPS. Countries which did not provide for patent protection for pharmaceutical and agricultural chemical products prior to TRIPS were compelled to accept the filing of patent applications for such products from 1 January 1995.

### 3.3.3.9 Mailbox for pharmaceutical and agricultural chemical products

Articles 70.8 and 70.9 oblige members to establish the 'mailbox' system for receiving and filing patents applications concerning pharmaceutical and agricultural chemical products. They further require members to grant exclusive marketing rights to parties who file mailbox applications.

### 3.3.3.10 TRIPS Council

Finally, articles 68 to 73 establish a Council as the compliance monitoring institution for TRIPS. Furthermore, this council was also to review the implementation of the agreement in 1999 and every two years thereafter at identical intervals.

## **3.4 ANALYSES AND INTERPRETATION OF TRIPS**

### **3.4.1 General issues on TRIPS**

The TRIPS agreement as a whole has a number of implications for the protection of African biodiversity and indigenous knowledge. The principles of national treatment and most favoured nation status articulated in articles 4 and 5 of TRIPS give an impression that these promote equality and non-discriminatory practice in trade. However, in the context where countries are not in the same developmental stage, and where even the United Nations categorize them as developed, developing and least-developed, it becomes clear that protection of intellectual property which does not consciously affirm the differing contexts is unfair. Ignoring the inequality that exists among the different countries which are members of the WTO and promoting homogeneous IPR regimes ultimately results in inequality.

It is also important to note that TRIPS agreement does not make any reference to indigenous knowledge or public commons, yet in article 28 it recognises the innovation and intellectual knowledge and technologies of the north. The invisibility of these resources is also indicative of the idea that indigenous knowledge systems are not accorded intellectual or commercial value by TRIPS. The double standard which recognises the creativity of the north, whilst undermining the innovations of the people of the global south, and Africa in particular, is noticeable in the criteria that are set for patents, geographic indications, trade secrets and many other IPR issues. In overall, it is observable that a bias toward knowledge systems of the north is embedded in the agreement, while knowledge systems of the south receive inferior status and treatment.

Another aspect that needs to be observed and challenged is that companies from the North generally use plant resources from the South in their research. Sometimes their research is based on indigenous knowledge. However, when intellectual protection is provided, only the companies are rewarded for their inventions, whilst the providers of the resources and knowledge (indigenous or local peoples) are not rewarded with anything. Moreover there is a general tendency by these companies not even to declare that their innovations and inventions are based on knowledge systems of the South. In a way, it would seem that intellectual property protection articulated by TRIPS turns a blind eye to acts of plagiarism and exploitation.

### 3.4.2 Patenting of life forms

Another controversial aspect of TRIPS agreement in relation to issues of biodiversity and indigenous knowledge is the issue of patenting life forms articulated by article 27 of TRIPS. First, article 27.1 allows patents on inventions, whether products or processes in all fields of technology, implying that plant varieties from biotechnology and processes are eligible for patenting. Secondly, it states that plants, animals and essentially biological processes will not be patented, yet it allows the patenting of microorganisms, non-biological processes and microbiological processes and their products. It also compels members to provide for the protection of plant varieties by patents or an effective *sui generis* system or any combination thereof.

Shiva (2001:98). notes that this article (27) has expanded the scope of patentability to cover life forms. It “forces countries to change patent laws to introduce patents of life forms and introduce plant variety legislation”. She says when one first reads TRIPS article 27,

it appears that the article is about the exclusion of plants and animals from patentability. However, the words ‘other than the micro-organisms’ and plants and animals produced by ‘non-biological’ and ‘micro-biological’ processes make patenting of micro-organisms and genetically engineered plants and animals compulsory (Shiva 2001:98).

Shiva further argues against the obligation to allow patenting of life forms. She states that “since micro-organisms are living organisms, making their patenting compulsory is the beginning of a journey down what has been called the slippery slope that leads to the patenting of all life” (Shiva 2001:98). Ho and Traavik (<http://www.i-sis.org.uk>) also argue that article 27.3 b is “designed to allow the broadest categories of patents from genetic engineering and other new biotechnologies.” They point out that there are four categories of patents on life forms and living processes covered by TRIPS. These are:

1. Processes producing extracts of plants for medical or industrial/agricultural purposes;
2. Naturally occurring micro organisms;
3. Cell lines and genomes and genes isolated from natural organisms;

4. Transgenic techniques and constructs and “the resultant transgenic organisms and nuclear transplant cloning and other in vitro reproductive technologies” (<http://www.i-sis.org.uk>).

Oh (2000:2) also questions “the rationale for the distinction made between the different types of life forms and of natural processes by TRIPS.” She says

there is no scientific or legal rationale for the distinction. Such distinction goes against the basic principle of patent laws in many countries, i.e., that ‘discoveries’ are not patentable. The artificial distinction, which had been drawn, is motivated by the corporate interests that are involved in biopiracy and biotechnology, so that these corporations are able to obtain protection for their products and processes (Oh 2000:2).

Ho and Traavik (<http://www.i-sis.org.uk>) also argue that the distinction that TRIPS makes between micro-organism, microbiological processes, non-biological processes, essentially biological processes and organisms distorts the truth because “all involve biological processes not under the direct control of the scientist. They cannot be regarded as inventions, but expropriations from life.” They argue that there is no scientific basis to support the patenting of micro-organism, microbiological processes, non-biological processes, genes and genomes because they are not inventions of scientists but discoveries, which means they do not even fit the criterion for patenting (Ho and Traavik <http://www.i-sis.org.uk>).

Oh further suggests that the key issue for allowing the patenting of microorganisms, microbiological processes and non-biological processes relates to the processes of biotechnology and biopiracy (the theft of biological resources and indigenous or traditional knowledge). She says the advent of biotechnology has made it possible for scientists to “identify, isolate and move genetic materials across species type” (Oh 2000: 2). Genetic modification of biological organisms, she suggests, has aroused great commercial interests and investments in biotechnology. “Genetically engineered crops and foods are being produced with the global market as their target; thus the need to obtain IPR protection for such ‘new’ products” (Oh 2000: 2). This view is also held by Ho and Traavik (<http://www.i-sis.org.uk>), who suggest that “many patents on life-forms normally involve acts of plagiarism of indigenous knowledge and biopiracy of plants (and animals) bred and used by local communities for millennia.”



What is problematic with the patenting of life forms and ‘*all fields of technology*’ as required by article 27.3(b) is the fact that the patented processes and products are normally prospected from countries of the South and particularly countries in Africa, as illustrated by cases such as the patenting of P57 from the Hoodia Cactus by Pfizer, Phytopharm and CSIR. First, the knowledge that enabled the patent holders of P57 was appropriated from the Basarwa (the San). Secondly, Hoodia cactus, which was publicly owned, is now the private property of Pfizer and Phytopharm and not the communities it was taken from.

The knowledge system of these communities, and their innovations, the societal and informal context in which they produce and innovate, and the purpose for which they do so—all these are denied recognition. Only the North industrial model of innovation is recognised; the cumulative collective system of innovation of traditional communities is excluded by TRIPS provisions (Nijar 1997:10).

The interest in patenting life forms is to a large extent also spurred by “the creation and development of ‘terminator technology’, where biotechnology is used as a means of exerting control and ownership rights over biodiversity” (Oh 2000: 3). Terminator technology is a set of new genetic engineering techniques used to create sterile plants with infertile seeds that cannot be replanted. “It is thus able to protect the interests of the corporation or plant breeder by killing the seed after one generation” (Oh 2000: 3).

Dhar traces the application of terminator technology to 1998. According to him “in 1998, the Delta and Pineland Company, and the US Department of Agriculture obtained a patent on a new genetic technology designed to produce sterile seeds better known as terminator seeds which are products of *Genetic Use Restriction Technologies* (GURTs)” (Dhar 2002:18). GURTS is generally applied in two different approaches. The first is ‘*the variety specific gurts*’ known as ‘*V-gurts*’, which are used to restrict the propagation of a plant. The second is the ‘*trait specific Gurts*’ or *TGURTS* also sometimes referred to as traitor technology. TGURTs are used to obtain an added value from the use of seeds with the help of specific inducing compounds, for example, fertilizers. Seeds which use GURTs could have far reaching implications for farmers in Africa. Farmers can easily become dependent on the agro-chemical affiliates (e.g. pesticides) of breeding companies for supply of sterile inducing compounds.

### 3.4.3 Plant varieties and *sui generis* system

Another controversy generated by article 27 is its requirement to establish a patent system or a *sui generis*, or a combination of *sui generis* and patent system for the protection of plant varieties. A *sui generis* system of intellectual property rights “is an alternative unique form of intellectual property protection, designed to fit a country’s own particular context and needs” (Mulvany 1999:25, <http://www.ukabc.trips/trips99pdf>). *Sui generis* is a Latin phrase which means ‘of its own kind’. A *sui generis* system can either apply to the whole intellectual property system or just to the protection of plant varieties as described in article 27.3(b) of TRIPS. The controversy around the patenting of life forms and the use of a *sui generis* system to protect plant varieties derives from the fact that there is no clear distinction between plants and plant varieties from the scientific or legal perspectives. However, a history of the protection of plant varieties which could not meet the requirements of the patent system exists. Plant varieties were and are still protected by the *International Union for the Protection of New Varieties of Plants* (UPOV) which was first adopted in 1961. The UPOV convention has gone through successive revisions, including in 1978 and 1991. “The objective of the UPOV is to grant exclusive rights to plant breeders who develop new varieties of plants”(Shiva 2001: 99).

The 1991 UPOV revision, according to Oh, was intended to grant rights for plant breeders in ways that are almost akin to patents. For instance, a breeder who registered rights over varieties of plants could claim full commercial control over the seed or propagating material of their protected material. The implication is that farmers

are prohibited from selling the seeds they harvest from the crop... from saving and exchanging the seeds on a non-commercial basis without first paying royalties to the breeder. Even when that farmer had saved the seed from his previous harvest - royalties have to be paid each time the seed is used” (Oh 2000:3).

TRIPS agreement embraces plant breeders’ rights, which are promulgated by the UPOV 1991 version. UPOV 1991 is the form of protection that is being promoted by WIPO and WTO as a *sui generis* system that WTO members should adopt, particularly countries of the South. Shiva

however, disputes the espousal of UPOV 1991 by the WTO and WIPO as an appropriate intellectual system that the South should adopt in relation to biodiversity. She says,

the UPOV convention is rigid, requiring that members adopt its standards and scope of protection as national law. It has resulted in a high degree of standardization and goes against the reality of biological diversity and the socioeconomic diversity of different countries. It is therefore inappropriate as a sui generis system evolved to protect plants, people and creativity in diverse realities (2002:100).

Shiva also observes that the criteria for plant variety protection limit biodiversity protection. For instance, she points out that the UPOV requires plants to exhibit certain qualities to qualify for intellectual property protection. A plant should display the following attributes:

[It should be] new—the variety must not have been exploited commercially; distinct—it must be clearly distinguishable from all other varieties known at the date of application for protection; uniform—all plants of that particular variety must be sufficiently uniform to allow it to be distinguished from other varieties taking into account the method of reproduction of the species and stable - it must be possible for the variety to be reproduced unchanged (Shiva 2001: 100).

The criteria and definition of breeders' rights rule out farmer's varieties. Their propagation destroys biodiversity and produces uniformity as a necessity. "The reward under such a system of plant breeders' right (PBR) does not go for breeding to maintain and enhance diversity and sustainability, but to the destruction of biodiversity and creating uniform and hence ecologically vulnerable agricultural systems"(Shiva 2001: 100).

Mulvany raises a similar point to Shiva's. He says, plant variety as defined by UPOV article 27 limits the possibilities of farmers and peasants in the third world countries because it is "confined to the products of industrialised plant breeding which require a variety to be new, distinct, uniform and stable" (1999:25, <http://www.ukabc.trips/trips99pdf>). He argues that this definition does "not cover the majority of varieties nurtured by farmers which by design are often heterogeneous and it is unclear how protection of farmers' varieties will be afforded through TRIPS or what other impacts trips might have on the conservation and sustainable use of these varieties" (Mulvany 1999:25, <http://www.ukabc.trips/trips99pdf>). Legislation like UPOV is, therefore, "inherently incapable of protecting farmers' rights arising from the role of farmers as breeders who innovate and produce diverse farmers' varieties, which forms the

basis for all other breeding systems” (Shiva 2001: 100-101).

### **3.5 TRIPS, INDIGENOUS KNOWLEDGE AND POSSIBILITIES OF GEOGRAPHIC INDICATIONS**

A detailed review of TRIPs shows that “it is impossible to extend patent protection to traditional knowledge” (Mugabe 1998:11). According to Mugabe, traditional knowledge cannot be patented on one or all the criteria that patents require, which is that “products or processes should be new, [include an] inventive step and industrial application” (Mugabe1998:11). “On the new standard it will probably fail because by its very nature traditional knowledge has been known for some length of time. One could try to argue that it is new to the world outside of the community from which it came but this is unlikely to succeed” (Mugabe1998:11). Mugabe is, therefore, of the view that “on the whole, the conditions set under TRIPs are inimical to patenting of traditional knowledge and or traditional innovations” (Mugabe 1998:12).

Repetto and Calvacanti (2000:3) argue that the concepts addressing formal innovation in existing intellectual property law are mainly based on the idea of innovation as the product of individuals. It is based on the notion that individuals responsible for certain innovations by sharing the fruits of their genius with society, deserve intellectual property rights from the state for exclusive exploitation and benefit for their innovation. Repetto and Calvacanti (2000:3) further argue that this concept is impractical for indigenous peoples and knowledge because indigenous knowledge is often owned by entire communities and therefore cannot be attributed to distinct groups or even individuals. Because of this collective nature of ownership, they argue, it is difficult to obtain patents or intellectual property rights on indigenous knowledge. This type of argument is, however, flawed because applications for patent rights by companies are not always made by a single company, individual or entity. As illustrated in the patenting of the sweetener *jou'ble* the knowledge of which derived from the people of Gabon, the patent rights are owned by the scientist Goran Hellekant and the University of Wisconsin.

Repetto and Calvacanti thus argue that one way to overcome the lack of protection of indigenous knowledge and biological resources in the commons is to explore the option of

protecting indigenous knowledge through geographic indications, as they are normally interlaced with their geographical or ethnic or tribal origins. The main advantage of geographical indications as a means of intellectual protection for indigenous knowledge, they claim, is the “relative impersonality of the rights, i.e. protected subject matter is related to the product itself and is therefore not dependent on a specific right holder” (Repetto and Calvacanti 2000:3). Repetto and Calvacanti (2000:3) suggest that most developing countries have hesitated to comply with some aspects of TRIPS, particularly the patenting of life forms. This is because they want to avoid the inequity TRIPS promote. They state:

Their main concerns are that the medicinal properties of several plant species, now commercially exploited by pharmaceutical industries, have been discovered because indigenous peoples and local communities have been using such material for centuries, inheriting their knowledge through generations (Repetto and Calvacanti 2000:3).

They argue that the reward of patent rights to scientists or multinational companies which are accredited with developing new products and are given intellectual property rights is unfair and promotes inequality, because the indigenous communities which are the knowledge providers are not recognised by intellectual property regimes. Another reason for the unfairness is that “actual knowledge providers . . . will have to pay royalties for products which for centuries have been part of their own culture” (Repetto and Calvacanti 2000:3).

### **3.6 TRIPS AND THE CONVENTION ON BIODIVERSITY (CBD)**

It has been noted in section 3.1 to 3.4 in this chapter that the TRIPS agreement is one of the key multilateral international laws. This does not, however, mean that it is the only agreement that governs the application of intellectual property rights. International law of intellectual property rights related to the use of biodiversity and knowledge is also contained in multilateral treaties other than TRIPS, such as the Convention on Biological Diversity (hereafter CBD), which is administered by the World Intellectual Property Organization. International law on IPR also entails regional treaties and bilateral agreements which address these issues. Our focus in this section is the CBD. This is because, unlike TRIPS, the CBD specifically tackles the protection of indigenous knowledge and biodiversity. This is contrary to TRIPS, which does not even make mention of indigenous knowledge, yet it acknowledges the importance of IPR protection for modified biological resources and biotechnology.

### 3.6.1 Summary of the CBD

The CBD is a framework agreement that leaves state parties who ratify or sign it free to implement it in their own legislation. It came into force in 1993 and, according to Duttfeld (2000:33), has “175 state parties”, except the USA. It reaffirms “the sovereignty of states over their genetic resources” (Tansey 2002: 9). The objectives of the CBD as stated in Article 1 are:

- The conservation of biological diversity;
- The sustainable use of its components; and
- The fair and equitable sharing of the benefits “arising out of the utilisation of genetic resources, including by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding” (Duttfeld 2000:33).

The CBD recognises that both access and transfer of technology are essential elements for attaining its objectives. It encourages countries to take measures to ensure the conservation of biological diversity, sustainable use of its components and the fair and equitable sharing of the benefits arising from the utilisation of genetic resources. It also makes access to biodiversity subject to prior informed consent of the state involved.

Article 16.1 of CBD requires state parties to provide and /or facilitate access for and transfer of technologies to others that are relevant to the conservation and sustainable use of biological diversity, or make use of genetic resources and do not cause damage to the environment. It obliges the state to take legislative, administrative or policy measures to give access to and transfer of technology on mutually agreed terms to other states, especially the developing countries which provide the genetic resources.

The CBD recognises the role of indigenous and local communities in conserving and sustainably using biological diversity. It states that the benefits arising from their knowledge and innovation should be equitably shared. It also urges states to initiate methods for the development and use of indigenous and traditional technologies in pursuance of conserving and using biological diversity. The CBD further exhorts parties to protect and encourage

customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements. Article 16 of the CBD also calls upon contracting parties to ensure that IPR are supportive of and do not run counter to its objectives. In view of the recent inclination by TRIPS to oblige developing countries to allow for intellectual property rights on all technologies and life forms, and to institute a *sui generis* system or a combination of a *sui generis* system and patent system, the CBD may offer an opportunity to reject the establishment of a regime which will be incompatible with its objectives.

Tansey (2002:9) suggests that the CBD “developed from an approach . . . which equated the riches to be found in compounds in plants with minerals in the ground”. The South, which holds that most of the biological resources and indigenous knowledge are often used as precursors to products and processes that are patented by industrial companies of the North, argued that free access and IPR protection for the North created an unequal and unfair exchange. “In this context the Southern governments looked forward to an international recognition of their ownership rights in genetic resources and accessing advanced technologies of the North (especially biotechnology) in exchange for granting access to their genetic resources to Northern enterprises ” (Nijar 1997: 5).

### **3.6.2 A Comparison of CBD and TRIPS**

A detailed reading of TRIPS and CBD suggests, as shown briefly above, that there are points of difference between them. These differences are outlined below:

CBD assigns sovereignty in biological resources to the countries that possess them, while TRIPS allows these resources to be patented, implying that TRIPS takes away the rights given by the CBD.

Whereas CBD recognizes the collective ownership of biodiversity by communities and encourages them to share it equitably,

[TRIPS] prevents government action for sharing the benefits of the use of biodiversity and ensuring such utilization is sustainable and

conserves biodiversity in an equitable manner since it obliges states to protect patent monopolies. For most people, sharing biological heritage is the only legitimate way of sharing benefits equitably. By making such sharing and exchange illegal, western style patent systems undermine the very basis of equitable benefit sharing” (Shiva 2001:102).

Thus TRIPS agreement undermines CBD by allowing the patenting of life forms and biological processes. The CBD recognises the sovereign rights of states over their biological and genetic resources, which should include intellectual property regimes to biodiversity. However, by allowing patents on life forms and biological processes, TRIPS create “global private property rights regimes by undermining the sovereignty of states to shape and evolve their own IPR systems” (Shiva 2001:102).

CBD requires states to protect and promote the rights of communities, farmers and indigenous peoples vis-à-vis their customary use of biodiversity while TRIPS, based on western-style patent systems, only protects the rights of northern companies and inventors. Trips operates under that assumption that plant commons and intangible rights associated to them, such as indigenous knowledge embedded in African plant commons, have to be enclosed and transformed into private property. This view gives the impression that indigenous knowledge and plant commons can be freely taken. It also discounts the contributions that have been made by the communities which have nurtured and conserved these resources. Such a view further, according to Nijar (1997:10), “undoubtedly exacerbates the usurpation of the knowledge of indigenous peoples and local communities with serious consequences for them and for biodiversity conservation and sustainable use.” It is also antithetical to the view that sovereign countries have the right to protect their biological resources, community rights and indigenous knowledge as it is asserted in the CBD.

The plant protection systems initiated under TRIPS are also likely to encourage the spread of genetically modified crops, putting a premium on food reproduction through biotechnology and genetic engineering methods. “This might mean that varieties traditionally grown in developing countries may be genetically changed and that these new varieties will end up substituting the plants from which they were derived” (Oram 1999: 5) It is also important to



note that the TRIPS agreement has no conservation obligation, “whereas CBD has the obligation to conserve biodiversity and indigenous knowledge” (Shiva 2001:103-104).

The TRIPS agreement fails to strike a balance between the rights of IPR holders and the rights of the users, i.e. society. It disproportionately benefits holders of intellectual property and not society. “Furthermore, there is an inherent contradiction between the philosophy of free and low cost movement of goods and services - upon which the multi-lateral trading system is based – and the monopolistic restrictions imposed under the trips” (Oram 1999: 7). It is clear that although the CBD is a voluntary framework, administered by a UN agency, the World Intellectual Property Organisation, it has better protection of rights for communities. It is not tilted toward corporate monopoly and individualism embedded in TRIPS. It also does not undermine the contribution of indigenous knowledge in the conservation and preservation of biodiversity.

### **3.7 THE ROLES OF THE WTO AND WIPO IN IPR PROTECTION OF BIOLOGICAL RESOURCES**

As has been stated before, international law relating to the protection of intellectual property rights consists of multilateral, regional and bilateral agreements. These agreements are often managed by specific offices, institutions and/or organisations. Of the foremost relevant international multilateral institutions to the protection of intellectual property rights related to biodiversity, are the WTO and WIPO. Below we present a brief summary of their roles.

#### **3.7.1 World Intellectual Property Organisation (WIPO):**

The World Intellectual Property Organisation (WIPO) is one of the 16 specialized agencies of the United Nations which deal with intellectual property issues. By January 2000 it had 173 member states. WIPO is responsible for the promotion and protection of intellectual property rights throughout the world. Its principal activities are the progressive development of harmony in the field of intellectual property, the administration of certain treaties for global protection of intellectual property, and the development of cooperation with respect to intellectual property. Its primary objectives are:

- To administer international treaties on intellectual property laws.
- To provide assistance to member states in promulgating intellectual property laws

WIPO also seeks to harmonise national laws in order to promote IPR protection worldwide. Unlike the WTO, WIPO does not have a dispute settlement mechanism to deal with IPR disputes. The lack of such a mechanism in the functions of WIPO is claimed as one of the reasons which prompted developed countries, such as the US, to push IPR to become the mandate and agenda of the WTO, although the WTO was initially formed to deal with trade. WIPO currently collaborates with the WTO to help developing countries to meet their IPR obligations through the provision of technical assistance, such as preparing legislation, provision of training, institutional capacity building and modernising IPR systems and enforcement. According to Dutfield (2000a: 96) WIPO established the global intellectual property division to deal with the

challenges facing the intellectual property system in a rapidly changing world, such as accelerating technological advancement, the integration of the world economic, cultural and information systems, and expanding relevance of IP issues in trade, culture, investment, human rights, health and environmental spheres (Dutfield 2000a:96)

WIPO's global intellectual property division, *inter alia*, embarks on the following:

- New approaches to the use of IPR for new beneficiaries with respect to IP needs of holders of traditional knowledge, innovation, culture and genetic resources, such as those used in agriculture and medicine.
- Exploring the feasibility of establishing a databank of traditional knowledge.
- It aims at exploring biodiversity and biotechnology with interest in IPR aspects in multilateral environmental agreements.
- Protection of expressions of folklore.

Dutfield suggests that the decision by WIPO to undertake these activities is to collaborate with the CBD processes and to carry out consultations with indigenous people and local communities.

Tansey (2002:12) also suggests that WIPO is working on documenting public domain indigenous or traditional knowledge “to ensure patent examiners can prevent misappropriation

of this knowledge, as has happened on a number of well publicised occasions and given rise to concerns about biopiracy.” He is therefore hopeful that “other deliberation in WIPO could affect overall use of IPR and remove the apparent flexibilities negotiated into TRIPS, for example, through moves to harmonize requirements in national patent regimes” (Tansey 2002:12).

### **3.7.2 The World Trade Organisation (WTO):**

The WTO was created in 1995 as a consequence of the Uruguay round of negotiations. The main mandate of the WTO is to promote international trade. The council for TRIPS, which is the legally protected mechanism in the TRIPS agreement, forms one of the core WTO apparatuses responsible for enforcing compliance to TRIPS and monitoring its implementation. As such, it also affords members the opportunity to consult on matters relating to trade related IPR. As one of the core mechanism of the WTO for enforcing compliance to IPR, its tasks include assistance of members contesting IPR issues through providing dispute settlement as stipulated in article 68 of the agreement. This task is also built in the agenda and mandate of the TRIPS agreement. For example, TRIPS article 27.3 b stated that the council had to review the patenting of biological resources and the provision of *sui generis* mechanisms by 1999. It was also expected to review the implementation of the agreement in 2000. It is also stated in article 71 of TRIPS that the council may undertake, on behalf of the WTO, to review intellectual property rights protected by TRIPS in the light of new developments that may warrant modification and amendment of TRIPS.

It is important to outline the responsibilities of WIPO and the WTO regarding intellectual property rights issues. This is because in the past, at a multilateral level, WIPO was the institution that had the mandate to deal with such issues. This mandate was overtaken by the WTO when it was instituted in 1995, thus removing the sovereign rights of choosing the conventions or clauses to which states wanted to comply based on their development and economic needs. The taking over by the WTO of overseeing international intellectual property also removed the democratic principles of choice, but produced international multilateral instruments such as TRIPS which compelled all members to institute almost the same laws, no matter what their development, economic or even value systems were like. Subsuming intellectual property rights under the WTO thus has led to generally the same laws for almost

all members of the WTO, something which is tantamount to promoting a hegemony or supremacy of market or trade related intellectual property rights regimes.

### **3.8 MULTINATIONAL CONVERSION OF PUBLIC PROPERTY TO PRIVATE PROPERTY**

Our aim in this section is briefly to demonstrate the ways in which some aspects of TRIPS are used by multinational pharmaceutical and biotechnology companies to privatise public commons. It is also to identify some aspects of TRIPS which are used to justify the privatisation and patenting of public commons and indigenous knowledge. Demsetz, quoted by Brush (1996:14), argues that “granting an intellectual property right is a familiar method for converting public goods into private ones” Brush affirms this by saying,

Intellectual property does not directly convey market value to an idea or plant that is protected. Rather, it allows the market to work where it otherwise would not, by permitting a person to exclude others from using his or her ideas or plants, except under license or royalties. The right to exclude effectively becomes the right to profit from selling the idea or plant. Without intellectual property, all ideas are public goods or common property, and no one can be excluded from using another’s idea. The right to exercise temporary monopoly power, however, requires that the claimants of the right prove their eligibility (Brush 1996:14).

Some of the aspects of TRIPS are employed by pharmaceutical and biotechnology companies to convert public property into private property. This is noticeable in the privatisation of biological resources such as the Hoodia cactus, J’ouble and *Swatzia Madagascariensis* discussed in chapter two. The examples below elaborate the point expressed above.

#### **3.8.1 J’ouble and IPR:**

Hellekant and his team observed the use of J’ouble by Gabon people. Thereafter they screened J’ouble and decided to manipulate its production in the lab. They proceeded to evoke articles 27 and 28 of TRIPS, which allow for the patenting of products deriving from biotechnology. Screening and isolating J’ouble is recognized as ‘an inventive step’ by TRIPS article 27. The second important idea recognized by TRIPS is that a process or product has to be applicable to

industry. For example, the development of a synthetic sweetener in a laboratory is recognised in the application of patents. Hellekant and his team gained intellectual property rights from J'ouble because they included an inventive step in its production and also had it produced commercially. By so doing, according to TRIPS, they were able to display a new step in the production of J'ouble. They were also granted a patent because they had made it possible for industry to produce this in a laboratory, thus making the old method of growing J'ouble redundant and unnecessary. Also important to note is that, after genetically manipulating J'ouble to grow in the laboratory at a massive scale, not only did Hellekant and his team displace the natural J'ouble, but he also privatized and claimed ownership of the rights to components of J'ouble which he found communities in West Africa, particularly Gabon, already using.

### **3.8.2 Hoodia Cactus and IPR**

The case study on Hoodia Cactus is also instructive when analysing the impact of bioprospecting and TRIPS on African indigenous knowledge and biodiversity. In this case the companies that claimed patents on P57 did not acknowledge the antecedent knowledge that the *Basarwa* had about Hoodia Cactus. Instead, the CSIR representative claimed that the *Basarwa* were extinct, hence they could not seek their consent with regards to the patenting of P57. CSIR, Pfizer and Phytopharm were actually taken aback by the challenge of *Basarwa* that the knowledge that Hoodia staved off hunger was not new, as the *Basarwa* had been using this plant for generations. These companies had, therefore, tilted their argument for patenting P57 from Hoodia to TRIPS agreement, which does not require informed consent by communities whose knowledge is used as a lead for new products. It is clear from this case that article 27, which allows for patenting of micro-organisms was invoked. Article 28 also, which allows for non-discrimination of patents except in cases where nutrition and health of countries is at stake, was appealed to.

### **3.8.3 Swatzia madagascariensis**

Zimbabwe's knowledge on *Swatzia madagascariensis*, knowledge held by indigenous healers, was treated as public property. However, when Hostettmann and his team claimed patents on

the *anti-deterpenes* components of the tree, they were granted patent rights. This case is similar to those discussed above. First, Hostettman operated on the basis that this was new knowledge as is required by patents, plant breeders' rights, geographic indications and other forms of intellectual property, yet this knowledge was only new to the north and not the south. It would seem that there is a similar trend by all these case studies, of using article 27 of TRIPS to convert public commons into private commodities.

### **3.9 THE IMPLICATIONS OF TRIPS FOR BIODIVERSITY**

My aim in this section is to identify some of the implications of TRIPS for biodiversity. I do so by briefly, stating the political, economic, environmental and socio-religious impact of TRIPS.

#### **3.9.1 Environmental implications**

Most small farmers in the South produce a number of crop types and varieties, many of which are either consumed by the household or traded on local markets. Farmers rely on the biological diversity of plants in their fields. Biological diversity and its sustenance act as guarantee against crop failure, pest outbreaks, and other eventualities. This implies that the diversity of plant resources is encouraged to promote sustenance. Dawkin et al (<http://ces.iisc.ernet.in>) argue that engineered organisms, which are often based on landraces, that is, conventional plants, or are the modified versions of landraces are, according to TRIPS, patentable, have the possibility of producing “unanticipated harmful impacts on other species in [their] new environment.” In order to illustrate the possible effects of genetically engineered organisms on the environment, Dawkins et al narrate the story of a group of scientists from the University of Oregon who engaged in a highly irreversible experiment. They state:

A group of scientists at Oregon State University, for example, engineered a variety of *klebsiella plantcola*, a bacteria known to reside in the soil and contributes to the decomposition of plant material. Their goal was to engineer a product that would efficiently convert agricultural wastes to ethanol fuel. Although the project was successful in meeting this goal, the scientists discovered in late stages of testing that the new product also destroyed much of a beneficial *mycorrhizal fungus* essential to the recycling of nitrogen through plant roots which could lead to desertification throughout the range of the product (Dawkins et al, <http://ces.iisc.ernet.in> ).

This example highlights that intellectual property regimes, such as TRIPS, reward the development of genetically engineered organisms, or the manipulation of plant crops into genetically engineered organisms the safety of which has not even been established by scientists. For example, if a genetically modified form of j'ouble is planted in the same region that the natural j'ouble is planted, and they cross, this could result in the extinction of the natural form. A related case occurred in Canada, where a farmer by the name Percy Schlemmer, planted organic wheat and, unfortunately, this became cross-fertilized with a genetically modified form which his neighbours had planted and which was patented by Monsanto. He was thereafter sued by Monsanto for violating patent rights by planting maize that exhibited the characteristics of the patented one. This implies that, after cross fertilisation with the genetically modified biological resources, natural resources cease to exist.

### **3.9.2 Socio-political and cultural implications**

The implications of the TRIPS agreement are very worrying in terms of food security, in particular.

At the moment, between 15-20% of the world's food is grown by small farmers, feeding at least 1.4 billion people. These farmers save their seeds after each harvest for replanting the following season. In many non-industrial societies the idea of private ownership of living organisms is an anathema. Non - industrial societies and their cultures are based on a holistic view which respects life, but they are fundamentally disregarded and undermined by western technologies and property systems...A multilateral regime of private intellectual property rights therefore poses grave threats to the knowledge systems, cultural, social and economic lifestyles of farmers and indigenous communities (Oram 1999:6).

Oram (1999:6) points out that there is a fundamental cultural displacement which occurs under TRIPS. This is because, in many instances, farmers in Africa have seen themselves as the stewards of seeds and their products. They have not viewed biological resources as commodities to be privatised. Biological resources and knowledge held in common are also embedded within the framework of culture, religion, politics and social relationships. When these are privatised through TRIPS, this results in the displacement of resources and knowledge which nurture and sustain them. The Privatisation of biological resources and indigenous knowledge through TRIPS erodes "the very idea of what it means to be a farmer"

(Oram 1999: 6).

According to Said (<http://www.dpmf.occasional> papers), the WTO and TRIPS agreement are politically skewed to serve the interests of western nations than those of the South. He suggests that the WTO in its application of trade liberalisation is marked by inequality. For example, the uneven nature of its functions and its laws is seen in its negotiating processes and in the themes to which it pays attention. Said says that WTO's effectiveness has been limited mainly "to trade in manufactured products" (Said <http://www.dpmf.occasional> papers).

Accordingly, the WTO has been successful in maintaining a commitment of the leading western countries "to a system of embedded liberalism by skewing the benefits of trade liberalisation to their favour. The ranges of manufactured products that have benefited from trade liberalisation are products produced in advanced industrialised countries" (Said <http://www.dpmf.occasional> papers). Not only have the WTO and TRIPS shown commitment to the political and economic ideals of the North. The WTO has also, according to Said, provided appropriate space for advanced industrialised countries "to further their parochial interests at the detriment of less developed countries" (Said <http://www.dpmf.occasional> papers).

There are people, for example Ekpere (refer to chapter 8 below) who argue that allowing people to patent life forms as it is sanctioned by TRIPS, article 27, is antithetical to the belief systems of Africans who hold that the land and the environment are not to be owned by people, but that people have to be custodians of the earth. African religious and social thought does not allow stealing public resources, converting them into private resources and undermining the lives of biodiversity and of humanity because of the profit motif. The conduct of pharmaceutical companies which prospect or pirate and claim intellectual property belonging to indigenous peoples is synonymous with stealing.

### **3.9.3 Economic Implications**

Proponents of IPR, as espoused by TRIPS, say "an efficient and equitable intellectual property



system can help all countries realize intellectual property potential as a powerful tool for economic development and social-cultural well being. The intellectual property system helps strike a balance between the interests of innovators and the public interest, providing an environment in which creativity and invention can flourish, to the benefit of all”(<http://www.wipo.org>). They argue that “intellectual property rights reward creativity and human endeavour which fuel the progress of humankind.” As an example of economic success, they cite the claim that “the multi-billion film, recording, publishing and software industries which bring pleasure to millions of people in all parts of the world would not exist without copyright protection” (<http://www.wipo.org>). Secondly, they say “consumers would have no means to confidently buy products or services without reliable, international trademark protection and enforcement to discourage counterfeiting and piracy” (<http://www.wipo.org>). They also claim that, “without the rewards provided by the patent system, researchers and inventors would have little incentive to continue producing better and more efficient products for consumers worldwide” (<http://www.wipo.org>).

Dawkins et al (<http://ces.iisc.ernet.in>) argue, on the contrary, that patenting enables the companies to monopolize the market for new plant varieties deriving from the original plant for the term of the patent. The result is good revenues for companies but very little financial reward for communities whose plant resources were used as leads to biotechnologically engineered plant varieties. In addition, “the privatization of genetic resources that have been engineered and patented accelerates the trend toward monocultural cropping” (Dawkin et al, <http://ces.iisc.ernet.in>).

Other opponents of TRIPS also point out that the development of genetically engineered crops is not being driven by the needs of poor and vulnerable farmers, but by large multinational companies with two essential motives: 1) to generate profit; and 2) to ensure the continuation of that profit by consolidating their control over the international agriculture sector.

This is plain enough when one looks at the trends in crop research and development. Rather than focusing on improving yields in marginal lands, nearly all research into GM crops is going into improving food processing qualities, transport durability, appearance and shelf-life-traits favouring sales in Northern consumers niche markets rather than meeting food needs in the South. Even where research has been geared towards developing countries, the emphases tends to be on export crops at the expense of subsistence crops (Oram 1999: 5).

Furthermore, they point out that most genetically modified crops are geared towards intensive agriculture unsuited to the diversified farming systems practised by millions of resource-poor cultivators in Africa and the South in general. They therefore conclude that the IPR promoted by TRIPS “will further disempower and marginalise farmers in the local and national food production process” (Oram 1999: 5).

### **3.9.4 Legal Implications**

There are legal challenges that countries in the South have to grapple with when dealing with intellectual property rights, bioprospecting and TRIPS. One such challenge is that the violations by multinational biotechnology and pharmaceutical companies, through bioprospecting and biopiracy, are neither recognized nor punishable by TRIPS. Since TRIPS does not protect indigenous knowledge and resources which are held in common, it becomes difficult for communities to challenge biopiracy legally. This is also made difficult by the high costs of litigation fees that are involved in contesting patents or intellectual property. According to Oram (1999:4),

challenging these patent systems requires sophisticated arguments in a field that is extremely specialised and technical, as well as being notoriously pockmarked with legal grey areas. Bureaucratic issues therefore pose obstacles to the ability of local communities to contest patent claims. The expense involved in a legal challenge becomes prohibitive, particularly where the challenging parties do not themselves seek large profits from their intellectual property.”

If developing countries adopt a plant breeders’ rights system, such as the UPOV 1991, which is encouraged by the WTO as the best mechanism that does not violate the TRIPS agreement, they will effectively be criminalising the practice of seed saving which is commonly practiced by indigenous and local communities in Africa. “Legal contracts drawn up by the seed company will force farmers to purchase their seed year after year, a requirement that would raise farmer’s costs and drive millions off the land”(Oram 1999:3).

### **3.10 CONCLUSION**

This chapter traced the history behind the TRIPS agreement. It highlighted that the content,

scope, and period of intellectual property before the advent of TRIPS was determined by individual countries, and this was based on each country's particular need. I also noted that prior to TRIPS, intellectual property rights were not fully related to trade. The globalisation of trade, therefore, intensified the search for new biological resources and their patenting in order to increase profits. While this is touted as a commercial benefit by mercantilist approaches, it leads to marginalisation, expropriation and abuse of resources and knowledge from Africa and the South. I also presented an overview of the TRIPS agreement and analysed some of its implications for the South, and in particular for Africa.

Lastly, I demonstrated that the benefits which accrue from the implementation of TRIPS in Africa are actually non-existent, as TRIPS benefit the companies of the North rather than the peoples of the South. It was noted that in terms of the protection of biodiversity and indigenous knowledge the CBD provides more protection to the interest of peoples of Africa and the South and as such it has to be recommended as the key convention on biodiversity. The limitation of the CBD however, is that it is not mandatory, while TRIPS agreement is. My observation is also that there is no big difference between the agenda of WTO and TRIPS with regards to the lack of protection of indigenous knowledge rights. This, therefore, means that Africans have to devise the means to address these shortcomings.

## **CHAPTER FOUR**

### **GLOBALISATION AS A CONDUIT AND CATALYST FOR EXPROPRIATION OF AFRICAN PLANT COMMONS AND INDEGENOUS KNOWLEDGE**

#### **4.1 INTRODUCTION**

Chapters two and three of this thesis have sought to highlight the impact of bioprospecting and TRIPS on biodiversity and indigenous knowledge in Africa. In

chapter two I demonstrated that bioprospecting, which refers to the exploration, the extraction and screening of biological diversity and indigenous knowledge for commercially valuable genetic and biochemical resources impacts negatively on African communities and African biodiversity. I also established in chapter three that the international regulatory framework of the intellectual property rights system, through TRIPS, which is administered by the WTO, endorses the expropriation of African biodiversity and indigenous knowledge. This consequently leads to major benefits for multinational companies while indigenous and local communities in Africa, which depend on indigenous knowledge, plant commons and biodiversity for their livelihoods, experience major losses.

The present chapter aims at establishing the link between economic globalisation, on the one hand, and bioprospecting and TRIPS, on the other. The aim is to find out whether economic globalisation is a conduit and catalyst for the expropriation of African plant commons, biodiversity and indigenous knowledge. It is also to find out whether this happens through bioprospecting and claims of intellectual property rights and private property on public commons and knowledge through TRIPS. It is further to examine if these two processes (bioprospecting and TRIPS) bear any resemblance to the current process of economic globalisation. I also aim to continue pointing out the positive and negative impact of these processes on Africa.

In order to comprehend systematically the role that economic globalisation plays in the protection or abuse of African biodiversity and indigenous knowledge I shall first provide a detailed analysis of what economic globalisation entails. This implies that I shall define economic globalization, trace its history, its theories, values and elements that characterize it. I shall also establish the link between economic globalisation and neoliberalism. This is because the rationale behind economic globalisation is that most of the resources which are held as commons, or which are in the public domain, ought to be privatised. My second task here will be the exploration of the link between economic globalisation and plant commons, biodiversity and indigenous knowledge, especially after the globalisation of intellectual property law through TRIPS. The third task will be

to establish the role and position of Africa in economic globalisation, particularly on the issues relating to biodiversity and African indigenous knowledge.

## **4.2 ECONOMIC GLOBALISATION**

The 21<sup>st</sup> century is replete with references to and discourses on globalisation. However, the meanings attached to globalisation “vary quite substantially” (Brah 2002: 31). In the words of Moe-Lobeda (2003: 250), “undefined, it means almost nothing because it can mean almost anything.” For instance, a survey of literature on globalisation reflects a number of definitions. David Singh Grewal, for one, suggests,

Globalisation is often celebrated as an advance of human freedom in which individuals are ever freer to lead lives of their own choosing. Transnational flows of money, goods and ideas, it is argued, will accompany an increasingly liberal international order in which individuals can participate in the global economy (Grewal 2003: 89).

Another commentator, Saranel Benjamin (2001: 68), defines globalisation as “the process whereby the economic, political, social and cultural links between different countries, industries and individuals of the world are increasing.” She identifies another definition from Beck (2000) which sees globalisation as the “usurping of state power by powerful transnational companies and international financial institutions”. She says her own understanding of globalisation is similar to that articulated by Vandana Shiva and Mies in 1998, and that of Samir Amin (1998), which sees it as a process that describes the “power of a global capitalist economy to create a new scale of wealth generation by penetration of the world’s market and exploitation of resources through international free trade” (Benjamin 2001:68).

Carolyn Stephens also describes globalisation in a different manner. “It is a term that has been used in academic and political circles for around 10 years to describe the acceleration of processes which have, in reality, been going on for hundreds of years”(Stephens 2000:1). Stephens (2000:1) also links globalisation to the “integration of economic systems, capital movements and opportunities for different peoples through improved information and communication technologies”.

Since globalisation is defined in a variety of ways, it is imperative to note that this chapter focuses on economic globalisation. This does not, however, imply that it neglects to acknowledge the cultural, socio-political, environmental and developmental elements of globalisation.

Economic globalisation is understood in this chapter along similar lines to those articulated by Samir Amin, Vandana Shiva and Mies, quoted above. It is understood to refer to “a set of economic processes in which production, marketing and investment are increasingly integrated across borders and between firms... leading to the emergence of a single market for goods, capital, technology, services, information and to a limited extent, for labour” (de Wet 2002: 1).

As an economic process, economic globalisation describes the set of policies and regulatory frameworks, plans and strategies which “control the wealth and resources of a country, about how resources are distributed between people, and about how the means of production such as land, factories, and technologies are owned and controlled”(SACBC, quoted in LenkaBula 2002:164).

In summary, economic globalisation is:

The process of consolidating wealth and power by the rapid integration and structuring of national economies into one global economic order through trade liberalization, privatisation and deregulation. The aim is to remove obstacles to the global movement of capital and production of goods that have accumulated in advanced, industrial capitalist countries. Its primary institution is the transnational corporation (Women’s International League for Peace and Freedom, quoted in LenkaBula 2002: 164).

#### **4.2.1 A brief background to economic globalisation**

There are differing opinions on whether economic globalisation is old or a recent development. Some scholars<sup>2</sup> suggest that economic globalisation began at the end of the nineteenth century. They point out that, during that time, the world was highly

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<sup>2</sup> For example, see Adam, Barbara. 2002. The Gendered Time Politics of Globalisation: of Shadowland and Elusive Justice <<http://www.feminist-review.com>> .

integrated through the movement of goods, capital and people. Transportation through steamships and railways connected people and countries and opened up markets. Communication through the telegraph, among other means, facilitated the emergence of international capital markets. In the early twentieth century, globalisation had major effects on global income distribution, with capital flows creating infrastructure for the export of labour intensive agricultural goods. Capital flows also facilitated export growth. However, there was a crisis in capital markets in the twentieth century, particularly during the inter-war period.

An African social scientist, Francis Nyamnjoh (quoted by Alexander 2001:1), views economic globalisation as a “continuation of imperialism under another name.” He further claims that “it is another label for the same basic process of mission previously described as modernisation. This mission ...is that of freeing the African of his natural and cultural Africanness, and inviting him or her to participate in the standardized, routinized, streamlined and global consumer culture....[G]ranted the level of poverty in Africa, only the elite qualify”( Alexander 2001:5).

Noam Chomsky (quoted by Alexander 2001:14), on the other hand, suggests that economic globalisation is “Phase two of post-war capitalism. Dating its onset, once again, from the early 1970s.” He argues that it was designed to “unravel ...the social democratic measures (of phase 1)” (Chomsky, quoted by Alexander 2001:1). A similar view is echoed by the International Labour Resource and Information Group (ILRIG) when it states that, since the early 1980s, there have been tremendous changes in the global economy and in the political climate that contextualize it. According to ILRIG, during this time, economic globalisation was entrenched by instituting structural adjustment in Africa as conditionalities for aid, trade and international agreements. Accordingly, these resulted in the current hegemony of the neo-liberal model in the economy. It also resulted in the implementation of policies, by African countries, aimed at eliminating obstacles to the capitalist market economy and the exercise of free trade. It further led to trade liberalization and the deregulation of production, labour, goods and services residing in the public domain, or administered by the state, as well as encouraging the implementation of regional and international trade agreements. ILRIG

points out that economic globalisation in Africa encouraged further expansion of domestic markets to entrench neo-liberal and market principles.

In the third world, these trends unfolded through shifts from import substitution to export promotion development models, or as part of structural adjustment packages implemented to address foreign debt, as is the case in many countries in Latin America and Africa (IFIAS 2000:1, <http://www.ifias.ca>).

It is important to note that while in its first phases globalisation was driven by governments of industrialised countries in collaboration with international financial institutions such as the World Bank and the IMF, the contemporary form of globalisation is “unabashedly corporate led and designed in the interest of investors and lenders” (Chomsky, quoted by Alexander 2001:1).

#### **4.2.2 Characteristics of economic globalisation**

Economic globalisation is characterized by a number of features. The Women’s International league for Peace and Freedom identifies the following:

- The accumulation of surplus capital in the form of private profit;
- The presence of monopolies, concentrating and centralizing capital;
- The merging of finance and bank capital;
- The division of the world into markets;
- The global movement of speculation in capital;
- The collusion with and use of national and international institutions to consolidate power (Women’s International League for Peace and Freedom, quoted in LenkaBula 2002:164).

Dickinson identifies seven factors that characterize economic globalization, which are quite similar to those identified above and these will be extensively referred to. According to Dickinson (1998:5) the burgeoning and development of new technologies is one characteristic feature of economic globalisation.

The development of new technologies, especially of new communications and analytical instruments such as computers, the Internet, etc., has greatly strengthened the capacity of powerful economic interests to extend their influence and control... in the area of finance, which enables money to be shifted at the touch of a computer key from one currency to another, from one corner of the



globe to another. Shifting of finance may have nothing to do with production or basic economic forces... (Dickinson 1998:5).

The second feature is the “practical monopoly of ‘free market’ entrepreneurs” (Dickinson 1998: 6). Dickinson’s view is that the practical monopoly of free market is partly due to “the break-up of the former Soviet Union in 1989 [which] left free market forces relatively without competition from outside forces” (1998: 6). Biotechnology has also added a new dimension to the debates on economic globalisation, bioprospecting and TRIPS.

There is a perception among some in the developing countries that the granting of monopoly rights to genetic material is biopiracy being practiced against the developing countries. For instance, monopoly returns to intellectual property that is traded internationally are appropriated in three ways: 1. directly through prices of exports; 2. fees for use; and 3. profits of subsidies... [I]f failure to enforce intellectual property rights is instrumental in preventing the establishment of a foreign subsidiary, the use of WTO sanctioned cross retaliation via trade measures is possible (<http://www.agbioforum.Missouri.edu> pg).

The third feature which is also similar to that suggested by the Women’s International league for Peace and Freedom above is “Mergers and Longitudinal Integration” (Dickinson 1998:6). For example, transnational and multinational corporations are “merging and concentrating power at an unprecedented rate, driving out competition especially in the weaker economies whose fledgeling industries find it difficult if not impossible to compete” (Dickinson 1998:6). This feature is also obvious in the mergers by pharmaceutical and biotechnology companies which engage in bioprospecting and also invoke or utilize TRIPS to make claims of private property and intellectual property rights on African public commons, biodiversity and indigenous knowledge.

The Institute for Agriculture and Trade policy demonstrates a clear example of mergers by biotechnology and pharmaceutical companies involved in bioprospecting. This institute points out that “a series of rapid mergers and acquisitions within the agri[cultural]-chemical and pharmaceutical sectors followed, leading to the booming new biotechnology sector” (Institute for Agriculture and Trade policy 2003: 2). It further declares, “Of 1,500 seed companies in the world in 1995, just 24 held a combined market

share of more than 50 percent. By 2000, after years of merger-mania, the top ten seed companies controlled 33 percent of the \$23 billion seed market and 90 percent of the \$31 billion agrochemical market”(Institute for Agriculture and Trade policy 2003: 2).

At the top of the list was Syngenta-- formed by the merger of Novartis and Zeneca- with \$5.9 billion of annual sales. Novartis itself was formed in 1996 by the merger of Sandoz and Ciba-Geigy. In second place was Monsanto, bought up by Pharmacia but then spun-off after the biotech connection became more of a liability than an asset to the drug company. About two-thirds of Monsanto’s \$3.9 billion sales in 2000 were from Roundup, the herbicides for which the first two popular biotech crops were designed (The Institute for Agriculture and Trade policy 2003: 2).

In addition, The Institute for Science in Society, highlights the role of mergers of pharmaceutical and biotechnology companies. Quoting the ETC group news release ([http:// www.i-sis.org](http://www.i-sis.org) ), it claims that mergers between pharmaceutical companies are now “reputed to account for one fifth of multinational revenue. They also enable giant corporations to bypass the cost of patent litigation to which they have fallen prey as a consequence of their insistence on ownership rights.” According to the Institute for Science in Society ([http:// www.i-sis.org](http://www.i-sis.org) ), “the gene giants are being allowed to create global technology cartels that run below the radar screens of anti-trust regulators.”

The fourth characteristic Dickinson mentions is “the new global institutions controlled by free market agents” (Dickinson 1998:6). He explains this by pointing out that in contemporary international relations, “several global institutions safeguard the current global economic system” (Dickinson 1998:6). These include institutions such as the “International Bank for Reconstruction and Development, or World Bank, the International Monetary Fund (IMF), the General Agreement on Trade and Tariffs (GATT), now essentially the World Trade organisation (WTO)” (Dickinson 1998:6).

The fifth element he identifies is the “Limits to growth” (Dickinson 1998:6). According to Dickinson there is a growing recognition of the ‘limits to growth’ at the level of resources and the capacity of the earth to absorb wastes. He says this recognition of the

limits of growth “has made issues of both sustainable development and just distribution of resources both more prominent and controversial” (Dickinson 1998: 6).

The sixth element is the weakening of the State and the increase in Footloose Corporations. Dickinson argues that until recently, economic activity has generally had a ‘territorial’ base. However, today that is far less true as corporations are far less bound by territory. He says “these corporations are defined far more by the rules, practices and guiding values of the international market place... While globalisation integrates markets, it fragments politics” (Dickinson 1998: 6).

The seventh attribute of economic globalisation is the growing disparities among peoples and countries. The growing disparities resulting from economic globalisation, according to Dickinson, have become a prominent issue of social justice.

It was claimed that free play of market forces would benefit the poorest segments of the population. Recent empirical evidence contradicts this claim. The richest countries and individuals are receiving the lion’s share of new wealth; the gap between rich and poor is widening even within the more industrialized countries; differentials in levels of compensation between executives and labourers have become even more pronounced. Globalisation also excludes peoples, especially those women, children and migrant labourers who are most vulnerable. While often globalisation creates new jobs, it often eliminates many others (Dickinson 1998: 6-7).

There are other scholars who identify elements that have not been tabled above. For example, Brah puts forward an idea that one important feature that distinguishes economic globalisation from “the period of empires is that the conditions of the US’s predominance are so intrinsically inscribed in the current differentiated pattern of global power relations that the US does not have to depend on the expansion of its territory to secure its status and power” (Brah 2002: 32). She further points out that although the history of formal empires was of ongoing imperial rivalry, “the network of G8, whilst marked by a degree of internal dissension, remains, overall, remarkably quiescent to the demands of US leadership”(Brah 2002:32). The role of the US in the WTO and, in particular, in influencing TRIPS agreement on the patenting of life-forms and the

establishment of a *sui generis* system which is similar to the patent system or combines both the patent and plant variety protection, confirms Brah's view expressed above.

According to Brah (2002: 32) "vestment of power in a single nation-state, at a time when many features of sovereignty of nation state, as a general category of governance, are in relative decline," reflects the contradiction of economic globalisation. Brah is of the opinion that the WTO, in establishing trade related aspects of intellectual property, followed, to a large extent, the legislative framework of the US patent system which permits intellectual property rights on life forms. This is evident in TRIPS, article 27.3 b, which compels members to allow patents in all forms of technology, implying that products and processes evolving out of biotechnology are also patentable. Although article 27 was challenged by WTO members, such as the African Group and its position paper, which challenged the patenting of life forms and suggested that article 27 should be scrapped from TRIPS agreement, the patenting of life-forms continues to be endorsed by TRIPS.

The positions of groups from the South, such as the position of the African Group of WTO members, are not taken seriously by WTO. "In June 2003, the African Group of WTO members reiterated its 1999 position that 'patents on life forms are unethical and the trips agreement should prohibit them'" (Institute for Agriculture and Trade policy 2003:3). The position of Africa included a proposal to establish within TRIPS agreement a "mechanism for the legal protection of traditional knowledge as a matter of cultural rights as well as of preserving invaluable heritage of humankind that biological diversity and traditional knowledge constitute" (Institute for Agriculture and Trade policy 2003:4). This issue however has not been solved or addressed.

In summary, one of the underlying features of economic globalisation is the hegemony of neoliberalism which has resulted in "the increase in power of the private sector (and of large transnational corporations) relative to that of the public sector" (Grinspun and Krelewich, quoted in IFIAS 2000:1, <http://www.ifias.ca>).

### **4.3 ECONOMIC GLOBALISATION AND NEOLIBERALISM**

Economic globalization is related to neoliberalism. Cleaver (1997:1,<http://www.eco.utexas.edu>) declares that “neoliberalism is a variation on the classical liberalism of the 19<sup>th</sup> Century when British and other imperialisms used the ideology of market competition and ‘free trade’ to justify both capitalism at home and colonialism abroad.” He further suggests that from a historical perspective, neoliberalism can be seen as the newest capitalist response “to the power of people to break losses from previous forms of exploitation while setting their own varied agenda for social evolution” (Cleaver 1997: 1, <http://www.eco.utexas.edu>). For Cleaver, neoliberalism, in all of its guises, is both an ideology and a strategy. The ideology of neoliberalism reveres the market and subordinates all of life to the demands of the market including government, individuals and nature.

As strategy neoliberalism involves privatisation, slashed food and housing subsidies, disinvestments in education, multiplying prisons, a celebration of the death penalty, union busting, land enclosure, lower wages, higher profits, monetary terrorism, the substitution of export oriented for import oriented development, free capital mobility, a crackdown on immigrants, accentuated racism, an anti-feminist counteroffensive, intensified low-intensity war against peasants and the accelerated commodification of nature, all these under the banners of freedom, efficiency and profit (Cleaver1997:1, <http://www.eco.utexas.edu>).

Butler (2002: 125) expresses a related point to Cleaver’s description of neoliberalism. He claims that neoliberalism is the ideology favoured by the dominant global economic classes and their political allies. He identifies some of the features of neoliberalism.

These are:

- The supremacy of the market: this means reduced state involvement in the economy. The state is only responsible for establishing the conditions for production and for the supply of infrastructure;
- Privatisation-- sometimes called the restructuring of state assets. The state sells some or all parts of its enterprises through privatization programmes;
- Deregulation: fewer laws regulate the economy. Fewer price control subsidies;
- Cuts in government spending-- less money is available for welfare programmes in education, health and social security- it also means job losses in these sectors;
- Competition: private firms compete for a share in the market, workers compete with each other for jobs, and labour competes with machines. Outward orientation-- the economy is organised to export;

- Trade liberalisation: taxes on imports are cut and industries are no longer protected from outside competition;
- Flexibility: “the workplace is organised flexibly to suit the needs of the market. Restructuring, rationalization, downsizing and rightsizing are words associated with flexibility” (Butler 2002: 125).

Butler further suggests that other factors which neoliberal economic globalisation might include are successive devaluation of the local currency with the aim of increasing export competitiveness. Devaluation is also meant to discourage imports. “It also enables demand management, meaning the reduction of domestic consumption through a rollback or containment of wages, restrictions on credit and higher taxes and interest rates” (Butler 2002:125). Some of these characteristics are clearly observable in the ways that pharmaceutical and biotechnology companies conduct their businesses.

The idea behind the modification of plant resources in the commons is rapidly to produce them in the laboratory and for commercial purposes, thus cutting back on productive processes which might take longer if plant resources are grown naturally. The other important thing is that, when intellectual property rights are applied for, and corporations hold rights to them, there is not much work that corporations have to do in terms of growing the seeds. All that is required is to license potential users and let them pay every time they plant the patented seeds. Lastly, multinational pharmaceutical and biotechnology companies transfer any risk, burden or liabilities which might ensue in the production of modified and intellectually protected crops to licensees or to people who use these seeds, thus cutting costs for these companies.

#### **4.4 ECONOMIC GLOBALISATION, COMMONS AND BIODIVERSITY**

The link among economic globalisation, commons and biodiversity warrants further examination. Escobar points out that there is an emergent awareness that the essential value of biological diversity is reliant on both its biological dimension (the genetic resources which embody millions of years of evolution) and cultural dimension (the diverse practices of local farmers associated with traditional plant and crop varieties). “For some, cultural and genetic diversity are so inextricably linked as to make both gene

and memory banking inseparable sides of the same strategy” (Escobar1999:1). In Biology, “biodiversity is defined as the natural stock of genetic material within an ecosystem. But biodiversity goes well beyond the scientific domain. It is an example of the co-production of technology, science and society” (Escobar (1999:1, <http://www.grain.org>). Biodiversity, therefore, encompasses diverse sites in terms of actors, practices, cultures and stakes such as local peoples, governments, community based organisations, pharmaceutical companies, among others.

Escobar states that proponents of economic globalisation view their role in biodiversity as the creation of an unwavering network for the movement of objects, resources, knowledge, and materials. According to him, these proponents rely on a simplified construction of biodiversity, the theory of which is best encapsulated by the biologist Daniel Janzen’s motto about biodiversity when he says, “‘you’ve got to know it to use it, and you’ve got to use it to save it’”(Escobar 1999:1-2, <http://www.grain.org>). The dominant view arising from proponents of economic globalisation emphasizes resources management. This view derives from “dominant institutions such as the World Bank and the big northern environmental NGO’s, and is supported by industrialized countries” (Escobar 1999:2 <http://www.grain.org>). As a dominant paradigm it is based on a particular representation of the threats to biodiversity.

[It] emphasizes symptoms and band-aids rather than underlying cause. This approach, proposes mechanisms for biodiversity management including the in-situ and ex-situ conservation and national biodiversity planning. It also focuses on intellectual property rights as the chief mechanism for the compensation and economic use of biodiversity (Escobar 1999:2 <http://www.grain.org>).

Furthermore this perspective, claims Escobar, promotes the problematic practice of bioprospecting which has serious impacts, including the loss for small farmers and indigenous peoples of rights to their own plants and knowledge.

A comparable view to the above is expressed by the Canadian advocacy organisation on Biodiversity, GRAIN (<http://www.grain.org>), which indicates that the push by economic globalisation to control trade and maximise profits, particularly for a few northern multinational corporations, is at the heart of the WTO. The main purpose of the WTO is

to remove all barriers to free trade across the world. The assumption for this position by the WTO is the idea that all people benefit from globalisation and liberalisation.

GRAIN argues against the view presented above. It says that such a view involves a dangerous false presumption as there are many people in the countries of the North and South who do not benefit from economic globalisation. GRAIN is, therefore, of the view that this results in the marginalization of local institutions in making choices about conservation and management of biodiversity and public commons. It argues that “turning all natural resources into tradable commodities not only seriously threatens biodiversity in agriculture, but also undermines locally based initiatives to save and develop biodiversity” (<http://www.grain.org>). GRAIN also points out that the dominant economic globalisation paradigm views biodiversity as ‘green gold’, which is sought by bioprospectors.

The new technology of genetic modification has also opened the doors for massive manipulation of biological resources. Biotechnology, with its growing economic value and support from multinational companies, poses challenges for the protection and conservation of biodiversity, indigenous knowledge and public commons. For instance,

Controls over plants and animals through patents will largely determine who controls the food system in the future. Transnational corporations, big agrochemical or pharmaceutical corporations have become the driving force behind genetically modified food, the global spread of industrialised agriculture and the privatisation of knowledge, bringing intellectual property rights under the WTO and its legally binding dispute settlement procedures (<http://www.cidse.org>).

The challenge posed by the current IPR system is that IPR regimes are more beneficial to the new technologies and their owners. This is because they do not recognize or acknowledge the value of indigenous knowledge and public commons, thus they promote an unfair and unequal world “characterised by a growing concentration of power and wealth in the food system” (<http://www.cidse.org>). It would seem, too, that effort to globalise and commoditize biodiversity “is biased toward protecting the narrow interests of a handful of TNCs which are imposing an alien set of concepts of property on the poor countries and subsistence farmers in which the poor [peoples’] interests and needs are very much secondary”(<http://www.cidse.org>). It is, therefore, clear that economic



globalisation regards commons and biodiversity as resources which ought to be privatised. Its logic is that commons can be utilized better if they remain as private property. It also views them as resources that can be bought and sold in the market, and of which people can claim ownership once they have modified them or included an inventive step in them, as stated by TRIPS.

#### **4.5 ECONOMIC GLOBALISATION AND INTERNATIONAL MULTILATERAL INSTITUTIONS**

In his list of the features of economic globalisation, Dickinson (1998) maintains that several global institutions have a key role in safeguarding it. He identifies the International Bank for Reconstruction and Development (known as the World Bank), the International Monetary Fund (IMF), the General Agreement on Trade and Tariffs (GATT), now the WTO, as primary institutions which work to enhance economic globalisation. This, however, does not preclude other institutions which also promote economic globalisation. Barbara Adam (2002:10) highlights a related point. She likens economic globalisation to neo-colonialist exploration and says it is “nowhere more visible than in the history of the global institutions associated with the 1944 Bretton Woods Agreement, namely, the World Bank, the international Monetary Fund and the World Trade Organisation”.

Adams maintains that the IMF and WB were created initially to establish a steady framework for a post-war global economy, while the WTO was created in 1995 to facilitate trade liberalization at a global scale. Their founding was aimed at controlling and regulating capital funds, maintenance of currency stability and development of world trade. It is, therefore, important to understand the importance of these institutions in globalisation.

The World Bank was set up “to revive war damaged European economies by making loans at below normal bank rates and to help them adjust their economies to globalisation. Its mandate was later extended to developing countries” (Adams 2002: 11).

The International Monetary Fund (IMF) on the other hand was created to maintain currency stability. This was attained by members attaching their exchange rate to the gold standard, which worked reasonably well until 1971, when the US allowed the dollar to float. This move resulted in currency instability, which consequently led to financial speculation and profit creation. “Today IMF loans to developing third world and Eastern European countries are attached to stringent economic measures that effectively allow this institution to run the economy of sovereign states” (Adams 2002: 11).

Adams suggests that When the General Agreement on Trade and Tariffs was replaced by the WTO, its mandate was “expanded into new directions to cover agreements on trade in services (GATS), Trade Related Investment Measures (TRIMS) and Trade Related Aspects of Intellectual Property Rights (TRIPS), each with their own globally binding rules, each a variation on colonisation by post-colonial means” (Adams 2002: 11). These organisations are core to economic globalisation and make it easy for multinational organizations to expropriate African indigenous knowledge and plant commons through trade related aspects of intellectual property rights and legislation that allows competition.

As stated in Chapter 3 above, some of the core principles of the WTO, which are fundamental to its operations, are the application of the principles of multilateralism, non-discrimination and ‘the most favoured nation’ status to all WTO members. It is also to expand further trade through reducing trade tariffs as indicated in section 4.2 of this chapter. In the organisation of its activities, the WTO has three interrelated parts. “The first is to provide a framework of rules and principles to govern the behaviour of states in the international trade regime. Second, it is a forum for multilateral trade negotiations. Third, it acts as a centre for the settlement of trade disputes amongst members” (William, quoted in Said, <http://www.occasional> papers). Said suggests, however, that although the mandate of GATT and, thereafter, its successor, the WTO, was to promote free trade, reciprocity to all members through the most favoured nation principle and non-discrimination, it has been characterised by the opposite. He states the following to substantiate his point:

Between 1948 and 1995, about eight rounds of trade negotiation were undertaken by GATT. All of them were driven by the interests of the

developed countries; especially the United States, the EU and Japan... [T]he items for which tariff reductions are negotiated are usually manufactured goods, which benefit the western nations. The interests of developing countries are either declassified or scantily attended to. For every little concession that is given to developing countries in GATT and its successor, WTO, a higher price is paid in further trade liberalisation of their economies” (Said, [http://www.occasional papers](http://www.occasionalpapers.com)).

Most countries from the South, especially Africa, play a marginal role in the activities of the WTO, as they are often side-lined since issues pertaining to their economic interests are rarely put up for discussion or negotiation. This, as has been pointed out earlier, is evidenced by the WTO’s hesitancy to discuss the cancelling or reviewing of TRIPS article 27, which allows patents on life forms. In summary, therefore, the interface between economic globalisation and the WTO, in particular, is that “they are predicated on the same ideology of neo-liberal free trade of capitalist expansionism. Open doors in which trade barriers are dismantled, national borders, are deconstructed, and capital, goods and services are allowed unfettered access in the global economy” (Said, [http://www.occasional papers](http://www.occasionalpapers.com)). This implies that the WTO is also an agent of the globalisation processes.

#### **4.6 GLOBALISATION AND MULTINATIONAL PHARMACEUTICAL AND BIOTECHNOLOGY COMPANIES**

Aziz Choudry explains the role and agency of multinational companies in globalisation in the following words: “the transnational corporations that dominate the world’s economy are demanding even more rights and fewer responsibilities through trade talks at the World Trade Organisation. They and the powerful governments which support them want more power, more control and more profit” (Choudry 2003: 2). He suggests that these companies want profits, power and control over food, water, our futures and life itself; for example, “the food that we eat – as huge agribusiness corporations seek to open markets even further so that they can capture and control them, while promoting biotechnology in agriculture so that farmers will become ‘bio-serfs’ or lose their livelihoods altogether” (Choudry 2003: 2). Dr. Molefe Tsele, former general secretary of

the South African council of Churches, also expresses similar views. He says:

In reality, globalisation as espoused under the free movement of capital is about the naked drive for profits for transnational corporations. The process is driven from the perspective of the rich developed countries; and serves their interest. The integration is around those sectors where the West has competitive advantage, such as intellectual property rights. In this connection, in those areas where developing countries have an advantage, such as labour capital; there is no urgency to push for global standards (Tsele 2002:117).

Choudry further asserts that multinational biotechnology and pharmaceutical companies are not only interested in making profits but that they also want control over life itself as they constantly file patent applications on life forms. He says, “as pharmaceutical and agribusiness corporations try to force governments to allow for the patenting of life forms for private monopoly profit, and as biodiversity becomes yet another commodity to be exploited, bought and sold in the market place... communities, people are resisting these attacks” (Choudry 2003: 2).

In addition to mergers and consolidation of power in the global market, multinational biotechnology and pharmaceutical companies “have stocked their own seed banks with the worlds’ genes” (Institute for Agriculture and Trade policy 2003: 3). This is accompanied by repeated cases of sending teams of ethno botanists into remote areas to search and screen rare plants or asking traditional healers about their use of local flora and fauna. Once a little bit of the genetic material is safely stored by multinational companies’ bioprospectors in the gene banks, “they can propagate or clone it, or develop a synthetic chemical substitute to meet all of their commercial production needs” (Institute for Agriculture and Trade policy 2003: 3). In the case study on J’ouble (referred to in chapters 2 and 3) a similar conduct by bioprospectors in collaboration with a multinational pharmaceutical company was observed.

The impact of these acts of bioprospecting, which are catalysed by economic globalisation, result in the position where “the local community then has no control over future uses of its genetic and intellectual resources, and even the best compensation deals yield a mere fraction of the monetary value that a successful product can bring to the commercial enterprise” (Institute for Agriculture and Trade policy 2003: 3). In summary,

the analysis above, points out that multinational biotechnology and pharmaceutical companies are beneficiaries of economic globalisation.

#### **4.7 THE ROLE OF AFRICA IN ECONOMIC GLOBALISATION**

It is also important to point out the role of Africa in economic globalisation. This is because Africa, as stated in chapter one, is rich in biodiversity and its resources are being prospected by pharmaceutical and biotechnology companies in large proportions. Africa is regarded as the poorest continent. This is due to the fact that “it has 10 percent of the world’s population yet it only accounts for just one percent of world trade, a proportion that has halved in the last twenty years. The majority of Africa’s people, especially those South of [the] Sahara, live on less than a dollar a day” (Catholic Church in England and Wales 2003: 4).

Ndumbe (2000:5) suggests that it is difficult for Africa to play any prominent role in economic globalisation because its economic policies have been shaped by international financial and multilateral institutions. He says, since the 70s economic policy in sub-Saharan Africa has been increasingly shaped by the policy leverage of multilateral institutions. This was mainly instituted through the policies of the World Bank and the IMF. “This leverage derives from the explicitly high conditionality approach to the disbursement of resources from these institutions in the framework of the structural adjustment plants” (Ndumbe 2000:5).

In addition, Ndumbe points out that for most Africans globalisation is viewed, in part, as an external influence on economic policy in Africa and has been severely denounced as a pattern of neo-colonialism. He further asserts that nobody would deny that “globalisation is bypassing Africa”. He states,

By any standards, African countries remain marginal to all global trade trends. With just over 10% of the world population, sub-Saharan Africa accounts only for about 1.5% of world trade, and its share is declining...[A] more telling statistics is that growth in the volume of exports in GDP in Africa declined by 3.2 points, whereas it grew by 9.9 points for South East Asia. As a whole, the openness of Africa

measured by the comparison imports/exports fell by 5 points since 1970. Africa's economies have become more inward looking while all other economies have become more integrated into the world economy. Africa has not participated in the widespread phenomenon of a more rapid rise in export volumes as in national output. In addition, African exports are highly concentrated since they are almost totally composed of primary commodities (Ndumbe 2000:5).

It is suggested that African representation in multilateral negotiations is also minimal. This is due to a number of issues, including the inability to afford to send core negotiators and lobbyists on their concerns. The Catholic Bishops in England and Wales illustrate this by noting that developing countries lacked capacity to negotiate effectively in the Uruguay round of negotiations which led to the founding of the WTO and subsequently the institution of the TRIPS agreement. The Bishops (2003: 7) state,

Even now, after the establishment of the WTO, 24 developing countries are without a representative there [in the WTO], so they learn only at second-hand what is being negotiated. Other countries may often have only two or three delegates, who must strive to follow parallel negotiations involving multiple meetings on different subjects on the same day. The rich nations of the north, by contrast, maintain large permanent delegations in Geneva and fly in expert trade lawyers for key negotiations. Their governments and delegations are constantly lobbied by multinational corporations seeking to safeguard their existing operations and to exploit new opportunities. In such ways, the capacity and skill of developed countries in using WTO rules to their own advantage puts developing countries at severe disadvantage.

It is obvious that multilateral negotiations that further the program of economic globalisation are not justly constituted. They also constitute inequality in representation in the negotiations. The Report of the Commission on Intellectual Property Rights (2002) observes: "Too often, the interests of the 'producer' dominate in the evolutions of intellectual property rights policy, and those of the ultimate consumer are either not heard or heeded."

The imbalance between developed and developing countries can be illustrated by the dispute about patents and drugs needed to treat HIV and Aids, where countries such as the US threatened trade sanctions to countries like South Africa and Brazil for considering the production of generic medicines to curb the spread of HIV and Aids

pandemic, which ravages their societies. For example, 19 pharmaceutical companies sued the South African government for patent infringement when the government sought to import Aids drugs from India and Brazil, which manufacture affordable generic medicines. The import of generic medicines to help people living with HIV and Aids was seen by these companies as violations of intellectual property rights. They were also seen as anti-competitive, as companies did not want their prices and conduct to be regulated. As Said pointed out in an earlier quotation (see page 95 above), the double standards and inequality in how members of the WTO are treated, shows that Africa is always treated as marginal. The HIV/ AIDS medicines, the intellectual property rights of which are owned by companies, are affirmed, while the usefulness of African biological resources and indigenous knowledge associated to them are declassified or not accorded protection.

Pope Paul VI in his encyclical letter, *Populorum Progressio*, made a comment on the stark inequalities of power and wealth. He said:

When two parties are in very unequal positions, their mutual consent alone does not guarantee a fair contract; the rule of free consent remains subservient to the demands of the natural law...trade relations can no longer be based solely on the principle of free, unchecked competition, for it very often creates an economic dictatorship. Free trade can be called just only when it conforms to the demands of social justice (Pope Paul VI, quoted by the Catholic Bishops in England and Wales 2003: 8).

The Catholic Bishops (2003:8) also point out that “currently developed countries hold 97 percent of patents worldwide, and over 96 percent of research and development is conducted there. They compete fiercely among themselves and the rules are designed to regulate that competition. Thus the dominant perspective of TRIPS agreement is that of highly developed economies”.

In discussions on intellectual property rights between developed and developing countries, a similar imbalance exists. Developing countries negotiate from a position of relative weakness. The difficulty is that they are second-comers in a world that has been shaped by the first comers. The Bishops also note that intellectual property rules were too often skewed in favour of commercial interests based in developed countries. They

therefore conclude that on the contrary, developing countries, especially the poorest, have little to gain from a stringent international patent system.

#### **4.8 THE IMPACT OF ECONOMIC GLOBALISATION ON THIRD WORLD/ AFRICAN BIODIVERSITY AND TRADE**

Nicholas Hildyard (2001: 1, [http:// www.aidc.org.za](http://www.aidc.org.za)) points out that the “theory and practice of neoliberalism have not gone unchallenged, any more than have state-centred development models.” He says these challenges have differing agendas, some are positive while others are profoundly disturbing.

There are scholars who see economic globalisation as a positive process which results in wealth creation for all while, on the other hand, there are those who argue that economic globalisation is negative because it subjects all life, biodiversity, commons and knowledge to market supremacy. My concern in the next section is to investigate the positive and negative impact of globalisation on African communities, biodiversity and indigenous knowledge.

Cleaver argues that economic globalisation is a catalyst for bioprospecting and claims of private property rights on biodiversity and commons. He suggests that this is visible in the increasing efforts to reduce wilderness and natural resources to commodities. He says, however, that efforts which seek to turn communities into waste dumps for the poisonous by products of socially irresponsible neoliberal development are being resisted by many people in the South. They recognize that the privatisation and commercialisation of all life by economic globalisation is “a whirling maelstrom of greed, hot money, narrow vision and brutal violence threatening to suck down and destroy all who come within its reach” (Cleaver (1997: 2, [http: www.eco.utexas.edu](http://www.eco.utexas.edu)).

Economic globalisation “has tended to polarize public/private; nature /humanity; mother nature/ God the father and to promote the hegemonic imposition of singular measures of values such as money” (Cleaver (1997:2, [http: www.eco.utexas.edu](http://www.eco.utexas.edu)). It also



enthusiastically embraces greed and profits while coldly turning its back on working people and the poor. Its ferociously pro-business, pro-profit, anti-wage and anti-labour policies lead to the exploitation and alienation of African peoples from their knowledge, biodiversity and commons.

Because economic globalisation is no longer confined to reducing barriers to imports and exports at the border, but is being conceptualized in much broader terms to include issues such as intellectual property rights (trade-related aspects of intellectual property rights, as the WTO phrases it), it affects other areas of domestic policy, such as the requirement for African countries to make sure that their legislative framework for trade and intellectual property conforms to that which is prescribed by the WTO.

Economic globalisation emphasizes trade liberalization without harmonization of external tariffs, equalization of social policy, provision of compensatory mechanisms for national and regional differences, or harmonization of employment conditions...the emphasis is on economic liberalisation, not the creation of an enlarged community with economic, social and political dimensions (Weston and Joekes, quoted by IFIAS, <http://ifias.ca>).

IFIAS further argue that because of Trade liberalization, the WTO will encourage countries of the global south to liberalize in order to compete in the world market. It suggests that:

In some cases, the less developed countries and less competitive sectors and industries are likely to be at a disadvantage; for example, it is feared that as restrictions on patent laws are lifted, multinational corporations will increasingly be allowed to patent the medicinal qualities of plants that have historically been the preserve of indigenous or local knowledge. This is already taking place in countries that have signed the new agreement, such as India. Given their relative lack of weight in the global economy, there is a danger that local communities might be overlooked and essentially lose their rights to any traditional knowledge about the medicinal quality, production and processing techniques of local plants (Weston and Joekes, quoted by IFIAS, <http://ifias.ca> 2000: 2).

Economic globalisation “is associated with increasing social inequality both within and between countries, and with heightened forms of political instability” (<http://www.nrf.org> 2003:1). Tsele suggests that economic globalisation creates winners and losers. He (2002: 116) says, “[I]n short, globalisation is about winners and losers, and the

losers are developing countries who enter the race constrained by generations of colonial exploitation and underdevelopment.” Tsele further asserts:

Globalisation is not good-news to all, certainly not to the poor of the South. The major shift and change has been the increase in the integration of economies of developing countries into the global economy of rich economies. But trade integration between poor and rich countries has exacerbated inequality. In reality, no poor country has become competitive and won against developed countries. Poor countries have become extended new markets for products from developed countries. Instead, developing countries have become an outlet for portfolio investments and savings of the aging population of industrial countries, offering even higher returns and less risk (Tsele 2002:117).

Poverty and inequality are increasing. Women bear a disproportionate burden of the negative consequences of globalisation. “Environmental degradation is accelerating at an alarming pace and threatens the basis of any sort of development in the long run. Workers, the poor and the marginalized sectors bear the disproportionate burden of the environmental costs associated with development” (Butler 2002: 127).

The Catholic Church Press on Trade and Solidarity also affirms the idea that economic globalisation results in winners and losers. It proclaims that,

always, there are winners and losers. In fact the gains have been concentrated in relatively few countries, while others have barely maintained their exports or have lost ground. Within countries, too, some have gained some have lost. In fact, it is often the poorest who have lost from trade liberalisation, for they may lack the experience and capacity to contribute to the new export-oriented industries, and so have little to offer the global market(see Catholic Church of England and Wales 2003: 6).

The Catholic Bishops (2003:6) further assert that “the manner in which trade liberalisation is being driven forward today gives rise to additional problems”. For instance, “the rich countries of the north resist reducing the support they give to many of their own industries... [T]hey continue to subsidise agriculture and have not yet fulfilled their commitment to dismantle barriers.” It is clear that only countries of the South are expected to implement liberalisation, yet the countries of the North get away with subsidies. The Catholic Bishops (2003:6) reiterate that “the powerful countries seem to sometimes adopt an almost crude approach; ‘you liberalise, we subsidise’.”

#### **4.9 ECONOMIC ALTERNATIVES TO ECONOMIC GLOBALISATION AND ITS IMPACT ON COMMUNITIES AND BIODIVERSITY:**

Hildyard (2001: 13, [http:// www.aidc.org.za](http://www.aidc.org.za)) says communities are searching for alternatives and are redefining both the role of the state and the market through political action rather than abstract debates. This is done through activities that search for democratic pluralism.

Democratic pluralism recognized the anti-democratic nature of the centralized nation-state on which state protectionism of the past was founded. But it also sees the emergence of corporate protectionism as the real threat to democratic rights and economic livelihoods. Countering this recolonisation requires the reinvention of national sovereignty by democratic processes to create national systems which act in partnership with local communities to protect the natural wealth, the economic livelihoods and the cultural and intellectual heritage of the country (Shiva, quoted by Hildyard 2001: 13, [http:// www.aidc.org.za](http://www.aidc.org.za)).

Hildyard argues that in many cases the demand for democratic pluralism that is localized is “closely linked with efforts to reclaim a space for the commons - those locally-oriented systems of production, distribution, exchange and property rights where the bargaining power of any one group or individual is checked by both a culture of shared responsibilities and a practical need to cooperate” (Hildyard 2001:13, [http:// www.aidc.org.za](http://www.aidc.org.za)). For some “the immediate issue is defending existing commons against enclosure by market or state interests” (Hildyard 2001: 13, [http:// www.aidc.org.za](http://www.aidc.org.za)). For other analysts and movements, however, efforts to ensure more equitable and sustainable results from international trade are part of a more general political struggle to relocalise economies in the conviction that genuine equity in the marketplace and in political decision-making is only possible at the local level, where people can better exert control over their lives and livelihoods.

Others question the argument that export-led growth and enhanced corporate competitiveness represent the routes to prosperity. In this case the search for alternatives proposes a different economy which embraces diversity, which enables communities to be self-reliant over trade, which adequately safeguards the environment, the poor and which produces commodities for use rather than profit. Proposals for a social justice

oriented economic alternative also seek for an economic system which protects communities which flourish better in holding resources in common. The practice of holding property or biological resources in common is more common than capitalist globalisation which commercialises all resources of the earth, including life. The search for economic alternatives against economic globalisation and its impact on communities seeks to insist “on the rights of a community to protect itself precisely because it does not seek to infringe the rights of others to protect themselves” (Hildyard 2001:12, <http://www.aidc.org.za>).

One of the proponents of economic globalisation, William Greider (quoted in Mandle 2003: 125), declares that the onus to reform economic globalisation should fall on “American-based corporations”. His view is that, “since it is obvious that the WTO and other international forums have no intention of acting, Americans really have no moral choice but to assert responsibility”. Greider is of the view that this redefinition of economic globalisation would be through passing a domestic legislation imposing rules on the behaviour of American-based multilateral corporations.

Such legislation would require, at least at first, only that firms provide information on where and how production is undertaken—this in order to empower workers and other activists. A firm’s failure to provide such information would be met by tariff penalties on its accessing the American market...the laws requiring companies to provide such information can set the stage for subsequent legislation that eventually establishes minimum standards for corporate behaviour on environment protection, labour issues and human rights” (William Greider, quoted in Mandle 2003: 125).

The limits of this proposal are that not all multinationals are located or based in the United States. “Data compiled by the United Nations indicate that, in 1997, 27 of the 100 largest multinational corporations were based in the United States; 45 found their home in the EU, 17 were in Japan; 3 in Canada; and the remainder scattered in Australia, New Zealand; South Korea; Switzerland and Venezuela” (Mandle 2003:125).

This proposal further limits the creation of alternatives to a single country and thus indirectly justifies the unilateralism of the United States. Cleaver ([www.eco.utexas.edu](http://www.eco.utexas.edu)) suggests that the search for alternatives must endeavour to link the emerging alternatives

to new and old approaches which seek to redefine and organise equitable and socially just distribution of wealth. It should also redefine and craft new relationships among humans and between them and the rest of the universe in ways that are capable of complementarity which is not abusive. He states,

There are many on-going experiments around the world whose experiences and creativity can be shared. This does not mean unity for socialism or any other singular post-capitalist economic order, but rather the building of cooperative interconnections among diverse projects. Nor does it mean delinked and divided localism. It means putting together a new mosaic of interconnected alternative approaches to meeting our needs and elaborating our desires. It means inventing new politics that welcome differences but provide processes of interaction which minimize antagonism (Clever 1997:8, <http://www.eco.utexas.edu>).

Hildyard is of the view that the struggles against economic globalisation by social movements are rarely guided by a theoretical debate over the merits of states versus markets. Rather, they often rest on a pragmatic use of the political space that existing state and market formations provide.

In some instance, the state may be approached as a protector against the market; in others the market may be perceived as a liberating force in obtaining or reclaiming a political structure that secures livelihoods and promotes virtues such as receptivity, flexibility, patience, open-mindedness, humour, curiosity and respect for other's opinion. These approaches and values act as counter weights to the formulas, principles and economic dogmas that result in all encompassing solutions [such as economic globalisation] (Hildyard 2001: 13, <http://www.aidc.org.za>).

Hildyard, therefore, concludes that alternatives should be balanced in the sense that they do not lose sight of the dangers that market protectionism by government and market supremacy in the form of economic globalisation pose. His suggestion is, consequently, that a middle ground position which acknowledges the complementarity of multiple participation of peoples, communities, governments, businesses and other entities should be proclaimed as a possible alternative.

#### **4.10 CONCLUSION**

This chapter sought to establish the relationship between the expropriation of African biodiversity, indigenous knowledge and commons, on the one hand, and economic globalisation, on the other. First, a variety of meanings associated to globalisation, as well as its history, were explored. Second, a link between neoliberalism as both a political-economic strategy and an ideology for economic globalisation was also determined. Third, the relationship between, bioprospecting and intellectual property rights was established. Fourth, the chapter explored the role of multilateral institutions, with particular focus on the WTO, in promoting economic globalisation of African indigenous knowledge and biodiversity.

The chapter established that international financial and multilateral institutions, such as the IMF, the WB and the WTO are core to the formulation, conceptualization and implementation of economic globalisation. Not only do these institutions formulate and implement laws facilitating globalisation, but the WTO even has a dispute settlement mechanism (included in TRIPS agreement) to address conflicts that arise in economic globalisation. Fifth, the paper analyzed the agency of pharmaceutical and multinational companies and the role that they play in economic globalisation and expropriation of African indigenous knowledge. Sixth, the chapter highlighted the political and economic status of Africa in economic globalisation.

It is evident that Africa plays a contradictory role. On the one hand it is home to natural biological resources which are antecedents of products that are genetically modified by the biotechnology and pharmaceutical companies, yet at the same time it is poor and plays a minimal role in economic globalisation. Finally we traced the impact of economic globalisation and some alternatives that are suggested by those who want the economy to embrace a socio-economic and gender justice agenda in the use, conservation and utilization of biodiversity, indigenous knowledge and commons.

## **CHAPTER FIVE**

### **RELATING THE COLONISATION OF AFRICA TO CONTEMPORARY PHENOMENA OF BIOPROSPECTING/BIOPIRACY AND TRIPS**

#### **5.1 INTRODUCTION**

The purpose of this chapter is to relate the colonisation of African countries in the 19<sup>th</sup> century to the contemporary phenomena of bioprospecting and TRIPS. It is also to examine whether the conduct of the colonisers and institutions that supported them is similar to the conduct of multinational biotechnology and pharmaceutical companies which engage in bioprospecting and deploy TRIPS to justify intellectual property rights claims. The rush for genetic resources by multinational companies, epitomized by bioprospecting and the use of TRIPS to claim ownership of Africa's biodiversity, is to some extent analogous to the colonisation processes. It will, therefore, be imperative to demarcate similarities, differences and new developments that emerge from bioprospecting and the appropriation of genetic resources and indigenous knowledge today.

In order to identify how African plant commons and indigenous knowledge are converted

into private property through TRIPS and bioprospecting, we shall also examine the ways in which the colonising countries employed, among other things, international law to claim legal ownership of land in Africa. “European powers often found it expedient to deploy well-established legal doctrines and principles to legitimize their control over large expanses of the ‘new world’ (or perhaps, ‘new worlds’, since related doctrines were frequently applied as colonies were established in other continents)” (Posey 2000b:1). One example of the legal doctrines that were used to legitimize the acquisition of land by colonists in Africa was the concept of *terra nullius*. *Terra nullius* literally refers to an empty land. In the context of colonialism, *terra nullius* was used to convey “the imposed notion of the sovereign powers of Europe that land and all the resources associated with it - was considered empty until their countries’ banner could be planted to proclaim legal ownership” (Posey 2000b:1).

Multinational companies, like colonists before them, also often resort to international law to justify their expropriation of genetic resources and indigenous knowledge of Africans, which have for generations’ sustained biodiversity and communities in Africa. They use especially the trade and intellectual property dogma endorsed by the WTO’s TRIPS agreement.

This chapter will also examine the political and economic factors which undergird the phenomena of bioprospecting and colonisation. It will investigate the ways in which African communities respond to the impact of colonisation and bioprospecting. This will be done by exploring the ways in which they allow, collaborate, contest or resist the expropriation and appropriation of their resources and knowledge systems. The purpose of this focus will be to determine why communities which have previously been dispossessed, exploited and treated as sub-human during colonialism, continue to face new forms of dispossession, exploitation and marginalization through bioprospecting/biopiracy and TRIPS. It is also to search for reasons why the perpetual exploitation of the means of life, the resources and knowledge which have sustained Africans for centuries, continue to take place? It is, further, to examine the rationale behind the rapacious pillaging of African resources and knowledge by colonialism and bioprospecting.



## **5.2 A BRIEF HISTORY OF AFRICA'S COLONISATION FROM THE 17<sup>th</sup> TO THE 19<sup>th</sup> CENTURIES**

Colonialism refers to the establishment of control over the original inhabitants of an area by taking possession of their land and introducing colonial administration. It is a political, legal, cultural and social phenomenon based on conquest and domination. Adjaye (1995:166) defines colonialism as “the conquest and imposition of a nation’s rule over a foreign territory.” Colonialism involved political domination, economic exploitation and unequal, hierarchical power relations between the colonizers and the colonized. These power relations were often shaped by racial and cultural discrimination. As a historical, political-economic phenomenon, colonialism has been associated with Europe. From the time of the so-called age of discovery in the fifteenth century, a variety of European nations, for example, Spain, Portugal, England, France and the Netherlands, explored, conquered, settled in and exploited other parts of the world, including Africa. “The western world has generally been the coloniser and beneficiary whereas the ‘Third World’ has been the colonised and the exploited” (Adjaye1995: 166).

Adjaye declares that a distinction can be made between the two broad types of colonies, which are colonies of settlement and colonies of exploitation. He suggests that in practice, however, these are distinctions of degree rather than of kind, since most colonial structures were commonly identical and sought to model the colonies after the colonising countries. Among other strategies, “colonial rulers sought to assimilate the subordinate populations into the culture, language and values of the metropolitan nations” (Adjaye 1995:166). Colonialism has not, however, occurred in a homogenous manner. It has manifested itself in a variety of ways, and this is evidenced by the distinction between the colonies of settlement and colonies of exploitation. The diverse forms of colonialism include internal colonialism, “whereby one segment of the state is politically and economically powerful and dominates another segment in a subordinate, peripheral relationship [e.g. apartheid in SA]” (Adjaye1995: 167). A further legacy of colonialism, especially in Africa, is the artificially created political boundaries that do not conform to indigenous ethnic patterns, an issue that continues to undermine political integration (Adjaye1995: 167). These diverse forms of colonialism enable us to comprehend the

various approaches that were used to colonise Africa, whether covert or overt.

The methods used by Europeans to colonize Africa and to acquire title over the colonized countries in the nineteenth century were varied. “There were five modes of acquisition of territory. These were the occupation of ‘*terra nullius*’ (uninhabited territory), prescription (effective control over inhabited territory), cession, accretion (the acquisition of title over new land), and subjugation or conquest” (Cox 2001:2). Europeans at the time deemed it acceptable and legitimate for their countries to provide a sovereign where they alleged that sovereignty did not exist. Also, if a region was not possessed by a rival European state it could be declared uninhabited or ‘*terra nullius*’ and, consequently, the representatives of the colonising power would formally declare it sovereign and bring it under their power. It is therefore essential to explore how the concept of ‘*terra nullius*’ was constructed, understood and used as one of the key doctrines in the colonisation of Africa.

### **5.2.1 ‘*Terra Nullius*’ and the Colonisation of Africa**

The concept of *terra nullius* “developed in the light of the acquisition of territory by occupation ...[It was] acquisition of sovereignty over territory other than by cession or succession” (Shaw 1986: 31). ‘*Terra nullius*’ is, therefore, “a term which serves to designate a territory on which no state exercised its sovereignty and which may be considered susceptible to being acquired by any state by way of occupation” (Bedjaoui, quoted by Mebrahtu, <http://www.ethiopiafirst.com1>).

The use of the theory of *terra nullius* in the acquisition of property or occupation of land can be historically traced to Roman Civil law, in which it referred to “the acquisition of ownerless objects and, if need be, ownerless land also”(Mebrahtu, <http://www.ethiopiafirst.com>). The first to come across such objects could take ownership of them and could become the legal owner. Mebrahtu is of the view that *terra nullius* became widespread because the Romans had convinced themselves that the world outside their jurisdiction was ownerless and could be conquered; which is quite contradictory.

The ‘doctrines of discovery’ provided the basis for the application of the concept of *terra nullius* by European powers who were involved in search expeditions or ‘discoveries’. They also provided the basis for the employment of this idea in both the law of nations and subsequent international law.

They allowed Christian nations to claim unoccupied lands (*terra nullius*), or lands belonging to heathens and pagans. Charters and patents thus turned acts of piracy into divine will. The peoples and nations that were colonized did not belong to the pope who donated them, yet this canonical jurisprudence made the Christian Monarchs of Europe rulers of all nations wherever they might be found and whatever creed they might embrace. The principle of effective occupation by Christian princes, the vacancy of targeted lands and the duty to incorporate the savages were components of charters and patents (Shiva 2002: 1-2).

During the ‘age of discovery’ and European exploration, European kings, queens and Christian leaders such as Popes endorsed the conquest of colonized countries and the use of the concept of *terra nullius*. For instance, as Shiva notes “in April 17<sup>th</sup>, 1492, Queen Isabel and King Ferdinand granted Christopher Columbus the privileges of ‘discovery and conquest’” (Shiva 2002:1). She further claims that through his Papal *bull of donation* in 4 May 1493, Pope Alexander VI granted all the islands west and south of Azores toward India, which were not already occupied or held by any Christian king or prince as of Christmas 1492, “to the Catholic monarchs Isabel of Castille and Ferdinand of Aragon”(Shiva 2002: 1).

An analogous view about the role of Christian leaders and the endorsement of European kings and queens for the conquest of alien lands is highlighted by the document “Doctrines of Dispossession: Racism against Indigenous Peoples”, which was discussed at the World Conference Against Racism in South Africa in the year 2003 (refer to <http://www.world-conference-against-racism.org/> 1). It pronounces that in the fifteenth century, two Papal Bulls set the stage for European domination of the New World and Africa. These Papal bulls were the *Romanus Pontifex* and *Inter Caetera*. The *Romanus Pontifex* was issued by Pope Nicholas V to King Alfonso V of Portugal in 1452. “[It] declared war against all non-Christians throughout the world and specifically sanctioned

and promoted the conquest, colonization, and exploitation of non-Christian nations and their territories” ([http://www.world conference against Racism](http://www.worldconferenceagainstRacism.com)).

*Inter Caetera*, the second Papal Bull was issued by Pope Alexander VI in 1493 to the King and Queen of Spain following the voyage of Christopher Columbus to the island he named Hispaniola. It formally established Christian dominion over the new world. “It called for the subjugation of the native inhabitants and their territories, and divided all newly discovered or yet to be discovered lands into two—giving Spain rights of conquest and dominion over one side of the globe and Portugal the other” ([http://www.worldconference against Racism](http://www.worldconferenceagainstRacism.com)). The document (“Doctrines of Dispossession: Racism against Indigenous Peoples”) notes with sadness, however, that although these bulls were promulgated to promote the subjugation of other lands, they “have never been revoked although indigenous representatives have asked the Vatican to consider doing so” ([http://www.worldconference against Racism](http://www.worldconferenceagainstRacism.com)).

According to Mebrahtu, the sixteenth and seventeenth centuries’ fierce competition among the colonisers resulted in the search for new criteria for declaring land as *terra nullius*, and thus the concept of *terra nullius* was inscribed in international law. Unlike at the time of the Romans, where there was only one coloniser, at this point there was an emergence of multiple colonial countries, for instance, the Netherlands, France, England and others in addition to Spain and Portugal. The fierce competition for new territory led to armed conflicts among the colonial powers and the definition of *terra nullius* was once more posed.

A territory was considered to be *terra nullius* if it did not possess a territorial organisation patterned after that of the Europeans ... a territory was declared *terra nullius* if it was not inhabited by Christians and it was the object of colonisation...In other words the definition of *terra nullius* changed from simple desert territory to a territory inhabited by tribes without centralized administration, to a territory inhabited by non-Christians to be given finally the definition of non-civilized (non European) society in accordance with the Berlin Conference of the Scramble for Africa”(Mebrahtu, <http://www.ethiopiafirst.com>).

An African international lawyer and intellectual, Dakas, reflects on the expansion of the definition of *terra nullius* by European powers during the Berlin Conference. He argues

that the definition of *terra nullius* was expanded at this conference to suit the colonial project. He says even in places where lands in Africa were literally inhabited by Africans, “such lands were, from the point of view of law, treated as *terra nullius*. It was immaterial, insofar as colonialism was concerned, that Africans inhabited such lands for centuries before the Europeans set foot on African soil”(Dakas 1999: 97). Such lands were treated as “having been newly discovered and liable to acquisition by occupation” (Dakas 1999: 97). The fact that peoples already lived on these so-called empty lands “presented little problem to the colonising powers...[N]atives were declared to be primitive savages - little more than beasts - who had no legal rights whatsoever” (Posey 2000:1).

Mebrahtu (<http://www.ethiopiafirst.com>) says that it is common knowledge that racism was one of the foundations of the colonial enterprise. According to him, European history and international law at the time of colonisation, particularly germano-phone social sciences, were so much obsessed with racism that ‘raciology’<sup>3</sup> became a ‘scientific’ field of study in the 19<sup>th</sup> century. Racism laid out the epistemological foundations of colonisation and justification of *terra nullius*. This was evident in the 19<sup>th</sup> century when philosophers like George W. Hegel, started justifying the inferiority of Africans in their writings. “Hegel’s works published in the 1820s described Africa and Africans as a people without history” (Mebrahtu, <http://www.ethiopiafirst.com>).

The idea that Africa constituted a *terra nullius* in European consciousness at the time is also evidenced by the Berlin Conference of 1884-1885. Although the primary purpose of the Berlin Conference was the scramble for Africa, the participants of the conference acted as if their main aim was the introduction of European civilisation into Africa. The objective of the Berlin conference was to set rules which would prevent European colonists from warring against one another. The conference made it binding on every member country to notify the participants of the conference “of its occupation of African territory which it had considered to be *terra nullius* in the etymological sense of the word or if it was a territory with the population of which it entered into a treaty of protectorate”(Mebrahtu <http://www.ethiopiafirst.com>).

Despite its significance for the subsequent history of Africa, the Berlin Conference was essentially a European affair. “There was no African representation and African concerns were, if they mattered at all, completely marginal to the basic economic, strategic and political interests of the negotiating European powers” (Asiwaju, quoted by Dakas 1999: 100). It was conspicuous in the deliberations and developments of the Berlin conference that Africa was regarded by the Europeans as empty and its people absent. Their absence demonstrates the application of the concept of *terra nullius* and the view that European participants of the conference did not regard Africans as civilized people who could comply with statehood, with rights and duties, as perceived by the Europeans.

If the European powers considered the African states at the time as sovereign entities, why were they not represented at the conference, even in the face of the obvious fact that Africa was the focal point of the conference? How could a conference whose chief purpose, in the words of Beer, was to establish freedom of commerce exclude Africans whose territory was the target? Is this not a reflection of the very nature of the colonial project and its perception of the status of entities and people earmarked for colonization? How is it that Africans were not consulted, prior to the convening of the conference? If African states were appreciated as sovereign entities in their own right, why were they not invited to the conference, at the end of which any treaty concluded with their input and consistent with their interests, would constitute the basic legal framework for the freedom of commerce envisaged (Asiwaju, quoted by Dakas 1999: 100)?

What the questions above demonstrate is the fact that the denial of the sovereignty of African states and the treatment of African territory as *terra nullius* were not simply academic theorizing, which could be dismissed, but were “state practice...underpinning intentions of the colonizing powers”(Dakas 1999: 100).

In Mebrahtu’s view, the treatment of African territories and their people as *terra nullius* in the colonisation process as well as in conferences that charted their demarcation, such as the Berlin Conference, display a clear culmination of a racist theorem behind the concept of *terra nullius* and colonialism of Africa. The Berlin conference classified humanity into Caucasoid, Mongoloid and Negroid races. This racial classification is an

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3 Raciaology is a term that Mebrahtu uses to explain racism and white supremacy when used to allocate power and dispassion.

“ideology which considered the Caucasian race as the super race whereas the Negroid race was considered to be a kind of ‘*untermensch*’ ... [and] had its paternity in Manichaeism which was based on a dualistic dichotomy of black versus white, dark versus light” (Mebrahtu, <http://www.ethiopiafirst.com>).

Mebrahtu argues, therefore, that the utility and application of the concept *terra nullius* in the 18<sup>th</sup> and 19<sup>th</sup> centuries should be understood within the racist discourses which marked the deliberations of the Berlin Conference and the discourses of Europeans at the time about Africa. In this context the meaning of *terra nullius* was always dictated by the racist self-concept of Europeans in relation to other societies, in this case, Africans. “Racism was at the heart of the European concept of *terra nullius*, the territory and people inhabiting such territory were always considered to be objects of appropriation like a chattel” (Mebrahtu, <http://www.ethiopiafirst.com>). The meaning of *terra nullius* was also extended and dictated upon by the need to satisfy the territorial greed of Europeans.

#### **5.4 THE RELATIONSHIP BETWEEN COLONIALISM AND BIOPROSPECTING/ BIOPIRACY AND TRIPS**

It is evident in contemporary times that there is a re-emergence of tactics similar to the use of the doctrine of *terra nullius* during colonisation. For instance, the TRIPS formula is currently being deployed to convert public commons and indigenous knowledge to private property for companies and individuals who engage in bioprospecting in Africa. This trend is also taking place in other Third-World countries. For instance, the patenting of products from the neem tree, Basmati and others which are indigenous products unique to India, gives credence to this similarity. Shiva describes this re-emergence of the use of the doctrine of *terra nullius* (to take over resources from Africa and the third world by northern countries) in contemporary times in the following manner:

Five hundred years after Columbus, a more secular version of the same project of colonization continues through patents and intellectual property rights (IPRs). The Papal Bull has been replaced by the General Agreement on Tariffs and Trade treaty. The principle of effective occupation by Christian princes has been replaced by

effective occupation by the transnational corporations supported by modern day rulers. The vacancy of targeted lands has been replaced by the vacancy of targeted life forms and species manipulated by the new biotechnologies. The duty to incorporate savages into Christianity has been replaced by the duty to incorporate local and national economies into the global marketplace, and to incorporate non-western systems of knowledge into the reductionism of commercialized western science and technology (Shiva 2002:2).

Shiva concludes that “the creation of property through the piracy of other’s wealth remains the same as 500 years ago” (Shiva 2002:2). The Papal Bull, the Columbus charter and the patents granted by European monarchs, which laid the juridical and moral foundations for the application of the legal doctrine of *terra nullius*, colonisation and extermination of non-European peoples, are being reinvented through the promulgation and deployment of TRIPS in supporting bioprospecting/biopiracy in the contemporary context.

A number of scholars from Africa and the Third world in general have also suggested that bioprospecting, TRIPS and globalisation can be associated with the colonialism of the third world, and of Africa in particular, in the 18<sup>th</sup> and 19<sup>th</sup> centuries. For instance, Constantino Jr. (1998:1) says that during colonialism, colonies exported raw materials to the colonizing countries and imported these back as finished products. Under the system, of bioprospecting and the use of TRIPS, the role of countries in the South is to provide genetic resources and the knowledge embedded in them to be developed into industrial products needed by the north. The contemporary form of colonisation through bioprospecting, TRIPS and globalisation is visible in “the monopoly power and the rule of global corporations” (Constantino 1998: 4). This implies that “decisions about our lives are being made in corporate boardrooms in the US, Europe and Japan, instead of by our local community councils” (Constantino 1998: 4).

Corporate rules result in powerlessness and suffering for peoples of the South. They also entail the break up of our communities and “the rape of our environment to serve the human and raw material requirements of global production for the global market. Their consequence, such as the collapse of our food security ... may turn out to be even worse than colonisation” (Constantino 1998: 4). Furthermore the contemporary phenomena of



TRIPS, globalisation and bio prospecting seek to integrate, like imperialism, every economy into a single world system under the direction of global corporations. They also “seek to eliminate national and territorial borders ... [I]n this way too, a country’s natural resources may be exploited without much hindrance” (Constantino 1998:1).

A comparable point is made by Shiva. She says that the freedom that transnational corporations exhibit in claiming protection for intellectual property rights through the WTO’s TRIPS, even for products that are not innovative but have been known or used by communities in the South, is analogous to the freedom to conquer territories and resources that European colonizers have claimed since 1492. According to her

Columbus set a precedent when he treated the license to conquer non-European peoples as a natural right of European men. The land titles issued by the pope through European kings and queens were the first patents. The colonizer’s freedom was built on the slavery and subjugation of the people with original rights to the land. The violent takeover was rendered natural by defining the colonized people as nature, thus denying them their humanity and freedom (Shiva 2002:2).

Constantino, Jr. (1998: 4), Shiva (2002:2), and Arruda (2004:4) are in agreement that colonization, globalisation, TRIPS and bioprospecting have a lot in common, that they marginalize communities in the South and endorse the pirating of resources from Africa and the South by the North. Thus they are neither desirable nor inevitable and they should be critiqued so that peoples in the South are not deprived of the means to life.

Arruda, in concurrence with Constantine, Jr. and Shiva, also exposes the association between globalisation, TRIPS and bioprospecting. He argues that their conduct is identical to recolonization. According to Arruda (2000: 4), “the over-indebtedness of the countries of the Southern hemisphere... constitutes a modern form of colonisation”. Countries of the South are compelled to service the debt to their creditors in the North to a seemingly limitless horizon, “as if they were paying a regular tribute to a colonial metropolis” (Arruda 2000: 4).

According to Arruda, contemporary economic globalisation, bioprospecting and TRIPS have become pervasive and are being promoted by multilateral institutions which do not

display any interests in the development and lives of the people of the South. This calls for the need for those engaged in socio-economic and environmental justice to pursue alternatives against them and particularly against their ideological and theoretical basis. He says neoliberal ideology, which is the bedrock of neo--colonialism, bioprospecting and TRIPS, should be evaluated. Neo-liberal ideology, he claims, promotes the universal application of the laws of the market and claims that they are universally valid for all spheres of human existence.

Arruda further states that neo-liberal ideology declares that everything, including life, should be treated as merchandise; that the market should be left free in order for goods and money to circulate and effectively distribute the wealth produced. He therefore suggests that the supremacy of the idea that all life can be bought and sold ought to be challenged. He suggests that life ought not to be subjected to the principles and values of the market. Bioprospecting and intellectual property rights regimes, such as TRIPS, have shown the link between neo-liberal ideology and its application in the theory and the policies of international multilateral institutions such as the WTO, and international instruments such as TRIPS. He concludes that it is a fallacy that bioprospecting, economic globalisation and TRIPS will benefit societies and this fallacy must be exposed, critiqued and their impact on African biodiversity and communities should be challenged.

There are other similarities and dissimilarities between the colonisation of Africa and, specifically, contemporary phenomena of bioprospecting and TRIPS. Ali Mazrui (1986:12-17) demonstrates such a link between colonisation and the capitalist market economy which can be correlated to the present context of the integration of Africa into economic globalisation, TRIPS and bioprospecting. He says;

There is the argument that colonialism and the accompanying capitalism effectively incorporated Africa into the world economy, for good or ill. It started with the slave trade, which dragged African labour itself into the emerging international capitalist system. This was the era of the labour imperative in relations between Africa and the west. But colonialism was the era of the territorial imperative, as the West demanded from Africa not just labour but territory and its promise in all its dimensions. Capitalism had come knocking on the

doors of the continent and enticed the host into the wider world on the international economy (Mazrui 1986: 12).

Africa was not only dragged into the world capitalist system but it was also forced or coerced to incorporate into Eurocentric cultures, such as liberalism. “To that extent, the world of ideology is in part the world of European dominance in the field of values and norms” (Mazrui 1986:13). The integration of Africa into Eurocentric culture is very clear in TRIPS in the application and interpretation of international intellectual property law.

Because of their observation that in current international law TRIPS does not protect indigenous knowledge, northern companies have resorted to the genetic modification of some of the African genetic resources and thereafter claim their ownership and the knowledge that is embedded in them. This implies that Eurocentric knowledge systems have become the yardstick against which other knowledge systems are evaluated. Prior knowledge of indigenous communities, used as leads to useful biological sources and also embedded in modified products and processes of multinational companies, is not often acknowledged by companies which patent life forms. It is also intriguing that the patenting of knowledge or genetic resources from the South in general and Africa in particular, is not perceived as piracy by northern intellectual property law. Yet the saving of seeds and their re-usage by farmers or communities is deemed to be a violation of patent law and can lead to criminal charges.

The occupation of African land and the view that it was *terra nullius*, according to Fisch (1998: 362), was based on the presupposition “that objects and goods of this earth are intended for the profit and use of mankind [sic].” The supposition was that “only modern states which conform to the European pattern are able to do this” (Fisch 1998: 362). This is similar to the ways that intellectual property rights regimes are constructed, applied and interpreted in contemporary international law and relations. It is also similar to the ways that northern agencies have justified the taking of genetic resources from the South through bioprospecting. Scott also shows that in contemporary times, the genetic resources or commons from the South have often been construed as a common heritage for humankind. “Historically, biological resources and specifically plant genetic resources have been granted a unique distinction; they were considered to be the ‘common heritage of mankind’ (Scott, [http: www.regional world.uchicago.edu](http://www.regional.world.uchicago.edu) 38).

This view was reinforced by a moral position taken by the United Nations Food and Agricultural Organisation. This was that “the major plants of the world are not owned by any one people but are rather quite literally a part of our human heritage from the past” (Scott [http: www.regional world.uchicago.edu](http://www.regionalworld.uchicago.edu) 38). This has implied, basically, that plant genetic resources from Africa, and the South in general, were taken as free goods “and that the only cost associated with their use was the expense of their collection” (Scott, [http: www.regional world.uchicago.edu](http://www.regionalworld.uchicago.edu) 38).

A related principle to that of common heritage was the principle of ‘free availability’, which allowed unrestricted exchange of plant germplasm among plant breeders and scientists. While these principles were never formally given legal status, the norm of free exchange has made it possible for northern countries to take freely and claim ownership of genetic resources from the South. They have also engaged in international exchange of plant genetic material “stored in the gene banks of the world [the North]” (Scott, [http: www.regional world.uchicago.edu](http://www.regionalworld.uchicago.edu) 38).

Despite their altruistic sounding names, both the principle of common heritage and the practice of the ‘free exchange’ of plant germ-plasm have primarily benefited advanced capitalist nations, for the pattern of plant genetic transfer between the North and South has been largely unidirectional, from the South to the North. “Additionally since the mid 1950’s plant germ-plasm has left the developing world as the common, costless heritage of mankind [sic] and returned to these countries as a commodity” (Scott, [http: www.regional world.uchicago.edu](http://www.regionalworld.uchicago.edu) 38-39).

The principles of common heritage and free exchange have thus sent to Africa and other countries of the South in general an ironic message that the genetic material located in these countries can be freely appropriated; that their potential value in raw form is ignored by countries of the North, yet after they are manipulated by companies of the North they become private property and economic value is attached to them.

Another similarity is observable in the partitioning of Africa and the decisions made at

the Berlin conference. The major decision makers were Europeans. A similar trend can be observed in the leadership of the multilateral institutions that direct the implementation of TRIPS. There is no influence or leadership from the South. The main decision makers are from the North. It is also clear from the conduct of northern companies that engage in bioprospecting in the South that, like the colonising powers, their main interest is the exploitation of genetic resources from public commons in Africa and its indigenous knowledge. In the words of Dakas (1999: 111), “the colonizing powers had no illusions about the nature of their mission: the exploitation of Africa’s resources” was their primary mission. Each of these countries was interested in preventing its fellows, “either singly or in combination, from securing special commercial privileges in a region whose riches loomed unwarrantingly large, not only in the popular imagination but also in the minds of the explorers and statesmen” (Dakas 1999: 111).

The view that northern companies and colonizers are only interested in the exploitation of genetic resources and indigenous knowledge from Africa is further demonstrated by Dakas. He comments that the opening speech of Prince Bismarck at the Berlin Conference lends credence to the view that the civilizing mission was not spurred by entirely altruistic motives but was guided by the conviction to “opening up the interior of the continent to commerce” (Dakas 1999: 113).

Dakas concludes, therefore, that any positive development effected by the colonial powers in Africa “occurred within a framework that viewed the interests of the metropolis as overriding” (Dakas 1999: 11). This is similar to the conduct of pharmaceutical and biotechnology companies. Their major interest in acquiring new knowledge from indigenous knowledge, and novel genetic resources, is not spurred by the need to improve the health and lives of the peoples of Africa or the South but by the profit motive.

A similarity between the contemporary phenomena of economic globalisation, bioprospecting and TRIPS is the denial of the basic human rights of peoples of Africa and the South in general to conduct their lives in ways that are traditional and which

affirm their communal values of collective solidarity. The compulsion of TRIPS that farmers should not save or re-use patented seed is tantamount to the denial of the rights to food and food security. This is similar to the conduct of colonists.

According to Gye-Wado (quoted in Dakas 1999:113) the negation of the human rights of Africans and peoples of the South during colonialism was demonstrated in the glaring index of the denial of the fundamental rights of the colonized people during colonial times. The colonists pretended to bring civilization and notions of human rights and good governance. They also claimed to affirm natural rights, yet “they paradoxically never saw the necessity of the enjoyment of these rights by the colonized people” (Gye-Wado, quoted in Dakas 1999:113).

Mainstream proponents of intellectual property law, as promulgated by WTO through TRIPS, claim that intellectual property rights, like patents, are intended to benefit society through the granting of exclusive rights to individuals and juridical persons (i.e. corporate entities). Yet indigenous peoples and local communities are not interpreted, either individually or collectively, as having a legal personality and cannot easily claim the legal right as a group. This legal framework is similar to the concept of colonization, where African societies were regarded as absent or non-entities, but corporate companies such as the ‘British Company’ were regarded as legal persons and afforded legal protection.

Arruda suggests that there is at least one important difference between colonialism and the contemporary phenomena of globalisation, bio prospecting and TRIPS. According to him, the “metro poles are no longer only colonial or imperial powers, but also private companies and banks based in the rich countries, plus the multilateral financial institutions—the World Bank, the IMF and the regional development banks [WTO]” (Arruda 2000: 4).

Vandana Shiva also notes some differences between bioprospecting, colonization and TRIPS. According to Shiva,

Religion is no longer the crucial justification for today’s conquest.  
Recolonization in this new form is secular although it promotes market

driven values and principles. Also important to note is that territory, gold and minerals are no longer the prime objects of conquests. Markets and economic systems constitute the primary object of conquest and control and knowledge itself is converted into property in a similar way that land was during colonisation. This is why today 'patents' have been covered by the broader label of 'intellectual property' or property in the 'products of the mind' (Shiva 2000: 502).

Shiva further points out that the epidemic of piracy and plunder during the colonisation period is similar to the contemporary phenomenon of biopiracy which is today euphemistically defined by companies engaged in bioprospecting. She says that currently the piracy of biodiversity through patents is analogous with recolonization. It only differs from the old in that "the old colonization only took over land, and the new colonization is taking over life itself" (Shiva 2002: 2).

Another difference in colonization, bioprospecting and economic globalisation is observable in the indirect application or utilization of the concept of *terra nullius* today. Posey substantiates this as follows: "[T]he evidence seems to indicate that the concept of *terra nullius* is alive and well (and living in a research project near you), albeit enforced in different ways and through different mechanisms than in the 16<sup>th</sup> century. And basic rights of indigenous peoples remain tenuous in the international community of nation states" (Posey 2000b:1). According to Posey (2000b:6), the exercise of the concept of *terra nullius* is evident in the conduct of some contemporary scholars who engage in bioprospecting. It is apparent in the ways that scientists, including "some anthropologists, continue to be careless in assuming [African] cultural landscapes to be 'wild' or 'wildernesses'" (Posey 2000b:6).

The presuppositions, by pharmaceutical and biotechnology companies that engage in bioprospecting, that landscapes of indigenous peoples of Africa are wild or constitute wilderness "imply that the lands and their resources... have no original owners" (Posey 2000b:6). Such interpretations have proven to be "convenient for those who would deny that the local communities have ownership rights, and proclaim that their lands, territories, and resources are free to others for taking" (Posey 2000b:6). Abuses of the concepts of *terra nullius*, wildernesses and wild, particularly in reference to Africa, have been contested by Africans. The term wilderness, as it is popularly used, and related

concepts such as wild resources, wild foods, and so on, are unacceptable as they display tendencies which are similar to those which were invoked by colonists to justify colonialism.

## **5.6 NEW TRENDS IN THE SCRAMBLE FOR AFRICAN PLANT COMMONS AND KNOWLEDGE SYSTEMS**

Shiva argues that intellectual property rights, particularly patents in contemporary times, are in a number of ways a new form of colonisation. They display similar trends to colonisation which took place 500 years ago. Columbus and other colonial sailors set out with pieces of paper that were called letters of patents from their rulers, which granted “power to the adventurers to claim as property, the territory they found anywhere in the world that was not ruled by white Christian princes” (Shiva 2002:1). She says contemporary patents on life seem to be of a similar quality. They basically convey the message that “if there’s knowledge or living material, plants, seeds, medicines which the white man has not known about before, claim it on our behalf, and make profits out of it” (Shiva 2002: 1).

It is however, a recent phenomenon to allow patents on life forms such as micro-organisms, made compulsory by article 27 of TRIPS. The idea that countries which are members of the WTO should have at least minimum standards of intellectual property regime and that these should be in compliance with TRIPS is new. Also the compulsion by WTO for different countries to employ in their legislation intellectual property rights that are comparable to TRIPS and which are in harmony with TRIPS is also recent.

What we are seeing right now is a situation in which the third world, which has been the main supplier of biodiversity, the main producer of food in the world, where the majority of people are engaged in food production, is being attempted to be converted into a consumer society. But you can’t have a consumer society with poor people and therefore what you will have is deprivation, destitution, disease, hunger, epidemics, malnutrition, famine and civil war. What is being sown is the greed of the corporations of stealing the last resources of the poor. It really is seeds of uncontrollable violence and decay of societies on a very large scale (Shiva 2002: 2).

Shiva notes that despite colonisation, bioprospecting and TRIPS, people in the Third



World continue to survive. This according to Shiva, is due to the fact that, in spite of the fact that the wealth, natural resources, such as gold, and land have been taken away from them, people of in Africa and the third world in general, still have their biodiversity. “They still have the last resource in the form of seed, medicinal plants, fodder, which allowed them access to production. This has allowed them to meet their needs of health and nutrition” (Shiva 2002: 2).

Shiva suggests that one of the new trends in contemporary phenomena of economic globalisation, TRIPS and bioprospecting is the claim by northern scientists who engage in bioprospecting that their knowledge and products are new. These claims are often made in order to conquer markets, not land as it was the case during colonisation. She says;

Just as land was claimed to have been ‘discovered’ and was treated as ‘terra nullius’ or empty land in spite of being inhabited by indigenous people just because it was not inhabited by white Europeans, knowledge that is claimed to have been ‘invented’ and hence ‘patented’ and converted to ‘intellectual property’ is often an existing innovation in indigenous knowledge systems” (Shiva 2000: 502).

Shiva suggests that the claim to innovation, like the claim to discovery in the patent charters of colonial conquest, is used to justify the take-over of market systems and economic systems through globalised patent regimes. “The cloak of reward to inventiveness hides the real object—the control over the global economy. This secular conquest of diverse knowledge systems and economies is at the heart of the intense conflicts and controversies on patents” (Shiva 2000: 502).

## **5.7 JUSTIFICATION OF COLONISATION, BIOPROSPECTING AND TRIPS BY NORTHERN COMPANIES AND SCHOLARS**

Dakas points out that although the plunder of the resources of Africa by colonisers has been studied by historians, political scientists, geographers, sociologists and others, adequate attention has not been “directed at the striking manner in which 19<sup>th</sup> century international law justified the colonial project” (Dakas 1999: 88). “What is even more

spectacular is the stupendous manner in which international legal scholars, with few exceptions, availed the colonial project of their intellectual armoury” (Dakas 1999: 88-89).

It is evident that during the colonisation process there were intellectuals who provided justification for the colonisation of Africa as well as utilized doctrines of law to justify the conquest of Africa. It is also clear today, from the literature of mainstream economists as well as institutions such as the WB, IMF and WTO, that there are numerous reasons which are cited as justification for intellectual property claims and the conversion of African public commons and knowledge into private property of the North through TRIPS and bioprospecting. A number of scholars who provided intellectual justification for the colonisation of Africa and the use of *terra nullius* are identified by Dakas (1999:88-89). Some of them include John Westlake, Thomas Lawrence, Louis Beer and others, who are discussed briefly below.

Scholars such as Shaw (1986) and Fisch (1998) claim that Africa was not treated as *terra nullius* because Europe and the colonisers signed some agreements or treaties with African chiefs or their community leaders, where Africans agreed to forfeit their land, governance, leadership and resources and to be ruled by European colonizing powers. The fact that coercion and violence were integral to the colonization process is not even mentioned by these scholars. Shaw (1986) and Fisch (1998) even go to the extent of using the United Nations International Court ruling in 1979, which declared that Western Sahara was not *terra nullius* when it was colonized by Spain. They argue that the international court’s decisions that Western Sahara was not *terra nullius* when it was colonized justifies the fact that Africa was not regarded as *terra nullius* by European colonizing powers. Their views, however, negate the actual praxis of the colonizing countries, and the fact that they even extended the definition of *terra nullius* to suit their colonial mission, as demonstrated in the first section of this chapter. It is imperative at this point to outline briefly some of the reasons that were used to justify the colonization of Africa and its being regarded as *terra nullius* by European powers.

One of the justifications given for the colonisation of Africa was advanced by an

international law scholar by the name of Lawrence. According to Dakas (1999:98), Lawrence argues that for a country to qualify as sovereign and not to be declared *terra nullius* it ought to display two characteristics. It must display “a government that receives habitual obedience from the bulk of the people, and does not render habitual obedience to any earthly superior. For such a state to become a subject of international law, however, it must attain a certain, or rather an uncertain amount of civilization and possess a fixed territory” (Lawrence, quoted in Dakas 1999:98).

Lawrence, therefore, concluded that if a sovereign or a state did not exhibit the criteria above it would be *terra nullius*. He asserted, “[A] territory is *terra nullius* if it does not meet these criteria and is therefore an object (and not subject of international law) with no standing in the exclusive club of the family of nations” (Lawrence, quoted in Dakas 1999:98). He further argued that it could be sufficient to declare *terra nullius* on a nomadic tribe which has attained “the requisite degree of civilization, [since] its lack of territorial organisation would be amply sufficient to exclude it from the part of international law” (Lawrence, quoted in Dakas 1999:98).

Lawrence’s views that European companies were “‘sovereign’ in relation to the barbarous and semi-barbarous” (Dakas 1999: 99), displays the inferior position that he assigned to Africans. He defined subjects of international law as sovereign states, political bodies which, though lacking many attributes of a sovereign state, possess some to such an extent as to make them real, but imperfect, international persons (Lawrence, quoted in Dakas 1999: 99).

Lawrence (quoted in Dakas 1999: 99) also suggested that “political bodies or part sovereign states... and chartered companies to whom vast governmental powers had been delegated were considered sovereign and eligible for protection in international law”. It is, however, poignant that he stated that entities or districts inhabited by “the barbarous or semi-barbarous [Africans] could not even be elevated to the status of real but imperfect, international persons” (Dakas 1999: 99).

It is striking that international lawyers such as Lawrence had no hesitation in treating

Africans as non-entities with no rational understanding or governance of their own, yet they were “willing to treat chartered companies, such as the British-South Africa Company ... as international persons” (Dakas 1999: 99). Lawrence’s ease with granting juridical protection to companies, and not to peoples of Africa, is indicative of the racism that Mebrhatu has highlighted, as shown in section 5.4 in this chapter.

John Westlake, who in the 19<sup>th</sup> century was “the Whewel Professor of International Law in the University of Cambridge and reputed to be a jurist of world reputation” (Dakas 1999: 89), is an example of scholars who provided intellectual justification for the colonisation of Africa and the concept of *terra nullius*. He promoted his views through numerous articles, including an article entitled, ‘Territorial Sovereignty, Especially with Relation to Uncivilized Regions’. Westlake (quoted by Dakas 1999: 91), claimed that agreements entered into with Africans should be deemed to have no juridical status. He considered it unfortunate that any government would sign treaties with Africans. For him, such agreements with Africans excited laughter rather than argument. His view was that Africans were uncivilized and hence could not be perceived as having competence to effect treaties. Dakas states that other European scholars, such as George Louise Beer in 1923, called for colonization on the grounds that “the negro race has hitherto shown no capacity for progressive development except under the tutelage of other people” (Beer, quoted in Dakas 1999:87).

It is clear from examples above that justification for the colonisation of Africa and the deployment of the concept of *terra nullius* were also based on the idea that Africans were inferior savages who were not organised in any way that was comparable to Europeans; hence the need to declare them as non- persons or lacking juridical status. “Additional justification was found in racist theories regarding the presumed inferiority of some races and the belief in colonies as markets for the sale of surplus manufactured goods produced through the industrial revolution” (Adjaye1995: 167). This is unfortunate in that a similar trend can be observed in bioprospecting and TRIPS, and their permission for multinational companies to take free of charge, or without any reciprocity, African plant commons and knowledge held in common. Although this is not enforced through physical violence and coercion, as colonialism took place, coercion is enforced through

the compulsion for all WTO members to allow the patenting of biological resources, regardless of where they come from and how they were taken.

Shiva notes that reference is also made to theories of northern philosophers to justify the current plunder of genetic resources and indigenous knowledge of the South through economic globalisation, TRIPS and bioprospecting. Theories of property articulated by philosophers such as John Locke in his '*Second Treatise of Civil Government*' have subsequently been invoked to justify and legitimate the process of theft and robbery during the enclosure moment in Europe in ways that are similar to the appropriation of biodiversity and knowledge from Africa and the Third World. As stated in chapter two, commons were "transferred to private ownership in various waves of enclosure in the sixteenth and then the eighteenth and nineteenth centuries (Vogler 2000:2). Shiva states "Locke clearly articulated capitalism, as the freedom to steal property by removing the resources from nature and mixing them with labour" (Shiva 2002: 2). He further claimed that "only those who own capital have the natural right to own natural resources, a right to supersede the common rights of others with prior claims (Shiva 2002: 2). Locke, therefore, viewed the accumulation of capital as a source of freedom.

Daes underscores that cultural biases also underlay the conceptual framework which is constructed to legitimize economic colonization and the various methods used to dispossess indigenous peoples and to expropriate their lands, territories and resources. He writes, "It is safe to say that the attitudes, doctrines and policies developed to justify the taking of lands from indigenous people were and continue to be largely driven by the economic agendas of states" (Daes (1997:5). In agreement with Daes, Adjaye declares,

There was a strong drive to obtain gold and other precious metals as well as the desire for cheap colonial products such as spices, sugar, cotton, and tobacco. In some cases, imperialism was spurred on by appeals to religious zeal. Above all however, the possession of colonies was linked to the European rivalries and prevailing economic doctrines, especially mercantilism. In this respect, chartered companies that received trading monopolies and the protection of the mother country became prime instruments in the colonial expansion and exploitation (Adjaye1995: 167).

It is clear, consequently, that some of the reasons that were used to justify the colonisation of Africa in the 19<sup>th</sup> century are being refurbished to suit contemporary phenomena of bioprospecting, TRIPS and economic globalisation.

Bioprospecting/biopiracy and claims of intellectual property rights on expropriated knowledge and genetic resources raise a range of complex legal, ethical, economic and socio-political issues which concern Africans. As already seen, current intellectual property laws, as well as legal protocols which govern the conduct of research on human subjects and plants, fail to recognize the rights of indigenous /African peoples to control their genetic material and indigenous information. Ndumbe (2000: 3), quoting Tinbergen, says “globalisation carries two inter related consequences: on the one hand homogenisation (making all of us look similar), on the other hand hegemonisation (making one of us the boss)”. The north has become the boss and Africans, specifically, have become losers of their lives and the resources and knowledge that sustain it.

## **5.8 CONCLUSION**

This chapter sought to compare and contrast the similarities, differences and new trends between colonisation, on the one hand, and bioprospecting and TRIPS, on the other. In order to do this I first explored the ways in which European countries engaged in the colonisation process. I also analysed the ways in which they used international law and sometimes expanded definitions of legal concepts such as the legal doctrine of *terra nullius* to support their conquests. I noted that the doctrine of *terra nullius* was central to colonialism.

My analysis of the differences and similarities between colonialism and the contemporary phenomena of bioprospecting and TRIPS also reveals that while Africans were being treated inhumanely and unfairly by colonialism, they continue to be exploited by bioprospecting and instruments of intellectual property rights.

I also noted that international law that was used during colonisation tended to favour Eurocentric perspectives and undermined those of others, for instance, the African

worldview. A similar trend is also observable in the intellectual property law, particularly TRIPS, which governs international regimes on trade and intellectual property rights. I also mapped out some of the reasons that are or were used by northern scholars to justify the colonisation of Africa in the past, and to justify prospecting of biodiversity and knowledge today.

Another important element in this chapter was the brief description of the impact of bioprospecting, economic globalisation and TRIPS on biodiversity and communities in Africa. I noted that while mainstream economists and multilateral institutions such as the WTO claim that such activities are economically beneficial to all, such claims are fallacious since many people in Africa and the South in general are negatively affected by these.

Africans, like other peoples of the third world, do not just passively accept the rhetoric of multilateral institutions which claim that these activities are beneficial. They are actively involved in the search for socio-economic and environmental justice and are actively engaged in seeking alternatives against the negative impact of bioprospecting, economic globalisation and TRIPS.





## **CHAPTER SIX**

### **ETHICAL ARGUMENTS BY PROPONENTS AND OPPONENTS OF BIOPROSPECTING AND INTELLECTUAL PROPERTY PROTECTION ON LIFE-FORMS**

#### **6.1. INTRODUCTION**

Bioprospecting and intellectual property protection, particularly patents on life-forms endorsed by article 27 of the WTO TRIPS agreement, and the technology they are applied to protect, require ethical analysis in order to assess their role and appropriateness in promoting fullness of life for humanity and the earth. This is particularly urgent for African communities in the 21<sup>st</sup> century, due to the rampant and pervasive appropriation of African plant commons and indigenous knowledge associated with or embedded in them. It is also important because the patenting of life-forms has become integrated with internationally binding multilateral laws and trade related intellectual property systems.

An additional reason why ethics ought to explore intellectual property and bioprospecting is that its task is not limited to evaluating the conduct of individuals only. Through its ecological, political and economic aspects ethics, and specifically Christian ethics, attempts to deal with the conduct of human beings in relation to each other, to other beings, to the earth, to God as well as to social and organisational institutions linked to their lives.

Thus social and ecological ethics concerns itself with global and local concerns. It concerns itself with “humanity’s relationship to the environment, its understanding of and responsibility to nature, and its obligations to leave some of nature’s resources to posterity” (Pojman 2001:1). This implies that ethics, on the whole, does not only attempt to understand the relationships of individuals and their conduct. It also attempts to understand the relationship and conduct of public policy, such as laws on intellectual property rights, economics, religion as well as structures or institutions which participate in, or are core to the formulation of, such policies.

The aim of this chapter is to describe in general the ethical arguments and positions held by proponents and opponents of bioprospecting and patents on life forms by northern multinational pharmaceutical and biotechnological companies. It further serves to give some clarity to this debate. Finally, it also aims to create a framework in which these arguments will be judged as life-giving, life-sustaining, liberative, exploitative or constructive for the lives of African communities, their biodiversity as well as the indigenous knowledge which has sustained them. Such an exercise enables us to discern alternatives to the possible and harmful effects of patents on life-forms and bioprospecting. It also enables us to participate meaningfully in the construction and production of ethical norms and principles which promote life and its fullness for the earth and humanity, in particular for African communities and their biodiversity.

## **6.2 THE ROLE OF SOCIAL AND ECOLOGICAL ETHICS IN BIOPROSPECTING AND INTELLECTUAL PROPERTY ISSUES**

The role of ethics and theology in public discourses related to bioprospecting, intellectual property protection and the international regimes that undergird them is not readily discernible in South African ethical scholarship. According to Bently and Maniatis (1998a: vii), referring to a broader context than South Africa, this is due to the fact that “rarely... [have] the interaction between the domains of intellectual property and ethical discourse formed the subject of inquiry or scholarship.” Ethical dimensions of intellectual property law have not been extensively explored during this century because of “the pervasiveness of positivism throughout the western academy” (Bently and Maniatis 1998a: vii). It is this limitation which has generated my interest, as a doctoral candidate, in examining the ethical implications of bioprospecting and intellectual property rights, that is, patents on life-forms and their implications for African commons, knowledge and communities.

Pojman identifies at least five reasons related to the importance of ethics in public discourse on ecology and society. These are that ethics:

- staves off social chaos, “what Thomas Hobbes called a ‘state of nature’ wherein life becomes ‘solitary, poor, nasty, brutish and short’” (Pojman 2001:6).
- keeps society from falling apart; to ameliorate human suffering;
- promotes human flourishing;
- resolves conflicts of interest in just and orderly ways;
- commends good and censures wrong or bad conduct;

In addition, “the goal of morality is to create happy and virtuous people, the kind that create flourishing communities” (see Pojman 2001: 7). None of the roles or tasks identified above is greater than the others. Each of them is thus “a part of a comprehensive purpose which enables us to live a good life in a just society” (Pojman 2001:6).

### **6.3 A BRIEF DESCRIPTION OF ETHICS AND SELECTED ETHICAL THEORIES**

In order to place the views of the protagonists on each side of the argument regarding intellectual property rights, in particular patents on life forms, it is necessary to begin by giving a clear definition of Ethics as a discipline. Further, a discussion of a number of ethical theories which are pertinent to this debate will provide a clearer perspective of the subject.

Ethics is a branch of philosophy (and theology) which is concerned with the study of moral principles and moral action. Ethics and morality in this chapter are not seen as synonymous. In order to give a clear definition of ethics, one must first appreciate the meaning of morality. The term ‘moral’ comes from Latin and it derives its origin from the idea of custom. Morality refers to customs, principles and practices of a people or a culture. In Denhardt and Grubb’s words (2003:124) “morality is concerned with those practices and activities that are considered right or wrong; it is also concerned with the values those practices reflect and the rules through which they are carried out within a given setting.” Morality, therefore, refers to what is considered to be right or wrong, good or bad, acceptable or not acceptable.

Ethics on the other hand “is a systematic attempt through the use of reason [and emotion] to make sense of our individual and social moral experience in such a way as to determine the rules which ought to govern human conduct” (Denhardt and Grubbs 2003: 124). It is concerned with the process by which we clarify what is right, permissible, ought to be done, good and /or what is wrong, bad, evil. It seeks to “establish principles of right behaviour that may serve as action guides for individuals and groups and investigates which values and virtues are paramount or worthwhile for the society and earth”(Pojman 2001:3). Ethics involves the use of reason and emotions, as feminists have argued, in determining a proper course of action. It is a systematic search for moral norms and standards.

Having provided a broad definition of ethics, it is important to clarify what Christian ethics, is about. Boulton et al. (1994:5) define Christian ethics as the “careful, systematic examination of how the life and person of Jesus Christ should impinge upon our moral lives, of who we should be and what we should do in light of what Jesus reveals to us about God and the cause of God.” They (Boulton et al. 5) further assert that “Christian ethics is the disciplined attempt to explain what the significance of morality is for Christians and to identify those norms which should inform and guide the Christian in his or her way of living toward the world”(Boulton et al 1994:5).

Motlhabi (2003: vii) maintains that in order for Social ethics to be constructive, relevant and life-giving, it ought to “go beyond social observation and moral pronouncements based on Christian teaching”. It ought to be analytic and scientific. Ralph Potter and Stassen, quoted by Hulley and Villa-Vicencio (1996:162), point out that “ethics as an exercise of rational analysis is an academic exercise in the objective (to the extent that this is possible) testing and analysing of moral arguments – identifying weaknesses, pointing out contradictions and (in the case of Stassen) naming the ‘gods’ or values or ideologies which influence the argument of a given person or social group.” Ethical analysis “includes a meta-ethical exercise of identifying the values, loyalties and ideological and theological presuppositions which lie behind the argument” (Villa-Vicencio and Hulley 1996:163).

Motlhabi also suggests that social ethics ought to enhance its observation and analysis through interacting with, or using social sciences such as sociology, anthropology, economics, political science and history. It should also draw from the constructive practices and traditions of the church, refer “to the Bible and appeal to the wisdom found in philosophy and the interpretative skills of theology” (Motlhabi 2003: vii, citing Deats).

In its formal aspect therefore, ethics, in particular social and ecological ethics, may be understood as the study of “norms<sup>4</sup>, principles, methods, and concomitant disciplines contributing to meaningful life and action for the attainment of harmonious and ideal social [and ecological] relations among all people and communities constituting a social entity”(Motlhabi 2003:x). Normative ethics “involves arriving at moral standards that regulate right and wrong conduct. In a sense, it is a search for an ideal litmus test of proper behaviour” (Feiser (2003:4).

Normative theories focus on a set of foundational principles, or a set of good character traits. The key assumption in normative ethics is that “there is only one ultimate criterion of moral conduct, whether it is a single rule or a set of principles” (Feiser 2003: 4-5). Three ethical theories of normative ethics will be the focus of this study. They are deontological ethics, teleological ethics and virtue ethics; however, other ethical concerns such as theories based on motive or natural law will be referred to whenever they are necessary for the debate. I shall begin by discussing virtue ethics, proceeding with deontological ethics and teleological ethics, the latter manifested also in utilitarianism.

### **6.3.1 Virtue Ethics**

Virtue theories emphasize the importance of developing good habits, such as benevolence. According to Feiser (2003:5), “Aristotle argued that virtues are good habits

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<sup>4</sup> Norms are understood in this study to refer to standards of behaviour, the ideal behaviour toward which people should strive in their relationship with others (Motlhabi (2003: x). A normative principle could, for example, be the golden rule which states that we should do to others what we would want others to do to us. The golden rule is an example of a normative principle that establishes a principle against which we judge actions.

that we acquire which regulate our emotions.” Aristotle (quoted by Pojman 2001:6) urged that “it is most important to develop virtuous character, for if and only if we have good people we can ensure habitual right action” (Aristotle, quoted by Pojman 2001:6). He believed that “although it may be helpful to have action-guiding rules, what is vital is the empowerment of character to do good” (Aristotle, quoted in Pojman 2001:6). Feiser (2001:5) suggests that after Aristotle, medieval theologians supplemented Greek lists of virtues with theological virtues. These included among others faith, hope and charity.

Historically, virtue theory is one of the oldest normative traditions in philosophy. It has its roots in ancient Greek civilization. For instance, Plato (quoted in Pojman 2001:6) emphasized four virtues which were later referred to as cardinal virtues. These were wisdom, courage, temperance and justice. Other important virtues were fortitude, generosity, self-respect, good temper and sincerity. In addition to advocating good habits of character, virtue theorists hold that we should avoid acquiring bad character traits, or vices. Some examples of behaviour which is viewed as vice include: cowardice, insensibility, injustice and vanity.

Virtue theories emphasize moral education, since virtuous character traits are developed in one’s youth. It is also believed that the responsibility of adults includes, among other things, instilling virtues in the young.

Virtue ethics, in essence, is based on ‘human character’, and it views the passion and flaws of people as real issues. It tends to deal with human character, both good and bad. Approaches of human nature to ethics include theories of egoism, hedonism and virtue ethics. Egoists think and act for themselves, hedonists believe that pleasure is the chief goal and virtue ethics believes in moral excellence, rightness and responsibility.

### **6.3.2 Deontological Ethics**

Another ethical theory which is relevant to the subject of this chapter is deontological ethics. The word ‘deontology’ comes from the ancient Greek word ‘deon’, which means ‘duty’. Ethicists refer to this approach as “‘duty-based’”. This is because it imposes a

moral obligation or commitment for one to act in a certain manner. Deontological ethical approaches maintain that “actions are inherently right (e.g. telling the truth) or wrong (cheating or stealing)” (Thomas 1993:4). They consider some “actions to be inherently good (truth telling, keeping promises, respecting the rights of others); others are inherently bad (dishonesty, coercion, theft, manipulation” (Thomas 1993:8). They base “morality on specific, foundational principles of obligation” (Feiser 2003:5). Deontological ethical theories are sometimes referred to as *non-consequentialist* theories, since they are obligatory, irrespective of the resultant consequences following from actions. Feiser (2003:6) suggests four central deontological ethical approaches.

*The first approach* was, according to Feiser (2003:6), developed by Samuel Pufendorf, a 17<sup>th</sup> century German philosopher, who categorized deontological ethics under three headings: “duties to God, duties to oneself, and duties to others”. Pufendorf (quoted by Feiser 2003:6) suggested two kinds of duties related to God. The first is “the theoretical duty to know the existence and nature of God”. The second is the “practical duty to inwardly and outwardly worship God”.

According to Pufendorf there are two duties that relate to ‘duties toward oneself.’ The first is the duty of the soul, which includes the development of one’s skills and talents. The second is the duty of the body, which requires human beings not to harm our bodies. The ‘duties related to others’ are both absolute and conditional. Absolute duties are “universally binding on people” (see Feiser 2003:6). They require people to avoid wrongdoing towards others. They also require people to treat other people as equals and to promote the good of others. Conditional duties are the results of contracts between people. They involve various types of agreements, “the principal one of which is the duty to keep one’s promises” (Feiser 2003:6).

*A second duty-based* (deontological) ethical approach is described as the ‘rights theory’. A right is defined as “a justified claim against another person’s behaviour such as my right to not be harmed by you. They stem from the idea that norms in society receive their force from the idea of mutual agreement. Rights and duties are related in such a way that the rights of one person impose the duties of another person” (Feiser (2003:6).

One of the best known proponents of the rights approach is the philosopher John Locke. He argued that the laws of nature mandate that we should not harm anyone's life, health, liberty or possessions (cited, in Andreasson 2004, <http://www.psa.ac.uk>). Locke perceived these as peoples' natural rights, given to them by God. There are four features which are traditionally associated with moral rights.

First, rights are natural in that they are not invented or created by governments. Second, they are universal insofar as they do not change from country to country. Third, they are equal in the sense that rights are the same for all people, irrespective of gender, race, or handicap. Fourth, they are inalienable, which means I cannot hand over my rights to another person, such as selling myself into slavery" (Feiser 2003:6).

Rights-based approaches agree that certain things are acceptable in a community because the majority of people in that community agree with the behaviour as acceptable. Many people who advocate human rights follow rights-based ethical principles such as human rights, justice and equality.

*A third deontological ethical* (duty-based) approach emphasizes the single principle of duty. This view was developed by Immanuel Kant. Kant suggested that there was a more foundational principle of duty that encompasses our particular duties. He referred to this duty as the *categorical imperative*. The 'categorical imperative' meant that "an action would hold no matter the circumstances" (Thomas 1993: 9). Kant believed, further, that the validity of the categorical imperative "stemmed from reason itself and from our nature as free and rational agents with inherent value" (Thomas 1993: 9).

Kant assessed the moral character of actions by focusing on the internal and /or rational aspects of human conduct. He believed that , "the basis of moral obligation must not be sought in the nature of man [sic] or in the circumstances in which he [sic] is placed, but sought a priori solely in the concepts of pure reason" (Kant 1959:5). He therefore argued that one should "act only according to that maxim by which you can at the same time will that it should become a universal law of nature" (Kant, in Thomas 1993:9). The other maxim was: "Act in such a way that you treat humanity, whether in your own person or in the person of any other, always at the same time as an end and never simply



as a means” (Kant, in Thomas 1993:10).

Accordingly, a *categorical imperative* was different from hypothetical imperatives which hinge on some personal desire. Kant, therefore, provided at least four versions of the categorical imperative. My focus in this study will be on one which, according to my assessment, is directly relevant to the present discussion. It is always to “treat people as an end, and never as a means to an end” (Kant, cited in Feiser 2003:6). This implies that we should always treat people with dignity and never use them as mere instruments. He believed that it is wrong to treat people as means, in the sense that we see them as tools to achieve something else. The categorical imperative also regulates the morality of actions that affect us individually. For example, it is wrong to kill myself as a means of alleviating my misery.

A *fourth* and more recent deontological approach is that which was developed by the philosopher W.D. Ross, which emphasized *prima facie* duties. Ross argues that our duties are part of the fundamental nature of the universe. He lists at least 7 duties which he thinks reflect peoples’ actual moral convictions. These are:

- Fidelity: the duty to keep promises;
- Reparation: the duty to compensate others when we harm them;
- Gratitude: the duty to those who help us;
- Justice: the duty to recognize merit;
- Beneficence: the duty to improve the conditions of others;
- Self-improvement; the duty to improve our virtue and intelligence;
- Nonmaleficence: the duty not to injure others.

Ross recognizes that situations will arise when we must choose between many and sometimes conflicting duties. Ross argues that people will “intuitively know which of these duties is my [their] actual duty, and which is my [their] apparent or *prima facie* duty” (Ross, quoted by Feiser 2003:7).

### **6.3.3 Teleological Ethics**

Theories which focus primarily on the consequences of acts in determining moral rightness and wrongness are called teleological ethics. The word 'teleology' originates from the Greek word '*telos*,' which means end, and from the idea that the end result of the action is the sole determining factor of its morality. Teleological ethical approaches argue that "actions have no intrinsic ethical character but acquire their moral status from the consequences that flow from them" (Thomas 1993:4).

Teleological thinkers, suggests Thomas (1993:4), claim that "the moral character of actions depends on the simple, practical matter of the extent to which actions actually help or hurt people. Actions that produce more benefits than harm are right; those that do not are wrong" (Thomas 1993:4). Such thinkers consider actions to be morally right if their consequences are more favourable than unfavourable. They require that people must first tally both the good and the bad and then determine whether the total good consequences outweigh the bad. If the good consequences are greater, then the action is morally right and if the bad consequences are greater, then the action is morally improper.

According to Feiser (2003:7), consequentialist theories "became popular in the 18<sup>th</sup> century by philosophers who wanted a quick way to morally assess an action by appealing to experience, rather than by appealing to gut intuitions or long lists of questionable duties." They argued that the most attractive feature of Consequentialism was its appeal to publicly observable consequences of actions. Different types of consequentialist approaches specify which consequences for affected groups of people are relevant.

There are at least three subdivisions of Consequentialism. These are:

- Ethical egoism, which claims that actions are morally right if the consequences of actions are more favourable than unfavourable *only to the agent performing* the actions.
- Ethical altruism, which claims that actions are morally right if their consequences are more favourable than unfavourable *to everyone* except the agent.

- Utilitarianism, which claims that an action is morally right if the consequences of that action are more favourable than unfavourable to most people.

All three of these approaches focus on the consequences of actions for different groups of people. I shall focus below on utilitarianism since it is used to assess the moral worth of actions as they affect the majority of people.

### 6.3.3.1 Utilitarianism

Teleological ethical approaches to ethics are perhaps best represented by the theory of utilitarianism, a theory which was developed by Jeremy Bentham and was later refined by John Stuart Mill. Strongly influenced by Hume's theory of empiricism, Bentham attempted to develop a moral theory that was based on rational, objective and quantitative rather than other ways of separating right from wrong. He began from the premise that "pleasure and pain govern our lives and the former makes life happier while the latter makes it worse" (Bentham, quoted by Thomas 1993:4). Based on these insights, Bentham developed, as his ethical touchstone, the notion of utility.

Bentham defined utility in the following manner:

[Utility] is that property in any object, whereby it tends to produce benefit, advantage, pleasure, good or happiness,(all this in the present case comes to the same thing) or (what comes again to the same thing) to prevent the happening of mischief, pain, evil, or unhappiness to the party whose interest is considered: if that party be the community in general, then the happiness of the community; if a particular individual, then the happiness of that individual (Bentham, in Thomas 1993:5).

Utilitarian theory, therefore, contends that something is "morally good to the extent that it produces a greater balance of pleasure over pain for the largest number of people involved, or, as it is popularly described, 'the greatest good of the greatest number'" (Thomas 1993:5). Bentham's theory is known as act-utilitarianism, owing to its view that we should "tally the consequences of each action we perform and thereby determine on a case by case basis whether an action is morally right or wrong"(Bentham, cited by

Feiser 2003:8). For Bentham, pleasure and pain were the only consequences that mattered in determining whether our conduct is moral. This aspect is also known as 'hedonistic', which resulted in the formulation of what Bentham referred to as the 'hedonistic calculus', referring to ways of measuring pleasure or pain.

Mill, Bentham's follower, was uncomfortable that utilitarianism could be used to promote acts which produce pleasure for the greatest number of people, but which might be considered as wrong. He therefore worked on and improved upon Bentham's theory of utilitarianism (act-utilitarianism) with what came to be referred to as rule-utilitarianism.

Mill suggested in his essay, *Utilitarianism*, that

It is quite compatible with the principles of utility to recognize the fact that some kinds of pleasure are more desirable and more valuable than others. It would be absurd that, while in estimating all other things, quality is considered as well as quantity, the estimation of pleasures should be supposed to depend on quantity alone (Mill, quoted by Thomas 1993: 5).

By suggesting this, Mill created a method of distinguishing high quality and low quality pleasures and pain. Mill perceived high quality pleasures as those which could be associated with intelligence, education, sensitivity to others, a sense of morality, and physical health. The low quality pleasures included those arising from sensual indulgence, indolence, selfishness, stupidity and ignorance (Mill, cited by Thomas: 5).

Mill's version of utilitarianism is rule oriented, in that "a behavioural code or rule is morally right if the consequences of adopting those rules are more favourable than consequences for everyone" (Feiser 2003:8). Unlike act utilitarianism, which weighs the consequences of each particular action, rule utilitarianism offers a litmus test only for the morality of moral rules, such as 'helping others is good'. Based on the theoretical background cited in the above sections, our attempt in the next two sections is to identify ethical theories that proponents and opponents of bioprospecting appeal to and to evaluate their positions.

## **6.4 ETHICAL ARGUMENTS AND POSITIONS OF PROPONENTS**

Proponents of bioprospecting and the granting of intellectual property rights on life-forms, such as the patenting of life-forms endorsed by article 27.3 of TRIPS, do not follow only one ethical approach. Some appeal to teleological approaches to ethics, whilst others appeal to deontological approaches. Their arguments, though, all tend to tilt toward teleological arguments. Below I shall outline, first, teleological arguments made by proponents of bioprospecting and patents on life forms, and second, explore whether there are any deontological arguments they appeal to in stating their positions.

As stated above, teleological ethical approaches argue primarily that consequences of actions determine their moral rightness and wrongness. A teleological argument advanced by proponents of bioprospecting and intellectual property rights is that intellectual property rights such as patents reward innovators for their ingenuity. For instance, Reis (1998:18) says they reward “those who have put time, effort, ingenuity, or money into the invention of a new product or process”. Such proponents argue that innovators create products and processes for the social welfare of society.

According to Fisher (<http://www.law.harvard.edu> :1), one of the familiar utilitarian guidelines that intellectual property is founded on is “the maximisation of social welfare”. This perspective also argues that bioprospecting and resultant patents strike an optimal balance between, “on the one hand, the power of exclusive rights to stimulate creation of inventions and works of art and, on the other, the partially offsetting tendency of such rights to curtail widespread public enjoyment of those creations”(Fisher, <http://www.law.harvard.edu> :1).

Utilitarian arguments for patents are based on the idea that the economic benefits of intellectual property rights, such as patents, reduce the consumers’ search-costs for goods. They produce pleasure and choice. Supporters argue that bioprospecting and patentable products and processes deriving from them create “an incentive for business to produce consistently high-quality goods and services (because they know that their competitors cannot ... take a free ride on the consumer good-will that results from consistent quality)” (Fisher, <http://www.law.harvard.edu> : 2). In addition, they accelerate the benefits for society, including health, through their production of products or

processes which are geared to such needs.

Those proponents of bioprospecting and patents on life forms (hereafter proponents) who appeal to utilitarianism also argue that bioprospecting and patents on life forms are beneficial to society, that bioprospecting and patents produce the ‘greatest good of the greatest number’ through wealth creation. They contend that wealth creation and social welfare result from the production of new products which, without the ingenuity of the innovators, would be unavailable. This, they argue, is good, in the sense that it enables consumers of patented goods to pay for goods, services and conditions they want. Proponents argue that patents play important roles in letting potential producers of IPR products know what consumers want and channeling productive efforts in directions most likely to enhance consumer welfare. This also enhances the choices available for consumers.

When appealing to human rights-based approaches, proponents propose that “a person who labours upon resources that are either un-owned or ‘held in common’ has a natural property right to the fruits of his or her efforts and that the state has a duty to respect and enforce that natural right” (Fisher <http://www.law.harvard.edu> : 2). Fisher suggests that this particular view is highly influenced by John Locke’s view that when labour is applied and contributes importantly to the value of the raw materials held in common, it must be rewarded. Fisher states that a good illustration of this perspective is demonstrated by Robert Nozick’s discussion on patent law in his book *Anarchy, State and Utopia*. Nozick aligns himself with Locke’s proviso, “the proposition that a person may legitimately acquire property rights by mixing his labour with resources held in common only if after the acquisition, there is enough and as good left in common for others” (quoted in Fisher, <http://www.law.harvard.edu> : 2).

Proponents, such as Nozick, suggest that awarding patents corresponds to an adequate theory of justice. Such justification is couched in the idea that

[t]he acquisition of property through labour is legitimate if and only if other persons do not suffer thereby any net harm. Net harm for these purposes includes such injuries as being left poorer than they would

have been under a regime that did not permit the acquisition of property through labour or a constriction of the set resources available for their use – but does not include a diminution in their opportunities to acquire property rights in unowned resources by being the first to labour upon them (Nozick, quoted by Fisher <http://www.law.harvard.edu> : 3).

Nozick, holds the view that “consumers are helped, not hurt, by the grant of a patent” (Nozick quoted by Fisher <http://www.law.harvard.edu> : 3).

Proponents also argue that property rights in general and intellectual property rights, in particular, for example, patents, “can and should be shaped so as to foster the achievement of a just and attractive culture” (Nozick, quoted by Fisher <http://www.law.harvard.edu> : 3-4). Those who use deontological approaches argue along the lines derived loosely from the writings of Kant and Hegel. They claim that “private property rights are crucial to the satisfaction of some fundamental human needs; policy makers should thus endeavour to create and allocate entitlements to resources in the fashion that best enables people to fulfill those needs”(Fisher, <http://www.law.harvard.edu> 3). They argue that this is important to human flourishing.

According to these proponents, patented materials, such as micro-organisms, are not sacred. To them it is insane that there are some people who oppose patents on life-forms on the grounds that they violate the integrity and sacredness of plants, animals and/or people whose genes, cell lines or micro-organisms, or processes related to their parts are patented. They suggest that those who oppose bioprospecting and patents view life-forms as “inextricably intertwined with the quasi-mystical notion that genetic information can disclose the essence of a human being” (Dhadda 1998:91). For these proponents, genes and micro-organisms are not sacred and their patenting is permissible. For instance, quoting the leader of the Human Genome Project, they say, “the patent does not patent a person. It does not even patent human genetic material. Its cell line viral preparation derived from the cell that is patented (Dhadda 1998:93).

Using some elements of virtue ethics, some proponents, for example, Fisher (<http://www.law.harvard.edu> ) argue that the entitlements created through patents are justified on the grounds that they are an extension of the creator’s personality, will and quest for

knowledge. They say this is permissible because it has traditionally been argued that creators extend their being, knowledge or personality when they create or invent things.

The argument that intellectual property, in particular patents on life-forms, is meant to reward innovators for their ingenuity is flawed. This is because, on most occasions, the so-called innovation of people, or companies to which patents are granted, is based on prior knowledge of communities through some form of indigenous or local knowledge. The acknowledgement of the ingenuity of the so-called innovators is not fair precisely because it is more often than not based on the knowledge of indigenous African communities and is sometimes used and/or taken without their consent or even acknowledgement. Not only do such intellectual property rights encourage exploitation of the plant resources that are commonly shared by African communities, but they also encourage theft, as they do not recognize or acknowledge the role of indigenous knowledge in the development of new products and /or processes.

## **6.5 ETHICAL ARGUMENTS AND POSITIONS OF OPPONENTS**

Opponents of bioprospecting and patents (hereafter opponents) argue that bioprospecting and patents undermine the fuller scope of plant commons and subsume them as knowledge and products to be used for commercial purpose. They argue that these processes result in promoting the commoditization of all life and causing commoditization to be seen as normative.

One of the basic deontological arguments advanced by opponents of the patenting of life-forms which is endorsed by intellectual property rights regimes, such as Article 27 of TRIPS, is that “the extension of patents to living organisms is intrinsically wrong” (Tansey 1999:15). Opponents argue in particular that “the claim to human invention in relation to living materials violates the belief in a divine creator and that life is a gift, the shared inheritance of humankind” (Tansey 1999:18).

They also say that the incentive approach embedded in the processes of granting patents, through awarding monopoly rights for the duration of 20 years, discounts the antecedents



of knowledge and products which have been utilized in biotechnology for developing patentable products and processes, such as indigenous knowledge. They argue that patents value western forms of knowledge which are, in most cases, tied to commercial processes. They (patents) undermine indigenous forms of knowledge such as African knowledge, which are to a large extent not always tied to commercial activities but are important for the preservation and nurture of ecosystems and the earth.

Opponents also argue that the welfare of people as defined by TRIPS and IPR is restricted to economic value, to the exclusion of other values such as nurturing the earth, communal living and sharing of resources. For instance, de Koning comments:

[T]he distinction between knowledge that has commercial value, and knowledge that lacks commercial value is relevant...the fact that knowledge has no commercial value in western society does not render it useless, as the importance of indigenous knowledge in its communal context for the preservation of ecosystems and to enhance sustainable development should be recognised (de Koning 1999:27).

An additional point related to the above is also made by Tansey when he says: “[P]atenting of life forms marks a significant further step in the larger process of the commodification of life and the reduction of the value of life and nature to the merely economic” (Tansey 1999:18).

Opponents further suggest that people who oppose bioprospecting and/or who are uncomfortable with intellectual property as understood, for example, by regimes like TRIPS, are not tolerated. Their views are ignored or rejected outright. They are seen as needing punishment (through the WTO dispute system). Burrell illustrates this well when he remarks:

Objections to the adoption of the western model of intellectual property based on cultural norms or economic objectives are dismissed as attempts at obfuscation or procrastination. Thus alternative models, which might be able to achieve functional equivalence, are dismissed out of hand (Burrell 1998:197).

Critics object to patenting of life forms and consequently to the conversion of public commons and knowledge on the grounds that bioprospecting and patents ignore “the incommensurability of utility functions and base analysis in favour of the desires of the

rich, who, on average value each dollar less than the poor” (Fisher, <http://www.law.harvard.edu>: 7). They also claim that an extension of intellectual property represents an extension of an “individualistic culture [which] generally makes no allowance for the protection of communal rights and intergenerational innovation which are the hallmarks of many developing countries, including African countries’ cultural traditions” (Tansey 1999:18).

In addition, critics say it is unjust for proponents of bioprospecting and TRIPS or patents on life-forms “to assume that western legal regimes should override any indigenous claims to intangible property rights in folklore on the basis of the fact that indigenous customary law seems to fail to provide for an alternative regime” (de Koning 1999:28). Granting of patents on life forms criminalises the tradition of seed saving practised by many Africans. Patents and their implementation will “force farmers to purchase their seed year after year, a requirement that would raise farmers’ costs and drive millions off the land” (Oram, <http://www.recrea.co.uk>).

Opponents also contest the association of intellectual property protection with inalienable human rights. For example, the association of intellectual property is manifest in Article 27(2) of the Universal Declaration of Human rights which promulgates that “everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author” (quoted in Burrell 1998:209). Burrell argues that the attempt to present the right to IPR as an inalienable human right is little more than a “jurisprudential sleight-of-hand, which seeks to close off arguments as to the merits of allowing developing countries to make free use of foreign intellectual property” (Burrell 1998:209).

The link between human rights and intellectual property rights is, according to Burrell, meant to endorse a mythology of intellectual property which declares that these rights “depend on a vision of a transformative genius whose contribution to society merits special recognition and protection” (Burrell 1998:209). Burrell says “this is unconvincing when compared to the commercial, formulaic nature of many copyright works and when placed in the context of the widespread corporate ownership and collective

administration of intellectual property rights” (Burrell 1998:209). This linking of intellectual property protection with human rights is also, according to Burrell, an attempt by international multilateral institutions (WTO and UN) “to obscure more substantive moral and ethical issues” (Burrell 1998:198).

Pat Mooney (quoted by Dhadda 1998:96) objects to bioprospecting/ biopiracy and the patenting of life-forms on the grounds that they promote piracy and commoditization of life. He believes that such patents are immoral due to the fact that they promote “monopoly control over human cell lines” (Mooney, quoted in Dhadda 1998:96). Patents are seen as a conduit for enabling multinational companies to monopolize the market for new plant varieties deriving from the original plant for the term of the patent. The result is large revenues for companies but very little financial reward for communities whose knowledge and plants were used as leads to genetically engineered plants. In addition, the privatization of genetically engineered and patented resources accelerates the trend toward monocultural cropping and (corporate) monopoly over these.

Shiva, on the other hand, contends that the argument claiming that bioprospecting and patents promote knowledge, research and choice is not true. She states that bioprospecting and patents result in the marginalization of indigenous and third world communities whilst promoting corporate monopoly and expansion. She comments:

The expansion of corporate control is often made to appear as the expansion of the democratic space for citizens on the basis of consumer choice. However, such choice is based on ever-narrowing alternatives. Choice within a narrow, predetermined set of options of corporate rule is not freedom because it involves the surrender of the right to determine the context of living and the values that govern society. The apparent widening of individual consumer choice for the elite in matters of automobiles and junk food is based on the shrinking of the rights of communities to control their local natural resources, the shrinking of work opportunities for large numbers of people and the shrinking of social and political choice through a democratic public process (Shiva 1999: 54).

Fourmile suggests that corporate monopoly gained through bioprospecting and patents is further promoted by pharmaceutical and biotechnology companies through the development of terminator technologies. According to Fourmile (1999:236), “the purpose

of a terminator gene is to protect corporate patents on seeds to prevent farmers from saving seeds for replanting, and thus it provides a biological means to enforce patent ownership.” According to Fourmile, the implications of such technology are enormous, and, if pursued, could threaten the food security of many communities in Africa, Asia and Latin America. A consequentialist analysis of the impact of patents also shows that patents, and the technology they are meant to protect, “will terminate the food supply” (Ho, quoted by Fourmile 1999:236) and thus lead to starvation and human suffering. They will also further affect ecological systems and human health.

Mooney also endorses the view that bioprospecting and patents on life-forms are wrong. According to him, they promote some form of neo-colonialism of plant commons and even of human genes and cell lines. He expresses this in the following words: “[W]hen a foreign government comes into a country, takes blood ... to patent and profit from the cell line, that’s wrong... Life should not be subject to patent monopolies” (Mooney, quoted in Dhadda 1998:96)!

Oram (<http://www.recrea.f9.co.uk>) raises a similar concern to that above. He points out that bioprospecting, biotechnology and patents on life-forms are meant to facilitate the advancement of biotechnology and profit maximization by multinational biotechnology and pharmaceutical companies. Bioprospecting and patents on life-forms are, according to Oram, not motivated by the needs of the poor and vulnerable. Instead, they are driven by the profit motive and the desire to consolidate the continuation of this motive. To illustrate the motives behind patented products and bioprospecting, Oram states;

It is plain enough when one looks at the trend in crop research and development...nearly all research into GM crops is going into improving food processing qualities, transport durability, appearance and shelf-life traits favouring sales in northern consumers’ niche markets rather than meeting food needs in the South. Even where research has been geared toward developing countries, the emphasis tends to be on export crops at the expense of subsistence crops (Oram, <http://www.recrea.f9.co.uk>).

Arguing from deontological perspectives, opponents state that intellectual property rights and the multilateral institutions which are responsible for their implementation and protection (the WTO and WIPO) lack democracy and integrity. To demonstrate the lack

of integrity and democratic principles embedded in intellectual property systems and the institutions which oversee their implementation, Burrell states: “[W]hen the West’s motives are examined in more detail, it is possible to object to the approach that has thus far been adopted on the grounds that it lacks integrity” (Burrell 1998:198). Integrity, according to Burrell, is an aspect of social and political morality which requires governments, multilateral institutions as well as public institutions to act coherently and to promote social justice and equality among peoples.

Integrity therefore demands that the language of justice is not adapted or abandoned so as to meet political goals. By thereby requiring us to apply the same standard to everyone, the principle of integrity ensures that we do not arbitrarily discriminate between groups and individuals. As such integrity is an important, but distinct, aspect of the more general requirement that we treat others with respect (Burrell 1998:198).

Integrity, as a demand of social, political and ecological ethics, requires multilateral systems and regimes to speak and act on the basis of a coherent set of principles, such as justice, fairness, equality and respect for other opinions. In order to act with integrity individuals, governments and/or multilateral institutions must demonstrate these principles.

Opponents further believe that bioprospecting and intellectual property rights which have been granted or created over African knowledge and plant commons, such as the Hoodia Cactus and J’ouble, display deception and a lack of integrity on the part of bioprospectors and on the part of those who accept the patenting of products resulting from stolen plant commons and knowledge systems. This is because those who engage in bioprospecting do not often declare their intention to convert the prospected commons into private property, such as Hellekant did with Jouble. They (bioprospectors and those who claim pirated plants) do not just transform these public commons into private property; they also do so without the consent of the people whose knowledge and resources are the bases of their products.

Opponents, therefore, see people and companies which engage in biopiracy through bioprospecting and later claim patents on products informed by indigenous knowledge as dishonest, deceptive and unfair. According to Burrell, such actions also undermine the

intelligence of indigenous communities. They are also socially harmful because they enable the first entrant into the market to discourage the sharing of knowledge by appropriating for themselves ownership of products and processes as well as the knowledge associated with them. When intellectual property protection and bioprospecting/biopiracy are evaluated, it is, indeed, clear that they lack integrity in terms of political motives and in so far as justice and fairness are concerned.

It is also suggested that intellectual property rights gained through acquiring patents on life forms “fail to respect other voices and other traditions and posit the moral superiority of a value system which is far more recent than the tradition it seeks to condemn” (Burrell 1998: 198). Using the analogy of the copyrights, Burrell remarks that it is very serious that northern/western countries that have interests in intellectual property such as copyrights and patents, have encouraged the so-called developing countries to introduce criminal sanctions for intellectual property rights infringement. He contends that this does not only lack integrity (as described above), but it also creates unnecessary risks of grave human rights abuse, thus showing that IPR, as promoted by TRIPS, are more concerned with property rights than with the fundamental rights of the peoples of the South, and in particular of Africa. What is implicit is that intellectual property rights as promoted by TRIPS “threaten to undermine, if not totally destroy, the values that indigenous [African] systems ascribe to intellectual property and the manner in which they allocate rights to intellectual goods”(Burrell 1998:202).

It is further contended that bioprospectors, particularly those who engage in biopiracy and international multilateral institutions which oversee and implement intellectual property rights, behave in ways that display a democratic deficit. To clarify this point, Tansey (1999:75, quoting Donald Bruce) states that “growing democratic deficits that are developing in our increasingly globalised society where momentous decisions which could alter the whole future course of humanity are taken outside democratic control.” The lack of democracy, or at least respect for indigenous African knowledge and plant commons, is seen in the refusal or the hesitancy of the WTO to discuss patenting of life-forms as requested by the Africa group. The Africa group has submitted to the WTO a proposal to review article 27.3b, which endorses patents on life forms. In Tansey’s

words, “a fair and equitable negotiating process is desirable for the long term success of international agreements” (Tansey 1999:75).

Tansey suggests that the present differences in resources and capacities between the negotiating parties are too huge, to the extent that they hardly promote justice, fairness and equality. The current manner in which bioprospecting and the protection of intellectual property rights takes place does not promote a fair balance of interests. Instead, it will continue to “tilt toward countries of the north...which are themselves heavily influenced by the corporate sector” (Tansey 1998:75). This will skew an already unequal balance and strengthen the power of corporate interests, while further marginalizing questions of human social welfare and socio-economic and cultural justice.

Opponents, consequently, make the claim that bioprospecting and intellectual property can only be meaningful if they respect African and indigenous worldviews and knowledge. This point is expressed capably by Burrell when he avers:

It is only by our accepting the legitimacy of other notions of cultural productivity that we can come to respect other voices and other traditions. Nor, as is sometimes suggested, does this call for other cultures to be respected necessarily involve presenting those other cultures as static or homogenous (Burrell 1998: 202).

From the rights-based approach, finally, opponents argue that African and indigenous peoples, whose resources are taken, also have inalienable rights to food, development and rewards for their contribution to the nurture and protection of ecosystems, humanity and earth.

## **6.10 CONCLUSION**

This chapter has sought to define social and ecological ethics. It has also traced their role in social, political and economic discourses related to issues of intellectual property rights and bioprospecting. Its purpose was to give clarity to the debates regarding bioprospecting and methods of intellectual property protection, such as patents, and their implications for African communities, commons, and indigenous knowledge. The chapter has presented the divergent views of both proponents and opponents of bioprospecting

and the claims of private ownership and intellectual property on African commons and knowledge. By comparing these views, the chapter sought to discern whether bioprospecting and intellectual property rights are life-affirming, liberative and/ or oppressive to African communities, their biodiversity and indigenous knowledge.

It is clear from the ethical arguments posited by both proponents and opponents that bioprospecting and intellectual property, such as patents on life-forms, are to a large extent inimical to African communities, indigenous knowledge and African commons. In the next chapter we attempt to explore African ethical norms and principles and how they can be utilized in order to eradicate the death-dealing effects of bioprospecting and intellectual property.

## **CHAPTER SEVEN**

### ***BOTHO* AND JUSTICE AS GUIDING NORMS IN THE QUEST FOR ALTERNATIVES TO BIOPROSPECTING AND IPR CLAIMS BY NORTHERN MULTINATIONAL COMPANIES**



## 7.1 INTRODUCTION

This chapter aims at discussing the significance of justice and *botho* as guiding norms toward fair and just sharing of African commons and knowledge. *Botho* is a Sesotho word which refers to the notion of relationality and respect for humanity and the earth. Justice (*toka* in Sesotho) is both an African and a Christian ethical principle and norm. Although it is regarded as elusive, it generally refers to fairness and “right relationship, with self, others, creation, God” (Lebacqz 1996:158). It also advocates that humanity and creation have to be treated with respect. The chapter will also suggest ways that *botho* and justice can help in the development of constructive alternatives, which are antithetical to the current manner in which bioprospecting/ biopiracy and claims of intellectual property rights take place.

The promotion of *botho* and justice as key norms in the quest for alternatives against current exploitative bioprospecting activities and the employment of international intellectual property rights regimes, such as TRIPS, is necessary in studies in Ethics. This is because there are few attempts in Ethics, particularly Christian ethics, which focus their attention on the ethical challenges posed by bioprospecting/ biopiracy and intellectual property rights. This is so with regard particularly to Africa. Although *botho* has been comprehensively studied in other human and social sciences, for example, sociology and anthropology, it has not been given as much systematic attention in theological and ethical studies related to ecological issues. It has, in many instances, also been predominantly interpreted in anthropocentric terms, thus undermining its relevance for the ecology.

The chapter, therefore, sets out to study the diverse aspects of *botho* and justice. It will also study their relationship to the issues of African plant commons, indigenous knowledge, bioprospecting/biopiracy, intellectual property rights and multinational pharmaceutical and biotechnology business in Africa. The chapter will be divided into six central parts including the introduction and the conclusion. The first section will describe the concept of *botho* as it is understood in Sesotho. It will outline the various meanings or features associated with *botho*. The second section will address the

significance of *botho* in African ethics and ecology. The third section will deal with justice in Social and ecological ethics. It will describe the various notions or conceptions of justice in order to develop comprehensive guiding norms or principles. These norms and principles can be used against exploitative appropriation of indigenous knowledge and African plant commons which is apparent from the activities and claims of intellectual property rights by northern multinational companies. The fourth part will attend to the relevance of *botho* and justice to bioprospecting and intellectual property rights claims. The fifth section will deal with the implications of *botho* and justice in discourses on bioprospecting and intellectual property rights. The sixth section will outline the implications of *botho* and justice for bioprospecting and intellectual property rights on plants and African indigenous knowledge.

## **7.2 THE CONCEPT OF *BOTHO* IN SESOTHO AND AFRICAN CULTURES**

*Botho* is a Sesotho word which explains personhood and humaneness. It expresses the ontology of people and their identity. It is synonymous with other African concepts, such as *ubuntu* in isiZulu and isiXhosa. It expresses a cultural and ethical world-view “found in diverse forms in many societies throughout Africa... more specifically among the Bantu languages of the East, Central and South Africa” (Murithi, <http://www.bath.ac.uk>). It is expressed in the saying, “*motho ke motho ka batho ba bang*”, which literally translates to the idea that a person is a person through other persons.

A similar statement which explains the notion of *botho* is expressed by the famous African theologian John Mbiti in the following manner “I am because we are and since we are therefore I am”(Mbiti 1988:108). In order to avoid any confusion in the development of this chapter, it is important to state that *botho* and *ubuntu* will be used interchangeably in it. This is because as stated earlier, these terms are synonymous to each other in content and worldview. They are the Sesotho and isiNguni versions of the same concept.

Tutu, quoted by Botman (<http://www.crvp.org>), suggests that *botho* “is a term difficult to translate into occidental languages.” Its core message is about the essence of being

human. It proclaims that human beings are inextricably bound to each other. People are human and humane because they belong to a community or a network of life-forces. “It also acknowledges both the rights and the responsibilities of every citizen in promoting individual and societal well being” (South African Government 1996:18). It describes a person as being-with-others and prescribes what being with others means or requires. *Botho* “inspires us to open ourselves to others, to learn of others as we learn of ourselves” (<http://www.bu.edu.wcp>).

Botman suggests that the meaning and essence of *botho* is not anthropocentric, but includes relationships between human beings and creation. He also suggests that the inclusive notion of *ubuntu/botho* finds resonance and is affirmed by the biblical and theological story of creation in which “God created humanity in relationship” (<http://www.crvp.org>). This implies that:

Being human is relational and cooperative... the concrete person is a web of interactions, a network of operative relationships. A person is fashioned by historical, cultural, genetic, biological, social and economic infrastructure. These relationships are not mechanical ones; they do not allow for a competitive individualization which would damage the dignity of the human being. The dignity of human beings emanates from the network of relationships, from being in community... [It] cannot be reduced to a unique competitive and free personal ego (<http://www.crvp.org>).

In this sense, every person’s humanity is ideally articulated through his or her relationship with other human beings, the earth and other creatures of the earth.

*Botho* also refers to “a process and philosophy which reflects the African heritage, tradition, culture and customs, beliefs, value systems and the extended family structures” (Makhudu, quoted in Kanwangamalu 1999:3). It is a concept and lifestyle which expresses respect, empathy, and compassion for others. It is “the fundamental ontological and epistemological category in the African thought of Bantu-speaking people” (Ramosé 2001:2). Being human or ‘*motho*,’ or having *botho*, is the “marker of knowledge and truth in the concrete areas, for example, of politics, religion and law” (Ramosé 2001:2). It is the “experience of treating all people with respect, granting them their human

dignity...[B]eing human encompasses universal brotherhood [sic] for Africans, sharing, treating and respecting other people as human beings” (Bhengu, quoted by Kamwangamalu 1999:2).

*Botho* thus conveys the values of respect, humane relationships, and compassion and of caring for other human beings as well as the well being of the earth. It is understood as the spirit of mutual support and the recognition of the humanity of each person. It also “articulates a world view or vision of humanity... as an integral part of eco-systems that lead to a communal responsibility to sustain life. Human value is based on social, cultural and spiritual criteria. Natural resources are shared on principle of equity among and between generations” (Whitehead, <http://www.bath.ac.uk>).

In order for us to promote *botho* as the ideal norm in the quest for justice and fairness in discourses, relationships, conduct and practices related to issues of bioprospecting and claims of intellectual property rights by northern multinational (biotechnology and pharmaceutical) companies, we need to provide a comprehensive understanding of its meaning and some features or essential elements associated to *botho*. There are a number of attributes or features that people associate to the notion of *botho/ ubuntu*. These include solidarity and the collective consciousness of the peoples of Africa, the essence of being, communalism and the care and nurture of the earth and the African ethics of life.

### **7.3 SOME IMPORTANT FEATURES OF *BOTHO***

Below are provided some examples of the qualities of *botho* and how they relate to the sharing, ownership and utilization of African plant commons and knowledge.

#### **7.3.1 Botho as the essence of being**

Archbishop Desmond Tutu ([http:// www.bu.edu/wcp/Papers/Afr/Afri/Lower.htm](http://www.bu.edu/wcp/Papers/Afr/Afri/Lower.htm)) continues to describe *botho* as “the essence of being human... it embraces hospitality, caring about others, being willing to go an extra mile for the sake of another.” This

implies that it is the foundation, the “inner state, orientation, and good disposition that motivates, challenges and makes one perceive, have feelings and act in a humane way towards others” (Mnyaka 2003:145). It is a way of life that seeks to promote, manifest and realize “harmonious relations in society” (Mnyandu, quoted by Mnyaka 2003: 144). It encompasses positive human qualities and enables human beings to become humanized beings. It also includes self-expressive works of love and efforts to create harmonious relationship in the community and the world beyond.

### **7.3.2 Botho as solidarity and collective consciousness of the African people**

Another feature or value associated to *botho* is solidarity, which is understood as the collective consciousness of the people or community. This is because “the self is perceived primarily in relation to the perception of the others” (Laden, quoted by Kamwangamalu 1999:2). This, according to Botman (<http://www.crvp.org>), is also because the self is understood as a social, relational being and is perceived in cooperative terms. “The human being is not only a personality, but also a sociality”(Botman <http://www.crvp.org>). The notion of a human being as a sociality is also affirmed in the Christian story of creation, where it is stated that “God created humanity in relationship” (Botman, <http://www.crvp.org>).

### **7.3.3 Botho as communalism and the care and nurture of the earth**

*Botho* is also underpinned by the spirit of communalism. The interest of the individual is supposed to be in synergy with that of the community and the earth. Communalism “insists that the good of all determines the good of each other, or put differently, the welfare of each other is dependent on the welfare of all”(Kamwangamalu 1999:3). This means that the collective life of communities is enhanced, and social solidarity and humanism embraced, by *botho*. It also gives emphasis to the importance of agreement or consensus. In many instances, “each person gets an equal chance to speak up until some kind of an agreement, consensus or group cohesion is reached” (Louw 1997:2).

Louw argues that although *botho* promotes harmonious and life-giving support for people

to live together, it can also exhibit some life-denying tendencies. For instance, he sees “the desire to reach consensus” (Louw 1997:3) as a possible weakness that *botho* has. He also states that “although [botho] articulates such important values as respect, human dignity and compassion, the *Ubuntu* desire of consensus also has a potential dark<sup>5</sup> [sic] side in terms of which it demands an oppressive conformity and loyalty to the group” (Louw 1997: 3). He says it is often believed that the building of community occurs when consensus is reached and that *botho* safeguards the rights and opinions of individuals and minorities when it could possibly lead to coerced group solidarity. He further points out that because of *botho*’s extreme emphasis on community, *botho* “democracy might be abused to legitimize...totalitarian communalism which frowns upon elevating one beyond the community” (Louw1997:3).

While one sympathizes with the above view that, if unchecked, *botho* can place oppressive demands on individuals, such as conformity, I think such a view simplistically perceives *botho* as a system or worldview that is fixed and does not allow debate and/ or discourse amongst people. One has to be cautious not to sensationalize the potential good inherent in the conception of *ubuntu*, particularly because history has shown that good concepts are also liable to abuse. However, one must not confuse the idea of *botho* with simple conformity to values, institutions, systems and structures that do not allow active and constructive participation in one’s life and the life of one’s community. *Botho*, as I understand it, embraces diversity of opinions and choices. However, it encourages individuals to be sensitive of their choices and the possible effects of such choices on themselves and on their communities and the earth.

*Botho* and communalism do not prescribe homogeneity and conformity. Essentially, they encourage people to nurture their individuality without negating their association to the earth and their communities. They encourage people to understand their connectedness to other beings. It could, then, be argued that *botho* and communalism do not subsume each person’s individuality. They only require individuals to be responsible and conscientious of other beings and broader ecological networks and life beyond themselves. They do not

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<sup>5</sup> Louw associates badly with darkness. I do not subscribe to such association. I believe that the association of darkness with evil is dangerous and poses serious threats to social justice and anti-racism or anti-racist discourse. It may also run the risk of being racist or promoting subtle racism.

encourage self-destructive individualism, but individuals who are constantly aware and sensitive to the fullness of life in general. *Botho* does not promote egotistic, individualist behaviour. It inspires us “to encounter the difference of others’ humanness so as to inform and enrich our own...[U]*buntu* respects particularities of the beliefs and practices others” (Louw 1997:3).

#### **7.3.4 Botho as the African ethics of life**

*Botho* refers to “a set of institutionalized ideals which can guide and direct the patterns of life of Africans. It becomes a notion descriptive of a convergent set of desired goals which all or, at least most Africans entertain and toward which their activities are directed” (Sogolo, quoted by Mnyaka 2003:143). It is “not an individualistic, abstract, cold and irrelevant spiritual way of life. It is being neighbourly; it has a strong social consciousness” (Mnyaka 2003:154). It is, as Biko said (quoted by Mnyaka 2003:154), “a deliberate act of God to make us a community of brothers and sisters jointly involved in the quest for composite answers to varied problems of life”. This implies that “the natural relationality of the person thus immediately plunges him/her into a moral universe, making morality an essentially social and trans-individual phenomenon focused in the well being of others ” (Mnyaka 2003:154). It is, according to Mnyaka, a philosophy that holds society together.

In ethical terms, *botho* lays down requirements or duties expected of human beings in relation to one another, and in relation to the earth and other creatures. Cotzee and Roux (quoted in Mnyaka 2003:154) assert that *botho* “mandates a morality that, clearly, should be weighted on the side of duty, i.e. on that which one has to do for others.” It is also viewed by Africans as “the basis for a morality of cooperation, compassion and communalism[,] and concern for the interests of the collective, respect of the dignity of personhood, all the time emphasizing the virtues of that dignity in social relationships and practices”(Mokgoro 1998: 2). According to Louw (1997:2), *botho* “can be described as a ...social ethic... [which] prescribes what ‘being with others’ should be about”. It should further be noted that, while the human relationship to the environment is seldom made explicit in most interpretations of *botho*, a positive kind of relationship should be

understood as integral to the value of *botho*.

*Botho* is also a “multidimensional concept which represents the core values of African ontologies, respect for any human being, for human dignity and for human life, collective sharedness [sic], obedience, humility, solidarity, caring hospitality, interdependence, communalism, to list but a few” (Kamwangamalu 1999:1). The implication is that, despite the diversity of African people, it is one of the common values or threads that can be observed in many of the “beliefs, customs, value systems and socio-political institutions and practices of the various African societies” (Kamwangamalu 1999:1). It is understood as the key to many African values. It also describes the importance of interdependence and social justice in African culture. In addition, *botho* places great value on respect for the dignity of all others. In this way it is important in the seeking of “reconciliation in the midst of conflict and hardship” (Mthembu, quoted in Kamwangamalu 1999:2).

### **7.3.5 Botho And The Individual**

The importance of *botho* for the individual is affirmed by the statement that to be human (*motho*) is to “affirm one’s humanity by recognizing the humanity of others in its infinite variety of content and form” (Louw 1997:3). The respect for difference in others is paramount to *botho*. As such *botho* respects individuality. It differs somewhat from traditional western concepts of individuality, where the self is regarded as autonomous by virtue of being a rational being. For instance, the individual, when expressed in the Cartesian maxim ‘I think therefore I am’, centralizes rationality and distances other ways and modes of being, including the affective domains. This is in a way antithetical to the notion of *botho*, due to the understanding that according to *botho* human beings are not just their brains or rationality, but comprise of a network of the cognitive, affective and other domains that enable them to be fully human, including the social, political, religious and economic contexts and systems which inform and shape their lives.

The conception of the self within *botho* is further different from the dominant western perception of what an individual is in that, for example, in the west or in western



discourses “individualism often translates into an impetuous competitiveness... [I]ndividuals’ interests rule supreme, and society or others are regarded as nothing but means to individual ends” (Khoza, quoted by Louw 1997:3). The individual, according to *botho*, is construed as a rational and emotional being whose life and decisions are self-sufficient but ought always to be considerate of their impact on the society and the earth. In this sense, whilst the individual retains his or her independence and autonomy, she/he always has to be conscientious that her/his being is tied up to that of their society and the earth.

The concept of an individual from the perspective of *botho* is best expressed in the words of Louw when he says:

[*Botho*] directly contradicts the Cartesian conceptions of individuality in terms of which the individual or self can be conceived without thereby necessarily conceiving the other. The Cartesian individual exists prior to, or separately and independently from the rest of the community or society. The rest of society is nothing but an added extra to a pre-existent and self-sufficient being. This ‘modernistic’ and ‘atomistic’ conception of individuality lies at the bottom of individualism ... [It] exaggerates seemingly solitary aspects of human existence to the detriment of communal aspects (Louw 1997: 3).

A similar point to the above is expressed by Botman (<http://www.crvp.org>) when he says

The concrete person is a web of interactions, a network of operative relationships. A person is fashioned by historical, cultural, genetic, biological, social and economic infrastructure. These relationships are not mechanical ones. They do not allow for competitive individualization which would damage the dignity of the human being. The dignity of human beings emanates from the network of relationships, from being in community; in an African view it cannot be reduced to a unique, competitive and free personal ego.

By way of contrast, *botho* defines the “individual in terms of her/his relationships with others...the individual signifies a plurality of personalities corresponding to multiplicity of relationships in which the individual...stands” (Louw 1997: 3). The individual is both rational and emotional. The individual thinks of themselves in relation to other human beings and other creatures of the earth. *Botho* is a value system which enables societies or members of community to measure their humanness and their relationship with each

other and the earth.

In spite of the many difficulties that Africans have endured, such as slavery, colonialism and apartheid, *botho* continues to prevail. It is an ethic which provides a commendable schema of values for life. It is a value system that has enabled Africans to survive despite the many life-denying, humiliating structural injustices such as those just referred to.

*Botho* is not just a way of life or a world view, but a way of being an individual in community and always attempting to be humane and caring to others and to the earth. This view is expressed eloquently by Louw (1997:4) when he says that *botho* “is both a given and a task or desideratum in African societies.” The description of the notion of an individual expressed in the above paragraphs shows a distinction between the western and African conceptions of an individual. This is particularly true when the concept of an individual is measured, as already shown, against Descartes definition of what an individual is.

The significance of *botho* for ecology is demonstrated by people’s association to plants and to animals through their clan names and the totems they use to define their identity or to describe themselves to others. In order to acknowledge their interconnectedness with other creation, many clans and African ethnic groups, with special reference to Basotho, define their identity, their being and their self-conception in reference to the ecology and to communities in which they live. For example, some people would refer to themselves as *Bakoena* (literally translated as those of the crocodile) *Bafokeng* (those of hare), *Bataung* (those of the lion) *Batloung* (those of the elephant) and so on. From conception till adulthood, people are taught to nurture and honor their relationships with other human beings and other creatures of the earth. They are allowed to grow and enhance knowledge about themselves and other creatures, and knowledge of the earth as the source of life. In this way the values of *botho* are embedded in their moral conduct especially through the values of respect for life.

### **7.3.6 Botho and Its Significance for The Ecology**

As an ethic of relationality and co-existence of human beings and also human beings with other creatures on earth, it therefore follows that *botho* is against biopiracy, hoarding and privatization of commons. It is an ethic aimed at promoting democratic dialogue and participation. In this sense, it does not encourage the privatization of commons and knowledge by only a few corporations, but believes in the sharing of such knowledge and resources for the betterment of the lives of all people and the earth.

The relationship and significance of *botho* to ethics, and in particular to issues related to intellectual property rights issues, is also affirmed by Broodryk when he suggests that *botho* is a “spiritual foundation of the world view of African people, it is a determining factor in the formation of perceptions...about what is good or bad behavior” (Broodryk, quoted by Mnyaka 2003:144). A similar point is reiterated by Louw when he suggests that ethical principles such as compassion, care for each other and for the earth, sharing, humanness, community, justice and fairness are underscored by *botho*.

One of the most important elements of *botho* is its emphasis on or rationale for harmonious relationships between humanity and the earth. Its distinct message in an African context is that relationships must be under-girded by justice. In this sense, *botho* articulates an ethic of self-respect and avoidance of abuse and exploitation of others. It sees people not only as means to ends, but also as ends in themselves, hence the requirement that relationships ought not to be based on exploitation and abuse. To clarify this point, Louw makes the following comment;

The concept of *ubuntu* gives a distinctly African meaning to, and reason or motivation for, a decolonizing attitude toward the other, including and especially the religious other. As such, it adds a crucial African appeal to the call for the decolonization of the religious other—an appeal without which this call might well go unheeded by many Africans (Louw 1997:6).

*Botho* calls on Africans to be true to themselves. It calls for “the liberation of Africans - not so much from the colonizing gaze of others, but from colonization *per se*, i.e. from the practice of colonization...” (Louw 1997:7). It encourages a holistic understanding of human beings as part of God’s creation. It also calls attention to the importance of life-

giving and respectful relationships among human beings.

The logic of *botho* is helpful to ecological justice. It is also an alternative to the current ways of bioprospecting and intellectual property rights claims by multinational companies. This is due to its affirmation that what we do to others has a bearing on our own identities, and in many cases this manifests itself through the interwoven fabric of social, economic and political relationships which eventually impact upon us. For example, when prospectors engage in exploitative pirating of biological commons, they also become victims of ecological injustice and participate in systems of economic globalization, intellectual property monopoly and abuse as well as bioprospecting/biopiracy. They benefit from these undertakings while brutalizing the lives of the poor and those whose lives are dependent on biological resources and indigenous knowledge.

*Botho* can enable members or leaders of companies which engage in bioprospecting and the expropriation of indigenous knowledge to become aware that in expropriating and pirating resources and knowledge from Africa, they are engaging in harmful unethical conduct. They are also stripping off, from themselves, their own humanity and dignity. It can also make them aware—whether they agree or not—that profit is not the only motive for sustenance and for life, but that there are other considerations such as the recognition of the humanity of Africans, consent in the use and sharing of resources, as well as compassion and ethical behaviour in conducting research and or business.

The exploitative practice of bioprospecting/biopiracy and TRIPS is the process of dehumanizing others for the sake of the maximization of profit. It inflicts untold harm and suffering, and the perpetrators of such actions are themselves being dehumanized as well. *Botho*, therefore, can help to shed light on reciprocity and justice in the conduct of peoples and institutions, as well as in the laws that govern societies. It can act as a corrective to the logic of self-interest and exploitation, which is entailed in the conduct of the multinational companies that engage in exploitative bioprospecting endeavors. Furthermore, *Botho* “can also serve to re-emphasize the essential unity of humanity and gradually promote attitudes and values based on the sharing of resources and on

cooperation and collaboration in the resolution of our common problems” (Murithi, <http://www.bath.ac.uk>), including problems resulting from bioprospecting/biopiracy and intellectual property rights. It has potential to provide insights relevant for the creation of guidelines for societies and their governments on how to establish policies and legislation which will promote ecological justice in the sharing and utilization of biological commons and indigenous knowledge.

#### **7.4 JUSTICE IN SOCIAL AND ECOLOGICAL ETHICS**

The second concept adopted in this chapter as a guiding principle for critiquing the ills of bioprospecting/ biopiracy and TRIPS is that of justice. The concept of justice, which in Sesotho is defined as *toka*, has multiple meanings. In Christianity too, justice is interpreted differently by different people. Due to the multiple notions of justice in theological and ethical discourses, it is essential for me to clarify this concept as I examine it in this chapter.

My focus will be on justice as equality, fairness, procedure, respect and consent in sharing the resources of the earth and indigenous knowledge. It is also applicable to the restoration and correction of unhealthy relationships between people and companies which exploit indigenous knowledge and intellectual property rights, on the one hand, and African communities whose plant commons and knowledge are expropriated without their consent, on the other.

Justice is important in promoting non-exploitative, just, fair and equitable sharing of resources and knowledge. It encourages the creation and promotion of respect of the other. It is also central and essential to the sustenance of the ecology of African communities. The just distribution and sharing of knowledge and commons enable communities to flourish and to survive. Justice enables societies to guard against greed, hoarding, maximum profit and exploitation of others and the earth as supreme values and norms of relationality. The term justice requires precise definition because of its diverse uses in ecological and ethical studies. The quest for justice in ecological ethics, to some extent, is shaped by the politics of the environment, the distribution of resources and

access to those aspects that enable human and ecological life to flourish. It is also shaped by relationships that human beings have amongst themselves, institutions that they set up to govern their lives, as well as their relationships to the other creatures and the earth. Access to resources and sharing of ecological resources amongst people are also an important element in shaping the notion of justice.

I set out in this section, therefore, to explain the various meanings of justice and to explore the ways in which they could be used in the quest for justice against expropriation of African plant commons and indigenous knowledge in Africa. Macintyre (quoted by Sagovsky 2000:4), suggests that “if we want to speak about justice... we have to say what we mean by it, and the position we take is bound to be challenged by others”.

Justice has a variety of philosophical and theological expressions. It refers to a multiplicity and plurality of values. It is defined in a number of ways. „Among other things it includes, as already stated, notions such as fairness, freedom, liberty, equality, community, wisdom, impartiality and egalitarian relationships, freedom of opportunity, equality of benefits and equality of participation in societal life. It can also refer to a variety of forms of sharing and distributing the material and ecological resources within and between societies. As well, it may also include ideas, procedures, mechanisms and strategies that are used by societies to allocate ecological and material resources to all their members.

I now briefly explain the different meanings of justice and explain, in a restricted manner, the ways they relate to bioprospecting and claims of intellectual property rights on African indigenous knowledge and commons by northern multinational biotechnology and pharmaceutical companies.

#### **7.4.1 Justice as Equality and Fairness**

Justice as equality, or at least as opposition to arbitrary, unnecessary, or extreme inequalities, is a concern for issues related to bioprospecting and intellectual property

rights. According to Bakken et al (1995: 20), people concerned about the massive disparities and wealth between nations and within nations, as well as the health of the biosphere, assert that the wealthy nations and individuals “must reform the global economy or provide money and technology to poorer nations so that they can increase incomes while protecting their natural resources.” In this sense, justice can be understood to include “not only the right to distribution of political power, wealth, or social services, but of environmental goods also” (Bakken et al 1995: 20). It encompasses equal rights to ecological resources and necessities. It also involves equal sharing of the resources of the earth.

The concept of justice as equality is also important in that it opposes the idea that the ecological burdens resulting from unjust and exploitative business practices, such as bioprospecting and biopiracy, should be borne by the poor while access to these resources is inhibited and or taken away from them. It is oppositional to the suggestion that the burdens of ecological degradation should be equally shared by those who abuse and exploit natural resources and those who are exploited of and denied them, such as the poor. When related to issues of bioprospecting and intellectual property rights, justice requires that fairness must be core to the laws governing the regulation of resources, knowledge and communities.

Justice also requires fairness and equal opportunity to participate in decisions affecting one’s environment, knowledge systems and communities. It also requires that northern biotechnology and pharmaceutical companies, which engage in bioprospecting in Africa and thereafter claim knowledge and resources as private and intellectual property, must be held accountable for the unfair appropriation of knowledge and commons that in essence do not belong to them.

#### **7.4.2 Justice as Restoration and Correction**

Corrective justice concerns fairness in demands for social and ecological damages imposed on indigenous and local communities whose knowledge and resources are pirated by northern companies for profit. For instance, in relation to

bioprospecting/biopiracy and intellectual property rights issues, corrective justices requires that where companies have pirated resources of Africans without their consent, they should institute corrective measures such as reparations, or benefit-sharing agreements to share the wealth that has been generated from their use. It also means that companies that prospect and steal indigenous knowledge and claim it as their own, or as their innovation, will apologize for their theft, repent and acknowledge the sources of such knowledge. It further requires that those whose knowledge and resources have been, in most cases, taken without their consent, or under conditions of coercion, should be compensated for the damages done to themselves, their communities, in a structured and fair manner.

### **7.4.3 Justice as freedom and emancipation**

Within the discourses of ethics and ecology, justice can be understood as the attempt to protect and conserve indigenous knowledge, plant commons, constructive human participation in ecological activities as well as the preservation of the biophysical integrity of other creatures, such as plants, animals, rivers and mountains. This implies that, not only the conservation and emancipation of humanity are assured but an attempt is also made to ensure that the life of the earth and other creatures is assured and conserved. It also implies that the abuse of resources of the earth, such as plants, is prohibited. This leads to the understanding of justice as “an essential condition for the exercise of freedom: not only because free action presupposes life and health, but also because nature provides meaningful content for choice in the sense of freedom” (Bakken et al 1995:20).

Justice as freedom and emancipation also includes a policy environment which protects people from having their lives controlled or determined by others. When understood in this manner, it promotes the idea that community reliance on its ecological and human resources is harnessed for the community’s wellbeing. It also expresses and supports the notion that, rather than exploit local resources for the purposes of global trade and the benefit of the rich in resources or capital, ecological resources and indigenous African knowledge and commons should be used to sustain the livelihoods of Africans



themselves and some could be shared. It further entails the legal and physical protection of African communities, commons and knowledge from the exploitative and unfair bioprospecting/biopiracy and intellectual property rights claims on African commons and knowledge by northern multinational companies.

#### **7.4.4 Justice as Wisdom**

Justice as wisdom “points to the role of knowledge of the good, of the place of humanity in the cosmos, in adjudicating the conflicting demands that are made in the name of justice and in discerning the limitations of all existing efforts to embody justice”(Sturm, quoted by Bakken et al 1995:21). Wisdom is what directs socio-political needs and economics to transcend the self-seeking pursuit of individual and group interests and to pursue a common good which is not reducible to individualism. Sturm suggests that justice as wisdom “can be likened to prudence” (Sturm, quoted by Bakken et al 1995:21).

Wisdom also encourages and facilitates dialogue with existing political, economic, ecological, legal and social processes to deliberate about, and formulate fair and effective ecological or environmental policies and practices related to the fair sharing of resources. It also entails an honest dialogue and agreements which guide the utilization of commons and knowledge. It encourages the constructive use of indigenous knowledge and public commons and does not only aim at pirating the knowledge and resources of African and other indigenous communities.

Justice as wisdom, consequently, requires multinational companies and individuals engaging in bioprospecting to seek informed consent before bioprospecting and intellectual property claims are made. It also calls for the institution of fair benefit - sharing between those whose biological and epistemological resources are used and those who appropriate these resources, for example, multinational pharmaceutical and biotechnology companies. Justice understood in this manner entails relationships which promote “harmonious participation in an inclusive cosmic process directed toward the good in nature and history” (Bakken et al 1995:23).

### **7.4.5 Justice as Community**

Justice is also understood as community within the rubric of *botho*. As such, it is an inter-generational issue. This means that the resources of the earth ought to be used in such a way that the generations to come will also be sustained by them. Such a notion of justice, also takes seriously the relationship of people to the land. “An individual’s identity is constituted by belonging to a community which includes the land and its non-human creatures, not just the human neighbour”(Bakken et al 1995:23). The attribution of intrinsic value to non-human beings adds a new dimension to justice, extending the boundaries of community in yet another direction. Community in this way is not only constituted by human beings alone.

In the words of Raiser (quoted by Botman, <http://www.crvp.org>) the metaphor of *oikos* (community) “supersedes any narrow vision of history as the central category of interpretation of social reality; it reminds us that history is bound up with community, webs of relationships, belonging, and with life together”. It comprises both of the human and biotic community. It includes

[a] more organic, holistic, and inclusive understanding of persons and society ... Here the biblical theme of covenant - especially the Noachic covenant with all flesh and the Levitical law and prophetic oracles which link distortions in human relations to the disruption of nature - is relevant, as are the metaphors of the church as the body of Christ and the cosmic Christ as the one in ‘whom all things cohere’” (Bakken et al 1995:23).

Just communities, in this sense, facilitate constructive and harmonious relationships based on justice and collective decisions about land and resource use. When, for instance, communities and ways of life that depend on biological resources and indigenous knowledge are threatened by piracy, exploitation and theft, a community of justice seeks ways, guidelines and norms which should set the legal and operational limits of such life-denying activities or ideologies.

### **7.4.6 Justice And Ecology**

Justice as an ethical standard has much to say about the relation of humans to the

ecology. Ecology typically denotes “the many values and processes - intrinsic, instrumental systemic - of a flourishing natural order, local, planetary, cosmic; although it is often used interchangeably with ‘environment’” (Bakken et al 1995: xvii). The intersection of ecology and justice can be interpreted ethically and theologically. Particular ethical and policy issues can be analyzed, using a single norm or set of norms that apply to humans and non-humans, or which include both social and environmental values. Such norms tend to be either teleological or deontological as stated in chapter 6.

Process theologians, for example, speak of the *telos* of ethical action as maximizing the richness of experience, and agree both that the ecological context is an essential contributor of richness of human experience, and also that the experiences (or analogues to experience) of other beings must also be taken morally into account. In more deontological interpretations, the World Council of Churches formula ‘justice, peace and the integrity of creation’ may be seen as an expression of the more fundamental and general concept of the integrity of creation. Another possible unitary principle is the common good in its widest sense. Norms at this level of generality and inclusiveness, however, need additional, more specific norms to be usefully applied (Bakken et al 1995:27).

Ecological justice in ethical and theological discourses is understood to refer to a field of normative values, and to the moral claim that ecology and justice belong together. It entails moral claims, including the assertion that “there is an overarching moral imperative for human beings to pursue what is ecologically fitting and socially just, and to do so in such a way that each is supporting of each other” (Bakken et al 1995:xvi). Justice toward the ecology includes, among other things, “respect and fairness toward all creation, human and non-human...it means social justice in the context of ecological realities; and it means ecological harmony or balance maintained in the context of social justice” (Gibson, quoted by Bakken et al 1995:5).

Ecological justice considers unjust those actions which apportion environmental risks onto people and creation “not implicated to their production, particularly subaltern groups” (Wenz, quoted by Stevis 2000:1). It addresses both environmental justice and injustices, and the ecological quality of our lives and practices. It also does not only concentrate on humanity alone but is inclusive of other creatures and creation. John B.

Cobb Jr. (quoted in Bakken et al 1995:5) says ecological justice “expresses the determination to hold together concern for justice as a norm for human relations and the awareness that human species is a larger natural system whose needs must be respected.”

The place of justice in ecology is further described as follows:

Ecological justice has emerged as an attempt to respond constructively and creatively to the assumed tensions without reducing caring for people and caring for the earth to a simple either/or alternative. . . . [O]ver and against centrifugal forces pushing ecology and justice apart, centripetal impulses have also been at work... [;]one set of impulses is intellectual: ways of conceiving the relationship between God, human beings, and nature which avoid sharp spirit/matter oppositions and do more justice to the roles of creation and biophysical world in theology and human experience. Another set of impulses comprises the actual causal connections between social institutions and ecological processes (Bakken et al 1995:26).

Christian writers defend the ideal of ecological justice on biblical, doctrinal, and ontological grounds. They argue that “human beings realize their special calling within the divine ordering of creation to the degree that their actions embody caring, just and sustainable relationship with one another and with the rest of nature” (Bakken et al (1995:xvi). They provide substantial biblical, moral, historical, economic, social, political, theological, and other content for the concept of ecological justice.

#### **7.4.7 Justice And The Bible**

The Bible is a central text to which Christians seek their nurture and counsel. It is also important in guiding ethical deliberation, although it should be noted that it can not be used simplistically to prescribe life. Several hermeneutical questions also ought to be considered when one uses the Bible to guide ethical discernment. The Bible provides numerous images of life and ecological justice which recognize the good of all creatures. These images can shed light on the issue of ecological justice discussed in this chapter.

These [images] include the covenantal community dwelling faithfully and justly in God’s fertile land and righteousness as right order in creation. Eschatological visions of the ultimate goal of nature and history have been expressed using the symbols of the reign of God,

wholeness and peace... [S]uch goals of divine and human action are more inclusive than recent human centered formulations of Christian hope that have guided social activism--- humanization, the spiritual kingdom of ends, the classless society, the responsible society---yet they also take up the commitment to justice that has been integral to those visions (Bakken et al 1995:28).

There are also numerous examples of ecological justice and human interactions that demonstrate that justice is central to the testimony of the Hebrew Scriptures and the New Testament. The diverse meanings of justice are addressed in the Scriptures. This is evident in the prophetic, psalmic, sapiential and apocalyptic texts. The preoccupation of the Hebrew Scriptures with the agenda of justice “is rooted in the character and resolve of Yahweh... [M]oreover, [justice] is to be enacted and implemented concretely in human practice” (Brueggemann, quoted by Sagovsky 2000:2-3). Brueggemann calls the above type of justice mosaic or distributive justice.

The intention of Mosaic justice is to redistribute social goods and social power... [T]his justice recognizes that social goods and social power are unequally and destructively distributed in Israel’s world (and derivatively in any social context) and that the well being of the community requires that social goods and power to some extent be given up by those who have too much, for the sake of those who have not enough (Brueggemann, quoted by Sagovsky 2000:3).

The exercise and application of justice is understood, among other things, to entail “fundamental equality-and-indifference to money and power - because that is how it is with God and God’s primary exercise of justice” (Sagovsky 2000:15).

[God] deals with his people ‘face to face’ in the light of a primary equality (liberation from slavery). There is also to be a fundamental compassion: peoples basic needs - their need for warmth at night (Deuteronomy 24:19) for prompt payment (Deut 24:14-15) - for adequate food (Deut 24: 19-22) for periodic remission of debt (deut15:12), for rescue from slavery (Deut 15: 12-14) are to be met (Sagovsky 2000:15).

It is clear from the brief references above that the primary testimony “to justice and to Yahweh himself [sic] is one and the same: it is the life of the people itself” (Sagovsky 2000:16). It is also clear that it is possible for communities and people to engender justice in their daily lives with each other and with God’s creation.

While the examples of biblical verses (related to justice) which have been referred to in this section are brief, it is inescapable that justice was one of the bases for the reign of God on earth. Justice was/and continues to be relevant in attaining the fullness of life that Jesus promises to bring on earth. It is, therefore, important to note that justice to a large extent depends on the shared commitment for people, institutions and communities to live together without exploiting each other. This is important for bioprospecting and intellectual property rights, because the message of justice calls us to seek to be good and to form communities that aim at promoting and nurturing humanity and all creation.

### **7.5 THE IMPLICATIONS OF ‘*BOTHO*’ AND JUSTICE FOR THE USE AND SHARING OF AFRICAN COMMONS AND INDIGENOUS KNOWLEDGE**

Moral principles and norms such as justice, notably Christian ones, and the African principle of *botho* are complementary to each other (Mnyaka 2003:165). To emphasize this link Pato (quoted by Mnyaka 2003:165) makes the following comment: “[I]t must be pointed out ... that although there is such a diversity of detail, there is an astonishing congruity in African cultures and Christian religion when one considers the substratum of values and attitudes.” Values such as respect for human persons, human rights, reciprocity, love, compassion, forgiveness, hospitality and community are common concerns that are represented in both the ethics of justice and *botho*. “When internalized, these values or principles empower people by serving as guidelines for their conscience and challenging them to grow” (Mnyaka 2003:165).

Justice as *botho* demands “that restitution and reparation are due to the indigenous conquered peoples” (Ramose 2001:1). Theoretically, there is a direct and indissoluble link between the idea of justice and *botho*. In *botho* justice refers to the restoration of equilibrium. It is a central element of *botho* philosophy. Justice, according to Ramose (2001:2), is “consistent with metaphysics of *ubuntu* which consists in a triadic structure of the living, the living dead (supernatural forces) and the yet to be born.” Ramose suggests that justice as the restoration of equilibrium means that *botho/ubuntu* is continually lived out and experienced. It cannot reach finality.

In addition, Ramose suggests that Africans believe that in order to restore justice to distorted relationships, whether amongst human beings or humanity and other beings, the truth must always be taken into consideration. He suggests that there must be no obstacle placed in the way of the search for the truth and its discovery. He says the search for the truth and the attempt to restore justice between people, and people and creation, constitutes restoration and historical justice.

Ramose further points out that according to *botho*-ethics and law, “an injustice that endures in the historic memory of the injured is never erased merely because of the passage of time” (Ramose 2001:2). He suggests that precisely because African communities have endured many injustices and atrocities, such as racism, subjugation, colonialism, oppression and enslavement, new forms of injustice such as expropriation of their knowledge and resources without their consent should be challenged and critiqued in the quest for justice. The pursuit for justice for the peoples of Africa, whose resources and knowledge are being appropriated in massive proportions, should utilize their historic memory and seek justice.

It is particularly imperative for Africans to pursue justice and to utilize historical memory because the racism and exploitation they have experienced and continue to undergo, such as bioprospecting/biopiracy and claims of intellectual property rights on African commons, are based on the hallmark of racism, which claims that other human beings, for example, Africans, “are not truly and fully human” (Ramose 2001: 4). It is clear that the expropriation of African indigenous knowledge and plant commons, as well as claims of property rights made by individuals and northern multinational companies, are to a large extent premised on the idea that Africans do not know their full worth, and are limited in their understanding of their usefulness.

Bioprospecting and intellectual property rights claims made on African indigenous knowledge and plant commons largely exhibit the idea expressed above by Ramose, that some interactions between Africans and northern people in contemporary times still exhibit some forms of covert and overt exploitation and racism. Bioprospecting/biopiracy

reveal exploitative and racist colonizing and neo-colonial tendencies. They are, arguably, new covert and overt forms of colonialism. Ramose argues that, precisely because western notions of a human being discount the full humanity of Africans, and such views have paved the way for colonization, subjugation, oppression and enslavement of the colonized, some of the ways to deal with them are to demand justice and claim the full humanity of Africans. He comments:

The colonized went through a history of humiliation and dehumanization. Neither desalinization nor the abolition of slavery completely erased the dehumanizing effects of racism. Instead, the posterity of the colonized continues to live under the burden of the conviction that the notion of ‘man being a rational animal’ did not mean the African. The contemporary resurgence of racism underlines the need to remedy the history of humiliation and dehumanization that continues to resurface in overt as well as subtle covert forms (Ramose 2001: 4).

In contexts which are similar to neo-colonialism, as defined in chapter 5, as well as situations where the expropriation of Africa’s commons and knowledge are widespread, the pursuit for justice should include restitution for perpetrators of biopiracy and for those who claim as private and intellectual property knowledge and resources that are held in common. Ramose suggests that “restitution and reparations arise as distinct necessities of historical justice” (Ramose 2001: 8).

When justice is understood in terms of history and historical experiences, it emphasizes the “necessity to remedy the injustice of the past [as well as the present]...Justice as equilibrium would, on this basis, appear to be an acceptable premise of [life]” (Ramose 2001: 8). The disconnection between the protection of indigenous knowledge and African plant commons by current multilateral laws and policies on bioprospecting (and the experiences of exploitation and abuse by northern multinational biotechnology companies clearly demonstrates the need for the pursuit of just norms and values, values which attend to the inconsistencies of the effects of multilateral laws such as TRIPS. Habermas (quoted in Sagovsky 2000:9) suggests that in contexts such as these, where agreed laws or positions do not work, the struggle for justice would entail “the struggle for free, inclusive and unconstrained debate about the right course of action, rather than the struggle for a previously agreed course of action as such”.



## 7.8 CONCLUSION

This chapter has tried to affirm the importance of *botho* and justice as guiding norms for healthy and just sharing of African commons and indigenous knowledge. It has also sought to promote *botho* and justice as key and constructive norms against the current exploitative bioprospecting/ biopiracy and intellectual property regimes which undermine the lives and livelihoods of Africans whilst benefiting and improving the lives and business interests of northern multinational companies.

The chapter first explored the meaning of *botho* in Sesotho and African cultures. It identified some of the essential features of *botho* and their relevance in the advocacy of social and ecological justice. It then sought to identify justice as another key norm and principle in advocacy against the exploitative abuse of intellectual property rights and bioprospecting. Thereafter, the chapter sought to strengthen advocacy against bioprospecting and biopiracy by synthesizing the relevance of *botho* and justice for the just and fair use and sharing of resources and indigenous knowledge. The chapter tried to show clearly that, unless these norms are taken seriously in policy formulation and laws relevant to the use of biological commons and indigenous resources, the lives, livelihoods and knowledge of the peoples of Africa will continue to be at stake.

## **CHAPTER EIGHT**

### **ETHICALLY VIABLE ALTERNATIVES TO BIOPROSPECTING/ BIOPIRACY AND TRIPS**

#### **8.1. INTRODUCTION**

Different scholars of intellectual property, biodiversity and ethics suggest different alternatives or models to solve problems associated with bioprospecting and IPR. In order to develop these alternatives, the following steps have been suggested, among others:

- that the current agreement on TRIPS should be reviewed, particularly article 27.3 (b) which permits the patenting of life forms;
- that northern multinational companies and individuals who engage in bioprospecting/biopiracy and claim indigenous knowledge and biological commons as their private and intellectual property rights should be bound by law to declare the sources or origins of their products, knowledge or intellectual property rights. They should also develop compensatory mechanisms for communities or individuals whose resource or knowledge they utilize;
- that principles which integrate various types of justice, such as social, ecological, political and gender justice ought to be included in agreements such as TRIPS as well as bioprospecting agreements, in order to solve the problems of theft, exploitation and abuse of indigenous knowledge from countries of the South;
- that TRIPS agreement should be harmonised with the Convention on Biodiversity (CBD) in ways that lead to fair intellectual protection of biodiversity and the recognition of community rights and indigenous knowledge.

My aim in this section is to suggest three viable alternatives to bioprospecting/biopiracy and TRIPS which I consider to be ethically viable. My intention is to identify models which include both theoretical and practical ways of dealing with the life-denying effects of these ills. I do this well aware that many scholars of biodiversity and intellectual property rights, as well as social and ecological justice groups, continue to search for alternative ways to guide and govern bioprospecting, commons and intellectual property rights on biological or plant resources as outlined above. I intend to demonstrate ways in which the alternatives suggested in this chapter are morally sound and advance responsible access, use, sharing and/or ownership of biological commons and indigenous knowledge. The chapter sets out to present alternatives which are informed by and based on the ethical principles of *botho* and justice as discussed in chapter 7.

'*Botho*' and justice, as demonstrated in chapter 7, are core principles of African and general ethics, respectively. They shape the ways in which people relate to each other and to the environment, to resources and to future existence. They also enable people to carve their lives in ways that avoid abuse of the earth and of other people. I affirm that ethics, particularly normative principles of justice and '*botho*', ought to underline policies and processes which delimit access to, use and ownership of biological resources and indigenous knowledge.

The three alternatives suggested in this chapter which are seen as ethically viable include, first, the development and promotion of an ethically grounded *sui generis* framework which guides access to, use, ownership and conservation of biodiversity. As stated in chapter three, *sui generis* literally translates to 'of its own kind/ type.' The form of a *sui generis* framework affirmed in this chapter is the *African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources* (hereafter the African Model Law). The model law has been presented by African intellectuals, and has been endorsed by the African Union, as a model legislation which could ground or inform the ethical and legislative framework that African countries could opt for in developing strategies against the exploitative elements of TRIPS, bioprospecting and biopiracy (hereafter

TBB). The model law aims at addressing the threats to life and inequality resulting from TBB. It also addresses the protection of African biodiversity and communities in ways that TRIPS does not. Whilst TRIPS does not even acknowledge indigenous knowledge in its formulation and proscriptions, the model law regards African communities, culture and ethics as responsible for norms which shape and guide access to, use, sharing and ownership of biological commons.

The second alternative suggested in this chapter is ‘Resistance and Advocacy’ against TBB. ‘Resistance and advocacy’ in this context are viable ethical alternatives because they provide alternative voices against the dominant and mainstream arguments that there are no alternatives to bioprospecting, biopiracy and TRIPS. They encourage communities, policy makers and those involved in these activities, to conduct themselves in an ethical manner, and to avoid abusive and exploitative international laws and conduct.

The third alternative suggested involves ‘defensive intellectual property mechanisms’ as well as the revival of farming and medicinal systems that foster citizen and community self-reliance. Correa (<http://www.grain.org/briefings/?id=178>) suggests that in many instances, intellectual property rights are associated with the granting of exclusive rights. He argues against this and points out that exclusive rights are not the only feature of intellectual property rights. He says that “the recognition of IPR is usually associated to the granting of exclusive rights, but this is not a *sine qua non* condition. Some modalities of IPR do not entail exclusivity, but other types of rights.” This implies that the search for alternatives could be based on other rights, and not the exclusive rights which are normally given precedence in intellectual property rights discourse. In thinking of alternatives, attention could be given to the development of systems or frameworks which “deal with community rights in general, and specifically with traditional plant varieties (land races), which are considerably diverse in their scope, objectives, legal grounds and possible forms of implementation” (<http://www.grain.org/briefings/?id=178>).

## **8.2 THE NEED FOR ETHICALLY VIABLE ALTERNATIVES TO CURRENT**

## FORMS OF BIOPROSPECTING/BIOPIRACY AND TRIPS

Our purpose in this section is briefly to summarise and reiterate why it is necessary to identify and promote ethically viable alternatives to the current forms of bioprospecting, biopiracy and TRIPS. It is important to do so for the following reasons:

- to respond to the abuse of TRIPS, which endorses the misappropriation of plant commons and indigenous knowledge from Africa and other countries of the South by countries of the north;
- to counter the erosion of biodiversity, which forms the basis of indigenous knowledge and survival for African communities;
- to ensure that the financial and other benefits accumulated by northern multinational companies, which prospect resources and knowledge from Africa and other countries of the South, are equitably shared with communities whose knowledge or plant commons have informed, or are antecedents to, patented products and processes. For instance,

The value of germ plasm from the developing countries to the global pharmaceutical industry in the early 1990s was an estimated thirty-two billion US dollars a year at least, and the genes for fifteen major crops from developing countries' fields contribute over fifty billion US dollars in annual sales in the US alone. Yet developing countries are paid only a minute fraction of the value of the raw materials and knowledge they contribute. Even worse, there is increasing public concern, verging outrage, that the indigenous knowledge of local communities is being 'misappropriated' by corporations and research institutions, mainly based in developed countries, through the mechanism of intellectual property rights (IPRs). This misappropriation is itself eroding the basis of indigenous knowledge and this adversely affects the prospects of sustainable development (Khor 2003:7).

- to counter the erosion of community rights which takes place when genetic resources and indigenous knowledge from Africa are claimed as the private property of companies which have taken them.

Alternatives to TRIPS, bioprospecting and biopiracy, therefore, seek to find ways of countering imposed intellectual property rights “motivated primarily by personal and commercial interests” (Ekpere 2000:10). It is also to ensure that intellectual property rights and commercial interests do not “undermine the social cohesion and ecological security of their wider community” (Ekpere 2000:10).

The development of alternative laws or thinking around biodiversity, indigenous knowledge and African community’s rights

provides the challenging opportunity to reflect and recognise Africa’s cultural heritage in the laws of the modern national state...[,] to throw off the colonial yoke of western jurisprudence (law making) and develop one that most fully reflects its wealth of cultural perspectives and inherently respectful relationship with the diverse biological world with which its cultures have co-evolved (Ekpere 2000:11).

Alternatives are thus aimed at countering exploitation, marginalisation, unethical behaviour, erosion of collective sharing of biological resources, privatisation and disregard to indigenous systems and ways of life which have nurtured and sustained African societies and their ecology. It is for the above reasons that the call for ethically viable models toward access to, use and ownership of biological resources and indigenous knowledge is made.

### **8.3 ETHICAL MODELS AGAINST BIOPROSPECTING/BIOPIRACY AND TRIPS**

As stated in the introduction, the three ethically viable models identified and presented in this chapter are the African Model Law, ‘resistance and advocacy’, and defensive intellectual property rights and the revival of farming and medicinal systems fostering biodiversity, citizen and community sustenance and life. These alternative models seem to represent morally sound, comprehensive, feasible and practical options against bioprospecting, biopiracy and the abuse of TRIPS. This is because, as already suggested, they engender the ethical and normative principles of justice and ‘*botho*’. Entrenching the principles of justice and ‘*botho*’ in the access, use, sharing and ownership of

biological commons, indigenous knowledge and intellectual property, will effectively offset the exploitation and abuse of African communities and indigenous knowledge which result from TBB. These alternatives are not solely driven by commercialisation and the profit motif. They are based on concern for the sustenance of the earth, human and other life.

### **8.3.1 The African Model Law**

The African model law is the outcome of the efforts of several African institutions and experts in different disciplines. Its formulation consists of “4 general chapters (on objects, definitions and scope, institutional arrangements, and enabling provisions) and 4 specific thematic chapters (on access to biological resources, community rights, farmer’s rights and plant breeders’ rights)” (Egziabher <http://www.biowatch.org.za>). It developed out of a number of initiatives, for example, the research and advocacy interest of “the Scientific, Technical and Research Commission [STRC] of the OAU, the Ethiopian Environmental Protection authority and the Institute for Sustainable development in Ethiopia” (Ekpere 2000:8). The OAU, through the STRC commission, had identified the problem of control, conservation and utilisation of African biological resources.

In order to map out solutions to these problems the OAU, through the STRC commission, organised workshops dealing with policy issues related to access to, ownership, and conservation of medicinal plants and herbal medicines in Africa. According to Adeniji (<http://www.eli.org/pdf/africa/adejini.pdf>), “At one of the Expert Committees’ workshops on Medicinal Plants and Traditional Medicine held in Kampala, Uganda, concern was expressed on the problem of ownership, conservation and utilization of Africa’s biological resources. This informed the STRC to organize a joint workshop on medicinal plants and herbal medicines in Africa: Policy Issues on Ownership, Access and Utilisation” (Adeniji, <http://www.eli.org/pdf/africa/adeniji.pdf>).

The STRC held other meetings with African scientists such as those known as ‘the African Common Position Group’. This group was also working to develop a common negotiating position at the various fora dealing with biodiversity. The African common

position and the OAU's STRC found common ground for a collaborative response to "the mounting pressure on developing countries in general, and Africa in particular, to comply with the CBD and legally binding agreements of the WTO" (Ekpere 2000:9). Furthermore, at a meeting between these two groups in Addis Ababa in April 1998, "a draft law on community rights and Access to biological resources originally developed by the environmental protection authority of Ethiopia, assisted by the Third World Network and the Institute for Sustainable Development, was discussed and adopted as a draft model law, then referred to as the draft model legislation for Africa" (Ekpere 2000:9).

The draft model law was sponsored by the Government of Ethiopia and tabled for discussion at the 68th Ordinary Session of the Council of Ministers of the OAU, held in Ouagadougou, Burkina Faso, in June 1998. The African Model Law is ultimately an outcome of the initiative of the OAU, now African Union (AU), which aimed at putting in place a *sui generis* system of protection of the rights of local communities, farmers, and breeders and for the regulation of access to biological resources. It represents moral and practical ways in which Africans have sought to deal with the protection of the rights of local communities, farmers, breeders, indigenous knowledge, and biodiversity and with the regulation of access to biological resources. The model law is also "a guide for the formulation of national legislation or updating the already existing legislation" (Adeniji, <http://www.eli.org/pdf/africa/adeniji.pdf> page 7).

#### 8.3.1.1 The Relevance of the Model Law

According to Ekpere (2000:8), the model law is relevant for Africa because Africa is highly endowed with diverse biological resources, topographies and strong and vibrant cultures. These, he argues, are the basis for Africa's wealth, security and food sovereignty for the future which, among other things, requires Africa to define its path of economic development while fully respecting its cultural norms and ecological imperatives. The model law is also relevant because it responds to the TRIPS obligation that member states ought to develop patents, a *sui generis system*, or a combination of both, for the protection of new plant varieties. However, the model law is important in



that it does not limit itself to TRIPS in developing a *sui generis* system of protection. This is because the patenting of living organisms or their parts or components amounts to legally granting private monopoly control rights over them and their offspring, whereas the development of a *sui generis* system, such as the model law, has the possibility of restraining the exploitation and abuse which stem from the excessive privatisation of biological resources and life-forms. It can also reject or delimit the extent to which life-forms can be intellectually protected. For instance, “for Africa, patents or other forms of intellectual property rights on living organisms have profound implications for communal livelihoods that have sustained the continent for generations”( Ekpere 2000:5).

The types of rights Africa needs are not those IPRs which monopolise what belongs to communities through privatisation. They are, according to Ekpere (2000:6), “rights that recognise and protect the lives and livelihoods of local communities, including farming communities, and indigenous peoples”. If these are embedded in the regulatory frameworks of different African countries, they will enable and enhance biodiversity conservation. They will also lead to the maintenance of stable eco-systems, on which human beings and other species can depend for their lives and sustenance. The model law is a legal framework or a system which “reflects and protects the essential nature of Africa’s rich diversity of cultures so that they can continue to evolve, thrive and give all of humanity the services they have been giving it with respect to the conservation and sustainable use of its biodiversity” (Ekpere 2000: 6).

#### 8.3.1.2 The Aims and Objectives of the Model Law

The principal objectives of the African model law are to give reasoned attention to agricultural development, indigenous knowledge systems, conservation and sustainable use of biological resources, community rights, equitable sharing of benefits and national sovereignty consistent with African values. It is consistent with the United Nations conventions which undergird the provision and maintenance of human rights. Not only does the model law promote human rights consistent with human rights conventions, but it is also consistent with the provisions of the UN Convention on Biological Diversity

(CBD). “African Union members are provided with the framework for the formulation of legislation relevant to their national interest and protection of new plant varieties, using a similar process of stakeholder involvement, national dialogue and public debate” (Adeniji, <http://www.eli.org/pdf/africa/adeniji.pdf> ).

The African Model Law also aims at protecting “Africa’s common biological diversity and the livelihood systems dependent on it with a common tool” (Ekpere 2000: 3). It further provides the necessary ethical, developmental and African framework for member states of the AU “to craft out specific national legislation consistent with their political orientation, national objective and level of socio-economic development” (Ekpere 2000:3).

The model law also sets out to promote the conservation, evaluation and sustainable use of biological resources, including agricultural, genetic resources and medicinal plants as well as indigenous knowledge associated to them. Its aim is to entrench biodiversity through its cultural, biological and knowledge manifestations, as means for sustaining life support systems. It was formulated, in short, to achieve the following:

- to recognise, protect and support the inalienable rights of local communities including farming communities and traditional medicine practices over their biological resources, crop varieties and medicinal plants, knowledge, technologies and practices;
- to recognise and protect the rights of breeders over varieties developed by them;
- to provide a mutually acceptable system of access to biological resources, community knowledge, technologies and practices subject to the prior informed consent of the state and the concerned local communities;
- to ensure the supply of good quality seed and planting material to farmers and medicinal plant materials to traditional healers;

- to ensure that “plant genetic materials are utilized in a sustainable and equitable manner so as to guarantee national food security and traditional health delivery services” (Adeniji, <http://www.eli.org/pdf/africa/adeniji.pdf> ).
- to prevent the disruption of African rural life, health, food production and national production systems by stopping present trends which are threatening to erode seeds and other planting materials which are the foundation of all agricultural production; traditional medicinal plants, the basis of health care delivery service for the majority of African people; natural fibre and dyes, the basis of African arts and crafts etc.
- to promote the continuation of the socially positive, customary, community practices of sharing biodiversity and innovations, and to extend this sharing to the new possibilities arising from the growing use by external interests of biodiversity, knowledge and technologies of Africa’s local communities;
- to safeguard the vital interests of Africans against the negative consequences of globalisation.
- to help the OAU(now AU) members’ states, which are also members of the WTO, meet one of their obligations in Article 27.3(b) of the TRIPS agreement without undermining the rights of their local communities (Ekpere 2000:12; Adeniji, <http://www.eli.org/pdf/africa/adejini.pdf> page).

### 8.3.1.3 The Core principles of the African Model Law

The core principles entailed in the African model law are implicitly informed by, and give emphasis to, ‘*botho*’ and justice as described in chapter 7. They include food sovereignty and security; sovereign and inalienable rights; community, the importance of community knowledge and technology, participation in decision making, regulation of access to biological resources, the principle of prior informed consent, fair and equitable sharing of benefits and gender justice. I shall attempt briefly to summarise these

principles as they are articulated in the model law. I shall also refer to the specific articles which cover these principles.

- **Food Sovereignty and Security**

Food sovereignty and security are addressed by the sections on the objectives as well as article 26 of the model law. They are to be achieved through the regulation of access to resources. They are also affirmed through the assertion of the rights of farmers to keep, save, use, exchange and sell their seeds and other planting materials.

The capacity of farmers to develop and maintain their own seed and other planting material enables them to keep control of their livelihood systems. It also enables them to continue the development and intergenerational transfer of their biodiversity and associated indigenous knowledge, innovations and practices. At the same time, this maintains their control over their livelihood systems, and hence their ability to continue the development and intergenerational transfer of their biodiversity and associated knowledge and technologies (Ekpere 2000:17).

- **State Sovereignty, Responsibilities and Inalienable Rights**

The preamble and article 21 of the model law address the role and responsibilities of the state in relation to biodiversity. The state is the legally recognised entity that represents the people. Its sovereignty and authority to govern should rest with, and be given by, the people. The state therefore has the responsibility and duty to defend the rights of its people and to protect them from unsolicited external interventions. The principle of sovereignty is also associated to the principle of non-intervention entailed in the UN charter of human rights. The state, therefore, also has the right to protect the cultural and biological diversity of its people and its territory. The model law is based on the “principle that the biodiversity related knowledge, innovations and practices of local communities are a result of the many tried and tested practices of past and present generations” (Ekpere 2000:18).

In order to maintain and ensure the evolution and continuity of biodiversity, indigenous

knowledge and communities, the state has the duty to ensure that these will be passed on to future generations. This is a fundamental right and a responsibility of each generation to the next. This, therefore, ethically requires of present generations to conserve these resources and to avoid their appropriation, commercialisation and monopolisation in order to ensure their sustainability. It is also to affirm the responsibility and sovereign “right [of people] to exploit their own resources as well as the responsibility to conserve and sustainably manage these resources” (Ekpere 2000:18).

- **Community Rights and Responsibilities**

References to community rights are found in the second and the sixth paragraphs of the preamble and article 16 of the African Model Law. Article 1 defines local communities as “human populations who live in distinct geographical areas. They generate, use, manage and pass on their biological wealth, knowledge, innovations and practices, which are governed by their own customary laws, whether written or orally transmitted.” The model law also affirms the importance of community rights as well as the notion of *‘botho’*, something that is antithetical to TRIPS, which recognises or accords value more on corporate entities and individuals who hold intellectual property rights. For instance, “the model law includes a specific section on community rights...[which] recognise that the customary practices of local communities derive from a priori duties and responsibilities to past and future generations both human and other species”(Ekpere 2000:20).

The model law recognizes customary law and community rights. The purpose of the rights is “to recognise and protect the multicultural nature of the human species” (Ekpere 2000:20). Community rights are understood and regarded by the model law as “natural, inalienable, pre-existing or primary rights” (Ekpere et al 2000:20). Community rights are also understood as core to the rights and responsibilities of communities related to the utilisation of biodiversity, indigenous knowledge and other practices or technologies.

- **The Value of Indigenous Knowledge**

Due to the observation that other internationally binding international laws or intellectual property regimes and institutions, for example, TRIPS and the WTO, disregard the value of indigenous knowledge and indigenous or community rights, “the African Model Law provides Africa with an opportunity to protect its rich cultural wealth and, thereby, its biological wealth... [It] aims not only to recognise diversity in law, but to actively generate support for and strengthen the capacity of Africa’s diverse cultures to continue adapting to change and developing further”(Ekpere 2000:23). The role and value of indigenous knowledge is affirmed in articles, 1, 16, 23, 24, 26, and 60. Traditional African practices are also affirmed in articles 2, 21, 25, 26 and 31.

- **Full Participation In Decision Making**

Provisions dealing with full participation in decisions making are found in the preamble part I, paragraph e; and article 26, which addresses farmers’ rights. As stated already in the objectives, one of the objectives of the model law is to ensure the effective participation of local communities, and women in particular, in decision making on all issues that affect their biological wealth, knowledge and technologies.

The participation of indigenous and local communities in the development and implementation of plans, policies, programmes, and processes that affect their lives, territories, and which are relevant to the conservation of sustainable use of biodiversity are to be ensured. This implies that equitable participation must be recognised and practiced in order to promote equitable sharing and distribution of all benefits arising from access to and the use of biological resources, indigenous knowledge and technologies.

- **Access to Biological and Genetic Diversity**

The Model Law makes references to access to biological and genetic diversity in part I on the objectives, articles 1 and 2, defining biological resources. It is also addressed by articles 18, 19 and 21 which generally talk about community rights. In addition, articles 67 and 68 are considered as enabling provisions with regard to access to biological and

genetic diversity. The model law defines access to biological and genetic diversity as “the acquisition of biological resources and their derivative, community knowledge, innovations, technologies or practices as authorised by the national competent authority” (OAU 2000).

Article 3 also states that “any access to any biological resource and knowledge or technologies of local communities in any part of the country shall be subject to an application for the necessary prior informed consent and written permit” (African model law article 3). One of the central points of the model law regarding access is the idea that access to biological resources, technology and/or indigenous knowledge will not affect traditional systems of access to, use and sharing of biodiversity. It will also ensure that access to knowledge, innovations practiced by and among local communities are safeguarded.

- **Prior Informed Consent**

The model law, in article 1, defines prior informed consent as “the giving by a collector of complete and accurate information and, based on that information, the prior acceptance of that collector by the government and the concerned local community or communities to collect biological resources, or indigenous knowledge, or technologies” (the model law article 1).

The model law also includes other provisions on consent as a specific objective and establishing it as the cornerstone of the access system. This is clear in article 5 and article 18 of the law. It suggests that written permits should be provided to a collector. It urges governments, in developing national legislation on access, to design competent mechanisms and institutions for the processing of applications for access. Not only does it affirm the values stated above, but the model law encourages states to ascertain consultations with communities whose resources are used. Access to biological resources, indigenous knowledge and indigenous technologies ought to be denied or considered invalid when there has not been any consultation and prior informed consent and agreement.

- **Fair and Equitable Sharing of Benefits**

The sixth paragraph of the preamble and paragraph 6 of part I, stating the objectives of the model law reflects the normative principles of fairness and benefit sharing. These are also articulated in articles 12, dealing with access to biological resources; article 22, on community rights; article 26, on farmers' rights and lastly in article 66, dealing with institutional arrangements. The model law

recognises benefit sharing as a right of local communities consistent with one of the three objectives of the CBD ... and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding (Ekpere 2000:28).

The African Model Law further encourages states to guarantee the sharing of returns and financial benefits to local communities. One of the mechanisms proposed by the model law regarding the sharing of benefits, in article 66, is the establishment of an autonomous community gene fund. The gene fund could also receive funds from national and international bodies. It could, among other things, be used to finance projects developed by farming communities on activities related to development, conservation and sustainable use of agricultural genetic resources. States are encouraged to develop efficient and effective institutional means through which communities can access funds in an equitable manner, which also involves community consultation and participation throughout.

- **Plant Breeders Rights**

In part I, on the objectives of the law, article 2, dealing with definitions and scope, article 26 and articles 28-56, the model law recognises “the rights of breeders over the varieties they develop, while promoting commercial plant breeding adapted to Africa’s farming systems” (Ekpere 2000:29). It recognises both individual, collective and institutional efforts and investments in developing new varieties of plants through recognition and



economic rewards. The plant breeder gets the exclusive rights to produce and sell the new variety developed. This implies that contrary to the TRIPS requirement, farmers “can save, use, exchange and sell farm-saved seeds and other planting material” (Ekpere 2000:29).

- **No Patenting Of Life Forms**

The model law does not affirm the patenting of life forms. It shares the same concerns expressed in the common position of the African Group regarding the TRIPS agreement and the review of article 27.3(b). Its rejection of the patenting of life forms is expressed in the preamble and in part III, which addresses issues of access to biological and genetic resources. It states that patents over life forms and biological processes are not recognised and are, therefore, not applicable. “[T]he model law considers the patenting of life a violation of the fundamental right to life, as well as the principle of respect for all forms of life” (Ekpere 2000:30). It also states that natural processes that produce plants, animals and other living organisms should not be patented. These declarations are found in the preamble and in article 9, Part III, which addresses biological resources.

### **Gender Equality and Justice**

The model law also upholds and entrenches gender justice and equality in issues related to community rights, access to, ownership and use of biological resources and indigenous knowledge. Gender justice is one of the central and cross cutting principles affirmed in the African Model Law. The opening statement of the Second Meeting of indigenous Women and Biodiversity to the Ad-Hoc Open Ended Inter-Sessional Working Group on Article 8(j), quoted by Ekpere (2000: 31), recognises the importance of gender justice. It states;

Indigenous women have the right to control and use the biological diversity in our territories and to be included in decision making processes at all levels, in accordance to the cultural principles of indigenous peoples. As long as there are no mechanisms for effective and full protection of our rights, we will call for a moratorium on the illegitimate access and use of genetic resources and traditional

knowledge (quoted by Ekpere 2000:31).

According to Ekpere (2000:32), “the text of the OAU’s Model law includes provisions throughout aimed at ensuring appropriate recognition of women’s contribution to biodiversity conservation... In the framework of Farmer’s rights, the contribution of women farmers in all regions of the world is also recognised in the model law.” Formal laws and decision making procedures often undermine the customary role of women in the processes that affect them. The OAU Model law reverses this by “formally recognising their customary rights and their rights to full participation” (Ekpere 2000:32).

The model law specifically requires women to be consulted and involved when decisions are taken. They ought to be regarded as full and equal members of ‘concerned local communities’. Women’s interests are also addressed regarding the sharing of benefits from biological diversity, as those benefits channelled to the local community must be distributed in a manner that treats men and women equitably. References to women’s essential role and contribution to biodiversity conservation can be found in all sections of the model law. References and considerations for gender justice and equity can also be found in the third paragraph of the preamble, part I (objectives), sub-paragraphs (e) and (h), Part III, article 5(1) (dealing with access to biological resources). It is also contained in part IV, articles 18 and 22, which address community rights, and Part V, article 24(1) which deals with Farmer’s rights; as well as in Part VII, article 66(4), which addresses institutional arrangements related to indigenous knowledge, indigenous technologies and biological and genetic resources.

It is contended in this study that the African Model Law is one of the most ethically viable alternatives to bioprospecting, biopiracy and TRIPS. This is evidenced especially in its emphasis on, and incorporation of, gender justice, by recognizing women’s participation in nurturing the commons and indigenous knowledge, benefit sharing mechanisms, principles of accountability and reciprocity. This is also visibly clear in the fact that the model law promotes approaches to a life that is sustainable and conduct that respects the conservation of biological resources and indigenous knowledge for future

generations. The African Model Law, one would suggest, embodies the core elements of 'botho' and justice, as the next section now tries to demonstrate.

#### 8.3.1.4 The African Model Law and *Botho*

The preceding paragraphs have tried to demonstrate that the African Model Law is one of the best alternatives to TBB. They have also argued that the African model law exemplifies the core elements of the norms of *botho* and justice as discussed in chapter 7. In this section, I attempt to demonstrate briefly the ways in which the model law embodies these core elements. As stated in the previous paragraphs, there are at least 5 key issues entailed in *botho* which undergird the African model law. These encompass, the protection of the dignity of people, the affirmation of the relation between human beings, the earth and other creatures, the idea of *botho* as a life style for Africans, *botho* as the essence of being and *botho* as solidarity and collective consciousness of African peoples.

One of the tenets of *botho* is the concept that the dignity of all people and the integrity of other creatures have to be protected and promoted at all times. This implies that any attitude or behaviour which jeopardizes the lives of peoples or of the earth has to be overcome. Protecting the dignity of all people and other creatures thus necessitates the articulation of their rights. It also demands that they should be protected from exploitation and abuse. It further reaffirms that peoples' dignity and their being have to be protected against any view or activity which undermines their being and their lives. This is apparent in the formulation of the African Model Law.

As stated in section 3.1.1 of this chapter, the African Model Law seeks to protect the rights of African communities, biodiversity and knowledge systems in order to ensure that these resources are not monopolised for commercial purposes and that they are not removed from communities through privatisation. This is clearly articulated by Ekpere (2006:6), when he states that the African Model Law reflects and protects Africa's biodiversity, communities and cultures. This is done in order that these may continue to evolve and thrive.

The second tenet of *botho* is the affirmation that human beings and the other creatures of the earth are inextricably bound to each other. This view is articulated in chapter 6.2.3 above, which states that *botho* is underpinned by the spirit of communalism. This is seen in the care and nurture of humanity and the earth. It is also expressed through the insistence that the “good of all determines the good of each other” (Kamwangamalu 1993:3). This implies that every member of the community ought to ensure that their conduct in relation to themselves, to others as well as to the earth, does not jeopardise the sustenance of the earth, of the environment and of other human beings. This point is affirmed in the insistence by the model law that it is a resource which aims at protecting “Africa’s common biological diversity and the livelihood systems dependent on it with a common tool” (Ekpere 2000:3). This also implies that the model law views the lives and development of human beings and their culture, as well as the development of other creatures, as important and intricately linked with the development of Africa.

The third characteristic of *botho* is that, with regard to the TBB, *botho* discourages greed and the hoarding of resources for commercial profit only. Rather it articulates that other values, such as ensuring the conservation of resources and knowledge, cultural diversity and biodiversity, are sustained. These values also help to provide a mutually acceptable system which does not alienate communities from benefiting from resources. Instead they promote that the genetic materials utilized for human sustenance are shared equally and that they do not jeopardize food sovereignty, security and health systems.

According to Sogolo, (quoted by Mnyaka 2003:143), as an ethic of life *botho* encompasses “a set of institutionalized ideals which can guide and direct the patterns of life of Africans. It becomes a notion descriptive of a convergent set of desired goals which all or, at least most Africans, entertain [and] toward which their activities are directed.” It is important to note that whilst *botho* shapes and grounds the conduct of people, it is not simplistic or moralistic in the sense of prescribing rules that govern people. Instead, it is to be seen, like the African Model Law, as a guideline or a framework which informs and shapes the choices and reflections that people make about their lives, their relationship with the ecology and the ways in which they utilize the

resources.

Chapter 6.2.1 of this thesis also articulates *botho* as the essence of being. This means that it encompasses the care for others and a good disposition that motivates and challenges people to act in humane ways toward others. As stated in the previous chapter, TRIPS, through patents on life forms, results in mono-cultures and mono-crops and thus undermines biodiversity. The perspective of TRIPS is countered by the African Model Law which insists on the promotion of biodiversity, cultures and indigenous knowledge systems. Also, unlike TRIPS, which emphasizes the protection of the rights of so-called innovators and their corporate sponsors, the model law emphasizes the protection of the rights of communities and thus exhibits its concern for *botho* and the respect for the dignity of all beings, including people.

The fifth key issue manifesting *botho* is solidarity and the collective consciousness of the African people, which articulates that “the human being is not only a personality, but a sociality” (Botman, <http://www.crvp.org>). This perspective is similar to the logic entailed in the model law, for instance, through the model law’s insistence that food sovereignty, security and community rights should be ensured. It also promotes the idea that all people, no matter their social location, ought to be protected and their lives ought to be nurtured. This is different from the logic expressed in TBB, where the rights of ownership, use and sharing of resources are only geared toward the so-called innovators, corporate sponsors and to corporate control. Also important to note is that, by articulating the importance of indigenous knowledge, effective participation by local communities and women, in particular, in decision making which affects biological wealth, knowledge and technologies, the model law promotes one of the core elements of *botho* which requires that all should participate constructively in the nurture of life for all and for the earth.

### **8.3.1.5 The African Model Law and Justice**

Feminist ethicists who have considered the issue of justice have pointed out that when we re-envision justice within the context of lived experiences, such as the experiences of

TBB, one of the things which take place is that “the whole sense of alienation and disconnectedness is dropped. We become selves and can recognise ourselves as selves only in the context of other people (people, not minds only) whom we also recognize and who recognize us” (Jantzen 1992: 4-5).

The model law, to a large extent, demonstrates justice in ways that promote care and connectedness in that it does not only aim to protect powerful human beings and their use of biological resources. It also seeks to promote the care, conservation and nurture of biodiversity, cultures for the care of the earth and indigenous knowledge. As stated above, one of the key objectives of the model law is to give reasoned and careful attention to the development of agriculture, indigenous knowledge systems, conservation and sustainable use of biological resources, community rights, equitable sharing of the benefits from biological resources and indigenous knowledge, and national sovereignty consistent with African ethics and values.

The African model law is not only concerned with care, solidarity and connectedness; it also exhibits a concern for justice through its affirmation of gender justice. This is seen as one of the key values that shape and inform the sustenance of the conservation of biological resources and indigenous knowledge. For instance, as we have already noted regarding gender and justice in this chapter, the model law recognized the participation of women in the conservation of biological resources and indigenous knowledge. It specifically requires women to be engaged and consulted when decisions are made which involve the use, care, sharing and ownership of such resources. It also compels states to consult women and to affirm women by enabling them to participate fully as members in the care and nurture of biodiversity and indigenous knowledge.

The model law emphasizes the point that womens’ interests should be taken into consideration with regard to the sharing of benefits accruing from the nurture and care of these resources. The articulation of gender justice, it could be argued, permeates all the sections of the model law. This is illustrated in, among other sections, the preamble, objectives, and in part IV, articles 18 and 22, which deal with community rights.

I stated in chapter 7 that the definition of justice as understood in this study also includes “right relationships with self, others, creation [and] God.” I noted that when justice is conceived in this way, it promotes respect for the self, others and the environment. It enables human beings to care for, but not to dominate, one another and the earth. This sense of care, nurture and existence is entailed in the model law. For instance, the model law states that the nurture of biodiversity and indigenous knowledge are important. It also states that this also ensures sustenance for the present and future generations. Intergenerational concern and the concern for sustainability of biological resources and indigenous knowledge reveal this sense of justice.

It was also noted in chapter 7, among other things, that equality and fairness are important elements of justice. These can be expressed through addressing issues which result in disparities between peoples and communities, disparities which are in part caused by TBB. For instance, TBB advance self-interest over the common good. They advance the rights of individuals who first file applications for intellectual property rights. They then state that these individuals should be rewarded with monopoly ownership of such resources and knowledge embedded in them for a long period of time, for example, 20 years for patent rights. This does not only lead to the transfer of resources that sustain communities into the hands of a few, but it also curtails the promotion of biodiversity.

The model law however, recognizes that the sustenance of biodiversity and indigenous knowledge lies in their accessibility to and use by communities who continue to nurture them. Communities are not disadvantaged by the model law, since it does not reward greed and monopoly control of resources by only a few, as encouraged by TRIPS.

Equality is also exhibited in the model law as a choice by members of the African Union, to use it as a framework that can guide the use/ownership and care of biological resources as opposed to the naive implementing of the requirements of TRIPS, which seem detrimental to African biological resources, knowledge, communities and the environment.

The model law exhibits wisdom, which is one of the elements of justice identified in chapter 7. As stated before, wisdom refers to the knowledge and search for doing what is right and good. It also discerns the strengths and limitations of existing efforts to promote and embody justice. Wisdom directs socio-politics and economics to transcend self-seeking pursuit of individuals or corporate interests, but aims at promoting the common good. The wisdom of the model law lies in its insistence that biodiversity and indigenous knowledge must be conserved and shared and that their benefits must be enjoyed by all, including the earth. The model law does not limit the development and nurture of these resources to the monopoly control of corporations but promotes prudence.

### **8.3.2 ‘Resistance and Advocacy’ Against Dominant TRIPS Regimes and Bioprospecting/Biopiracy**

Another model or strategy for countering the bioprospecting, biopiracy and the inequitable and destructive nature of current IPR regimes would be the mobilisation of civil society to resist and challenge them in different social arena. David Cohen (quoted in [http:// www.unity.edu/faculty](http://www.unity.edu/faculty)) defines advocacy as the “pursuit of influencing outcomes—including public policy and resource allocation decisions within political, economic, and social systems and institutions—that directly affect people’s lives.” Cohen (quoted in [http:// www.unity.edu/faculty](http://www.unity.edu/faculty)) further suggests that “advocacy consists of organised efforts and actions based on the reality of ‘what is.’ These organized actions seek to highlight critical issues that have been ignored and submerged, to influence public attitudes, and to enact and implement laws and public policies so that the visions of ‘what should be’ in a just decent society become a reality.”

The point that ethics has to advocate resistance to all things, systems, policies, structures and individuals who undermine the fullness of life, and to advocate for justice, is made clearly in Joseph, C. Hough Jr., Christian Social ethics as Advocacy. He states:

The purpose of Christian social ethics is primarily that of advocating particular positions on social policy based on Christian ethical criteria. This is especially true at a time of malaise in liberalism. In contrast to suggestions by some that the primary purpose of the field is the analysis of moral discourse by Christians on questions of social policy,



or the critical evaluation of social theory, what is suggested here is concentration on the practical formulation of specific policy choices facing the churches as institutions as well as individual Christians. Though this exposes practitioners in universities to the problems of being generalists, in settings that are enamoured of and controlled by sub-specialists, this particular problem may be mitigated somewhat as various university departments begin to organise around the major policy issues confronting the world (Hough 1977).

According to Hough, it is clear that ethics and advocacy are inextricably bound. It is also clear that ethics is not purely a theoretical endeavour, but it also entails practice. A similar point is reiterated by Cairns (2002:83) when he makes the following remark:

The commonly accepted yet artificial separation of science/ ethics from social issues ... is a product of a reductionist approach in which one examines things separately and in progressively smaller and more specialized contexts, rather than looking at connections for a more holistic overview (Cairns 2002:83).

In many instances, ethics has been dissociated from action/ praxis, yet theory and praxis inform and transform each other. It seems, therefore, that such approaches are not helpful, particularly with regard to issues on ethics, biodiversity, indigenous knowledge and intellectual property rights.

Many theologians and ethicists have demonstrated the link between ethics and advocacy through diverse theories and praxes. In a number of countries, for example, Thailand, India and Ethiopia, scientists, ethicists, farmers-groups, community-based organisations and movements, non-governmental organisations, academics, social justice and ecological activists have led the struggles against the piracy of indigenous and local community knowledge and the imposition of IPR's on life forms and related knowledge. Legal challenges have been taken to the United States and the European Patent Offices (e.g. in the case of turmeric, by the Indian government; in the case of neem tree products, by NGOs and individuals) in order to address TRIPS and the biopiracy of commons and indigenous knowledge.

Farmers in many countries have informed corporations and governments not to establish IPRs for crop varieties. They have also opted to openly contest intellectual property rights couched in the language and logic of TRIPS. Indigenous peoples in South Africa

have also challenged the patenting of P57, a derivative from the Hoodia Cactus, which was taken without their prior informed consent. Advocacy and resistance, as propagated in this chapter, do not entail coercion. Coercion involves the use of force or intimidation to obtain compliance. It entails having an inclination in one direction that prevents impartial consideration of issues and perspectives. It is, however, my interest to promote the logic that does not see ecological concerns as separate from human concerns, and understanding community as including human beings, animals, soil, water, and future-generations.

Nijar (<http://www.grain.org/briefings/?id=179>) also insists on the imperative to promote resistance and advocacy against bioprospecting, biopiracy and TRIPS.

The attempt to reclaim the rights of the commons must be waged at the level of the grassroots and won by indigenous peoples, local communities and the peoples of the third world, generally. The nation state must accept this agenda for reclamation and understand that it would be inimical to the nation's interest to act as little more than a facilitator for the misappropriation of the resources and knowledge systems which have spawned life for its peoples...[Reclaiming these rights] must be at the local (assertion by communities), national (making the nation state accept the rights of its communities) and international (where the obligations on nation states are thrashed out and imposed) levels" (Nijar, <http://www.grain.org/briefings/?id=179>).

Nijar re-asserts the imperative for resistance and advocacy in the search for communities' rights, biodiversity conservation and the preservation of indigenous knowledge for sustenance. He states that such resistance and advocacy ought to be comprehensive.

It must also respond to the legal impositions and existing frameworks which impair the rights of indigenous peoples and local communities; equally as important is the fight outside of these frameworks. Protective mechanism to reclaim these rights could consist of such activities as documenting biodiversity and indigenous knowledge, developing programmes and generally empowering indigenous peoples and local communities and livelihood systems directly" (Nijar, <http://www.grain.org/briefings/?id=179>).

Through resistance and advocacy, alternative intellectual property rights regimes which protect community rights, biodiversity and indigenous knowledge could be instituted specifically to protect indigenous knowledge and local community knowledge through

copy-right and know-how licenses. In addition, “a number of other international treaties (though not legally binding) could well be used to counter the threat of current IPR regimes” (Anuradha and Kothari 1999:8). These include, for example, international regimes such as the FAO undertaking on plant Genetic resources , the ILO convention 169 on indigenous peoples and the International Convention on Economic, Social and cultural rights. The UNESCO and WIPO model provisions for national laws on the protection of Expressions of Folklore, the Universal Declaration of Human Rights and the UN Draft Declaration on the rights of indigenous peoples could be utilised to find ways to promote the protection of indigenous knowledge, commons, technologies and communities.

Anuradha and Kothari (1999:8) suggest that

Perhaps what is most important is to ensure meaningful implementation of the precautionary principle within international regimes. Principle 15 of the Rio Declaration provides that, ‘where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’.

As stated in chapter three of this study, it is imperative to point out that the preamble of the UN Convention on Biological Diversity (CBD) also adopts the precautionary principle, although it does not suggest how effectively this could be implemented.

Given the extreme uncertainties about how far provisions within existing IPR/trade regimes can be stretched, there is a clear need for alternative regimes and measures that safeguard the interests of conservation, sustainable use, and equity in the use of biodiversity resources (Anuradha and Kothari 1999:8).

Alternatives which aim at safeguarding the interests of communities, conservation and sustainable use of biodiversity resources, as stated in the above paragraph, could also include, community based rights, resource rights regimes, defensive intellectual property rights and civil society’s resistance and or challenge to the dominant IPR regimes, in particular TRIPS. Community and resource rights regimes have been advocated by diverse governments, non-governmental organisations, communities, academics and other bodies which recognise the essentially based community nature and nurture of

knowledge and biodiversity. Groups such as the Third World Network, the Research Foundation for Science and others have advocated for community and cultural rights.

Resistance and advocacy exhibit justice and *botho*. They enable African peoples and their communities to contest the modes of existence and conduct which are imposed by multilateral international laws which undermine the lives of peoples and biodiversity. They are also an assertion of the dignity of Africans to choose the path of life and the manner in which they want to guide, protect and nurture their lives and the gift of life and resources in their midst.

Resistance also affirms the agency, choices and self-determination of Africans. It is an assertion of social justice and of the type of life, values and ethic which they want to engender in their lives and in the sustenance of biodiversity, indigenous knowledge and cultural diversity. Articulating and protecting one's rights is a core element of both *botho* and justice and ought to be encouraged.

### **8.3.3 Defensive Intellectual Property Rights Laws and Revival of Farming and Medicinal Systems that Foster Citizen and Community Self-Reliance**

Other alternatives and strategies worth pursuing are the deployment of human rights regimes in an essentially defensive manner. This approach is often referred to as 'defensive' rights. Defensive rights include the use of other human rights to support peoples and communities whose livelihoods and sustenance are undermined by other rights, for example, commercially inspired intellectual property rights. They can juridically build in the concept of inalienability to *sui generis* systems which touch upon biological resources which have been nurtured by indigenous peoples and local communities. "As must also the concept that the content of the communities' intellectual rights to the preservation of the integrity of their knowledge system must be determined by their own customs and practices" (Nijar, <http://www.grain.org>).

Defensive rights do not allow "the 'right holders' to monopolise knowledge or its use, but would permit them to stop others from appropriating or misusing their knowledge or

resources” (Anuradha and Kothari 1999:10). A similar point is reiterated well by Egziabher ([http:// www.biowatch.org](http://www.biowatch.org)). He points out that in many instances when community rights are used defensively to protect the rights of communities to their biological resources, many opponents have expressed the view that community rights violate the intellectual provisions of TRIPS. He says this view has to be corrected. According to him:

It should be noted, however, that the 4<sup>th</sup> Preambular paragraph of TRIPS states that TRIPS applies to private rights. What they mean...is that if community rights are legally protected, individuals will be stopped from appropriating as their own private intellectual properties, technologies that are communally generated. Of course, that is one of the intentions of protecting community rights: private rights should restrict themselves to the realm of the private, not to that of the community (Egziabher, <http://www.biowatch.org>).

The implications of the views stated above are that no one would be able to monopolise any resource or knowledge over which such rights have been granted. These rights take place in a situation where a country passes legislation which states that access to its resources is dependent on the willingness of prospectors to sign a legally binding agreement which compels them not to apply restrictive or monopoly intellectual property rights protection to prospected biological or genetic resources. They could also state that those who engage in prospecting will not apply restrictive rights to these resources and will allow licenses or use by third parties. In addition, appropriate benefit-sharing arrangements could also be worked out in Material or Information Transfer Agreements (Anuradha and Kothari 1999:10). This approach, it would seem, reflects the notion of *botho* which requires that the benefits of biodiversity and indigenous knowledge should be shared by all and should not be monopolized by a few. This, in a way, also promotes justice in the sense of distribution of resources in fair ways.

Defensive rights could be useful if they are not unilaterally developed. They would need a country to mobilise other countries and to promote them as an acceptable regime at the regional or international level. In addition, the mobilisation of other countries to entrench rights other than commercially and individually based intellectual rights regimes, would include mobilisation to revive farming systems, knowledge and medicines which promote sustenance for all members of communities. This could lead to

“the revival of farming and medicinal systems that foster citizen and community self-reliance” (Anuradha and Kothari 1999:11). The preservation of alternative knowledge systems and the innovation they have spawned, especially in relation to biological resources, will be vital. Also crucial to this, is the understanding of whom this knowledge and information belong to.

In traditional societies [indigenous knowledge and biodiversity] are held under a system of stewardship and they are held for past, present and future members of such societies. These knowledge systems are inextricably linked with the whole culture and practices which support and sustain life itself of indigenous peoples and local communities. For this reason its integrity cannot be impaired; for to do so is to destroy life itself. This means that there can be no alienation of this knowledge system or its components from the community to others especially if it is clear that this would result in impairment and preclude the community or any of its future members from continuing the perpetual evolution of this knowledge and all its concomitants. The claim of intellectual property rights in relation to biological ‘inventions’ by corporations is the most obvious example of how the development of such knowledge systems could be stultified if not irreparably destroyed” (Nijar, <http://www.grain.org/briefings/?id=179>).

Indigenous farming systems, conservation of resources, as well as plant commons and indigenous knowledge reduce dependency on corporate and state controlled seeds, drugs, knowledge and monopoly. They could be developed and protected in order to help communities to escape the intellectual property rights trap imposed by TRIPS.

Given existing economic and social structures, and the increasing incursion of the global economy into the everyday lives of even remote communities, this form of resistance is getting more difficult. But there are significant movements that have kept alive its possibilities, e.g. the widespread revival of agro-biodiversity farming systems, for example, in India and other parts of the South (Anuradha and Kothari 1999:11).

Proponents of IPR, particularly TRIPS, often ask what incentives will exist for continuous innovation if IPRs are not accorded. Anuradha and Kothari (1999:11) suggest that such views assume “that the monetary benefits derived by IPRs (by providing a market monopoly for a period of time) are the sole or primary incentive for innovation.” They suggest, however, that such assumptions have not been supported by any evidence. They point out that “a recent study evaluating the US Plant Patents Act over the past 65 years concluded that patenting has neither fostered breeding as a profession nor

stimulated species, genetic, or even market diversification” (RAFI, quoted by Anuradha and Kothari 1999:11).

For the majority of people on earth, innovation has been born of motives other than the desire to consolidate one’s profit or social status. Innovations have been borne out of life experiences, including sheer survival, goodwill, social recognition and advancement of education. This is evidenced by the fact that African farmers, particularly in the regions of Ethiopia, Sudan and Somali, had developed a variety of strands of wheat prior to their expropriation and privatisation by multinational companies. It is also visible in the Asian context, where farmers have developed, out of a few species of rice, hundreds of varieties, which today continue to suit a diversity of ecological and social situations. In many countries, innovations have been promoted by public sector crop-breeding, motivated in particular by public welfare, and not so much by profit.

The spirit of public welfare and sharing that motivates traditional healers, farmers, and others, is still very much alive in many countries. Indeed, studies of community involvement in biodiversity conservation and sustainable use have demonstrated that territorial security, social recognition and rewards and other non-monetised incentives drive such innovation more than the promise of monetary gain (Anuradha and Kothari 1999:11).

The spirit of innovation which is couched in the language and logic of profit and commercialisation of life-forms, and forces “upon countries and communities a uni-dimensional view of innovation which is based on the profit motive alone, will do a grave injustice to humanity” (Anuradha and Kothari 1999:11). It is for these reasons that alternatives ought to be devised in order to promote ecological justice, biodiversity and the respect for local and indigenous knowledge.

## **8.4 CONCLUSION**

This chapter sought to highlight at least three alternatives or ethically viable models to the current dominant intellectual property rights regimes, in particular the TRIPS agreement. In order to decide that these models are ethically sound and promote the lives

of humanity, the rights of communities and the substance and conservation of biodiversity and commons, the chapter used as ethical guiding norms the notions of *botho* and justice. It suggested that the African model law is one of the core and primary models of an ethically viable alternative to TBB. This is because TRIPS, bioprospecting and biopiracy endorse exploitation and expropriation of African resources. They also promote individual and corporate rights for northern countries and corporations whilst, on the other hand, they generally deny the social and community rights of indigenous communities from whose knowledge and resources their research and /or products derive.

The African Model Law espouses at least, 12 principles which enhance ecological life and sustenance, the lives of humanity, in particular local communities, indigenous peoples, as well as women. They affirm the rights of communities and groups, which are often marginal to mainstream political power, to participate fully in issues affecting their lives, such as intellectual property issues or discussion on biodiversity. Not only does the model law identify and affirm the normative principles of justice, benefit-sharing, reciprocity, honesty and informed prior consent; it also encourages institutional mechanisms for African states which are committed to protecting the rights of Africa, its resources, knowledge, technologies and its peoples.

Other alternative models which have been suggested include the establishment of defensive intellectual rights mechanisms, which ensure that public commons and knowledge are not monopolised by corporations or individuals. This particular alternative will enable countries to avoid the domination of biological resources and knowledge which is endorsed by TRIPS. The defensive IPR would also be compatible with the African worldview of '*botho*' which affirms that life resources need to be shared equitably to promote the livelihoods of communities, other creatures and the earth.

The chapter has also suggested that activism and advocacy for justice, fairness and benefit sharing ought to guide and be central to the development and implementation of IPR regimes. They should also include the principles of precaution and prior informed consent when dealing with the issues of access and use of plant commons and indigenous



knowledge. When intellectual regimes support the theft of knowledge and public commons, they ought to be challenged and disobeyed. Disobeying the laws which are incompatible with life is also affirmed in the Bible and by theologians, ethicists, and activists.

Beyond the promotion of alternative models, it has also been suggested that it could be important, within the existing models of bioprospecting and intellectual property rights, for collectors or those applying for intellectual property rights to disclose the sources of their material and to state the measures they have devised for sharing the benefits accruing from the use of such resources with communities and states from which those biological resources or knowledge derive.

Since TRIPS and bioprospecting/ biopiracy are couched in an individualistic and egotistic logic based on individual self-interest and profit, and since they are also undergirded by knowledge systems of the North, to the exclusion of other ways of knowing, such as those cherished in the South, alternatives aimed at countering their exploitation and abuse ought to be developed. These alternatives ought to be based on the logic of sharing the resources of the earth so that all human beings and all creatures can live fully. Public policy and international law, as well as activities such as bioprospecting, ought to engender moral consciousness and scrutiny at all times. They also ought to investigate their impact continually for the most marginalised and those whose resources, knowledge and technologies are not fully protected by mainstream intellectual property rights regimes and international law, such as TRIPS.

## **CHAPTER NINE**

### **CONCLUSIONS**

The present study was inspired by numerous observations. The first was that many people in Southern Africa, in particular women, rely on indigenous knowledge and plant

commons for their nurture and survival. They use these resources for health, medicinal, nutritional, leisure and other purposes. While the conservation, protection and use of indigenous knowledge and plant commons have always been core to the sustenance of African communal life and African biodiversity for generations, these resources are facing numerous challenges in contemporary times. These challenges include the devaluing of traditional and indigenous knowledge and healing systems; as well as the conversion of public knowledge and commons into private property and intellectual property rights of individuals and companies that claim them as their own, employing legal mechanisms such as local and international intellectual property rights to achieve this end.

Furthermore, privatization of these resources also takes place under the guise of science and technology research, such as bioprospecting, which often translates into biopiracy. As stated in chapters 1 and 2, the challenges relating to the protection of indigenous knowledge and African plant commons are also due to lack of local policy frameworks which protect the rights of communities and of African biodiversity from exploitation.

The second reason for this study was a yearning to engage in an ethical examination of contemporary socio-ecological and economic issues which takes seriously the plight of Africa and of African communities. This yearning was due to the observation that many studies by African ethicists, who are mainly men, tend to focus on the socio-political and economic environment to the exclusion of the natural environment. In instances where the natural environment is central to ethical analyses, the tendency is to investigate “whether the environment could be conferred rights or seen as having intrinsic integrity or not... The questions of how biodiversity or commons are used, and what issues emerge from their use or ownership is not adequately addressed” (LenkaBula 2005:37).

The author was also interested in embarking on a study which engenders African feminist epistemologies and methodologies in ethical discourse. Feminist ethical methodologies tend to be neglected or undermined by African male ethicists, who generally concentrate on abstract and or theoretical discourses which generally have little or no bearing on transforming for the better the lived and contextual realities of communities and of the

earth. This study, therefore, was an opportunity and a quest to demonstrate how theory and practice could be utilized in ethical discourse in order to overcome the age-old dichotomies or distinctions that have distorted ethical discourse for some time. The author wanted to embark on an ethical study which seeks consciously to reflect and live out the values and principles which promote the fullness of life in all its aspects for humanity and the earth.

The third and final reason behind this study is the author's academic commitment to participate in the constructive formulation of post-colonial discourse and praxis which seek to overcome, undo and critique relationships and structures of domination, exploitation and injustice in the world. These three reasons, among others, motivated me to examine how bioprospecting/biopiracy and intellectual property rights regimes affect the protection, use and conservation of biodiversity and African communities which depend on indigenous knowledge and plants commons for their sustenance.

The problem which formed the basis of this study was presented in chapter 1. It was pointed out there that there is an increasing trend by northern multinational (biotechnology and pharmaceutical) companies to come to Africa, specifically to countries that are perceived to be rich in biodiversity, in order to prospect for biological resources and knowledge associated to, and embedded in, these resources. It was also stated that bioprospecting was, more often than not, carried out under the guise of cultural exchanges, eco-tourism and research in science and technology. Furthermore, multinational companies which engage in bioprospecting are in many instances not solely motivated by the desire to improve health, nutrition and other products which enhance human life or biodiversity. Rather, in many instances, these companies are stimulated by the potential commercial benefits which they can reap, directly or indirectly, from bioprospecting and from claiming new biological agents as their private property. Apart from the commercial prospects that indigenous knowledge and biological resources present, these companies desire to consolidate their profits, power and monopoly control over commons. After prospecting for useful knowledge and biological resources, they normally claim intellectual property rights of useful agents or knowledge of the prospected resources. Chapter 1 also pointed out the significance of engaging in an

ethical study on bioprospecting and intellectual property rights in the context of economic globalisation.

In order to analyse comprehensively and understand the implications of bioprospecting/biopiracy and intellectual property rights regimes for African biodiversity, indigenous knowledge and African communities, an analysis of concrete examples of case studies on bioprospecting/biopiracy and intellectual property rights in Africa was embarked on, analysis which exposed how they are employed to convert African biological and/or plant genetic resources and indigenous knowledge into private property. These case studies also exposed the conduct, methods, logic and tactics employed by multinational biotechnology and pharmaceutical companies which engage in bioprospecting/biopiracy through intellectual property rights mechanisms.

The aim for using concrete life experiences was to engage in an ethical methodology inspired by African women , feminist and womanist ethicists, as well as contextual and liberation theologians. This methodology is consistent with feminist ethicists' understanding that ethics cannot be meaningful if it starts with abstract theories and concepts. It is also predicated on the understanding that attention to life experiences and theories enables ethicists to unmask dominant ideologies, such as the privatization of biological commons and indigenous knowledge and their effects on life. If dominant perspectives are not exposed, the tendency would be to think of them as natural and not created. However, when they are exposed as contrived, it becomes possible for people to formulate alternatives in order to overcome their ill effects on African peoples and African biodiversity.

Chapter 2 further pointed out that proponents of bioprospecting see it as a positive, mercantilist exercise that has potential to yield profit and spur economic benefits for those who engage in it. It also noted that this view was challenged by opponents of bioprospecting, who argue that it is a conduit to and mechanism of dispossession and theft of knowledge and plant commons which sustain the lives of communities and the earth. It was noted that these opponents view it as a strategy of enriching the coffers of multinational companies and scientists, and those who financially invest in them. They

also equate bioprospecting and intellectual property claims on resources and knowledge held by Africans in common to theft.

Finally, this chapter demonstrated that the appropriation of African biological resources by northern multinational companies takes place in a legal and institutional vacuum. In this vacuum international law does not cover or acknowledge the contribution of Africa's biological resources and knowledge to the use and knowledge of biodiversity. I also concluded that bioprospecting is spurred by economic globalization, which endorses the supremacy of commerce, trade and the privatization of all life. Other considerations, such as morality or ethics, cultural and biological diversity, are negated and undermined by economic globalization. The implication is, therefore, that there is a great need to develop ethically viable guidelines and laws aimed at protecting biodiversity, indigenous knowledge and community rights.

Having exposed the concrete, lived experiences of bioprospecting/biopiracy and the conversion of indigenous plants and knowledge embedded in them via intellectual property rights regimes, such as TRIPS, chapter 3, proceeded to examine multilateral intellectual property rights regimes which guide the protection of biological resources and knowledge. The chapter thus examined TRIPS and analysed its historical background. In addition, the chapter investigated the role of African countries and communities in the negotiations and implementation of TRIPS and the ways that TRIPS affects the protection of indigenous knowledge and biological resources in Africa. It highlighted the fact that the content, scope, and period of intellectual property before the advent of TRIPS was determined by individual countries, and this was based on each country's particular need.

The chapter also noted that prior to TRIPS, intellectual property rights were not fully related to trade. The globalisation of trade, therefore, has intensified the search for new biological resources and their patenting to increase profits. While this is touted as a commercial benefit by mercantilist approaches, it leads to marginalisation, expropriation and abuse of resources and knowledge from Africa and the South. I also presented an overview of the TRIPS agreement and analysed some of its implications for the South,

and for Africa in particular.

Lastly, it was demonstrated that the benefits which accrue from the implementation of TRIPS in Africa are actually non-existent for local communities, as TRIPS benefits the companies of the north rather than the peoples of the South. The chapter demonstrated that, in terms of the protection of biodiversity and indigenous knowledge, the Convention on Biological Diversity (CBD) protects the interest of peoples of Africa and the South better than TRIPS and thus, it has to be recommended as the key convention on biodiversity. The limitation of the CBD however, is that it is not mandatory, while TRIPS agreement is. My observation is also that there is no big difference between the agendas of the World Trade Organisation and TRIPS with regards to the protection of indigenous knowledge rights. This, therefore, means that Africans have to devise the means to address these shortcomings.

After analysing TRIPS, the study continued to explore, in chapter 4, the relationship of bioprospecting/biopiracy and TRIPS with the economic phenomenon of globalisation. The idea was to explore whether TBB were conduits, catalysts or not, of economic globalisation. Prior to 1995 and to the institution of the TRIPS agreement as an intellectual property rights regime that is obligatory for all members of the WTO, no intellectual property rights regime had demanded compulsory compliance to its minimum standards.

Chapter 4 also sought to establish the relationship between the expropriation of African biodiversity, indigenous knowledge and commons, on the one hand, and economic globalisation on the other. A variety of meanings associated to globalisation, as well as its history, were considered. The link between neoliberalism, as both a political-economic strategy and ideology, and economic globalisation was also determined. The relationship between bioprospecting and intellectual property rights was also established. The chapter explored the role of multilateral institutions, with particular focus on the WTO, in promoting the economic globalisation of African indigenous knowledge and biodiversity. It established that international financial and multilateral institutions, such as the IMF, the WB and the WTO, are core to the formulation, conceptualization and

implementation of economic globalisation. Not only do these institutions formulate and implement laws which facilitate globalisation, but the WTO even has a dispute settlement mechanism (included in TRIPS agreement) to address conflicts that arise in economic globalisation.

Chapter 4 further analyzed the agency of pharmaceutical and multinational companies and the role that they play in economic globalisation and the expropriation of African indigenous knowledge. It highlighted the political and economic status of Africa in economic globalisation. It became evident in the analyses that Africa plays a contradictory role. On the one hand, it is home to natural biological resources which are antecedents of products that are genetically modified by the biotechnology and pharmaceutical companies and claimed as private property rights, yet at the same time it is poor and plays a minimal role in economic globalisation.

Finally I traced the impact of economic globalization on communities and biodiversity and identified some alternatives that are suggested by those who want the economy to embrace a socio-economic and gender justice agenda in the use, conservation and utilization of biodiversity, indigenous knowledge and commons.

Chapter 5 sought to compare and contrast the similarities, differences and new trends between bioprospecting, colonisation and TRIPS. In order to do this I first investigated the ways in which European countries engaged in the colonisation process. I also analysed the ways in which they used international law, and sometimes expanded definitions of legal concepts such as the legal doctrine of *terra nullius*, to support their conquests. I noted that the doctrine of *terra nullius* was central to colonialism.

My analysis of the differences or similarities between colonialism and the contemporary phenomena of bioprospecting and TRIPS revealed that Africans were treated inhumanely and unfairly by colonialism, and they continue to be exploited by bioprospecting and intellectual property rights laws. It was also noted that international law that was used then tended to favour Eurocentric perspectives and undermined those of others, for instance, the African worldview. A similar trend is also observable in the intellectual

property law, particularly TRIPS, which governs international regimes on trade and intellectual property rights. I also mapped out some of the reasons that are or were used by northern scholars to justify the colonisation of Africa in the past and the prospecting of biodiversity and knowledge today.

Another important element in this chapter was the brief description of the impact of bioprospecting, economic globalisation and TRIPS on biodiversity and communities in Africa. I concluded that while mainstream economists and multilateral institutions such as the WTO claim that such activities are economically beneficial to all, such claims are fallacious since many people in Africa and the South in general are negatively affected by these. Africans, like other peoples of the third world, do not just passively accept the rhetoric of multilateral institutions which claim that these activities are beneficial; they are also actively involved in the search for socio-economic and environmental justice and are actively engaged in seeking alternatives to bioprospecting, economic globalisation and TRIPS with their negative impact.

Chapter 6 sought to define social and ecological ethics. It also traced their role in social, political and economic discourses related to issues of intellectual property rights and bioprospecting. Its purpose was to give clarity to the debates regarding bioprospecting and methods of intellectual property protection, such as patents, and their implications for African communities, commons, and indigenous knowledge.

Pursuant to the above, the chapter explored divergent views of proponents and opponents of bioprospecting and the claims of private ownership and intellectual property on African commons and knowledge. By comparing these views, the chapter sought to determine whether bioprospecting and intellectual property rights are life-affirming, liberative and/or oppressive to African communities, their biodiversity and indigenous knowledge. The chapter thus concluded, from the ethical arguments analysed, that bioprospecting, biopiracy and intellectual property rights on life-forms, such as biological or plant resources, and indigenous knowledge, are to a large extent inimical to African communities, indigenous knowledge and African commons.



Chapter 7 began with an exploration of the meaning of *botho* in Sesotho and other African cultures. It identified some of the essential features of *botho* and their relevance in the advocacy of social and ecological justice. It then identified justice as another key norm and principle in advocacy against exploitative abuse of intellectual property rights and bioprospecting. Thereafter, the chapter sought to strengthen advocacy against bioprospecting and biopiracy by synthesizing the relevance of *botho* and justice for the just and fair use and sharing of resources and indigenous knowledge. The chapter also affirmed the importance of *botho* and justice as guiding norms in the quest for just sharing of African commons and indigenous knowledge.

The chapter underlined that the norms of justice and of *botho* ought to be taken seriously in policy formulation and laws relevant to the use of biological commons and indigenous resources in order to avoid their harmful effects on communities, biodiversity and indigenous knowledge.

Chapter 8 drew attention to at least three alternatives to the dominant intellectual property rights regimes, in particular the TRIPS agreement. In order to ensure ethically sound models, and their promotion of biodiversity, protection of indigenous knowledge and African communities, the chapter used as ethical guiding norms the notions of '*botho*' and justice. It suggested the African model law as one of the core and primary models of an ethically viable alternative to TBB. It stated that, in comparison to TBB which endorse exploitation and expropriation of resources from Africa, the model law encouraged their protection and conservation in ways that are beneficial to the earth, biodiversity and African communities.

Chapter 8 also identified 12 principles which are espoused by the African Model Law and which enhance ecological life and its sustenance. As well, the model law promotes communities' rights to fully participate in issues affecting their lives, such as intellectual property issues; and the undesirable expropriation of the resources which sustain and support their livelihoods. The chapter tried to demonstrated that the model law does not only identify and affirm the normative principles of justice, benefit-sharing, reciprocity, honesty and informed prior consent, but it also encourages institutional mechanisms for

African states which are committed to protecting the rights of Africa, its resources, knowledge, technologies and its peoples.

Other alternatives recommended in Chapter 8 include the establishment of defensive intellectual property rights mechanisms, which ensure that public commons and knowledge are not monopolised by corporations or individuals. Defensive intellectual property rights, it was argued, enable countries to curb or avoid the domination and/or monopoly control of biological resources and knowledge by individuals or companies as endorsed by TRIPS. It was concluded that defensive Intellectual Property Rights would be comparable and compatible with the African worldview of '*botho*', which affirms that life resources need to be shared equitably to promote the livelihoods of communities, other creatures and the earth.

Chapter 8 also identified advocacy and activism, on the one hand, and economic and ecological justice, fairness and benefit sharing, on the other hand, to guide the development and implementation of IPR regimes through incorporating principles of precaution and prior informed consent when dealing with the issues of access and use of plant commons and indigenous knowledge. The chapter argued that when intellectual regimes support the theft of knowledge and public commons, they ought to be challenged and when extreme, disobeyed. Disobeying the laws which are incompatible with life was also affirmed as an ethically sound action that is encouraged.

Beyond the promotion of alternative models, the chapter concluded that within the existing models of bioprospecting and intellectual property rights, collectors or those applying for intellectual property rights must disclose the origins and sources of their material. They must also state the measures they have devised for sharing the benefits from the use of such resources with communities and states from which those biological resources or knowledge derived.

Since TRIPS and biopiracy, and to some extent bioprospecting, are couched in individualistic and egotistic logic based on individual self-interest and profit, Chapter 8 affirmed the need for the construction of alternatives aimed at countering their

exploitation and abuse. The chapter suggested that such alternatives ought to be based on the logic of sharing the resources of the earth so that all human beings and all creatures live fully. Finally, Chapter 9 has engaged in wrapping up the conclusions of the study. It has also reiterated the relevance of contextually grounded ethical discussions of (socio-ecological and economic) concerns which take seriously the plight of the marginalized, including the earth.

It is the contention of this study that bioprospecting, biopiracy and intellectual property rights on African biological commons, such as plants and indigenous knowledge are inimical to biodiversity, indigenous knowledge and to communities which depend on them for their livelihood and sustenance. Their benefits are, as the study pointed out, also tilted to northern biotechnology and pharmaceutical companies which prospect for them and claim them as their private property. This situation is deemed unjust and thus requires transformation. The study has thus suggested a range of alternatives, which include a reconfiguration of international law and norms guiding the use, access to and sharing of plant commons and indigenous knowledge, an articulation and claim of community rights which protect communities against exploitation by these companies, as well as the promotion of social justice through advocacy and resistance to systems which undermine the dignity and integrity of African life, biodiversity and indigenous knowledge. These, as the study has suggested, ought to be undergirded by the African principle of *botho* and the philosophical principle of justice.

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