

**FOREST MANAGEMENT AND CONSERVATION IN KENYA: A STUDY OF THE ROLE OF
LAW IN THE CONSERVATION OF FOREST RESOURCES**

by

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1.1 BACKGROUND

Forests form part of our most precious natural resources. They are essential to the continued balance and survival of the world's ecosystem.¹ Unfortunately, they have suffered from serious depletion in the past and unless vigorous steps are taken to conserve them, their future existence is threatened.²

Illustrative of the concern which the international community has in relation to this threat is the following extract from the report of the World Commission on Environment and Development which stresses the importance of forests for the conservation of biological diversity and ecological processes:

The link between conservation and development and the need to attack the problem at source can be seen clearly in the case of tropical forests. Sometimes it is government policy, not economic necessity that drives the over exploitation and destruction of these resources. The direct economic and fiscal costs of this over exploitation, in addition to those of over extinction, are huge.

¹ See Bucknum S "The US Commitment to Agenda 21: Combating Desertification-The Ecosystem Management Approach" (1998) 8 *Duke Environmental Law and Policy Forum* 305 306.

² See for example Bhargava V "Sustaining the World's Forests: Managing Competing Demands for a Vital Resource" in Bhargava V (ed) (2006) *Global Issues for Global Citizens: An Introduction to Key Development Challenges* 305.

The result has been wasteful exploitation of tropical forests, the sacrifice of most of their timber and non timber values, enormous losses of potential revenue to the government, and the destruction of rich biological resources Third world governments can stem the destruction of tropical forests and other reservoirs of biological diversity while achieving economic goals.³

Kenya's policy in relation to sustainable forest management and conservation was first articulated in 1957 through Sessional Paper Number 7 of 1957: Report of the Game Policy Committee. This Policy was subsequently restated by the Government of Kenya in 1968 through Sessional Paper Number 1 of 1968 which stated that the:

forest estate of Kenya ranks high as one of the country's most important national assets in its protective aspect of climate, water and soil; as the source of supply of forest produce for all uses by the inhabitants of Kenya and as a revenue earner of high potential.⁴

This Sessional Paper came into existence after the enactment of the Forests Act,⁵ which was passed by the legislature in 1962.⁶ This was the principal legislation for the management, conservation and utilization of forests and forest products in Kenya. The new Forests Act 2005, delineates a policy of encouraging the use and improvement of the state's forests and natural areas while simultaneously conserving and protecting these resources.⁷ The Act contains many innovative provisions to correct previous shortcomings, including strong emphasis on partnership working and the engagement of local communities.⁸ The Act has clear provisions on the role of local communities in sustainable forest management and conservation.⁹ The new law opens up a major opportunity to address the inequalities of the past and may improve the quality and sustainability of Kenya's forests if properly implemented.

³See World Commission on Environment and Development (WCED) *Our Common Future* (1987) 548.

⁴See Republic of Kenya *Sessional Paper Number 1 of 1968: A Forest Policy for Kenya* (1968)1.

⁵Cap 385 Laws of Kenya (now repealed).

⁶First enacted in 1942 with various amendments and subsidiary legislation made thereto and finally repealed by the Forests Act 2005, being Act No. 7 of 2005(hereinafter referred to as the Forests Act).

⁷See sections 7 and 52 of the Forests Act 2005.

⁸See for example Republic of Kenya *National Development Plan 2002 to 2008* (2002)124.

⁹See sections 5, 22, 36, 41 and 46 of the Act.

The Forests Act is grounded on the assumption that forests play a vital role in the stabilization of soils and ground water, support the conduct of reliable agricultural activity and play a crucial role in protecting water catchments in Kenya and moderating climate by absorbing greenhouse gases. The legislation further recognizes that forests provide the main locus of Kenya's biological diversity and a major habitat for wildlife and acknowledges that forests are the main source of domestic fuelwood for the Kenyan people.¹⁰

Sessional Paper Number 1 of 1968 has now been replaced by a new forest policy.¹¹ The new forest policy observes that since 1968, the country has experienced a major decrease in forest cover, which has resulted in reduced water catchments, biodiversity, supply of forest products and habitats for wildlife.¹²

Kenya adopted a framework environmental law in 1999, being the Environmental Management and Coordination Act,¹³ which has been hailed as a major landmark in environmental law making in Kenya.¹⁴ It provides for the establishment of an appropriate legal and institutional framework for managing the environment. Nevertheless, environmental discussions in Kenya have proceeded on the basis that environmental regulations are scattered along sectors and that forestry issues should be distinguished from environmental issues.¹⁵ The integration of forestry issues into development planning and management requires that laws that have an impact on the environment, and forestry in particular, should be harmonized and the powers of the respective departments and ministries strengthened.¹⁶

¹⁰See the Preamble to the Forests Act 2005, Act No. 7 of 2005.

¹¹Republic of Kenya *Sessional Paper Number 9 of 2005 on Forest Policy* (2005).

¹²Ibid 1.

¹³Act No. 8 of 1999.

¹⁴See for example Okidi C O & Mbote P K (eds) *The Making of a Framework Environmental Law in Kenya* (2001) 85.

¹⁵See Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy* (2009) 24.

¹⁶See for example Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya* (2007) 104.

Concurrently, the institutional capability of the ministries, departments and regulatory bodies should be strengthened to enable them to cope with the challenges of sustainable development.¹⁷

The Kenya Forest Service is established under the Forests Act and is charged with the management, conservation and utilization of forests and forest products.¹⁸ Besides the Kenya Forest Service, other major institutions are the National Environment Management Authority which is established by the Environmental Management and Coordination Act,¹⁹ local government bodies and the private sector. The Forests Act, being the latest enacted statute in the area of environmental management in Kenya, should have harmonized and synchronized the institutional and legal mandates for forestry management within the framework for sustainable development.²⁰

Situma rightly observes that the Forests Act fails to bring about harmony with the result that there are conflicts of institutional mandates for forestry between the National Environment Management Authority and the Kenya Forest Service.²¹ The Act fails to clarify the role of the National Environment Management Authority in respect of the creation of forests, the variation of state or local authority forests, or the exchange of forest areas with private lands, despite the fact that these actions have fundamental environmental implications.²²

It is also noted that the Forests Act fails to entrench the principles of sustainable forest management such as public participation in the development of policies and plans and does not effectively consider issues of

¹⁷As an example of the sectoral nature of the law, other statutes such as the Timber Act 1972, Cap 386 Laws of Kenya, regulate the export, sale, grading, inspection and marketing of timber. Forest resources regulation is also provided for by the Plant Protection Act, Cap 324 Laws of Kenya (Revised edition 1979) and the Seeds and Plant Varieties Act, Cap 326 Laws of Kenya (Revised edition 1991) and also the Agriculture, Fisheries and Food Authority Act, Act No. 13 of 2013, Laws of Kenya.

¹⁸Act No. 7 of 2005, Section 4 thereof.

¹⁹Act No. 8 of 1999, Section 7 thereof.

²⁰See Situma FDP "Forestry Law and the Environment in Kenya" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 235 241.

²¹Ibid.

²²Ibid.

intergenerational and intra-generational equity.²³ Thus, a central theme of this thesis is sustainable forest management, which effectively integrates the biological, social and economic factors which influence decisions to ensure that the values derived from Kenya's forests, meet present day needs while at the same time ensuring their continued availability to long term development needs.²⁴ The law itself ought to reflect the principle of sustainability. It should provide for the proper maintenance and regional distribution of forest cover needed to secure a stable environment and to provide a basis for sound economic and social forest development. It should also effectively provide for a network of protected natural forest ecosystem in order to maintain an acceptable level of biological and landscape diversity. The law must also establish and support a viable forest economy, combining ecological conservation and economic resource utilization.²⁵

Furthermore, remedies such as forest restoration orders, conservation orders and conservation easements that are mandated by the framework environmental statute, the Environmental Management and Coordination Act, are not entrenched in the Forests Act, thereby failing to create the appropriate synergy and reduce conflicts in the various institutional mandates.²⁶ The Act further provides that its provisions shall be carried out in accordance with any treaty, Convention or international agreement concerning forests or forest resources to which Kenya is a party,²⁷ yet again, none of the international treaties, touching on forests, has been fully domesticated by Kenya's legislature.

This study underlines the importance of the law as a tool for the management and conservation of forest resources. At the same time, the study will attempt

²³ See Republic of Kenya (2007) (note 16) 106.

²⁴ See Ojwang J B "The Role of the Judiciary in Promoting Environmental Compliance and Sustainable Development" (2007) 1 *Kenya Law Review* 19.

²⁵ See FAO *Guidelines for the Management of Tropical Forests* (1998) 15.

²⁶ See Situma FDP (2008) (note 20) 241.

²⁷ See Section 61.

to show that Kenya's forest conservation law has not embraced a complete array of the various techniques for forest regulation.²⁸ The study explores the forest conservation techniques under Kenya's forestry law, and examines the same vis-à-vis the provisions of the Convention on Biological Diversity²⁹ for purposes of comparison and objectivity. By examining the extent to which Kenya has implemented the forest related provisions of the Convention on Biological Diversity, the study will be able to explore any weaknesses in Kenya's forestry law.³⁰ The adoption of the Convention on Biological Diversity marks an important new development on the conservation of natural resources. Previous conservation Conventions had mainly been concerned with the rational use of common property³¹ or shared resources such as fish,³² with the protection of migratory animals and their habitat,³³ and with the suppression of international trade in endangered species.³⁴ These agreements have gradually extended the role of international law in providing for the conservation and sustainable use of natural resources and, in themselves, contribute significantly to the conservation of biological diversity.

The Convention on Biological Diversity represents, at least in principle, an attempt to internationalize the conservation and sustainable use of nature, based on the concept of biological diversity.³⁵

²⁸See for example Thornton J & Beckwith S *Environmental Law* (1997). The learned authors explore an array of many techniques for environmental regulation including education and information, reliance on market forces and economic instruments. See also Centers J J "Creating an Undeveloped Lands Protection Act for Farmlands, Forests and Natural Areas" (2006) 17*Duke Environmental Law and Policy Forum*1, for more details on the techniques of environmental regulation .

²⁹See Convention on Biological Diversity adopted at Rio de Janeiro June 5 1992 (1992) 31 *International Legal Materials* 822.

³⁰See for example Republic of Kenya (2002) (note 8) 125, which noted that one of the issues to be addressed with respect to the management of indigenous forests in Kenya is the issue of the global conventions related to sustainable indigenous forest management.

³¹See for example the United Nations Convention on the Law of the Sea (1982) 21 *International Legal Materials* 1261.

³²Convention of Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar February 2, 1971, (1971) 996 UNTS 245.

³³Convention on the Conservation of Migratory Species of Wild Animals, Bonn June 23 1979 (1979)19 *International Legal Materials* 15.

³⁴Convention on International Trade in Endangered Species of Wild Fauna and Flora, March 3, 1973, Washington DC (1973) 12 *International Legal Materials* 1055.

³⁵See Boyle AE "The Convention on Biological Diversity" in Campiglio L *et al* (eds) *The Environment After Rio: International Law and Economics* (1994) 111.

The *Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests*³⁶ would have formed a good reference point for this study. However, as its name suggests, it is a rather limited document. It is not legally binding and does not commit countries to any specific programs or targets. As Sands notes, the weakness of the Forest Principles reflects the absence of international consensus on the subject and it is of limited legal authority and content.³⁷ Nevertheless, as the Preamble notes, the Principles reflect, a first global consensus on forests, and for the moment, they remain the only broad ranging instrument directed to the management, conservation and sustainable development of forests on a world wide basis. For this reason therefore, the study will make reference to the Forest Principles where relevant. It is also important to note, that Kenya signed the Convention on Biological Diversity on June 4, 1992, and ratified it on July 26, 1994. Kenya is thus a full member of the Conference of the Parties to the Convention. As a result, the Convention is part of the law of Kenya pursuant to Article 2 (6) of the Constitution of Kenya. Its provisions in relation to the implementation of its forest related clauses must therefore be observed as an obligation imposed by the Constitution.

1.2 PROBLEM STATEMENT

This study investigates the law on the conservation of forest resources in Kenya. In particular, the study investigates the various strategies that the law applies in order to ensure that forest resources are used sustainably for the benefit of present and future generations of Kenyans.

The rich diversity of Kenya's forests is in decline and traditional methods of

³⁶(1992) 31 *International Legal Materials* 881.

³⁷See Sands P *Principles of International Environmental Law* (2003) 548.

conservation are no longer sufficient to ensure conservation.³⁸ The Government's Taskforce on the Conservation of Mau Forests Complex noted that:

over the last 15 years, the Mau Forest Complex has lost over 107,000 hectares, representing approximately 25% of its forest cover due to encroachment, ill planned and irregular settlements, as well as illegal forest resource extraction. Encroachment has occasioned the destruction of approximately 46,122 hectares of indigenous forests.³⁹

This indicates that there is a problem either with the law or the manner in which it is enforced, and that there are other factors that impede the operation of Kenya's forest law. At the national level, there are concerns that some of the laws contradict, instead of complementing, each other and as a result, there has been an overlapping of mandates of various institutions, resulting into a disconnect between government initiatives and beneficiaries who are local communities.⁴⁰

Of particular importance is the need to understand the contribution of the various factors, such as settlement and expansion of agriculture, logging, charcoal production and population pressure, in relation to the problem of deforestation.⁴¹ The study investigates the underlying factors that accelerate the process of deforestation and links this to the broader process of development within the country in order to devise appropriate legal strategies to deal with it.

The study considers the various regulatory instruments and legal strategies employed by the law in order to achieve sustainable forest management and conservation. The study recommends that the Kenya government implements

³⁸See for example Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya-First Medium Term Plan 2008 -2012* (2008)106.

The Plan notes that Kenya has lost some of her well known biodiversity resources mainly due to population increase, habitat destruction, over exploitation of species and conversion through deforestation.

³⁹Republic of Kenya *Report of the Governments Taskforce on the Conservation of the Mau Forests Complex* (2009) 7.

⁴⁰See Republic of Kenya (2007) (note 16) 104.

⁴¹See for example Republic of Kenya *Sessional Paper Number 5 of 2005 on Forest Policy* (2005)1.

a legal strategy for the management and conservation of forests which focusses on the provision of economic incentives to encourage and reward land owners for activities that conserve forests, both on state and private lands.⁴²

In the past, the major strategy used to conserve forests has been the establishment and management of protected areas.⁴³ The study recommends that in addition to existing regulation and motivational based approaches, economic incentives will need to be adopted in order to encourage private land owners to undertake the necessary land management and conservation practices.

Kenya's indigenous forests represent some of the most diverse ecosystems in the world. They supply important economic, environmental, recreational, scientific, cultural and spiritual benefits.⁴⁴ However, these forests have been subjected to land use changes such as conversion to farmlands, ranches and settlements.⁴⁵ The current forest policy therefore notes that:

Kenya is internationally considered to be a low forest cover country as it has less than 10% of its total land area classified as forest. The Government will therefore put in place measures to significantly increase the area under forest cover, with the aim of attaining at least 10% within the next decade.⁴⁶

This statement of policy is positive in its intentions, but the same ought to acknowledge that pressures and demands imposed on forest ecosystems and resources are often caused and influenced by factors outside the forest sector. Forests serve as water catchment areas, are sources of wood fuel, habitats for wildlife and are also affected by agricultural activities.⁴⁷ For this

⁴²See for example Republic of Kenya (2008) (note 38) 105.

⁴³See Republic of Kenya *Sessional Paper Number 6 of 1996 on Environment and Development* (1999) 29.

⁴⁴See Republic of Kenya *Report of the Governments Taskforce on the Conservation of the Mau Forests Complex* (2009) 15.

⁴⁵Republic of Kenya (2009) (note 39) 15.

⁴⁶See Republic of Kenya (2005) (note 11) 5.

⁴⁷See Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy* (2009) 32.

reason, policies in these sectors should have a clear linkage to the policies and the laws that affect forests.⁴⁸

It is noted however, that the Constitution of Kenya has taken note of this position and has now imposed an obligation on the state to work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya.⁴⁹

The present study contends that the law has a role to play in the management and conservation of Kenya's forests. The role of the law will be examined from the perspective of scope, adequacy and effectiveness. The examination relating to the adequacy of the law concerns itself primarily with the issue of how Kenya's forest law employs the various strategies for forest conservation.

To this end, the study attempts to achieve the following objectives:

- (i) To investigate the importance of forests in Kenya and therefore give a justification for their protection through the use of law.
- (ii) To set out some of the threats that affect forests and which are amenable to control through the use of the law.
- (iii) To examine the role of law, government policies and their adequacy or otherwise in ensuring the effective management and conservation of Kenya's forest resources.
- (iv) To examine the legal, policy and institutional arrangements, including participatory decision making, governance, law enforcement, access and management rights in the use of forest resources.
- (v) To make suggestions and recommendations to ensure that Kenya's forest heritage is legally managed and conserved for the benefit of present and future generations.

There is no guarantee that the current legal framework, even with the creation of the National Environment Management Authority and the Kenya Forest Service, would necessarily be more responsive to public needs for

⁴⁸See Republic of Kenya *Sessional Paper Number 3 of 1975: Statement on Future Wildlife Management Policy in Kenya* (1975) 13.

⁴⁹See Art 69(1) (b) of the Constitution of Kenya 2010.

forest conservation.⁵⁰ The legal system should provide greater promotion of public awareness and participation in the regulation and enforcement machinery.⁵¹ Indeed, the Constitution has empowered the public in forest management and conservation by stating:

Every person has a duty to cooperate with state organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.⁵²

The benefit of this provision is that it reinforces the responsibility of the individual to the collective duty of conserving forest resources and mitigates against the inclination of seeing the government as the one responsible for forest conservation. Yet there are gaps in the Forests Act relating to incentives to induce conservation of forests. For this reason, Kenya's forest law will have to undergo transformation as the inadequacies of the current law become more critical, both for the forests and for the people.

Environmental conservation is development oriented and therefore there is necessity for fiscal or general economic incentives to utilize the resources in a sustainable manner.⁵³ Pricing of resources may be a powerful tool for conservation imperatives. As a tool to effect social change, the impact and design of fiscal legislation is yet to be exploited, particularly in designing incentives and disincentives.⁵⁴ The energy sector is a ready example. It is common knowledge in Kenya that the urban and periurban population are increasingly resorting to fuel wood because of the exorbitant electricity tariffs. As the tariffs increase, the use of fuel wood increases and so does the pressure on forests and vegetative cover. Energy pricing in that case impacts on forestry.⁵⁵

⁵⁰See Mbondenyi M K & Ambani J O *The New Constitutional Law of Kenya: Principles, Government and Human Rights* (2012) 189. The authors suggest that there must be appropriate legislation, effective enforcement and protection of the environment from harmful activities.

⁵¹See Okidi C O & Mbote P K (2001) (note 14) 89.

⁵²Constitution of Kenya 2010, Article 69(2).

⁵³*Ibid.*

⁵⁴See for example Herbert C "Sustainable Development: Some Legal Strategies for a Small Island State" (1998) 24 *Commonwealth Law Bulletin* 563.

⁵⁵See Okidi C O & Mbote P K (2001) (note 14) 91.

Since voluntary compliance is more socially desirable than coerced compliance, the best form of forest law enforcement is where the law does not need to be enforced.⁵⁶

It may also be possible to legislate for land use to cater for the planting of public forests on a continuous basis so as to ease pressure on presently gazetted areas. The process of law making is quite often the only vehicle for producing the actual legal instruments to effect change, compliance and enforcement of plans of action.⁵⁷ This thesis identifies the fundamental strategic issue for decision makers in the public domain as the extent to which ecological and economic concerns can be seamlessly merged to effect policy in a proper legal manner. In other words, the appropriate balance between the ecocentric approach and the anthropocentric approach to forest conservation should be put into consideration.⁵⁸

The ecocentric viewpoint adopts a holistic approach to forests and the entire environment and holds that humans and plants have value only as part of an ecological system.⁵⁹ Mitchell has therefore noted that:

the negative consequences of ...poor forest management techniques are not limited to the realm of the natural environment. It is now understood that there is a clear correlation between unsustainable forestry practices and human impacts such as starvation, the spread of disease, and a decline in crucial cultivable lands.⁶⁰

Forests have an intrinsic right to protection which is independent from the uses to which they are put by human beings.⁶¹The prevailing reality in Kenya

⁵⁶See for example Oposa A A "Legal Marketing of Environmental Law" (1996) *Duke Journal of Comparative and International Law* 273 275.

⁵⁷See Herbert C (1998) (note 54) 564.

⁵⁸Ibid.

⁵⁹See for example Mitchell S "Falling Far from the Tree: How Forestry Practices in Bangladesh Leave Women Behind" (2011) 24 *The Georgetown International Environmental Law Review* 93.

⁶⁰Ibid.

⁶¹See Ogeno J O "The Earth: Its Environmental Systems and Resources" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 67 88.

is neither the lack of governmental awareness of issues, but rather, the need for more people empowerment and enhanced governmental capacity to implement sustainable development strategies.⁶² This thesis examines some of the key legal strategies to implement sustainable forestry development by empowering the populace. This would facilitate sound environmental legislation because it highlights fundamental environmental management principles and therefore, provide flexibility for the formulation of appropriate legislation detailing management approaches for realizing the goal of the Constitution.⁶³

The Constitution provides for the goal of a clean and healthy environment and the management and conservation of the environment to achieve sustainability. The government is automatically obligated to enact appropriate legislation and mobilize technical and financial resources to achieve the stated goals.⁶⁴

Again, since the 1972 United Nations Conference on the Human Environment in Stockholm, both the developing and developed nations have given more emphasis to the environmental consequences and the sustainability of development policies and processes.⁶⁵ However, the fundamental cause of environmental degradation in Kenya which is poverty, has not been fully addressed.⁶⁶ One of the essential objectives of the Brundtland formulation of sustainable development is the maintenance and enhancement of the quality

⁶²See for example Ochieng B O "Institutional Arrangements for Environmental Management in Kenya" (2008) in Okidi C O *et al* (eds) *Environmental Governance in Kenya: Implementing the Framework Law* (2008) 183.

⁶³See Article 69 (1) (b) of the Constitution of Kenya 2010, which requires the state to work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya.

⁶⁴See the Constitution of Kenya 2010, Articles 69, 70, 71 and 72. See also, the argument of Orié K E "Constitutional Arrangements for Environment and Development" in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 331.

⁶⁵See Bhargava V "Introduction to Global Issues" in Bhargava V (ed) (2006) *Global Issues for Global Citizens* 1 14.

⁶⁶See Republic of Kenya *Sessional Paper Number 1 of 1994 on Recovery and Sustainable Development to the Year 2010* (1994) 14.

of life with equity being the main consideration.⁶⁷ This means that there should be a fair distribution of resources as a world in which poverty is endemic will always be prone to ecological and other environmental catastrophes.

The fundamental issue when considering forest management and conservation is the paradox of forest conservation and development, which appear inimical, yet they are inextricably interwoven.⁶⁸ Development cannot be sustained upon a deteriorating environmental resource base. The general acceptance of the meaning of sustainable development is the conservation and wise use of the environment to provide adequately for the needs of the present and future generations and for the enhancement of the quality of life.⁶⁹

To attain proper management and conservation of forest resources, it is noted that the law is an important tool in a range of management instruments available to decision makers in the public domain. Law should be regarded as a resource which can be used to strengthen, assure and affirm sound conservation planning. Law has the capacity to play an important educative and innovative role in modeling public and administrative attitudes. The law exists in order to protect, encourage, guide and influence citizens as to the course of action which they should adopt. Yet the legal regime cannot halt or reverse the state of deforestation and degradation facing Kenya's forestry sector. The government will need to strictly manage the forests and enforce

⁶⁷See World Commission on Environment and Development (WCED) *Our Common Future* (1987) (note 3) 157-158. See also the issues raised in *Sessional Paper Number 9 of 2005 on Forest Policy* (2005) (note 9). Indeed, the *Report of the Government's Taskforce on the Conservation of the Mau Forests Complex* (2009) 13, confirms that one of the main causes of deforestation in the Mau forests is the violation of several multilateral agreements on the environment to which Kenya is a party, including the Convention on Biological Diversity.

⁶⁸See for example Ochieng B O "Institutional Arrangements for Environmental Management in Kenya" (2008) in Okidi C O *et al* (eds) *Environmental Governance in Kenya: Implementing the Framework Law* (2008) 183.

⁶⁹See Herbert C "Developing Environmental Legislation for Sustainable Development in Small Island States: Some Legal Considerations from the Commonwealth Caribbean" (1996)22 *Commonwealth Law Bulletin* 1208.

all forestry related legislation,⁷⁰ and at the same time, implement international treaty law relating to forestry as part of its international legal obligations. The major challenge for the government is the low enforcement rate of the provisions of the law. This has been occasioned by inadequate institutional capacity to oversee the implementation of the law, low stakeholder involvement by the public and the civil society as well as the low level of environmental education in the country.⁷¹

1.3 PURPOSES OF THE STUDY

The choice of forest management and conservation law as the area of study was influenced by the fact that in recent years, more and more people have begun to feel uneasy about the continuing depletion of our forest heritage.⁷² It is now generally accepted that we are losing something of value and that what remains deserves effective and urgent protection.

Favre has argued that:

humans need to acknowledge the existence of non human species and acknowledge a duty not to harm other species except for an articulated public purpose. Humans must acknowledge a duty to protect and preserve current wildlife habitat, to maintain the earth's ecosystem, and to create new and diverse habitats where they have been destroyed. ...There is a logical duty to limit human population growth and to reduce high levels of natural resource consumption by humans.⁷³

The ecological approach to human rights acknowledges the interdependence of rights and duties. Human beings need to use natural resources, but they also completely depend on the natural environment. This makes self restrictions essential, not only in practical terms, but also in normative terms. Entitlements to natural resources and a healthy environment, usefully expressed as rights, can no longer be perceived in purely anthropocentric terms. Human rights need to respect ecological boundaries. The law should be able to adapt to these new ecological boundaries.⁷⁴ The Forest Principles

⁷⁰See Situma FDP (2008) (note 20) 259.

⁷¹See Republic of Kenya *Kenya Vision 2030: First Medium Term Plan 2008-2012* (2008)109.

⁷²See for example Favre D "Wildlife Jurisprudence" (2010) 25 *Journal of Environmental Law and Litigation* 459.

⁷³Ibid 484.

⁷⁴See Bosselmann K *The Principle of Sustainability: Transforming Law and Governance* (2008) 143.

provide that the vital role of all types of forests in maintaining the ecological processes and balance at the local, national, regional and global levels should be recognized. The Principles note that forests are rich storehouses of biodiversity and biological resources and sources of genetic material as well as photosynthesis.⁷⁵

The purpose of this study is to advance the achievement of sustainable forest management and conservation in Kenya through the application and implementation of the law. To this end, the study proposes effective strategies to achieve the sustainable use, management and conservation of forest resources. The study is intended to stimulate a modern approach to forest management and conservation using the law by integrating conservation and development imperatives.

The study is centrally concerned with the Kenyan law relating to forest management and conservation as provided for in the Forests Act, 2005. The study attempts to assess the adequacy or otherwise of the law as a mechanism for the management and conservation of forests in Kenya. It is intended to demonstrate in this study that Kenya's forest law is not adequate with regard to the sustainable management and conservation of forests. The law is not comprehensive on the management and conservation approaches that it provides.

The realization that modern human activity is destroying forests at an alarming rate has led to efforts to secure legal protection of forests and biodiversity in general. Society should address the problem of how much effort is to be put into forest management and conservation.⁷⁶ The current National Development Plan, the Kenya Vision 2030, urges the government to recognize and to institutionalize global conventions and other protocols

⁷⁵See A Nonlegally Binding Authoritative Statement of Principles for A Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests June 13, 1992 (1992)31 *International Legal materials*, 881, Principle 4.

⁷⁶Republic of Kenya *National Development Plan 2002-2008* (2008)125.

related to sustainable indigenous forest management.⁷⁷ The Kenya Vision 2030 provides thus:

The Country is a signatory to a number of Multilateral Environment Agreements (MEAs), ...most of these conventions have financial mechanisms for addressing various environmental challenges for member states. Kenya will strengthen her capacity to meet international best practices contained in this documents.⁷⁸

By tackling problems relating to forests and examining how law can contribute to forest conservation, the study hopes to make a contribution towards addressing the challenge posed.

This research explores the legal strategies for the conservation of forest resources as set out by various legal instruments and international law, primarily the Convention on Biological Diversity, as the point of departure. It will, thus, be of considerable value to future policy planners.

Forests contribute about 95% of the total rural domestic energy.⁷⁹ It is therefore important that proper conservation strategies be put in place. When examining the legal framework for sustainable forest development, regard must be paid to international conventions and other developments. International conventions set the performance standards by which sustainable development objectives are achieved.⁸⁰

International lawmaking processes allow a greater flexibility to incorporate new techniques and concepts. Other international trends are the recent initiatives to elevate environmental protection and conservation to a fundamental right.⁸¹

The basic theory behind the current research is that Kenya's forests are under threat from exploitation and that there is need for urgent intervention by the law to stem further destruction. Developments in the international arena will show that Kenya's forestry law will need to align itself with these international

⁷⁷See Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya* (2007)106.

⁷⁸Ibid 106.

⁷⁹Republic of Kenya (2008) (note 76) 125.

⁸⁰See Birnie P *et al International Law and the Environment* (2009)10.

⁸¹Ibid 271.

developments. Participatory decision making, governance, law enforcement, monitoring and assessment of progress are necessary. Again, broader societal aspects such as fair and equitable use of forest resources, education, public information and communication must form part of an effective law and policy on forest conservation.⁸² This thesis provides information that will ensure that policies are developed and that operational frameworks remain harmonious with the law.

1.4 CONCEPTUAL CLARIFICATION

The study employs various terms that need elaboration. In attempting to ensure the continuity of the natural environment and its components, environmental principles have been elaborated which are now common to national, regional and international law.⁸³

The terminology is not always defined or used with precision, leading to some confusion or duplication. However, there are core meanings that allow each term to be distinguished from others.

1.4.1 FORESTS

Kenya's Forests Act does not define the word 'forest'. However, the term 'forest', has been defined to mean:

all land bearing vegetative association dominated by trees of any size, exploitative or not, and capable of producing wood or other products of exerting influence on the climate or water regime or providing shelter to livestock and wildlife.⁸⁴

The definition seems to vary depending on the various institutions involved and what they seek to achieve. The Kenya Forest Service, for example, defines a forest to constitute a land area with trees more than 0.1 hectares, crown of at least 30% and where trees have a height of more than 2m.⁸⁵

This is specifically for the organization's operational and strategic objectives

⁸²See Bhargava V (2006) (note 65) 14.

⁸³See for example Kiss A & Shelton D *Manual of European Environmental Law* (1998) 36.

⁸⁴See United Republic of Tanzania *National Forest Policy* (1998) (viii).

⁸⁵See Kenya Forest Service *Strategic Plan 2009-2014* (2009)1.

and how it may relate to its stakeholders in matters of managing private forests.⁸⁶ Indeed, the Kenya Forest Service Strategic Plan defines a private forest as any forest owned privately by an individual, institution or body corporate.⁸⁷

1.4.2 MANAGEMENT

The management of a thing refers to its control and regulation.⁸⁸ In so far as forest resources are concerned, management is central to the objective of conservation, since the utilization of the resources depends on the way they are controlled.⁸⁹ Forest resource management is concerned with ownership, the right to use the resource and the right to determine the nature and extent of use by others. In this respect, Kenya's Environmental Management and Coordination Act,⁹⁰ defines environmental management to include the protection, conservation and sustainable use of the various elements or components of the environment.

Ojwang has put the matter more succinctly by stating that:

our preoccupation with the integrity of the environment addresses three cardinal issues:

- i) prudence in the use of environmental resources to the intent that they may, as the capital base of the economy, not be exhausted;
- ii) effective control and management of social and economic activities so that they may not generate harmful levels of pollution and waste; and
- iii) ecological planning and management so as to achieve and maintain an aesthetic and healthful arrangement of the structures, features, assets and resources surrounding us.⁹¹

⁸⁶Ibid.

⁸⁷Ibid.

⁸⁸See Food and Agriculture Organization of the United Nations *Guidelines for the Management of Tropical Forests* (1998) 14.

⁸⁹See Mather A S *Global Forest Resources* (1990) 88. See also Food and Agriculture Organization of the United Nations *Guidelines for the Management of Tropical Forests* (1998) (note 85)15, where forest management is defined as the overall administrative, economic, legal, social, technical and scientific aspects related to natural and planted forests. It implies various degrees of deliberate human intervention aimed at safeguarding and maintaining the forest ecosystem and its functions. Sustainable forest management will ensure that the values derived from the forest meet present day needs while at the same time ensuring their continued availability and contribution to longterm development needs.

⁹⁰Act No. 8 of 1999, section 2.

⁹¹See Ojwang J B "The Role of the Judiciary in Promoting Environmental Compliance and Sustainable Development" (2007) 1 *Kenya Law Review* 19.

Ultimately, these three cardinal issues have to be addressed by the manager of the resource, since it is the entity that possesses or exclusively controls the resource.⁹² Kenya's Forests Act makes reference to the issue of sustainable management of forests and defines sustainable forest management as the management of the forest so as to permit only such use of it as constitutes sustainable use.⁹³ In so far as sustainable use is concerned, the Forests Act defines it to mean the use of a forest and any of its natural resources, in a manner and to an extent which does not compromise the capacity of the forest and its use by future generations, and does not degrade the carrying capacity of supporting ecosystems.⁹⁴

1.4.3 CONSERVATION

One of the earliest terms used in environmental protection, conservation, aims to maintain sustainable quantitative levels of forest resources.⁹⁵ It requires the management of forest resources and avoidance of waste in regard to the resource. *The World Conservation Strategy* defines conservation as:

the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations.⁹⁶

Conservation embraces preservation, maintenance, sustainable utilization, restoration and the enhancement of the forest environment.⁹⁷ The concern of conservation is for the maintenance and sustainability of the forest resources of the world and of an ethical requirement that we have not inherited the earth from our parents; we have borrowed it from our children.⁹⁸

Conservation is a process to be applied cross-sectorally. In the case of forestry, conservation is directly responsible for the management of the forest's living resources. It is that aspect of management which ensures that

⁹²See Herbert C (1996) (note 69) 1210.

⁹³See the Forests Act 2005, Act No.7 of 2005, section 2 thereof.

⁹⁴Ibid Section 2.

⁹⁵See Kiss A & Shelton D (1998) (note 83) 37.

⁹⁶See IUCN *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (1980) 1.

⁹⁷See for example Okidi C O "Concept, Function and Structure of Environmental Law" in Okidi C O et al(eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 3 5.

⁹⁸Ibid 1.

the utilization of forest resources is sustainable and safeguards the ecological processes and genetic diversity essential for the maintenance of the forests.⁹⁹ Thus, forest conservation provides the conceptual foundation for the sustainable utilization of the forest and its components so as to ensure sustainable development. Conservation, as a process, must amount to the management of the human induced processes and activities which may be damaging to the forests in such a way that the ecological functions of the forests are maintained.¹⁰⁰

1.4.4 PRESERVATION

This concept refers to initiatives that prohibit the economic exploitation of forests or other natural resources of an ecosystem.¹⁰¹ Passmore has defined preservation thus:

By preservation, I mean the attempt to maintain in their present condition, such area of the earth's surface as do not yet bear the obvious marks of man's handiwork, and to protect from the risk of extinction those species of living beings which man has not yet destroyed.¹⁰²

Passmore goes on to distinguish between conservation and preservation. He states:

On a particular issue, conservationists and preservationists can no doubt join hands.... But their motives are quite different: the conserver of forests has his eye on the fact that posterity too, will need timber; the preserver hopes to keep large areas of forests forever untouched by human hands. They soon part company.¹⁰³

Preservation, as a forest management tool, refers to the management measures taken to ensure that forest resources, such as unique biological formations, fragile ecosystems, endangered or threatened species, unique natural or cultural sites, are set aside, restrictively utilized or left alone so as to

⁹⁹See Okidi C O (2008) (note 97) 5.

¹⁰⁰See IUCN Commission on Environmental Law *Draft International Covenant on Environment and Development* (1995) 71. The IUCN Commission on Environmental Law advocates that this can be implemented by the application of environmental impact assessment and physical planning.

See Articles 36 and 37 of the Draft.

¹⁰¹See for example Sheppard H E "Native Forest Protection in Chile: The Inadequacies of the Recent Environmental Framework Law and Relevant Multilateral Instruments" (1999) 14 *Journal of Environmental Law and Litigation* 225 227.

¹⁰²See Passmore J *Man's Responsibility for Nature: Ecological Problems and Western Traditions* (1980) 129.

¹⁰³*Ibid* 101.

maintain their characteristics in a manner unaffected by human activities to the fullest extent possible.¹⁰⁴

1.4.5 PROTECTION

Protection, in relation to forests, is a general principle which requires abstaining from harmful activities and taking alternative measures to ensure that forest degradation does not occur. This concept calls for comprehensive planning, including substantive regulations and procedures to ensure that forest degradation does not occur.¹⁰⁵

The concept of sustainable forest management attempts to link the ecological and social dimensions with the concept of conservation in three interrelated components. These are an economy of fast economic growth, commitment to social equity, and the protection of the forest.¹⁰⁶

Forest protection from dangers, such as fire, conversion to other land uses, and from losses caused by cultivation and unlawful logging, is a fundamentally important principle of sustainable forest management.¹⁰⁷ Sustainable forest management cannot be achieved in the absence of a firm and lasting commitment to effectively protect a forest from the threats and activities that might degrade the forest.¹⁰⁸

1.4.6 INTERGENERATIONAL EQUITY

This concept raises concern for a new type of fairness and equity rarely considered previously. The question of equity among generations is a difficult goal in that unborn generations are not with us to make their concerns known.¹⁰⁹ The Preamble to the Stockholm Declaration on the Human Environment¹¹⁰ expresses a concern for posterity thus:

¹⁰⁴See Okidi C O (2008) (note 97) 5.

¹⁰⁵See Kiss A & Shelton D (1998) (note 83) 39.

¹⁰⁶See for example Sheppard H E (1999) (note 101) 227.

¹⁰⁷See Ogeno J O (2010) (note 61) 88.

¹⁰⁸Kiss A & Shelton D (1998) (note 83) 39.

¹⁰⁹See UNICEF & UNEP *The State of the Environment 1990: Children and the Environment* (1990) 2.

¹¹⁰(1972)11 *International Legal Materials* 1416.

To defend and improve the environment for present and future generations has become an imperative goal of mankind – a goal to be pursued together with, and in harmony with the established and fundamental goals of peace and of worldwide economic and social development.¹¹¹

Each generation must therefore conserve the diversity of the natural and cultural resource base so that it does not unduly restrict future generation's options.¹¹² Each generation is entitled to diversity comparable to past generations.¹¹³

This thesis advocates that sustainable forest management, being the practice of mobilizing, utilizing and sustaining forest resources as components of the environment, should be employed to ensure the continuity of the forest resource. Conservation is applied in this thesis as a management concept to manage the forest resource sustainably and to avoid waste, thereby availing the resource for use by present and future generations.

1.4.7 INTRAGENERATIONAL EQUITY

The principle of sustainable development incorporates within it the equitable use of natural resources. It requires that in using resources, states must take into account the needs of other states.¹¹⁴ This is the social dimension of sustainable development that refers to the rights of people within the current generation of fair access to the earth's natural resources, otherwise called intra-generational equity.¹¹⁵ The concept of intra-generational equity includes the commitment of states to the eradication of poverty. This is intended to seek a balance between people, land and forest resources with equity between interests, across regions, and through generations, meeting this generations forest resources needs, while maintaining options for future generations also to meet their needs.¹¹⁶ Given the significance of sustainable development for present and future generations, and the necessary

¹¹¹Ibid.

¹¹²See Weiss E B "Our Rights and Obligations to Future Generations to Preserve the Global Environment" (1990) 84 *American Journal of International Law* 198 199. See also Weiss E B *In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity* (1989) 2.

¹¹³See UNICEF & UNEP (1990) (note 109) 4.

¹¹⁴See Thornton J & Beckwith S (2004) (note 28) 46.

¹¹⁵See Bosselman K (2008) (note 74)59.

¹¹⁶See Bucknum S (1998) (note 1) 317.

involvement of all persons, it is a prerequisite that the general public should be accommodated in the decision making process in respect of sustainable forest management.

1.4.8 THE ROLE OF THE LAW IN THE SUSTAINABLE MANAGEMENT AND CONSERVATION OF FOREST RESOURCES

The challenge is to consider the strategy that is appropriate to implement sustainable forest development in Kenya and to incorporate into that strategy principles that will drive sustainable forest management. In order to attain sustainable forest management, it is acknowledged that the law is an important tool in a range of management instruments available to forest managers. Law has an important educative and normative role in moulding public attitudes.¹¹⁷ Government should therefore provide an effective legal and regulatory framework, ensuring that laws promoting sustainable development are introduced and that the laws are made effective. Again, strategies should be developed to maximize compliance with the laws relating to sustainable forest management.¹¹⁸

Current conservation law is based mainly on an anthropocentric philosophy. The basic tenet of this philosophy is that natural resources are to be exploited for the benefit of mankind. The welfare of mankind is therefore to be accorded primary importance in any regime for environmental conservation. The conservation of natural resources is justified on the basis of stewardship, that is, the idea that present generations should hold environmental assets in trust for future generations.¹¹⁹ Forestry law must therefore cater for a multiplicity of articulated goals, adopt an integrationist structure and must exhibit standards that hold people accountable.¹²⁰

¹¹⁷See Herbert C (1996) (note 69) 1209.

¹¹⁸See Herbert C "Sustainable Development: Some Legal Strategies for a Small Island State" (1998) 24 *Commonwealth Law Bulletin* 563 592.

¹¹⁹See Zellmer S & Gunderson L "Why Resilience May Not Always Be a Good Thing: Lessons in Ecosystem Restoration from Glen Canyon and the Everglades" (2009) 87 *Nebraska Law Review* 893 899.

¹²⁰See Arnold GA & Gunderson LH "Adaptive Law and Resilience" (2013)43 *Environmental Law Reporter* 10426 10428.

The alternative philosophical approaches include the biocentric and ecocentric viewpoints. The biocentric viewpoint advocates that in any scheme for environmental protection, plants and animals should have rights which are equal to those of humans. On this view, animals and plants coexist with mankind in nature and are deserving of protection for their own sake. The ecocentric viewpoint adopts a holistic approach to the environment and holds that humans, animals and plants have value only as part of an ecological system. Plants are thought to have an intrinsic right to protection which is independent of the uses to which they are put to by animals and human beings.¹²¹

The study argues that Kenya's forest conservation initiatives should respond to changed economic and ecological circumstances. New regulatory and multifaceted approaches, using a number of regulatory and non regulatory tools may be needed to adequately deal with sustainable forest conservation issues.¹²²

The study takes an anthropocentric approach, acknowledging Kenya's forests to be of great importance, but maintaining that there would be justification for their use where the overall contribution to human welfare is substantial.¹²³

The study advocates that the sustainable management of Kenya's forest resources must involve cultural, economic and ecological challenges. The stress posed by increased population and accelerating development, must therefore embrace the concept of sustainable development, which must meet the needs of the present without compromising the ability of future generations to meet their own needs.¹²⁴ This will require an era of economic growth for nations in which the majority are poor, and an assurance that those poor get their fair share of the resources required to sustain that growth.

¹²¹See Thornton J & Beckwith S (2004) (note 28) 7.

¹²²See McEldowney J & McEldowney S *Environmental Law* (2010) 15.

¹²³See Bell S & McGillivray D *Environmental Law* (2006) 58.

¹²⁴See Angelo MJ "Stumbling Towards Success: A Story of Adaptive Law and Ecological Resilience" (2009) 87 *Nebraska Law Review* 950 952.

Such equity should be supported by effective citizen participation in decision making and a further requirement that the more affluent adopt lifestyles that are within the planet's ecological means.¹²⁵

1.5 LITERATURE REVIEW

There is very little literature on the law relating to forest management and conservation in Kenya. However, there is plenty of literature as relates to forests as an aspect of the environment. This is perhaps because until the 1990s, economic development was largely viewed as separate from environmental management and conservation.¹²⁶

This view largely contributed to the unsustainable development patterns through which accelerated deforestation and loss of biodiversity occurred. Forestry law is still, however, an emerging branch of the law, particularly as pertains to developing countries.¹²⁷ Since 1968 when Kenya's forest policy was properly articulated, forestry is no longer regarded as a separate sector. It is now recognized that forestry must be integrated with other sectors and as such, the law must be revised to address new concerns and realities.¹²⁸ The Constitution, legislation, and case law were the main primary sources of research. These documents provided a basis upon which to analyse the extent to which sustainable forestry management and conservation principles are incorporated into Kenyan law.

The Constitution of Kenya is examined for the purposes of assessing how the right to a sound and healthy environment as well as forestry conservation issues are incorporated into the Constitution. The framework statute, the Environmental Management and Coordination Act, is examined as regards the pertinent provisions for environmental governance and the promotion of sustainable development in Kenya. Its strengths and weaknesses as related

¹²⁵See WCED (1987) (note 3) 8.

¹²⁶See Republic of Kenya (2008) (note 76) 125.

¹²⁷See Herbert C (1998) (note 118) 593.

¹²⁸IUCN – The World Conservation Union *Forest Cover and Forest Resources in Kenya: Policy and Practice* (1996) 3.

to the implementation of the Act as well as coordination of the diverse sectoral initiatives in relation to forestry are examined.

The Forests Act is relied on to provide the main legal strategies employed by Kenyan law to ensure sustainable management and conservation of Kenya's forests. The Act offers guidance and identifies the various stakeholders who are involved in the conservation of forests in Kenya. It creates the Kenya Forest Service and empowers it to manage and conserve forests in Kenya. It provides for the various techniques of conservation and establishes standards on the accepted conduct in relation to forests and sets out the penalties in the event of any breach of the Act.

An attempt to review the available literature on the law relating to forest management and conservation is a formidable task, given the many articles, papers, and books that have been written. This section will highlight only the major writings on the topic and as far as possible, point to the gaps in such literature.

A number of authors have written extensively on forests and their importance.¹²⁹ These authors take a broad perspective on ecology and the value of forests from around the world. They reveal facts about the ways in which forest resources have been destroyed and suggest ways in which forests can be sustainably managed by strategies such as ecolabelling, allowing only timber from sustainably managed forests to reach the market. These authors address the utilization benefits of forest resources. They argue that new institutional arrangements with the involvement of the private sector and local communities will need to be catered for in forest conservation initiatives.

¹²⁹For example Park C *Tropical Rainforests* (1992); Carwardine M *The WWF Environment Handbook* (1990).

A second category of authors¹³⁰ address the issue of forest management in good economics, in terms of efficient allocation of scarce resources, can help stem the loss of the world's forest resources. These authors underline the fact that inappropriate trade and tax policies, distorted investment incentives and shortsighted development priorities contribute to the alarming loss of forest resources.

A third category of authors¹³¹ have espoused the concept of sustainable development as the best approach to ensure the conservation of forest resources. They argue that to adopt a strictly preservationist stance in plant conservation would lead to worldwide starvation through nonuse of resources. To hold to uncontrolled consumption and exploitation risks leading to the same end point through exhaustion of resources. The challenge is to seek a middle stance of promoting conservation, but also supporting controlled exploitation. They offer an approach to sustainable development in terms of not depleting forest resources, but call for an application of economic incentives in the sense that economic values of any exploitation process must also be considered in the course of exploiting forest resources. These works emphasize the economic as well as the scientific aspects of sustainable development. This study will not address the scientific aspects of forest conservation, a matter which is better left to forest scientists. The study will address the legal aspects of sustainable forest management and conservation.

Other authors examine the participation of third world peasants and forest dwellers in the ecological processes of disappearance of forests.¹³² The authors argue that peasants and forest dwellers do not consume forest

¹³⁰See for example, Given DR *Principles and Practices of Plant Conservation* (1990); UNEP *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (2011).

¹³¹See for example, World Commission on Environment and Development (WCED) (1987) (note 3) 79; Repetto R & Gillis M *Public Policies and the Misuse of Forest Resources* (1988).

¹³²See for example Shiva V *et al* (eds) *Biodiversity: Social and Ecological Perspectives* (1991);Bosselman K (2008) (note 71).

resources in the sense of making a destructive use of them, but that through their cultures and lifestyles, they simultaneously achieve production and conservation, which in itself amounts to conserving the world's biodiversity.

However, viewed in the sense of poverty and underdevelopment, this process may actually lead to the destruction of forest resources if poverty is not tackled. John Bruce¹³³ opines that common property regimes for forestry management need to be pursued, but that their effective realization will require clearly articulated and strong legal frameworks. The author proposes that today's designers and managers of development and conservation should support community resource management as part of their projects. Greater control and use of resources by local communities not only generates an income, but also ensures sustainable use and management of forests as well as alleviate poverty.

On the issue of the role of law, a fourth category of authors identify a number of basic legal instruments and techniques that the law may apply to achieve the ethic of conservation. They set out in very clear terms the known legal instruments for the sustainable management and conservation of environmental resources.¹³⁴ While these texts may not specifically address forestry issues, mention of instruments such as police powers, public ownership of conservation areas, compulsory purchase, tax incentives and regulatory measures are all relevant instruments with respect to forest conservation. By analogy, a number of these instruments are applicable to the area of forestry law.

Okidi C O and Mbote P K,¹³⁵ document the process leading to the promulgation of the Environmental Management and Coordination Act, which

¹³³Bruce J "Property Rights Issues in Common Property Regimes for Forestry" in World Bank (2003) *The World Bank Legal Review: Law and Justice for Development* 257.

¹³⁴See for example Klemm CD & Shine C *Biological Diversity Conservation and the Law: Legal Mechanisms for Conserving Species and Ecosystems* IUCN Environment Policy and Law Paper No. 29 (1993).

¹³⁵See for example Okidi CO & Mbote P K *The Making of a Framework Environmental Law in Kenya* (2001).

is the framework environmental law in Kenya. They explain the rationale and the context of the law, and how environmental techniques and procedures are incorporated in the law. It is noted however, that the Forests Act, came up much later in 2005, and it will be necessary to identify certain aspects of these texts which allude to any weaknesses that were in the law before 2005.

They propose that for property rights to engender sustainable management of biological diversity in Kenya, account has to be taken of diverse notions, actors and interests including communities and customary tenure arrangements. The authors propose that tenure regimes should be aligned to land use systems to ensure that there is synergy between ownership and the use of land.

They provide the reader with a clear and current picture of the framework of environmental regulation and highlight major themes and principles and provide practical examples of the law in operation.

A fifth category of authors¹³⁶ are spot on in a number of the issues they raise. They identify some of the difficulties of enforcing environmental law in Kenya. They specifically identify the issue of inconsistency between the framework environmental law and the sectoral statutes including the Forests Act.

The authors offer rationalized approaches to the harmonization and enforcement of environmental law in Kenya. Indeed, they discuss the Forests Act and its shortcomings, an aspect which this thesis addresses.

On the international law front, Birnie *P et al*¹³⁷ and Philippe Sands, have identified the various techniques of implementing international rules and principles, complete with discussions on biological diversity which is quite

¹³⁶See for example Ogolla DB "Role of Environmental Law in Development" (1987) *Journal of the Indian Institute of Law* 187; and Okidi C O *et al* (eds) *Environmental Governance in Kenya: Implementing the Framework Law* (2008).

¹³⁷Birnie P *et al* *International Law and the Environment* (2009); Sands P *Principles of International Environmental Law* (2003).

relevant to the current study. They have examined the conservation of forests as part of the natural ecosystem under the Convention on Biological Diversity.¹³⁸

In so far as the policy dimension is concerned, various policy documents developed by the government of Kenya will provide the background upon which forestry issues have been handled by the government in the past. Key among these policy documents are those policies that were made after Kenya became independent, aimed at clearly stating the government's aims in this vital field of development.¹³⁹

Subsequent policies examined various challenges inherent in the forestry sector among which are increased pressure to change forest land to other uses such as settlements and agriculture, overdependence on forests for timber and wood fuel, inadequate existing legislation as regards sustainable use of forest resources, lack of communal participation in sustainable forest management, lack of incentives and the need to review existing law and policy to achieve sustainable use, management, and conservation of forestry resources.¹⁴⁰ Other documents emanating from the government of Kenya explain the policy direction in respect of forest issues. The current development plan, identifies some of the challenges as well as the proposed strategies to meet these challenges.¹⁴¹

The policies observe that Kenya's current institutional framework to manage the environment is characterized by fragmentation. They call for a policy framework to harmonize environment related laws and institutions, and to promote the capacity for collective enforcement of environmental standards. They call for a policy and institutional reform for stricter enforcement to be able to achieve the objectives of Kenya Vision 2030. They propose to

¹³⁸Signed on June 5, 1992, Rio de Janeiro (1992) 31 *International Legal Materials* 822.

¹³⁹See for example Republic of Kenya (1968) (note 4).

¹⁴⁰Republic of Kenya *Sessional Paper No. 6 of 1999 on Environment and Development* (1999); Republic of Kenya *Kenya Forestry Master Plan* (1994) and Republic of Kenya *Sessional Paper No. 9 of 2005 on Forest Policy* (2005).

¹⁴¹Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya* (2007).

intensify the conservation of forests in a sustainable manner without compromising economic growth.

They propose to achieve 10 percent forest cover by 2030 and propose to employ the use of market based environmental instruments including selective incentives and disincentives to reward good practices and penalize harmful practices in environmental management. A recent policy document details some of the cases of forest degradation in Kenya with specific reference to the Mau forests complex.¹⁴² From a legal perspective, the taskforce observed that the forest specific legal regime was either abused or disregarded altogether in the practice of illegal and irregular allocation and adjudication in the Mau forests complex.¹⁴³ It goes on to recommend that existing laws and regulations should be fully implemented to ensure that forest conservation is taken into consideration in land registration, administration and management country wide.¹⁴⁴

The contributions of a number of these authors will set the background upon which Kenya's forestry law will be examined. However, they lack an incisive discussion of the interaction between man, forestry and the role of law in that interaction. Most of these works do not bear a 'Kenyan' approach and thus lack the focus which is imperative if essential details are not to be left out. These works do not specifically set out what Kenyan law on forest conservation provides or whether the law achieves the objectives set out by policy instruments. They do not examine the scope of Kenya's law, which the researcher intends to do in the present study. A number of these contributions relate to other jurisdictions, thus lacking the essential focus that the study is intended to direct itself to. They are however, useful for purposes of analogy.

On the whole, however, the foregoing review indicates that a comprehensive

¹⁴²Republic of Kenya *Report of the Government's Task Force on the Conservation of the Mau Forests Complex* (2009).

¹⁴³Ibid 40.

¹⁴⁴Ibid 52.

and an up-to-date assessment of Kenya's law relating to forest conservation is necessary. The existing literature, no doubt, addresses some aspects of the problems posed for forest conservation efforts, but gaps remain which need to be filled. These include the incorporation of constitutional principles such as the right to a healthy and clean environment into the general law of forestry, application of the basic principles of environmental law into forest conservation, incentive and disincentive mechanisms, population policies and the expansion of the concept of *locus standi* to allow for class actions to protect forests.

The main literature materials to be relied on in this study will consist mainly of official reports of international organizations, international conventions, United Nations documents and Government of Kenya publications. Reliance will also be placed on various pieces of legislation passed by the Parliament of Kenya, although reliance will also be placed on the laws of other countries for comparative purposes.

1.6 RESEARCH METHODOLOGY

This study is a critical analysis of Kenya's law relating to sustainable forest management and conservation. It involves literature study of books, journals, articles, legislation, case law and international instruments. Among the primary data relied on are statutes, official government reports, court records, rulings and judgments. The Constitution of Kenya¹⁴⁵ was examined to provide the background to the law on the environment. The Forests Act was relied on to provide the legal framework, as well as the main strategies for forest conservation.

Other sectors of the economy such as agriculture and wildlife are governed by statutes which have an impact on forest conservation and were also examined to ascertain the extent to which the law holistically addresses forest conservation issues in relation to these sectors.

¹⁴⁵Republic of Kenya *The Constitution of Kenya* (2010).

The major international instrument studied is the Convention on Biological Diversity. It provided a good background upon which to compare the legal strategies for forest conservation at international level and whether Kenya's law captures some of the provisions of this Convention.

Among the secondary materials relied on were articles, research papers, textbooks, periodicals, newspapers and magazines. From these materials, information relating to matters such as the rationale for the conservation of forests, problems facing forests, the various techniques for the conservation of forests and how effective these techniques are, were obtained. The research employed practical procedures which involved the consultation of major publications on the subject. Law libraries at the University of South Africa, Moi University, Kenya, University of Nairobi, Parklands, and the United Nations library at Gigiri, Nairobi, were used.

Visits were also made to the Ministry of Environment and Natural Resources, Nairobi, the Kenya Forest Service, Nairobi, the National Environment Management Authority, Nairobi, The Kenya Wildlife Service, Nairobi, and the Kenya Forest Service Conservancy offices at Eldoret to consult the experts in the field and to review primary documents. In-depth, semi-structured interviews were conducted with legal experts from the Kenya Forest Service, the National Environment Tribunal, The Ministry of Environment and Natural Resources, the National Environment Management Authority, the United Nations Environment Programme, and the National Museums of Kenya. The discussions made with the officials of these stakeholders enlightened the researcher on important aspects of the study and gave opportunity for the collection of primary data.

The research applied qualitative techniques to analyze the primary and secondary data collected. This technique underscores the fact that law is a social science. It therefore takes an intensive examination of the role of law in the sustainable management and conservation of forest resources. The study is grounded on the concepts of sustainable forest management, conservation, intergenerational and intra-generational equity, which form the building blocks

for sustainable management and conservation of forests. It then examines the insights and the qualities of Kenyan forestry law, largely based on existing literature, both published and unpublished, and on secondary data, with a view to addressing its weaknesses.

The study is both descriptive and prescriptive. The descriptive part of the study analyses aspects of sustainable forest management and conservation, specifically, the legal and policy dimensions of sustainable forest management and conservation. Due to the Kenyan focus of the study, matters of relevance to Kenya are identified and discussed in detail. The section of the study on legal strategies, policy and law as well as the recommendations, are more prescriptive in nature.

1.7 FRAMEWORK OF THE THESIS

Chapter one of the thesis addresses the scope and outline of the study. It examines the conceptual clarification, theoretical framework, research methodology, and gives an overview of the succeeding chapters.

Chapter two examines the rationale for the conservation of forest resources. It examines this issue from two perspectives, namely, providing a basis for the proper management and conservation of forest resources and the need to counter the various threats to forests.

Here, the study emphasizes the value of forests and their resources to man and the utilitarian benefits of forests. It underscores the aesthetic, medicinal, industrial, ethical, philosophical and environmental benefits of forests.

Among other major subtopics in this chapter are the importance of Kenya's forests, their economic value, the environmental role of forests and the importance of the law in sustaining these values.

In this chapter, the factors that contribute to the depletion of forest resources are examined. It discusses problems facing forests, including issues of population growth, extensive agriculture, commercial exploitation of forests

and trade in forest products as issues necessitating the intervention of the law to protect forest resources.

Chapter three sets out the techniques that are applied in order to achieve forest conservation. The chapter is examined by way of an exploration of the ways in which law acts in order to protect forests. It examines the role of law in establishing forest reserves, stemming the destruction of forests, laws relating to land taxation and how the law can be formulated with a view to achieving a balanced utilization of land.

It also examines how law may, by making provisions relating to environmental impact assessment, deforestation, ecosystem conservation, payment for forest ecosystem services, use of police power and eminent domain, offer incidental protection to forests. Other strategies are public education programmes, citizen participation, co-management, eco-labelling, putting an end to incentives to clear virgin forests and the promotion of research on forest conservation. The role of the law here is to ensure that these strategies are properly applied for conservation purposes.

The chapter incorporates the provisions of the Convention of Biological Diversity, particularly relating to forest conservation. The chapter explores the contribution of this treaty to the development of forest law and makes reference to the Non Legally Binding Forest Principles. It is then possible to tell how broad the techniques for the conservation of forests are at the international law level.

Chapter four sets out the techniques of forest conservation under Kenya's forest law. It juxtaposes this with the information set out in chapter three. It then examines the legal framework relating to forest law and determines how policy requirements are implemented by the law. At this point, it is possible to underscore the inadequacy of Kenya's law in relation to its incorporation of the various forest conservation strategies, as well as its effectiveness in achieving policy requirements. The study also explores the adequacy of the law by examining how far the broad legal obligations which are assumed by

Kenya under the Convention on Biological Diversity, are implemented by the domestic legal framework.

Chapter five concludes the study and makes recommendations for the better management and conservation of forest resources under Kenya's forestry law.

1.8 SUMMARY

Kenya's forests play a vital role in the stabilization of soils and groundwater, thereby supporting the conduct of reliable agricultural activity. They play a crucial role in protecting water catchments and moderate climate by absorbing green house gases.

Kenya's forests are also the main locus of Kenya's biological diversity and are a major habitat for life. They are the main source of domestic fuel wood for the Kenyan people and provide raw materials for wood based industries and a variety of non-wood forest products.

It is therefore necessary that the country adopts sustainable use of forestry resources and promote the sustainable management, conservation and utilization of forests for the benefit of present and future generations. The country's legal regime must therefore facilitate strong participatory and deliberative governance of local communities and ensure that legal institutions value ecosystem services which benefit human society and the economy. Legal principles and rules must therefore pervade fields of law that are not narrowly defined as forest law to include the area of property law, land use law, agricultural law, constitutional law and human rights.

The heritage of future generations depends on the adoption and implementation of policies designed to conserve forest resources and to create a proper environment upon which sustainable use of the resources may be enjoyed. The thoughtless destruction of forests and productive land threatens the existence of the present and future generations and must be brought under control. A national land use policy and legal regime that puts

into account the protection of forest resources must be created. This situation underlines the need for conservation, comprising the ecologically sound management of productive systems and the maintenance of their viability and versatility. In the case of the forestry sector, conservation refers to that aspect of management which ensures that utilization is sustainable and safeguards the ecological process and genetic diversity essential for the maintenance of the resources concerned.¹⁴⁶ The integration of forest conservation and development is particularly important, because unless patterns of development that also conserve living resources are widely adopted, it will become impossible to meet the needs of today without foreclosing the achievement of tomorrow.¹⁴⁷

Indeed, it has been observed, that the challenge facing nations today is no longer deciding whether conservation is a good idea, but rather how it can be implemented in the national interest and within the means available in each country.¹⁴⁸

Chapter two examines the case for the conservation of Kenya's forests.

¹⁴⁶See Given D R (ed) *Principles and Practice of Plant Conservation* (1991) 1.

¹⁴⁷Ibid 2.

¹⁴⁸See Crispin T "Environment on the edge" (2008) *Mercer Law Review* 719. The author notes six main factors which are pushing the environment towards the edge being human population increase, degradation of land, consumption of resources, accumulation of wastes, destruction of biodiversity and climate change in its many aspects.

CHAPTER TWO
THE RATIONALE FOR THE SUSTAINABLE MANAGEMENT AND
CONSERVATION OF KENYA'S FORESTS

2.1	INTRODUCTION
2.2	DISTRIBUTION OF FORESTS IN KENYA
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2.6	SUMMARY

2.1 INTRODUCTION

The reasons for advocating the conservation of forests are varied. They range from the belief that all plants have a right to exist to the belief that future generations of people have a right to expect adequate resources.¹ Forests hold a wealth of treasures and play roles of worldwide importance.² They are key components of the global carbon cycle; help maintain regional air, water and soil quality; conserve biological diversity and are a major habitat for wildlife.³

¹See for example Duffy R *Killing for Conservation: Wildlife Policy in Zimbabwe* (2000) 4.

²Royer M B "Halting Neotropical Deforestation: Do the Forest Principles Have what it takes?" (1996) 6 *Duke Environmental Law and Policy Forum* 105.

³Republic of Kenya *Sessional Paper Number 6 of 1999 on Environment and Development* (1999) 29.

They supply forest products and are revenue earners for individuals, communities, the Government, the private sector and the Kenyan nation as a whole.⁴ On the other hand, the use of forest resources has led to the destruction of forests to the extent that this is threatening ecological functions.⁵ These functions include the prevention of soil erosion, protection of water catchments, wildlife habitat and the conservation of valuable gene pools of flora and fauna. Forest loss has negative impacts on agriculture and the tourism industry, which are vital to the Kenyan economy.⁶

It should also be noted that although we are examining forests within the national jurisdiction of Kenya, forests are really global commons, whose benefits are enjoyed worldwide.⁷ It has therefore been noted that:

from an ecological point of view, forests are the repository of the great bulk of terrestrial biodiversity. In some countries... forest destruction is responsible for global biodiversity losses on the order of 2 to 5 percent per decade, resulting in inestimable harm to ecosystem stability and human wellbeing. Forests also contain large amounts of sequestered carbon, and their destruction or degradation (especially by burning) is thought to contribute between 10 and 30 percent of all carbon dioxide gas emissions into the atmosphere.⁸

In recent years, deforestation of Kenyan forests has increased at alarming rates. It is estimated that between 1990 and 2010, Kenya lost an average of 12,050 hectares of forest or 0.32% per year. In total, between 1990 and 2010, Kenya lost 241,000 hectares of forest.⁹ In response to this trend, there has been increasing need to understand the causes of deforestation and to understand the ways in which the problem may be resolved.

⁴Ogeno J O "The Earth: Its Environmental Systems and Resources" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 67 87.

⁵*Ibid.*

⁶Ogeno J O (2010) (note 4) 88.

⁷Royer M B (1996) (note 2) 106, but see also, Blackhus J M *et al* (eds) *Conserving Biological Diversity in Managed Tropical Forests* (1992) who underscore the riches of tropical forests in plant and animal species, biological diversity and the fact that the extinction of any species may cause domino like effects.

⁸See Bhargava V "Introduction to Global Issues" in Bhargava V (ed) (2006) *Global Issues for Global Citizens: An Introduction to Key Development Challenges* 1 14.

⁹See Mongabay.com – Environmental News - Kenya Forests Information and Data <http://rainforests.mongabay.com/deforestation/2000/Kenya.html> (accessed on 10 June 2011).

2.2 DISTRIBUTION OF FORESTS IN KENYA

Forests in Kenya cover a total area of 37.6 million hectares of which 2.1 million hectares are woodlands, 24.8 million are bushlands and 1.07 million hectares are wooded grasslands. Although they cover about 2 percent of the land area of Kenya against a world benchmark of 10 percent, they contain 50 percent of the nation's tree species, 40 per cent of the larger mammals and 30 percent of the birds.¹⁰

Most indigenous forests are found in the central highlands where rainfall is high, soils are fertile and human settlement is limited. The greater part of closed canopy indigenous forest cover occurs in large gazetted forest blocks in the mountain forest zone. They form part of extensive, contiguous forest areas which constitute the protected areas of Mount Kenya National Park and the Aberdare National Park. In the arid and semi arid lands, forests are found in isolated mountain ranges and narrow bands along rivers. These cover Isiolo, Marsabit, Garrisa, Mandera, Wajir and Turkana Counties.¹¹

There is potential conflict between closed canopy forest and agriculture because these forests occur in the areas most suitable for many agricultural crops, including the staple crop, maize. Not surprisingly, much of the potential forest area has been cleared of natural vegetation and converted to agricultural land. This include the South West Mau Forest Range which include Transmara, Olpusimoru, Maasai Mau, West Mau, Mt. Londiani, Kilombe Hill, Maji Mazuri, Tinderet, Timboroa, Nabkoi, Metkei and Chemorogok forests. These forests have, however, been fragmented by commercial plantation forests mainly in the fertile areas using exotic species.¹²

¹⁰See Kenya Institute of Policy Research and Analysis (KIPPRA) *Inequality, Poverty and the Environment in Kenya* (2009) 28.

¹¹Ibid.

¹²See Wass P (ed) *Kenyas Indigenous Forests: Status, Management and Conservation* (1996) 8.

2.3 THE IMPORTANCE OF KENYA'S FORESTS

All human beings, no matter where they live, depend on plants for food, clothing, shelter and fuel.¹³ Even when we use things obtained from animals, plants are used indirectly because all animals ultimately depend on plants, for their energy.¹⁴ It follows that forests, which house half of the world's plants, are extremely important to mankind. The *Non Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Development of All Types of Forests*,¹⁵ emphasizes on the wealth of benefits that forests play in ecological processes, such as watershed maintenance and biodiversity protection.¹⁶ The forests also serve to meet the needs of present and future generations including wood and non wood products, water, food, recreation, habitats for wildlife, landscape diversity, carbon sinks, reservoirs and other forest products.¹⁷ Kenya's forests are important for economic, environmental, ethical and cultural reasons, which are examined below.

2.3.1 THE ECONOMIC VALUE OF SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

Kenya's forests offer both direct and indirect economic value to the Kenyan people. These may be classified as follows:

2.3.1.1 Wood and Non-Wood Products

Local communities in Kenya, particularly in the rural areas, depend on forests for the provision of wood, fuel-wood and non-wood products for their livelihoods. Kenyan forests contribute about 95% of the total rural domestic energy.¹⁸ The Forest Principles point out that forests are important energy sources especially in developing countries.¹⁹ The demand for wood

¹³See Aseka E M "Human Settlement" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 135 142.

¹⁴Given D R *Principles and Practice of Plant Conservation* (1991)1.

¹⁵June 13 1992 (1992) *International Legal Materials* 881 (hereinafter called 'the Forest Principles').

¹⁶See Principle 4 of the Forest Principles.

¹⁷See Principle 2(b) of the Forest Principles.

¹⁸Republic of Kenya *National Development Plan 2002 – 2008* (2002)124.

¹⁹See Principle 6(a) of the Forest Principles.

production which stands at 13.7 million cubic metres is expected to outstrip the sustainable supply coming from the indigenous forests, plantations and the arid and semi arid lands.²⁰ The known volumes and the net economic values for a sustainable extraction of timber, poles and fuelwood gave a direct value of Kenya shillings 3.64 billion as at 1994.²¹ Timber accounted for 75% of this value. The direct use value of the indigenous forests was Kenya Shillings 169 million as at 1994 royalty rates payable to the government.²² Recent estimates indicate that between 1990 and 2010, Kenya lost an average of 12,050 hectares or 0.32% of its indigenous forest cover.²³ In total, between 1990 and 2010, Kenya lost 6.5% of its forest cover or around 241,000 hectares.²⁴ A considerable portion of wood fuel including charcoal, still comes from indigenous forests, especially from arid and semi arid lands.²⁵ Without intervention with a view to conserving the forests, a deficit between supply and demand for wood fuel is projected to increase and the imbalance is estimated to lead to a severe loss of savannah woodlands and closed canopy forests.²⁶ Kenya's forests are therefore significant in terms of their contribution of wood and non-wood forest products to the national economy.

2.3.1.2 Leisure and Educational Importance

Many wild species of plants are irreplaceable sources of wonder, inspiration and joy to humans because of their beauty, intriguing appearance, variety or fascinating behaviour.²⁷ This aesthetic value has only partially been measured

²⁰Republic of Kenya (2002) (note 18) 124.

²¹Republic of Kenya *Kenya Forestry Master Plan* (1994) 61. Note that there are no recent statistics on this point.

²²Ibid.

²³See Mongabay.com (2000) (note 9).

²⁴Ibid.

²⁵Republic of Kenya *The Kenya National Environment Action Plan Report* (1994) 22. The last authoritative statement on this issue remains the *Kenya National Environment Action Plan Report* (1994) currently under review.

²⁶Ibid.

²⁷See Darlong V T "People, Forests and Biodiversity Aspects of Conservation Options in North East India" in Kotwal P C & Banerjee S (eds) (2004) *Biodiversity Conservation in Managed Forests and Protected Areas* 167 179.

in terms of economic value, through activities such as forest visits and forest photography. In 1992, approximately 120,000 visitors entered national parks where indigenous forests form a major part of the overall environment and provide a habitat for many animals. It is not possible to estimate the educational and research value of forests.²⁸ Recent statistics indicate that earnings from wildlife and forest based tourism expanded by 14.9% from Kshs.48.9 million in 2005 to 1.6 billion in 2006.²⁹ Many scientific and social studies are carried out in areas of natural forest yielding local, regional and sometimes global benefits as well as to the individuals who carry them out.³⁰

2.3.1.3 Forests as a Source of Food and Medicine

Since the dawn of history, humans have drawn heavily on certain plants to satisfy their need for food.³¹ Selection of particular plants has led to the development of major crops such as rice, barley, maize, wheat and potatoes.³² At least 75,000 plants are edible.³³ Plants are basic to the food requirements of all people, yet the main food resources of the world depend on the sustainable management and conservation of forest resources. In underscoring this fact, Mathew B. Royer states:

Currently, 85% of the world's food supply comes from twenty flowering plant species, and two thirds from just three: corn, wheat and rice. Forests house an estimated 250,000 species, the majority of which are undiscovered by agricultural scientists, much less cultivated.³⁴

Some plants grow well in areas where problems of starvation persist, and where it has been difficult to grow maize, wheat or rice. One such plant, the weedy tomato species *lycopersicon chmielewskii*, was discovered inadvertently in the remote highlands of Peru. Seeds from this tomato were used by plant geneticists to produce a much valued larger fruit of higher sugar content.³⁵ Some of the food products from Kenya's forests include honey,

²⁸Republic of Kenya (1994) (note 21) 62.

²⁹See Wishitemi B E L *Sustainable Community Based Conservation and Tourism Development Adjacent to Protected Areas in Kenya* - Moi University Inaugural Lecture Series No. 3 (2008) 7.

³⁰See Republic of Kenya *Sessional Paper Number 9 of 2005 on Forest Policy* (2005) 17.

³¹See Ogeno J O (2010) (note 4) 68.

³²Ibid.

³³Given D R (1991) (note 14) 4.

³⁴Royer M B (1996) (note 2) 109.

³⁵Ibid.

fruits, essential oils, edible oils, alcohols, sweeteners, flavourings and spices.

The Kenya Forest Service has noted thus:

The forest sector contributes both tangible and intangible benefits to the Kenyan society ...the sector contributes in excess of Kshs.20 billion worth of goods to the economy annually and employs over 50,000 people directly and another 30,000 indirectly. In addition, over 1 million households living within a radius of five kilometres from the forest reserves depend on forests for cultivation, grazing, fishing, food, fuelwood, honey, herbal medicine, water and other benefits.³⁶

Another role of forests is that they are an important source of new drugs and medicines.³⁷ Seventy percent of the plants known to have anti-cancer properties come from forests.³⁸ Most of these plants have been introduced to modern medicine by traditional people who lived in the forests themselves.³⁹ Other pharmaceutical products from plants include alkaloids such as quinine and others used in drugs to treat hypertension, childhood leukemia and Hodgkin's disease.⁴⁰

In Kenya, fifty-eight tree species in the indigenous forests have been identified as supplying medicinal bark.⁴¹ Species which are being extensively exploited for bark include *Warburgia Ugandensis* in the Nairobi forests and *Olea Capensis* in the Kakamega forest for medicinal use.⁴² Each species represents a rich and usually unexplored reservoir of genes that could be of enormous benefit to medicine and agriculture. As the trees are cut or burnt, undiscovered sources of food, cures for cancer and solutions to many other mysteries disappear forever.⁴³

³⁶See Kenya Forest Service *Strategic Plan 2009 – 2014* (2009) 10.

³⁷Java R I & Srivastav A "Biodiversity Conservation Strategies for the 21st Century" in Kotwal P C & Banerjee S (eds)(2004) *Biodiversity Conservation in Managed Forests and Protected Areas* 16 17.

³⁸Ibid.

³⁹Nations J D "Terrestrial Impacts in Mexico and Central America" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 197. This point is discussed later in part 2.3.3 below.

⁴⁰See Carwardine M *The WWF Environment Handbook* (1990) 50.

⁴¹Republic of Kenya (1994) (note 25) 22.

⁴²See Republic of Kenya (1994) (note 21) 53.

⁴³See Carwardine M (1990) (note 40) 47.

Forests provide a rich reservoir of genes which can be incorporated by cross breeding into cultivated plants to improve their yields, disease resistance, environmental adaptation and many other factors important to agriculture. In Mexico for example, a wild relative of modern maize, *Zea Diploperennis*, has recently been discovered that could revolutionize maize farming in many countries.⁴⁴ It appears to be resistant to at least four of the eight major diseases that until now, maize breeders have been unable to tackle. Although this plant at first seemed to be just another weed, human society is now likely to be better off because this apparent weed was not eliminated by conversion of its entire natural habitat to agriculture or other uses.⁴⁵

The food value of forests mainly benefits forest dwellers and a wide variety of nuts, game, honey and other foodstuffs are available.⁴⁶ The values of these yields are underestimated since they hardly ever register as market transactions and for the most part, benefit weak cultural minorities.⁴⁷ Obare and Wangwe have observed that:

the Ogieks always relied on forests as a source of livelihood. Honey harvesting, hunting, gathering of wild fruits and nuts from the forests have been their occupation.⁴⁸

However, some medicinal substances, albeit in their raw form, are taken from the forests into commercial channels.⁴⁹

2.3.1.4 Providing Raw Materials for Industry

The forestry sector supports a variety of industries which provide employment for over one hundred thousand people. There are nearly 450 sawmills in the

⁴⁴Ledec G "New Directives for Livestock Policy: An Environmental Perspective" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 39.

⁴⁵Ibid.

⁴⁶Java R I & Srivastav A (2004) (note 37) 17.

⁴⁷See Obare L & Wangwe J B "Underlying Causes of Deforestation and Forest Degradation in Kenya" <http://www.wrm.org.uy/deforestation/africa/Kenya.html>. (accessed on 30 May 2012).

⁴⁸Ibid.

⁴⁹See Spears J & Ayensu E S "Resources, Development and the New Century: Forestry" in Repetto R (ed) (1985) *The Global Possible: Resources, Development and the New Century* 302.

country whose total output is estimated at 200,000 cubic metres of sawn wood a year.⁵⁰ Paper processing is a highly concentrated industry in Kenya. There are six paperboard and paper mills of which the largest, Pan African Paper Mills in Webuye, contributes 80% of the output.⁵¹ The total production of wood and paper is estimated to be US dollars 100 million a year.⁵² Other industrial uses of wood include the extraction of tannin from *Acacia meansii* for the leather industry.⁵³ A broad range of industrial products such as oils, gums, edible oils, tannins and dyestuffs have their origins in forests. These products serve in the manufacture of many items used in daily life such as foods, polishes, insecticides, sedatives and even cosmetics.⁵⁴

While forests are a major national asset for the countries to which they belong, they also have global importance because of their influence on world climate, their biological diversity and the value of the traded products they supply.⁵⁵

2.3.2. THE ENVIRONMENTAL ROLE OF KENYA'S FORESTS

2.3.2.1 Soil Protection

Forests play an important role in soil protection and watershed management. By breaking the impact of severe rainstorms, they protect fragile soils and at the same time hold the water like a sponge, releasing it slowly and steadily into the soil.⁵⁶ When forests are removed, soil erosion becomes a problem and torrential rains cause serious floods.

⁵⁰See Republic of Kenya (1994) (note 21) 184.

⁵¹Ibid 189.

⁵²Ibid 190.

⁵³Ibid 191.

⁵⁴Ibid.

⁵⁵See Kotwal P C & Banerjee S "Biodiversity Conservation in Forests and Protected Areas: Practical Problems and Prospects" in Kotwal P C & Banerjee S (eds) (2004) *Biodiversity Conservation in Managed Forests and Protected Areas* 1 8.

⁵⁶Central Bureau of Statistics & World Resources Institute *Natures Benefits in Kenya: An Atlas of Ecosystems and Human Well being* (2007) 65.

The value of Kenya's indigenous forests as water catchment is valued at Kenya Shillings 2050/=, equivalent to 26 US dollars, per hectare per year.⁵⁷ Some forests, for example the Perkerra catchment area, were gazetted primarily for catchment protection.⁵⁸ In these forests, little or no logging is allowed. Thus, the Kenya Forestry Master Plan summarizes the catchment protection role of Kenya's forests by noting that:

...the effect of uncontrolled loss of forest cover is generally to increase surface flow, which increases flash stream flows and decreases dry season flow. Increased flooding will occur downstream. The erosive potential of surface flow will also be increased leading to higher siltation rates.⁵⁹

It is therefore clear that in order to conserve its soils, Kenya will need to sustainably manage and conserve its forest resources.

2.3.2.2 Carbon Sequestration

Forests are also involved in carbon sequestration which ultimately affects the carbon cycle. Living trees soak up carbon dioxide from the atmosphere and store large quantities of carbon.⁶⁰ When they are destroyed, most of this escapes either immediately if they are burned or within a few years due to biological decay. The carbon is oxidized and returns to the atmosphere as carbondioxide, which is the principal global warming gas.⁶¹ Thus, deforestation contributes to the green house effect by releasing a major green house gas directly into the atmosphere.⁶² Kenya's forests contain 476 metric tonnes of carbon in living forest biomass.⁶³ Such benefits would not only accrue to Kenya but may impact positively on regional climates.⁶⁴

Climate change is now recognized as a real and important global phenomenon, whose impacts are already being felt.⁶⁵ Recent climate change

⁵⁷IUCN *Forest Cover and Forest Reserves in Kenya: Policy and Practice* (1996) 2.

⁵⁸Republic of Kenya (1994) (note 21) 56.

⁵⁹Ibid.

⁶⁰See Carwardine M (1990) (note 40) 54.

⁶¹Ibid.

⁶²See Given D R (1991) (note 14) 33.

⁶³See Mongabay.com (2000) (note 9).

⁶⁴See Salati E "Possible Climatological Impacts" in Downing T E (ed) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 185. See also Central Bureau of Statistics *Natures Benefits in Kenya* (2000) 4.

⁶⁵Noble I & Waston RT "Confronting Climate Change" in Bhargava V (ed) *Global Issues for Global Citizens: An Introduction to Key Development Challenges* (2006) 219.

is mostly driven by human activity, primarily through the release of carbondioxide in the atmosphere resulting from the loss of growing trees, which themselves absorb carbondioxide, and is augmented by carbondioxide that is released by burning, another method of deforestation. In combination with other greenhouse gases, carbondioxide emissions from deforestation may not only influence global climate change, but may also trigger changes in local and regional climates.⁶⁶

In the absence of any serious efforts to reduce net emissions of these greenhouse gases, the effects of climate change on ecological, social and economic systems will threaten the sustainable development of Kenya and its efforts to eliminate poverty.⁶⁷

Climate change may have far reaching implications on Kenya. This is because the country's economy mainly depends on agriculture which is very sensitive to climatic variations. The country also has a fragile highland ecosystem, which is under stress due to population pressure.⁶⁸

Climate change affects the livelihoods of the poor because they are dependent on the natural environment. Poor people depend directly on genetic, species and ecosystem diversity to support their way of life. Climate change is estimated to reduce longterm growth in Kenya by about 2.4 percent of gross domestic product per annum.⁶⁹

2.3.2.3 Reducing Siltation of Dams

When forests are cleared, precipitation rushes off sloped land and causes downstream flooding and soil erosion. Any lost topsoil becomes silt that can damage crops, wipe out fish populations and have serious repercussions on people who survive from farming or fishing.⁷⁰ Siltation caused by deforestation

⁶⁶Woodliffe J "Tropical Forests" in Churchill R & Freestone D (eds) *International Law and Global Climate Change* (1991) 57 58.

⁶⁷Ibid.

⁶⁸Ikiara M *et al Inequality, Poverty and the Environment in Kenya* Kippra Working Paper No. 16 (2009) 58.

⁶⁹Ibid 59.

⁷⁰Republic of Kenya (1999) (note 3) 30.

can cut the lifespan of hydroelectric dams in half by silting in the reservoirs that provide the water used to generate electricity.⁷¹ The Government's taskforce on the conservation of the Mau Forests Complex concluded that these forests are some of the largest tracts of indigenous forest remaining in East Africa and serve a population of 3 million Kenyans around Mau area and millions across the African continent who depend on River Nile.⁷² Removal of natural vegetation in these forests would consequently increase soil erosion, the frequency of flash flooding as well as the rate of siltation downstream.⁷³

Forest loss has also caused negative impacts on the major irrigation schemes by causing severe siltation.⁷⁴ One of the major consequences felt as a result of extensive conversion of the Mau forests complex is that the Sondu river is now more irregular, making it impossible for the Sondu Miriu hydro power plant to run at full capacity in the dry season.⁷⁵ This would also decrease fish catches in Lake Victoria because of the increased siltation of rivers flowing into the lake. Writing on the importance of forests in Latin America as an asset in the fight against floods and other environmental ills, George Ledec has stated:

Despite their economic value and importance to meeting human needs, environmental services are frequently overlooked or underestimated because they are normally public goods, not priced in the market place. Many of the environmental functions provided by forests relate to their watershed protection and soil conservation functions. The loss of forest cover often contributes to floods and landslides during the rainy season, water shortages during the dry season, more rapid siltation of hydro-electric dams, irrigation canals, harbours and other water works; reduced quality of drinking water and decreased downstream agricultural production.⁷⁶

Forest management and conservation should consider broad issues that bind people, resources, development and forests. Consequently, forestry development issues should be considered as integral activities.

⁷¹Ibid.

⁷²Republic of Kenya *Report of the Government's TaskForce on the Conservation of the Mau Forests Complex* (2009) 59.

⁷³Bennun P N & Mwangi A N "Land Tenure and Forest Resource Management" in Juma C & Ojwang J B (eds), (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 176.

⁷⁴Republic of Kenya *Sessional Paper Number 6 of 1999 on Environment and Development* (1999) 30.

⁷⁵Republic of Kenya (2009) (note 72) 61.

⁷⁶Ledec G (1992) (note 44) 36-37.

2.3.2.4 Forests as a Habitat for Wildlife

Forests play an enormous role in the maintenance of ecosystem balance, enhancing the survival of other living creatures and maintaining healthy habitats. Indeed, forests form the basis of primary production upon which all other living organisms depend.⁷⁷ Bamboo forests at high altitudes and mangrove forests along the coast are fragile and threatened ecosystems. Bamboo forests support some of Kenya's rarest large mammals but are easily cleared and converted to agriculture.⁷⁸ It is estimated that 40% of butterflies and over 50% of threatened mammals are in forests.⁷⁹ It has also been reported that the populations of unique wildlife resources such as the Tana River mangabey and the red Colobus have been declining due to excessive forest fragmentation.⁸⁰ While it may be possible to protect certain species from threats, such as poaching, decreasing wildlife habitat portends a more intractable crisis. The Southwest Mau and Transmara forests are critical as loss of other forests might affect wildlife populations in the Masai Mara, the Serengeti and also affect fishing in Lake Victoria if siltation were to increase.⁸¹ Loss of habitat therefore is a fundamental threat for living organisms. All organisms have particular habitat requirements in which they can evolve, survive and produce. Human influence on natural ecosystems cannot be avoided.⁸²

There is need for people to be fed, clothed and sheltered. However, attending to the necessities of life is one thing but excessive and thoughtless damage through excessive use is another.⁸³ Excessive deforestation by communities for agriculture, human settlements and in search for wood fuel, poles and other forestry products should therefore be curbed.

⁷⁷Ogeno J O (2010) (note 4) 87.

⁷⁸Republic of Kenya (1994) (note 21) 22.

⁷⁹See Republic of Kenya (2002) (note 18) 124, See also Ogolla D & Mugabe J "Land Tenure Systems and Natural Resource Management" in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 85 104.

⁸⁰Ogolla D & Mugabe J (1996) (note 79) 93. These are two species of primates endemic to the Tana River delta.

⁸¹IUCN (1996) (note 57) 2.

⁸²Ogeno J O (2010) (note 4) 160.

⁸³See IUCN *Biodiversity in Subsaharan Africa and Its Islands: Conservation, Management and Sustainable Use* (1995) 114.

2.3.2.5 Kenya's Forests and their Biological Diversity

Biological diversity is all life forms and all life processes on which such life forms depend and of which they are part.⁸⁴ Kenya has biological resources that are of considerable domestic and international importance.⁸⁵ It is estimated that there are 8000 to 9000 species of plants in the country of great economic and intrinsic value. Of this, about 2000 species are shrubs and trees found mainly in the arid and the semi arid lands. Forests cover about 2.5% of the local land area of which 85% are indigenous forests. Forest reserves are the habitat of about 25% of the birds and 40% of the mammals in Kenya. Kenya also has 875 species of butterflies, about 1079 species of birds and 379 species of mammals. The forests contain 50% of the nation's tree species, 40% of the largest mammals and 30% of the birds.⁸⁶

One of the most far reaching and irreversible consequences of deforestation is the imminent extinction of numerous plants and animal species. Forests are the most biologically diverse ecosystems on the planet. Many species of plants and animals have localized distribution and cannot survive if their forest habitat is eliminated. Rapid forest clearing can therefore cause the extinction of numerous plant and animal species virtually overnight and most of these species are still unknown to science. Thus, David Given has observed that:

the array of species found on earth can be compared with the books of a library. Once removed, they cannot be readily replaced. More than this, a particular journal rapidly loses value when individual volumes or issues are lost. The analogy for conservation is that series of species, the communities they make up and entire land masses of life, contain information that become rapidly degraded as components become extinct.⁸⁷

There are compelling economic, scientific, aesthetic and ethical reasons for humanity to be alarmed about the rapid loss of species. The economic reason is that numerous wild plant and animal species are undeveloped resources in that they have economic potential that is currently undiscovered or underutilized.⁸⁸

⁸⁴Republic of Kenya (1999) (note 3) 17.

⁸⁵Ibid.

⁸⁶IUCN (1996) (note 57) 2.

⁸⁷Given D R (1991) (note 14) 8.

⁸⁸Darlong V T (2004) (note 27) 174.

Biological resources are essential to human existence and the preservation of biological diversity is necessary for the maintenance and improvement of agriculture, animal husbandry, forestry, fisheries and industry. The rubber tree, *Hevea Brasiliensis*, was once just another Amazonian tree species of unknown value but it is now important for making industrial rubber.⁸⁹ Though impossible to quantify, there is substantial potential for new industrial products from currently unknown or poorly known plant and animal species. There has been little systematic screening of wild plants for many of the types of products used by modern society.⁹⁰ Another example is the jojoba shrub, *Simondsia Chinensis*, of the Southwest United States and Northern Mexico. Jojoba is the only producer of liquid wax in the plant kingdom. The product has numerous industrial applications including the production of oil.⁹¹

Biological resources, unlike petroleum and other forest fuels, are completely renewable but only if care is taken not to destroy them before their value can be realized. Kenya's coastal forests are rich in plant diversity. The Shimba Hills are reported to be the richest forest – Savannah area for plant species in Kenya. The Taita Hills forest contains a number of endemic plants, birds and snakes. Kenyan mountain forests are represented by the Mt. Kenya, Mt. Elgon, Aberdares, Mau Complex and the Cherengani forests, all of which are high in biodiversity and priority areas for conservation so as to ensure the continued supply of environmental goods and services and support other sectors of the economy particularly agriculture, water and tourism.⁹² The Mt. Kenya and Aberdare forests contain threatened birds and mammals including the Jackson Mongoose and the golden cat in the Aberdares. The Mau forests, with an area of 320,000 hectares maintain viable populations of bongo and the giant forest hog. The Western rain forests in Kakamega and Nandi are unique in that they represent the easternmost extension of the west

⁸⁹See Ledec G (1992) (note 44) 39.

⁹⁰See Sayer J A "Biological Conservation Issues in Forest Management" in Blackhus J M *et al* (eds) (1992) *Conserving Biological Diversity in Managed Tropical Forests* 1.

⁹¹Given D R (1991) (note 14) 23.

⁹²See Kenya Forest Service (2009) (note 36) 11.

and central African Guinea -Congolian forest.⁹³ As such, they harbour Central African flora and are distinct from the other forests in Kenya.

The scientific reason for species preservation is that we cannot understand the interactions of life forms and their environments unless we observe how they function in the absence of significant human intervention. It is therefore necessary to conserve comprehensive samples of ecological systems in an undisturbed state. There is not even significant information on the exact composition of these ecosystems or on the manmade and natural changes taking place in them. Thus, Kenton R. Miller has observed that:

of the 250,000 plant species on earth, only one in ten has been investigated in even a cursory way to assess its utilization benefits and only one in a hundred has been examined in detail, that is, in terms of its sub units and their genetic spread . Hence, there is greater scope for systematic exploitation of biological diversity, provided we maintain the resource until we can bring to bear our technological capacity to make use of it.⁹⁴

It, therefore, follows that any reduction in the natural resource stocks represented by biological diversity reduces our ability to respond to new problems and opportunities. The concept of genetic resources applies to much more than the tiny fraction of biological diversity that we have exploited to date.⁹⁵ It encompasses the entire range of genetic variability available to mankind. To the extent that we cannot be certain what needs may arise in the future, it is essential to conserve the genetic resources with which to meet them. The loss of biological diversity with all that it entails in foregone economic opportunities is the paramount issue confronting mankind today.⁹⁶ It is therefore foolish for mankind to allow any loss of genetic resources when our scientific knowledge of these resources is still low. It is for this reason that it has been noted that:

the potential value of indigenous flora in Kenya is largely undiscovered. Thus, the potentially beneficial germplasm is largely untapped for its value on agriculture,

⁹³See Republic of Kenya (2009) (note 72) 79.

⁹⁴Miller K R *et al* "Issues on the Preservation of Biological Diversity" in Repetto R (ed) (1985) *The Global Possible: Resources, Development and the New Century* 308 309.

⁹⁵See Darlong V T (2004) (note 27) 177.

⁹⁶See Republic of Kenya (1999) (note 3) 17.

horticulture, medicine, agro forestry, industry ...some of this germplasm is faced with extinction, and it is probable that some species will disappear before they are recorded.⁹⁷

One species of tree, *psychotria sp* of the *rubiceae* family, which was found in the Taita Hills of Kenya, is now described as extinct. A number of other individual species, including *eurphorbia tanaensis* of the *eurphorbaecea* family are described as rare.⁹⁸

2.3.3 ETHICAL AND CULTURAL REASONS FOR SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

The total destruction of forests is an irreversible process. There are obligations to minimize destruction and fragmentation out of regard for the future. The ethical reason for the conservation of forests is that a growing number of people believe that human beings do not have the right to destroy other species or living things at will, even those species not known to have any practical value to mankind.⁹⁹ While this value is not universally shared, extinction is a completely irreversible process and to extinguish other species is to deny the options available to all future human generations. Thus, Passmore reiterates:

Our obligations are to immediate posterity. We ought to try to improve the World so that we shall be able to hand it over to our immediate successors in a better condition, and that is all.... And this, of course, is a very familiar principle: it represents accurately enough what, over the two centuries, men have seen as their duty to posterity as a whole... . This would still imply that we are called upon not to waste those resources our successors will certainly need. But it means we ought not to act, out of posterity's survival, in ways which are likely to destroy the civilized ideals we hope posterity will share with us.¹⁰⁰

Thus, although human societies are confronted with numerous pressing short-term problems, any actions with such profound and everlasting consequences as causing mass extinctions must be weighed very carefully.

⁹⁷ Ibid.

⁹⁸ See Wass P (1996) (note 12) Appendix 3.

⁹⁹ Java R I & Srivastav A (2004) (note 37) 18.

¹⁰⁰ Passmore J *Man's Responsibility for Nature: Ecological Problems and Western Traditions* (1980) 119. This argument is however, subject to Judeo Christian traditions which propose an exploitative attitude towards nature. It is argued by this tradition that it is God's will that man exploits nature for his proper ends. See Geisinger A "Sustainable Development and the Domination of Nature: Spreading the Seed of the Western Ideology of Nature" (1999)27 *Boston College Environmental Affairs Law Review* 43.

Forests are valued for cultural and religious purposes as well. Some forest areas contain sacred sites and many contain plant and animal species used in rituals. The Kaya forests at the coast of Kenya are sacred places to the local communities and other sites have cultural or ceremonial importance.¹⁰¹ Indigenous forests are central to the survival of indigenous people. Their cultures, economic condition and identities are inextricably tied to their traditional usage of forest resources.¹⁰² It has therefore been noted that:

for centuries, the indigenous populations have been the conservators, guardians of the whole and total environment which includes forests, wildlife, fishes and even bees and butterflies. The indigenous people and their herbal experts have produced medicines which have kept them healthy over the years... countries like India and China have developed their public healthy systems by integrating herbal medicine with the modern western drugs. ...I have an example of success...that substances called *Saponins* which the Maasai eat with their soup laced with bitter barks and roots does effectively control cholesterol levels.¹⁰³

Indigenous people should therefore be enabled to modify their subsistence way of life combining the old and the new in ways that maintain and enhance their identity while allowing their societies and economies to evolve. The Forest Principles point out that forests contain unique and valued segments such as old growth stands or areas that may hold special religious significance to indigenous groups.¹⁰⁴ Wass has noted that

forests are important places for traditional ceremonies and worship. Notable examples are the Kaya forests at the Coast and Karura in Nairobi. Certain plant, tree and animal species are of sacred value or are used during ritual ceremonies. In Kakamega forest, thirteen plant species have been identified as being used in ritual or witchcraft events.¹⁰⁵

Forest product use by forest adjacent households is predominantly to meet their basic subsistence needs and fodder collection. It has been estimated that the average forest adjacent household earns the equivalent of Kshs.9020 per annum on the use of fibres, grazing, honey and hunting from the forests.¹⁰⁶

¹⁰¹Republic of Kenya (1994) (note 25) 22.

¹⁰²See Manna M K "Biodiversity Conservation and the Economy of the Indigenous People" in Kotwal P C & Banerjee S (eds) *Biodiversity Conservation in Managed Forests and Protected Areas* (2004) 165 166.

¹⁰³See Ntimama W R "Land Tenure and Indigenous People" in Kabuye CHS (ed) (1996) *Ethnobiology and Conservation of Cultural and Biological Diversity* 35 36.

¹⁰⁴See Principle 8 (f) of the Forest Principles.

¹⁰⁵Wass P (ed) *Kenya's Indigenous Forests: Status, Management and Conservation* (1995) 60.

¹⁰⁶See Kenya Institute for Public Policy Research and Analysis *Inequality, Poverty and the Environment in Kenya* (2009) 28.

It is estimated that 2.9 million people living within a radius of 5 kilometers around forests derive direct benefits from indigenous closed forests.¹⁰⁷

2.4 THE CAUSES OF DEFORESTATION

The causes of deforestation in Kenya are a combination of social, economic and political factors. The causes range from the need for alternative land uses to expanding population pressure which impacts negatively on the use of land, thus necessitating the need to exploit forest land for agriculture. We discuss below the major causes of deforestation.

2.4.1 POPULATION PRESSURE

Rapid population growth drives people into the frontiers of the forests. Overcrowding in rural and urban settlements leads to resource scarcity, pushing people into the resource rich forests. Over-population creates further deforestation as the increasing demand for food and land on which to grow it requires that additional forests be cleared for agriculture, materials, energy and for settlement. Kenya's population, currently standing at 38,610,097 has been growing at the average rate of 3.3 percent per annum.¹⁰⁸ This growth has exerted and will continue to exert tremendous pressure on natural resources and land and will lead to encroachment in marginal areas, enhancing desertification and loss of genetic resources.

Before the formal British occupation of Kenya in 1895, traditional farming was the main cause of forest depletion. The checks on deforestation were the diseases, wars and famine that controlled the human and livestock populations. The establishment of British rule brought peace, disease control and famine relief.¹⁰⁹

These and other effects of modern government, both colonial and post colonial, have led to an increase in the population which is the main underlying cause of accelerating deforestation.

¹⁰⁷ Ibid.

¹⁰⁸ See Republic of Kenya *2009 Kenya Population and Housing Census* (2010) 25.

¹⁰⁹ Mbote P K *Property Rights and Biodiversity Management in Kenya* (2002) 85.

The pressure on forest land comes from communities adjacent to forests who use the forest as a resource additional to their economic or farming interests and small or large-scale commercial users whose main market for forest products is in the urban centres. As population pressure on land outside the government estate has increased, there has been a tendency to alienate more and more government land for settlement.¹¹⁰ New economic opportunities such as illegal drug production have also been described as reasons why more people are moving to the forests. This has been identified as a serious problem in Mt. Kenya forest, where *bhang*¹¹¹ growing has been discovered in the forest.

2.4.2 AGRICULTURE

Forests are also cleared for large-scale agricultural practices such as tea, coffee or sugarcane plantations. Permanent agriculture requires large tracts of forest land and small-scale farmers migrate to forest zones to make their fortune.¹¹²

The acute landlessness or land insufficiency in many parts of Kenya is a potent force driving peasants to forest frontiers.¹¹³

¹¹⁰See Ogolla D & Mugabe J (1996) (note 79) 91. The writers note that between 1963 and 1971, a total of 48,000 hectares of government forest land under the Forests Act Cap 385 of the laws of Kenya, has been excised.

¹¹¹The scientific name of this drug is *Cannabis Sativa*, also known as *Marijuana*. The issue of illegal drug production in Kenya has been discussed extensively by Kantai Parselelo "Conservation by Decree" (2003) *The African Environment and Development Magazine* <http://www.elci.org/ecoforum.focontxt.html> accessed on 18 December 2011. In discussing the causes of forest loss, he states:

"What happened? Its easy to blame the normal suspects – the population explosion, over dependence on fuel wood, the money in logging, the *Bhang* (*Marijuana* trade), charcoal production, stone quarrying – but to do this is to address the symptoms rather than the disease."

Kantai suggests that the issue that should be addressed is forest legislation which has failed to address the interests of the silent majority. See also, Hecht SB "Logics of Livestock and Deforestation: The Case of Amazonia" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 9.

¹¹²Downing T E *et al* "Introduction" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* (1992) 2.

¹¹³Hecht S B (1992) (note 111) 8.

The biggest single change in the use of land within the forest estate is in the areas assigned to the Nyayo Tea Zones Development Corporation, established by presidential order in 1986, and by the State Corporations Act¹¹⁴ in 1988. The purpose of the tea zones owned by the corporation is to provide a buffer zone between agricultural land and forests designated for protection as well as a source of income and employment.¹¹⁵ Although the appropriate zone width was never formally established, a general maximum of one hundred metres into the forest from the existing forest boundary was normally accepted. However, in Kericho, Kirinyaga and Kiambu Counties, tea zones have extended more than five hundred metres into the forest. At Kabera, in Bungoma County, tea zones have extended by as much as two kilometers into the forest. In many such areas, indigenous forests and even forest plantations were cleared to make way for tea.¹¹⁶

It is difficult to evaluate the contribution of the tea zones to the conservation of forest resources. On the one hand, they have provided meaningful employment to local communities. On the other, much forest land has been lost through the creation of the zones. They have, for example, led to the loss of over 150,000 hectares of forest in the Mau and Transmara forests.¹¹⁷ The Nyayo tea zones have also failed to act as a buffer against encroachment.¹¹⁸ Agricultural activities will continue to exert more pressure on the meagre forest resources. More so, on the remaining fertile high forest areas of central province, Mau ranges, Aberdares and some coastal areas. In many cases, when forest land is cleared for agricultural purposes, the vegetation is cut and burned, making it difficult for forest species to survive, and there is very little chance of the land being recolonized by forest ecosystems. Traditional forest dwellers have also encroached on Kenyan forests under the *shamba*

¹¹⁴Cap 446 Laws of Kenya (Revised edition 1987).

¹¹⁵Bennun P N & Mwangi A N (1996) (note 73)178. The authors observe that the Nyayo tea zones cover fourteen districts in Kenya.

¹¹⁶Republic of Kenya (1994) (note 21) 40.

¹¹⁷Bennun P N & Mwangi A N (1996) (note 73) 178.

¹¹⁸Ibid.

system.¹¹⁹ Some of these traditional forest dwellers still live in the forest reserves and are legally defined as squatters. The presence of these squatters, who also comprise hunter-gatherer groups, were in many cases overlooked at the time of establishing the forest reserves. Attempts by the forest department to evict them have met with little success. It is estimated that there are about 3000 households living in scattered communities within the Southwest Mau forest reserve.¹²⁰

2.4.3 LOGGING

Logging operations take out of the standing crop valuable species of trees while causing wasteful damage to residual forest areas. The road systems abandoned by the logging companies encourage spontaneous agricultural settlement which in turn accelerates the process of deforestation.¹²¹ The logging process seldom takes the form of clear cutting since relatively few tree species are of commercial value and those that are, do not grow in uniform stands. Careless logging techniques not only result in the taking of commercial species, but often harm non-commercial species and leave the forest severely degraded. The creation of logging roads can indirectly lead to deforestation by providing shifting cultivators and other forest settlers a pathway onto an otherwise inaccessible forest.¹²²

2.4.4 LACK OF A GOOD PROPERTY RIGHTS REGIME

Most large forest areas in Kenya are owned by the state, but the lack of enforcement of property rights in respect of the forests renders them un-owned.¹²³ With a lack of enforced property rights to the forest, a classic

¹¹⁹These forest dwellers were brought into the forest as cultivators under the 'shamba system' of forest plantation establishment. The system was discontinued in the mid 1980's but many households have remained in plantation areas in forest reserves, despite repeated attempts to remove them.

¹²⁰See Republic of Kenya (2009) (note 72).

¹²¹Spears J & Ayensu E (1985) (note 49) 305.

¹²²See Pearce D *et al* (eds) *Sustainable Development: Economics and Environment in the Third World* (1990) 91.

¹²³See Republic of Kenya (1994) (note 21) 39. The Master Plan notes that the effect of the British colonial government declaring in 1902 that forest areas be government land before informing the local people, and without compensating and relocating them, began a history of popular dissatisfaction with forest reserve boundaries.

tragedy of the commons takes place. Landless peasants, driven to the forest by poverty, clear the forest and plant the food that they need to survive. Since they do not own the land, there is no incentive to conserve the land or to manage the crop in a manner that will conserve the soil. Production slows after a few initial years of clearing.¹²⁴

Property rights strategies are critical for forests that are common property resources. In Kenya, the use of forests is frequently shared by one or more groups for hunting, gathering, firewood, timber extraction and sacred purposes. Owing to their physical extent and how frequently various groups make use of them, common property resources fall into the category of open access. Individual users, in the absence of control, inevitably over-utilize and degrade the forest.¹²⁵ The answer to this tragedy of the commons is to have a group with limited membership and a right to exclusive use of the resource, which then has the opportunity to regulate resource use by its members and also the incentive to do so, as sustainable use is internalized by the group.¹²⁶

In the absence of any such controls for state and community forests, peasants simply move on and cut down another section of the forest. Bennun and Mwangi have underscored this point by stating that:

forest policy and legislation are frequently contravened owing to inadequate enforcement capability and differences between local and national priorities. Other problems hindering the effective policing of monopoly rights include labour shortage, lack of vehicles and inadequate funds to maintain those vehicles that are available. If the state is to effectively police forest areas under its exclusive control, the above problems must be addressed.¹²⁷

Kenya's land tenure rules confer property rights in forestlands on the government. Laws dating from the British colonial period make the government the holder of all forestry rights, vitiating the traditional rights of local communities.

¹²⁴Royer M B (1996) (note 2) 110.

¹²⁵Bruce J "Property Issues in Common Property Regimes for Forestry" in Boehm B *The World Bank Legal Review: Law and Justice for Development* (2003) 257 261.

¹²⁶Ibid 264. See also Chapter three, part 3.5.7.

¹²⁷Bennun P N & Mwangi A N (1996) (note 73) 179.

The displacement of traditional communities exercising customary law over the forests actually weakened controls over the use of the resource.¹²⁸ It is significant to note that much of Kenya's forest resources exist outside of gazetted forests in the extensive woodlands and on land devoted to agriculture. These forests are embedded in agricultural land use systems and fall under different types of land tenure regimes. They are also managed by the land users, and may be protected by social norms. In this respect, the law has failed to ensure maximum participation of local communities in the management and conservation of forest resources due to the prevailing attitude that forests belong to the state and that local communities have no stake in their management.¹²⁹ The need to involve local communities or to provide legal recognition to communities involved in sustainable forest management and conservation will inculcate a sense of public participation and conservation by those communities.¹³⁰

Kenya's Forest Policy is largely tilted towards retaining the reservation and protection of the forest estate at the exclusion of local communities.¹³¹ The policy provides limited guidance on principles and strategies for sustainable management and conservation, especially on forests outside the gazetted state forests.¹³² It is also silent on the role of stakeholders, especially the local communities, the private sector and Community Based Organizations in forestry and their linkages with other sectors and land uses.¹³³

2.4.5 POOR FOREST DEVELOPMENT POLICIES

Perhaps the most conspicuous reason for deforestation in Kenya is a policy agenda bent on increasing the process of extraction of forest materials and turning the land into agriculture. Much of the manufacturing industry in Kenya

¹²⁸Ogolla D & Mugabe J (1996) (note 79) 93.

¹²⁹Republic of Kenya (1999) (note 3) 31.

¹³⁰See Mark A F & McSweeney G D "Patterns of Impoverishment in Natural Communities: Case History Studies in Forest Ecosystems – New Zealand" in Woodwell G M (ed) (1990) *The Earth in Transition: Patterns and Processes of Biotic Impoverishment* 151.

¹³¹See Kenya Institute of Policy Research and Analysis (KIPRA) *The Effects of Land Titling on Poverty in Kenya* (2010) 1.

¹³²ibid.

¹³³Republic of Kenya (1999) (note 3) 31.

was built up under a highly protective incentive system, characterized by licensing that limited or prohibited the importation of goods competing with domestic manufacturers, high duties on competing imports, and relatively low duty in industrial machinery.¹³⁴ Forest policies, the terms on which forest users can exploit public forests, include harvesting fees, royalties, logging regulations and the administration of timber concessions with private loggers.¹³⁵ The government has simply sold off timber too cheaply sacrificing public revenues and the undervalued non-timber benefits of the standing forests while encouraging rapid logging exploitation.¹³⁵ The forest policy acknowledges this weakness and states that:

forest management has previously emphasized utilization with little regard to sustainability, particularly with regard to indigenous forests.¹³⁶

The government sets the conditions for exploitation and use of the public forests. Because commercial forestry involves holding a growing asset for long periods, returns to private investors are sensitive to credit costs, inflation, taxes and other economic parameters affected by government policy. Charcoal prices for example, will determine the tree off stake required to cover the domestic needs of a dry land farmer.¹³⁷ The government and other organizations concerned should actively promote the use of alternative sources of energy to ease the present overdependence on fuel wood and charcoal. It is only when these related social and economic issues are addressed that one can expect policy to realize its full potential.¹³⁸

Past preoccupation of forest development planners with industrial forest management has contributed to deforestation. The failure of forest development planners to be concerned with rural people and a lack of integration with planning in agriculture, energy, health and other sectors has

¹³⁴Repetto R & Gillis M *Public Policies and the Misuse of Forest Resources* (1988) 1.

¹³⁵Ludeki V et al (eds) *Environmental Management in Kenya: A Framework for Sustainable Forest Management – Understanding the New Forest Policy and Forests Act* (2006) 6.

¹³⁶See Republic of Kenya (2005)(note 30) 3.

¹³⁷Ibid 6.

¹³⁸See Okidi C O & Mbote P K (eds) *The Making of a Framework Environmental Law in Kenya* (2001) 91.

meant that the forest resource has not generally been assigned a value, and efforts to conserve it have been viewed as economically irrational.¹³⁹ Biological diversity, which is everybody's heritage, is treated as nobody's business. Clearing of forests brings immediate profits to a limited number of individuals. By contrast, protection of species within forests brings benefits that may extend over a far longer period of time but will be spread among many beneficiaries and thus be diffused. Sessional Paper No. 6 of 1999 took note of this fact and provided that:

the greatest threat to forest resources is poor management practices, including subsidized prices of products and services, poor accounting and auditing ...and absence of environmental instruments to assess the impacts of change of use of gazetted forest lands.¹⁴⁰

Given the way society's institutions weigh the choice, it is the short-term benefit that prevails.¹⁴¹ Indeed, Kenya's long term development plan acknowledges this and provides that:

in the past two decades, Kenya's forests have experienced severe destruction as a result of several factors, the main one being increased demand for agricultural land. ...Degradation of Mt. Elgon and Cherengani catchment areas has resulted in flooding in the regions around River Nzoia.¹⁴²

Economic systems have been slow to reflect the value of forest resources. Since its exhaustion has not been considered likely, the resource has not generally been assigned a value necessitating protection. The important links between forestry and food production are frequently overlooked and rarely quantified in national development plans. In health programs, the need to protect forests to maintain a sustained flow of safe drinking water is ignored.¹⁴³ In the energy sector, the role of fuelwood is frequently accorded minor treatment compared with that of other commercial energy sources such as oil, gas and coal. Sustainable forest management and conservation, whether for biodiversity, watershed management or other purposes, cannot be effective without proper organization or funding. The long-term aim of the

¹³⁹Miller K R *et al* (1985) (note 94) 345.

¹⁴⁰Republic of Kenya (1999) (note 74) 30.

¹⁴¹See, for instance Royer M B (1996) (note 2) 121.

¹⁴²See Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya* (2009) 104.

¹⁴³Spears J & Ayensu E S (1985) (note 49) 305.

whole forestry sector should be self-sufficiency and, where feasible, net revenue earning for the benefit of the nation. Coordination is essential between the forest policy and other related policies especially concerning the environment, wildlife, land use, agriculture, energy and trade. Where appropriate mechanisms for achieving adequate policy harmonization are lacking or insufficient, forestry conservation may not be achieved. With such uncoordinated policies in existence, it matters little whether the decision to convert forests to other uses makes economic or ecological sense.¹⁴⁴

2.4.6 POVERTY AND LANDLESSNESS

The depletion of Kenya's forests has also been aggravated by various social problems. There has been an increase in official excision of government forests for purposes of settling landless communities. Forest land is often required for agriculture, industry, human settlements and the development of infrastructure.¹⁴⁵

These competing land uses have adverse environmental effects on long term sustainability of forest resources, while continuous excisions have reduced the protected areas.¹⁴⁶ In recent times, the main losses to the forest estate have been through a legal process of excision. Since gazettelement begun, the officially registered details of excisions indicate that losses from the gazetted areas come to around 340,000 hectares.¹⁴⁷ The loss of Kenya's forest estate to excisions and hence to land with non-protected status amounts to 13% of Kenya's total gazetted area, which is 1.7 million hectares.¹⁴⁸ Most of this land has been excised for agricultural purposes and is recorded on official records as having been degazetted for settlement.¹⁴⁹

¹⁴⁴See Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy* (2009) 34.

¹⁴⁵See Kenya Forest Service (2009) (note 36) 11.

¹⁴⁶Republic of Kenya (1999) (note 69) 30.

¹⁴⁷A gazetted forest is one which has in most cases been surveyed, demarcated on the ground and declared as a forest reserve. These are legally owned by the Government and are managed directly by the Kenya Forest Service and the Kenya Wildlife Service on behalf of the state. Included in this category are the majority of large closed canopy forest units such as the Aberdares, Mt. Kenya, Mt. Elgon and South West Mau. For these details, see Wass P (1995) (note 88) 11.

¹⁴⁸See Bennum P N & Mwangi A N (1996) (note 73) 175.

¹⁴⁹Ibid.

Kenya's landless peasants, desperate for a patch in which to grow food are really the victims of other underlying problems such as overpopulation and widespread poverty. Poor people are forced to destroy forests simply to survive. Usually, they are forced away from their own homes by population pressures or poverty. They then have no choice but to clear forest areas to provide themselves with land on which to live. When poverty stricken people can no longer live in severe conditions in the towns or can no longer eke out an existence out of the meager plots of degraded and overcrowded farmland, they are driven to the unoccupied forests.¹⁵⁰

2.4.7 ABSENCE OF MARKETS THAT CAPTURE FOREST VALUES

No markets exist for some of the most important values of forests such as non-timber forest products, soil and water maintenance, biodiversity and carbon fixation.¹⁵¹ Locally, forests are seldom managed for the extraction of important forest products such as fibres, nuts and fruits. Extraction of these products for sale in local markets would mean that the forests themselves would be valued, creating an incentive to conserve them.¹⁵² The missing market problem is perhaps the most compelling reason for conserving Kenya's forests.¹⁵³ If Kenyan and global markets in general can place a value on functions such as carbon fixation and protection of biodiversity, the value added given to the forests can give logging companies and land owners the incentive not to cut them down.¹⁵⁴ An even more fundamental concern is the extreme ignorance that exists regarding the value of forests, their management alternatives and their economic importance, particularly for regional and national economies. Because of this ignorance, there is massive destruction of forests. Because the real values of the forests are unknown,

¹⁵⁰See Republic of Kenya (1999) (note 3) 8.

¹⁵¹IUCN (1996) (note 57) 2.

¹⁵²See Gachanja M "Forest Law Enforcement and Governance: The Case of Kenya" Paper Prepared and Presented at the Regional Workshop on *The African Law Enforcement (AFLEG) Process*, 25 February 2003, Nairobi (2003) 9.

¹⁵³Nyambala M "Kenya's Forest Resources Taken for Granted" (2003) *East African Standard* March 10 2003 4.

¹⁵⁴See Consultative Group on International Agricultural Research (CGIAR) "Forest and Livelihoods Programme Strategy" <http://www.cifor.cgiar.org> accessed on 5 March 2011.

institutions are not committed to their protection and sustainable management.¹⁵⁵ This perpetuates even more the attitude of abandonment and ignorance and explains why areas reserved for forests are exploited without making the necessary conservation precautions.

The Kenya Forest Service, in conjunction with the Kenya Water Resources Management Authority, has undertaken to collect levies from water companies towards payment for its environmental services scheme. It proposes to engage with a number of water users, mainly hydro electric producers, bottlers, agribusinesses and hotels to pay for the conservation of the watersheds from which they draw their water. Again, it intends to raise funds at the international level, for the sequestration of greenhouse gases, conservation of biological diversity, and the protection of water catchments.¹⁵⁶ It is however necessary, that such payments must reach other land users in a way that motivates them to change their land use decisions, for the payment of such environmental services to have the desired effect.

2.5 THE VALUE OF LEGAL PROTECTION FOR SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

The law is a powerful tool for shaping sustainable forest sector management and conservation. Law sets the bounds for acceptable behaviour and sets the punishment for crossing those bounds.¹⁵⁷ Law defines and sets the nature of property interests that impacts on forestry development. Law therefore plays a major role in forest governance issues.

The law, through the statutes and the regulations thereunder, sets the standards required of individuals *vis à vis* sustainable forest management and conservation measures.¹⁵⁸

¹⁵⁵See Bruce J “Property Rights Issues in Common Property Regimes for Forestry” in Boehm B (ed) (2003) *The World Bank Legal Review: Law and Justice for Development* 257.

¹⁵⁶See Kenya Forest Service (2009) (note 36) 32.

¹⁵⁷See Institute for Law and Environmental Governance *Community Guide to Environmental Management in Kenya* (2004) 8.

¹⁵⁸FAO “Legal Papers Online” www.fao.org.legal/prs-ol (accessed on 5 March 2010).

The law can make communities, enterprises and civil society users of law and active participants in its development, thereby boosting the rule of law and accruing benefits to society.¹⁵⁹ The social demands on the forest are slowly but constantly changing and one cannot possibly anticipate all the situations which come before the law. Forest law reform efforts typically share common challenges. One is incorporating modern values into forest laws. Forestry has long embraced sustainability, but notions of what resources the forest must conserve have changed as society's knowledge and interests have changed.¹⁶⁰ Society may be as interested in biodiversity conservation and carbon sequestration as in fuel and fibre production. The laws must therefore reflect current values with a view to safeguarding the interests of the society.

The values noted in respect of forest conservation determine not only what should be conserved, but also who should have access to those resources. The present trend is the recognition of indigenous, traditional and community uses, which centralized forest management agencies have often marginalized. Good forestry laws must not only reduce poverty and promote the welfare of forest communities, but must also consider their expectations and rights, including the particular rights of indigenous people.¹⁶¹ Involving the public almost always strengthens the legal framework. Involvement also gives the public a sense of ownership of the law.

Forestry law has the potential to curb over exploitation of resources. Combined with effective and innovative litigation, it could change the negative trends in various natural resource sectors. In the agricultural sector, for example, cultivation has been extended to marginal lands, and forestry

¹⁵⁹Ludeki V *et al* (eds) (2006) (note 135) 19.

¹⁶⁰Ruhl J B "The Seven Degrees of Relevance: Why should Real World Attorneys Care Now About Sustainable Development Policy?" (1998) 8 *Duke Environmental Law and Policy Forum* 273 279.

¹⁶¹Rampersad E R "Indigenous Adaptation to Climate Change: Preserving Sustainable Relationships through an Environmental Stewardship Claim and Trust Fund Remedy" (2009) 11 *The Georgetown International Environmental Law Review* 591 594.

resources have been over exploited.¹⁶² Litigating on forestry law issues is one of the most viable means of conserving and enhancing forest resources to meet the needs of a growing population.¹⁶³ It can ensure that mechanisms for controlling land use in agriculture and forestry, for example through scientific assessment of land capacity, annual depletion of topsoil and forest resources are instituted and respected. In the case of forestry, humanity relies mainly on the exploitation of available stocks. The sustainable yield from existing resources may well fall short of demand. It will be necessary to turn to methods that produce more fuelwood and forest products under controlled conditions. Forestry law could be instrumental in such endeavours.¹⁶⁴

2.6 SUMMARY

This chapter set out to examine the case for the sustainable management and conservation of Kenya's forest resources. The chapter confirms that Kenya's forestry sector makes a significant contribution to the country's economic as well as socio cultural development. This contribution stems from the multiplicity of functions that forests and allied resources play in the economy. These are the conservation of biological diversity, serve as critical water catchments, conserve soil and mitigate climate change, as well as acting as major habitats for wildlife. They also provide wood and non-wood products to support national development. The forest sector contributes both tangible and intangible benefits of enormous proportions to the Kenyan society.

This calls for the application of best practices in sustainable forest management and conservation, promotion of good governance through the articulation of the relevant laws and policies as well as stakeholder support and public participation at all levels.

Kenyan forests contribute in many ways to the maintenance of the present dynamic equilibrium in the atmosphere. The forests represent a carbon reservoir through their aerial and root systems as well as through organic

¹⁶²Ludeki V *et al* (eds) (2006) (note135) 63.

¹⁶³See generally Herbert C "Sustainable Development: Some Legal Strategies for a Small Island State" (1998) 24 *Commonwealth Law Bulletin* 563.

¹⁶⁴*Ibid.*

water in the soil. The destruction of forests has potential global regional and environmental consequences such as changes in weather patterns and loss of biological diversity.

Loss of forests affects the quality of life of all people. Kenyan forest resources are used to produce energy in the form of fuel wood or charcoal. The destruction of forests may cause energy crises in the rural and urban areas which depend on them to satisfy their energy demands.

Deforestation can also destroy the livelihoods of forest dwelling peoples, such as the Ogiek of Kenya. These groups of people are extremely vulnerable to being forced off their traditional lands by immigrant settlers. Again, these forest dwelling people have, over the years, accumulated an impressive amount of knowledge concerning how various plants can be used for food, medication and other products. Moreover, these people have learnt many useful lessons about how the forest ecosystem can be successfully manipulated for food production and meeting other subsistence needs.

For the entire world, Kenya's forests contain a wealth of biological diversity of aesthetic and ecological value. Yet the most compelling global reason to slow species extinction is the fact that the full diversity of plants and animals ensures a health gene-pool which can be utilized to develop new agricultural crops, pharmaceuticals and other competitive materials such as pesticides, oils and fibres.

This chapter has also shown that population growth and economic opportunities stimulate the conversion of forestland to other uses. The government has deliberately adopted policies that accelerate the conversion of forestlands to farming and settlement that lower the costs and increase the profitability of these alternative land uses. These subsidies encourage activities that are intrinsically uneconomic. When this happens, inferior and unsustainable land uses are established because of the subsidies.

It is against this background of rapidly declining forest resources that the imposition of legal safeguards becomes mandatory if the depletion of forests is to be effectively controlled. Chapter three discusses the legal strategies needed for the sustainable management and conservation of forest resources. If needs are to be met on a sustainable basis, then the earth's forest resource base must be conserved and enhanced.¹⁶⁵ Forestry law has a major role to play in ensuring that consumption is kept at sustainable levels and guarantee that present development needs are met, while ensuring that future generations will be able to meet their own needs.

¹⁶⁵See Church C "Forests: Kenya is at Crossroads" *Daily Nation* (2005) 8.

CHAPTER THREE

LEGAL STRATEGIES FOR THE SUSTAINABLE MANAGEMENT AND CONSERVATION OF FORESTS

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3.1 INTRODUCTION

In the early days of environmental conservation, partnerships between business and environmental interests were normally forced.¹ Government and environmental activists viewed strict regulation as the only way to achieve environmental goals. In the conservation field, the aim was to place certain critical natural areas outside the reach of development and carefully monitor resource areas like logging and agriculture. The fundamental question in the forest conservation debate is whether to conserve an area or to allow sustainable development within it.²

Conservation is normally based on preserving the natural habitat and its indigenous people, with a limited amount of economic growth and development allowed.³ Sustainable development, on the other hand, involves not only protecting the habitat and the people, but also allowing a type and level of development that can be sustained into the future with minimum damage to the people or the forest, subject to the ongoing maintenance of

¹Bowles I *et al* "Economic Incentives and Legal Tools for Private Sector Conservation" (1998) 3 *Duke Environmental Law and Policy* 210.

²For an in-depth discussion on the issue of conservation versus sustainable development, see generally IUCN, *World Conservation Strategy: Living Resources Conservation for Sustainable Development* (1980) I, which defines conservation as the management of human use of the biosphere so that it may yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. It embraces preservation, maintenance and enhancement of the natural environment.

³See Okidi C O "Concept, Function and Structure of Environmental Law" (2008) in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 3 5.

services and quality of natural resources.⁴

Forest conservation is multidimensional because the causes of forest clearance are interdependent. The task of stopping forest destruction is a difficult one particularly because it requires the resolution of complex issues like rising population, meeting the needs of the landless poor, and integrating forestry issues with other sectors of development. This chapter sets out the legal strategies that are applied in order to achieve sustainable forest management and conservation. In order to be effective, governmental programmes to protect and improve forests must be translated into legislative and administrative action.⁵ Since the Declaration of Principles for the Preservation and Enhancement of the Human Environment,⁶ there has, indeed, been an enormous growth in environmental laws and a range of specific policies available to the developing countries from which they could legislate in accordance with their requirements and preferences.⁷

⁴See generally Warford JJ "Natural Resource Management and Economic Development" in Jacobs P & Munro D (eds) (1987) *Conservation with Equity: Strategies for Sustainable Development* 71. See also Bray E "Towards Sustainable Development: Are we on the Right Track?" (1998)5 *The South African Journal of Environmental Law and Policy* 1. Bosselman, however, states that this is a weak concept of sustainability. He states:

This so called weak version of sustainability is popular among governments and business, but profoundly wrong and not even weak as there is no alternative to preserving the Earth's ecological integrity. See Bosselman K *The Principle of sustainability* (2008) 1.

⁵See United Nations Environment Programme (UNEP) *New Directions in Environmental Legislation and Administration Particularly in Developing Countries* (1989) 1. See also Reid C T "The Changing Pattern of Environmental Regulation: British Forestry and the Environmental Agenda" (1997)9 *Journal of Environmental Law* 23, who argues that in relation to forestry, the commitment to sustainable development cannot be translated into practice except within a strategic framework and calls for a clear national strategy which would help to integrate forestry with other land uses. The word strategies is used to denote the economic policies and legal frameworks that may be established by national governments to create the incentives which address the fundamental need for sustainable forest conservation. For this discussion, see World Resources Institute *et al Global Biodiversity Strategy: Guidelines for Action to Save, Study and Use the Earth's Biotic Wealth Sustainably and Equitably* (1992)22.

⁶See the Declaration of Principles for the Preservation and Enhancement of the Human Environment, June 16 1972; (1972) 11 *International Legal Materials* 1416.

⁷The need for national measures in environmental legislation has been set out by the United Nations Environment Programme (UNEP) in Tolba M K (ed) *Evolving Environmental Perceptions: From Stockholm to Nairobi* (1988).

There is no standard 'recipe' for assessing the content of forest law in developing countries. There are, however, a few essential instruments, which tend to play a key role regardless of the particular circumstances and the traditions of a country. The appropriate mix of approaches depends upon the country's prevailing political, legal, cultural norms and development attitudes.⁸ This chapter examines the role of the law in the sustainable management and conservation of forest resources. It underscores the fact that law is necessary and inevitable, though generally not sufficient in itself, to shape social behaviour towards agreed goals.⁹ The chapter underscores the fact that law offers the strongest degree of protection to forest resources as it often offers the actual legal strategies to effect change, compliance and enforcement of plans of action.¹⁰ The challenge is how the law incorporates the principles of sustainable development into legal strategies to achieve sustainable forest management and conservation. This chapter identifies the functions of forest law as being to protect the threshold of sustainability in the utilization of forestry resources and ensuring intergenerational equity.¹¹ The chapter demonstrates the fact that the core function of a good forest law must be the protection of the threshold of sustainability.

The chapter underscores the fact that the institution of the law provides the binding rules and the normative system for advancing the sustainable management and conservation of forest resources. The first part of the chapter examines the concepts for sustainable forest management. It briefly surveys some of the working definitions and tools of forestry management, while at the same time pointing out the role of law in conservation. The

⁸See generally Brockington D *Fortress Conservation: The Preservation of the Mkomazi Game Reserve, Tanzania* (2002) 85-121.

⁹ See Kiss A & Shelton D *Manual of European Environmental Law* (1993)6.

¹⁰See for example Herbert C "Sustainable Development: Some Legal Strategies for a Small Island State" (1998)24 *Commonwealth Law Bulletin* 563.

¹¹See for example The World Bank *Forests Source Book: Practical Guidance for Sustaining Forests in Development Cooperation* (2008) 173, where it is noted:

The Law is a powerful tool for shaping forest sector governance. Laws can create institutions and define institutional powers and responsibilities. Laws can set the bounds of acceptable behaviour and set the punishment for crossing these bounds. Laws can change the allocation of money among government programs Laws can define and strengthen property interests.

second part examines the basic principles of environmental law and their relevance to sustainable forest management conservation. It is argued that that legal norms such as the precautionary principle, the principle of prevention, the polluter pays principle and the principle of public participation in decision making, play an important role in sustainable forest management and conservation. The last part of the chapter identifies a set of strategies applicable as good conduct norms relevant for the attainment of sustainable forest management.

But first, an examination of the various concepts and principles of forest law and their role in sustainable forest management *vis-a-vis* the overall environmental goals will have to be made. The discussion in this chapter is general and the specific issues of relevance to Kenyan law will emerge clearly in chapter four. These principles will provide a basis for a critical appraisal of Kenya's forestry law *vis-a-vis* the emerging principles of environmental law.

3.2 THE CONCEPT OF SUSTAINABLE FOREST MANAGEMENT AND THE LAW

It is essential that a working definition be provided for various key concepts in forestry management and determine how these relate to sustainable forest management. It is on the basis of these working definitions that the proper function of forestry law will be appreciated. It is submitted, finally, that the fundamental function of forest law is to ensure that the management and utilization of the forests ensure intergenerational equity and sustainability. These concepts are examined below.

3.2.1 ENVIRONMENT

Section 2 of the Environmental Management and Coordination Act¹² defines the environment to include the physical factors of the surroundings of human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics, and includes both the natural and the built environment.¹³ Elsewhere, the

¹²Act No. 8 of 1999 Laws of Kenya.

¹³For a detailed discussion of the Concept of Environment, see Okidi C O *et al* (eds) *Environmental Governance in Kenya: Implementing the Framework Law* (2008) 1-30.

environment has been defined as the totality of nature and natural resources including the cultural heritage and infrastructure essential for socio-economic activities.¹⁴ In other words, the environment may be conceived as the total context of nature, where nature is defined as the earth's geosphere, biosphere and associated processes. Thus, water, atmosphere, forests, wildlife, soil and the general flora and fauna are simply components of the environment.¹⁵

3.2.2 NATURAL RESOURCES

These are defined as the components of nature which are or can be used to satisfy the needs of human beings and other living species and include resources of the air, land, water, animals and plants, including their aesthetic qualities.¹⁶ It is against this background that the concepts of conservation, preservation and sustainable use of forest resources is to be understood, in view of the fact that forest resources are natural resources.

3.2.3 FORESTS AND THE CONCEPT OF CONSERVATION

Conservation is a management concept meaning the management of renewable resources sustainably and the avoidance of waste in the use of nonrenewable resources.¹⁷ The concept of conservation is purposive, based on specific objectives and clearly perceived benefits and it is a fundamental requirement for sustainable development.¹⁸ Sustainable use of renewable resources which includes forests, means use which maintains or enhances

¹⁴See Okidi C O "International Environmental Law and National Interests" in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 19. See also IUCN Report of the joint working group convened by the International Commission on Environmental Law *Draft International Covenant on Environment and Development* (1991).

¹⁵See for example Okidi C O "The Practice and Principles in Environmental Law in Kenya" in Wandiga S O & Abuodha N L (eds) (1996) *Environment and Development: A Public Lecture Series* 196.

¹⁶See The Environmental Management and Coordination Act, Act No. 8 of 1999, Laws of Kenya, section 2.

¹⁷See Okidi C O "Concept, Function and Structure of Environmental Law" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 3. Conservation does not discard the economic use of the forest resource. It attempts to rationalise the use in order to assure the future availability of the resources. Note however, the radical stand taken by Bosselman that conservation carries with it an ethical perspective being: a new ethic, embracing plants and animals as well as people, which will enable human societies to live in harmony with the natural world on which they depend for survival and well being. See Bosselman K (2008)(note 4)1.

¹⁸This is discussed in Chapter One, Part 1.4.3, above. See also chapter two, section 2.3.2.3.

forest resources in a manner which meets the needs of the present generation without compromising the ability of future generations to meet their own needs.¹⁹ Biologists and resource economists operationalized the idea of conservation by coining the principle of maximum or optimum sustainable yield to determine the point which is not to be exceeded by utilization.²⁰ Indeed, the Kenya Forest Service has defined sustainable use, in relation to a forest, to mean the use of the forest and any of its natural resources, in a manner and to an extent which does not compromise the capacity of the forest and its use by future generations and does not degrade the carrying capacity of supporting ecosystems.²¹

As an important part of Kenya's economy, forests provide a wide range of products, including timber, fuel, wood, medicines and building materials; they also provide prominent environmental values, and the concept of conservation ensures the availability of the resources for future generations.²²

3.2.4 PRESERVATION OF FOREST RESOURCES

The concept of preservation means setting aside and protecting selected forest resources, such as unique biological or geological formations, endangered or threatened species of forest resources, representative biomes or other natural and cultural sites of importance.²³ This means that the natural characteristics of such forest resources are maintained to their fullest extent possible in a manner that is unaffected by human activities. The concept advocates that selected forest resources, such as unique biological resources, fragile ecosystems, endangered or threatened species, are set aside and restrictively utilized or left alone so as to maintain their characteristics in a manner unaffected by human activities to the fullest extent possible. The Forest Principles require that national policies and legislations

¹⁹See Bray E (1998) (note 4)1 2.

²⁰ See Kiss A & Shelton D (1993) (note 9) 36. See also chapter one, section 1.4.

²¹See Kenya Forest Service *Strategic Plan 2009-2014 (2009)* 1.

²²See Brockington D *Fortress Conservation: The Preservation of the Mkomazi Game Reserve, Tanzania* (2002) 4.

²³See Sheppard H E "Native Forest Protection in Chile: The Inadequacies of the Recent Environmental Framework Law and Relevant Multilateral Instruments," (1999)14 *Journal of Environmental Law and Litigation* 225, 227. The principle prohibits the economic exploitation of forests and it is the most rigid form of protection.

aimed at the management, conservation and sustainable development of forests should include the protection of ecologically viable representatives of unique examples of forests, including primary, old growth forests, cultural, spiritual, historical, religious and other unique and valued forests of national importance.²⁴ The Principles further note that natural forests constitute a source of goods and services, and their conservation, sustainable management and use should be promoted.²⁵ Preservation in the strict sense, is not therefore applicable except for select forest areas which in actual sense, will still be utilized. Distinguishing between conservation and preservation in relation to wildlife, Rosaleen Duffy has written thus:

Broadly, conservation and preservation constitute different approaches to wildlife policy, since preservation is more concerned with protecting a habitat, an animal or a resource from any use at all, while conservation allows some use but ensures against extinction or overuse.²⁶

This thesis advocates for sustainable forest management, but at the same time, the preservation of unique ecosystems in respect of Kenya's forest resources

3.2.5 BIOLOGICAL DIVERSITY

This term is defined as the variability among living organisms.²⁷ It describes the interdependence and wealth of the components of the environment at genetic, species and ecological levels which offer medicinal, agricultural and scientific advantages. Thus, though biodiversity can be used for sustainable development, it must be preserved. Indiscriminate use, overharvesting or any other forms of environmental destruction may endanger biodiversity. Kenya's Forests Act, 2005²⁸ defines biodiversity as the variability among living organisms from all sources including the ecological complexes of which they

²⁴ A Non Legally Binding Authoritative Statement of Principles for A Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, June 13, 1992) 31 *International Legal Materials* 881, Principle 8 (f), hereinafter called 'the Forest Principles'.

²⁵The Forest Principles, Principle 6(e).

²⁶See Duffy R *Killing for Conservation: Wildlife Policy in Zimbabwe* (2000) 1; See also Chapter 1, part 1.4.4 above.

²⁷See Convention on Biological Diversity, Rio de Janeiro 5 June 1992, Art. 2 (1992)31 *International Legal Materials* 822.

²⁸Act No.7 of 2005 Laws of Kenya.

are a part and the diversity within and among species and ecosystems.²⁹

Biodiversity is the full variety of plants, animals and microorganisms found on earth, including forests.³⁰

3.2.6 FORESTS AND THE CONCEPT OF SUSTAINABLE USE

In relation to a forest, sustainable use means the use of a forest and any of its natural resources in a manner and to an extent which does not compromise the capacity of the forest and its use by future generations, and does not degrade the carrying capacity of supporting ecosystems.³¹ The fundamental justification of forestry law is to ensure that the development interests of the present generations with regard to the forest resource are realized without jeopardizing those of future generations. The promotion of intragenerational and intergenerational equity is therefore the justification for sustainable use.

3.2.7 FORESTS AND THE ISSUE OF SUSTAINABLE MANAGEMENT

The concept of sustainable management, in relation to a forest means the management of the forest so as to permit only such use of it as constitutes sustainable use.³² It is the sustainable management of forest resources that will guarantee the protection of intergenerational equity.³³ Forestry has embraced the concept of sustainability. The interests that must be sustained in the long run, include biodiversity conservation, carbon sequestration as well as fuel and fibre production. The present trend in sustainable management of forests is greater recognition of indigenous, traditional and community uses which centralized forest management systems have often marginalized.³⁴ Forest resources and forestlands should be sustainably managed to meet the

²⁹See the Forests Act 2005, section 3. See also Wass P (ed) *Kenya's Indigenous Forests: Status, Management and Conservation* (1995)8, who has defined a forest as: " A continuous stand of trees at least 10 metres tall, their crowns interlocking".

³⁰See World Resources Institute *Natures Benefits in Kenya: An Atlas of Ecosystem and Human Wellbeing* (2007) 63.

³¹See the Forests Act 2005, section 3. See also Kenya Forest Service (2010) (note 21) 1.

³²Sustainable forest management calls for the enhancement of the economic value of forests, as well as seeking other gains in terms of biodiversity, recreation and ensuring multiple use of the resource.

³³See the Environmental Management and Coordination Act (1999) (note 16). Section 2 thereof states that intergenerational equity means that the present generation should ensure that in exercising its right to beneficial use of the environment, the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

³⁴See the World Bank (2008) (note 11) 176.

social, economic, ecological, cultural and spiritual human needs of present and future generations.³⁵

3.2.8 SUSTAINABLE DEVELOPMENT

The concept of sustainable development originated in a realization that the world's environment, its economies and the ways in which it treats its human and animal inhabitants, are interlinked. The definition offered by the Brundtland Report is the one with which the concept has become most closely associated. According to the report, sustainable development is

...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.³⁶

The Convention on Biological Diversity identifies this principle as the principle of sustainability. It then identifies the features of the principle as requiring that natural resources should be utilized in a way and at a rate that does not lead to the long term decline of biodiversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.³⁷

Through growing awareness of the serious problem of native forest destruction, the concept has been applied by countries in an attempt to convert it into tangible mechanisms that will prevent massive deforestation and the substitution of native forests by plantations of non-native species of trees and vegetation.³⁸

The principle of sustainable development should be examined together with that of intergenerational equity, which focuses on future generations as a rightful beneficiary of sustainable forest management and conservation. Essentially, the principle of intergenerational equity advocates fairness so that present generations do not leave future generations worse off by the choice

³⁵See the Forest Principles, Principle 2 (b).

³⁶See World Commission on Environment and Development (WCED) *Our Common Future* (1987) 8.

³⁷See the Convention on Biological Diversity (note 27) Art 2. The details of this issue will be examined in chapter four.

³⁸See for example Sheppard H E "Timber Certification: An Alternative Solution to the Destruction of Chilean Forests" (1999) 14 *Journal of Environmental Law and Litigation* 301.

they make regarding development.³⁹ Its implementation requires the utilization of resources in a sustainable manner while avoiding irreversible environmental damage.

The issue of sustainable development also raises the issue of environmental rights of future generations. In the Philippines case of *OPOSA (Minors v. F.S Factoran, Secretary of Department of Environment and Natural Resources*,⁴⁰ forty three children, represented by their parents and an NGO, challenged timber licences granted by the department of environment and natural resources. The plaintiffs were said to have an action. The complaint was instituted as a taxpayer class action in which the plaintiffs argued that they were entitled to the full benefit, use and enjoyment of the natural resources, that is, the country's virgin tropical rainforest. Their complaint stated that they represent their generation as well as generations unborn. The court upheld that the allegations and cause of action put forward by the plaintiffs on the basis of the rights of present and future generations were enough to show, *prima facie*, that there was a claimed violation of the plaintiff's rights.⁴¹ It is clear, therefore, that unless there is a seamless web between environmental and economic concerns at all levels of decision making, principles of sustainable forest development cannot be effectively implemented.⁴²

³⁹See for example Sands P *Principles of International Environmental Law* (2003) 10. Sands argues that the concept of sustainable development is actually two principles in one, namely: (i) the concept of needs, in particular, the essential needs of the present generation and (ii) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

⁴⁰(1994) 33 *International Legal Materials* 173.

⁴¹(1994) 33 *International Legal Materials* 173, 181. Justice Hilario Davide of the Supreme Court of the Philippines held:

Such a right belongs to a different category of rights altogether for it concerns nothing less than self preservation and self perpetuation ... the advancement of which might even be said to predate all governments and constitutions. As a matter of fact, these basic rights need not even be written in the constitution for they are assumed to exist from the inception of mankind.

For an incisive discussion of this point, see Houck A O "Light From the Trees: The Stories of Minors Oposa and the Russian Forest Cases" (2007)19 *The Georgetown International Environmental Law Review* 321.

⁴²The Importance of the concept of sustainable development is exemplified by its direct expression in principles 1 and 2 of the Stockholm Declaration, and Article 6(a) of the Convention on Biological Diversity. See also Bray E (1989) (note 4)1 6 who has argued that sustainable development is concerned with equity, environmental justice and that it requires that as a matter of fundamental human rights, that individuals everywhere are entitled to a minimum of access to and use of natural resources.

In so far as intragenerational equity is concerned, it is important that the law provides for the utilization of forest resources within the local jurisdiction of the citizen. This should be undertaken, in a transparent manner with full recognition of the rights of the citizens to be involved in decision making processes. Citizens should have clear and open recourse to individual, community and private forest land tenure processes that are legally certain.⁴³ Brundtland underscored in her report the multidimensional nature of the concept:

Sustainable development involves more than growth. It requires a change in the content of growth, to make it less material and energy intensive and more equitable in its impact... . The process of economic development must be more soundly based upon the realities of the stock of capital that sustains it... .Income from forestry operations is conventionally measured in terms of the value of timber and other products extracted, minus the costs of extraction. The costs of regenerating the forest are not taken into account. Thus, figuring profits from logging rarely takes full account of the losses in future revenue incurred through degradation of the forest. Similar incomplete accounting occurs in the exploitation of other natural resources, especially in the case of resources that are not capitalized in enterprise.⁴⁴

The Forest Principles require that the economic and noneconomic values of forest goods and services and their environmental costs and benefits should be taken into account in decision making processes.⁴⁵

The concepts of conservation, sustainable use and sustainable development all support the principle of sustainable forest management. The crucial question, however, is how the concern for the ecological sustainability of the forest is related to development. More precisely, the concern for prosperous development of people living today, which is captured by the concept of intra generational equity and in the future, intergenerational equity, must be captured in any sustainable forest management strategy. Sustainable forest management therefore calls for development based on forest sustainability to meet the needs of the people living today and in the future.⁴⁶

⁴³See O'Reilly S "Human Rights and the Global Forest Regime: Does the United Nations Forum on Forests Non Legally Binding Instrument on All Types of Forests Provide Support for Pro-poor Forestry?" in O'Reilly S (ed) *Proceedings of the International Conference on Poverty Reduction and Forests* (2007) 1 13.

⁴⁴See World Commission on Environment and Development (note 36)52.

⁴⁵See the Forests Principles (1992) (note 24) Principle 6(c).

⁴⁶See Article 42(a) of the Constitution of Kenya which states:

Every person has the right to a clean and healthy environment, which includes the right
a) To have the environment protected for the benefit of present and future generations through legislative and other measures...

3.3 BASIC PRINCIPLES OF ENVIRONMENTAL LAW AND THEIR APPLICATION TO SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

Forestry law is principally concerned with ensuring the sustainable utilization of forest resources. In an ideal setting, the utilization of forest resources should adhere to the principles of environmental law which include sustainability, the principle of intragenerational and intergenerational equity, already discussed above. Other principles, are the principle of prevention, the precautionary principle, the polluter pays principle and public participation.⁴⁷ It is important that any sustainable forest management and conservation strategies must encompass some or all of these principles.

3.3.1 PRINCIPLE OF PREVENTION

The principle of prevention states that the protection of forests is best achieved by preventing harm in the first place, rather than relying on remedies or compensation for such harm after it has occurred.⁴⁸ The reasoning behind this principle is that prevention is less costly than allowing environmental damage to occur and then taking mitigation measures thereafter. The thrust of this principle is that environmental damage should be prevented at source and before it occurs. This principle is important to sustainable forestry management, especially given the speed of forest destruction and the length of time for regeneration.⁴⁹

The ability to anticipate and prevent environmental damage requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural and other dimensions. They should be considered on the same agenda and in the same national institutions.⁵⁰

3.3.2 THE PRECAUTIONARY PRINCIPLE

This principle recognizes the limitation of science, as it is not always able to

⁴⁷See McEldowney J & McEldowney S *Environmental Law* (2010) 11.

⁴⁸See Faure M & Niessen N "Towards Effective Environmental Legislation in Indonesia" in Faure M & Niessen N (eds) (2006) *Environmental Law in Development: Lessons from the Indonesian Experience* 263.

⁴⁹See WCED (1987) (note 36)10.

⁵⁰See Kiss A & Shelton D (1993) (note 9) 37.

predict accurately the likely impacts of environmental harm and resource utilization.⁵¹ It, therefore, calls for precaution in the making of environmental decisions where there is scientific uncertainty. The need for environmental impact assessment before forests are destroyed should be seen in the context of the precautionary principle along with the issue of environmental monitoring. The Forest Principles require that national policies should ensure that environmental impact assessments are carried out where actions are likely to have significant adverse impacts on important forest resources.⁵²

3.3.3 THE POLLUTER PAYS PRINCIPLE

This is probably the oldest and the best known of the environmental principles. When polluters are forced to pay the environmental costs resulting from their activities, the prices of their products and services will reflect the social costs of these activities.⁵³ Indeed, this principle postulates that the polluters of natural resources should bear the full environmental and social costs of their activities.⁵³ Again, whoever is responsible for environmental degradation should be responsible for its reparation, covering both civil liability and criminal responsibility. The Forest Principles give States the sovereign right to utilize their natural resources in accordance with their national policies but also, a responsibility to ensure that activities in their territories do not cause harm to the territories of other states or cross beyond national jurisdiction.⁵⁴

⁵¹See also Marong A B M "From Rio to Johannesburg: Reflections on the Role of International Legal Norms in Sustainable Development" (2003)16 *The Georgetown International Environmental Law Review* 21, where the learned author notes:

By basing regulatory action on the potentiality of environmental harm, rather than on proof that harm will occur, and by presuming that the environment is vulnerable to a wide range of human activities, the precautionary principle introduces an anticipatory approach to development planning.

In this manner, legal regimes and decision processes based on the precautionary principle help to balance the pursuit of economic development with the need for environmental preservation. This balance is the hall mark of sustainable development, rendering the precautionary principle indispensable whenever legal regimes aspire towards preserving the environmental basis for economic development in the interest of current and future generations.

⁵²The Forest Principles (1992) (note 24), Principle 8 (h).

⁵³See for instance Oposa A A "Legal Marketing of Environmental Law" (1996) *Duke Journal of Comparative and International Law* 273 who argues that the Law must contain an aspect of punishment in order to modify behaviour and to serve as a deterrent. People must be aware that deviating from conduct which promotes the social good carries a penalty.

⁵⁴See McBeath A G & Leng T K *Governance of Biodiversity Conservation in China and Taiwan* (2006) 68.

3.3.4 PUBLIC PARTICIPATION IN FORESTRY MATTERS

The Food and Agriculture Organisation of the United Nations defines participatory forestry as the processes and mechanisms that enable those people who have a direct stake in forest resources to be part of decision making in all aspects of forest management, from managing resources to all aspects of formulating and implementing legal frameworks.⁵⁶ Several interlinked legal concepts therefore come into play when discussing participatory forestry management. These are devolution, good governance, transparency, access to resources and the protection of the interests of local and indigenous communities.⁵⁷ Mechanisms for community based forest management have, therefore, become common in forestry laws.⁵⁸

Public participation may be provided through at least three legal mechanisms. First, as a right, it may be entrenched in a national constitution, often as part of the bill of rights. In this respect, the Constitution of Kenya provides that every person has a duty to cooperate with state organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.⁵⁹ The second mechanism may be in public participation in the review of environmental impact assessment. The environmental impact assessment process requires full disclosure of the project and the measures to mitigate the possible adverse impacts.⁶⁰ The legal empowerment of individuals in public participation is the essential condition of a good forestry law and practice.⁶¹ Thirdly, this may operate through direct *locus standi* for the public to participate in environmental

⁵⁵ The Forest Principles (1992) (note 24) Principle 1 (a).

⁵⁶ See FAO "Legal Papers Online" www.fao.org/legal/prs-ol (2008) (accessed on 5 March 2010).

⁵⁷ See World Bank (2008) (note 11) 30.

⁵⁸ See FAO (2010) (note 56).

⁵⁹ See Constitution of Kenya, Article 10 (2) (d) and Article 69(2). Note further, that Article 10 of the Constitution identifies sustainable development as one of the national values and principles of governance.

⁶⁰ See Okidi C O (2008) (note 15) 30.

⁶¹ See Oposa A A (1996) (note 53) 275. Oposa has argued that law is an agreement of minds, a social contract. Because of this, the participants must fully understand and appreciate the reason behind and the need for the law. Voluntary compliance is possible only when those whose conduct is sought to be regulated or modified, fully understand the reason for the law and thereby appreciate its value.

protection through judicial and administrative procedures. Besides reasons of equity and fairness, the assumption is that greater public participation can improve the quality of decisions, improve the public's respect for these decisions and improve public perception of government. Another crucial aspect of participatory forestry management is for the law to ensure that local communities living in or near forest areas have access to forest resources and manage them, thus engaging in forest activities that are important for their livelihoods.⁶² Indeed, the Forest Principles call on governments to promote and provide opportunities for the participation of interested parties in the development, implementation and planning of national forest policies.⁶³

3.4 THE ROLE OF LAW IN THE SUSTAINABLE MANAGEMENT AND CONSERVATION OF FOREST RESOURCE

Birnie and Boyle have identified the role of law in sustainable management and conservation. In relation to living resources and by extension, forest resources, they have stated thus:

It can be distributive, determining who is to have ownership or access to the resources; conservatory, preserving the resources as such or at least doing so at levels that can sustain exploitation; or prescriptive, prohibiting for conservatory, ethical or moral reasons, exploitation of the resource or particular forms or methods of exploitation.⁶⁴

Law offers the strongest degree of protection to forest resources, by virtue of its being transparent and enforceable.⁶⁵ The challenge is to consider what policy is appropriate to implement the principles of sustainable forest development and incorporate that policy into the guiding principles which drive sustainable development. This is based on the assumption that law is one of the appropriate tools to control social behaviour.⁶⁶ However, it has been noted that:

⁶²See for example Mbinda B M & Wamicha W N "Uses and Conservation of Woody Plants: A Case of the Ilchamus, Baringo District, Kenya" in Kabuye C H S (ed) (2002) *Ethnobiology and Conservation of Cultural and Biological Diversity* 101. The two authors observe that:

Given their strong attachment to these biological resources, the Ilchamus have, to some extent, managed to initiate sustainable development.

⁶³See the Forest Principles (1992) (note 24) Principle 2 (d). See also part 3.5.6 below.

⁶⁴See Birnie P *et al* (eds) *International Law and the Environment* (2009) 593.

⁶⁵See for instance McBeath G A & Leng T K (eds) (2006) (note 54) 69.

⁶⁶See Herbert C (1998) (note 10) 566.

The law does not function solely to control. It educates, it provides, it harasses, it protects private and public interests, it provides entertainment, it serves as a fundraising institution, it distributes scarce resources, it maintains the *status quo*, it maintains class systems and cuts across class systems, it integrates and disintegrates – all these things in different places at different times with different weightings.⁶⁷

Law is possessed of inherent advantages which are likely to render it more successful than any other option in the task of sustainable forest management. One advantage which law has is its ability to tie widely disparate scientific, economic and social elements together into a coherent whole.⁶⁸ More specifically, law has the advantages described below.

3.4.1 SETTING STANDARDS

Law can provide the standards against which decisions are to be adjudged. To quote Birnie and Boyle, ‘law provides mechanisms and procedures for negotiating the necessary rules and standards, settling disputes and supervising implementation and compliance’.⁶⁹

3.4.2 REQUIREMENT OF COMPLIANCE

Compliance with legal requirements is mandatory. Forestry law is concerned with regulating forestry problems, providing common standards and practices for prevention or mitigation of pollution, or promoting conservation and sustainable management of forest resources and biodiversity.⁷⁰

Law can provide the structural framework and the legal controls necessary for a rational, intelligent and informed decision making. Law, in the form of legislation, makes the difference in sustainable forestry management where the appropriate legislation establishes binding policies and standards and provides the base for substantive and procedural regulations. A flexible rule

⁶⁷See Nader L & Yuguesson B “On Studying the Ethnography of Law” (1980) as cited by Herbert C (1998) (note 10) 567.

⁶⁸See Owiro A O “The Limitations of Kenya’s Environmental Legislation” Paper prepared and presented at the Faculty of Law/Friedrich Ebert Foundation Seminar on *The Development of Environmental Law in Kenya* (1988) 8.

⁶⁹See Birnie P *et al* (2009) (note 64) 593. Oposa (1996) (note 53) 273, has observed: Law is a tool of understanding by which human society conducts itself. The goal and objective of the law is the betterment of the public interest or the common good.

⁷⁰See for example McNeelly J A *et al* *Conserving the Worlds Biological Diversity* (1990) 58.

making process allows for easy and regular amendments in the light of technological and scientific developments so that rules, regulations and other subsidiary laws are catered for.⁷¹ The enactment and enforcement of laws and regulations at the national, provincial and local levels are essential for the implementation of policy requirements.⁷²

3.4.3 CREATING MARKETS FOR FOREST ECOSYSTEM SERVICES

The law can develop new, incentive based approaches to conserving forests. The highest profile of such initiatives is the payment for ecosystem services, which pay forest land owners for providing watershed protection, carbon storage, recreation and for biodiversity.⁷³ In Costa Rica for example, farmers are paid the equivalent of US dollars 64 per hectare per year in five years to protect biodiverse forests and for conserving trees to fix carbondioxide and store it.⁷⁴ The Costa Rican scheme recognizes the provision of ecosystem services from forests. Based on the beneficiary pays principle, the scheme provides that forest owners should be compensated for the mitigation of greenhouse gases reduction, sinking, fixing and storing carbon, as well as the protection of water, protection of biodiversity for conservation and pharmaceutical uses and for landscape beauty.⁷⁵

Payment for ecosystem services should provide incentives to farmers and owners of forest land in catchment areas to conserve forests and adopt agriculturally good environmental management measures.⁷⁶ As the contribution of deforestation and forest degradation to greenhouse gas emissions has become recognized, mitigation measures have been part of the agenda of international climate negotiations. One of the schemes has been styled as reducing emissions from deforestation and degradation, (REDD) and more recently, REDD+,

⁷¹See Sands P (2003) (note 39) 60.

⁷²This is discussed in section 3.5.16 below.

⁷³See UNEP (2008) *Forests Sourcebook: Practical Guidance for Sustaining Forests in Development Cooperation* 85.

⁷⁴See UNEP (2011) *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* 167.

⁷⁵See UNEP (2011) (note 74) 168.

⁷⁶See CIFOR "Environmental Services and Sustainable Use of Forests Programme" <http://www.cifor.cgiar.org>. (accessed on 5 January 2014).

which adds conservation, sustainable management of forests and enhancement of forest carbon stocks to the list of eligible activities.⁷⁷

Reducing emissions from deforestation and degradation, (REDD) has been linked to a multilayer payment for environmental services scheme, with transfer of finance between industrialized countries and developing countries in exchange for emission reductions associated with improvements in forest protection and sustainable management, and further transfer from the national level to forest land owners and communities.⁷⁸

Reducing emissions from deforestation and degradation (REDD) is likely to involve more national level approaches, with finance being supplied by developed countries individually or as a bloc against the performance of national level commitments to reduce deforestation and emission. This is exemplified by Norway's contribution to the Amazon fund in Brazil, which is conditional on the achievement of deforestation reduction targets.⁷⁹

The United Nations Framework Convention on Climate Change advocates policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries, the role of conservation, sustainable management of forests and the enhancement of forest carbon stocks in developing countries.⁸⁰ In addition to this, the promotion of agroforestry by the International Centre for Research in Agroforestry, has now become a necessary part of reducing emissions from deforestation and degradation.⁸¹ Kenya has made efforts to explore the potential for payment for environmental services to contribute to improved water and sustainable forest resource management. This however, needs to be actualized and legislated upon.⁸²

⁷⁷See UNEP (2011) (note 74) 168.

⁷⁸Ibid.

⁷⁹Ibid.

⁸⁰See The United Nations Framework Convention on Climate Change, Art. 4, May 9 1992; (1992) 31 *International Legal Materials* 874.

⁸¹See UNEP (2011) (note 74) 167. This is what has come to be called REDD++.

⁸²See UNEP (2008) (note 73) 85.

3.4.4 LAW AND PROPERTY RIGHTS

Any legislation or action affecting sustainable development inevitably touches upon the issue of property rights. A right of property provides a source of authority to deal with the matter in question. It is a source of power and has legal implications. Rights of property are the means by which persons, including institutions, control the way in which property is used and developed.⁸³ Any law designed for implementing sustainable forest development will intrinsically be concerned with the public interest, but such law must also balance the relationship between public rights and liabilities on the one hand, and private rights and liabilities on the other. Such law must therefore provide the right to property as the instrument conferring power upon persons to access and use the forest as a resource or the power upon which resource managers may lawfully be directed to achieve objectives that are socially, culturally, economically and environmentally desirable.⁸⁴

This approach will then support the argument that a private owner must use his property inclusive of forests, in the public interest. If individuals, communities and businesses are to invest in forest resources, and take responsibility for their sustainable management and conservation, they need to be confident of their sustainable management and property rights.⁸⁵

3.4.5 FOREST LAW AND ITS FUNCTION

Simply stated, forest law comprises rules, and doctrines arising from common law, provisions from constitutions, statutes, general principles and treaties that deal with the protection, sustainable management and utilization of forest resources and the environment.⁸⁶ The role of forestry law follows partly from a

⁸³See Herbert C “Developing Environmental Legislation for Sustainable Development in Small Island States: Some Legal Considerations from the Commonwealth Caribbean” (1996) *Commonwealth Law Bulletin* 1211.

⁸⁴Ibid.

⁸⁵See World Bank (2008) (note 11) 51.

⁸⁶See Hardaway R “Tropical Forest Legislation and Policy” (1994)11 *Environmental and Planning Law Journal* 419. However, Hardaway observes:

A solution to the worldwide devastation of rainforests cannot rely solely on the promulgation of legislation... . A real solution to the problem of rainforest preservation must include... state actions in the area of family planning and programmes of social and economic justice. Ibid 420.

discussion of the management tools and the legal strategies it employs for purposes of protection of forests. In the sustainable management and conservation of forests, forestry law primarily prescribes the standards of sustainability of the forest environment and forest resources. In this sense, forestry law ensures intra and intergenerational equity. Sustainable forest management aims to ensure that the goods and services derived from the forest meet present day needs, while at the same time securing their continued availability and contribution to longterm development.⁸⁷ In its broadest sense, this encompasses the administrative, legal, economic, social and environmental aspects of the conservation and use of forests. Law is, therefore, an essential component of the forestry development agenda.

However, law does not provide answers to all the shortcomings in the forest protection scheme. Instead, profound cultural and institutional changes are demanded. Norman Myers has observed:

In essence, we must broaden our understanding of what is needed to save the remaining forests. Primarily, we should recognize that for the most part, it is no longer a forestry problem. While much can still be achieved through traditional forestry practices (also through more protected areas within forests plus other defensive measures), these activities often do no more than tackle symptoms of deeper problems. We must address the source problem of shifted cultivator encroachment. Anything less is akin to building around tropical forests a fence that would be speedily overrun by multitudes.⁸⁸

The function of forestry law, therefore, is to protect the threshold of sustainable development in the utilization of forestry resources and to ensure intragenerational and intergenerational equity.

3.5 LEGAL STRATEGIES TO IMPLEMENT SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

Environmental laws and policies are based upon a desire to achieve certain objectives through the measures adopted. Some objectives suggest that benefit to humans is the primary reason for respecting the

⁸⁷See FAO "The Law and Forest Conservation" (2008) available at <http://www.fao.org/forestry/index.jsp> (accessed on 10 September 2011).

⁸⁸See Myers N "The Anatomy of Environmental Action: The Case of Tropical Deforestation" in Hurrell A & Kingbury B (eds) (1992) *The International Politics of the Environment: Actors, Interests and Institutions* 430.

environment. An alternative view sees intrinsic value in the environment seeking to protect its components whether or not they are necessary or exploitable by man.⁸⁹ By acknowledging that the biosphere is composed of interdependent elements, of which mankind is one part, this approach seeks to ensure the existence of each interdependent element through the preservation of all sectors and ecosystems. It is neither possible nor desirable to prescribe every detail of forestry management. Consequently, a combination of legal devices should be incorporated in the design of forest management legislation. Forest policies may be expressed in normative language in many different ways as explained hereunder.

3.5.1 CONSTITUTIONAL ENTRENCHMENT OF ENVIRONMENTAL RIGHTS

A number of countries have included a provision on the protection of the environment and natural resources in their national constitutions. This is one of the most effective solutions for the implementation of sustainable forest development. Feris has noted thus:

The creation of a constitutionally guaranteed environmental right incorporates an integrated approach to environmental problems. It discards the dualist belief that places conservation in the domain of non human species while lack of environmental quality is considered to be a problem that concerns humans. Moreover, a constitutional environmental right acknowledges the profound effect that environmental degradation may have on humans. It also acknowledges the detrimental effect that humans may have on the environment. It recognizes that environmental problems have the ability to threaten potentially everyone in an indiscriminate way, and that they can be so severe as to present a threat to the security of states. Ultimately, continued environmental degradation may threaten not only the health, livelihoods and lives of humans but our continued existence. Constitutional entrenchment of environmental rights in the form of a human right therefore serves as a basic condition for human existence.⁹⁰

However, the approach still appears anthropocentric in thrust, rather than ecocentric, in that the focus is essentially human centred rather than a recognition that flora and fauna are equivalent stakeholders in the

⁸⁹It has, in fact, been argued that if non human forms of life are to have rights, legal strategies to provide the environment to have access to the court in its own right against abuse by humanity should be considered. A solution may be to establish a trustee for the environment just as one has a guardian for a child to enable the endangered species or areas to get protection. For an analysis of this argument, see Herbert C (1998) (note 10) 571.

⁹⁰See Feris L "Constitutional Environmental Rights: An Underutilized Resource?" (2008) 24 *South African Journal on Human Rights* 29 33.

management of the environment.⁹¹ The fundamental freedoms presently entrenched presuppose survival of the human species, yet the access to the prerequisites of survival are yet to be prescribed as fundamental rights. These fundamental rights should be predicated in the first instance upon clean air and clean water. Consequently, there is a powerful argument to entrench this right in a country's constitution. A fundamental right to clean air and water would conform to this principle, in addition to being a survival issue.⁹²

However, there is need to define the right more broadly, as in the Constitution of South Africa, so as to place a duty on governments to provide for proper standards by way of legislative or other means. Thus, the South African Constitution provides:

Everyone has the right

- a) to an environment that is not harmful to their health or well being, and
- b) to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that
 - (i) prevent pollution and ecological degradation
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.⁹³

This is hoped to promote a model character for the citizenry to follow and influence and guide public discourse, action and behaviour. They also enable environmental protection to achieve the highest rank among legal norms, superseding all related statutory laws, or court decisions.⁹⁴

In this respect, environmental protection will be more firmly rooted in the legal order because constitutional provisions ordinarily may be altered

⁹¹Ibid.

⁹²The trend now is to move away from the issue of clean air and clean water to a healthy and clean ecology. Article II of the *Constitution of Philippines* (1987) provides:

The state shall protect the right to health of the people and instill health consciousness among them and the state shall promote and advance the right of the people to a balanced and healthful ecology in accordance with the rhythm and harmony of nature.

⁹³See the Constitution of the Republic of South Africa (1996) Section 24, in Flanz G A & Ward P (eds) *Constitutions of the Countries of the World* (2004) Volume XVI.

⁹⁴See Brandl E & Bangert H "Constitutional Entrenchment of Environmental Protection: A Comparative Analysis of Experiences Abroad" (1992) 16 *Harvard Environmental Law Review* 14.

only pursuant to elaborate procedures by a special majority. Some constitutional provisions on fundamental rights are characterized by their stipulation of individual personal rights which are enforceable by the individuals themselves through court action. The Constitution of Portugal is instructive on this. It provides as follows:

1. Everyone shall have the right to a healthy and ecologically balanced human environment and the duty to defend it.
2. It shall be the duty of the state acting through appropriate bodies and recourse to popular initiative to
 - a) ...;
 - b) have regard in regional planning to the creation of balanced ecological areas;
 - c) create and develop natural reserves and parks and recreational areas and classify and protect natural landscapes and sites so as to ensure the conservation of nature and the preservation of cultural assets of historical or artistic interests; and
 - d) promote the rational use of natural resources, safeguarding their capacity for renewal and ecological stability.⁹⁵

The necessity to entrench environment in the constitution is compelling and should in fact be obvious as the right to a sound and healthy environment underlies the right to life itself. The Constitution of Uganda is instructive in the manner it has elevated environmental rights into the status of fundamental human rights. Article 13, entitled 'Protection of Natural Resources' provides as follows:

The state shall protect important natural resources including land, water, wetlands, minerals, oil, fauna and flora on behalf of the people of Uganda.

On the environment, Article 27 provides:

- i) The state shall promote awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the future and present generations.
- ii) The utilization of the natural resources of Uganda shall be managed in such a way as to meet the development and environmental needs of the present and future generations of Uganda; and in particular, the state shall take all possible measures to prevent or minimize damage and destruction of land, air and water resources resulting from pollution and other causes.
- iii) ...
- iv) The state and local governments shall

⁹⁵*Constitution of Portugal* (1982) Article 66, in Flanz G H & Ward P (eds) (2004) (note 93) Vol. XV. But see also the *Constitution of Kenya* 2010 Articles 42, 69 and 70 and also Chapter Four, section 4.3.1 below.

- a) create and develop parks, reserves and recreation areas and ensure the conservation of natural resources;
- b) promote the rational use of natural resources so as to safeguard and protect the biodiversity of Uganda.

Chapter four of the Constitution of Uganda deals with the protection and promotion of fundamental and other rights and freedoms. Article 39 provides that every Ugandan has a right to a clean and healthy environment. It goes on to state that:

the government or a local authority as determined by Parliament by law, shall hold in trust for the people and protect natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and touristic purposes for the common good of all citizens.⁹⁶

In this context, issues of environment and sustainable forestry management and conservation will be given the relevant force of law for effective management and conservation.

All the main causes of forest destruction are ultimately explained by economic and political imbalances.⁹⁷ Strategies for the conservation of forests must, therefore, address the social and economic obstacles if there has to be a solution to deforestation.⁹⁸ The analysis of conservation strategies will, therefore, include an approach to the integration of law with an emphasis on planning, co-operation and education. Integration involves a multifaceted approach that combines the command of law with compliance efforts that are more broadly based and, where feasible, linked to community involvement.

Constitutional entrenchment of the right to a sound and healthy environment underline the right to life itself. Good health, which depends on a sound environment, precedes other freedoms such as the freedom of the press,

⁹⁶*The Constitution of Uganda* (1995) Article 237, in Flanz G H & Ward P (eds) (2004) (note 87) Vol. XIX.

⁹⁷See for example World Commission on Environment and Development *Our Common Future* (1985) 157-158.

⁹⁸See for example Arriagha JT "Integrated Production Systems" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 293. For an indepth discussion of the same point, see Brown KS & Brown GG "Habitat Alteration and Species Loss in Brazilian Forests" in Whitmore T C & Sayer J (eds) (1992) *Tropical Deforestation and Species Extinction* 119. The two authors state that realistic strategies for the conservation of forests and their genetic heritage must pass as much through the economic and social considerations which govern land use patterns as through biological survey and monitoring.

assembly, religion and liberty because such rights are only exercisable by one who is alive and in good health.⁹⁹ The necessity to entrench environment in the Constitution is compelling. There appears to be a general agreement that formal constitutions provide an essential and enforceable framework for sustainable forest development.¹⁰⁰

The Constitution of Kenya contains a number of explicit provisions on environment and natural resources which emerge as fundamental rights and as expressions of public policy.¹⁰¹ To a degree, the concern for the protection of human rights and the concern for the conservation of forests are mutually reinforcing.¹⁰² Human rights and forest law are both needed to provide better human living conditions. Human rights are applied to forestry and can be used to indirectly combat forest degradation, as a threat to existing human rights. They can be used for more effective forestry decision making processes, and they can be used to more directly enforce forest protection in view of the human right to a healthy environment¹⁰³ and the concept of sustainable development.¹⁰⁴

3.5.2 ECOSYSTEM CENTERED CONSERVATION

Some 4.5 per cent of the world's forests are within protected areas.¹⁰⁵ The thrust of this strategy is to establish a network of protected areas representing the major forest ecosystems in each country. Forest areas may be designated as forest parks and reserves and land use changes or damaging activities within the designated areas are restricted. It is imperative to conserve natural ecosystems intact for various reasons. The environmental services performed by forests can only be protected in working ecosystems.

⁹⁹See Okidi CO et al (2008) (note 3) 12. See also the reasoning of the court in the Oposa Case (1994) 33 *International Legal Materials* 173 181.

¹⁰⁰See Herbert C (1998) (note 10) 576.

¹⁰¹See Articles 42, 69, 70, 71 and 72 of the Constitution of Kenya 2010. See also the full discussion in chapter four, section 4.3.1 and chapter three section 3.3.4 hereof..

¹⁰²See Bosselmann K *The Principle of Sustainability: Transforming Law and Governance* (2009) 112. See also Article 69(2) of the Constitution of Kenya.

¹⁰³Bosselman K (2009) (note 102) 112.

¹⁰⁴See Article 10 (2) (d) of the Constitution of Kenya.

¹⁰⁵See Carwardine M *The WWF Environment Handbook* (1990) 60.

Many species have co-evolved to rely on each other and can only be conserved in their natural habitat.¹⁰⁶

The creation of protected areas is a common technique for protecting forests. Originally, parks were designed primarily to protect scenic areas for recreational purposes. At the national level, various kinds of protected sites are established by law. These are set aside areas where specific land use restrictions are established for forest conservation purposes. Protected sites may be created through acquiring public ownership of land, giving the state the capacity as land owner to prohibit or restrict access and activities. Alternatively, the police power of the state may be used to regulate human activities on both publicly and privately owned land.¹⁰⁷ Traditionally, protected areas have been referred to as nature parks or nature reserves. Efforts to harmonize the use of terminology have generally been unsuccessful.¹⁰⁸ In Kenya, for example, County Government game reserves have been defined exactly the same as national reserves except that a County Government is the competent authority.¹⁰⁹ Some of the policies and statutes are contradictory. For example, the Wildlife (Conservation and Management) Act¹¹⁰ prohibits extractive uses of the forest, which the Forests Act¹¹¹ permits.

The Agriculture Fisheries and Food Authority Act¹¹² promotes putting more

¹⁰⁶See IUCN (1980) (note 2)2.

¹⁰⁷The police power is the power of the state to promote the public welfare by restraining and regulating the use of liberty and property. It is a recognized power of the state to promote the health safety and welfare of the public. For further discussions on this point, see Roe CE "Innovative Techniques to Preserve Rural Land Resources" (1976)5 *Environmental Affairs* 419 421. See also part 3.5.4 below.

¹⁰⁸See World Conservation Union (IUCN) *Biodiversity in Sub-Saharan Africa and its Islands: Conservation, Management and its Sustainable Use* (1990)14.

¹⁰⁹See Republic of Kenya *Sessional Paper No. 3 of 1975: Statement on Future Wildlife Management Policy in Kenya* (1975)10. The policy identifies the features of national reserves being on state land, having been declared by the minister for tourism and wildlife, with the consent of the competent authority. Their main objectives are to preserve in a reasonably natural state, examples of the main type of habitat which are found within Kenya, including marine habitat for aesthetic, scientific and cultural purposes, to provide educational and recreational opportunities for Kenyans, to provide an attraction for tourists and to serve as a major basis for Kenya's economically profitable tourist industry and to sustain any other activities which are not in conflict, like water catchment protection and commercial photography.

¹¹⁰Cap 376 Laws of Kenya (Revised edition 1985). See sections 10, 11 and 13 of the Act.

¹¹¹Act No 7 of 2005 Laws of Kenya sections 22, 42, 46 and 48 of the Act.

¹¹²Act No. 13 of 2013, see section 21 thereof.

land under agriculture which may negatively impact on forest areas, something that the Forests Act seeks to protect. Again, the definition of national parks is given as state lands gazetted under the Wildlife (Conservation and Management) Act,¹¹³ yet national parks contain areas of indigenous forests, many of which have previously been gazetted as forest reserves.¹¹⁴ In effect, a national park can also be a forest reserve.

Protected areas that have been established include biosphere reserves, national parks, natural monuments, nature reserves, wildlife sanctuaries and protected landscapes.¹¹⁵ While the preferred management system and desired degree of human intervention in these areas vary by the type of category, country and location, these areas are all intended to maintain intact stands of native forest or other natural vegetation.¹¹⁶ One basic strategy to limit the damage done by deforestation is to set aside legally protected areas where forest clearing is not allowed. Appropriate forms of protected areas should be designed for each situation, depending upon factors such as the social and economic needs of the local people, the particular needs of the species and ecosystems in each area, tourist and sport hunting potential and research importance.¹¹⁷

The protection and sustainable management of the forests will be successful if society recognizes their value to human welfare. The forests cannot be protected at the expense of the local economies. The protected area model proposed by the Man and the Biosphere Program (MAB) of UNESCO seeks to integrate humans and their activities with natural systems to provide

¹¹³Cap 376 Laws of Kenya, (Revised edition 1985).

¹¹⁴See Wass P (1995) (note 29) 82.

¹¹⁵For a comprehensive study of the various forms of these protected areas, see Ledec G "New Directions for Livestock Policy: An Environmental Perspective" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 39. See also IUCN (1990) (note 108) 14. The IUCN has defined a set of protected area categories in which varying degrees of human use are permitted.

¹¹⁶Ibid 51.

¹¹⁷See Brockington D (2002) (note 8) 85-121.

services and products for the human economy.¹¹⁸ This model recognizes that in order for the people to look forward to a life with a high economic, spiritual and environmental quality, it is necessary to use natural resources.¹¹⁹ Of utmost importance is to recognize the interdependence between the two systems and take necessary steps to maintain both systems. The importance of protected areas has been underscored by Jeffrey A. McNeely, who states:

Areas that have been given legal protection against conversion to other uses should be among those not considered for alteration or conversion; their contribution to development, is typically through maintaining their relatively natural state. In fact, the World Bank's policy on wildlands,...expressly prohibits the use of Bank funds to convert legally protected areas to any other uses except under the most stringent and exceptional conditions. As development has accelerated in the past few decades, governments have recognized the importance of legally protected areas as part of the overall pattern of land use.... Such sites are an indispensable element of conservation because they maintain those essential ecological processes that depend on natural ecosystems; they preserve the diversity of species and the genetic variation within them, thereby preventing irreversible damage to our natural heritage; they maintain the productive capacities of ecosystems and safeguard habitats critical for the sustainable use of species; and they provide opportunities for scientific research, education, training, recreation and tourism.¹²⁰

Population growth and economic development are threatening many protected areas. Furthermore, the list of demands placed by society upon wildland reserves is expanding. Strictly protected areas cannot be managed to meet society's growing list of goals and services, involving such diverse activities as genetic resource management, watershed protection, recreation and education. Additional approaches to the management of protected areas are required to supplement the idea of strictly protected national parks, where some sustainable harvesting of biological resources can be among the objectives of protected area management. As a result of establishing protected areas, many other benefits will accrue to society including the maintenance of watersheds, a renewable supply of products and services from multiple use areas and a range of social, cultural and ethical benefits.¹²¹

¹¹⁸Lugo A "Tropical Forest Uses" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 117.

¹¹⁹Oposa observes that the legitimacy and effectiveness of a law is in large part dependent on publicizing the law. Creative legal marketing must use proactive methods to sell the social good and the mode of conduct desired. See Oposa A A (1996) (note 53) 276.

¹²⁰McNeely J A *et al* *Conserving the World's Biological Diversity* (1990) 58.

¹²¹Miller K R *et al* "Issues on the Preservation of Biological Diversity" in Repetto R (eds) in (1985) *The Global Possible: Resources, Development and the New Century* 308.

The establishment of legally protected forest areas has been vitally important in reducing species extinctions and the other social costs of deforestation. However, it suffers from two major deficiencies.¹²² First, many forest types still lack forest protection. Second, many protected areas are ‘paper parks’, receiving little or no on the ground protection from deforestation or other illegal activities. Vanessa Halhead further criticizes the use of legally protected areas by pointing out that:

. . . site protection and the use of reserves, for the purposes of conservation are inappropriate and ineffective tools,.... Most attempts to do this have failed. Prohibition of any kind, especially in the face of economic deprivation, is perceived as a threat and will induce the hostility of the local communities whose cooperation is essential. In turn, this may lead to exploitation and misuse of the reserve in the face of competing local interests.¹²³

There are too many people traditionally relying on the forest for their survival, and too many economic pressures encouraging governments to exploit the same forests for short term gain. Hiding a sufficient area of forest away from the onslaught of loggers, farmers, ranchers and miners is thought to be unrealistic and a dream that might never come true.¹²⁴ It, therefore, follows that people must be given a vested interest in the conservation process. Finding ways to exploit forests without threatening their long term future is, ultimately, the best way of saving them.¹²⁵ Adding his voice to the disadvantages of strictly protected areas in respect to tropical forests, Hans Jurgen Maydell has written thus:

When discussing ways and means of preserving the tropical rain forest, considerations have so far focused on the possibilities of keeping the people out. This concept is fundamentally wrong, because it is impossible to implement and supervise it. People without a livelihood encroaching on the rainforest and depending on shifting cultivation cannot be kept out of the forest by barbed wire fences nor can

¹²²Ledec G (1992) (note 115) 52.

¹²³Halhead V “Social Dimensions of Forest Utilisation in Mexico: Implications for Intervention” in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 165.

¹²⁴See Carwardine M. (1990) (note 105) 60. Human conduct is such that it responds to the stimuli of pleasure and pain. To promote behaviour therefore, the law must promise a pleasure, and to discourage behaviour, the law must present the possibility of pain. This is the incentives and disincentives or the carrot and stick approach, or what is sometimes called the candies and needles approach.

¹²⁵For a detailed examination of this point, see Geteria W “Maathai Mistaken on Forest Conservation” (2005) *Daily Nation* Thursday December 1 2005. Geteria argues that forestry now is about people’s needs. Poverty eradication, food, wood, wild nuts, gum, honey, timber and wild meat production. He takes issue with proposals about treating forests as shrines where no one is allowed and proposes that forests are meant for use by people.

they be driven out by the police.... Prohibitions, without legal alternative options create counter pressures and challenge the intelligence of those concerned to develop evasive tactics. Instead, forest policies should increasingly employ other control measures like special support programmes.¹²⁶

There must be a commitment to involve community members and local institutions in the sustainable management and conservation of forest resources. Indeed, Kenya's Forests Act allows any forest community or person interested in utilizing or conserving any grove or forest which is part of a nature reserve for cultural, religious, educational, scientific or other reasons, to apply to the director of the Kenya Forest Service for that purpose.¹²⁷

It is, therefore, clear that even in setting up protected forest areas, the forest policy should be people oriented.¹²⁸ The forest should be managed for the people and not from the people. The forest should be viewed as existing for the people and not for the national environment alone. The problems that hinder efforts to attain the conservation and sustainable use of forest resources stem from the lack of alternative options available to local communities. In particular, the problems of the urban poor and poor rural populations who are economically and socially dependent on forests and forest resources, should be addressed by governments.¹²⁹ The Forest Principles require that protected areas should be established for forests that represent unique, ecologically viable communities or are of unique national, cultural, spiritual, historical and religious importance.¹³⁰ Further, sustainable forest management should be integrated with the management of adjacent areas so as to maintain ecological balance and sustainable productivity.¹³¹

There are various categories of protected forest areas. These are described hereunder.

¹²⁶Maydell H J V "Reflections on Forest Policy for the Preservation and Use of Tropical Forests" (1991) 34 *Natural Resources Journal* 20-21.

¹²⁷See Section 46 of the Forests Act Act No. 7 of 2005, Laws of Kenya.

¹²⁸Khator R *Forests: The People and the Government* (1989)79. The manner of implementing the law must be socio-culturally sensitive. Implementation must take into account the particular social and cultural characteristics of the people who are the target market of the law.

¹²⁹See the Forest Principles (1992) (note 24) Principle 9 (b).

¹³⁰The Forests Principles Principle 8 (f) (1992) (note 24).

¹³¹The Forest Principles, Principle 8(e) (1992) (note 24)

3.5.2.1 National Parks

National parks are the oldest form of protected areas. They are placed under state control and, in most cases, have their boundaries changed only by legislation. They are areas set aside exclusively for propagation, protection, conservation and management of vegetation and wild animals, as well as for the protection of sites and landscape. National parks play a vital role in preserving biological diversity by safeguarding critical forest habitat from the ravages of deforestation. The establishment of national parks is one process of developing the conservation of natural habitat on public land. The development of conservation on public land should, in principle, be easy to achieve. The land is under state control and no private interests are likely to be affected by any conservation measures.¹³²

National parks have wide international recognition and are jewels in the conservation crown.¹³³ They enjoy a high public profile and are often of large size, preserving extensive ecosystems, but they may be too large to facilitate management of highly endangered species. They are also public areas in the sense that people traditionally have reasonably controlled access to them. There are problems regarding the existing network of protected forests. Existing national parks need better policing and on the ground surveillance.¹³⁴ Many designated parks are still threatened by illegal timber harvesting, wildfires and encroachment.¹³⁵ The demarcation of an area as a national park

¹³²Klemn C D "Conservation Legislation" in Given D R (ed) (1994) *Principles and Practice of Plant Conservation* 189.

¹³³Given D R "Plant Conservation in Protected Natural Areas" in Given D R (ed) (1994) (note 132) 96. In the case of Kenya, national parks are declared and gazetted by the minister in charge of wildlife pursuant to section 6 of the Wildlife (Conservation and Management) Act, Cap 376 Laws of Kenya. Examples of such gazetted national parks are Kisite Marine National Park, Ruma National Park and Hells Gate National Park. These have been declared and gazetted by way of legal notice in the Kenya Gazette.

¹³⁴Park C *Tropical Rainforests* (1992) 136. In Kenya, a full range of the regulations controlling entry to national parks have been published. See for example, Legal Notice No. 219 of 1976- The Wildlife (Conservation and Management) National Parks Regulations. They control issues of entry, closure, prohibited acts, nuisances and the use of weapons. Section 16 of the Wildlife (Conservation and Management) Act, provides for the making of these regulations.

¹³⁵Norman Myers has suggested that:

the survival of the forest depends on a range of policy interventions to help the subsistence farmer make an acceptable living in established farmlands outside the forests and then, forestal his compulsion to head to the forests. This requires measures to promote efficient agriculture and agrarian reform. See Myers N (1992) (note 88) 430

does not of itself guarantee protection. The major drawback of the national park policy of protected area conservation is that it fails to tackle the root causes of deforestation. Conservation groups cannot hope to buy all the threatened forests. Neither will governments simply turn them into protected areas with no economic functions.¹³⁶ Any solutions must, therefore, tackle the economic causes of forest loss.

A general complaint concerns the unavailability of forest land as much land is taken by parks or is under cultivation. In addition to this, are disputes over park boundaries and the privilege of grazing and watering of livestock inside the parks. These problems have manifested themselves in Kenya's Amboseli National Park, the Aberdares National Park and the Nakuru National Park.¹³⁷

3.5.2.2 Nature Reserves

These are generally subject to the strictest regulation and are sometimes referred to as forest reserves.¹³⁸ They are forest areas for the protection of important water catchments controlled under the forest legislation.¹³⁹ They are legally declared for nature conservation of genetic resources and for scientific studies. Their main purpose is to protect nature and maintain nature processes in an undisturbed state in order to have ecologically representative samples of the natural environment available for scientific study, environmental monitoring and education and for the maintenance of genetic resources in a dynamic and revolutionary state.¹⁴⁰ They are also areas of

¹³⁶This is not to say, of course, that forest legislation should seek to freeze the forest landscape. All forests are biologically dynamic. Most are subject to human pressures and therefore need to be in one sense or another, managed. The extraction of wealth from the forests have long been a feature of human existence and will continue. But those aspects of the forests which most closely resemble the natural are increasingly vulnerable and if the forests are to be conserved, action which disturbs them, and thereby threatens them requires consideration. For further discussions on this point, see Bradsen J "Biodiversity Legislation: Species, Vegetation, Habitat" (1992) 9 *Environmental and Planning Law Journal* 175.

¹³⁷See for example UNEP & Kenya Wildlife Fund Trustees *People Parks and Wildlife: Guidelines for Public Participation in Wildlife Conservation* (1988)73.

¹³⁸See the United Republic of Tanzania *National Forest Policy* (1998) ix.

¹³⁹ibid, (viii). The policy defines a forest as all land bearing a vegetative association dominated by trees of any size, exploitable or not, and capable of producing wood and other products of exerting influence on the climate or water regime or providing shelter to livestock or wildlife.

¹⁴⁰See IUCN (1990) (note 108) 15.

beauty and unique features and the habitats of rare or endangered flora and fauna. They are placed under state control and their boundaries may not be altered except by legislation. Within such reserves, it is forbidden to exploit any of the resources or perform any act likely to harm or disturb the fauna or flora. One very basic strategy to limit the damage done by deforestation is therefore to set aside nature reserves.

For instance, in Costa Rica, this approach towards controlling deforestation has succeeded to a significant degree. The country has one of the best-protected systems of reserves, yet outside these islands of conservation, it has suffered relatively high rates of deforestation.¹⁴¹

In Botswana, the Forests Act of 1968, which was amended in 1978, confers power upon the President of Botswana, to establish forest reserves on state land.¹⁴² The Act also permits local authorities to request the minister concerned to establish forest reserves under their control. Once these areas have been declared forest reserves, the cutting and burning of trees within their boundaries is prohibited. Another legal instrument for controlling the use of forests in Botswana is the Agricultural Resources Act, of 1974 whose objective is to conserve agricultural plants and other vegetation.¹⁴³ The Act established an Agricultural Reserve Board to issue conservation and animal stock control orders, develop regulations on conservation and advise local land boards on land use. The Forests Act of 1968 of Botswana grants local authorities power to introduce by-laws for charging and collecting fees and royalties. The Agricultural Resources Act of 1974 provides for the issue of conservation and stock control orders, development of regulations on conservation and advises local land boards through the Agricultural Resources Board established under the Act. Botswana has therefore

¹⁴¹See Park C (1992) (note 134) 132.

¹⁴²See Fidzani N H "The Management of Forest Reserves in Botswana" in McCracken J F & Abaza H (eds) (2000) *Economic Instruments for Environmental Management: A World wide Compendium of Case Studies* 31.

¹⁴³Ibid.

combined command and control policies as well as economic instruments to regulate and influence the management of its forests.¹⁴⁴

In Kenya, a number of nature reserves have been put under the joint management of the Kenya Forest Service and the Kenya Wildlife Service under terms and conditions agreed to by both parties, pursuant to a memorandum of understanding relating to their management.¹⁴⁵ Some examples of these include the Aberdare forest, Mt. Kenya forest, the Mau Forest complex, Kakamega forest, Lembus forest, and the mangrove forests of Watamu/Malindi and the Tana River Delta.¹⁴⁶

3.5.2.3 Biosphere Reserves

The first concerted international efforts to slow down deforestation around the world came in 1973 - 1974 in the Man and the Biosphere Program (MAB), organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Proposals from the MAB studies include the suggestion that all governments should lay aside tracts of land in which development would be prohibited. This worldwide program of international scientific cooperation also considers the interaction of people and their environment in a wide range of bioclimatic and geographic situations.¹⁴⁷ Biosphere reserves are protected representative ecological areas linked by a coordinated international network. Areas are chosen and managed as natural

¹⁴⁴ *Ibid.*

¹⁴⁵ See United Nations Environment Programme & Kenya Wildlife Fund Trustees (1988) (note 137) Annex 1 thereof.

¹⁴⁶ *Ibid.*

¹⁴⁷ It has however been observed by Brown JD that:
the MAB program however, is a world network of biosphere reserves in name only. The interests of national sovereignty have limited the MAB program to simply a mechanism for recognition that offers little support for the maintenance and survival of the biosphere reserves.

See Brown JD "The integration of Man and the Biosphere" (2002)14 *The Georgetown International Environmental Law Review* 741 743.

or minimally disturbed representative examples of the world's ecosystems.¹⁴⁸ Kenya has three terrestrial and two marine biosphere reserves in the world network of 411 biosphere reserves in 94 countries of the world. Kenya's biosphere reserves are Mt. Kulal, Mt. Kenya, Amboseli, Malindi/Watamu and Kiunga.¹⁴⁹ The biosphere reserve concept employs the ecosystem management approach that promotes conservation and the sustainable use of land, water and living resources in an equitable way.¹⁵⁰ All the interests of diverse stakeholders who manage or influence the management of specific natural resources are taken into account.

The concept of biosphere reserves differs from that of many traditional protected areas because it combines nature conservation with scientific research, environmental monitoring, training and demonstration in resource management, environmental education and local participation. Long term legislative, regulatory and institutional protection is an integral part of the biosphere reserve program.¹⁵¹ People are considered an important element of the landscape and, as a consequence, of the biosphere reserve. Local residents are encouraged in its sustainable management, which ensures strong local acceptance of conservation initiatives.

¹⁴⁸The example of the Amboseli biosphere reserve is instructive here. The area has been very attractive to various projects involving academics and donors. It is one of the most studied parks, not only in Kenya or Africa, but the world over. Many projects have been undertaken involving the local Masai community. Group ranch members have been generating income from activities such as campsites and bird shooting. The local Masai community is however vulnerable to exploitation by rich land buyers who tend to turn the land into arable land which is incompatible with biodiversity conservation. There has, however, been tangible development among Masai living around Amboseli biosphere reserve. For this and more, see UNESCO & the Kenya National Commission for UNESCO *Report of the National Workshop on Biosphere Resources Held on Malindi, Kenya (2002)*.

¹⁴⁹See UNESCO *Report of the International Coordinating Council of the Programme on Man and the Biosphere – Final Report 18-22 March 2002 (2002)* 11. The MAB council noted that one of the most effective means of encouraging countries to implement multilateral agreements would be to coordinate with the secretariats of the relevant multilateral environmental agreement (e. g the Convention on Biological Diversity) to promote biosphere reserves as instruments for their implementation at the national level).

¹⁵⁰See UNESCO & the Kenya National Commission for UNESCO (2002) (note 148)7.

¹⁵¹See UNESCO *Final Report of the International Coordinating Council of the Programme on Man and the Biosphere Seventeenth Session 18-22 March 2002 MAB Series No. 70 (2002)*9.

3.5.2.4 Wilderness Reserves

A wilderness may be defined as a large roadless area of undisturbed vegetation where most human activities are prohibited.¹⁵² Wilderness areas generally remain open for tourism and camping without having developed campsites. Permits are normally required for entry or for overnight camping.

The wilderness area concept was initiated in the United States where vast areas are created by Acts of the US Congress under the Wilderness Act of 1964.¹⁵³ The law prohibits construction of roads and tracts and access by motor vehicles into wilderness areas. This means that all roads, power transportation and settlement are barred. This concept of conservation is unique to the United States of America.

3.5.2.5 Natural Monuments

These are zones of particular scenic beauty in historical or cultural value. They may be trees, waterfalls, rock formations or fossils.

The damaging of a natural monument is illegal although private land owners may apply for a permit to conduct prohibited activities. Natural monuments are also referred to as natural landmarks¹⁵⁴ and are meant to protect and preserve naturally significant natural features because of their special interest or unique characteristics. In Kenya, these have been styled as national monuments. They are gazetted under the National Museums and Heritage Act¹⁵⁵ for historical and cultural purposes, and are controlled by the National Museums of Kenya. Access to national monuments is restricted. Some national monuments contain small areas of indigenous forests, for example the Gedi Ruins and the Kwale Riverine forests in Kenya.¹⁵⁶ Recently, UNESCO recognized Fort Jesus in Mombasa as a world heritage site.¹⁵⁷

¹⁵²Kiss A & Shelton D (1993) (note 9)133.

¹⁵³ See Wilderness Act 1964, 16 USC § 1131. See also Coggins C G *et al Federal Public Land and Resources Law* (1992) 109.

¹⁵⁴See IUCN (1991) (note 14)15.

¹⁵⁵Act No. 6 of 2006, Laws of Kenya.

¹⁵⁶See Wass P (1995) (note 29) 82.

¹⁵⁷See Ringa M "UN Listing of Fort Jesus Boosts its Tourist Image" (2011)17.

3.5.2.6 Game Reserves

These are also known as game sanctuaries. They are established for the sustainable management, conservation and propagation of wild animal life and the sustainable management of their habitats.¹⁵⁸ Human activities, including settlement, are controlled. They ensure that the natural conditions necessary to protect nationally significant species, groups of species, biotic communities, or physical features of the environment are conserved, when human manipulation may threaten their perpetuation. In Kenya, game sanctuaries are gazetted under section 19 of the Wildlife (Conservation and Management) Act,¹⁵⁹ to protect specified species of wildlife, which should not be hunted. These include guinea fowls, quails, geese, ducks, elephant, leopard, lion or rhinoceros.¹⁶⁰

Certain forests fall within game reserves. These forests are protected by the Forests (Controlled Entry) Rules.¹⁶¹ Specific species of trees should not be harvested from such forests. These include *juniperous procera* and *podocarpus gracilior*.

3.5.2.7 Protected Landscapes

These are established to maintain nationally significant natural landscapes characteristic of harmonious interaction of man and land, while providing opportunities for public enjoyment through recreation and tourism within the normal lifestyle and economic activity of these areas.¹⁶² Kenya has a huge diversity of protected landscapes which encompasses special types

¹⁵⁸In defence of this conservation mechanism, Ohmsted has argued that there are some things that change back and forth from one state to another, such as water, and land is not in that category. Natural land, once altered, can never be given its natural state. Nor is it possible for humanity to accomplish this. Once the topography has been bulldozed into unnatural forms, the vegetation removed, the last of rare species vacated, the land is for ever changed. For a detailed account of this, see Ohmsted J "Representing Non Current Generations: The Problem of Now" (2008)23 *Journal of Environmental Law and Litigation* 451.

¹⁵⁹Cap 376 Laws of Kenya (Revised edition 1985).

¹⁶⁰See Schedule to the Wildlife (Conservation and Management) Act, Legal Notice No.101 of 1983.

¹⁶¹See section 65 of the Forests Act. See also, the Forests (Controlled Entry) Rules, Legal Notice No. 45 of 1965.

¹⁶²See IUCN (1990) (note 108)112.

of habitats. Some of these include the Taita Hills game sanctuary and the Taita Hills themselves.¹⁶³ These are protected under the National Museums and Heritage Act 2006,¹⁶⁴ which provides for the gazettelement of national monuments including protected areas, some of which have areas of indigenous forest cover, such as the Ololua forest reserve, Kitale riverine forest and the Kaya forests at the coast of Kenya.¹⁶⁵

3.5.2.8 Sites of Special Scientific Interest

In addition to the traditional types of forest reserves, the United Kingdom has a category of sites of special scientific interest. These sites may be the subject of nature conservation orders to protect them for a period of twelve months.¹⁶⁶ When such sites are identified by the Nature Conservancy Councils of England and Scotland, or the Countryside Council for Wales, notification is given to the minister competent for the region concerned and to the owner or occupier of the land, specifying what activities or operations are likely to damage the fauna, flora or other features sought to be conserved.¹⁶⁷ This conservation feature is unique to the United Kingdom.

The Convention on Biological Diversity recognizes *in situ* conservation as the primary approach for biodiversity conservation.¹⁶⁸ The Convention addresses the conservation of ecosystems, natural habitats, wild species, genetic diversity and the maintenance of viable populations of species in natural surroundings.¹⁶⁹ Of particular interest is the balance struck between conservation measures envisaged both within and beyond protected areas. Protected areas form a central element of any national strategy to conserve biodiversity. Well known as national parks and nature reserves, they also encompass more recent concepts such as sustainable use reserves, wilderness areas and heritage sites. Brown has thus stated:

¹⁶³Ibid.

¹⁶⁴Act No.6 of 2006.

¹⁶⁵See Wass P (1995) (note 29) 84.

¹⁶⁶See Ball S & Bell S *Environmental Law: The Law and Policy Relating to the Protection of the Environment* (1995)486.

¹⁶⁷Ibid.

¹⁶⁸Article 8.

¹⁶⁹Article 8 (d).

The text of the Convention corresponds closely with the central goals of the man and biosphere program. The Convention on Biological Diversity focusses on the need for ecosystem management. The fundamental requirement for the conservation of biological diversity is the *insitu* conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings.¹⁷⁰

It is thus clear that all these forms of *insitu* conservation, support the principle of sustainable forest management and they should be employed to guarantee effective conservation.

3.5.3 THE POWER OF EMINENT DOMAIN

The power of eminent domain can be exercised only for a public use, public purpose, or public interest.¹⁷¹ The use of the power of eminent domain to acquire property to conserve important forest lands may be a legally acceptable public purpose or public interest requirement.¹⁷² One problem inherent in the use of eminent domain to protect forest lands by way of outright purchase is that the acreage involved will make the public cost prohibitively expensive, even with a rigorous system of land classification and ranking for public importance. The power of eminent domain will vest land ownership in the state. Public ownership of land is a powerful conservation tool, since the state or the land holding government agency has the right, in its capacity as a land owner, to restrict or prohibit access and activities by third parties on the land it owns, and to carry out any management measure that may be required.¹⁷³ However, legislation is required to provide for the dedication of public land to conservation to the exclusion of other purposes, to bind government agencies to observe land use restrictions and to penalize illegal activities by third parties. The power of eminent domain may be

¹⁷⁰Brown J D (2002) "The Integration of Man and the Biosphere" (2002) 14 *The Georgetown International Environmental Law Review* 741. The critique here is that most biodiversity is located in the developing world which lack the resources to undertake urgent programmes of conservation.

¹⁷¹This concept is derived from the Roman concept *Dominium eminens* (Sovereignty over territory). It is the power of the state to take private property for public purposes, that is, the power of the sovereign to compulsorily acquire land for public purposes. For a more detailed discussion of this concept, see Sevcick RJ "Trouble in Fort Turnbull: Using Eminent Domain for Economic Development in *Kelo v. City of New London*" (2006) 2 *Nebraska Law Review* 547. Any taking of private property must attract fair and prompt compensation.

¹⁷²See Article 40 (3) of the Constitution of Kenya. See also chapter four, section 4.3.4.

¹⁷³The World Conservation Union (IUCN) *Biological Diversity Conservation and the Law: Legal Mechanisms for Conserving Species and Ecosystems* (1996) 165.

exercised by the state, in addition to ways of acquisition of land, for conservation purposes as outlined hereunder.

3.5.3.1 Right of Pre-Emption

The right of pre-emption is the right granted to a conservation agency by law to purchase or appropriate land available for sale before the opportunity is granted to other interested purchasers.¹⁷⁴ It is important that conservation departments or agencies have legal powers to acquire land for conservation purposes. The capacity to acquire, in terms of the availability of funds for purchase, is not always sufficient. Conservation agencies should also have the right of pre-emption over any land that comes on the market, whether public or private. Under this strategy, the agency which has the right of pre-emption must be informed of any proposed sale, and no contract of sale can be finalized until the agency has informed the seller that it does not have the intention to exercise its right.

There is, however, often a time limit after which the agency can no longer avail itself of this opportunity. This means that money needs to be available at short notice, which is generally difficult in the context of government spending. A right of pre-emption may also be instituted by a contract between a land owner and a conservation agency. Under such a contract, and in return for the payment of a small sum of money, the land owner commits himself to offer the land for sale to the agency, should he decide to sell it. It has, however, been argued that the right of first refusal may not be a compulsive mechanism to enable the conservation agency to acquire land for conservation purposes.¹⁷⁵ It is claimed that the mechanism is voluntary in that the land owner makes the choice to participate in the right of refusal mechanism. The land owner also makes the choice whether or not to sell the land in question.¹⁷⁶

¹⁷⁴See Coggins C G *et al* (1992) (note 153) 81.

¹⁷⁵See Spears L D & Hunt K P "Protecting Rural Lands: A Market based Efficient and Culturally Appropriate Strategy Using Rights of First Refusal and the Non Profit Sector" (2002) 8 *West and Northwest Journal of Environmental Law and Policy* 235.

¹⁷⁶*Ibid.*

This mechanism of conservation can be of great benefit to Kenya's conservation initiatives. The forest management and conservation fund created under the Forests Act¹⁷⁷ can be used to acquire new forest areas for conservation. This will also boost the need to enforce the constitutional provision requiring the state to achieve and to maintain a tree cover of at least ten percent of the land area of Kenya to be effectively fulfilled.¹⁷⁸

3.5.3.2 Compulsory Purchase

When acquisition by contract is impossible because the land owner does not want to sell, public agencies should be vested with the right to purchase the land compulsorily. It is strange, however, that although the right of compulsory purchase in the public interest exists for many purposes, such as national defence or public works and is fully accepted by the public everywhere, it is not the case where the reason for compulsory purchase is conservation.¹⁷⁹

In many countries, conservation agencies are therefore unable to expropriate land. Moreover, even when this right exists, it is seldom exercised because as Charles Roe puts it, this is politically unrealistic. He states:

In rural areas especially...it raises so much popular resistance that it is practically political suicide for any elected official to support such action.... Such a program must be well understood by the public and must be implemented with extensive public participation and support....¹⁸⁰

¹⁷⁷Government taking for conservation purposes has been accepted under the Papua New Guinea Constitution 1994. Under the powers given by section 53 and 54 of this Constitution, the government has the power to intervene with current land use practices and to acquire property for public purposes that can be justified as showing proper regard for rights and the dignity of mankind. This power allows the government, through an Act of Parliament, to acquire land representing a range of biodiversity values and to create a park. For further details on this point, see Telesetsky A "The Viability of International Conservation Easements to Protect Papua New Guinea's Declining Biodiversity" (2001) 13 *Georgetown International Environmental Law Review* 735.

¹⁷⁸See section 18 of the Act.

¹⁷⁹See Constitution of Kenya 2010, Article 69(1) (b) and Article 72.

Other instances in which land may be acquired compulsorily include the purposes of soil conservation, or the conservation of other natural resources. Such public use is associated with public advantages, growth and prosperity of the state. Such land, once owned by the state will be held in the public interest to encompass a concept of trusteeship for the people. For this argument, see Bhalla R S "Property Rights, Public Interest and Environment" in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 61.

¹⁸⁰Roe C E (1976) (note 107)170.

Thus, public opinion may be unfavourable to compulsory purchase. The legitimacy of conservation through this method may be put in question when compared to other economic and social interests. In recognition of this situation, the law should provide for compulsory purchase of land for conservation purposes, but clearly specify that this can only be done in exceptional circumstances and subject to adequate compensation. The Constitution of Kenya gives the state power to acquire land for a public purpose or public interest.¹⁸¹

3.5.3.3 Use of Special Financial Measures

Conservation agencies should have sufficient funds to be able to buy land when it comes on the market and be able to use flexible procedures to spend these funds when the best opportunities arise. In the Austrian land of Vorarlberg, for example, there is a tax which must be paid by the operator for each cubic metre of stone or gravel extracted from quarries.¹⁸² The funds so obtained are used, inter alia, for the acquisition of land for conservation by the government.

3.5.4 POLICE POWER

The police power is the power vested in the state to regulate human activities in the public interest, and may include regulatory measures for forest conservation, both of areas and of species.¹⁸³ The police power of the state provides a regulatory and punitive form of legislation with a framework for the creation of institutions and procedures designed to facilitate and encourage management and conservation programs and to promote better public awareness of conservation requirements.¹⁸⁴ In most countries of the world,

¹⁸¹See Article 40 (3). See also the Land Act, Act No. 6 of 2012, section 107 (3).

¹⁸²See Wiener J "Property and Prices to Protect the Planet" (2009) 19 *Duke Journal of Comparative and International Law* 515. Wiener argues that this type of regulatory instrument relies on prices to limit access. Such an instrument limits access to the open access resources not by telling actors what to do nor how much they may do, but by imposing taxes on emissions, subsidies to reduce emissions or liability rules that impose monetary damage on emissions such as nuisances.

¹⁸³Klemn CD (1994) (note 132) 189. See also Article 66 (1) of the Constitution of Kenya.

¹⁸⁴UNEP (1989) (note 5) 12.

police powers are exercised to a varying extent to regulate such activities as forestry, mining, quarrying, and to impose specific land use restrictions for conservation purposes. Under circumstances where voluntary compliance does not seem reasonable, mandatory regulations may be required and these may include strict surveillance by the government.¹⁸⁵ Management tools for the use of police power in forest conservation have been restricted to zoning regulations, land use controls, prohibitions, employment of a permit system and measures that can be carried out directly by the government.¹⁸⁶ We examine the main tools of police power control.

3.5.4.1 Land Use Planning and Zoning

Land use controls play a major role in sustainable forest management and conservation. Land use control has been used in the past to control development through the granting of permits for the construction of buildings and of infrastructure and other works.¹⁸⁷ This traditional approach is changing with the growing realization that sustainable forest management and conservation and land use planning are intricately linked. Adequate land use controls are a necessary condition for the conservation of forest resources.

Thus, there is a growing tendency to apply land use controls to the conservation of natural habitats. This may be done through special conservation orders to preserve important sites, or landscape features, by the designation of sites of special scientific interest, as in the United Kingdom, to which certain particular rules apply or the establishment of specially protected areas in local zoning plans. Generally, once a zoning plan scheme for the country's land is approved by the Government, special procedures must be used to obtain exceptions. Using this technique, areas that are important for forestry purposes can be zoned for uses compatible with those purposes. Environmental factors may be considered in overall regional planning

¹⁸⁵ Law enforcement will be necessary where there has been a violation. Forestry law however, must apply, in a precautionary and preventive manner. This is because forestry damage is often permanent, and extremely expensive to remedy. Thus, violations and their resultant damage must be avoided as much as possible.

¹⁸⁶ Roe CE (1976) (note 107) 421.

¹⁸⁷ See Wachira R "Synchronizing Physical Planning Law with the Framework Environmental Law" (2008) 208 209.

procedures, such as classifying the entire country into land use categories, such as residential, industrial and green, consisting of agriculture, forestry or nature conservation. Designated geographical areas are then given special legal protection for such specific purposes.¹⁸⁸

Land use planning and zoning, as a means of segregating and specifying particular land uses has, however, been ineffective in preserving environmentally important land. Zoning has inherent problems as a means of land-use control. In Kenya, for example, planning is a centralized process often descending from the office of the director of physical planning to relevant local government departments. In effect, local populations are usually looked upon as the objects of development.¹⁸⁹ Institutions authorized to use zoning as a land use control mechanism are often permissive, arbitrary and uncoordinated in their enforcement of zoning regulations.¹⁹⁰ Zoning regulations must take into account the natural conditions of the land and the needs of the public if zoning, as a land control mechanism, is to succeed.¹⁹¹

Land use planning and zoning may be used in public land to oblige the forest management agency to comply with land use restrictions established by the law.¹⁹² With regard to private land, zoning can be used to limit the rights of the land owners to use their land freely.¹⁹³ Proper land use planning will ensure optimum use of the land, thereby saving the need to clear more forest land for other activities. A good land use plan that allocates large areas for sustainable forest use provides the legal and institutional basis for sustainable forest management . Land use planning that reserves prime agricultural land and

¹⁸⁸ Areas that are important for environmental purposes can be zoned for uses compatible with those purposes. Regions can be classified into forest or nature conservation and special legal protection extended to them.

¹⁸⁹ See Farvar M T "Local Strategies for Sustainable Development" in Kotwal P C & Banerjee S (eds) (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 233 235.

¹⁹⁰ See for example section 23 (1) of the Physical Planning Act, Cap 286 Laws of Kenya, (Revised edition 1996). The section empowers the Director to declare any area with unique development potential as a special planning area. It does not give regard to local issues.

¹⁹¹ Farvar M T (1987) (note 189) 235.

¹⁹² See Miller K R *et al* "Deforestation and Species Loss: Responding to the Crisis" in Mathews J T (ed) *Preserving the Global Environment* 78.

¹⁹³ See Roe C E (1976) (note 107) 420.

the watershed that sustain them helps to maintain agricultural carrying capacity.¹⁹⁴ If more people can be supported on existing agricultural land, fewer will turn to the forest frontier in the search for new farmlands.

The Physical Planning Act¹⁹⁵ reasonably addresses the issue of land planning and zoning in Kenya. Under section 29 (f) of the Act, local authorities are required to reserve and maintain all land planned for open spaces, parks, urban forests and green belt, in accordance with an approved physical development plan. The Act further requires development approval together with an environmental impact assessment report of the local authority as regards any project that may have any injurious impact on the environment.¹⁹⁶ The Act requires the director of physical planning to prepare regional and local physical development plans.¹⁹⁷ This process is supposed to incorporate environmental concerns so as to minimize environmental problems at an early stage. The third schedule to the Act calls for a consideration of matters of the natural beauty of the area, including lakes and other inland waters to be taken into account in the planning process.

3.5.4.2 Regulatory Measures

In most countries of the world, the state has the right to enact police laws to prohibit and restrict activities, which may be harmful to the natural environment. Property rights are normally protected by the state constitution and just compensation is normally required when private property is taken for public use. Modern constitutions recognize, however, that these rights are not absolute and may be curtailed in the public interest. Regulations may take the form of restrictions and prohibitions of an activity, product or process that presents a risk of environmental harm. Regulations can be imposed to reduce

¹⁹⁴Kiss A & Shelton D (1993) (note 9) 50.

¹⁹⁵Cap 286 Laws of Kenya, (Revised edition 1996).

¹⁹⁶See section 36 of the Physical Planning Act, Cap 286 Laws of Kenya, (Revised edition 1996).

¹⁹⁷See whole of Part IV of the Act, sections 37-41. Planning control is primarily concerned with the type and location of new development and changes of use. Authorities must consider all the effects, including potential pollution on habitats and ecosystems, and whether the development is an acceptable use of the land.

or eliminate the harm.¹⁹⁸ When the likelihood of harm is too great, the measure may call for a total product or process ban.¹⁹⁹

The regulatory measures system has certain advantages. From the government's point of view, at least in some cases, compensation is not payable. The exercise of the regulatory system, therefore, constitutes a cheaper method of conserving important forest areas. The regulatory system is also advantageous in the sense that it is generally less costly than land acquisition and more flexible because prohibitions and restrictions may be limited to what is strictly necessary to ensure the sustainable management and conservation of the forest.²⁰⁰ The system also allows for emergency measures to be taken quickly in the case of an immediate threat to any forest. In contrast, it always takes time to purchase areas for protection, compulsorily or otherwise and irreparable damage may occur before then, unless an interim conservation order can be obtained to protect the site.

3.5.4.3 Environmental Impact Assessment

Environmental impact assessment was first introduced in the United States in 1969.²⁰¹ Environmental impact assessment is a procedure to ensure that adequate and early information is obtained on the likely environmental consequences of development projects and on possible alternatives and measures to mitigate harm. The environmental impact assessment procedure requires that a developer or business owner submits a written document to a designated agency or decision-making body, describing the future

¹⁹⁸Other regulatory measures may take the form of subjecting any activity to the granting of a permit, provision that permits may be granted subject to certain conditions, or require prior notification of the intention to engage in certain activities. When permits have been issued, conditions generally are attached, specifying the quantities that may be collected, the dates and places of collection, and sometimes the methods that must be used. In the event of violation, then the permit is withdrawn.

¹⁹⁹IUCN (1996) (note 173) 174.

²⁰⁰Kiss A & Shelton D (1993) (note 9)58.

²⁰¹Ibid.

environmental impact of the intended action.²⁰² The underlying assumption is that such a document will help decision makers to make informed choices of their development projects, cause minimum degradation of forest resources, do not reduce the productivity of forest systems and do not impose unintended costs on other development activities.

The specific legislation governing environmental impact assessments should indicate, as clearly as possible, which projects are subject to environmental impact assessment procedures and which ones are not. This will avoid bureaucratic constraints on minor activities.²⁰³ It should establish effective review and dispute settlement procedures to avoid unnecessary delays in decision-making.²⁰⁴ It should also provide adequate enforcement powers, including the power of the review agency to halt proposed action until the environmental impact assessment has been conducted.²⁰⁵

Once the environmental impact statement is prepared, it is examined by an agency or neutral body, after hearings with public participation. Generally, on

²⁰²See the National Environment Policy Act 1969, 42 USC § 102. The relevant part of this section provides:

The congress authorizes and directs that, to the fullest extent possible

(1) ...

(2) All agencies of the Federal Government shall:

A)...

B)...

C) include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on

i) the environmental impact of the proposed action

ii) any adverse environmental effects which cannot be avoided should the proposal be implemented

iii) alternatives to the proposed action

iv) ...

v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

²⁰³Ahmad T J & Sammy G K *Guidelines to Environmental Impact Assessment in Developing Countries* (1985)14.

²⁰⁴It has been noted by Herbert C (1998) (note 10) 1229, that the primary purpose of the environmental assessment strategy is to:

provide a decision maker with sufficient information relating to the environmental impact of a proposed activity or project to enable the making of an environmentally compatible decision. It is desirable that the assessment process is thorough in order that the information presented is...the best available in the circumstances.

²⁰⁵Ibid.

the basis of expert and public opinions, if it is determined that the activity or project would cause serious or irreparable damage to the quality of the forest, the agency is directed to refuse authorization or approval. If the project or activity can be modified to eliminate or compensate for the negative effects, it may be approved subject to such modification or control.²⁰⁶ An important aspect of environmental impact assessment, in relation to forests, is to ensure that adverse impacts of harvesting activities, road design, construction, cutting, extraction, and transport operations are minimized.²⁰⁷

Kenya's Environmental Management and Coordination Act²⁰⁸ now requires that projects that may have a significant impact on the environment will have to undergo an environmental impact assessment process.²⁰⁹ Any person, being a proponent of a project, is required to apply for and obtain an environmental impact assessment licence from the National Environment Management Authority before he can finance, commence, proceed with, and carry out, execute or conduct any of the undertakings specified in the second schedule of the Act.²¹⁰ The environmental impact assessment is used to identify any environmental and social impacts of a project prior to decision making. This helps to predict environmental impacts at an early stage in project planning and design and find ways and means to reduce adverse impacts and present the options available to decisionmakers.

The Act provides for the establishment of a public complaints committee. This is the committee concerned with independent investigation of complaints against the authority on any environmental damage and degradation.²¹¹ The Environmental Impact (Assessment and Audit) Regulations provide for public

²⁰⁶Food and Agriculture Organization of the United Nations (FAO) *Guidelines for the Management of Tropical Forests* (1998)33.

²⁰⁷See Park C (1992) (note 134) 143. Park has argued that the greatest pressure on tropical forests is the need for hardwood to meet consumer demand in developed countries, which has given rise to what is called 'the tropical chainsaw massacre'.

²⁰⁸Act No. 8 of 1999 Laws of Kenya.

²⁰⁹See the whole of Part VI of the Act, sections 58-59. Note that section 63 of the Forests Act, Act No. 7 of 2005, applies this section mutandis mutandis.

²¹⁰See Section 58(1) of the Act.

²¹¹See Sections 31 and 32 of the Act.

involvement.²¹² The public is entitled to access the environmental impact assessment study reports. Such a study shall take into account environmental, social, cultural, economic and legal considerations. It shall also develop an environmental management plan with mechanisms for writing and evaluating compliance with environmental requirements as well as mitigation measures.²¹³ The regulations give the National Environment Management Authority the power to ensure that environmental audits are carried out. These are meant to assess the nature and extent of pollution at a particular site in relation to an existing facility. Any damage to forest resources, may then be addressed.²¹⁴

The Convention on Biological Diversity obligates parties to prepare environmental impact statements of proposed projects which are likely to have significant adverse effects on biological diversity, with a view to avoiding or minimizing these impacts, and to ensure consideration of the environmental consequences of programs and policies likely to have such impacts.²¹⁵ Curiously, there is no corresponding provisions relating to plans,²¹⁶ such as landuse plans²¹⁷ or other physical planning instruments, although these may clearly result in significant adverse impacts on forests and biological diversity.²¹⁸ The Convention is also weak in its provision for public participation, whereas this is an essential part of the environmental impact assessment procedure.²¹⁹

²¹²See Regulation 17 of the Environmental Impact (Assessment and Audit) Regulations, 2003, Legal Notice No.101 of 2003.

²¹³Ibid, Regulation 16.

²¹⁴See Section 68 and 69 of the Environmental Management and Coordination Act, Act No. 8 of 1999. See also Regulation 31 and 32 of the Environmental (Impact Assessment and Audit) Regulations (2003) (note 212). See also chapter four, section 4.3.7.

²¹⁵Some of the identified projects are urban development, transportation, dams, rivers, water resources, aerial spraying, mining, timber harvesting, clearing forest areas, agriculture, manufacturing, waste disposal and nature conservation areas.

²¹⁶Article 14.

²¹⁷See United Nations University, Institute of Advanced Studies "The Convention on Biological Diversity: Understanding and Influencing the Process" (2008) 11. Ideally, such assessment should be strategic, identifying and evaluating the environmental consequences of proposed policies, to ensure that they are fully integrated into plans and programmes.

²¹⁸See World Resources Institute (1992) (note 5) 21.

²¹⁹See also Boyle A E (1994) "The Convention on Biological Diversity" in Campiglio L *et al* (eds) (1994) *The Environment After Rio: International Law and Economics* 112 118 who states that the qualifying words 'as far as possible' and 'as appropriate' may enable parties to avoid an environmental impact statement altogether, where they find it inconvenient to conduct one.

On their part, the Forest Principles require that any conservation and management decisions made, should take place only after a comprehensive assessment of economic and non economic values of forest goods and services and of the environmental costs and benefits,²²⁰ thereby clearly setting out additional requirements for an environmental impact assessment process. National activities that are likely to have significant adverse impacts on important forest resources should therefore be subject to environmental impact assessments.²²¹

3.5.4.4 Control of Trade in Forest Products

Trade in wood and non-wood forest products offers considerable potential for increased economic development through income and employment generation as well as export earnings.²²² Unregulated trades can instigate uncontrolled exploitation and has the potential of accelerating forest destruction and degradation through loss of biodiversity.²²³ Restrictions on trade, as well as prohibitions, are commonly utilized for the protection of wild flora and fauna. For example, the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora²²⁴ uses trade restrictions and prohibitions as a means of protecting endangered species. The Convention lists in its first appendix all species threatened with extinction that are or may be affected by trade.²²⁵ Trade in these species is virtually prohibited, requiring prior grant and presentation of export and import permits issued under stringent conditions.²²⁶

²²⁰See the Forest Principles 6 principle 6(c).

²²¹See Principle 8(h).

²²²See Sampson G P & Chambers W B "Introduction and Overview" in Sampson G P & Chambers W B (eds) (2001) *Trade, Environment and the Millennium* 1.

²²³See Kiss A (ed) *Selected Multilateral Treaties in the Field of the Environment* UNEP Reference Series 3(1983)289.

²²⁴See (1973) *International Legal Materials* 1085; 993 UNTS 243.

²²⁵Article III (3) of the Convention states that the import of any specimen of a species included in appendix I shall require the prior grant and presentation of an import permit and either an export permit or a reexport certification. It then goes on to prohibit the issue of an import permit if the issue is likely to be detrimental to the species concerned, among other stringent conditions.

²²⁶See Park C (1992) (note 134) 147. Park gives the example of the code of conduct agreed on in principle by the United Kingdom (UK) Timber Trade Federation, which seeks to ensure that consumer countries will only import timber from sustainably managed areas.

The industrialized countries should formally recognize their dependence upon tropical forests by ensuring that trade and foreign relations policies help tropical countries to develop and manage tropical forests in a sustainable way.²²⁷ One approach to reducing clearance of the forests is to reduce the amount of wood exported from the tropical countries. Various options are available to do this, including imposing heavy taxes on imported tropical forest products and outlawing the sale of tropical hardwoods from non-sustainable forests.²²⁸ Voluntary schemes are preferable and some countries have stopped importing wood from forests which are not sustainably managed. Specifically, industrialised countries should apply tariffs and quotas to discriminate in favour of timber and other products harvested sustainably and timber products processed within the country of origin.²²⁹ National laws should control trade in fully or partially protected plant species. Where the commercial collection of a species is controlled, trade in that species must also be regulated. Indeed, if a commercial collection permit is to be effective, it must be supplemented by controls applied to all the other links in the trade chain. These include the licensing of traders and plant processing industries.

Noting that sustainable forest management and conservation is related to international concerns, the Forest Principles provide that forest conservation and sustainable development policies should be integrated with economic, trade and other relevant policies.²³⁰

3.5.4.5 Enforcement and Remedial Measures

In order to deter wrongful conduct and remedy violations that do take place, the law must determine appropriate enforcement actions and remedies. As such, it has to address such questions as the degree or amount and kind of harm that may lead to legal action, who is entitled to institute the action, the

²²⁷Poore D & Sayer J (eds) *The Management of Tropical Moist Forest Lands: Ecological Guidelines* (1991) 23.

²²⁸*Ibid.*

²²⁹Kiss A & Shelton D (1993) (note 9)23.

²³⁰See Principle 13(d) of the Forest Principles which calls for trade and other policies and practices that may lead to forest degradation to be avoided.

tribunal involved, appropriate orders and sanctions and the compensation that may be deemed appropriate.²³¹ Penalties provided by the law should exceed the potential gains from committing offences so as to deter future offenders. As an alternative to monetary fines and civil damages in the event of non-compliance, licensing authorities may intervene to suspend or withdraw operations or marketing permits for activities harmful to forests.²³² They may also carry out remedial measures at the offender's expense.

The conventional mechanisms for legal enforcement are fines of varying severity, imprisonment and, in instances of breach of a term or condition of a permit or licence, suspension of that permit or licence. The enforcement authority may also impose a cessation order where there is a breach of compliance of the law which will ensure the cessation of the activity to which the order relates. There should also be a variety of enforcement strategies including mediation, alternative dispute resolution, civil remedies in the form of damages for forest harm, actions in trespass, nuisance, injunctive relief, prohibition, criminal remedies including fines, imprisonment for breach of statutory requirements and disincentives for strict development.

More severe criminal penalties should be meted out where the forest is endangered. This requires not only a sound normative framework but also effective implementation tools. The legal system must facilitate public enforcement and public sanction. It should be noted that although there have been protected forest areas in place, there is no guarantee that they will be well protected. This is evidenced by the continuing loss of forests and other natural ecosystems within protected areas. The law should therefore be effectively enforced.²³³

²³¹UNEP (1989) (note 5) 15.

²³²In Italy, the main enforcement tool is suspension or revocation of the required permits thus shutting down non compliant production facilities. Spain criminalizes the violation of environmental laws as well as actions that cause or produce emissions or dumping of any kind to the atmosphere, forests or natural areas.

²³³UNEP (2011) (note 74) 166.

3.5.4.6 Pollution Control

Activities that pollute or abuse forest resources should be curbed. Pollutants, particularly airborne pollutants, including those responsible for acidic deposition, that are harmful to the health of forest ecosystems at the local, regional and global levels should be controlled.²³⁴ National activities that are likely to have significant adverse impacts on important forest resources should be subject to environmental impact assessments.

Chemical pollution can also cause significant damage to forests. Toxic chemicals have continuously been emitted into the air and discharged into lakes and rivers. Herbicidal chemicals are frequently dispersed over large areas and may severely damage non target species.²³⁵

3.5.5 VOLUNTARY CONSERVATION

Necessary as they may be, regulatory measures are not sufficient in themselves to conserve the forest environment. Voluntary conservation measures are therefore an essential complement to the direct conservation role of the state.²³⁶ It should accordingly be incumbent upon the state to assist private landowners to conserve forest resources. There are many ways in which this can be done. These include the elimination of legal obstacles to conservation and the removal of financial and fiscal incentives for the

²³⁴A perennial difficulty for environmental regulation is to define the level of activity which sets the regulatory process in motion. The threshold varies with its subject, but may be based upon emission levels and relates to the environmental damage which may have severe effect upon life support systems, genetic resources and overall environmental quality. See for example Guilmin F B *et al* "Environmental Law: Progress and Problems" in Jacobs P & Munro D (eds) (1987) *Conservation With Equity: Strategies for Sustainable Development* 119. See also the Forest Principles, Principle 15.

²³⁵See for example Coggins C G & Harris A F "The Greening of American Law: The Recent Evolution of Federal Law for Preserving Floral Diversity" (1987) *27 Natural Resources Journal* 247 262.

²³⁶See Wass P (1995) (note 29) Appendix 13. 14, who has noted that a variety of pollutants affect the mangrove forests in Kenya's coast, including oil spills. It has also been noted that the emission of heavy metallic compounds such as lead and mercury in localized industrial areas, causes toxic concentrations in the soil. Where this toxicity occurs, the range of plant species that can grow is severely restricted. For this, and more on this observation, see Muthiani N T "Industrial Pollution and Its Effects on the Environment" (2010) 217 223.

destruction of forests, the development of legal tools to facilitate voluntary conservation, the payment of subsidies and the grant of tax incentives. We examine these strategies below.

3.5.5.1 Incentives and Disincentives

Enhancing forest protection by influencing behaviour through incentives deserves special attention. As a counterweight to civil and criminal sanctions, this perspective, in concert with other governmental initiatives, may encourage an ethos of cooperation at the local level.²³⁷ A strategy that includes rewards may enhance the sustainable management of forest resources and thereby offset some of the pressure of the illicit market. The challenge is how to reward behaviour and encourage cooperation.²³⁸ Proponents of this approach adopt a libertarian perspective and suggest the creation of a private property rights regime that recognizes sustainable use of forest resources.²³⁹ The argument is that a ban on trade does not promote efficiency, while conservation and use correctly focus on creating positive incentives for individuals to protect and conserve forest resources. On this point, Maydell Hans Jurgen has observed that nowhere in the tropics does private forest ownership exist to a noteworthy extent.²⁴⁰ He notes that this:

...leads to the fact that those entitled to use the forest always take the best components of the ecosystems because if they don't, the next person will. Thus, if forest policy...is to achieve anything to preserve the rainforests, a radical change of utilization strategies, regulations and mentalities must be made and become effective as soon as possible.²⁴¹

The policy of assigning legal rights to particular individuals is valuable from the standpoint of enforcement within the community.²⁴² The opportunity for an individual to personally benefit from a use value associated with a forest resource provides an incentive for the individual to protect the forest resource.

²³⁷ See Watters L & Xi W "The Protection of Wildlife and Endangered Species in China" (2002) 14 *Georgetown Environmental Law Review* 489 512.

²³⁸ *Ibid.*

²³⁹ Maydell HJV (1991) (note 126)25.

²⁴⁰ *Ibid.*

²⁴¹ Maydell HJV (1991) (note 126)25.

²⁴² Tietenberg T H "Managing the Transition: The Potential Role of Economic Policies" in Mathews J T (ed) (1991) *Preserving the Global Environment* 202.

To this end, the Forest Principles provide that fiscal, trade, industrial, transportation and other policies and practices that may lead to forest degradation should be avoided. Adequate policies, aimed at management, conservation and sustainable development of forests, including appropriate incentives, should be encouraged.²⁴³

Apart from individuals, organized local communities should have a proprietary right over flora and fauna within their borders.²⁴⁴ This property right would entitle the community to share in any benefit created by preserving the forests. Assuring local communities that they have property rights over local forest resources, which are properly defined, would give local communities a much larger stake to be derived from the use of the resource.²⁴⁵ This would enhance prospects for effective enforcement. The United Republic of Tanzania has employed a joint forest management policy where the involvement of local communities or non-governmental organizations in the management and conservation of forests and forest land with appropriate user rights and incentives is enforced.²⁴⁶ The Tanzanian position is that it is only when people can satisfy their needs, have control of the resource base as well as have secure land tenure that long term objectives of environment protection can be satisfied.²⁴⁷

Another aspect on the use of incentives is the removal of incentives to destroy forests.²⁴⁸ Such incentives may include unduly high land taxes on land which is not farmed, special tax reductions for the cultivation of undeveloped land,

²⁴³Principle 13 (e).

²⁴⁴See FAO "Legal Papers Online" (2008) www.fao.org/legal/prs-ol (Accessed on 5 March 2010). In Armenia, the management rights over certain state forests can be transferred to community organizations through a contractual agreement. The activities that may be undertaken in the framework of the contract include afforestation and reforestation, forest protection, sustainable forest management and rehabilitation of degraded forest ecosystems.

²⁴⁵United Republic of Tanzania (1998)(note 138)4.

²⁴⁶IUCN *World Conservation Strategy: Living Resources Conservation for Sustainable Development* (1980) 13.

²⁴⁷Ibid.

²⁴⁸See Fidzani N H (2000) (note 142) 31.

and the grant of subsidies for the same purposes. There are examples, such as the American States of Minnesota and Indiana, where substantial tax reductions have been implemented to encourage the preservation of certain habitats, such as wetlands and the remnants of the Great Prairie of Minnesota.²⁴⁹ In the United Kingdom, an increasing number of laws now empower conservation agencies or other government bodies to provide financial assistance to land holders who manage their land for conservation.²⁵⁰

In as far as environmental conservation is concerned, Kenya's Environmental Management and Coordination Act empowers the minister for finance, on the recommendation of the National Environment Management Council, to give to the government proposals on tax and other fiscal incentives and discentives or fees, to induce or promote the proper management of the environment and natural resources or to prevent or abate environmental degradation.²⁵¹ In the context of sustainable forest resource management and conservation, such incentives and discentives include tax rebates to industries that invest in pollution control, recycling of waste, water harvesting and conservation, or tax incentives to deter behaviour leading to the depletion of environmental resources or cause pollution or impose user fees to ensure that those who use environmental resources pay proper value for the utilization of such resources.²⁵²

Contracting parties under the Convention on Biological Diversity are required to adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of the components of biological diversity.²⁵³ A variety of measures exist to foster the conservation of biological diversity and the sustainable use of its components. However, these measures, traditionally relying on command and control mechanisms have not

²⁴⁹Ibid.

²⁵⁰Bowles I *et al* (1998) (note1) 212.

²⁵¹See section 57(1) of the Environmental Management and Coordination Act, Act No. 8 of 1999.

²⁵²See section 57 (2) (a) (b) and (d) of the Act.

²⁵³Article 11.

been sufficient for conserving biological diversity to meet society's needs. The primary shortcoming has been the failure to adequately address the underlying national and international economic forces which drive biodiversity loss at the local level. Incentives should encourage desired behaviour,²⁵⁴ such as the conferment of a right on defined groups of local people to access and utilize genetic material based on their knowledge.²⁵⁵

Community property rights should include the right of the community to receive payment from those allowed to access and to use germplasm from forest produce.²⁵⁶ These are the inducements which are specifically intended to incite or motivate governments, business or industry, or local people to conserve biological diversity and sustainably use its components.²⁵⁷

3.5.5.2 Taxation

In many countries, very low land taxes have encouraged massive land speculation and forest clearing to acquire land rights as an integral part of the land speculation process.²⁵⁸ Low taxes on land of high agricultural potential often keeps such areas underutilized, thereby increasing the pressure for agricultural expansion into marginal forest areas. A tax structure in which cleared land would be taxed at a much higher rate than forested land, would be most desirable from a forest conservation standpoint. Ian Bowles gives the example of some governments that have tax policies that reduce or eliminate property taxes on land of ecological significance if the owner agrees to manage the land for conservation.²⁵⁹

²⁵⁴Glowka L *et al* (eds) (1994) *A Guide to the Convention on Biological Diversity*. This might also take the form of tax credits to farmers willing to maintain forests on their lands, an end to incentives to clear virgin forests and the promotion of research in forest conservation.

²⁵⁵Svarstad H "National Sovereignty and Genetic Resources" in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 45-57.

²⁵⁶*Ibid* 58.

²⁵⁷See for example Tanui J & Kinuthia I *Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: Legal and Institutional Framework for Sustainable Economic Development* (2011) 15.

²⁵⁸See Bowles I (1998) (note 1) 223.

²⁵⁹*Ibid*.

Brazil has encouraged the creation of reserves on private lands by providing a property tax exemption in respect of such lands. By Decree No. 98914 of January 1990, the President gave the power to regulate protected reserves to the Brazilian Institute of Environment and Renewable Resources, a government agency.²⁶⁰ Under the authority granted by the decree, the Brazilian Institute of Environment and Renewable Resources has the power to declare private lands as special natural reserves where they are identified as having biological or scenic value.²⁶¹ Burning and deforestation are banned within the reserves. Such a tax policy will encourage optimum use of land. At the same time, it would help discourage further clearing of forested lands or reserves. Such a tax structure can be justified on the basis of economic efficiency in that it supports the numerous non-market public goods provided by forests.

Another aspect of the tax regime that needs examination is the dependence by local authorities on property tax revenues. Where property tax assessments are based on potential land development value, the taxes may substantially exceed the owner's income from the open space use of his land and the land owner will be forced to sell his land for development.²⁶² The public is the real loser as the land owner pockets a large profit at the expense of environmental concerns.

Preferential tax programs have been applied into environmental conservation with varying degrees of success. In California, the Land Acquisition Act of 1965, authorizes counties to designate agricultural preserves and to enter into contracts with land owners to place binding land use restrictions on their agricultural or open space land for extendable terms of ten years in exchange for preferential property tax assessments.²⁶³

²⁶⁰See Fidzani N H (2000) (note 142) 31.

²⁶¹See Roe C E (1976) (note 107) 424.

²⁶²Ibid.

²⁶³See IUCN (1996) (note 173) 168.

Another possible tax measure encouraging conservation of reserves is to allow deductions of taxable income of expenses that land owners incur in taking specified measures for conservation.²⁶⁴ This will make it easy to acquire forestland for conservation.

Responsible fiscal management should be driven by the perspective of environmental and social enhancement. The acceptable fiscal decision should be such as not to result in a loss of ecological capital.

3.5.5.3 Elimination of Subsidies

Another type of voluntary conservation is achieved through the removal of subsidies for activities leading to the destruction of forests and natural habitats.²⁶⁵ Subsidies are often given through concessions, and these encourage wasteful exploitation of forest resources.²⁶⁶ Where concessions are given for forest use, governments must ensure that they capture a significant proportion of forest rents and that a sufficient proportion of this rent is reinvested in the maintenance of the forest.²⁶⁷ Realistic stumpage fees should be charged and land rents set by competitive bidding and taxes on timber harvesting levied.

The exploitation of forest resources often results in environmental costs in the form of damage to natural resources and loss of biodiversity as well as other forest resources. These costs are often not reflected in the market prices for the resources.²⁶⁸ Because these damages are external to the market, the

²⁶⁴Poore D & Sayer J (eds) (1991) (note 227) 23. See also Principe 13(d) of the Forest Principles. The advantages of environmental taxes are that they provide important incentives for the industry to reduce pollution and moreover to invest in pollution abatement technologies.

²⁶⁵Ibid.

²⁶⁶Bowles I *et al* (1998) (note 1) 223.

²⁶⁷Repetto R & Gillis M (eds) (1990) *Public Policies and the Misuse of Forest Resources* 19.

²⁶⁸The World Bank has noted that forests house global public goods, which, to be maintained, must be protected and managed sustainably. Despite their great economic value, forests have been mismanaged. Many countries with substantial forest resources have been subjected to corruption and serious inadequacies in forest allocation, administration and monitoring. Besides channelling potential timber revenue away from national development efforts, the low prices at which concessions are granted often encourage waste, unsustainable management, and plundering for short term gain. For these and more relevant issues, see World Bank *Forests Sourcebook: Practical Guidance for Sustaining Forests in Development Cooperation* (2008).

direct user has a financial interest to avoid incurring the cost of environmental protection by passing the environmental costs to others. While individuals benefit, society as a whole suffers. An important method for correcting such market failures is to impose user fees on the use of forest resources. Ideally, the fees imposed should reflect the social and environmental costs occasioned by the use of the resource. By capturing the true costs, user fees can promote efficient use of forest resources.²⁶⁹

However, care should be taken to ensure that user fees should not be the primary source of revenue for an administering forest agency as the agency may have an economic interest to promote overuse rather than conservation. Instead, user fees should be allocated directly to conservation uses specified by the law, such as the purchase of land for conservation by other agencies independent of the fee charging agency.²⁷⁰ One method of capturing some of the many costs of timber extraction is to apply a user fee. User fees should be carefully designed to ensure that they promote conservation and do not support unsustainable practices.²⁷¹

A study carried out in Botswana established that logging concessionaires transferred high economic rents to themselves because the price they paid for timber resources was far below its true value.²⁷² Low stumpage fees resulted in wasteful utilization of scarce timber resources. The concessionaires received an indirect subsidy from the government because the cost of managing the resources is not covered by the stumpage fees. The Botswana government accepted a recommendation from the study that substantially higher royalty fees be introduced to eliminate the hidden subsidy from the government to logging companies.²⁷³

²⁶⁹Repetto R & Gillis M (eds) (1990) (note 267) 1.

²⁷⁰IUCN *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (1980) 13.

²⁷¹Ibid.

²⁷²See Fidzani N H (2000) (note 142) 31.

²⁷³Ibid.

3.5.5.4 Conservation Easements

An easement is a property concept that originated in common law systems.²⁷⁴ If a piece of property is subject to an easement, the owner is not the only person who has rights to the property; limited aspects of the ownership rights are held by the owner of the easement. Creation of an easement is possible in most common law countries because property ownership is understood to consist of a bundle of rights, many of which are dependent on one another.²⁷⁵ Because they are independent, these rights can be sold or granted individually through an easement.

Conservation easements are contracts for conserving land by imposing limitations or affirmative obligations with the goal of retaining or protecting natural, scenic, or open space values or real property, natural resources or cultural aspects of real property.²⁷⁶ The land owner transfers his or her development rights to a government agency, or non-governmental organization in exchange for some benefit.²⁷⁷ The landowner can continue to use his land in a limited fashion consistent with conservation. Landowners are often rewarded by some compensation by another party or by a tax break from the government.

Charles E. Roe has put it more clearly by stating that:

any government agency or public trust with legal authority to accept interest in land may accept or buy conservation easements. The landowner who has donated or sold the conservation easement may retain the land and continue to use it for various low intensity...purposes or the landowner may sell or transfer the property to a private party at anytime.²⁷⁸

Once created, easements run with the land and bind future owners of the

²⁷⁴Bowles I *et al* (1998) (note 1) 212.

²⁷⁵A detailed discussion on the use of conservation easements as tools of environmental conservation has been made by Telesetsky A (2001) (note 177), Roe C E (1976) (note 100) and Ian Bowles *et al* (1998) (note 1). The discussions of all these authors confirm that conservation easements pose a viable method for protecting unique environments.

²⁷⁶Telesetsky A (2001) (note 177) 756.

²⁷⁷Bowles I *et al* (1998) (note 1) 213.

²⁷⁸Roe C E (1976) (note 107) 430.

primary interest in the land.²⁷⁹ In other words, if the owner transfers title to the land, future owners are also bound by the easement's limitations. In most jurisdictions, a conservation easement is created when the landowner transfers some or all rights to develop the property to a government agency or a qualified conservation non-governmental organization.²⁸⁰ The landowner can maintain certain uses, but cannot legally take actions inconsistent with the terms of the conservation easement.²⁸¹ The government agency or conservation organization, as owner of the easement, has the legal right to block incompatible uses of the land. In the United States of America, the wetlands reserve program assists owners of eligible lands to restore and protect wetlands. Compensation is paid to the owner on a rate calculated by subtracting the price of the fair market value of the land after the easement is recorded from the fair value of the land before the easement is recorded.²⁸²

A major advantage of the conservation easement is its specificity of regulation. Land use prohibitions through use of negative prohibitions can be adapted to the natural, cultural, agricultural or forest values to be protected. A comprehensive acquisition plan by the responsible public agency could specify particular characteristics of land which it sought to protect depending on a classification system determined by public need.²⁸³ Thus, easements are very flexible legal instruments, which may be tailored to the interest of the individual land owner and to the special characteristics of the specific purpose in order to protect the cultural or natural values of the property.²⁸⁴ Easements

²⁷⁹ See Lippman J O "The Emergence of Exacted Conservation Easements" (2006) 84 *Nebraska Law Review* 1043. Lippman has observed that property owners seeking to change their land must obtain permission to do so. The permit issuer must require mitigation measures to compensate for environmental degradation or harm created by proposed projects. Easements amount to a way of protecting natural resources without public intervention through private market based mechanisms.

²⁸⁰ *Ibid.*

²⁸¹ Roe C E (1976) (note 107) 430.

²⁸² *Ibid.*

²⁸³ *Ibid.*

²⁸⁴ These are also called management agreements, see United Republic of Tanzania (1998) (note 138) 17. The agreement may be between the central government, specialized executive agencies, private sector or local governments, as appropriate in each case, and organized local communities or other organizations of people living adjacent to the forest. In certain situations, joint management agreements allow participation of all stakeholders in forest management, with appropriate user rights and benefits being inserted in the agreement.

make sense in the common law system because they are regarded as simply one right among a bundle of rights. Used primarily in the United States and Canada, conservation easements have proven quite successful in protecting biologically valuable parcels of land from developers. They are also valuable because they allow private citizens to take an active role in protecting their lands.

With respect to Kenya, the Environmental Management and Coordination Act, provides that environmental easements may be granted by a court on an application by a person or group of persons. The effect of such easement is to further the principles of environmental management by facilitating the conservation and enhancement of the environment.²⁸⁵ Any person entitled to the land that has been burdened by an environmental easement, is entitled to compensation commensurate with the lost value of the use of the land.²⁸⁶ Such easement is legally registrable as per the system of land registration relating to the land in issue. Such easement may be in perpetuity or for a term of years.

3.5.5.5 Conservation Agreements

Conservation agreements are contracts between a public authority, or a conservation organization and an owner or occupier of land under the terms of which the latter undertakes to manage his or her land in a specified way in return for regular payments or more rarely, a lump sum paid once and for all.²⁸⁷ Agreements of this type offer considerable opportunities to conserve natural habitats and semi natural areas and particular landscape features.²⁸⁸

This form of instrument may also provide for the establishment of perpetual servitudes which are binding upon successors in title. Conservation agreements are saddled with two major limitations. Firstly, the agreement

²⁸⁵ See section 112 (1) of the Environmental Management and Coordination Act, Act No. 8 of 1999.

²⁸⁶ See section 116 of the Environmental Management and Coordination Act, Act No. 8 of 1999.

²⁸⁷ Poore D & Sayer J (eds) (1991) (note 227) 27.

²⁸⁸ Telesetsky A (2001) (note 177) 758.

requires ongoing government or private expenditures in order to monitor a landowner's compliance.²⁸⁹ Secondly, the use of an agreement also encourages a certain degree of free riding.²⁹⁰ Land owners who have no intention of developing their land, may still enter into a conservation agreement in order to receive payments. Conservation agreements rely on the ability of the parties to execute their obligations towards the land. Many jurisdictions have programs to support conservation agreements. Switzerland, for example, allows government payments to farmers to maintain meadows and grasslands in their natural conditions.²⁹¹

The laws of certain Australian states, such as New South Wales and Victoria, explicitly allow for the conclusion of such agreements. In Victoria, for instance, the Flora and Fauna Guarantee Act, of 1988, empowers the conservation authority to enter into management agreements with other public bodies for the management of any species or community of flora and fauna or of any potentially threatening process.²⁹²

In the United Kingdom, it is the policy of the Forestry Commission to carry out consultations with the national conservation agencies with regard to the management of the large number of sites of special scientific interest which it owns.²⁹³ In the United States of America, recovery plans developed for endangered species often require the cooperation of many different agencies.

²⁸⁹ *Ibid.*

²⁹⁰ Bowles I *et al* (1998) (note 1) 217.

²⁹¹ IUCN (1996) (note 173) 168.

²⁹² *Ibid.*

²⁹³ Forestry has been encouraged as a productive use for land which would otherwise be contributing to agricultural surplus and the potential for forestry to improve degraded environments and act as a barrier or filter for pollution (noise, atmospheric or water) can also be significant at particular sites. The importance of woodlands in providing such recreation has been demonstrated by the depth of concern over securing the continued access to forestry land when woodlands are sold by the British Forestry Commission to private owners in accordance with the overall shift from the public to the private sector. Arrangements have been put in place to encourage the Forestry Commission before the land is sold to make agreements which will ensure public access and which will run with the land binding all future owners. For a discussion of this point and more see Reid T C "The Changing Pattern of Environmental Regulation: British Forestry and the Environmental Agenda" (1997) 9 *Journal of Environmental Law* 23.

This is generally done by the means of memoranda of understanding signed by the agencies concerned.²⁹⁴

3.5.5.6 Land Exchanges

Land exchanges can also support sustainable forest management and conservation while minimizing government expenditures. Such exchanges between the government and private parties can conserve biologically valuable land through public ownership. In addition, conservation groups can also use exchanges between private parties as tools to accomplish conservation.²⁹⁵

In the United States of America, the Department of Interior has the power to make land exchanges under the Federal Land Policy and Management Act of 1976.²⁹⁶ The department can exchange publicly owned land for private land of comparable market value in order to serve the public welfare. In this way, the government can acquire land of significant forest and biological value owned by a private actor in exchange for publicly owned land of perhaps less biological or natural value, but of value to a private land owner.

Carefully designed, land exchanges provide governments and conservation agencies with an efficient means of accomplishing public interest conservation goals while allowing private actors to advance private economic goals.

²⁹⁴Forestry has been encouraged as a productive use for land which would otherwise be contributing to agricultural surplus and the potential for forestry to improve degraded environments and act as a barrier or filter for pollution (noise, atmospheric or water) can also be significant at particular sites. The importance of woodlands in providing such recreation has been demonstrated by the depth of concern over securing the continued access to forestry land when woodlands are sold by the British Forestry Commission to private owners in accordance with the overall shift from the public to the private sector. Arrangements have been put in place to encourage the Forestry Commission before the land is sold to make agreements which will ensure public access and which will run with the land binding all future owners. For a discussion of this point and more see Reid T C "The Changing Pattern of Environmental Regulation: British Forestry and the Environmental Agenda" (1997) 9 *Journal of Environmental Law* 23.

²⁹⁵Bowles I *et al* (1998) (note 1) 219.

²⁹⁶*Ibid.*

3.5.5.7 Donations

One way in which private parties can support forest conservation is to make gifts of land to conservation organizations or government agencies that are committed to protecting the land in perpetuity. Donations of money or securities to conservation organizations can also help to promote forest conservation.²⁹⁷ It is important that in order to make this technique successful, the recipient of a donation of land or money must clearly be capable of carrying out effective conservation activities.²⁹⁸

3.5.6 CITIZEN PARTICIPATION AND CO-MANAGEMENT

It is essential that in any sustainable program of forest conservation, the local people are placed at the forefront in decision-making and their needs should form the primary condition for the management of the forest reserve base. Sustainable forest management must be everybody's responsibility. This may be achieved by employing various strategies.

3.5.6.1 Citizen Participation in Decision Making

Citizen participation provides the opportunity for members of the community to take part in the planning process. Likewise, involvement may emphasize an important link between endangered species of forest resources and the community's sustainable development.²⁹⁹ In this way, the community, too, becomes a vital resource in the process of the conservation of forest resources. The protection of endangered tree species is, after all, integrated into both the human and the natural ecology of the region.

There is growing consensus that local people should be incorporated into the sustainable management, conservation and development of the forests.³⁰⁰ This would help to remove much of the responsibility from the hands of a small rich elite and the government, and place it back in the hands of those to whom it rightly

²⁹⁷ See 16 USC § 485. See also Coggins G C *et al* (1992) (note 153) 1062.

²⁹⁸ *Ibid*.

²⁹⁹ Watters L & Xi W (2002) (note 237) 512.

³⁰⁰ See Park C (1990) (note 134) 156.

belongs. Tribal and indigenous people will need special attention as the forces of economic development disrupt their traditional lifestyles.³⁰¹ Traditional lifestyles are threatened with virtual extinction by insensitive development over which the indigenous people have no control. They should be given an opportunity to formulate policies about resource management in their areas.³⁰² The major responsibilities of government institutions are to assist local communities by making them aware of their own situation and supporting them to become responsible for their own destiny.³⁰³

The fundamental prerequisite for the achievement of sustainable development is broad citizen participation, including the participation of individuals, groups and organizations in environmental impact assessment and decisions, particularly in those which potentially affect the communities in which they live and work.³⁰⁴ Granting citizen groups the right to sue or to bring legal actions may become an increasingly important safeguard when public authorities are remiss in their duties, or they, themselves, violate the law.³⁰⁵ Since they are the most direct users of forests, local communities and indigenous populations are often those most intimately affected by deforestation. The Forest Principles recognize this relationship and provide that governments

³⁰¹World Commission on Environmental and Development (WCED) (1987) (note 36) 12.

³⁰²Ibid.

³⁰³The United Republic of Tanzania(1998) (note 138) 5.

³⁰⁴See for example Akama J S "Wildlife Conservation in Tsavo: An Analysis of Problems and Policy Alternatives" (2003) *Journal of East African Natural Resources Management* 1 12, where he notes in relation to wildlife conservation and management that there is need for the initiation of alternative wildlife conservation policies and programmes aimed at the social and economic empowerment of rural peasants and pastoralists. If one empowers the local communities surrounding the parks, so that local residents can themselves benefit from the wildlife resources on an economically and ecologically sustainable basis, then there is a chance of winning their support and lessening conflict of interest.

³⁰⁵Lohman I "Who Defends Biological Diversity?: Conservation Strategies and the Case of Thailand" in Shiva V *et al* (1991) *Biodiversity: Social and Ecological Perspectives* 93. Lohman gives the example of farmers in Bang Toong Yao in Lamphun Province, Thailand, who have over sixty years developed a set of written community laws which dictate how the local forest is to be used. Trees can only be cut for genuine necessities such as to build houses for newly weds; those who chop down trees for sale on the market or for other purposes face penalties handed down by village governments. However, all villagers are responsible for doing whatever is necessary to ensure that the forest is protected as a source of water, food, medicine and wood.

should promote and provide opportunities for the participation of interested parties, including local communities and indigenous people, in the development, implementation and planning of national forest policies.³⁰⁶

3.5.6.2 Protection of Local Cultural Rights and Practices

Local people may not have a profound understanding of conservation objectives, but there are many examples of traditional cultural practices that have led to the protection of forests, ecosystems and species.³⁰⁷ Where local practices such as type, timing and intensity of harvesting are compatible with long-term conservation, management should incorporate them.³⁰⁸

In traditional closed systems, the collection of wild plants for the personal use of the collector and his or her family, for barter or for limited trade, or local markets, have seldom constituted a serious threat to the survival or the sustainable use of the species concerned.³⁰⁹ The quantities collected were relatively small, and these customary systems were generally sufficiently self regulated to prevent over collection.

With economic development, many of these systems have evolved toward a market economy.³¹⁰ Plant products that were used only locally began to be sold in distant markets. Outsiders came from far away attracted by high potential profits, and local inhabitants had no means of opposing their presence. The control of the collection of forest produce in such situations should be done in such a manner as not to penalize indigenous collectors, when they gather wild plants for their own use. In several Italian regions, the collection of wild berries, mosses and lichens is limited to small daily quantities.³¹¹ For instance, in the region of Val d'Aosta, where the collection of

³⁰⁶ See Mak Oloo M O *et al* (eds) *Public Interest Environmental Litigation in Kenya: Prospects and Challenges* (2007) 28. It is noted however, that in the case of Kenya, this position is now well grounded in the law. Kenya's position is articulated in chapter four, part 4.3.11.

See also 3.5.15 below.

³⁰⁷ See Principle 2 (d) of the Forest Principles

³⁰⁸ See Lohman I (1991) (note 305)93.

³⁰⁹ Klemn C D (1994) (note 132)195.

³¹⁰ *Ibid.*

³¹¹ *Ibid.*

medicinal plants requires a permit, landowners are exempted from this obligation for small specified quantities taken for their personal use.

Forest policies should recognize, and duly support the identity, culture and the rights of indigenous people, their communities and forest dwellers, and give them an opportunity to make a living from the forest.³¹² The Forest Principles list industries, labour, nongovernmental organizations, individuals, forest dwellers and women as interested parties that should have a hand in the process.³¹³ The Principles call for the full participation of women in devising conservation strategies.³¹⁴ Without a framework that addresses local rights, recognizes and supports grassroots conservation, the emphasis on new uses for forests could actually lessen the ability of local people to protect their lands and livelihoods.³¹⁵

Sometimes, a protected area for the sustainable management and conservation of forests corresponds closely with the territory of an ethnic people. Such people will have an intimate association with the land and the biota of the region. The integrity of protected areas depends in particular upon the management of the natural resources in the surrounding area.³¹⁶ A well managed utilization area, sometimes referred to as a buffer zone,³¹⁷ allows local people to make direct use of the resources that are protected on the reserve and this reduces conflicts between human and conservation needs, by maintaining both the viability of the reserve and its availability for human consumption.³¹⁸ This approach to buffer zones accords well with the biosphere reserve concept as devised by UNESCO,

³¹²Royer M B "Halting Neotropical Deforestation: Do the Forest Principles Have What It Takes?" (1996) 5 *Duke Environmental Law and Policy Forum* 142.

³¹³Schucking H & Anderson P "Voices Unheard and Unheeded: The Biodiversity conservation Conservation Strategy Programme" in Shiva V *et al* (eds) (1991) *Biodiversity: Social and Ecological Perspectives* 93.

³¹⁴See the Forest Principles, Principle 2 (d).

³¹⁵Forest Principles, Principle 5(b).

³¹⁶IUCN (1990) (note 108) 17.

³¹⁷Ibid 17.

³¹⁸Gray A "The Impact of Biodiversity Conservation on Indigenous People" in Shiva V *et al* (eds) (1991) *Biodiversity: Social and Ecological Perspectives* 59 62.

Man and the Biosphere Programme.³¹⁹

3.5.6.3 Biodiversity Prospecting and Indigenous Knowledge

One of the most promising opportunities for the law to protect forests, and biological diversity, concerns the use of indigenous knowledge in modern pharmaceutical research and development. This is the field of ethnopharmacology.³²⁰ Approximately three fourths of the plant derived drugs now in use were discovered through research involving information from indigenous groups.³²¹ Allocating the benefits of these activities fairly and in the public interest must be the goal of any proposed legal structure on sustainable forest management and conservation.

Over thousands of years, indigenous groups have discovered medicinal value in certain natural products and restricted that knowledge by handing it down to a privileged few within their communities.³²² This knowledge is recognized as a major repository for information on the uses of plants in the forests. Indigenous people have provided information on the use of plants for medicinal purposes. Indigenous people have never opposed the use of their plants to save lives. It is the way in which their information is stolen and made into a commodity that angers them.³²³ Properly carried out, these initiatives could serve as economic incentives to protect rather than destroy forests and biodiversity. They also have the potential to bring revenues and technological capacity to developing countries. They could also provide a mechanism for avoiding perceived inequities of the past in which scientists and corporations took the knowledge and handiwork of traditional farmers without professional acknowledgement or financial compensation.

³¹⁹See generally Horton C M " Protecting Biodiversity and Cultural Diversity under intellectual Property Laws: Towards a New International System" (1995) 10 *Journal of Environment Law and Litigation* 1.

³²⁰bid 1.

³²¹Gray A (1991) (note 318) 67.

³²²Gray A (1991) (note 318) 67, states that in all these situations: '...there is a sense of something wrong. Japanese companies are collecting herbs in Asia. American companies are after plants in Latin America. European companies are opening up research centres in Brazil and India. There is money to be made. But none of it will be made by the people who first discovered the value of these traditional medicines'.

³²³Gray A (1991) (note 318) 69.

There must be protection of the intellectual property rights of indigenous peoples and they should receive compensation for the contribution they make to the furtherance of knowledge.³²⁴ Indigenous people's perspective sees the threat to forests as a danger to their continuing livelihood.³²⁵ They consider that recognition of their rights to their territories should be a precondition for conservation, as it will enable them to continue their self-sufficient and sustainable lifestyle. The sophisticated and detailed knowledge of the use of local flora and fauna, characteristic of many traditional cultures, has proven useful in providing prospecting leads for the development of commercial products, such as pharmaceuticals.³²⁶ Consequently, there is growing awareness that these communities should share in the benefits of the use of biodiversity and forest resources found in their territories.³²⁷

Governments should ensure that these benefit sharing principles are incorporated into national legislation that sets guidelines for biodiversity prospecting agreements. Indeed, the Forest Principles advocate that appropriate indigenous capacity and local knowledge regarding the conservation and sustainable development of forests should be recognized, respected, recorded, developed and introduced in the implementation of programmes.³²⁸ Issues of biodiversity and forest conservation are complex, especially in their relation to social, political and economic processes. The people of the world have a right to take part in any process of formulating and implementing international agreements and governments should engage in dialogue with its citizenry on the issues relating to the Convention on Biological Diversity. India has taken tentative steps in this direction already.³²⁹ It has recognized the fact that the conservation of biodiversity and of forests, can only come from a number of steps involving people participation by giving back greater control over natural resources to local communities, reviving relevant traditional systems, channeling benefits

³²⁴Ibid.

³²⁵Ibid.

³²⁶Bowles I *et al* (1998) (note 1) 236.

³²⁷Bowles I *et al* (1998) (note 1) 236.

³²⁸Ibid. See also Chapter Four, Part 4.3.12 below.

³²⁹See the Forest Principles, Principle 12 (d).

of biodiversity conservation to local people and formally involving people at all levels of decision making and encouraging mass public awareness and education.³³⁰

The Convention on Biological Diversity recognizes farmers' rights and their knowledge of biodiversity. Essentially, it acknowledges that communities of farmers have the right to benefit from the knowledge acquired from generations of cultivating particular plants, but there is no system set to ensure these rights.³³¹ Each contracting party is required, subject to its national legislation, to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and to encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.³³² While the Convention recognizes in several provisions that indigenous and local communities have close links to biological resources,³³³ Article 8(j)³³⁴ is the primary Convention obligation, addressing the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles. While the language is highly qualified, it does support the use of legal options such as intellectual property rights and contracts by indigenous peoples to ensure at least some return for the benefits derived from their knowledge. Another potentially important provision is Article 18(4) under which:

the contracting parties shall, in accordance with national legislation and policies, encourage and develop methods of cooperation for the development and use of

³³⁰ See Kothari A "Beyond the Biodiversity Convention: A View from India" in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 67.

³³¹ *Ibid.*

³³² Miller A L "Protecting Global Commons: Sustainable Development in the 21st Century in Snarr M & Snarr D (eds) (2002) *Introducing Global Issues* 275 288. The Forest Principles recognize this relationship and provide that governments should promote and provide opportunities for the participation of interested parties in the development, implementation and planning of national forest policies. Principle 5(a) states that forest policies should recognize and duly support the identity, culture and the rights of indigenous people, their communities and forest dwellers. Principle 5(b) requires the full participation of women in devising conservation strategies as they play a crucial role in forest use and conservation.

³³³ Article 8 (j).

³³⁴ See the Preamble, Paragraph 12. See also Article 10 (a), providing for the protection and the customary use of biological resources.

...indigenous and traditional technologies. ...for this purpose, the contracting parties shall also promote cooperation in the training of personnel and exchange of experts.

This provides a basis in international law for countries to seek new legal structures which will ensure that the benefits of ethno-pharmacology³³⁵ and ethno-agronomy³³⁶ return to preserve both cultures and ecosystems. It has, however, been argued that some of these commitments are couched in ambiguity as a result of which aspects favoured by the more powerful actors are more likely to be implemented whereas those, such as the maintenance of the knowledge and practices of local and indigenous communities that are likely to benefit the weaker actors, are more likely to be ignored. This is clearly illustrated in the case of the neem tree. For centuries, the branches, leaves and seeds of the neem tree (*Azadirachta indica*) have been used in India for medicine, contraception, timber, fuel and insecticide. Its medicinal applications have included leprosy, diabetes, ulcers and skin disorders.³³⁷ In the past two decades, transnational corporations have been paying particular attention to the use of neem as a pesticide. As a result, United States and Japanese corporations have declared their interest in neem by taking out US patents for a variety of neem compounds.³³⁸ Local Indian farmers are already experiencing economic consequences from the patenting of neem products.

They have to compete with transnational firms for access to neem seeds.³³⁹ At the same time, as corporations become involved in growing of neem trees to secure their supply, the tendency is to focus on a few strains, while other strains are neglected and may be lost. In addition, as the traditional rights of

³³⁵This Article states:

Each contracting party shall, as far as possible and as appropriate subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefit arising from the utilization of such knowledge, innovations and practices.

³³⁶Horton M C "Protecting Biodiversity and Cultural Diversity under Intellectual Property Law: Toward a New International System" (1995) *Journal of Environmental Law and Litigation* 1 24.

³³⁷See Miller A L (2002) (note 332) 285.

³³⁸*Ibid.*

³³⁹Recognition must be accorded to the local people and their rights of ownership and possession over the lands they traditionally occupy, and their rights to the natural resources pertaining to their lands must be safeguarded along with the right to participate in the use, management and conservation of these resources.

local communities are undermined, the capacity of these communities to conserve biodiversity is reduced.

Very often, government policies have resulted in the loss of cultural and biological diversity. Protecting and encouraging customary use of biological resources compatible with sustainable forest management and conservation is one way to conserve traditional knowledge. The Convention acknowledges this contribution by local communities. The Preamble to the Convention states that contracting parties recognize the close and traditional dependence of many indigenous people and local communities embodying traditional lifestyles on biological resources and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices, relevant to the conservation of biodiversity and the sustainable use of its components.

The co-evolution of culture, life forms and habitats has conserved the biodiversity of this planet. Communities everywhere in the world have developed knowledge and found ways to derive their livelihood from the bounty of nature's diversity. Hunters and gatherers, for example, use thousands of plants and animals for food, medicine and shelter.³⁴⁰

3.5.7 ASSIGNING PROPERTY RIGHTS TO FOREST RESOURCES

Forest resources are situated in the territory of independent sovereign states and are part of the natural resources of those states.³⁴¹ States are entitled to manage and exploit all forest resources within their sovereign jurisdiction as they think fit. If they are unregulated, forests, being common property resources, may be exploited to the point of exhaustion. Individuals reap the entire benefit when harvesting a common pool resource, but the costs are shared by the entire community. Thus, an individual has no interest to exercise restraint and conserve the resource, as everything left in the commons may be taken by someone else. If private individuals act to

³⁴⁰Shiva V & Bhar H B "Piracy by Patent: The Case of the Neem Tree" in Mander J & Goldsmith E (eds) (1996) *The Case Against the Global Economy* 146.

³⁴¹Shiva V "Farmers' Rights and the Convention on Biological Diversity" in Sanchez V & Juma C (eds) (1994) *Biodiversity: Genetic Resources and International Relations* 107.

maximize their self-interest, a valuable resource will be overexploited. This is commonly referred to as “the tragedy of the commons”. There is thus great scope for improvement in the management of forest resources. The creation or clarification, of rights to the use of a resource is a powerful mechanism.³⁴² Villagers who ruthlessly cut trees in state forests for fuel wood and fodder will realistically nurture and protect the forests that belong to them. Community systems of common resource management are highly adaptive and resilient and the power of these mechanisms enables the creation of incentives for better resource use. Over time, these incentives foster the innovations that are required for sustainable development.³⁴³ From the standpoint of the individual, it makes sense to develop ways of conserving a resource or expanding its supply only if the benefits can be appropriated through proper enforcement of property rights.³⁴⁴

Through regulations, the tragedy of the commons can be averted. The tragedy occurs when there is no social method of management. A number of traditional cultures have managed common property through community management arrangements, without privatizing it and without environmental or social tragedy.³⁴⁵

It may be useful to assign property rights, in forest resources even those previously held as common resources.³⁴⁶ Assigning property rights to a limited number of holders and excluding others from using the resources may

³⁴²See Woodliffe J “Tropical Forests” in Churchill R & Freestone D (eds) (1991) *International Law and Global Climate Change* 57.

³⁴³Ibid. See also chapter two, part 2.4.4.

³⁴⁴See World Resources Institute (WRI) The World Conservation Union (IUCN) United Nations Environment Programme (UNEP) *Global Biodiversity: Guidelines for Action to Save Study and Use the Earth’s Biotic Wealth Sustainably and Equitably* (1992)24.

³⁴⁵See for example Khan M H “Forest Management and Policy Issues in Nepal” in Kotwal P C & Banerjee (eds) (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 28. See also Chapter two, Part 2.3.3 above.

³⁴⁶See Khan M H (2009) (note 345) 32.

be beneficial in eliminating overexploitation, fostering private stewardship,³⁴⁷ and encouraging sustainable use of common property resources, provided that there are proper conflict resolution mechanisms.

In Kenya, for example, where community based natural resources management rights were vested in the Kimana Community Wildlife Sanctuary in Maasailand, conflicts were noted among the members. Conflicts arose between the Kimana Community Wildlife Sanctuary board members and the public, over allegations of power abuse and embezzlement by the board. Disputes were also reported between the Kimana Community Sanctuary with neighbouring group ranches over boundary delineations.³⁴⁸ In order to encourage the local communities to view wildlife conservation as an income generating activity, the Kenya Wildlife Service supported the Kimana group ranch by paying it Kenya shillings Eight Million per year, which is equivalent to about US dollars 80,000. Although this amount may not be a fair deal to the group ranch, this type of land use definitely gives them more returns than any other land use practice. Other group ranches have since requested assistance to establish similar projects.³⁴⁹

A related issue is the lack of efficient land titling and adjudication procedures.³⁵⁰ A large proportion of private landholdings are without formal

³⁴⁷While at law, property is seen as a bundle of rights, other concepts such as public good, external cost and interest may be legislated to challenge existing legal concepts governing those rights. Property, as applied to environmental resources, is viewed as common property and this acknowledges a resource in which a number of owners are coequal in the right of use. The nominal owner of the common property is the state which lays down rules for use. For details on this argument, See Bruce J "Property Rights Issues in Common Property Regimes for Forestry" in Boehm B (ed) (2003) *The World Bank Legal Review: Law and Justice for Development* 257 271.

³⁴⁸Leduc G (1992 (note115) 55.

³⁴⁹See UNESCO & the Kenya National Commission for UNESCO (2002) (note 148)7.

³⁵⁰See Kellert SR *et al* "Community Natural Resource Management: Promise, Rhetoric and Reality" in Kellert S R *et al* (eds) (2000) *Society and Natural Resources* 705.

title. Many titles are disputed or overlapping.³⁵¹ The resulting land tenure insecurity discourages forestry or similar longterm investments in land management.

With respect to forests on public land, rules governing the disposal of such land, or land held by conservation agencies will need to be properly set out to ensure the conservation of such forests. In a few countries, special rules have been enacted establishing restrictive procedures for the alienation of such land.³⁵² In the American state of Massachusetts, for example, the State Constitution requires that the disposal of, or assignment to other uses of park land be approved by the state legislature by a two-thirds majority.³⁵³

3.5.8 POPULATION POLICY

Policies to reduce population growth rates and to promote stabilization of population size are important for sustainable forest management and conservation in the long term. This is especially true with respect to the size of the pool of potential forest settlers, since each new colonist family at the forest frontier may clear hundreds of hectares of forestland in one generation.³⁵⁴ Urgent steps are needed to limit the extreme rates of population growth. However, the issue is not an easy one. The World Commission on Environment and Development has observed:

...rapidly increasing populations can increase the pressure on resources and slow any rise in living standards; thus, sustainable development can only be pursued if population sizes are in harmony with the changing productive potential of the ecosystem.

³⁵¹ See for example Hite K "Back to the Basics: Improved Property Rights can Help Save Ecuadors Forests" (2004) 16 *The Georgetown International Environmental Law Review* 763. In the case of Ecuador, due to inconsistent laws and conflicting management systems, the system is insufficient to ensure the long term investment security necessary for conservation. Conflicting laws create enforcement problems as enforcing one law can often lead to the violation of another. Cultural conflicts in land management compound the problem as the private property regime has been superimposed over historically indigenous common property regimes. The conflicts create a lack of exclusive ownership, thereby creating perverse incentives to maximize short term gain.

³⁵² IUCN (1990) (note 108) 171.

³⁵³ In the case of France, the *Conservatoire du Littoral et des Espaces Lacustres* cannot sell any of its land unless it is authorized to do so by decree of the Government and provided that such disposal has first been approved by its Board of Directors by a three quarters majority.

³⁵⁴ See Ledec G (1992) (note 115)57.

Yet in the end, sustainable development is ... a process of change in which the exploitation of resources ... are made consistent with future as well as present needs. We do not pretend that the process is easy or straight forward. Painful choices have to be made.³⁵⁵

The issue is not just about numbers of people, but how those numbers relate to available forestry resources. The problem of population must be dealt with by efforts to eliminate mass poverty, in order to assure more equitable access to resources and by education to improve human potential to manage the forestry resources. Chris Park has argued that in many ways, the problems of the rain forests are microcosms of the problems of the world because they reflect tensions and interplay between the powerful and the powerless, the rich and the poor, the North and the South.³⁵⁶ As a result, some critics of existing attitudes and policies towards the forest have joined the call for a new world economic order, which would be more sustainable, less environmentally damaging and more equitable.³⁵⁷ There is need to change our attitude to the planet in ways which would lead to changing to forms of development which are sympathetic to the rain forests.

Providing people with facilities and education will allow them to choose the size of their families thus assuring them of the basic human right to self-determination.³⁵⁸ Governments will need to develop long term, multifaceted population policies and pursue broad demographic goals. They should strengthen social, cultural and economic motivations for family planning, and provide to all who want them, the education, contraceptives and services required.³⁵⁹

Sustainable forest development can be pursued more easily when population size is stabilized at a level consistent with the productive capacity of the

³⁵⁵ See the World Commission and Development (WCED) (1985) (note 91) 11.

³⁵⁶ Ibid 8.

³⁵⁷ See Park C (1990) (note 134)161.

³⁵⁸ Ibid.

³⁵⁹ With one of the primary causes of deforestation being exploitation of forests for wood fuels, the use of wood fuels constitutes one of the most pressing challenges for achieving sustainable forest management in almost all sub-Saharan African countries. The most important factor that will cause this challenge to persist for years to come is the considerable population growth. See for instance World Bank (2008) (note 11) 98.

ecosystem. Population policies should be integrated with other economic and social development programs like female education, health care and the expansion of the livelihood base of the poor.³⁶⁰ Increased access to family planning services is itself a form of social development that allows couples the right to self-determination.

3.5.9 POVERTY REDUCTION

There is a clear cause and effect relationship between poverty and environmental degradation. Environmental degradation leads to widespread poverty and this is a habitual cause of environmental degradation. Satisfaction of basic needs is, therefore, an environmental concern relevant to environmental policy. Investment in development is vital for environmental protection because the environment is the first victim of acute poverty, urban overcrowding, and shrinkage of arable land. Repetto has underscored this issue by stating that:

Many problems of resource deterioration, environmental decay and inadequate living standards persist or worsen not because they are impossible or difficult to solve, but because they have not yet been seriously addressed.³⁶¹

Little has been done to address the conditions of urban and rural poor that offer people no alternative, but to turn to the forests.³⁶² The problem of landless and marginal farmers, pastoral people and forest dwellers should be addressed by governments and policy makers.³⁶³ Farmers in marginal areas should be assisted by allotting them seeds, settling them and accessing credit to them to enable them to plant trees.

Strong political commitment by governments to pursue policies of land reform leading to more equitable land ownership, would do more to relieve pressure on forest lands.³⁶⁴ The issue of equity and access to resources is also crucial here. In the words of Marrison Miller:

³⁶⁰Ibid.

³⁶¹Repetto R "Overview" in Repetto R (ed) (1985) *The Global Possible: Resources Development and the New Century* 22. See also Principle 9 (c) of the Forest Principles.

³⁶²Repetto R (1985) (note 361) 16.

³⁶³See Royer M B (1996) (note 312) 141

³⁶⁴Myers N "The Global Possible: What can be Gained?" in Repetto R (ed) (1985) *The Global Possible: Resources, Development and the New Century* 337. See also Principle

9(b) of the Forest Principles.

Equity is clearly an important prerequisite to sustainable development since both poverty and affluence have been associated with unsustainable practices. But while the affluent can choose to live sustainably, the poor who may be landless and food insecure, might be constrained to make such unsustainable choices as cutting down biodiverse forests to grow food crops. A sustainable strategy will have to be based on an awareness of how the environment is viewed and used in many parts of the world.³⁶⁵

It is, therefore, futile to attempt to deal with forest problems without a broader perspective that encompasses the factors that underlie poverty and inequality in society. Many present development trends leave increasing numbers of people poor and vulnerable to landlessness while at the same time degrading the environment.³⁶⁶

There have been numerous grassroots initiatives within tropical forest countries in support of the forests. In India for instance, the Chipko and Silent valley campaigns, have achieved significant success in preserving local forests. In Kenya and Colombia, the Green Belt movements have engaged in extensive tree planting, thus relieving exploitation pressures on the remaining forests.³⁶⁷

The Forest Principles call for efforts to be made to support the promotion of sustainable patterns of production and consumption, the eradication of poverty and the promotion of food security.³⁶⁸

3.5.10 RESEARCH, TRAINING AND EDUCATION

Most experts and agencies involved in forest management recognize the vital part played by research and education. Without a better understanding of how the forest works, what influences its structures, dynamics, and resilience, there is little prospect of any sustainable future for the remaining forests.³⁶⁹

Without a well conceived and broadly disseminated programme of education

³⁶⁵See Miller M A L "Protecting the Global Commons: Sustainable Development in the Twenty First Century" in Snarr M & Snarr D (eds) (2002) *Introducing Global Issues* 275.

³⁶⁶See for example Tanui J & Kinuthia I (eds) *Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development* (2011) 15.

³⁶⁷See Myres N (1992) (note 88) 439.

³⁶⁸Forest Principles, Principle 7 (a).

³⁶⁹See Royer MB (1996) (note 312) 142.

about the forests, their uses and potential, it will be difficult to change current public opinion to remove some of the pressures facing the forests. The provision of timely, reliable and accurate information on forests and forest ecosystems is essential for public understanding and informed decisionmaking and should be ensured.³⁷⁰

There have been numerous calls for major investment of time, money and trained personnel into research on forest ecosystems. The immediate research need would be to establish the extent of all production of forests on a national, regional or global basis, including currently traded products, such as timber and goods taken free of charge, mainly non timber goods and all the services, and assess their value at different levels of supply.³⁷¹ What has been happening with respect to the forests, according to Svanquist,

amounts to replacing something we know almost nothing about and believe we cannot afford, with something we think we know at least a little about and which appears to offer reasonable economic security.³⁷²

It is clear that we have not established the viability of forest management and the competitiveness of timber production as a land use alternative.³⁷³ Immediate attention has to be given to the performance of various forest management systems both with regard to their economical and financial viability and their ecological impact. Such research would contribute to the creation of a sound basis for the development of forest utilization and land use policies. Concerted efforts should be made to concentrate forest research on topics that have the greatest impact on agricultural productivity and the preservation of biological diversity.³⁷⁴ There are still many gaps in our understanding of the structure and ecology of forests, as well as unknown numbers of species of plants which have yet to be discovered, classified and named.³⁷⁵

³⁷⁰See the Forest Principles, (1992) (note 24) Principle 2 (c).

³⁷¹Svanguist NH "The Timber Industry Perspective" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 326.

³⁷²*Ibid.*

³⁷³*Ibid.*

³⁷⁴Spears J & Ayensu E S (1985) (note 365) 332.

³⁷⁵*Ibid.*

Education is one of the most crucial elements of a strategy for focussing on long term results in sustainable forest management and conservation. Education addresses different cultural perspectives and world views that evolve over time and places forests in a new context. Over time, education can stimulate an understanding and appreciation for the heritage of flora and fauna, in concert with the direct economic benefits that flow from protection. Education on forestry is also a key management tool for governments as they will be able to disseminate information to induce socially desirable action.³⁷⁶ Governments may be able to disseminate information on the impact of resource overuse to affect individual behaviour, programmes to help people understand specific environmental issues, as well as the relationship between resource use and sustainable development.³⁷⁷

Kenya's Forest Policy outlines a number of measures and strategies that would promote education and awareness in the forestry sector.³⁷⁸ These measures and strategies include the review and update of forestry education curricula from time to time, in consultation with stakeholders and the support of public awareness creation with regard to sustainable forest management, conservation and utilization. However, the current institutional linkage between forestry research and educational institutions is weak.³⁷⁹ There is need for the private sector to participate in forestry research in line with the forestry policy and national development priorities. Sustainable forest management will depend, ultimately, upon the widespread adoption of an environmental ethic, a code of conduct reflecting environmental awareness and the need for sustainable development.³⁸⁰ Quality environmental education should be value based and community oriented and should be concerned with human well being.

³⁷⁶See Darlong V T "People, Forests and Biodiversity: Aspects of Conservation Options in North East India" in Kotwal P C & Banerjee S (eds) (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 167.

³⁷⁷UNEP (1989) (note 5)15.

³⁷⁸indeed, consider a government that seeks public comments on an environmental impact assessment with a requirement for a public comment process where the population is largely illiterate

³⁷⁹See Republic of Kenya *Sessional Paper No. 9 of 2005 on Forest Policy* (2005)17.

³⁸⁰See Ludeki J V *et al* (eds) *Environmental Management in Kenya. A Framework for Sustainable Forest Management –Understanding the New Policy and Forests Act 2005* (2006)23.

One of the major aims of the International Environmental Education Programme of the United Nations Educational Scientific and Cultural Organization and the United Nations Environment Programme is the incorporation of basic environmental considerations into primary and secondary education curricula.³⁸¹ Such environmental considerations include a study of soil, plants, animals, water, air and their interaction with the human environment as well as considerations of basic human needs and sustainable development.

However, classroom work is not enough. Young people must participate in tree planting, nature conservation and wildlife protection. There should be groups, such as the guides, the scouts, and young farmers clubs, which must be fairly strong, coherent and ecologically conscious in forestry matters. It is one thing to conserve forests, or create protected areas, but unless generations are educated to regard forests as a friend and an ally, and ultimately as our life support systems, we run the risk of saving the forests today, just to see them destroyed later.³⁸²

In the early 1980s in Fiji, for example, six hundred scout groups became custodians of conservation sites.³⁸³ They planted trees and herbs and engaged in raising bees for honey within the conservation sites and built a hall for their own scouting activities. This kind of approach is environmentally useful to the forests and the people.

The Convention on Biological Diversity obligates contracting parties to establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the needs of developing countries.³⁸⁴ In addition to

³⁸¹See UNEP *The State of the Environment* (1990) 58.

³⁸²*Ibid.*

³⁸³See Otiende J E & Ezaza W P "Introduction" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 1.

³⁸⁴See UNEP *Young Action for the Future* (1988) 56.

providing financial support, parties can also facilitate joint research programs, joint ventures and exchange information.³⁸⁵

The public's lack of awareness of the importance of forests, their relevance to everyday life, the benefits from the use of its components and the consequences of its loss form a major constraint which must be overcome if sustainable forest management and conservation efforts are to succeed.³⁸⁶ It must be noted, however, that lack of awareness is a controversial issue given that communities have used biodiversity for different purposes based on traditional indigenous knowledge that has been passed from generation to generation.³⁸⁷ Indeed, efforts to conserve biological diversity cannot succeed without the general public's understanding and support. The parties to the Convention should support the measures required for the conservation of biological diversity, as well as their propagation through media and the inclusion of these topics in educational programs.³⁸⁸

The Forest Principles provide that national capabilities in education, training, science, technology, economics, anthropology and social aspects of forests and forest management are essential to the conservation and sustainable development of forests and should be strengthened.³⁸⁹

3.5.11 CONSUMER POWER AND ECO-LABELLING

Consumer power can strongly favour timber which has come from sustainably managed forests. There is some evidence to suggest that many consumer countries would be willing to pay considerably more for wood if they were sure that it had not resulted in irreversible forest destruction.³⁹⁰ This alone could encourage the governments concerned to take an interest in sustainable forest management and conservation.

³⁸⁵Article 12(a).

³⁸⁶See UNEP (1988) (note 384) 56.

³⁸⁷Glowka L *et al* (eds)(1994)(note 254)2. See also Part 4.4.2.5 below.

³⁸⁸See Tanui J & Kinuthia 1 (eds) (2011) (note 257) 64.

³⁸⁹Article 13. Indeed information data bases should be created and expanded. Information on forests is essential to developing conservation and management schemes and that information should be provided. There should be international exchange of information as well as indigenous and local knowledge of forests. See also Principle 12(d) of the Forest Principles and also Chapter 4, Part 4.3.14.

³⁹⁰See the Forest Principles (1992) (note 24) Principle 12 (b).

Campaigns by international environmental groups concerned about the future of the forest have targeted western consumer interests.³⁹¹ One strategy adopted by some timber retailers to capitalise on consumer interest in sustainable supplies of woods has been to use the so called 'eco-labels', which claim that the wood comes from sustainable logging operations.

A successful eco-labeling program would establish a uniform, widely accepted and comprehensive scheme for regulating labelling claims. Eco-labelling informs consumers about environmentally sound products and production processes, empowering them to act on their preferences for 'green products'.³⁹² To make eco-labelling effective, however, consumers must be able to rely on the accuracy of labelling claims. In industries affecting forests and biodiversity, the government could set standards for labels certifying, for example, that agricultural or forest products were produced sustainably.³⁹³ Consumers and purchasers could then express their preferences in the market for such products, thereby increasing market incentives for conservation. Lobbying by pressure groups can clearly have a significant impact on consumer awareness and behaviour, and many environmentalists believe that it is at this level that the more urgent changes are needed.³⁹⁴ With so many consumers taking a direct interest in sustainable forest management and conservation, it is beneficial for companies to advertise their involvement through these innovative products. Ultimately, of course, a complete boycott of timber and other products originating from countries that do not attempt to preserve their forests, may be necessary.

In Kenya, the Forests (Harvesting) Rules 2009, require the director of the Kenya Forest Service to assign a mark for each forest station, state forest or

³⁹¹See Carwardine M (1990) (note 124) 65. This point has been discussed partly in Part 2.4.7 above and is examined further in part 4.3.8.

³⁹²Park C (1992) (note 134) 147. Park has noted that in 1987 for example, *Friends of the Earth* in Britain launched a tropical hardwood consumer campaign. Retailers, consumers, importers, architects, local authorities and other users of tropical hardwoods were lobbied to adopt a code of conduct ensuring that Britain trades only in well managed ecologically sound timber products.

³⁹³Bowles I *et al* (1998) (note 1)235.

³⁹⁴*Ibid.*

private forest.³⁹⁵ Timber that is felled in these forests, must be branded and identified with the respective marks before removing the timber from the felling area. The rules further require that should the timber originate from a private forest, then there should be a document issued by the owner of the forest, proving the origin of the forest produce.³⁹⁶

3.5.12 DEBT FOR NATURE SWAPS

Many developing countries owe large debts to developed countries, commercial banks and institutions such as the World Bank, having borrowed heavily to finance major development schemes.³⁹⁷ Most cannot service these debts or even manage the interest payments, and so they sacrifice their endowment of natural resources, such as forests, and use them as capital.³⁹⁸ Banks realise that a complete repayment of the loans is probably not possible. Rather than competently writing off the loans, they are willing to consider alternative strategies.

One of the more innovative strategies that explore common ground in international arrangements has become known as the debt for nature swap.³⁹⁹ A debt for nature swap involves the purchase at a discounted value in the secondary debt market, of a developing country debt, usually by a non-governmental environmental organization. The new holder of the debt, the non-governmental organization, offers to cancel the debt in return for an environmentally related action, on the part of the debtor nation.⁴⁰⁰ Debt for nature swaps offer the realistic possibility to turn what has been a major force for unsustainable economic activity, namely, the debt crisis, into a force for resource conservation.⁴⁰¹

³⁹⁵Park C (1992) (note 134) 147.

³⁹⁶See the Forests (Harvesting) Rules 2009, Legal Notice No. 185 of 24 December 2009.

³⁹⁷Ibid, rules 10 and 11.

³⁹⁸See for instance Woodliffe J (1991) (note 342) 57. It has however been argued that these deals have operated on too small a scale and have failed to provide sustainable development.

³⁹⁹Ibid.

⁴⁰⁰See Tietenberg T H (1991) (note 242) 2003. This recent development is discussed in greater detail by Moran K "Debt for Nature Swaps: A Response to Debt and Developing Countries" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 308. See also Pearce D *et al* (eds) *Sustainable Development: Economics and Environment in the Third World* (1990) 205.

⁴⁰¹Ibid.

The Tropical Forestry Action Plan⁴⁰² has proposed that debt ridden tropical countries realise the value of their ecological capital assets and literally trade areas of forest for their international debt.⁴⁰³ The net effect of this arrangement is to reduce the national debt of countries that take part in conservation programmes while at the same time enabling them to slow down or stop deforestation. The first of such deal was signed with Bolivia, South America's most impoverished country on 12 July 1987. In exchange for a reduction of US Dollars 650,000, purchased for just US Dollars 100,000 by Conservation International, a non-profit environmental group in the United States, Bolivia agreed to conserve 1.6 million hectares of its rapidly diminishing forests. Unfortunately, the deal was criticised because none of the local Indian communities were either consulted or considered. Many Bolivians mistakenly believed that the government had actually sold off part of the country.⁴⁰⁴ Some countries have adopted such debt swapping strategies with positive results for forest conservation. In Costa Rica and the Philippines, these swaps have been facilitated by NGOs to finance a wide range of activities such as the training of local scientists, land managers, natural resource conservation and the management of buffer zones around critical natural areas.⁴⁰⁵

However, critics of the debt for nature swaps dismiss them as a modern form of imperialism.⁴⁰⁶ In the Bolivian case, tribal Indians opposed the scheme in 1990, arguing that logging companies continued extracting timber from the area, driving away wildlife and polluting rivers as well as felling the forest.⁴⁰⁷

⁴⁰² See Moran K (1990) (note 400) 305-309.

⁴⁰³ The proposal was made at a meeting held in Bellagio, Italy, in July 1987. See Pearce D *et al* (1990) (note 387) 205.

⁴⁰⁴ See Park C (1992) (note 134) 155.

⁴⁰⁵ See Park C (1992) (note 134) 155.

⁴⁰⁶ Carwardine M (1990) (note 105) 60.

⁴⁰⁷ At the end of 1987, the World Wide Fund for Nature (WWF) in the United States, promoted two debt for nature swaps initiatives in Ecuador and Costa Rica. In Ecuador, the plan was to buy US dollars one million in Ecuadorian debt, which would yield up to US dollars six million in conservation benefit. The Costa Rica scheme involved raising money to buy a remnant of rainforest as a seed source to replant over 700 km square of degraded pastureland. For more details on this point, see Pearce D (1990) (note 400) 205.

Again, it is also believed that debt for nature swaps benefit only the 'dictators' who negotiated the loans in the past and not the people, who today struggle for democratic rule.⁴⁰⁸ While supporters concede this difficulty, they do point out that the swaps play a significant role as holding actions to gain time before suitable policies can be implemented.⁴⁰⁹ Another lesson learned, is that there is an inflationary effect of a sudden increase in money supply in the host country's domestic economy.⁴¹⁰ To counter this effect, swap arrangements now routinely convert most of the debt into local currency bonds, using the interest as stable and longterm financing for conservation. It has however, now been charged that debt for nature swaps promote ecological imperialism since debt swaps exchange debt for ownership of sovereign territory.⁴¹¹ In view of these criticisms, this tool of conservation is not of any relevant application to Kenya, neither has it been applied.

3.5.13 INTEGRATION OF SUSTAINABLE FOREST MANAGEMENT, CONSERVATION AND DEVELOPMENT

Deforestation involves a myriad of interconnected factors. All aspects of environmental protection and social and economic development as they relate to forests should be integrated and comprehensive.⁴¹² Any forest conservation plans that are developed should consider the relationship between the sustainable management, conservation and development of forests and aspects of production, consumption, recycling and final disposal of forest products. Furthermore, any sustainable forest management and conservation decisions made, should take place only after a comprehensive assessment of economic and non-economic values of forest goods and services and of the environmental costs and benefits has been made.⁴¹³ Realizing that

⁴⁰⁸See Park C (1992) (note 134) 156.

⁴⁰⁹See Moran K (1992) (note 400) 156.

⁴¹⁰See Tietenberg T H (1991) (note 242) 2002. It is feared that this conservation instrument may create a back lash in developing country economies due to the political risk of imposing strict economic reforms, being some of the conditions for the implementation of this scheme.

⁴¹¹See Moran K (1992) (note 400) 310.

⁴¹²Ibid.

⁴¹³Sustainable development requires sustainable utilization of the natural resources and therefore, the imperatives of conservation of the natural resources should be part and parcel of environmental planning and management as they will actually protect the threshold of sustainability of all the resource sectors.

conservation is related to international concerns as well, sustainable forest management, conservation and development policies should be integrated with economic, trade, and other relevant policies. This, therefore, means that all proposed new developments and projects should be subject to environmental impact assessment.⁴¹⁴ Indeed Principle 3 (c) of the Forest Principles recognizes this complexity, stating that all aspects of environmental protection and social and economic development as they relate to forests and forest lands should be integrated and comprehensive. The Principles require that areas adjacent to forests should be managed together with forests in an integrative approach.⁴¹⁵

One of the targets under the Millennium Development Goals for ensuring environmental sustainability, requires that countries integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.⁴¹⁶ The separation of conservation from development, and the narrow sectoral approaches to sustainable forest resource management, are at the root of current resource management problems.⁴¹⁷ Many of the priority requirements demand a cross sectoral interdisciplinary approach. The policy goals in respect of forestry that should be addressed should aim at increasing yields of goods and services from forests such as products, water, wildlife, recreation, education and research, provided that such yields are sustainable and that the research base, essential ecological processes and genetic diversity are secured so as to manage the forest estate on the principle of stewardship, with commitment to maintain in perpetuity, ecological processes, watersheds, soils and genetic diversity.⁴¹⁸

The implementation and administration of forest programmes require

⁴¹⁴Genadio M A "Toward a New Biodiversity Policy for Forest Management" (1995) 2 *Wisconsin Environmental Law Journal* 303. See also Principle 6(b) of the Forest Principles.

⁴¹⁵See Herbert C (1998) (note 10) 592.

⁴¹⁶See The Forest Principles (1992) (note 24) Principle 8(e).

⁴¹⁷See United Nations Millennium Campaign *Africa Halftime for the Millennium Development Goals: End Poverty Millennium Campaign* (2007)10.

⁴¹⁸Ibid.

collaboration and coordination across various sectors related to land use. The policies of the related sectors should be harmonized and an effective mechanism or framework, for enhancing intersectoral coordination should exist.⁴¹⁹ The sectoral policies that require effective coordination include agriculture, wildlife, environment, land development, water, energy and minerals. The planning and implementation of forest and other land based programmes has traditionally been done at the central level.⁴²⁰ There should be adequate consultations to encourage grassroots participation in forestry planning and the potential of indigenous knowledge should be utilized.⁴²¹ An excerpt from the WCED report on this point is instructive:

First, environmental stresses are linked to one another. For example, deforestation, by increasing runoff, accelerates soil erosion and siltation of rivers and lakes....such links mean that several different problems must be tackled simultaneously. And success in one area, such as forest protection, can improve chances of success in another area, such as soil conservation. Second, environmental stresses and patterns of economic development are linked to one another. Thus, agricultural policies may lie at the root of land, water and forest degradation. Energy policies are associated with the global green house effect, with acidification and with deforestation for fuelwood in many developing nations. These stresses all threaten economic development. Thus, economics and ecology must be completely integrated in decision making processes, not just to protect the environment, but also to protect and promote development⁴²²

National policies and strategies should, therefore, provide a framework for the sustainable development of forests and forest lands.

3.5.14 *LOCUS STANDI*

The notion of standing or *locus standi* expresses the relationship which must exist between the plaintiff and the cause of action in order for the plaintiff to claim relief. Practitioners of environmental law have argued that the traditional legal relationship in a legal action between the plaintiff and the defendant is unsatisfactory.⁴²³ It has, therefore, been noted that:

⁴¹⁹See Herbert C (1998) (note 10) 583.

⁴²⁰See World Bank (2008) (note 11) 98.

⁴²¹See Faure M & Niessen N (eds) (2006) (note 48) 263 278.

⁴²²WCED (1987) (note 36) 37-38.

⁴²³*Locus Standi* must therefore be expanded in favour of the environment to allow a larger class of individuals and organizations to sue, by giving all of them a legal interest in the forests. See for example Favre V "Wildlife Rights: The Ever Widening Circle" (1979) *Environmental Law* 241. See also Stone C D "Should Trees Have Standing? Toward Legal Rights for Natural Objects" (1972) 45 *South California Law Review* 450. Rights for individual species have been advocated by commentators. Supporters of such rights have argued eloquently for the recognition of independent, non human centered values of ecological communities and for the conservation of species on the basis of such innate value.

one ought, I think, to handle the legal problems of natural objects as one does the problems of legal incompetents. ...human beings who have become vegetable. ...The guardian or conservator then represents the incompetent in his legal affairs. Courts make similar appointments when a corporation has become incompetent - they appoint a trustee in bankruptcy ... to oversee its affairs and speak for it in court when that becomes necessary.⁴²⁴

While the trend is to favour standing for general interest groups, it is desirable, in the interest of environmental management, that legislation should confer rights of access to the courts to seek enforcement of public duties.

The law should empower the court to order the restoration of the environment and to provide financial compensation to the state for negatively impacting on the environment. This will need a widening of the traditional rules of *locus standi*. In this respect section 38 of the Constitution of the Republic of South Africa states:

Anyone listed in this section has the right to approach a competent court alleging that a right in the bill of rights has been infringed or threatened, and the court may grant appropriate relief, including a declaration of rights.

The persons who may approach the court are:

- a) anyone acting in their own interest;
- b) anyone acting on behalf of another person who cannot act in their own name;
- c) anyone acting as a member, or in the interest of a group or class of persons;
- d) anyone acting in the public interest; and
- e) an association acting in the interest of its members.⁴²⁵

Thus, the concept of standing in respect of environmental matters should be expanded to cover all interest groups and the public generally, acting in the public interest.

In *Australian Conservation Foundation Inc v. Commonwealth*,⁴²⁶ the High Court of Australia held that the Australian Conservation Foundation could not bring an action for an injunction to prevent a violation of the Environmental Protection Act 1974, or its procedures, because it could not

⁴²⁴ See Stone C D (1972) (note 423) 464.

⁴²⁵ See *Constitution of the Republic of South Africa* (1996) Section 38. While this section refers specifically to the South African Bill of Rights, it is argued that the same approach to legal standing, should be applied in respect of environmental rights.

⁴²⁶ (1980)14 *Commonwealth Law Reports* 493.

prove a special interest in the matter in dispute. Although the Court recognized that the Australian Conservation Foundation had an emotional and intellectual interest in the matter which was a proposed tourist development in Queensland, a proposal for which commonwealth government foreign exchange approval was required, this was held to be insufficient to support the action. Thus, an expanded concept of *locus standi* should allow such an action to succeed. Such an approach by the court, would contribute to popular notions of legal rights for forests or the environment, and courts will be inclined to develop more environment protecting rules of law.

In Kenya, the Forests Act 2005, provides that every citizen of Kenya, and any person who is ordinarily resident in Kenya, who has reason to believe that the provisions of the Act⁴²⁷ have been, are being, or are about to be violated, may petition the high court for a declaration that the provisions of the Act are about to be contravened.⁴²⁸ Such an applicant may pray for an injunction restraining such contravention, and may also get an order of mandamus against any officer who has failed to perform any duty imposed by the Act, and may also pray for any remedy, at law or equity, for preventing or enforcing the provisions of the Forests Act.⁴²⁹ It is thus clear, that Kenya's law has properly taken care of this aspect of conservation.

3.5.15 FOREST RESTORATION ORDERS

Forestry law should provide for the relevant forest conservation agency to make an assessment of damages for forest restoration. The criteria for this assessment should include the actual costs incurred for the restoration of forests and an assessment of the economic benefit obtained by the violator.⁴³⁰

The legislation should empower the agency to intervene in the instance of an environmentally degrading activity. Costs incurred by the authority in the exercise of this power should be recoverable from those responsible for the

⁴²⁷See the Forests Act 2005, section 58.

⁴²⁸See section 58(1) (a) of the Forests Act 2005.

⁴²⁹See section 58(1) (b) (c) and (d) of the Forests Act 2005.

damage. In line with the polluter pays principle, polluters should be held liable for the damage occasioned to the forests.

Kenya's Environmental Management and Coordination Act provides for environmental restoration orders to be issued by the National Environment Management Authority. Such an order requires the person to whom it is served, to restore the environment as near as it may be, to the state in which it was before the taking of the action that is the subject of the order. It may include replanting of trees and other flora or the restoration of the features in question.⁴³⁰ It is common, however, that apart from voluntary agencies restoring forests which they have harvested, violators of forest law have never been ordered to restore the forests they have damaged.

3.5.16 LEGAL AND INSTITUTIONAL MECHANISMS

Governments should adopt legal and institutional arrangements for the actual application of the law. The actual application and enforcement of forest law will require the specification of the normative demands, institutional arrangements and the procedural mechanisms including the establishment of an environmental court to resolve environmental disputes.⁴³¹ The need for this type of court reflects the fact that environmental issues are of concern to the present as well as the coming generation. Again, the case for an independent forum to hear forestry issues is compelling given the development of new strategies such as class actions, environmental restoration orders and the responsibility of decision makers, particularly in public and corporate sectors.

National policies and strategies should provide a framework for increased efforts, including the development and strengthening of institutions and programs for the management, conservation and sustainable development of forests and forestlands.⁴³²

⁴³⁰See Faure M & Niessen N (eds) (2006) (note 46) 278.

⁴³¹See the Environmental Management and Coordination Act, Act No. 8 of 1999 section 108.

3.6 SUMMARY

Having examined many of the possible solutions to the problem of deforestation, it is difficult to avoid the conclusion that the problem is immensely complex and there is no simple or single solution. The analysis in this chapter has shown that there are various options to the problem.

A wide variety of solutions have been suggested, including more research on forest resources, education about the forests, more and better forest management and conservation schemes. It is important to reconcile the interests of the forest industry with those of other forest users. For example, the rights of communities that depend on the forests for their livelihoods will need to be addressed to enable them to survive and prosper.

Strategies to protect endangered forest areas will be the ideal tool to identify unaltered forest areas and encourage countries to ensure protection. The chapter has shown that forest resource management requires an integrated vision that should consider the relationship between sustainable management, conservation and the sustainable development of forests, and their use. This should also put into account the non economic values of forest goods and services and the environmental benefits. In addition, the entire education system must incorporate principles and ethics for sustainable forest management. But as Lomborg observes, the primary solution to the challenge of forest conservation, will be higher growth and a better economic foundation so as to secure for the countries concerned, the resources to think longterm.⁴³² However, as Andrew Gray notes, there is no quick fix for the forest.⁴³³ One main conclusion that may be drawn from this chapter is that market forces, which have driven forests to the edge of extinction, may drive the forest back to rehabilitation and conservation. In this respect, the main

⁴³²See Lomborg B *The Skeptical Environmentalist: Measuring the Real State of the World* (2001)117.

⁴³³Gray A (1991) (note 318) 72.

way to save the forests is to make them more productive, more attractive commercially and more available.

Another conclusion that may be drawn is that the sustainable management and conservation of forests no longer depends on employing guards with guns to defend the forest or excluding other individuals of direct and deliberate threat to the forests.⁴³⁴ Conservation depends on the indigenous peoples who undoubtedly have the highest stakes in forest conservation. The 'guns and guards' approach to conservation, not only shuts out local communities, but in the process wilfully ignores traditional institutions, practices and beliefs.⁴³⁵

The study has shown that law can contribute to the realization of sustainable forest development. The chapter confirms that the principles of international environmental law could contribute to sustainable forest management and conservation by incorporating concepts, such as the precautionary principle, the principle of environmental impact assessment, and public participation, in decision making. The chapter has also noted that other principles, such as inter and intragenerational equity and responsibility to avoid harm to the environment, give substantive content to sustainable development.

From a purely legal perspective, new approaches, through the development of the principles of international environmental law, including new and more effective decisionmaking and enforcement mechanisms, are called for to implement sustainable forest management and conservation.

It should be noted though, that the adoption of regulations and the application of innovative regulatory strategies will not, in themselves, conserve forests. International obligations need to be implemented and enforced locally, regionally and globally.⁴³⁶

⁴³⁴Myers N "The Cheetah in Africa under Threat" (1976)5 *Environmental Affairs* 617 645.

⁴³⁵See Angwenyi A N "An Overview of the Environmental Management and Coordination Act" in Okidi C O *et al* (eds) *Environmental Governance in Kenya: Implementing the Framework Law* 142 155.

⁴³⁶The Forest Principles (1992) (note 24) Principle 3 (a).

New approaches to sustainable forest management and conservation will need to be embraced. Kenya will need to explore sustainable forest management methods such as payment for environmental services and compensation schemes. It will have to ensure that the forest economy sustains a mix of forest goods and services that add value and confers longterm resilience. Protecting forests to maintain biodiversity and reduce carbon emissions requires protection and the sustainable management and conservation of the forests. The alternative, which strips the forests of their assets, where the wider costs are unsupportable, and the benefits are uncertain, is no longer tenable.

Kenya will need to adopt these new strategies and place them on an equal footing with regulation and incentive based approaches. Efforts focusing on protected areas, sustainable management practices, education and community participation should continue so as to make sustainable forest conservation a norm in society.

Our next chapter examines the policy and the law relating to the sustainable management and conservation of forest resources in Kenya. It explores the extent to which Kenya's forest law and policy address the issue of sustainable forest management and conservation, and examines the extent to which Kenya's forestry law implements the strategies observed in this chapter.

CHAPTER FOUR

THE POLICY AND THE LEGAL REGIME RELATING TO SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION IN KENYA

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4.5	SUMMARY

4.1 INTRODUCTION

The last two chapters discussed the importance of Kenya's forests, the threats to forests and the various legal strategies for their sustainable management and conservation. Chapter two underscored the trends which accompany the process of forest degradation. It is clear that Kenya has serious forest management and conservation problems that warrant clear policy and legal interventions. Chapter three analyzed the various legal interventions that may be applied to achieve sustainable forest management and conservation initiatives.

This chapter focuses sharply on Kenya's policy and legal regime on forest management and conservation. The chapter is divided into three major sections. The first section discusses Kenya's forest policy framework from which the forestry law is extrapolated. The section clearly shows that Kenya's forest policy regime has various weaknesses which have continued to hamper sustainable forest management and conservation. The second section analyses Kenya's legal framework for forest management and conservation. The third section brings out a number of the weaknesses in the legal regime that call out for intervention.

Policy has been defined as the 'principles which govern actions directed towards given ends'.¹ A government's forest policy is the expression of the national will on what are the principles, actions and the ends in this sector of the national economy, and provides guidance on the actions that are required.² Since each section of society has different needs, be they material, social, economic or environmental, the forest policy and law must address all

¹ See Republic of Kenya *Kenya Forestry Master Plan* (1994) 209. See also Owiro A O "The Limitations of Kenya's Environmental Legislation" Paper Prepared and Presented at the Faculty of Law/Friedrich Ebert Foundation Seminar on *The Development of Environmental Law in Kenya* Mombasa (1988) 9. Owiro notes that law is a tool for the articulation of policy or provides the framework for the implementation of policy. It is therefore clear, that law and policy are interconnected.

² Such a policy must be devised with regard to the existing forest resources and the possible means by which they can be developed and conserved.

these needs and harmonize them. The guiding principles must be for the good of the society and the need to achieve sustainability.

Land in Kenya is subject to various policies and laws which have a direct impact on the management, conservation, alteration or removal of forests. Policies, in particular, have varied aims, which may or may not be beneficial to forest conservation.³ Kenya has a firm foundation on which sustainable management and conservation of forests could be achieved.⁴ In practice, however, it is evident that the country is losing its best natural forests and its fragile and threatened ecosystems at a rapid rate.⁵ At the same time, the country has committed itself to the Forests Act,⁶ the Wildlife (Conservation and Management) Act 1985,⁷ and through international agreements, in particular, the Convention on Biological Diversity. This chapter addresses the policies and the legislation that are relevant to forests. It discusses the policies and the laws in terms of their relevance and effectiveness, how they are implemented and whether this implementation contributes to Kenya's stated objectives of promoting sustainable forest management and conservation.⁸

The broad objective of the forest policy is to provide continuous guidance to all Kenyans on the sustainable management of forests.⁹ The specific objectives are to contribute to poverty reduction, employment creation and the improvement of livelihoods through sustainable use, conservation and management of Kenya's forest resources.¹⁰ It proposes to contribute to sustainable land use through soil, water and biodiversity conservation,

³ IUCN *Biodiversity in Sub-Saharan Africa and Its Islands: Conservation, Management and Sustainable Use* (1995) 3.

⁴ This foundation is based on the Constitution of Kenya 2010, the Environmental Management and Coordination Act, Act No. 8 of 1999, The Forests Act, Act No.7 of 2005, and *Sessional Paper Number 9 of 2005 on Forest Policy* (2005).

⁵ See Tanui J & Kinuthia I (eds) *Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development* (2011) 5.

⁶ Forests Act 2005, Act No. 7 of 2005.

⁷ Cap 376 Laws of Kenya (Revised edition 1985).

⁸ See Republic of Kenya *Sessional Paper Number 9 of 2005 on Forest Policy* (2005)1.

⁹ *Ibid* 2.

¹⁰ *Ibid*.

promote participation of the private sector, communities and stakeholders in sustainable forest management, and ensure the sustainability of the forest sector. It also seeks to promote forest research, training and education to ensure a vibrant forest sector.¹¹

4.2 THE EVOLUTION OF FOREST POLICY IN KENYA

The protection of Kenya's sacred forests, such as the Kayas in the coastal region, and many other ceremonial patches of forests all over the country, goes back to time immemorial, long before colonization or other outside influences.¹²

Kenya's current forest policy is embodied in Sessional Paper No. 9 of 2005 on Forest Policy.¹³ Earlier, the forest policy could not be found in one solid policy document as such, but rather, in various sessional papers, ministerial statements and various laws which, in one way or another, reflected the policy.¹⁴ The origins of a formally declared forest policy can be traced to the Sixth Commonwealth Forestry Conference in Ottawa in 1952, which recommended that each country should formulate and implement a forest policy.¹⁵ Kenya, still a colony at this time, followed the recommendations and the resulting policy was published as Devonshire White Paper No. 85 of 1957, which was Kenya's first official forest policy.¹⁶ This forest policy has evolved from the earliest history of the country, when communities were totally dependent on the forest for food, clothing and shelter.

¹¹Ibid.

¹²See Wass P ((ed) *Kenyas Indigenous Forests: Status, Management and Conservation* (1995) 60.

¹³See Republic of Kenya (2005) (note 7).

¹⁴See for example Kabeberi J W "Environmental Law in Kenya" Paper Prepared for Presentation at the *National Seminar on the Development of Environmental Law in Kenya* (1988) 5. See also *Kenya Vision 2030. A Globally Competitive and Prosperous Kenya* (2007), and Mbote P K *Property Rights and Biodiversity Management in Kenya* (2002) 109.

¹⁵See Omondi J & Omosa E "Capturing opportunities and Change in Kenya: Preparing Stakeholders for New Forests Act" available on <http://www-trees.s/n.se/news/46/kap.29.paf> (accessed on 14 January 2011).

¹⁶See Mbugua G "Status of Implementation of Forest Related Clauses in the Convention on Biological Diversity" (2002) 5.

Societies, such as the Ogiek, have survived into modern times due to their simple policies of the wise use of the forests and their protection from fires and wanton destruction by cutting.¹⁷ The independent government of Kenya revised the Devonshire White Paper No. 85 of 1957 into Sessional Paper No. 1 of 1968: A Forest Policy for Kenya.¹⁸

4.2.1 FOREST POLICIES DURING COLONIALISM

In colonial Kenya, there were a number of strict policy positions of environmental significance.¹⁹ Large scale exploitation of forests for timber begun in earnest during colonialism and reached its peak during the construction of the Kenya-Uganda railway line with the rise in need for wood to meet both fuel and timber requirements.²⁰ Previously, indigenous exploitation of forests was restricted to removing small amounts of timber from the forests for house construction and fuel. Colonial policies placed greater emphasis on reservation of forests and their exploitation for timber production, paying no attention to the needs of the local communities for fuelwood and non-timber forest products, such as deadwood, medicinal plants and environmental functions of forests.²¹ Colonial policies assumed protectionist and militaristic approaches to the management and conservation of forest resources. They essentially excluded and alienated rural people from their natural resources. Situma has thus noted:

¹⁷Republic of Kenya (1994) (note 1) 200. See also Mbaria R M & Mureithi W "Community Empowerment on the Indigenous Forest Uses and Values: An Appraisal of Forest Legislation in Kenya" (2003) 1. *Journal of East African Natural Resources Management* 59. The authors note that the Ogiek Community has always been, and still is, totally dependent for its existence and welfare on forests and has always regarded South West Mau Forest as its home.

¹⁸See Ludeki J V *et al Environmental Management in Kenya: A Framework for Sustainable Forest Management-Understanding the New Forest Policy and Forests Act 2005* (2006)11.

¹⁹See Okidi C O & Mbote P K *The Making of a Framework Environmental Law in Kenya* (2001) 17. These policies were marked by the ambiguity between conservation merits and the quest for economic development through commercial agriculture.

²⁰See Mbote P K (2002) (note 14)112.

²¹See Omondi J & Omosa E (2002) (note 15) 29.

In Africa, especially, these belief systems and resource use patterns were either deliberately ignored or misunderstood by the colonial administrators in their setting aside natural resources, pursuant to their own conservation policies, for the satisfaction of their own values, priorities and practices which were, in any event, alien to African societies and excluded them from their traditional grazing lands, farmlands and natural pharmacopeia.²²

This undermined the authority of numerous customary institutions and management in the hands of the local people. Local rights were removed and with the loss of their rights, local responsibility to conserve the forests declined. Consequently, the African people were not allowed to participate in decision-making and the establishment of national programs for the sustainable use of natural resources.²³ African indigenous values, knowledge and conservation practices were not, apparently, reflected in colonial government policies for the sustainable management and conservation of forest resources.²⁴

4.2.2 POST INDEPENDENCE FOREST POLICIES

The independence government continued the trend of excluding the local people from the management of forest resources.²⁵ At independence, the government established its central policy position in the well-known *Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya*.²⁶ In this policy document, the government recognized the need to conserve natural resources for all future generations and noted that the concern with the quality of the environment must be placed on an equal footing with the need to exploit natural resources for national development

²²See Situma FDP "Legislative and Institutional Framework for Community Based Natural Resources Management in Kenya" (2003) *The University of Nairobi Law Journal* 55 56.

²³Situma FDP (2003) (note 22)56. See also Repetto R "Incentives for Sustainable Forest Management" in Woodwell G M (1990) (ed) *The Earth in Transition: Patterns and processes of Biotic Impoverishment* 239 240. Repetto has written: In most third world countries, governments have taken over forest management, replacing indigenous communities who used the forests in accordance with traditional practices.

²⁴See Obare L & Wangwe J B "Underlying Causes of Deforestation and Forest Degradation in Kenya" World Rainforest Movement <http://www.wrm.org.uy/deforestation/africa.kenya.html> (accessed on 30 March 2012).

²⁵See Mbote P K (2002) (note 14) 112.

²⁶Republic of Kenya *Sessional Paper Number 10 of 1965: African Socialism and Its Application to Planning in Kenya* (1965).

On the environment in general, the Paper provided that 'practices tending to harm rather than to conserve our physical environment must be curbed through education and legislation'.²⁷

Three years later, in 1968, Kenya restated the Devonshire White Paper No. 85 of 1957 with very few modifications and came up with a new forest policy.²⁸ This Policy set out basic principles under which forests would be managed for the greater common good. The Policy noted that sufficient land should be reserved for forestry purposes in view of the importance of the provision of forest products and indirect benefits, such as soil and water conservation.²⁹ Furthermore, the Policy stated that forests should be managed on a sustained yield basis, so that Kenyans would continue to receive forest products in perpetuity.³⁰ The Policy recognized forests as being important for recreation and as habitat for the country's wildlife. Additionally, this policy envisaged a situation whereby forests under the respective county councils would be managed jointly by the forestry department and the relevant county councils.³¹ Costs and revenue arising from such joint management would be shared between the forest department and the relevant county council.

The general concern of the forest policy was to reserve forest land for forestry purposes under governmental control. The result of this extensive governmental involvement at the exclusion of the other stakeholders is seen clearly today. Forest degradation and deforestation through unsustainable exploitation and utilization of the resource by the government, timber industries, sawmills, other private enterprises and local communities, has increased.³²

These consequences of strong centralization, a breakdown of traditional regulatory practices and a reduced sense of responsibility and ownership at

²⁷Republic of Kenya (1965) (note 26) 24.

²⁸Republic of Kenya *Sessional Paper Number 1 of 1968: A Forest Policy for Kenya* (1968).

²⁹Republic of Kenya (1968) (note 28)2.

³⁰Republic of Kenya (1968) (note 28)4.

³¹Republic of Kenya (1968) (note 28) 6.

³²See Obare L & Wangwe J B (2009) (note 24) 7.

community level, their diminished access to forest land and its products, has had serious implications on the livelihood of the local people.³³ This has resulted in confrontation between the forest department and local communities and indifference towards government initiated conservation efforts.

Since the Policy assumed that the government would gain control of all nationally important forests, it concentrated on gazetted forests with inadequate provisions for other forest areas.³⁴ Many of these have been cleared for other land uses. This omission has been the major shortcoming of this policy document.

4.2.3 RELATED POLICY DOCUMENTS

Other policy statements with respect to Kenya's forests have been made in other sessional papers and development plans and have had serious implications for forest management and conservation. We examine, in brief, these policy documents.

4.2.3.1 **Sessional Paper Number 1 of 1986: Economic Management for Renewed Growth**

This Policy document laid down the broad strategy and specific measures which must be followed by all the national development plans from 1986 to the year 2000 in order to achieve the targeted GDP growth of 5.6%.³⁵ The policy did recognize that agricultural expansion would mean sacrificing forests, particularly those which were outside the gazetted areas. It noted that

³³Omondi J & Omosa E (2002) (note 15) 29. See also Situma FDP (2003)(note 22) 57. Situma has noted that:

the power to control access to and utilization of natural resources is perhaps the single most critical issue in not only sustainable utilization, but also environmental governance Unless a particular community has the legal power to determine access to and utilization of natural resources for its interest and welfare, its ability and right to participate in decision making and establishment of programmes for the management of the resources will be substantially weakened.

³⁴Republic of Kenya (1994) (note 1) 211. Note that the term 'gazetted forests' now refers to state forests, under the Forests Act 2005. This left out forests on private land and community owned forests.

³⁵See Republic of Kenya *Sessional Paper Number 1 of 1986: Economic Management for Renewed Growth* (1986) 3. This average figure was not, however, attained then.

the expansion of tea growing led to the conversion of six thousand hectares of forests, although, in partial compensation, the tea plantations acted as a buffer zone to protect the forests from future encroachment as the tea plantations were established on the forest boundaries. The tea zones have provided meaningful employment to local communities, thus alleviating the problem of overdependence on forest resources. On the other hand, much forest land has been lost through the creation of the Nyayo Tea Zones.

This Sessional Paper is also relevant to forests in so far as it recognized the important role of forests in providing energy and construction wood, as well as their environmental functions. The Paper recommended the reforestation of all deforested regions of the country to add to wood supplies, while simultaneously protecting the environment. It also advocated for agroforestry to enhance fuelwood supplies and lead to higher soil fertility and better storage of soil moisture, which is necessary for increased agricultural production.³⁶ The Ministry of Agriculture has sought to implement the provisions of this policy by publishing the Agriculture (Farm Forestry) Rules 2009.³⁷ The objectives of the rules are to promote the establishment and sustainable management of farm forestry for the purpose of maintaining a compulsory ten percent farm tree cover for every agricultural land holding and conserve water, soil and biodiversity. The punishment for contravening the rules includes a fine of Kenya shillings six thousand (about 75 US dollars) or a prison sentence not exceeding six months or both.

4.2.3.2 The Kenya National Environment Action Plan 1994

The Kenya National Environment Action Plan set forth recommended actions to address environmental issues in Kenya.³⁸ The main objective of the Action Plan was to provide coherent instruments for integrating environmental considerations into economic planning and programmes for sustainable development.³⁹ The Action Plan aimed to provide overall guidance on

³⁶Ibid 11.

³⁷See The Agriculture (Farm Forestry) Rules 2009, Legal Notice No. 166 of November 20, 2009.

³⁸Republic of Kenya *The Kenya National Environment Action Plan* (1994) 4.

³⁹Republic of Kenya (1994) (note 38) 5.

environmental issues to all sectors, and outlined major strategies to achieve the policy objectives stated in the report. With respect to forests, the specific recommendations of the Action Plan included the need to conserve plants and animals through integrated forest management systems and to provide forest produce for subsistence and commercial needs on a sustainable basis. The forests earmarked for biodiversity conservation are Kakamega, South West Mau, Transmara, Aberdares, Kikuyu Escarpment, Mt. Kenya, Shimba Hills, Arabuko Sokoke and the riverine forests of Tana River. The Action Plan further proposed the involvement of the local people in forest management and called upon the government to take into account global agreements to which Kenya was a party, especially those relating to forests and biodiversity.⁴⁰ The Action Plan provided an overall strategy for all natural resource sectors, including forestry, and provided a focal point for coordination and harmonization of activities between the sectors.

The Environmental Management and Coordination Act, 1989 now establishes the National Environment Action Plan Committee.⁴¹ This committee is a cross sectoral national body charged with the responsibility of preparing a National Environmental Action Plan. The Action Plan addresses environmental concerns *vis-a-vis* the long term and short term land use planning, management of land based resources, as well as rural and urban settlements. The Action Plan is subject to review after every five years,⁴² and the issues to be addressed include an analysis of natural resources in Kenya, profile of various uses and values of natural resources, incorporating considerations of inter-generational and intra-generational equity. The Action Plan is also supposed to recommend appropriate legal and fiscal incentives to encourage sustainable environmental management.

4.2.3.3 The Kenya Forestry Master Plan 1994

This policy document noted that significant changes had taken place in Kenya and the world since the adoption of Sessional Paper No.1 of 1968, the

⁴⁰Republic of Kenya (1994) (note 38)40.

⁴¹See section 37 of the Environmental Management and Coordination Act, Act No.8 of 1999

⁴²Ibid section 37 (2).

authoritative statement on forest policy in Kenya at the time. Most notably, forestry was no longer seen as a sectoral issue and Kenya's population had more than doubled since 1968 and was still growing rapidly.⁴³

The general aim of the forest policy, as formulated in the Master Plan, is to provide continuous guidance to all citizens, from elected national leaders and administrators to those whose livelihood and future depend on sustainably managed forests. The policy noted that forestry development must be understood to be a component in integrated efforts which aimed at raising the living standards of the people, creating employment, and increasing industrial output to provide goods for the domestic market and export.

The Policy called for more efforts to be addressed on threats to indigenous forests and the need to give better protection to their biodiversity to ensure sustained indirect benefits from them, such as soil and water conservation.⁴⁴ It called for the application of the concept of multipurpose management as a general principle, especially in indigenous forests and the enhancement of social forestry, including the diversification of farming systems by tree planting to ensure improved water catchment management.

Upon the completion of the Master Plan, Sessional Paper No. 9 of 2005 on Forest Policy⁴⁵ was published in line with the recommendations of the Kenya Forestry Master Plan.⁴⁶ The Sessional Paper and the Master Plan continue to be reviewed in line with the national development plan, now styled as *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya*.⁴⁷ The recommendations of the Master Plan for a new Forests Act, were taken up by Sessional Paper No. 9 of 2005 on Forest Policy and a new Forests Act, 2005 was enacted as Act No.7 of 2005.⁴⁸

⁴³Republic of Kenya (1994) (note 1) 216. See also Republic of Kenya & Kenya National Bureau of Statistics *Kenya Population and Housing Census Volume 1A* (2009) 25, which put Kenya's population at 38, 610, 097 people.

⁴⁴Republic of Kenya (1994) (note 1) 217.

⁴⁵Republic of Kenya *Sessional Paper Number 9 of 2005 on Forest Policy* (2005).

⁴⁶Republic of Kenya (1994) (note 1) 238.

⁴⁷See Republic of Kenya *Kenya Vision 2030: First Medium Term Plan* (2008).

⁴⁸See Ludeki J V *et al* (2006) (note 18) 30.

4.2.3.4 Sessional Paper Number 6 of 1999 on Environment and Development

This Sessional Paper noted that the thrust of Kenya's forest policy was to reserve land for forests, protect and conserve forest resources and promote tree planting for private forestry, commercial purposes, public amenities and wildlife protection.⁴⁹ The Policy called upon the government to integrate forest management systems to conserve plant and animal species, and provide forest products for subsistence and commercial needs on a sustainable basis.⁵⁰ It proposed that environmental impact assessment be made a requirement in all development projects and programmes affecting forests and excisions, and called for the provision of incentives to farmers and communities with large indigenous tree plantations on their farms to maintain and protect them.⁵¹

The Policy further called upon the government to encourage the development and the use of appropriate sources of energy as an alternative to charcoal and wood, supported by an accelerated rural electrification programme. Local communities should be involved in forest management and conservation and they should be given legal recognition for such involvement. Some of the provisions of this policy document have now found their way into legislation.

Indeed, the Forests Act 2005, recognizes in its preamble, that forests play a vital role in the stabilization of soils and groundwater, and that they play a crucial role in protecting water catchments in Kenya and moderating climate by absorbing green house gases.⁵² Accordingly, the principle of environmental impact assessment is now part of the forestry law in Kenya.⁵³

⁴⁹Republic of Kenya *Sessional Paper Number 6 of 1999 on Environment and Development* (1999) 29.

⁵⁰Republic of Kenya (1999) (note 49) 33. It is noted, however, that a number of these recommendations are not yet implemented.

⁵¹Republic of Kenya (1999) (note 49) 34. This is significant in the sense that it called for the establishment of systems of integrated environmental and economic accounting to involve the development of a common framework so that the contributions of all sectors and activities in society, that are not included in the conventional national accounts, are included in an integrated environmental and economic accounting system.

⁵²See the Preamble to the Forests Act, Act No. 7 of 2005.

⁵³See the Forests Act, section 63.

4.2.3.5 Sessional Paper Number 9 of 2005 on Forest Policy

The broad objective of this new forest policy was to guide the development of the forestry sector. The intention was to guide all Kenyans on the sustainable management of forests. The policy noted that since the introduction of the last authoritative statement on Kenya's forest policy, being *Sessional Paper Number 1 of 1968: A Forest Policy for Kenya*, major changes had taken place in the country.⁵⁴

These changes included a rise in the country's population and a rise in forest related activities. The Policy noted that according to the 1999 population census, Kenya's population stood at 28.6 million people and was projected to reach 37.5 million by the year 2010.⁵⁵ The Policy noted that this increase in population would continue to exert pressure on forest resources through a growing demand for forest products, services and land for alternative uses. The need to conserve soil, water, wildlife habitat and biological diversity would become even greater.⁵⁶

The Policy further provided that since 1968, the country had experienced a major decrease in forest cover, which had resulted in reduced water catchment, biodiversity, supply of forest products and habitats for wildlife.⁵⁷ At the same time, the forest sector had been beset by conflicts between forest managers and forest adjacent communities over access to forest resources.

The Policy addressed itself on indigenous forest management, forest health and protection, private sector involvement, and forest management. It recognized that there were benefits arising from the involvement of local communities and other stakeholders in forest management. The Policy proposed to mainstream the forestry sector in economic recovery in order to

⁵⁴Republic of Kenya (2005) (note 45) 1.

⁵⁵See Republic of Kenya & Kenya National Bureau of Statistics (2009) (note 43)25. The 2009 population census put Kenya's population at 38,610,097 people with a growth rate of 3% per annum.

⁵⁶Republic of Kenya (2005) (note 45) 1.

⁵⁷Republic of Kenya (2005) (note 45) 5.

enable it to contribute significantly to poverty alleviation strategies.⁵⁸ The Policy emphasized the importance of forests for water and biodiversity conservation and the enhancement of the contribution of the forest sector in the provision of economic, social and environmental goods and services.

The Policy further noted that the existing legal framework did not allow the participation of the private sector and communities in forest management. Further, the law did not allow the forest department to manage resources outside gazetted forests.⁵⁹

The Policy proposed reforms which would provide for the participation of other stakeholders, including the private sector and communities, in the sustainable management and conservation of forests. In order to achieve these reforms, the policy proposed the enactment of appropriate legislation to regulate the forest sector on a sustainable basis.⁶⁰

The provisions of this Policy were fully implemented in the Forests Act 2005. The main features of the Forests Act 2005 are the fact that many innovative provisions, with emphasis on partnership working,⁶¹ the engagement of local communities⁶² and the promotion of private investment⁶³ in forestry, were encouraged.

4.2.3.6 Kenya Vision 2030

This Policy document is the current national development plan. It declares itself as the long term development blue print for the country, motivated by a

⁵⁸Republic of Kenya (2005) (note 45) 13. The Policy noted that wealth creation and employment opportunities are possible through the development of forest based industries, promotion of ecotourism, efficient use of raw materials and protection of the environment as well as trade in forest products.

⁵⁹Republic of Kenya (2005) (note 45) 15.

⁶⁰Republic of Kenya (2005) (note 45) 15. Indeed, this policy called for the participation of other stakeholders and communities in forest management, together with forest professionals and forest associations. This policy heralded the coming of the Forests Act 2005, whose commencement date was February 1 2007.

⁶¹See Forests Act 2005, section 13.

⁶²See Forests Act 2005, sections 46, 47, 48 and 49.

⁶³See Forests Act 2005, section 25.

collective aspiration to create a globally competitive and prosperous country with a high quality of life by 2030.⁶⁴ The Vision proposes the intensification of conservation of strategic natural resources, including forests, water towers, wildlife sanctuaries and marine ecosystems, in a sustainable manner without compromising economic growth. The policy provides that in order to achieve environmental integrity and sustainable resource management, reforms will be undertaken in the planned period which will include the revision of the forest policy and relevant subsidiary legislation.⁶⁵

4.2.3.7 Sessional Paper Number 3 of 2009 on National Land Policy 2009

Kenya had not had a single and clearly defined national land policy prior to this policy. Together with the existence of many land laws, some of which are incompatible, this situation has resulted in a complex land management system.

This, in turn, led to environmental, social and economic problems, which are largely associated with natural resource degradation. Strategic natural resources such as wildlife, forests and soils are being lost at rapid rates. This, in effect, undermines prospects for economic development.

Existing policies and laws on land in Kenya pursue economic productivity at the expense of other equally important values. In effect, these policies have largely neglected the need to ensure environmental sustainability and the sustainable management and conservation of forest resources. Inadequate land use planning, poor environmental management, inappropriate ecosystem protection and management, require appropriate policy responses.

Although relevant legislation, such as the Physical Planning Act 1996,⁶⁶ exists for the purposes of land use planning and zoning, it is primarily concerned

⁶⁴Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya* (2007)7.

⁶⁵See Republic of Kenya (2008) (note 47) 112. Note that the Vision is structured in such a manner that it is a long term development plan to the year 2030, but with a number of medium term plans in the interim periods.

⁶⁶Cap 286 Laws of Kenya, (Revised edition, 1996).

with the planning of urban centres and the development of such physical facilities, such as roads, buildings and factories. A proper use of Kenya's Physical Planning Act 1996, should allow for the allocation of land to competing demands leading to a division of the country into broad land use categories such as residential, agricultural, industrial, forestry and nature conservation areas, thus putting into account sustainable resource utilization.⁶⁷

Through Sessional Paper Number 3 of 2009 on National Land Policy, the government hopes to put all land into productive use on a sustainable basis by facilitating the implementation of key principles on land use, productivity targets and conservation. With respect to the conservation of forests, the policy provides:

To achieve an integrated and comprehensive approach to the management of land based natural resources, all policies, regulations and laws dealing with these resources shall be harmonized with the framework established by the Environmental Management and Coordination Act (EMCA) 1999.⁶⁸

It may be noted at this stage, however, that despite the existence of the Environmental Management and Coordination Act 1999, there has not been any proper and comprehensive land use, forestry and environmental planning in Kenya.⁶⁹

4.2.4 WEAKNESSES IN THE POLICY REGIME

Kenya has no clearly articulated environmental policy that conceptualizes forests and the environment as an ecosystem.⁷⁰ The policies surveyed do not conceive forests as part of the environment in its unitary and holistic context.⁷¹ Even after the unitary character of the environment was recognized and accepted by the Environmental Management and Coordination Act in

⁶⁷See Ogolla D B & Mugabe J "Land Tenure Systems and Natural Resource Management" in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 75 110.

⁶⁸See Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy* (2009) 32.

⁶⁹Ibid 35.

⁷⁰See Republic of Kenya (2007) (note 64) 104.

⁷¹Ibid.

1999, and by the Constitution of Kenya 2010, the policy regime is still sectoral and fragmented in character. No attempt has been made to ensure that the Forest Policy complies with Constitutional requirements. Sessional Paper Number 9 of 2005 on Forest Policy cannot possibly be used to implement the legal requirements of the Constitution of Kenya, 2010, particularly to ensure that forest cover comes to ten percent of the land area of Kenya, or that forest resources are sustainably managed for the benefit of present and future generations.

It may again be noted that the policy regime emphasizes economic enterprise development without any regard to the environmental role of forests. This will not guarantee sustainable forest management because there is little inter-sectoral coordination.⁷² Lack of coordination means that conflicting objectives are sometimes pursued in the name of environmental conservation. Thus, clearing of forestland to make way for decent settlement may be pursued, though without taking into account conservation efforts in forestry and plant habitat. Again, expansion in agriculture and settlement may take place, without regard to sustainable forest management and conservation. Indeed, the indigenous forests have been subjected to land use changes such as conversion to farmlands and settlements. This has reduced the ability of these forests to serve as water catchments, biodiversity conservation reservoirs, wildlife habitats and carbon sinks.

Sustainable forest management is highly complex and can only be addressed by a range of actions. These actions must be targeted at the policy and legal framework aimed at reducing pressures on forests occasioned by poorly aligned strategies in agriculture, transportation, energy and industry. There is also need to strengthen governance, remove market distortions and engage market actors and formulate means of full valuation and sharing of forest benefits through market mechanisms. Without cross sectoral coordination of forests to ensure that

⁷²See Republic of Kenya (2005) (note 45) 3.

forests are managed in a sustainable manner, Kenya will not harness the benefits of its forests in full. Forest management and conservation must embrace sustainability. Modern values must therefore be incorporated into the law and the policy framework. Society must be involved in biodiversity conservation and carbon sequestration as in fuel and fibre production. This must take into account recognition of indigenous, traditional and community uses to ensure that sustainable development is achieved as per the Constitution of Kenya.⁷³

4.2.5 CURRENT INSTITUTIONAL AND LEGAL ENVIRONMENT

The Kenya Forest Service, a body corporate, was established under the Forests Act 2005.⁷⁴ The operations of the Kenya Forest Service are informed by the Forests Act which commenced in February 2007. The Act details the functions of the Kenya Forest Service, which include the formulation of policies and guidelines regarding the management, conservation and utilization of all types of forest areas in the country,⁷⁵ management of all state forests,⁷⁶ and the enforcement of the provisions of the Act.⁷⁷

In line with this mandate, the Kenya Forest Service has developed a Strategic Plan,⁷⁸ which:

has been aligned to the legislative framework and policies on forestry contained in key documents and relevant legislation, including Sessional Paper No. 6 on Environment and Development (1999), the Forests Act (2005), Sessional Paper No. 1 of 1968 on Forest Policy, the National Environment Action Plan (NEAP) 1994, the Vision 2030 and the first Medium Term Plan.⁷⁹

The Strategic Plan emphasized the commitment of the Kenya Forest Service to the provisions the Kenya Vision 2030 and the First Medium Term Plan 2008 –2012,⁸⁰ with regard to the conservation and the protection of the five

⁷³See Article 10 and 69(2) of the Constitution of Kenya.

⁷⁴See the Forests Act 2005, section 4.

⁷⁵See section 5(a) of the Forests Act.

⁷⁶See section 5(b) of the Forests Act.

⁷⁷See section 5(d) of the Forests Act.

⁷⁸See section 5(p) of the Forests Act.

⁷⁹See Kenya Forest Service *Strategic Plan 2009 – 2014* (2009).

⁸⁰*Ibid* 4.

water towers,⁸¹ and the supportive role of forests to the other sectors of the economy, particularly sustainable agriculture.⁸² The Strategic Plan is also informed by Kenya's commitment to global agreements to which Kenya is a party.⁸³ Its strategic goal is to increase forest and tree cover to 4% over the plan period and to enhance sustainable supply of forest goods and services.⁸⁴

The principal management organ established under the Environmental Management and Coordination Act is the National Environment Management Authority. This is the main administrative organ established to exercise general supervision and coordination of all matters relating to the environment.⁸⁵ It coordinates the environmental management activities of lead agencies, which include government ministries, departments, state corporations or local authorities and is entrusted with the management of any element of the environment or natural resource.⁸⁶ It is also mandated to promote the integration of environmental consideration into development policies, plans, programmes and projects.⁸⁷ In order to enable it to carry out its functions effectively, the Environmental Management and Coordination Act requires the National Environment Management Authority to establish District and Provincial Committees.⁸⁸

The Environmental Management and Coordination Act also establishes the National Environment Action Plan Committee which is charged with the duty of preparing the National Environment Action Plan every five years for consideration and adoption by Parliament.⁸⁹ District and Provincial Environment Committees are similarly required to prepare Environment Action Plans for their areas of jurisdiction.⁹⁰

⁸¹These water towers are Mt. Kenya, Aberdares, Mt. Elgon, Cherangany and the Mau Forests Complex, for the supply of environmental goods and services and support to the other sectors of the economy particularly agriculture, water and tourism.

⁸²See Kenya Forest Service (2009) (note 79)7.

⁸³Ibid.

⁸⁴Ibid.

⁸⁵See the Environmental Management and Coordination Act, Act No. 8 of 1999, section 9.

⁸⁶Ibid section 9 (2) (a).

⁸⁷Ibid section 9 (2) (a).

⁸⁸Ibid section 29 (1).

⁸⁹Ibid Section 37.

⁹⁰Ibid Section 39 and 40.

In so far as the sustainable management and conservation of forest resources is concerned, the Environmental Management and Coordination Act, empowers the Director General of the National Environment Management Authority to enter into agreements, with the approval of the Director of Forests, with a private owner of any land on such terms and conditions as may be mutually agreed for the purpose of registering such land as forest land.⁹¹

The Act empowers the Authority, in consultation with the relevant lead agencies, to prescribe measures necessary to ensure the conservation of biological diversity in Kenya,⁹² and more particularly, measure the value of unexploited natural resources in terms of watershed protection, influence on climate, cultural and aesthetic value, as well as actual and potential genetic value thereof.⁹³

It must be noted, that prior to the enactment of the Environmental Management and Coordination Act, the sectoral laws applicable to environmental management were scattered among various sectors of the environment. This impeded a coordinated approach to environmental management.⁹⁴ The Environmental Management and Coordination Act was meant to provide for the establishment of an appropriate legal and institutional framework for the sustainable management of the environment in Kenya and for matters connected therewith and incidental thereto.⁹⁵

Under the Forests Act, the Kenya Forest Service is the lead agency to coordinate with the National Environment Management Authority, the integration of environmental considerations into development policies, plans, programmes and projects for the purposes of addressing forestry issues.⁹⁶

⁹¹Ibid Section 48.

⁹²Ibid section 50.

⁹³Ibid section 50 (g).

⁹⁴See Angwenyi A N "An Overview of the Environmental Management and Coordination Act" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 142 143.

⁹⁵See the Preamble to the Environmental Management and Coordination Act (note 85).

⁹⁶Ibid section 9 (2) (a). See also, the Forests Act, section 5.

The Kenya Forest Service has the responsibility to develop internal capacity and contribute to sustainable forest management, promote environmental education and public awareness in forest conservation.⁹⁷ It should ensure the enforcement and implementation of laws, policies and activities within the forestry sector.⁹⁸ The Kenya Forest Service is also expected to supervise the conduct of environmental impact assessment.⁹⁹

However, there have been complaints that the National Environment Management Authority has encroached on the sectoral mandate of the Kenya Forest Service.

Confusion arises from the statutory provisions of the Environmental Management and Coordination Act providing the National Environment Management Authority with the overall responsibility for the management of the environment. The Authority has sometimes implemented the provisions of the law on the ground that the lead agencies have failed to perform their roles properly and that it must ensure that the law is implemented.¹⁰⁰ The need for clarity may demand an amendment of the Forests Act. As Situma notes:¹⁰¹

...the new Forests Act fails to clarify NEMA's role in, for instance, the creation of forests, the variation of boundaries or revocation of state or local authority forest, or exchange of forest areas with private land, despite the fact that these actions have fundamental environmental implications.

Such an amendment must create room for the necessary coordination and implementation of all environmental laws, so as to create synergy in the entire environment sector. It should be appreciated that the Environmental Management and Coordination Act is the framework legislation which lays down the basic legal principles and its mission is to coordinate the forestry sector and all other sectors. It, therefore, follows that there is need to strengthen the Forests Act, by entrenching the principles of environmental law

⁹⁷See the Forests Act section 5.

⁹⁸Ibid.

⁹⁹See the Forests Acts section 5 (p) as read with section 63.

¹⁰⁰See for example Angwenyi A N (2008) (note 94) 178 See also, Section 12 of the Environmental Management and Coordination Act(1999) (note 85).

¹⁰¹See Situma FDP "Forestry Law and the Environment" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 255 258.

as contained in the Environmental Management and Coordination Act, into the Forests Act.¹⁰²

The law has empowered the National Environment Management Authority to intervene in favour of forest conservation where the Kenya Forest Service fails to act, and to compel enforcement where necessary.¹⁰³

This situation was clearly addressed in *National Alliance of Community Forest Associations (NACOFA) v. Director General, National Environment Management Authority and Another*.¹⁰⁴ In this case, the National Environment Management Authority, in exercise of its overall environmental management powers under section 12 of the Environmental Management and Coordination Act, issued a letter directing the second respondent, the Kenya Forest Service, to stop wanton destruction of state forests mainly from logging, illegal human settlements, forest excisions, cultivation and grazing of livestock within three months. Prompted by this directive, the second respondent, in October 2010, stopped all grazing of livestock in forests temporarily.

This action affected the members of the appellant, prompting the appellant to file a notice in the tribunal for an order lifting the stoppage by the Kenya Forest Service, the second respondent. The appellant called witnesses from the Hombe, Esageri, and Rumuruti Community Forest Associations who confirmed that they use the forests adjacent to them for grazing, collection of firewood, watering of livestock, cultural rites, including circumcision and the collection of medicinal plants. In return, they pay user fees on a monthly basis, plant tree seedlings and trees in the forest and arrest illegal loggers. In addition, their animals add manure to the forests. They alleged that the stoppage by the second respondent was abrupt, did not give them adequate notice and should be lifted and they be allowed to continue grazing in the gazetted forests. The tribunal, in its decision dated December 31,

¹⁰²Ibid.

¹⁰³See the Environmental Management and Coordination Act (1999) Section 12.

¹⁰⁴National Environment Tribunal Appeal No. 62 of 2010 (unreported).

2010, noted that in line with the rules of natural justice, the Kenya Forest Service ought to have given the appellants members, at least thirty days notice to cease grazing in the gazetted forests. It further directed the second respondent to develop forest management plans and agreements without delay, considering the potential of forest adjacent communities to contribute meaningfully to forest conservation efforts.

The tribunal rightly refused to impose a decision on the respondents in terms of stopping the operation of the notice issued as prayed by the appellants. The tribunal noted the overarching role of the first respondent in matters relating to environmental management in general in line with section 12 of the Environmental Management and Coordination Act.

It is noted here, that the Constitution of Kenya came into being in the year 2010. The Environmental Management and Coordination Act was enacted in the year 1999. The Forests Act was enacted in the year 2005. Further, the Constitution itself emphasizes sustainable development in the management of forest resources. There is need therefore, to align the framework law, Environmental Management and coordination Act, and the sectoral law, the Forests Act, to the Constitution in order to achieve sustainable forest management.

The next section examines the strategies established under Kenya's forestry law to ensure sustainable forest management, and the interface between the policy, law and forest conservation.

4.3 SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION STRATEGIES UNDER KENYA'S LEGAL FRAMEWORK

The preceding section has shown that public policy in Kenya is committed to sustainable forest management and conservation. The laws affecting the sustainable management and conservation of forest resources in Kenya, like all laws affecting the environment, developed piecemeal over a long period of time.¹⁰⁵ It may be noted, also, that Kenya's forest management and conservation policy for a long time, was *Sessional Paper Number 1 of 1968*:

A Forest Policy for Kenya, formulated shortly after independence. Despite emerging changes in the dynamics of the society and the development of new approaches to forest resource management,¹⁰⁶ this policy was not revised to keep pace in developments in sustainable forest management and conservation. It may also be noted that the 1957 policy, with few modifications in 1968, concentrated on catchment protection and timber production only.

The next section seeks to review the laws applicable to the goal of sustainable management and conservation of forests in Kenya. The section begins with a quick examination of the constitutional provisions relevant to sustainable forest management and conservation to underscore the importance of the growing trend towards the entrenchment of sustainable forest management and conservation in the Constitution. The section proceeds to discuss the normative framework for sustainable forest management and conservation in Kenya, pointing out the weaknesses in Kenya's forestry law.

4.3.1 THE CONSTITUTIONAL FRAMEWORK FOR SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION IN KENYA

The proposition that sustainable forest management and conservation should be entrenched in the Constitution is based on the significance of a healthy

¹⁰⁵See Owiro A O & Juma C "Property Rights, Medicinal Plants and Indigenous Knowledge", in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 279 295. The authors note that conservation was generally not the main purpose of the enactment of such law. Many gaps are discernible in the law and the implementation arrangements are not streamlined.

¹⁰⁶See Mather A S *Global Forest Resources* (1990) 88, who has stated that:
the management of a natural resource, such as a forest resource, refers to its control and regulation. Management is central to the objective of conservation since the utilization of the resource depends on the way in which it is controlled. Management is concerned with ownership, that is, the right to use the resources and the right to determine the nature and extent of use by others. It is in this context that the legal and policy regime will examine the extent to which resource managers should be able to manage and control the use of forest resources.

environment for human existence.¹⁰⁷ Thus, it has been stated by Feris that :

the creation of a constitutionally guaranteed environmental right incorporates an integrated approach to environmental problems. It discards the dualist belief that places conservation in the domain of non-human species, while lack of environmental quality is considered to be a problem that concerns humans. Moreover, a Constitutional environmental right acknowledges the profound effect that environmental degradation may have on humans. It also recognizes that environmental problems have the ability to threaten potentially everyone in an indiscriminate way and that they can be so severe as to present a threat to the security of states. Ultimately, continued environmental degradation may threaten not only the health, livelihoods and lives of humans, but our continued existence. Constitutional entrenchment of environmental rights in the form of a human right, therefore, serves as a basic condition for human existence.¹⁰⁸

Advocates of the inclusion of the right of individuals to enjoy a sound and healthy environment in the Constitution argue that a healthy environment is as vital as health, or life itself.¹⁰⁹ In fact, being alive, a right protected under the Constitution of Kenya, may frequently depend on the health of the environment itself.¹¹⁰ Such provisions are already entrenched in the national constitutions of several countries, which have taken environmental conservation seriously. These include the Federal Republic of Germany, Australia, Switzerland, Turkey, Brazil and South Africa.¹¹¹

In all these instances, the Constitution declares a public policy commitment to protect the environment and, invariably, provide for the fundamental right of

¹⁰⁷See for example Juma C "Private Property, Environment and Constitutional Change" (1994) in Juma C & Ojwang J B (eds) (1994) *In Land We Trust: Environment, Private Property and Constitutional Change* 363 366 where he states:

The Constitution, as the country's supreme scheme of governance, would directly affect the degree to which a country is able to implement sustainable development objectives.... The integration of sustainable development goals into the constitution would bring environmental law at par with other legal norms and would allow environmental considerations to be integrated into laws, regulations and court decisions.

¹⁰⁸Feris L "Constitutional Environmental Rights: An Underutilized Resource?" (2008) 24 *South African Journal on Human Rights* 29 32.

¹⁰⁹See Mbote P K "Towards Greater Access to Justice in Environmental Disputes in Kenya: Opportunities for Intervention" (2006) 1 *Law Society of Kenya Journal* 57 59.

¹¹⁰See Constitution of Kenya 2010, Article 26.

¹¹¹For example, section 24 of the Constitution of the Republic of South Africa states:

- Everyone has the right
- (a) to an environment that is not harmful to their health or well being; and
 - (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that-
 - i) prevent pollution and ecological degradation
 - ii) promote conservation
 - iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

the individual to a sound environment.¹¹² The Constitution of Kenya empower the individual to take judicial measures to enforce that right.¹¹³ The 1963 Constitution of Kenya did not have such direct environmental protection provisions.¹¹⁴ There were, however, two residual provisions which were incidental to the constitutional protection against deprivation of property and protection against arbitrary search.¹¹⁵

4.3.2. THE CONSTITUTION OF KENYA 2010

The constitutional review process in Kenya has led to a clearer constitutional basis for the sustainable management and conservation of forest resources. The Constitution has, for the first time, provided that all people in Kenya have a right to a clean and healthy environment.¹¹⁶ It provides that in the utilization and management of the environment, the state shall, among other things, respect the integrity of natural processes and ecological communities, including the conservation of habitat and species, and work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya.¹¹⁷ The Constitution entitles every person to an environment that is safe for life and health,¹¹⁸ the right to have the environment protected for the benefit of present and future generations,¹¹⁹ prevent pollution and ecological degradation,¹²⁰ and promote conservation and ensure ecologically sustainable development.¹²¹ It further provides for the right to compensation for damage arising from

¹¹²See Bray E "Towards Sustainable Development: Are We on the Right Track?" (1998) 5 *The South African Journal of Environmental Law and Policy* 1. Bray has discussed the concept of sustainable development and the manner in which the new democratic legal order in South Africa has implemented the provisions of section 24 of the South African Constitution and has posed some of the challenges for the future.

¹¹³See chapter three, part 3.5.1. See also the Constitution of Kenya, Article 42; Constitution of the Republic of South Africa (1996) Section 24.

¹¹⁴See Mbote P K (2006) (note 109) 59.

¹¹⁵See Constitution of Kenya 1963, sections 75 and 76.

¹¹⁶See Article 42 of the Constitution of Kenya 2010, which requires that the environment be protected for the benefit of the present and future generations through legislative and other measures.

¹¹⁷See Constitution of Kenya 2010, Article 69.

¹¹⁸Constitution of Kenya 2010, Article 42.

¹¹⁹Article 42 (b).

¹²⁰Article 69 (1) (a).

¹²¹Article 69 (2).

the violation of the rights recognized by the Constitution.¹²² It then goes on to give Parliament the power to enact legislation to ensure that all natural resources are sustainably developed for the benefit of Kenya as a whole and for the benefit of the inhabitants of the region where these resources occur.¹²³ It, however, fails to further specifically direct Parliament to enact legislation for the sustainable management and conservation of forests, wildlife parks, reserves and sanctuaries, water catchment areas, and to promote ecotourism,¹²⁴ as had been particularized earlier in the draft Constitution of Kenya.¹²⁵

With respect to forests, the Constitution specifically commands that the state shall ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources and ensure the equitable sharing of the accruing benefits,¹²⁶ and work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya.¹²⁷ The state must also encourage public participation in the management, protection and conservation of the environment,¹²⁸ establish systems of environmental impact assessment,¹²⁹ and eliminate processes and activities that are likely to endanger the environment.¹³⁰

With the promulgation of the Constitution of Kenya on 27 August 2010, various changes in legislation and the governance of the forestry sector were advocated. Legislation, policies and programmes will need to be re-examined to realign them with the Constitution and great emphasis has been placed on sustainable forest management and conservation.¹³¹ Paragraph 5 of the

¹²²Article 70 (2) (c).

¹²³See Article 71 and 72.

¹²⁴See Article 93A (e) of the Draft Constitution of Kenya 2004, also known as the “Bomas Draft,” which clause did not find its way into the Constitution of Kenya 2010.

¹²⁵This draft was very specific on what exactly Parliament should legislate regarding forestry matters. It called on Parliament to enact legislation to regulate sustainable exploitation, utilization, management and equitable sharing of benefits occurring from natural resources, among other issues.

¹²⁶See Constitution of Kenya 2010 Article 69(a).

¹²⁷Ibid Article 69 (1) (b).

¹²⁸Ibid Article 69 (1) (d).

¹²⁹Ibid Article 69 (1) (f).

¹³⁰Ibid Article 69 (1) (g).

¹³¹See the Constitution of Kenya 2010, the Preamble, and also, Articles 6, 42,60,62,69 and 70.

Preamble to the Constitution calls for respect, by the people of Kenya, for the environment, which is our heritage, and calls for a determination to sustain it for the benefit of future generations.

The constitutional requirement for devolution will now mean that the Kenya Forest Service, being the national state organ charged with the sustainable management and conservation of forest resources, will have to ensure that there is reasonable access to its services in all parts of the country, given the fact that Kenya's forests are spread in all parts of the country.¹³² The issue of the forest and the environment is now specifically entrenched under the Constitution and this is to ensure that every Kenyan is entitled to a clean and healthy environment.¹³³ This is now provided for constitutionally to cover the question of inter-generational and intra-generational equity. The Constitution specifically requires that the environment be protected for the benefit of present and future generations, thus embodying the concept of sustainable development.¹³⁴ This right is now justiciable and enforceable pursuant to the provisions of Article 70 of the Constitution.

Land ownership is now classified into public, communal and private. Land that carries forest resources is now constitutionally recognized.¹³⁵ Article 69 of the Constitution commits the country to attaining and maintaining a ten percent forest cover as a matter of constitutional obligation.¹³⁶ The section requires the state to ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources and the equitable sharing of the benefits.¹³⁷ The state should encourage public participation in the management, protection and conservation of the environment.¹³⁸ The

¹³²See Constitution of Kenya 2010, Article 6. This Article divides the country into counties and calls on the county and national governments to conduct their mutual relations on the basis of consultation and cooperation.

¹³³See Constitution of Kenya 2010, Article 42.

¹³⁴See Constitution of Kenya 2010, Article 42 (a) and Article 69.

¹³⁵See for example Constitution of Kenya 2010, Article 62(1) (g) which states that public land is government forests, government game reserves, government animal sanctuaries, and specially protected areas, all of which have a direct impact on forest conservation.

¹³⁶See Article 69 (1) (b).

¹³⁷See Article 69 (1) (a).

¹³⁸See Article 69(1) (d).

Constitution requires the State to protect and enhance intellectual property in and indigenous knowledge of biodiversity and genetic resources of the communities and protect genetic resources and biological diversity.¹³⁹

The Constitution, further, obligates the state to establish systems of environmental impact assessment, environmental audit and monitoring of environment and to eliminate processes and activities that are likely to endanger the environment.¹⁴⁰ The State is further required to utilize the environment and natural resources for the benefit of the people of Kenya.¹⁴¹ The Constitution imposes a duty upon every person to cooperate with state organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.¹⁴²

These constitutional provisions are far reaching in so far as sustainable forest management and conservation are concerned. The Constitution underlines the fact that the future of Kenya's economy will depend on how well Kenya manages its natural resources, such as water, forests and wildlife.¹⁴³ Indeed, the provisions of Articles 10, 42 and 69 of the Constitution enjoins all Kenyans to ensure that sustainable management, development, forest rights, equity, public participation and forest protection are adhered to in matters of sustainable forest management and conservation.

The Constitution, being the supreme law, will directly affect the degree to which the country will be able to implement sustainable development objectives. This is crucial, particularly because Kenya's economy is dependant on natural resources for its growth. This will also bring environmental law at par with other legal norms and allow environmental considerations to be integrated into the laws and regulations.

The National Environment Management Authority is charged with the

¹³⁹See Article (1) (c) and (e).

¹⁴⁰See Article 69(1) (f) and (g).

¹⁴¹See Article 69 (1) (h).

¹⁴²See Article 69 (2).

¹⁴³See for example Juma C (1996) (note 107) 366.

management of the environment as opposed to hitherto existing framework that set up sectoral agencies, leading to regulatory competition. Significantly, the Environmental Management and Coordination Act provides for the right of every person to a clean and healthy environment as is provided under the Constitution of Kenya 2010.

Redress may be sought if the right has been violated, is being violated or is likely to be violated.¹⁴⁴

The Constitution has also established the National Land Commission.¹⁴⁵ This Commission shall manage public land on behalf of the national and county governments. This responsibility extends to the sustainable management of forest resources in the sense that public land, as defined by Article 62 (1) (g), includes government forests, game reserves, water catchment areas, national parks, government animal sanctuaries and specially protected areas. The National Land Commission will be charged with the duty of recommending the national land policy to the national government and it will monitor and have oversight responsibilities over land use planning throughout the country.¹⁴⁶ This means that the introduction of the National Land Commission and the creation of counties, will require forest management and conservation responsibilities to be delegated to the Counties and the National Land Commission. This, therefore, calls for the harmonization of the legislation that will prescribe functions for the National Land Commission and the Counties.¹⁴⁷

¹⁴⁴Section 3 of the Act provides:-

- (1) Every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment.
- (2) The entitlement to a clean and healthy environment under subsection (1) includes the access by any person in Kenya to the various public elements or segments of the environment for recreational, educational, health, spiritual and cultural purposes.
- (3) If a person alleges that the entitlement conferred under subsection (1) has been, is being or is likely to be contravened in relation to him, then, without prejudice to any other action with respect to the same matter which is lawfully available, that person may apply to the High Court for redress and the High Court may take such orders, issue such writs or give such directions as it may deem appropriate....

¹⁴⁵See Article 67 of the Constitution of Kenya 2010.

¹⁴⁶See Article 67(1) and 67 (2) (a). More specifically, this function should be read together with Article 6 of the Constitution which requires that a national state organ shall ensure reasonable access to its services in all parts of the Republic.

¹⁴⁷See Article 67 (2) (b) and 67 (2) (h).

Article 2 (6) of the Constitution of Kenya 2010, provides that a treaty or Convention ratified by Kenya shall form part of the law of Kenya. The Convention on Biological Diversity is the basic international legal instrument addressing the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

It is noted that Kenya has undertaken activities that are consistent with the goals of the Convention and has taken measures to develop a national strategy for the conservation of biological diversity.¹⁴⁸ It has also established a system of protected areas.¹⁴⁹ The Constitution of Kenya 2010, explicitly mentions the protection of biodiversity, culture and traditional or indigenous knowledge.¹⁵⁰ The Constitution also mandates the conservation of biodiversity and the environment,¹⁵¹ provides for the right of individuals to seek a remedy from the court,¹⁵² which provisions advocate the requirements of the Convention. While these efforts are commendable,¹⁵³ it is clear that the government of Kenya has much to do in order to meet the objectives of the Convention and to live up to its international obligations in the area of forest conservation.¹⁵⁴ More specifically, the provisions of the Constitution on sustainable management and sustainable development must be incorporated into the framework law, the Environmental Management and Coordination Act as well as the Forests Act.¹⁵⁵ This is because the forests Act emphasizes sustainable use and management,¹⁵⁶ leaving out issues of equity, social justice, inclusiveness, human rights, good governance integrity, sustainable development and issues of intergenerational equity, which issues are emphasized by the Constitution.¹⁵⁷

¹⁴⁸See IUCN *Forest Cover and Forest Reserves in Kenya: Policy and Practice* (1996) 12.

¹⁴⁹*Ibid.*

¹⁵⁰Constitution of Kenya 2010 Article 11.

¹⁵¹Constitution of Kenya Article 69.

¹⁵²Constitution of Kenya Article 70.

¹⁵³See IUCN (1996) (note 148) 12.

¹⁵⁴See Tanui J & Kinuthia I (eds) (2011) (note 5) 86.

¹⁵⁵See Okidi C O & Mbote PK (2001) (note 19) 68.

¹⁵⁶See the preamble to the Forest Act.

¹⁵⁷See Article 69 of the Constitution of Kenya See also Wass P *Kenya's Indigenous Forests: Status, Management and Conservation* Appendix 1.1.

4.3.3 ECOSYSTEM CENTRED CONSERVATION

According to its title, the Forests Act 2005, is an Act of Parliament to provide for the establishment, development and sustainable management, including conservation and rational utilization, of forest resources for the socio-economic development of the country.¹⁵⁸

Under the Forests Act, the minister may, on the recommendation of the Board of the Kenya Forest Service, declare a piece of unalienated government land to be a state forest.¹⁵⁹ He may also declare any land purchased or acquired by the government to be a state forest.¹⁶⁰ In addition, any land may be declared by the minister to be a local authority forest. This is particularly the case where the land is an important catchment area, a source of water springs or is a fragile environment,¹⁶¹ or is rich in biological diversity, or contains rare or threatened species, or where the forest is of cultural or scientific significance,¹⁶² or it supports an important industry and is a major source of livelihood for the local community.¹⁶³

The Wildlife (Conservation and Management) Act¹⁶⁴ is closely related to the Forests Act. The Act covers the protection, conservation and management of wildlife in Kenya, thereby including the conservation of forests. Indeed, the Forests Act 2005, defines wildlife to mean all forms of fauna and flora other than domesticated plants and animals.¹⁶⁵

Under this Act,¹⁶⁶ the minister, after consultation with the competent authority,¹⁶⁷ may, by order, declare any area to be a national park. The

¹⁵⁸ See the Preamble to the Forests Act, Act No. 7 of 2005.

¹⁵⁹ See section 23 (a) of the Act.

¹⁶⁰ See section 23(b) of the Act.

¹⁶¹ See section 24(a) of the Act.

¹⁶² See section 24 (b) of the Act.

¹⁶³ See section 24(c) of the Act.

¹⁶⁴ Cap 376, Laws of Kenya, (Revised edition, 1985). See section 15 of the Act which makes reference to the protection of vegetable life, preserving habitat of animals and ecology thereof, by way of restricting acts in national parks, national reserves or local sanctuaries.

¹⁶⁵ See the Forests Act 2005, Section 3.

¹⁶⁶ See section 6 (1) of the Act.

¹⁶⁷ The competent Authority is the Kenya Wildlife Service, which is the statutory body created by the Act to conserve and manage wildlife in Kenya.

minister is given further powers to declare, by way of a notice in the Kenya gazette, any area of land to be a national reserve¹⁶⁸ or a local sanctuary.¹⁶⁹ Under the Act, it is only the minister who has power to declare any area to cease to be a national park, national reserve or local sanctuary.¹⁷⁰ However, before he makes such an order, a notice of the intention to make the order, with details thereof and inviting objections thereto within a period of not more than sixty days, must have been published in the Gazette and in at least one newspaper circulating throughout Kenya.¹⁷¹ On the expiry of the sixty days, the order would be laid before the National Assembly, which gives approval before it is implemented.

With the establishment of the National Land Commission,¹⁷² it is important that natural resources like forests, which are on public land, which land is the subject matter of management by the Commission, are properly coordinated as between the Commission, the National Environment Management Authority and the Kenya Forest Service. The authority will have to ensure that public land within the Republic, both at national and county level, are managed sustainably with regard to any natural resources on such lands and make appropriate recommendations to the Kenya Forest Service, as well as propose the relevant land use and management policy to the Commission and the agencies concerned.¹⁷³ The framework law, the Environmental Management and Coordination Act,¹⁷⁴ provides that the National Environment Management Authority shall prescribe measures adequate to ensure the conservation of biological resources *in situ*.¹⁷⁵

The Act empowers the Authority to issue guidelines for the selection and management of protected areas so as to promote the conservation of the various terrestrial and aquatic ecosystems of Kenya,¹⁷⁶ and the selection and

¹⁶⁸See section 18 of the Act.

¹⁶⁹See section 19 (1) of the Act.

¹⁷⁰See section 7 (1) of the Act.

¹⁷¹See section 7 (2) of the Act.

¹⁷²See Article 67 of the Constitution of Kenya, 2010.

¹⁷³See Article 67 (2) (a) (b) and (d) of the Constitution of Kenya 2010.

¹⁷⁴Act No. 8 of 1999, Section 51 thereof.

¹⁷⁵This is the Authority charged with implementing the provisions of the Act also called NEMA.

¹⁷⁶Section 51 (b).

management of buffer zones near protected areas.¹⁷⁷ It is also required to make arrangements for the protection of species, ecosystems, and habitats threatened with extinction.¹⁷⁸

The National Museums and Heritage Act¹⁸⁰ was passed to replace the Antiquities and Monuments Act.¹⁸¹ The goals of the Act include the identification, protection, and conservation of the cultural and natural heritage of Kenya.¹⁸² The Act defines natural heritage as including areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science, conservation and natural beauty.¹⁸³ The Act therefore covers sustainable forest management and conservation in so far as forests are areas of outstanding universal value.¹⁸⁴ Despite these legal provisions, there is need to harmonize policies and laws to allow for proper ecosystem centred conservation. There is a mismatch in the formulation of sectoral policies which has resulted in conflicts in the implementation of the laws. For instance, under the Water Act 2002, there is need to form committees to manage catchment areas gazetted under the Act. These catchment areas invariably are gazetted forest reserves. The Forests Act also proposes the formulation of committees at the conservancy level for such forests.¹⁸⁵

¹⁷⁷Section 51(c). The efforts made by Kenyans to enact the Environmental Management and Coordination Act, should be combined with sweeping institutional reforms. The number of agencies responsible for natural resource management and the presence of so many legislative instruments used to enforce such management, compromise the cooperative efforts needed to make forests a living and versatile environment. A gradual adjustment of the Environmental Management and Coordination Act by means of successive amendments, would be a fruitful approach to securing the desired goals. As a framework law, the Act offers abundant opportunities to realise vital changes by means of subsidiary legislation such as rules and regulations. To this day, quite a few of the provisions of the Act have been elaborated by means of subsidiary legislation although the law itself states that this should be done. See, for example, section 147 of the Act.

¹⁷⁸Section 51 (d) and section 47 of the Act.

¹⁸⁰Act No. 6 of 2006.

¹⁸¹Cap 215, Laws of Kenya (now repealed).

¹⁸²See the Preamble to the Act, Paragraph 1.

¹⁸³See the National Museums and Heritage Act, section 2.

¹⁸⁴See Tanui J & Kinuthia I (2011) (note 5) 33.

¹⁸⁵See the Forests Act, (2005) section 13.

The law does not provide clear linkages in the operation of these committees whose composition varies. Again, the Forests Act allows for the use of natural resources within forests,¹⁸⁶ while the Wildlife (Conservation and Management) Act does not.¹⁸⁷ It is important to note that there are forests gazetted as both national reserves and forest reserves. These forest areas are double gazetted by the law, leading to management issues between the Kenya Forests Service and the Kenya Wildlife Service.

An analysis of Kenya's land use legislation reveals an attempt by the law, to invest planning authorities with power to take measures that will secure sustainable resource management objectives.

The Physical Planning Act 1996¹⁸⁸ makes provision for the preparation and implementation of physical development plans.¹⁸⁹ Development, for the purposes of the Act, is defined to include the making of any material change in the use or density of any land.¹⁹⁰ The Act makes the preparation of a physical development plan, and complying with the requirements of the physical planning liaison committee, a prerequisite for any land development.¹⁹¹ The Act requires that two kinds of plans are provided for, namely, regional development plans and local physical plans. The purpose of the plans is to ensure suitable provision for the use of land.¹⁹²

The Act, therefore, gives room for the provision of sustainable forest management and conservation as part of the conditions for land development. The demands of conservation of flora and fauna can effectively be reconciled with those of sustainable forest management and conservation and land use. The Act, however, does not directly address the issue of sustainable

¹⁸⁶See the Forests Act, (2005) sections 22, 33, 40, 42, 48. All these provisions allow access, though controlled, into the forests.

¹⁸⁷See Legal Notice No.205 of 1984, The Wildlife (Conservation and Management) (National Parks) Regulations, which prohibit entry to national parks, unless with the permission of the director.

¹⁸⁸Cap 286 Laws of Kenya. (Revised edition 1996).

¹⁸⁹See the Preamble to the Physical Planning Act, Paragraph 1.

¹⁹⁰See section 2 of the Act.

¹⁹¹See section 10 of the Act.

¹⁹²See sections 16 to 23 of the Act.

management and conservation of forests or of biological diversity. Again, the practice of physical planning has been restricted to urban settlements rather than effectively apply to integrated and sustainable environmental management for the entire ecosystem.¹⁹³ While the Physical Planning Act does not apply to forests and wildlife management areas, there is need to apply land use controls to the sustainable management and conservation of natural habitats, for example, the establishment of specially protected zones in cities and in local zoning plans to take care of ecosystems in arboreta, mini forests and recreational parks.¹⁹⁴

Even before ratifying the Convention on Biological Diversity in 1994, Kenya had partially carried out activities that were consistent with the goals of the Convention. Measures have been taken to develop a national strategy¹⁹⁵ for the conservation of biological diversity and a system of protected areas has been established.¹⁹⁶ The law provides for five types of protected areas, namely, national parks, national reserves, local sanctuaries and game reserves which are provided for under the Wildlife (Conservation and Management) Act 1985¹⁹⁷ and nature reserves under the Forests Act 2005.¹⁹⁸ The first three are vested in the Kenya Forest Service which holds the same in trust for the Central government, with human activities completely excluded from national parks.

¹⁹³See for example Ogolla D B & Mugabe J "Land Tenure Systems and Natural Resource management" in Juma C & Ojwang J B (eds) (1996)*In Land We Trust: Environment, Property Rights and Constitutional Change* 85 111.

¹⁹⁴See the Forests Act, Section 30.

¹⁹⁵See Mbugua G (2003) (note 16) 11. In the process of development, is the National Biodiversity Strategy and Action Plan, setting out the strategies and actions necessary for achieving the conservation of biological diversity and sustainable utilisation, including equitable benefit sharing. See Republic of Kenya *National Development Plan 2002-2008* (2002) 119. This National Biodiversity Strategy and Action Plan is yet to be approved by the Cabinet – See Republic of Kenya *Sessional Paper No. 1 of 1994 on Recovery and Sustainable Development to the Year 2010*(1994)15.

¹⁹⁶Ibid 22.

¹⁹⁷Cap 376 Laws of Kenya (Revised edition 1985), see sections 6 and 7 thereof.

¹⁹⁸See section 32 of the Act which provides:

32(1) upon the recommendation of the Service, the minister may, in consultation with the minister responsible for local authorities where appropriate, by notice in the Gazette declare any forest area, or woodland or any part thereof, which has a particular environmental, cultural, scientific or other special significance, to be a nature reserve for the purpose of preserving its biodiversity and natural amenities thereof.

In this respect, the Kenya National Commission for UNESCO, has noted:

The Government's commitment to conservation and sustainable utilization of biological resources was underlined when the country ratified the Convention on Biological Diversity in 1994. In addition, Kenya is a signatory to other major international conventions and protocols relevant to the conservation of natural resources. In line with this, the government has produced planning documents like the Country Study on Biodiversity, National Environment Action Plan and the Kenya Forestry Master Plan, among others.¹⁹⁹

Various degrees of human activities are allowed within the national reserves, as long as they are compatible with conservation efforts or requirements. Game reserves, on their part, are large conservation areas which are vested in local authorities who administer them under the overall guidance of the relevant government ministry.²⁰⁰ The county governments hold such game reserves in trust for the residents of the area. Indeed, nature reserves, such as the Kisere Forest, Kakamega Forest, Arabuko Sokoke, North Nandi, Uaso Narok and South Western Mau, have been given protection pursuant to sections 59 and 65 of the Forests Act.²⁰¹ Again, the Environmental Management and Coordination Act places an obligation on the National Environment Management Authority to identify, prepare and maintain an inventory of biological diversity in Kenya, and identify potential threats to biological diversity and devise measures to remove or arrest their effects.²⁰² However, many areas that exhibit high levels of biological diversity such as the Kakamega forest are not being effectively monitored, which means that there is still need to enforce the law. In this respect, Gachanja has noted that weak governance and the failure of the legal system, have been identified as the main constraints to effective forest conservation, development and management.²⁰³

¹⁹⁹See UNESCO & Republic of Kenya *Report on the National Workshop on Biosphere Reserves Review Held in Malindi, Kenya*, Kenya National Commission for UNESCO – MAB Programme July 2002 (2002)3.

²⁰⁰This is normally the Ministry of Local Government.

²⁰¹Note that the transitional provisions provided under sections 64, 65 and 66 of the Forests Act, 2005 deems any land which was a forest or a nature reserve under the Forests Act, (Cap 385, repealed under section 64), to be a state forest, local authority forest or nature reserve.

²⁰²See the Environmental Management and Coordination Act, Section 50.

²⁰³See Gachanja M "Forest Law Enforcement and Governance: The Case of Kenya" Paper Prepared for the *Regional Workshop on the African Law Enforcement and Governance (AFLEG) Process*, February 25, 2003 Nairobi Kenya (2003) 7.

Cases of corruption, inadequate political will and commitment, undervaluation of forests, policy failures, inadequate facilities and low staff morale, have contributed significantly to the poor performance of the sector.²⁰⁴

4.3.4 THE POWER OF EMINENT DOMAIN

This is the right of the state or its assignees to take private property for public purposes.²⁰⁵ In Kenya, the power to compulsorily acquire land in the public interest is embodied in the Constitution.²⁰⁶ The provision, however, contains three important qualifications. First, the taking must be in the public interest in the sense that it must be shown that it will promote the public benefit. Secondly, that benefit must be weighed against the hardship that may be caused to the owner. Lastly, the taking must be accompanied by prompt payment of compensation.²⁰⁷ Hence, government may acquire land for any purpose that may qualify to be a public interest, which purpose may include forest conservation.²⁰⁸ The rules governing the payment of compensation to affected residents are contained in the Land Act 2012.²⁰⁹

It is important, however, that where land is acquired for public purposes, it must strictly be for such purposes and nothing else to avoid abuse in the use of this power. In the leading case of *Sea Star Malindi Ltd v Kenya Wildlife Services*,²¹⁰ the applicant sought orders of certiorari, mandamus and prohibition against the decision and actions of the Kenya Wildlife Service in

²⁰⁴Ibid.

²⁰⁵The state may assign land to county councils to administer under the Trust Land Act, Cap 88 Laws of Kenya. The issue of acquisition of land is properly addressed by the Land Act 2012, Laws of Kenya. See also Chapter Three, Part 3.5.4 above.

²⁰⁶The relevant provision is Article 40 of the Constitution of Kenya 2010. See also, Republic of Kenya (2009) (note 68) 45, which defines compulsory acquisition as the power of the state to extinguish or acquire any title or interest in land for public purpose, subject to prompt payment of compensation. This provision avails to the state a good strategy for sustainable development of Kenya's forests by setting aside areas of forest land that appear to have high protection or conservation value, such as watershed functions and notable concentrations of biodiversity.

²⁰⁷Article 40 (3) (b) (i) and (ii).

²⁰⁸See Mbaria P M & Mureithi W (2001) (note 17) 58 66.

²⁰⁹See Land Act 2012, Part III sections 107 to 133.

²¹⁰(2006) *Kenya Law Reports (Environment and Land)* 512.

banning and restricting it from building a hotel in Malindi. The Kenya Wildlife Service had ordered the applicant to stop its construction on the land, allegedly because there was a 100 feet space between the applicant's land and the high watermark, which space fell under the jurisdiction of the Kenya Wildlife Service under the Wildlife (Conservation and Management) Act. Kenya Wildlife Service stated that the area needed to be preserved in order to ensure the protection of the fragile ecosystem in the area.²¹¹

The applicant argued that the land had always remained freehold private land and that there was no record showing that it had ever been acquired by the government for any public use. It was held, by the High Court of Kenya, that in situations where private property is required to be a protected area so as to protect the ecosystem for the greater good of the environment, then the procedure of compulsory acquisition must be followed clearly.²¹² In the case of private land, the area concerned must first be acquired under the Land Act 2012²¹³ and in the case of trust land, the area must first be set apart.

It is neither practical nor fair to the entire nation to condition the fulfilment of an important social imperative, such as the sustainable management of forest resources, on systematic state expropriation of private property rights and the payment of compensation to right holders. In addition to the power of eminent domain, what is needed is a conceptualization of private property rights as incorporating a conservation ethic and a residual power of the state to qualify such rights where tenurial right holders are in default.²¹⁴ It must further be appreciated that Kenya's Constitution clearly allows for the exercise of the power of eminent domain in the public interest.

²¹¹It is important that the Land Act 2012 is amended to provide for situations when private land may be acquired for the purposes of the management and conservation of forest resources, and such power should be given to the relevant environmental management bodies.

²¹²See *Sea Star Malindi Ltd v. Kenya Wildlife Service* (2006) *Kenya Law Reports (Environment and Land)* 512, 531.

²¹³See the Land Act 2012, Act No. 6 of 2012, sections 110 to 112.

²¹⁴See Ogolla D B & Mugabe J (1996) (note 193) 113.

4.3.5 COMMAND AND CONTROL MECHANISMS

The traditional approach to control forest degradation is the so called command and control approach. The degrading effects of deforestation are controlled through permits and licences.²¹⁵ The licencees of specific activities in forests are obliged to obtain a permit before an activity is started.

It is largely the responsibility of the Kenya Forest Service to ensure that there is compliance by licencees and the general public, with the risk of penalties in the form of criminal liability for non-adherence to the terms of the licence.²¹⁶ Penal sanctions, however, are only truly effective if sufficient effort is directed at detection and prosecution of offenders. Forestry law, therefore, requires both trained personnel and equipment for this purpose.²¹⁷ The specific command and control regulations employed by the Forests Act, 2005 include the grant of licences to extract forest produce, control of quarrying and mining operations, control of the collection of forest produce, the prohibition of polluting activities and the punishment of any persons who may contravene the Forests Act.

The Kenya Forest Service may grant concessions where the Kenya Forest Service Board is satisfied that the utilization of a forest resource will not damage the forest.²¹⁸ A licence is granted subject to an environmental impact licence in accordance with the Environmental Management and Coordination Act. The grantee of the concession is required to comply with the guidelines or management plans prescribed by the Kenya Forest Service, protect the concession area from destruction or encroachment by other persons and ensure that the forest areas under its management are maintained for the conservation of biodiversity, cultural or recreational use.²¹⁹ Such a licence demands that the grantee maintains the physical boundaries of the concession and takes precautions to prevent the occurrence and spread

²¹⁵ See for example the Forests Act 2005, sections 40, 50, 52, 54 and 57.

²¹⁶ See Wass P (1995) (note 157) 114.

²¹⁷ Ibid.

²¹⁸ See section 40 (1) of the Forests Act.

²¹⁹ See section 40 (2) (a) (b) and (c) of the Forests Act.

of forest fires in connection with any or all operations within or outside the concession area. If the grantee breaches any of the conditions contained in the licence, the licence may be withdrawn.²²⁰

These provisions are relevant and important to sustainable forest management and conservation in that these statutory arrangements allow for the development of forestry in unalienated government land and ensure that appropriate rents are paid to develop forest estates.²²¹

Quarrying and mining operations in forest areas are controlled by the Forests Act. Quarrying and mining in a state or local authority forest can only be carried out under the authority of a licence issued by the Kenya Forest Service and the local authority concerned.²²² Such a licence can only be issued in respect of a forest area if that area does not contain rare, threatened or endangered species or the forest does not have any cultural importance or contain sacred trees or groves and an independent environmental impact assessment has been carried out.²²³ The miner is also required to execute a bond to rehabilitate the site upon completion of the operation to a level prescribed by the Board.²²⁴ Forest areas which are an important catchment area or source of springs, do not qualify for mining or quarrying operations. Again, the licence can only be issued subject to the consent of the Commissioner of Mines.²²⁵

The Act further requires that the licence for quarrying or mining operations shall include a condition for compulsory revegetation upon the completion of the activity, if the same activity resulted in the depletion of forest cover in any forest.²²⁶ This is done in conjunction with the Kenya Forest Service, which will determine the seeds or the seedlings for revegetation.²²⁷ Any person who

²²⁰ See section 40 (4) of the Forests Act.

²²¹ See Okidi C O and Mbote P K (2001) (note 19) 70.

²²² See section 42 (2) of the Forests Act.

²²³ See section 42 (1) (a) (b) and (c) of the Forests Act.

²²⁴ See section 42 (1) (d) of the Forests Act.

²²⁵ See section 42 (3) of the Forests Act.

²²⁶ See section 43 (1) of the Forests Act.

²²⁷ See section 43 (2) of the Forest Act.

commits an offence in forest areas relating to mining, quarrying or revegetation shall be liable, on conviction, to imprisonment for a term of not less than six months or to a fine of not less than one hundred thousand shillings or to both such fine and imprisonment.²²⁸

The development of mining and quarrying operations impact on the environment and the forests in general. Exploration and exploitation of mineral resources create excavations that degrade the land and lead to the loss of biodiversity, and emit dust which pollute the air. Mineral processing discharges effluents which pollute ground and surface water.

While the Forests Act proposes the remedial process of revegetation of any excavations, there is need to ensure that mining operations are carried out within a framework of laws that incorporate environmental considerations, particularly the execution of performance bonds to ensure the restoration of all mined areas.²²⁹

Under the Forests Act, forest officers have powers to demand from any person the production of an authority or a licence for any act done or committed by that person in a state, local authority or provisional forest, or in relation to any forest produce for which a licence is required under the Act.²³⁰

Such an officer may require any person found within or without a state, local authority or provisional forest, who has in his possession any forest produce suspected to have been taken from such forest, to give an account of the manner in which he came to be in possession of such produce. Where proper account is not given, such person is arrested and prosecuted.²³¹

Forest officers are further empowered by the Act to search any person suspected of having committed any offence under the Forests Act, search

²²⁸See section 44 of the Forests Act.

²²⁹See Republic of Kenya (1999) (note 49) 53.

²³⁰See section 50 (1) (a) of the Forests Act.

²³¹See section 50 (1) (b) of the Forests Act.

any vehicle or vessel and seize and detain any forest produce, seize and detain any package, baggage, parcel, tent, hut or building under the control of such person and arrest the person. Any tools, equipment, vehicles or livestock used in the commission of the offence may also be seized.²³² A forest officer may also confiscate any equipment or receptacle placed without authority in any state, local authority or provisional forest.²³³

Except under a licence, permit or management agreement issued under the Forests Act, no person shall fell, cut, take, burn, injure or remove any forest produce in any state, local authority or provisional forest.²³⁴ It is prohibited to remain in such forests between 7 p.m. and 6 a.m., unless one is taking part in cultural, scientific or recreational activities.²³⁵ The Act prohibits the erection of any building or livestock enclosure, smoking, lighting any material, removing pasture or allowing livestock in the forest, clearing, cultivating or collecting any honey or beeswax, constructing a road, setting fire to any forest produce or introducing any chainsaw, logging tools, or other equipment or interfering with any boundary, mark or beacons of any forest area.²³⁶

Any contravention of these provisions amounts to an offence for which the offender may be liable to a fine of not less than Kenya shillings fifty thousand or imprisonment for a term of not less than six months.²³⁷

While these provisions are good for sustainable forest management and conservation, it is clear that the Forests Act has vested enforcement discretion in forest officers who may not always act to enforce the law, with the result that forest degradation may persist. Public participation in the enforcement of forestry law must go hand in hand with the official enforcement machinery.²³⁸ It may be noted, however, that legislation

²³² See section 50 (1) (d) of the Forests Act.

²³³ See section 50 (1) (f) of the Forests Act.

²³⁴ See section 52 (1) (b) of the Forests Act.

²³⁵ See section 52 (1) (b) of the Forests Act.

²³⁶ See section 52 (1) (e), (f), (g), (h) (i) (j) and (k) of the Forests Act.

²³⁷ See section 52 (2) of the Forests Act.

²³⁸ See (2006) *Kenya Law Reports* (2006) "Land, Environment and the Courts in Kenya" (2006) *Kenya Law Reports (Environment and Land)* xiv xxviii.

prohibiting or restricting the taking of plant or forest produce is, in most cases, even more ineffective, as the destruction of protected plants by legitimate activities, such as farming or construction, remains generally authorized.²³⁹

Kenya's Environmental Management and Coordination Act

outlaws the discharge or disposal of any wastes in such manner as to cause pollution to the environment.²⁴⁰

Any person who pollutes the environment, or discharges any pollutant into the environment, commits an offence and shall, on conviction, be liable to a fine not exceeding five hundred thousand Kenya shillings.²⁴¹

The Forests Act has no specific provisions for pollution control, though activities such as burning, clearing of forests or setting fire to forests are prohibited by the Act.²⁴² A variety of pollutants affect mangrove forests, including oil from spills, garbage and dredgings dumped in mangroves. Most oil spills occur in the Mombasa harbour and they result in the death of trees with no subsequent regeneration.²⁴³ Material dredged from the Lamu channel is deposited on areas of mangrove forest, thereby killing the forest and endangering the coastline.²⁴⁴ Control of such forms of pollution will enable the forests to flourish.²⁴⁵

Pollution control under the law, however, adheres to the traditional concept of damage which is direct and personal, and therefore excludes any possibility for the recovery of the true ecological value that is lost.²⁴⁶

Any person who fails to comply with the provisions of the Forests Act or fails to comply with the terms or conditions of any licence or fails to comply with a

²³⁹See for example Guilmin F B *et al* "Environmental Law: Progress and Problems" in Jacobs P & Munro D (eds) (1987) *Conservation with Equity: Strategies for Sustainable Development* 119 125.

²⁴¹See section 142 (b) (1) of the Act.

²⁴²See section 52 of the Forests Act 2005.

²⁴³See Wass P (eds) (1994) (note 157) Appendix 13.

²⁴⁴*Ibid.*

²⁴⁵See Part 4.3.13, below.

²⁴⁶See Republic of Kenya (2008) (note 47) 107.

lawful requirement or demand made by a forest officer or obstructs a person in the performance of his duty under the Forests Act or is found in possession of charcoal in a state, local authority or provisional forest, shall be guilty of an offence and is liable, on conviction, to a fine of not less than Kenya shillings fifty thousand or to imprisonment for a term of not less than one year or to both such fine and imprisonment.²⁴⁷

The emphasis by the law on predominantly criminal penalties, without requiring the persons degrading the forest to pay for the abatement of the injuries caused by their acts, seems to be a major weakness of this provision of the law.²⁴⁸

4.3.6 THE POLICE POWER

The use and the management of private forests are also controlled under the Forests Act. The Director of Forests, or any forest officer, may enter any private forest to assess the condition thereof or to perform any other act that may be necessary in the circumstances.²⁴⁹ The Director or any forest officer may enter any premises of any forest based industry or forest produce dealer to inspect any forest produce placed or found within the premises to satisfy himself that the industry or dealer is abiding by the provisions of a licence issued under the Forests Act.²⁵⁰

Where a private forest is mismanaged or neglected, the minister may issue an order in the gazette declaring such private forest to be a provisional forest.²⁵¹ Such a declaration can be made if the forest is an important catchment area, or is rich in biodiversity and contains rare, threatened or endangered species or is of cultural or scientific significance or supports an industry and is a source of livelihood for the surrounding forest communities.²⁵² In addition, if the Director has issued a notice requiring the private owner to undertake

²⁴⁷ See section 54 (1) of the Forests Act, equivalent to US dollars 625; as at July 30, 2012, 1 US dollar was equivalent to Kenya Shillings 84 .

²⁴⁸ See Wass P (1995) (note 153) 114.

²⁴⁹ See section 50 (2) (a) of the Forests Act.

²⁵⁰ See section 50 (2) (a) of the Forests Act.

²⁵¹ See section 26 (1) of the Forests Act.

²⁵² See section 26 (2) (a) of the Forests Act.

specific silvicultural practices to improve the forest, and such notice has not been complied with, or the forest owner is unable to undertake the specified practices, then such declaration may be issued.²⁵³

The effect of a declaration of a private forest to be a provisional forest is that such forest will be managed by the Kenya Forest Service in collaboration with the owner, subject to the deduction of any expenses incurred by the Service in managing such a forest.²⁵⁴ The provisional forest will revert to the owner where the Kenya Forest Service Board is satisfied that the forest has been adequately rehabilitated and the owner has given an undertaking to efficiently manage it.²⁵⁵

It is clear that the police power is applied under the Act to ensure that sustainable forest management and conservation standards are adhered to by holders of land rights. It is clear also that this power is applied by the Forests Act in such manner as to vindicate public rights which may be deemed overriding in private forests. Again, the exercise of the right is to require the landowner to stop causing harm to the public interest.

There is a weakness however, with these police power regulations. As Okidi and Mbote have observed,²⁵⁶ measures should be taken to consolidate the laws and provide for a more focused enforcement machinery.

The proposal is that there should possibly be one statute dealing with regulation and enforcement of environmental matters, and secondly, that there should be one institution responsible for regulation and enforcement, at all levels. The current scenario where the Kenya Forest Service is the one in charge of the forests and at the same time, enforcement of any breach of the Forests Act, is not desirable.²⁵⁷

²⁵³See section 26(2) (b) of the Forests Act.

²⁵⁴See section 26 (3) of the Forests Act.

²⁵⁵See section 27 (1) of the Forests Act.

²⁵⁶See Okidi C O & Mbote P K (2001) (note 19).

²⁵⁷Ibid 70.

Ineffective implementation of police power requirements and the limited nature of sanctions attached to noncompliance have given the impression that tenurial right holders have unlimited rights to use and abuse.²⁵⁸

4.3.7 ENVIRONMENTAL IMPACT ASSESSMENT

The Environmental Management and Coordination Act introduced the concept of environment impact assessment as a legal requirement in Kenya's environmental law. Prior to this Act, the absence of environmental impact assessment was seen as working against any attempts made towards sound environmental management.²⁵⁹

Any proponent of any new project, before undertaking or financing such a project, must first submit a project report, in the prescribed form to the National Environment Management Authority.²⁶⁰ The environmental impact assessment shall be conducted in accordance with the Environmental (Impact Assessment and Audit) Regulations.²⁶¹

The regulations apply to all policies, plans, programmes, projects and activities likely to have a negative environmental impact.²⁶²

Indeed, under the regulations, no proponent shall implement a project for which an environmental impact assessment is required, unless an environmental impact assessment has been concluded and approved.²⁶³ Again, licensing authorities are enjoined not to issue any licences under the rules unless and until an environmental impact assessment has been produced to the Authority by the proponent of the project.²⁶⁴ The regulations

²⁵⁸ See Ogola D B & Mugabe J (1996) (note 193) 85 109.

²⁵⁹ See Ayugi R J "Law Reform Initiatives in Kenya: The Environmental Management and Coordination Bill" (1998) 5 *South African Journal of Environmental Law and Policy* 157.

²⁶⁰ These projects are specified in schedule II of the Act. With respect to forest related projects, the following activities must obtain an environmental impact assessment report: timber harvesting, clearance of forest areas, afforestation and reforestation, see also the details laid down in section 58 of the Act.

²⁶¹ See Legal Notice No. 101 of 13 June 2003, Environmental (Impact Assessment and Audit) Regulations, 2003.

²⁶² See Regulation 3.

²⁶³ See Regulation 6.

²⁶⁴ See Regulation 4 thereof.

require that the project report must state the potential impacts of the project and the mitigation measures taken during and after the implementation of the project. In preparing such a report, attention must be paid to ecological considerations, more particularly, biological diversity, natural regeneration of woodland and sustainable use, wild animals and vegetation and fragile ecosystems.²⁶⁵

The National Environment Management Authority may issue an environmental impact assessment licence after being satisfied as to the adequacy of an environmental impact assessment report. The definition of environmental impact assessment is not extended to include the analysis of plans and policies, but is restricted to programmes, activities or projects.²⁶⁶ The argument for a more comprehensive field of application of environmental impact assessment is often at the policy, plan and programme level, where fundamental decisions related to the environment are made.²⁶⁷ Without commitment to a consideration of environmental factors in, for example, land use, or road construction plans, it becomes difficult to incorporate them at the level of implementing decisions for an individual highway or an industrial plan.

The Forests Act incorporates the concept of environmental impact assessment in its provisions.²⁶⁸ The Act provides that no state forest or local authority forest shall cease to be a forest or have its boundaries altered unless such excision or alteration is approved by Parliament and is subject to an independent environmental impact assessment and is found not to have an adverse environmental effect. Such excision or alteration should not

²⁶⁵ See Regulation 7 (f) and the details specified in the second schedule to the regulations.

²⁶⁶ See Ayugi R J (1998) (note 259) 166.

²⁶⁷ Ibid.

²⁶⁸ See section 63 of the Act which calls for the provisions of the Environmental Management and Coordination Act to apply *mutatis mutandis* to the Forests Act 2005.

prejudice biodiversity conservation, cultural site protection of the forest, or the educational, recreational, health or research use of the forest.²⁶⁹

It is proposed that guidelines on environmental impact assessment should be in accordance with current environmental, social and economic conditions in Kenya and relevant capacity to enforce environmental impact assessments in government departments be developed, particularly in connection to forest related developments.²⁷⁰ At the same time, the law should provide for the proper assessment of projects to prevent or mitigate their adverse environmental consequences.²⁷¹

The point made above was noted in the path-breaking case of *Parkview Arcade Ltd v. Charles M. Kangethe & others*.²⁷² The plaintiff was the registered owner of a parcel of land in Westlands, Nairobi, being L.R. No. 209/12174. The land was under exclusive active occupation and use as a flower nursery by the defendants together with fifty other persons. The plaintiff sought orders of restraint and eviction against the defendants who, for their part, claimed that the suit land was a wetland and that they, themselves, were protecting it against environmental degradation by the plaintiff.

In resolving the dispute, Justice Ojwang considered the plaintiff's right granted by section 75 of the Constitution of Kenya 1963, alongside the design and the purposes of the Environmental Management and Coordination Act 1999, and held thus:

If the defendants/respondents had genuinely wished to pursue the cause of environmental protection by virtue of the empowerment they have under section 3(1) of the Environmental Management and Coordination Act..., then the logical and correct cause of action for them would have been to approach the Ministry of Environment and to plead for compulsory acquisition of the suit land under section 75(b) of the Constitution. It is not acceptable that they should forcibly occupy the suit land and then plead the public interest in environmental conservation, to keep out the registered owner. The effect of their action is to

²⁶⁹See section 28 (2) of the Act. Economic analysis of large scale development projects should comprise an extended analysis that includes proper economic valuation of the environmental impacts of the projects. Areas could be divided into those in which recreational tourism and national parks, where visitors are allowed, and those that are purely conservation areas, being protected areas.

²⁷⁰See Wass P (1995) (note 157) 116.

²⁷¹See *Kenya Law Reports* (2006) (note 238) (xxviii).

²⁷²*Kenya Law Reports* (2006) (note 238) 591.

deprive the registered owner of his land, without full and fair compensation. Since this act of deprivation is coming from private persons rather than from the state, its unlawfulness is stark and beyond dispute.

The defendants have in effect, taken it upon themselves to declare the environmental status of the suit land, but this can only be validly done by the minister.²⁷³

After revisiting the powers granted by the Environmental Management and Coordination Act to the responsible minister, Justice Ojwang issued an order to the minister to ensure the conduct of a professional and policy assessment of the land in question in accordance with the requirements of the Act.

This case is important since the court sought to compel the minister responsible to take measures to protect an environmental resource. It ensures that the environmental impact assessment process is part of the process of planning before consent or approval is granted. There is no guarantee, however, that at the end of the process, the forests will be better protected unless the quality and the standard of the environmental impact statement is good.

It is important to note that the Constitution of Kenya now requires that any transaction that involves the grant of a right to exploit any natural resource in Kenya, shall be subject to ratification by Parliament.²⁷⁴ Hence, environmental impact assessment will be critical for any process of exploitation of forest resources. It may also be observed that the Forest Principles require that any conservation and management decisions made, should take place only after a comprehensive assessment of economic and non economic values of forest goods and services and of the environmental costs and benefits has been done.²⁷⁵

While Kenya's law requires an environmental impact assessment to be done before forest resources are exploited, it may be noted that the environmental

²⁷³ibid 593.

²⁷⁴See Article 71 (1) (a) of the Constitution of Kenya 2010.

²⁷⁵See Principle 6(c) of the Forest Principles.

and non economic values of forest services is not always put into account in such assessments.²⁷⁶

The Convention on Biological Diversity refers to the need for an environmental impact assessment before implementing proposed projects.²⁷⁷ Although it is difficult to call a forest excision 'a project', excision results in alternative activities in a particular area and, therefore, merits an environmental impact assessment. The Environmental Management and Coordination Act requires an environmental impact assessment to be carried out prior to specific projects.²⁷⁸ However, there are activities, such as removal of forest produce, scientific and recreational activities and grazing, being carried out in the forests without inventories or any environmental impact assessment. More progress needs to be made if current practices are to be consistent with the objectives of the Convention. Progress in this area would greatly assist in making the excision or addition of forest process more transparent and scientifically based, as well as environmentally sound. It is noted, as a positive development in the law, that the Forests Act makes an environmental impact assessment report an essential part of any forest impacting activity.²⁷⁹

The Environmental Management and Coordination Act provides the details required of an environmental impact assessment.²⁸⁰ Projects that are potentially subject to environmental impact assessment include major changes in land use, urban development, establishment or expansion of recreational townships in mountain areas, national parks and game reserves,

²⁷⁶See Republic of Kenya *Report of the Governments Taskforce on the Constitution of the Mau Forests Complex* (2009) 225.

²⁷⁷See Article 109 of the Convention.

²⁷⁸See section 58 of the Act; See also the Second Schedule to the Act.

²⁷⁹See the Forests Act, section 63 (1) which provides:

The provisions of part VI and part XII of the Environmental Management and Coordination Act shall apply *mutatis mutandis* and in respect of a licence under this Act and any Environmental Impact Assessment as well as reference to the National Environment Tribunal required under this Act.

²⁸⁰Section 58 to 67 of the Act.

development of roads in scenic areas or wetlands, mining, quarrying, the carrying out of forestry related activities like timber harvesting, clearance of forest areas and large scale agriculture.²⁸¹

An environmental impact assessment will be required where the lead agency, in consultation with the National Environment Management Authority, is of the view that the project may have an impact on the environment, or is likely to have a significant impact on the environment. Depending on the scale and possible effects of the proposed project, an environmental impact assessment may be required.²⁸² Where the lead agency, in consultation with the National Environment Management Authority, is satisfied that the project will have significant impact on the environment, then the proponent of the project is required to apply for, and obtain, an environmental impact assessment licence from the National Environment Management Authority before he can finance, commence, proceed with, carry out, execute or conduct any undertaking specified in the second schedule to the Act.²⁸³

The environmental impact assessment is used to identify the environmental and social impacts of the project prior to decision making. It aims to predict the environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts and shape projects to suit the local environment.

One of the requirements of environmental impact assessment which is often ignored, and has been entirely ignored in Kenya, is public participation. It is essential that publicity reaches the residents of the area likely to be affected by the proposed project. Public participation offers a major contribution to sound governance in environmental affairs. Kenya's forestry law must provide

²⁸¹ Section 58 (1) and 58 (4) of the Act; See also the Second Schedule to the Act.

²⁸² Section 58 (1) of the Act.

²⁸³ Section 58 (2) of the Act

for this mechanism of forest conservation, complete with necessary guidelines for the public.²⁸⁴

Kenya's Physical Planning Act 1996, also incorporates the issue of environmental impact assessment.²⁸⁵ The Act requires development approval together with an environmental impact assessment report, if the local authority concerned regards a project to have injurious impact on the environment.²⁸⁶

4.3.8 TRADE IN FOREST PRODUCTS

The Timber Act, 1972²⁸⁷ provides for the control of the sale and export of timber by means of grading, inspection and marking and provides for the control of timber in transit. In practice, the procedures required by the Act are not often followed.²⁸⁸ The export of unprocessed indigenous timber is currently banned by a Presidential decree issued in 1986, but it has been noted that:

when the decrees came into force, some politically correct companies...were exempted from the ban and allowed to harvest the Elgon teak from Mount Elgon forest. Trees were cut in total disregard of laid down procedures. For example, selection of trees depending on size was not considered ...trees were cleared without leaving some for regeneration.²⁸⁹

The harvesting and export of mangroves is banned by presidential decree, yet mangrove poles continue to be exported to Saudi Arabia. Charcoal is also obtained from Kitobo forest from Taveta District and is exported to Tanzania.²⁹⁰

Access to forest areas and the utilization of forest resources ought to be controlled by the government as is required under the Forests Act.

²⁸⁴See Okidi C O (1996) "The Practice and Principles in Environmental Law for Kenya" in Wandiga S O & Abuodha N L (eds) (1996) *Environment and Development: A Public Lecture Series* 206.

²⁸⁵See the Physical Planning Act, Cap 286 Laws of Kenya (Revised edition 1996) section 36.

²⁸⁶Ibid.

²⁸⁷Cap 386 Laws of Kenya (Revised edition 1975).

²⁸⁸See Kabeberi Macharia J W "Policies and Laws Affecting the Environment" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 287 313.

²⁸⁹See Gachanja M (note 203) 12.

²⁹⁰Ibid 12.

Despite the coming into force of the Forests Act 2005, the reform process has been slow and the Kenya Forest Service has been unable to make the transition to a corporate entity with a corporate culture, with the consequence that illegal trade in forest products continues. The poor image inherited from the forest department of the central government has largely contributed to the limited public confidence.²⁹¹

Again, despite its powers, the National Environment Management Authority has not been able to enforce the law, particularly as relates to the sustainable management and conservation of biological resources *in situ* and the protection of significantly sensitive areas.

In addition, the Authority has been unable to demand an environmental impact assessment particularly in relation to the excision of forest land in 2001, timber harvesting and the clearance of forest areas.²⁹²

Once the minister has made a declaration under the Forests Act, no cutting, grazing, removal of forest produce or disturbance of flora and fauna shall be allowed except with the object of conserving the natural flora and amenities of the reserve.²⁹³

Permission to harvest any forest produce is given by the Director of Forests and takes the form of a licensing system that defines the produce to be harvested, the season of carrying on the activity so permitted and the prescribed fee to be paid for the licence.²⁹⁴ The failure of the law to reflect the actual values attributed to forest resources results in market failures. The government's decisions, policies, and laws limit forests to their trade values

²⁹¹ Ibid.

²⁹² See Republic of Kenya *Report of the Government's Task Force on the Conservation of the Mau Forests Complex* (2009)22.

²⁹³ See section 52 (1) Forests Act, 2005.

²⁹⁴ See Forests Act, Sections 59 (1) (2) and 60 (1) (a).

and thus, fail to reflect other environmental, social and cultural values of forests.²⁹⁵ This can clearly be deduced from the case of *Rotina Mkikuyu & Another v.R.*²⁹⁶ The appellants were charged with the offence of transporting forest produce without a permit contrary to section 52 (1), as read with section 55(1) (c) of the Forests Act, 2005. The allegation was that on 24.12.2008 at Mwatate, along the Voi Taveta road in Taveta County, they were found jointly transporting forest produce, namely, sandalwood in the amount of 10 tonnes, valued at Kenya shillings ten million, (equivalent to US dollars 119,000) without a transport permit from the Director of Forests.

They were also charged with the offence of being in possession of forest produce subject to a presidential ban, contrary to section 34 (1), as read with section 34 (2), of the Forests Act, 2005. It was alleged that they were found in possession of ten tonnes of sandalwood, valued at Kenya shillings ten million, which was subject to a presidential ban.

The magistrate found that the appellants had been found in possession of the lorry which was being driven by the second appellant, and for which the first appellant was the conductor. The said lorry was carrying pieces of wood confirmed to be sandalwood, estimated to weigh ten tonnes. The appellants' defence was that they were not transporting sandalwood, but that they had been hired to transport firewood from Mwatate Sisal Estate. The learned magistrate was of the view that it was not possible to cut firewood from one tree species, and for that reason, acquitted the appellants on the second count, and went ahead to sentence them to seven years imprisonment each, on the first count.²⁹⁷

²⁹⁵See World Bank *Strategic Environmental Assessment of the Kenya Forests Act 2005* (2007)56. The overall contributions of forests to the economy is often underestimated because valuations of forests only take into account commercial marketed output of timber products, disregarding the non timber values of forests including water catchment functions, biodiversity, cultural, spiritual and heritage value of forests.

²⁹⁶*Rotina Mkikuyu & Another v. R* Criminal Appeal No. 434 of 2010 (2011) e KLR.

²⁹⁷Ibid 3.

On appeal that the sentence was harsh and excessive, and that the trial court erred in finding that they were to be put on their defence, the High Court of Kenya, Ojwang J, held that the sentence was excessive, which the state conceded in line with the requirements of section 52(2) of the Act, which imposes a maximum sentence of six months or to a fine of not less than Kenya Shillings fifty thousand, (about US dollars 595). The court observed:

As it is clear that section 52(1) of the Forests Act imposes an outright prohibition of the removal of forest produce such as that which is the subject matter herein, it follows that they had committed an offence under that Act...The evidence shows a possible lack of awareness of the unlawfulness of the transportation of timber in this case; and shows clearly that the author of the mischief was not before the court. A fair sentence in these circumstances, would take into account the conduct of the accused persons at the material time, and would pay regard to the limits to sentencing imposed by law.²⁹⁸

The Judge ordered that since the appellants had served just over six months in jail, they had already served the jail term for a period long enough to convey the lesson of the required compliance with the law. He ordered the appellants released from prison as they had served the requisite term.²⁹⁹

A number of disturbing issues are highlighted by this case. First, the principal offender, the owner of the wood, if at all, was never brought to justice. The value of the sandalwood, estimated at Kenya Shillings ten million, was never realized, and the environmental services of the wood in question, were not accounted for, neither was the issue of the restoration of the forest. The court ignored the fine aspect of the sentence, or even the forfeiture of the vehicle used to ferry the sandalwood. Indeed, the principal offender would continue with his destructive activities again. The sentence was lenient as the court did not bother to exercise the full powers given under section 55 of the Forests Act, which demands that the court orders the offender to make payment of compensation to the owner of the forest, and that the principal offender, who was not in court in this case, pay the value of the forest produce. The judgment does not contain an order to the effect that the forest produce was forfeited to the Kenya Forest Service as per the law.³⁰⁰

²⁹⁸Ibid 3.

²⁹⁹Ibid 4.

³⁰⁰See the Forests Act, section 55 (c).

In addressing market failures, it is imperative that the interests of all parties concerned in sustainable forest management and conservation are fully recognized and integrated into the decision making process.³⁰¹ This entails a reassessment of the value of forest products and the incorporation of new valuations in policy interventions. Gachanja has explained this issue thus:

The overall contribution of forests to the national economy is often underestimated, apparently because valuation of forests only takes into account the commercial, marketed output of timber products, disregarding the non timber forest products value, the water catchment functions of forests, biodiversity, cultural, spiritual and heritage values of forests. Any undervalued resource will inevitably be misused.³⁰²

Sustainable forest management should strive towards financial self sufficiency. The possible ways of achieving this include linking indigenous forest management with related revenue earning activities such as sustainable extraction of indigenous forest produce, generation of hydropower, ecotourism and ensuring that royalties and licence prices are in line with the current value of the product or service they pertain to and to the management cost incurred.³⁰³

The Forest Principles take note of the fact that conservation is related to international trade and thus provide that forest conservation and sustainable development policies should be integrated with economic, trade and other relevant policies, something which Kenya's forest law will need to capture, particularly with regard to the overall economy.³⁰⁴

4.3.9 ENFORCEMENT AND REMEDIAL MEASURES

An evaluation of the Forests Act, shows that it is basically a production oriented statute which is sectoral in nature.³⁰⁵

³⁰¹The determination of the economic value of the environmental services of forests is to enable the government to generate funds for the forest sector and develop financial mechanisms for the payment of such services as a priority. Section 5 (j) and 5 (n) of the Forests Act, do not explicitly provide for the valuation of the environmental services of forest resources in Kenya.

³⁰²See Gachanja M (2003) (note 203) 9.

³⁰³See Wass P (1995) (note 12) 114.

³⁰⁴See Principle 13(d) of the Forest Principles.

³⁰⁵See for example Republic of Kenya *Climate Change Mitigation Measures and Options: Land Use Change and Forestry – Second National Communication to the United Nations Framework Convention on Climate Change* July 7, 2010 (2010) 4.

A further observation is that the penalties for the violation of the Act are lenient and are not deterrent enough.³⁰⁶

Whoever violates any provision under the Act is liable to a fine not exceeding ten thousand Kenya shillings, (about US dollars 119), or to imprisonment for a term not exceeding three months or both. The offender may also forfeit any licence issued under the Act. Where the violation includes the removal of, or damage to forest produce, the court may order that in addition to the foregoing penalty, the convicted person shall pay a specified compensation to the owner of the forest.³⁰⁷ As has been observed by Wass, penalties should be defined in the schedule, rather than in the main Act, in order to facilitate timely amendments. They should be revised so that they exceed the potential gains from committing offences.³⁰⁸ Again, the case of *Stephen Kwenya Kanyi v. R*³⁰⁹ is instructive here. The accused was charged with the offence of transporting forest produce contrary to section 11(1)(a) as read with section 14(2)(c) of the then Forests Act. The particulars of the charge were that on 30.06.2005 at about 3.30 a.m. along the Nyeri Nyahururu road, within Nyeri District of Central Province, the accused person was found transporting 40 bags of charcoal without a permit. The accused was convicted on his own plea and fined Kenya Shillings Eighty Thousand, (about US dollars 952), or in default, be jailed to five months imprisonment. The magistrate ordered the charcoal in question to be forfeited to the state, including the motor vehicle in which it was being transported.

Subsequent to this, the same magistrate, unfortunately, listened to the owner of the forfeited motor vehicle, who complained about the fine imposed as being excessive.

³⁰⁶See section 57 of the Act.

³⁰⁷See section 55 of the Act. This section is really not deterrent enough. The compensation payable is merely the value of the produce damaged, injured or removed. There is no consideration of the environmental services that such produce may have offered.

³⁰⁸See Wass P (ed) (1995) (note 12) 114.

³⁰⁹See *Stephen Kwenya Kanyi v R*, High Court of Kenya at Nyeri Criminal Revision No. 10 of 2005 (2005) e KLR.

The magistrate went ahead to make an improper and an irregular order, lifting the forfeiture of the motor vehicle and reduced the fine imposed, to Kenya shillings ten thousand, (about US dollars 119), with an imprisonment of two months, in default. On revision by the High Court, Khamoni J, properly restored the original orders of the trial magistrate, but unfortunately, went ahead to revise the same sentence. He quashed the conviction of the accused person, along with the sentence imposed and set aside the order of forfeiture of the motor vehicle in issue. The Judge further ordered that if the fine was paid, the same be refunded. The court did not give any reasons at all as to how, once it had reinstated the earlier orders of the trial magistrate, it then went ahead to quash the sentence and called for a refund of the fine imposed.³¹⁰ The effect of such decisions is that the penalties for breach or lack of compliance with the provisions of the Act are so lenient that offenders may prefer to risk paying the maximum fine and continue with illegal activities in the forests.

The severe punishment of Kenya shillings three million, (about US dollars 35714), in section 54 (8) of the Act, merely addresses matters which are not the day to day cause of forest destruction, which is tree cutting. The other factors which damage forests and need to be controlled are the introduction of exotic genetic materials into forests, dumping of soil, liquid or toxic wastes, growing any plants from which narcotic drugs can be extracted or removing trees from the forests for export.

Kenya's forest resources have been subject to corruption and serious inadequacies in how they have been allocated, administered and monitored.³¹¹ The result has been that Kenya's forests are one of the

³¹⁰Ibid 4.

³¹¹Lofler I "Save the Remaining Forest Whoever Owns It" *The East African* February 17 2002 (2002) 12.

country's most mismanaged resources, with both political and business elites sharing the blame.³¹²

Illegal logging and associated trade and corruption at high political levels flourish because timber rights provide an extremely valuable reward for services to political elites. Besides channeling potential timber revenue away from people living in and near the forests, the low prices at which these concessions are often granted encourage waste, unsustainable management, plundering for short term gain and replacement by less sustainable activities.³¹³ Gachanja has identified this issue clearly and has noted:

Forest land has been allocated to politicians, high ranking government officials and businessmen in the pretext that the land is being given to landless people. Quite often, this is done through official and de facto excisions of gazetted forests. Forest loss through excisions is estimated to be 5000 hectares every year.... Over 55700 hectares of forests in the East and West of the Rift Valley was either excised or proposed for excision between 1994 and 1999. Political reasons are believed to be behind the official announcement of the excision of a total of 67,184 hectares (166,016.6 acres) contained in the Kenya gazette of October 19, 2001.³¹⁴

Such loss and degradation have come at the expense not only of the national economy, but of the rural poor who depend on forest resources for their livelihood. Improvement in forest law enforcement and governance are critical to capturing the full economic potential of forests in a sustainable manner.³¹⁵

Given this trend, legal and regulatory frameworks that support sustainable forest management practices must be developed to promote responsible private sector investment and eliminate corruption. Further, consideration should be given to other methods of remedying violations of forestry law. Enforcement provisions can be designed incrementally by emphasizing consultation and conciliation with the option of imprisonment and primitive financial damages as a last resort. Once a violator of forestry law becomes aware that he or she is in breach of the law, he can be allowed to enter into

³¹²Ibid. Lofler has noted that:

"...the ingredients of the forest destruction saga have not changed either: they represent a mosaic of carefully considered action, poorly thought out schemes, carelessness, incompetence, cronyism and outright corruption."

³¹³See Walubengo D "Indonesia Offers Kenya a Few Lessons" *The Daily Nation* May 30, 2002 (2002) 27.

³¹⁴See Gachanja M (2003) (note 203) 8.

³¹⁵Opala K "Now Grabbers Raid Ngong Forest" *The Daily Nation* April 19, 2002 (2002) 11.

an agreement with the enforcement agency. Such agreement is consistent with joint responsibility for sustainable forest management and conservation. This is far from the command and control approach reflected by the law. Such agreements may also include, restoration of the forest or remedial measures satisfactory to the agency.

4.3.10 VOLUNTARY CONSERVATION

The setting aside of large tracts of land for forest conservation has led to conflict between local communities and forest conservation authorities, since most people in Kenya are in the rural areas and are directly dependent on natural resources, such as land, forests and wildlife for the satisfaction of their basic needs.³¹⁶

Forest conservation has thus been conceived as a process removed from the people, especially rural Kenyans.³¹⁷ The values attached to conservation were for the most part removed from the needs and aspirations of native Kenyans for whom the whole process of conservation amounted to the expropriation of their property rights and the severance of their relationship with their local environment and forest resources.³¹⁸ This has undermined the effectiveness of law and policies for the conservation of forests especially so because forest conservation is predicated in the cooperation of local communities.

The relationship between the state and forest resources, introduced during colonialism, resulted in the stripping of local communities of any powers of management or control of forest resources within their areas, also alienated

³¹⁶See for example Lomborg B *The Sceptical Environmentalist: Measuring the Real State of the World* (2004) 112, where the author has observed that since the beginning of farming, man has been felling woodland for cultivation. See also Situma FDP (2003) (note 22) 61.

³¹⁷See for example Akama J S "Wildlife Conservation in Tsavo: An Analysis of Problems and Policy Alternatives" (2003)1 *Journal of East African Natural Resources and Management* 1, where the author notes that conservation should be viewed in the context of the social and economic activities of the peasants and pastoralists in the environment where national parks and reserves are situated.

³¹⁸See UNEP & Kenya Wildlife Fund Trustees *People, Parks and Wildlife: Guidelines for Public Participation in Wildlife Conservation* (1988)8. The participation of stakeholders in setting priorities, choosing response options and implementation policies can ensure informed decision making and strengthen ownership projects thereby increasing the possibility that policies will meet their objectives.

people from conservation.³¹⁹ The state has retained close control of forest resources and has not always been sensitive to the social and economic needs of sustainable utilization at the local level. The local communities, thus, do not support the state's management initiative, which diminishes the capacity of the state to closely monitor the condition of the forests.³²⁰

Communities that had enjoyed rights to forest or wildlife resources did not fully comprehend the notion of state or individual ownership of those resources and, thus, continued to harvest the resources notwithstanding legal prohibitions. For the state to exercise property rights over resources and the land on which the resources were located, there was need to heavily police the resources. This explains the military nature of conservation activities in Kenya and many parts of Africa. The machinery of the state has been outstripped by the incidences of encroachment leading to the loss of the resources.³²¹

The law has assumed that the government is the absolute owner of forest resources. In an attempt to address this issue, the Forests Act proposes to devolve the management of forests to conservancies and forest associations. The challenge, however, will be to organize communities and to build their capacities to enable them to undertake this task. Indeed, section 5 of the Forests Act, empowers the Kenya Forest Service to promote the empowerment of associations and communities in the control and management of forests. In an effort to implement voluntary conservation initiatives, the Forests (Participation in Sustainable Forest Management) Rules, mandates the Kenya Forest Service to invite the private sector to participate in the sustainable management of forests.³²² The Service may enter into management agreements with other persons for the joint management of specified indigenous forest areas, specifying the contribution,

³¹⁹Owiro A O & Juma C (1996) (note 105).

³²⁰See Mbote P K (2002) (note 14)12.

³²¹See Mbote P K (2002) (note 12) 98.

³²²See Rule 6 of The Forests (Participation in Sustainable Forest Management) Rules, Legal Notice No. 165 of 2009.

rights and obligations of each party and setting out the methods of sharing the costs and benefits accruing from the forests so managed.³²³

4.3.10.1 Incentives and Disincentives

Kenya's forest law does not offer any incentives in the conservation of forest resources. The Forests Act provides that nothing in the Act shall be deemed to prevent any member of a forest community from using, subject to such conditions as may be prescribed, such forest produce as it has been the custom of that community to take from such forest otherwise than for the purpose of sale.³²⁴ The use of forest resources by forest communities is pegged to the registration of an association under the Societies Act 1998,³²⁵ a very tedious process indeed. The main challenge is to organize communities and build their capacities to enable them to undertake the role of managing forests. One of the functions of the Kenya Forest Service is to promote the empowerment of community forest associations and communities in the control and the sustainable management of forests. Not much has been achieved by the Kenya Forest Service on this front.³²⁶

This is tragic to conservation initiatives and keeps off communities who are ready to participate in conservation. In the case of the Ogiek community, for example, the community is well endowed with the necessary skills and knowledge to conserve indigenous forests.³²⁷ The community has advanced the argument that policing of the forests by the government officers has done more harm to it than good.³²⁸ It is the owner of the resource, it is argued, who is in the best position to take care of it.

³²³Ibid, Rule 7(1) (e).

³²⁴See the Forests Act, section 22.

³²⁵Cap 108, Laws of Kenya (Revised edition, 1998).

³²⁶See World Bank (2005) (note 295) 56.

³²⁷See Mbaria R M & Mureithi W (2003) (note 17)58.

³²⁸See Situma FDP (2003) (note 22) 57 who has noted:

The laws and regulations, in this context, must define the rights that the state as a legal entity, institutions and natural or legal persons have, to determine how, when and by whom natural resources can be utilized either for commercial or subsistence purposes. In essence, these are property rights laws that allocate powers to determine who gets access to and the authority to utilize specific categories or species of natural resources and the conditions on which the access and utilization can be exercised.

When the owner of the resource is denied access rights, then there is little incentive to protect, conserve or manage it. Incentives for sustainable forest management can be created through granting rights to land and forest resources to persons best placed to carry out management activities in any given area.³²⁹ The prevalent assumption that sustainable forest management can only be attained with the state as the main actor, needs to be reconsidered.

The Forests Act 2005 promotes the registration of private forests.³³⁰ Upon registration, the owner is entitled to technical advice from the Kenya Forest Service and, subject to the availability of funds, loans from the Forest Management and Conservation Fund.³³¹ The owner may also apply for exemption from payment of all or part of the land rates and such other charges as may be levied in respect of the land on which the forest is established.³³² Indeed, the Forests Act empowers the Director of the Kenya Forest Service to enter into an agreement with any person for the joint management of any forest.³³³ These incentives are good and will definitely stimulate the creation of a socially, environmentally and economically sustainable forest sector and may also attract new private sector investment.

This provision of the law is a boost to sustainable forest management and conservation in respect of forests outside the gazetted forest areas. This is because gazetted forests accommodate only limited forest areas. The rest of the forests are not given sufficient protection by law. There is need for the law to create sufficient incentives for private land owners to protect indigenous forests on their lands.³³⁴

³²⁹See Nation Media Group Ltd *The Daily Nation* Tuesday, July 20, 2003 (2003)30.

³³⁰See section 25 of the Act.

³³¹See section 18 of the Forests Act, 2005.

³³²See section 25 (3) (a) of the Act.

³³³See the Forests Act, 2005, section 36.

³³⁴See Okidi C O (1996) (note 284) 206.

Kenya's Forest Policy provides for an incentive measure for the conservation and sustainable use of forest resources by providing for community forestry.³³⁵ This, in effect, fully recognizes stakeholders such as communities, and other private sector players like the sawmilling industry in the sustainable management and conservation of forests.

The result has been a general sense of the local community owning the forests. This has created concern to sustainably manage the forests for long term gains. It also gives room for collaboration with the local communities in forest management, including the protection and management of degraded forests.³³⁶ The Policy makes reference to participatory forest management and recognizes that there are benefits arising from involvement of local communities and other stakeholders in sustainable forest management. The Policy proposed to mainstream the forest sector in economic recovery and to enable it to contribute significantly to poverty alleviation strategies.³³⁷ It proposed to support landowners to sustainably manage natural and riverine forests in the farmlands for water and soil conservation and support landowners through appropriate incentives, including partnerships, to have sufficient land under tree cover.³³⁸

The Forests Act has not made any specific reference to the issue of incentives. However, the minister is empowered by law to make rules providing for measures that enhance community participation in the sustainable management and conservation of forests at the local level.³³⁹ Hopefully, such rules, once made, will include incentives that will promote sustainable forest management and conservation that address the needs of the rural poor.

³³⁵See Republic of Kenya (2005) (note 45) 15.

³³⁶Ibid.

³³⁷Ibid.

³³⁸Ibid.

³³⁹See the Forests Act 2005 section 59(2)(p).

There is need to create clear incentive policies that will create opportunities for local communities to generate income from indigenous forests and farm forestry and to engage in partnerships with private sector forest industrial companies that are willing to invest in sustainable management of government plantation forests. Such incentives should include tax incentives, grants or other mechanisms attracting private sector and small holder investments. Regulations should provide, under certain conditions, for subsidy payments to farmers to maintain the natural environment on their land. Examples of favourable tax treatment include the granting of land tax credit for the preservation of forest lands or for the conservation of wetlands and watersheds.³⁴⁰ The sharing of benefits has not been well articulated in forest conservation. Local communities have so far benefited little from the timber industry.³⁴¹

The forests within protected areas exist today because of the legal protection offered to such areas. Such legal protection should be strengthened by change of people's perception towards conservation, combined with measures which will ensure some amount of benefit, to the local communities concerned. This can be achieved through the launching of eco-development programmes and fulfilling the needs of the local population in respect of forest user rights and by creating the required forest resources in lands outside the protected areas.³⁴²

Indeed, the Forest Principles require that adequate policies, aimed at the management, conservation and sustainable development of forests including incentives, should be encouraged.³⁴³

³⁴⁰ See for example Guilmin F B (1986) (note 239) 119 121.

³⁴¹ See World Bank (2007) (note 295) 43.

³⁴² See for instance Dey S C "Protected Areas for Biodiversity Conservation and the Legal Position" in Kotwal P C & Banerjee S (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 10.

³⁴³ See Principle 13(e) of the Forest Principles.

4.3.10.2 Taxation and Subsidies

Government financial allocations for sustainable forest management have been insufficient.³⁴⁴ The allocation of operating funds to the Kenya Forest Service has been low. Royalty collections by the Service fall well below what should theoretically be realized and royalty rates themselves are too low, so that revenues are not maximized. The Kenya Forest Service has noted this challenge in its current Strategic Plan.³⁴⁵ One of the Service's key challenges is the inadequate financial allocation to meet the Kenya Vision 2030 targets and to support ongoing reforms in the forestry sector.³⁴⁶ The Strategic Plan specifically notes that the :

Kenya Forest Service is a new institution with a broad mandate for forestry sector development. The institution is therefore faced with a big challenge to accomplish the new mandate. In order to deliver the set targets, resource mobilization will be a core activity during the plan period. To implement this strategic plan, Kshs. 25.542 billion will be required.³⁴⁷

Out of this amount, government funding amounts to Kshs.10,665,735 and the balance of the funding will have to come from development partners and funds available at the international level for the sequestration of greenhouse gases, protection of water catchments and funds generated from investments by the Kenya Forest Service.³⁴⁸ With such low funding, it would be difficult for the Kenya Forest Service to provide incentives in the form of subsidies.

Taxes and subsidies are not referred to anywhere in Kenya's forestry law,³⁴⁹ although there is the reference to the Forest Management and Conservation Fund for the development of forests, maintenance of indigenous forests and the management and protection of protected trees.³⁵⁰ The use of taxes and subsidies as forest conservation strategies are not popular under the legislation.

³⁴⁴ See Kenya Forest Service *Strategic Plan 2009-2014* (2009)11.

³⁴⁵ Ibid 11.

³⁴⁶ Ibid.

³⁴⁷ Ibid 37.

³⁴⁸ Ibid 39.

³⁴⁹ Owiro A O (1988) (note 1) 26.

³⁵⁰ See the Forests Act, section 18. There is need to expand the use of this fund for payment of incentives, particularly as a reward to those who help to effectively enforce the provisions of the Act, and those who report offenders under the Act.

The law could offer companies tax breaks for planting a certain number of trees and even bigger breaks for replanting destroyed forests. The tax system could allow investors to set off the cost of planting trees against income from other sources, while at a later date allowing them to escape tax on the income received when the trees are harvested or sold.³⁵¹ In effect, such persons will not pay taxes in full so as to encourage them to invest in sustainable forest management and conservation. The only incentive that seems to be emphasized under the Act so as to encourage private forest conservation, is an exemption from payment of all or part of land rates and such other charges that may be levied on the land on which the forest is established if the owner applies for such, from the relevant authorities.³⁵²

4.3.10.3 Conservation Easements

The Environmental Management and Coordination Act provides for the grant of an environmental easement by the court to any person. The object of the environmental easement is to further the principles of environmental management by facilitating the conservation and enhancement of the benefited environment, through the imposition of one or more obligations in respect of the use of the burdened land.³⁵³ The environmental easement may attach to the burdened land in perpetuity or for a term of years as the court may determine.³⁵⁴ An environmental easement order may be imposed on the burdened land so as to preserve flora and fauna.³⁵⁵ The law further provides for the payment of compensation by the applicant to any person who has a right to the burdened land, where an environmental easement is imposed on burdened land.³⁵⁶ While the law provides for this strategy for the sustainable management and conservation of environmental resources, no application has been made so far in respect of any land or forest in Kenya.³⁵⁷

³⁵¹ See Reid C T "The Changing Patterns of Environmental Regulation: British Forestry and the Environmental Agenda" (1997) 1 *Journal of Environmental Law* 23.

³⁵² See the Forests Act 2005, section 25 (4) thereof.

³⁵³ See section 112 (1) of the Act. See also Chapter three, part 3.5.5.4 above.

³⁵⁴ See section 112 (2) of the Act.

³⁵⁵ See section 112 (3) of the Act.

³⁵⁶ See section 116 of the Act.

³⁵⁷ See Mbote P K "Land Tenure and Sustainable Environmental Management in Kenya" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 260 280.

The issue of conservation easements under the Forests Act is enforced by way of management agreements. The Director of the Kenya Forest Service may enter into an agreement with any person for the joint management of any forest. Such agreement may enjoin such person to use, or to refrain from using, the forest in any particular manner in order to ensure the conservation of biodiversity.³⁵⁸

If applied effectively, the system of granting easements can be an excellent way of sustainably managing forests presently owned by the Kenya Forest Service. Mechanisms should, however, be put in place to avoid massive encroachment on forest land, thus defeating the very purpose of conservation.³⁵⁹ On the other hand, all forms of detrimental activities in forests on private land may be prohibited by law. The Kenya Forest Service can establish a forest reserve on private land under a conservation easement with the owner under the terms of the lease.³⁶⁰

4.3.10.4 Conservation Agreements

Kenya's Forests Act makes provision for conservation agreements as a strategy for the sustainable management and conservation of forests. This is mainly for the purposes of creating easements over forests. The Act empowers the Director of the Kenya Forest Service, with the approval of the Board, to enter into an agreement with any person for the joint management of any forests.³⁶¹ Such agreement may enjoin any such person to use or refrain from using such forest or any part thereof in a particular manner to ensure the conservation of biodiversity.³⁶² Participatory and voluntary agreements belong to an important class of policies that can complement command and control and market based policies.

³⁵⁸ See section 36 of the Forests Act 2005.

³⁵⁹ See for example Bennun P N & Mwangi A M "Land Tenure and Forest Resource Management" in Juma C & Ojwang J B (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 175 188.

³⁶⁰ See for example Guilmin F B *et al* (1986) (note 239) 126.

³⁶¹ See section 36(1) of the Act.

³⁶² See section 36(2) of the Act.

They are particularly useful when many of the benefits of changes accrue to the public at large. Involving the public by way of voluntary conservation agreements can be an extremely effective form of intervention, particularly when government resources are limited and there are effective civic organizations, like the Kenya Forest Network, that support social development and sustainable forest management and conservation.³⁶³ Such agreement is binding and enforceable against the covenantor or his successors in title and others deriving title from him.³⁶⁴

The Environmental Management and Coordination Act, authorizes the Director General, after consultations with the Director of the Kenya Forest Service, to enter into any contractual arrangements with a private owner of any land on such terms and conditions as may be mutually agreed, for the purposes of registering such land as forest land.³⁶⁵ This provision has, however, not been put to use in practice.

The Kitengela Wildlife Conservation lease program demonstrates that leasehold agreements that carry with them appropriate economic incentives can be highly effective in promoting peaceful coexistence of people, livestock and wildlife. Established in April 2000, the program provides monetary compensation to landowners in the Kitengela area, who agree to keep their fallow land unfenced, refrain from cultivating, building on or selling the designated lands and actively manage their land for wildlife protection and sustainable livestock grazing.³⁶⁶ At Kenya Shillings 725/= per hectare, per year, program payments to participating households average Kenya Shillings 28,000/= to Kenya Shillings 56,000/= annually, a figure close to the income that households earn from rearing livestock.³⁶⁷

³⁶³See UNEP & Kenya Wildlife Fund Trustees (1988) (note 318) 8.

³⁶⁴See sections 36(3) and 48(1) of the Act.

³⁶⁵See section 48 of the Environmental Management and Coordination Act; See also Mbote P K (2002) (note 14) 203.

³⁶⁶See World Resources Institute & the Central Bureau of Statistics *Nature's Benefits in Kenya: An Atlas of Ecosystems and Human Wellbeing* (2007) 77.

³⁶⁷Ibid. As at June 30, 2012, 1 US dollar was exchanging at Kenya Shillings 84, and 1 South African Rand was equivalent to Kenya Shillings 10.40.

Since the program's inception, the land area covered by conservation leases in the Kitengela area has grown from 89 hectares in the year 2000, to more than 1120 hectares, in the year 2001. Empowerment of the local Maasai community to understand their economic options, and make informed decisions about their future, has become one of the most important program outcomes. The program has proved successful in enabling the local community to see wildlife in a more positive light, and to share in the economic benefits that wildlife brings to Kenya as a whole.³⁶⁸ This kind of initiative needs to be expanded to the forestry sector in the country.

It is important to ensure that the profit motive is avoided in such ventures. In the case of the Kimana Community Wildlife Sanctuary near Maasai Mara in Kenya, local attention focused on community development and social welfare objectives with most residents viewing the issue of community natural resource management as a means for pursuing social and economic advancement, and rarely, as a device for biodiversity conservation.³⁶⁹ Revenues from such ventures should be equitably distributed and the same must be done transparently to avoid misappropriation.³⁷⁰

4.3.10.5 Land Exchanges

Provisions have been made in Kenya's forest law for the use of land exchanges as a device for sustainable forest management and conservation. This technique for the conservation of forests may be a boost to conservation, if implemented. The Forests Act provides that the Kenya Forest Service may exchange part of forest areas with private land, with the consent of the owner of such land, where such exchange enhances the sustainable management and conservation of the forest.³⁷¹ Before such exchange is effected, a requirement that an independent environmental impact assessment has been conducted and has shown that such exchange shall not adversely affect the

³⁶⁸Ibid.

³⁶⁹See Kellert S R *et al* "Community Natural Resource Management Promise, Rhetoric and Reality" (2000) 705 711.

³⁷⁰Kellert SR (2000) (note 369) 709.

³⁷¹See section 29 (1) of the Act, which deals with the manner in which exchanges may be done with private landowners.

environment, should be made.³⁷² Such forest area to be exchanged should not contain rare, threatened or endangered species and should not be a water catchment area or a source of springs.³⁷³

4.3.10.6 Donations

This technique for the conservation of forest resources is part of the law of Kenya as the Forests Act provides for donations and bequests. Any person registered as proprietor of land may donate or bequeath all or part of such land to the state, local authority, educational institution, forest association, or a non-governmental organization for the sustainable development of forestry and the conservation of biodiversity.³⁷⁴ Such a forest shall be gazetted and named after the person who made the donation or bequest and shall not be used for any purpose other than the establishment and conservation of forests as originally desired by the previous owner.³⁷⁵

4.3.11 CITIZEN PARTICIPATION AND CO-MANAGEMENT

The dependency of communities bordering forests on forest resources must first be alleviated if forests are to be conserved in the longterm. The Kenya Forestry Master Plan addresses the question of traditional rights and states that:

When not in conflict with the principle of sound and sustainable resource utilization and management of national development priorities, the traditional ways of life of people living within and adjacent to designated forest areas, and the forest related cultural values and religious practices of these people will be respected.³⁷⁶

The Plan notes that local people will be viewed as development partners and will be encouraged to participate in the sustainable management, utilization and conservation activities of various forestry programmes as indigenous forests.³⁷⁷ This policy position seems to be vindicated by the law. The Environmental Management and Coordination Act empowers the minister to

³⁷²See section 29 (1) (a) (b) and (c) of the Act.

³⁷³See section 29 (1) (d) of the Act.

³⁷⁴See section 31 of the Act.

³⁷⁵See section 31 (2) of the Act.

³⁷⁶See Republic of Kenya (1994) (note 1) 243.

³⁷⁷Ibid 243.

declare, by notice in the Kenya Gazette, that the traditional interests of local communities customarily resident within or around a forest, be protected interests.³⁷⁸ Again, the Director General is restrained from taking any action in respect of any forest, if that action is prejudicial to the traditional interests of local communities constantly resident within or around such forest.³⁷⁹ However, a comprehensive provision on sustainable forest management and conservation by way of public participation is yet to find its way into the law.

The law has, however, given the public the right to restrain breach of the Act. Every citizen of Kenya who has reason to believe that the provisions of the Act are being or are about to be violated may petition the High Court for a declaration that the provisions are being or are about to be contravened. The citizen may also apply for the remedy of injunction or mandamus or any other remedy available at law, or in equity, for the purposes of enforcing the provisions of the Act.³⁸⁰

The establishment of the Environment and Land Court³⁸¹ will allow for the redress of any denial, violation or infringement of any rights or fundamental freedoms relating to a clean and healthy environment under Articles 42, 69 and 70 of the Constitution of Kenya. The Court is to be guided by the principles of sustainable development, public participation in the development of policies, plans and processes for the management of the environment and land. The Court must also take into account cultural and social principles traditionally applied by any community in Kenya for the management of the environment or natural resources, inter-generational and intra-generational equity and the polluter pays principle.³⁸²

³⁷⁸See section 43 of the Act.

³⁷⁹See section 48(2) of the Act. The reference to forest associations under section 47 of the Forests Act does not empower the entire community, but gives special attention to registered associations which requires that communities must first be registered associations before they benefit as per section 47 (2) of the Forests Act.

³⁸⁰See section 58 of the Forests Act 2005.

³⁸¹See the Constitution of Kenya, Article 162(2) and the Environment and Land Court Act, Act No.19 of 2011.

³⁸²See section 18 of the Environment and Land Court Act, Act No. 19 of 2011.

While a number of these disputes are likely to arise originally in the National Environment Tribunal, it is expected that the Environment and Land Court will exercise appellate as well as supervisory jurisdiction over all inferior tribunals to ensure reasonable, equitable and accessible environmental justice in all counties.³⁸³ This will include the settlement of disputes that may be occasioned with respect to any rights that may have been conferred on individuals prior to and after the coming into operation of the Constitution of Kenya 2010.³⁸⁴

The Forests Act enables members of a forest community to enter into partnership with the Kenya Forest Service through registered forest associations. This opens doors to local communities to directly participate in the protection, sustainable management and conservation of a given forest area subject to the provisions of an agreed management plan.³⁸⁵ Some of the user rights granted to the forest association include collection of medicinal herbs, harvesting honey, timber or fuelwood, grass harvesting or grazing, collection of forest produce for community based industries, ecotourism and recreational activities, scientific and educational activities or any other benefit to be agreed upon between the association and the Kenya Forest Service.³⁸⁶ The rights are provided so long as they do not conflict with the conservation of biodiversity. However, members of a forest community and local residents must first form such associations, then apply for certain privileges in relation to the management of particular forest areas.

Much of the current forest loss is attributed to forest excisions under the repealed Forests Act,³⁸⁷ which permitted the minister in charge of forests to gazette and degazette forest reserves. The Forests Act 2005, allows for public objections within 28 days to alterations of forest boundaries.³⁸⁸

³⁸³See section 26(1) of the Environment and Land Court Act, Act No 19 of 2011.

³⁸⁴See Article 71 of the Constitution of Kenya 2010.

³⁸⁵See section 46 of the Act.

³⁸⁶See section 47 of the Act.

³⁸⁷Cap 385 Laws of Kenya, now repealed.

³⁸⁸See the rules made pursuant to section 28 of the Forests Act under the Third Schedule.

In the past, objections from members of the public were not acknowledged and excisions continued despite the objections. Stringent measures have now been put in place by the Forests Act 2005 in respect of the conversion of forest land to other uses through the application of environmental impact assessments, consultation with local forest committees, approval of the change of user by Parliament and public consultations.³⁸⁹

While there are legal provisions to ensure that the public participates in sustainable forest management in Kenya, it has however been observed that in Kenya, reliance on the police powers of control and rule mechanisms, makes the law ineffective or less efficacious. Essentially, the public should have internalized the value of the applicable regulations and accept that the purpose is to ensure the satisfaction of their current needs as well as the needs of future generations.³⁹⁰

Members of a forest community and local residents who form such associations, may apply to the Kenya Forest Service for certain privileges in relation to the sustainable management of particular forest areas and make use of forest produce in relation to those areas.³⁹¹ Such rights may include collection of medicinal herbs, harvesting honey, timber, fuel wood, grass as well as carrying out scientific and educational activities.³⁹² The Act empowers members of forest communities to use forest produce as per the custom of such communities, if such use is customary and is not for the purposes of sale.³⁹³ In return for these benefits, the association is entitled to participate in the sustainable management and conservation of such forest. It may protect, manage and conserve the forest pursuant to an approved management agreement. It may formulate and implement forest programmes, protect sacred groves and protected areas and assist the Kenya Forest service in enforcing the provisions of the Forest Act.³⁹⁴

³⁸⁹ See section 28 of the Act.

³⁹⁰ See Okidi C O (1996) (note 284) 226.

³⁹¹ See sections 46 and 47 of the Forests Act 2005.

³⁹² See section 47 (2) of the Forests Act 2005.

³⁹³ See section 22 of the Forests Act 2005.

³⁹⁴ See section 47 of the Forests Act, 2005.

Recognizing community rights will foster sustainable forest management and conservation, especially now that the Kenya Forest Service does not have enough resources to enforce the law effectively. Monopolistic control of the forests by the government through the Kenya Forest Service will not provide the desired long term solution to sustainable management and conservation. Participation by the local people in sustainable forest management and conservation is a workable solution to conserving forests and promoting sustainable use as local communities will view forests as encompassing their interests.³⁹⁵

Subsidiary legislation made under the Forests Act allows various forest communities, namely the Nandi, Elgeyo, Tugen- Kamasia, Pokot, Bungoma, Meru and Kwale, without any charge or permit, to take or collect and take wild berries and fruits for own consumption, place honey boxes and graze cattle on the open grasslands in or around forest areas as may be specified by a forest officer.³⁹⁶ However, entry into the forests has not been properly controlled as the rules require. Activities such as tree cutting, removal of forest produce, clearing, grazing or road construction in forest areas should only be carried out with the concurrence of the Kenya Forest Service. There is need to develop low impact harvest systems, especially in the use of non timber forest products.³⁹⁷

One very important factor in forest destruction is the alienation of people from the forest resource base on which their lives depend.³⁹⁸ In Kenya's rural areas, this alienation is as a result of government policies which cordon off

³⁹⁵Kenya Forest Service (2009) (note 79) 10.

³⁹⁶See the Fourth Schedule to the Forests Act 2005 (General Rules), more particularly, the
Forests (Nandi) Rules
Forests (Elgeyo) Rules
Forests (Tugen-Kamasia) Rules
Forests (West Pokot) Rules
Forests (Kakamega and Bungoma) Rules
Forests (Meru) Rules
Forests (Kwale) Rules

³⁹⁷Ibid.

³⁹⁸See Tanui J & Kinuthia I (2011) (note 5) 53.

forest resource areas and take the role of managing and protecting them and which encourage the displacement of conservation oriented traditional cultures and technologies.³⁹⁹

Sustainable forest management and conservation can only come from giving back greater control over forests to local communities, reviving relevant traditional systems, formerly involving people at all levels of decision making, encouraging partnerships between formal sector scientists and local communities and encouraging mass public awareness and education.⁴⁰⁰ Despite the provision of community interest in forest resources, the plight of groups such as the Ogiek and the Dorobo, has not effectively improved.⁴⁰¹

4.3.12 ASSIGNING PROPERTY RIGHTS TO FOREST RESOURCES

The Forests Act, as the principal legislation for the sustainable management, conservation and utilization of forest produce, creates monopoly rights in favour of the state.⁴⁰² Section 21 of the Act provides that all:

forests in Kenya other than private and local authority forests, are vested in the state, subject to any rights of user thereof granted to any other person.

This means that the state owns and controls the majority of forests as well as forest produce. Indeed, to the extent that the establishment of forest areas and the declaration of nature reserves are the preserve of the state, through the Kenya Forest Service, private individuals and communities have a limited say, if any, in decision making relating to the alienation and the sustainable management of forests and forest resources.⁴⁰³

Without involving the communities living adjacent to the designated forest area in decision making and in programmes for the sustainable management

³⁹⁹See for example Kothari A (1994) "Beyond the Biodiversity Convention: A View From India," in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 66-84.

⁴⁰⁰Ibid.

⁴⁰¹See Bennun P W & Mwangi A M (1996) (note 359) 186.

⁴⁰²See sections 21 and 23 of the Act. The effect of these sections is that the forests are held in trust by the Kenya Forest Service for the state and they do not seem to cater for the needs of the public to have a stake in forest conservation in state forests, an activity that seems to be in the exclusive hands of the Kenya Forest Service, not even in the declaration of areas to be state forests.

⁴⁰³See sections 5 and 7 of the Forests Act 2005.

of the forest, the communities will feel alienated from their traditional harvesting and food gathering areas and so, refuse to cooperate with the government agents in the sustainable management of the forests on the grounds that their needs, values and traditional conservation practices have been ignored.⁴⁰⁴ It has been observed with respect to such exclusive trends that:

a policy of no use can bring greater risk to an ecosystem where communities depend on the resources. The hostility caused by cutting off these resources can be an extremely risk strategy as has been proven time and again in recent conservation history. Aggressive protection is vulnerable to failure at crisis points when law enforcement fails. Crisis points are very significant long term factors to be taken into account when determining conservation policies. In other words, a protected area which has no local support, which provides no local benefit and which is maintained only by force, will be at greater risk from occupation or destruction in times of insecurity and the breakdown of law and order than a protected area in which local communities play a role in management, are benefiting ...and have developed a good relationship with the ...management.⁴⁰⁵

Section 22 of the Act, however, allows members of forest communities to use forest produce as per the customs of such communities to take from such forest otherwise than for sale. Again, section 47 of the Act provides for forest user rights to be conferred on local communities with the aim of lifting their living standards. These rights include collection of medicinal herbs, harvesting honey, harvesting timber, fuelwood, grazing, ecotourism, recreation and education activities. In the long run, these initiatives will foster sustainable forest management and conservation.⁴⁰⁶

The Environmental Management and Co-ordination Act empowers the National Environment Management Authority to issue guidelines and prescribe measures for the sustainable management and utilization of the genetic resources of Kenya for the benefit of the people of Kenya.⁴⁰⁷ The Authority is further empowered to issue measures necessary to regulate the development, access to and transfer of biotechnology.⁴⁰⁸

⁴⁰⁴See Situma FDP (2003) (note 22) 203.

⁴⁰⁵See Wild R G & Mutebi J *Conservation Through Community Use of Plant Resources* (1996) 38.

⁴⁰⁶See Wild R G & Mutebi J (1996) (note 405) 4.

⁴⁰⁷See section 53(1) of the Act

⁴⁰⁸See section 53 (2) (e) of the Act.

In an effort to implement a successful legal regime for the conservation and the use of genetic resources in Kenya, the law has empowered the Authority to impose bans, restrictions or similar measures on the access and use of any threatened species in order to ensure its regeneration and maximum sustainable yield.⁴⁰⁹ The law outlaws any activity that may have an adverse impact on any ecosystem, or may lead to the unsustainable use of natural resources, unless the person engaging in such activity has obtained an environmental impact assessment licence from the Authority.⁴¹⁰ Any person who intends to access genetic resources is required by law to apply for an access permit, obtainable from the Authority.⁴¹¹ Such permit may contain terms and conditions and must specifically relate to the purposes for which the permit was given.⁴¹²

The Forests Act provides that the management agreement between the Director of the Kenya Forest Service and a forest association shall confer on the association, forest rights which include scientific and education activities.⁴¹³ In so far as forest user rights are concerned, the current forest policy states:

Forest adjacent communities derive both spiritual and material benefits from forests. Material benefits include water, medicinal herbs, honey, fuelwood, construction material and fodder. The government recognizes the important role that these benefits play in the livelihoods of forest adjacent communities. For example, some forests are sources of major rivers, which serve populations and are important for economic activities far away from the forests. In order to improve livelihoods of all communities who depend on forests, the government proposes that the interests of local communities customarily resident within or around a forest, will be protected and cultural practices that are compatible with sustainable forest management, will be respected.⁴¹⁴

This provision emphasizes the importance of the local communities in conservation. However, when this position is applied in the context of the Convention on Biological Diversity, it becomes problematic. This is because,

⁴⁰⁹See the Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations 2006, Legal Notice No. 160 of December 1, 2006, Rule 5 thereof.

⁴¹⁰Ibid Rule 4.

⁴¹¹Ibid Rule 9.

⁴¹²Ibid Rule 15 (d).

⁴¹³See the Forest Act 2005, section 47(2) (g).

⁴¹⁴Republic of Kenya (2005) (note 45) 18.

in the case of communal land, or trust land, if the right to access the land is vested in the local communities, then it is they who will have the right to control access to genetic resources and their exploitation.⁴¹⁵ However, Kenya's law on this point vests the power to access genetic resources, on the National Environment Management Authority.⁴¹⁶ Again, it may be noted, that while the Forests Act provides for wider participation in sustainable forest management by community forest associations, there are some emerging community associations that are driven by self interest, making the process of implementation challenging.

The National Museums of Kenya has established a centre for biodiversity whose main functions include research and conservation of plant and animal genetic resources. The centre coordinates all national activities in biodiversity research and conservation. It seeks to promote institutional links among national institutions working on biodiversity conservation and other institutions elsewhere. The National Museums of Kenya herbarium is in partnership with over 15 botanical gardens throughout the world, particularly in England and the United States.⁴¹⁷ There are three distinct tenure regimes in Kenya's legal system. Land is classified into public, community and private.⁴¹⁸ However, all land in Kenya is constitutionally recognized to belong to the people of Kenya collectively as a nation, as communities and as individuals.⁴¹⁹

Public ownership of land takes the form of state ownership. This covers gazetted forests which are subject to the state's monopoly rights, including

⁴¹⁵See for example Oludayo G A "The Convention on Biological Diversity, Access to and Exploitation of Genetic Resources and the Land Tenure System in Nigeria" (1999) 11 *African Journal of International and Comparative Law* 86 93.

⁴¹⁶See the Environmental Management and Coordination Act (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Theories) Regulations (note 513) Rule 9.

⁴¹⁷See Mugabe J & Marekia N " Biodiversity management in Kenya" in Mugabe J & Clark N (eds) *Managing Biodiversity: National Systems of Conservation and Innovation in Africa* (1998) 93.

⁴¹⁸See Constitution of Kenya 2010, Article 61(2) - See also section 4.3.10 and 4.3.11 hereof.

⁴¹⁹See Constitution of Kenya 2010, Article 61(1).

government game reserves, water catchment areas, national parks, government animal sanctuaries and specially protected areas, the Coast foreshore, rivers, dams and Lake Reserves.⁴²⁰

The recently enacted Land Act provides innovative approaches in the conservation of land based natural resources. It empowers the National Land Commission to make rules and regulations to protect critical ecosystems and habitats, provide for incentives for communities and individuals to invest in income generating natural resource conservation programmes and provide for measures to facilitate access, use, co-management of forests and other resources by communities who have customary rights to these resources.⁴²¹

Unfortunately, state ownership has been the cause of the depletion of forest resources by communities neighboring forests as the search for agricultural land and fuel wood progresses. Forest resources are viewed by local people as wastelands which can be exploited as a common resource.⁴²² In this respect, the future of the forest resource is inextricably tied to the future of the local population, and the conservation of the forests depends upon the sustainability of local livelihoods.⁴²³ It is, therefore, necessary to focus on human issues as part of any sustainable management and conservation strategies. Without attending to human needs, regulation will not be an effective mechanism for sustainably managing and conserving forest resources. It is also crucial that measures to ensure benefit sharing to affected communities are implemented.

Private land is land registered and held by any person under any freehold or leasehold tenure, or land declared to be private land under any Act of Parliament.⁴²⁴

⁴²⁰See Constitution of Kenya 2010 Article 62(1) (g). See also the Land Act, Act No. 6 of 2012 section 2.

⁴²¹See the Land Act, Act No. 6 of 2012 whose commencement date was May 2, 2012.

⁴²²See Bennun P N & Mwangi A M 1996) (note 359) 181.

⁴²³*Ibid.*

⁴²⁴See Constitution of Kenya 2010, Article 64

The content of rights granted under the Land Registration Act 2012⁴²⁵ is absolute and can only be circumscribed by the exercise of the state's right of compulsory acquisition for public purposes after the due process of compensating the owner fairly and promptly. The proprietor of land registered under this Act is entitled to absolute rights over the land together with all rights and privileges belonging or appurtenant thereto and not liable to be defeated.⁴²⁶

Given the wide latitude conferred upon an owner of land under the law, the capacity of the state to effectively police all forests on private land in Kenya is doubtful. This is because the owner of the land has wide ranging powers over his property and the interference of these rights by the state can only be done when the state exercises its police power over such property. This can only be done where the land owner uses his land in a manner that can be deemed to be against the general public interest. Indeed, the Constitution has captured this issue by providing that the:

state may regulate the use of any land or any interest in or right over any land in the interest of defence, public safety, public order, public morality, public health or land use planning.⁴²⁷

The absolute ownership vested in the owner of the land is, however, subject to the superior rights and radical title that is vested in the state, as all investments in property, must eventually benefit local communities and their economies.⁴²⁸

However, it should be noted that incentives to landowners may be more effective than legal sanctions in encouraging the adoption of sustainable forestry management schemes. This scenario should apply to land held and registered under other laws.⁴²⁹

⁴²⁵See the Land Registration Act 2012, sections 24 and 25. Note that these two sections are equivalent to sections 27 and 28 respectively of the Registered Land Act, 1989, Cap 300 Laws of Kenya, now repealed.

⁴²⁶See sections 24 and 25 of the Land Registration Act 2012, Laws of Kenya.

⁴²⁷See Constitution of Kenya 2010, Article 66(1).

⁴²⁸See Constitution of Kenya 2010, Article 66(2).

⁴²⁹These laws are the Registration of Titles Act, Cap 281 Laws of Kenya and The Land Titles Act Cap 281 Laws of Kenya. These laws are still applicable until the coming of the next government under the Constitution of Kenya 2010. For details on this issue, see section 108 of the Land Registration Act 2012.

It is for this reason that the police power exercisable under the Agriculture, Fisheries and Food Authority Act 2013, becomes crucial.⁴³⁰ Although the essence of the Act is the promotion and maintenance of a stable agricultural system, the provisions of the Act dealing with the conservation of the soil and the prevention of the destruction of vegetation, are of special relevance to indigenous forest conservation.⁴³¹ The Act empowers the Minister to make and authorize the District Agricultural Committees, and the Provincial Agricultural Boards, to enforce land preservation rules which may control the clearing of land for cultivation, and other destruction of vegetation, or require afforestation or reafforestation of land and the protection of slopes or catchment areas.⁴³² What is required is sufficient policing to detect offenders, which is currently lacking. The owners of private property aim at maximizing the use to which their land can be put to, and the capacity of the government machinery to police the use of land is limited by the issue of costs and lack of funds.⁴³³

The third property regime is based on communal ownership. This applies in respect of trust lands registered under the Trust Land Act 1970⁴³⁴ and the Land (Group Representatives) Act 1970.⁴³⁵ County Governments manage the resources within trust lands under their jurisdiction, and also control the development of land. They also regulate the use and conservation of these areas. The conservation responsibilities of the Counties include the protection of trees and forest produce in those lands.

The regime of land holding under the Land (Group Representatives) Act 1970 has not been without problems. One of the most intractable problems is the determination of who qualifies to be a member of a particular group and whether there is a limit to the number that comprises a particular group. The Land Adjudication Act⁴³⁶ defines a group to mean a tribe, clan, section, family

⁴³⁰ See Agriculture, Fisheries and Food Authority Act, Act No. 13 of 2013, part iv thereof.

⁴³¹ See the provisions of sections 48 and 54 of the Act.

⁴³² See sections 25, 32 and 184 of the Act.

⁴³³ See World Bank (2007) (note 295) 34.

⁴³⁴ Cap 288, Laws of Kenya (Revised edition 1970).

⁴³⁵ Cap 287, Laws of Kenya (Revised edition 1970), See also the Constitution of Kenya 2010, Article 63, on the issue of the management of community land.

⁴³⁶ Cap 284 Laws of Kenya.

or other group of persons whose land under recognized customary law belongs communally to the persons who are members of the group.⁴³⁷ Again, if the recording officer is satisfied that any person has exercised rights in or over any land, which rights should be recognized as ownership, then the officer will determine that person as the owner of that land,⁴³⁸ a very difficult process indeed. The composition of group ranches was an attempt at formalizing traditional community structures. The principal idea was to create a land unit smaller than the traditional structures but larger than the individual. This impacts on any long-term plans of land use, agricultural production and sustainable forest management and conservation.⁴³⁹

There is need to recognize this form of land ownership and allow greater attention in land use planning as well as the sustainable management and conservation of forest resources.

Property and tenure rights are critical issues which can help to resolve the problems of forest resource degradation. The issue of common property rights should be addressed by designing new mechanisms which should rationalize tenure rights.

Open access areas are prone to over exploitation and degradation.⁴⁴⁰ Although the law provides for public, private and communal ownership of forest resources, the creation of property rights in forest resources and their effective enforcement, will achieve the critical purpose of productivity, sustainability and equity. It has, therefore, been noted that:

Communities cannot act in isolation from each other or from other stakeholders. They are part of a larger ecological, economic and political system. Communities need allies, including the state.... They also need assistance with collective arrangements to overcome internal division.⁴⁴¹

⁴³⁷ See section 2 and 23 of the Land Adjudication Act.

⁴³⁸ See section 23 (2) (a) of the Land Adjudication Act, Cap 284, Laws Kenya.

⁴³⁹ See Wanjala S C "Land Tenure and Soil Conservation in Kenya" in Wanjala S C (ed) (2000) *Essays on Land Law: The Reform Debate in Kenya* 137 151.

⁴⁴⁰ See Khan M H "Forest Management and Policy Issues in Nepal" in Kotwal P C & Banerjee S (eds) (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 28 33. It is noted that the Ministry of Lands has embarked on the development of the Community Land Bill, and these issues may be addressed.

⁴⁴¹ Juma A F "Governance and Sustainable Development" in Juma C & Ojwang JB (eds) (1996) *In Land We Trust: Environment, Private Property and Constitutional Change* 9 36.

This requires a fundamental reorientation away from emphasis on the economic rationale of exploiting resources to an ecological system upon which human economic life is based. Such governance systems should allow for a resolution of community problems before such problems undermine the society itself.

Land is the hub of the majority of environmental issues in Kenya. Land use conflicts are reflected in agriculture, forestry, wildlife and human settlement. There is an urgent need to reconcile land tenure issues with the greater goal of the sustainable use, management and conservation of forest resources.⁴⁴²

4.3.13 POPULATION POLICY

To be able to cater for the needs of the population and to plan for the incorporation of the interests of the diverse groups in sustainable forest management, the issue of population growth needs to be seriously addressed.⁴⁴³ Forest conservation areas are increasingly becoming islands in the midst of hostile populations. For example, the annual population growth rates predicted by the Central Bureau of Statistics for the period to the year 2000 were 8% for urban population and 2.5% for rural populations.⁴⁴⁴ Population growth rates in areas of high agricultural potential such as Kakamega where there is intense pressure on land, are lower than the overall national population growth rates and considerably lower than the commonly quoted population growth rates of between 3% and 4%. This is because the population is close to saturation density and further growth is countered by emigration to urban areas.⁴⁴⁵

⁴⁴²See Okidi C O (1996) (note 284) 207.

⁴⁴³Mbote P K (2002) (note 14)2003.

⁴⁴⁴See Central Bureau of Statistics *National Population Census 1989 Volume 1* (1989) 12.

⁴⁴⁵See Republic of Kenya (2008) (note 47) 113.

The present population density surrounding forest areas in the higher, wetter parts of the country tends to be high, but the growth rates are countered by emigration. The result of this is that the pressure on forest resources for the extraction of forest products is high, at present. However, widespread pressure for conversion of forest land to agricultural land is expected to continue and increase. It is now recognized that one of the causes of destruction and degradation of the forests is the poverty of the people who live in and around the forests and are dependent on the forest lands for their basic needs.⁴⁴⁶ It has therefore been noted that:

population growth presents a major challenge because of the patterns of production and consumption that shape the world as well as the problems of pervasive poverty. Population growth affects the natural resource base in many ways. First, it causes increased demand for food and other essential materials such as firewood in all areas. Second, expanded agricultural activities encourage encroachment into forest and woodlands. These consequences are more pronounced in the context of high levels of poverty.⁴⁴⁷

Public education on the advantages of smaller families and accessibility to affordable family planning services may address these issues. The promotion of family planning to limit family size and strategies to influence the birth rate can contribute to the sustainable management of forests and other natural resources. Basic needs and education must be provided to raise the standard of living to encourage family planning. This will raise individual and communal consciousness about the impact of population on the environment.⁴⁴⁸

⁴⁴⁶See Shiundu J O "Human Population and the Environment" in Otiende J E *et al* (eds) *An Introduction to Environmental Education* (2010) 101 107 Shiundu observes:

The ever increasing number of people has led to a great scramble for the limited resource available Indigenous forest and savannah vegetation ...is now rare....Natural forest and good agricultural land have been indiscriminately used for human settlement. *Ibid* 118.

⁴⁴⁷See Kulindwa K *et al* "The Human Dimension" in UNEP *et al* (eds) (2006) *African Environment Outlook – Our Wealth* 3 5.

⁴⁴⁸See UNEP & Kenya Wildlife Fund Trustees (1988) (note 318) 8.

The primary objective of any policy to limit further population growth must deal not only with population per se, but with the underlying social and economic conditions of underdevelopment. Goals, such as the elimination of absolute poverty, widespread unemployment, education, malnutrition and poor health facilities must be addressed as the fundamental motivational basis for the expanded freedom of the individual to choose an optimal or smaller family size.⁴⁴⁹ Kenya has not seriously addressed any of these issues in relation to sustainable forest management and conservation.

As a result of the increase in population, the number of the poor and the vulnerable groups has increased. Poverty contributes to unsustainable resource use and environmental degradation. Poverty reduction as well as public involvement in environmental management are essential to sustainable forest management. In the case of Kenya, managing population growth within the productive capacity of the economy, and enabling the people to have a full appreciation of their environment, have been a challenge.⁴⁵⁰

The government's endeavour to improve the standard of living of the people through the development and implementation of appropriate population programmes as integral parts of other development programmes, has not been achieved.⁴⁵¹ There is need for the government to reduce poverty by developing and implementing programmes that increase living standards as well as promote equity.

4.3.14 RESEARCH, TRAINING AND EDUCATION

In various policy documents, the government proposed to promote research, training and education in all branches of forestry and forest products and

⁴⁴⁹ See Todaro M P *Economics for a Developing World: An Introduction to Principles, Problems and Policies for Development* (1992) 194. Todaro observes that development is the real issue, not population growth. This, however, must be done with due regard to the fundamental human right for each person to be able to determine the size of his or her family.

⁴⁵⁰ See Republic of Kenya (1999) (note 49) 97; See also Chapter Three, Part 3.5.8 above.

⁴⁵¹ Ibid 97.

foster, by education and propaganda, a greater understanding among the people of Kenya of the value of the forests to them and their descendants.⁴⁵² The government undertook to make adequate provision for high level scientific research, training of forest staff and to apply, to the best advantage, the results of research.⁴⁵³ In practice, it would appear that the government has not effectively taken up this challenge. There is need to expand training programmes and strengthen institutional capacity in sustainable forest management.

Such education is vital to change people's attitudes to appreciate environmental concerns. The government has not effectively employed environmental education to increase awareness, improve extension services, sensitise people on forestry concerns and build institutional capacities.⁴⁵⁴ In the long run, an educated public can appreciate and thereby contribute positively towards sustainable forest management and conservation and sustainable resources utilization.⁴⁵⁵

Public education is a multipronged way of dealing with different factors that affect sustainable forest management and conservation in Kenya. It could be used to popularize population growth control programmes as well as to empower people to participate in sustainable forest management activities.⁴⁵⁶

The Forests Act enjoins the Kenya Forest Service to promote forestry education and training, collaborate with individuals and private and public research institutions in identifying research needs and applying research findings, and to provide forest extension services by assisting forest owners, farmers and associations in the sustainable management of forests.⁴⁵⁷

⁴⁵²See for example Republic of Kenya (1968) (note 28) 10. See also, Republic of Kenya (2005) (note 45) 17.

⁴⁵³See Republic of Kenya (1968) (note 28) 10.

⁴⁵⁴See Republic of Kenya (1999) (note 49) 92.

⁴⁵⁵See Okidi C O & Mbote P K (2001) (note 19) 133.

⁴⁵⁶See Mbote P K (2002) (note 14) 205.

⁴⁵⁷See section 5 of the Act.

While forestry staff has been trained in traditional forest management, training now needs to embrace many other disciplines, including wildlife management, community forestry and tourism management. Forest research in the last few decades has focused on plantations while indigenous forests have largely been overlooked. Consequently, information about indigenous forests is often inadequate for their planning and sustainable management.⁴⁵⁸

The government should encourage the development of technologies through research and concerted efforts to strengthen human and institutional capacities for sustainable development. Expanded research in ecosystems and ecological processes should be emphasized. The government should integrate sustainable development in education at all levels of education.⁴⁵⁹ Sustainable environmental messages should be published and widely disseminated in the major languages of the country. Again, an effective mechanism linking forestry research and users should be developed. The institutional linkage between research, education, administration, resource owners and users is weak. In particular, forestry research should be demand driven. The main areas of focus should be indigenous forest management and commercial forestry development.⁴⁶⁰

Forestry research must be able to provide the forest managers with up to date results on recommended management practices. Priority areas should include sustained management and conservation of fragile forest ecosystems, such as important water catchments, riverine forests and mangroves.⁴⁶¹ Social and anthropological research will be required to determine individual and community needs and perspectives of forests, trees and environment. This will have immense impact in the participatory planning and sustainable management processes.

⁴⁵⁸Wass P (ed) (1995) (note 12) 76.

⁴⁵⁹See Republic of Kenya *National Development Plan 1994-1996* (1994) 177 178.

⁴⁶⁰It is noted that section 5(e) of the Forests Act 2005, imposes a legal obligation on the Kenya Forest Service to promote forestry education and training.

⁴⁶¹See Republic of Kenya (1994) (note 1) 232.

The key provisions for improving public information, awareness and participation for sustainable forest development in Kenya include policy, legal and institutional measures to create and strengthen advisory bodies on public information for sustainable development.⁴⁶² However, the government has not taken an active involvement in this to ensure that the local people are fully involved in decision making in all activities that impact the environment. Such activities should target training programmes for journalists and other media operators, women, youth and children. Women and youth should also be involved in sustainable forest management. However, the Environmental Management and Coordination Act has made provisions for any person who alleges that there is any interference with his right to a healthy environment to apply to the High Court for redress.⁴⁶³

The High Court is given power to issue orders to prevent, stop or discontinue any act or omission deleterious to the environment or to compel any public officer to take measures to prevent or discontinue any act or omission deleterious to the environment. The effect of this provision is that the courts will no longer be able to dismiss cases on the grounds of a lack of *locus standi*. Kenyan courts have been rigid when it comes to the question of *locus standi*, and in the case of environmental issues, this rigidity has prevented many cases from being fully heard on their merits.

In the case of *Wangari Mathai v. Kenya Times Media Trust Ltd*,⁴⁶⁴ the plaintiff sought an injunction to restrain the defendant from erecting a building in Uhuru Park because of apprehended environmental damage. The court held that only the Attorney General has *locus standi* and, therefore, only he could sue as vindicator of the public interest.

⁴⁶² See Republic of Kenya (2005) (note 45) 19.

⁴⁶³ See section 3 (1) and 3(3) (a) and (b) of the Act.

⁴⁶⁴ (1989) KLR 267. It has been noted elsewhere that:

In point of fact, there is a movement in the law toward giving the environment the benefits of standing, although not in a manner as satisfactory as the guardianship approach. What I am referring to, is the marked liberalization of traditional standing requirements in recent cases in which environmental action groups have challenged federal government action.

For more details on this argument, see Stone CD "Should Trees Have Standing?: Towards Legal Rights for Natural Objects" (1972)45 *Southern California Law Review* 450 467.

4.3.15 POVERTY REDUCTION

Poverty remains one of the main contributors to forest degradation. In Kenya, this has been exacerbated by the unequal distribution of land. This has meant that peasant farmers have had to destroy forests as expansion of farmland can only be achieved at the price of ecological stress.⁴⁶⁵ The government has not come up with effective policies for alleviating poverty and promoting rural development.⁴⁶⁶ Efforts should be taken to provide the rural population with income based on forest and tree resources by providing employment and by promoting equity and participation by local communities. The current forest policy, in so far as this specific objective is concerned, merely states:

Sustainably managed indigenous forests can supply goods and services to meet the demand of the growing population. These forests will be put under efficient and sustainable multipurpose conservation and water catchment functions together with the production of tangible benefits for forest adjacent communities. In doing so, forest principles will be employed to ensure application of science in forest management. Revenues accrued through commercial forest activities will support the management and conservation of indigenous forests.⁴⁶⁷

However, the *Report of the Government's TaskForce on the Conservation of the Mau Forests Complex* observed that:

excisions (degazettment) of forest reserves and continuous widespread encroachment have led to the destruction of approximately 25 per cent of the Mau forests complex over the last 15 years. 61,586.5 hectares of forests in the Mau forests complex were excised in 2001: Over 17,000 hectares were allocated due to expansion of group ranches beyond their adjudicated boundaries; and some 29,000 hectares have been encroached in the remaining protected forests. Such an extensive and ongoing destruction of a key natural asset of the country is a matter of national concern. It presents significant environmental and economic threats and underlies a breakdown of law and order, with potential for conflicts and larger ramifications for internal security.⁴⁶⁸

There are opportunities in the forest that can be used to generate revenue for

⁴⁶⁵See Republic of Kenya (2009) (note 292) 37.

⁴⁶⁶See Republic of Kenya (1994) (note 1)224. See also Lomborg B *The Sceptical Environmentalist*:

Measuring the Real State of the World (2001) 117. Lomborg has noted:

... people in developing countries often exploit their forests in a short term, unnecessarily injudicious fashion, a policy that will harm them in the long run. Exploitation is due both to individual poverty and to poor government finances. Both problems are really rooted in poor economic conditions and solutions therefore need to include solid economic growth in order to ensure that in future, developing countries will be able to afford the resources to establish a broader perspective on forest development.

⁴⁶⁷See Republic of Kenya (2005) (note 45) 4-5.

⁴⁶⁸See Republic of Kenya (2009) (note 292) 90.

the communities and at the same time conserve the forests.⁴⁶⁹ These opportunities revolve around nonwood forest products, ecotourism development, especially for private investors and organized groups, as well as butterfly farming and beekeeping for the forest adjacent communities.⁴⁷⁰

It can be observed that the Forests Act attempts to address this issue.⁴⁷¹ Efforts should, however, be made to ensure that organized groups exploit resources sustainably.⁴⁷²

The survival of the forests depends on a range of policy interventions to help the subsistence farmer to make an acceptable living in established farmlands outside the forests and, thus, to forestall his compulsion to head to the forests.⁴⁷³ This requires measures to promote efficient agriculture and agrarian reform, plus a variety of rural infrastructure measures, such as extension services, marketing networks and credit facilities.⁴⁷⁴ In short, the subsistence farmer constitutes a challenge that can be confronted only by restructuring of macro level policies on the part of the government.

The Kenya government has failed to develop proper poverty reduction strategies with the result that there has been excessive deforestation for communities for agriculture, human settlements, and also in search of food, fuel, poles and other forestry products.⁴⁷⁵ The government should develop strategies for sustainable development in the long term to ameliorate the negative effects of poverty, provide basic needs and meet people's aspirations for a better life. Economic, ecological and equity issues remain major concerns in the forestry development process which should be integrated in the process of development.⁴⁷⁶

⁴⁶⁹See Republic of Kenya (1999) (note 49) 93.

⁴⁷⁰Republic of Kenya (2005) (note 45) 3.

⁴⁷¹See Republic of Kenya (2005) (note 45)5. See also Republic of Kenya (1994) (note 1) 224.

⁴⁷²See sections 22, 30, 33, 36 and 40 of the Forests Act.

⁴⁷³See Myers N "The Anatomy of Environmental Action: The Case of Tropical Deforestation" in Hurrell A & Kingsbury B (eds) (1992) *International Politics of the Environment: Actors, Interests and Institutions* 430 447.

⁴⁷⁴Ibid.

⁴⁷⁵See Republic of Kenya (1999) (note 49) 8.

⁴⁷⁶Ibid 9.

The enforcement of sustainable forest management and conservation laws is impractical in view of poverty stricken populations who need to invade the forest for subsistence use.⁴⁷⁷ Kenya needs to embrace the approach of the Forest Principles which provide that conditions of urban and rural poverty that offer people no alternative but to turn to the forests should be addressed.⁴⁷⁸ Pressures outside the forest sector should be considered⁴⁷⁹ and environmental costs and benefits of forest exploitation should be incorporated into the market.⁴⁸⁰

4.3.16 INTEGRATION OF SUSTAINABLE FOREST MANAGEMENT, CONSERVATION AND DEVELOPMENT

No public institution can perform its functions without successive policy statements to direct its activities based on legislative directives and policy statements.⁴⁸¹ However, current policy and legislative documents indicate that the integration of sustainable forest management and conservation into development is far from being achieved. The objectives of Kenya's forest policy include reservation of land, protection, management on a sustained yield basis, promotion of recreation, conservation of flora and fauna and the promotion of research and education.⁴⁸² Sustainable forest management in Kenya involves a wide range of actors, including groups or communities, individuals, ministries, county governments and the state. In the search for sustainable forest management strategies, it is necessary to consider the roles of all the actors and the diversity of their interests. It is necessary that in preparing their national development plans, each sector or line ministry or department must include how, in their productive management for development, they will take environmental and sustainable forestry management and conservation into account.

⁴⁷⁷See for example Hardaway R & Dacres K R "Tropical Forest Conservation Legislation and Policy: Focus on South East Asia" (1994) *Environmental and Planning Law Journal* 419 428.

⁴⁷⁸See Principle 9 (b) of the Forest Principles

⁴⁷⁹Ibid, Principle 9 (c).

⁴⁸⁰Ibid, Principle 13 (c).

⁴⁸¹Smith F H "The Role of State Forestry in Managing and Conserving Ecological Systems" (1998) 5 *South African Journal of Environmental Law and Policy* 35.

⁴⁸²See Republic of Kenya (2005) (note 45)5.

Currently, forest areas are lost to agriculture or to direct clearance by those who prepare charcoal. In the latter case, an energy problem shows itself in the loss of tree species, vegetative cover and plants of agricultural and medicinal value.⁴⁸³ Besides, the process leads to increased soil erosion and its multiple environmental consequences.

The Forests Act mandates the Kenya Forest Service to manage forests on water catchment areas primarily for purposes of water and soil conservation, carbon sequestration and other environmental services.⁴⁸⁴ However, specific policies and statutes on water, wildlife and agriculture also have provisions on forest management. Some of these are contradictory. For example, the Water Act, 2002, requires committees to be formed to manage catchment areas under the Act. Most of these catchment areas are gazetted forest reserves.⁴⁸⁵ The Forests Act 2005, provides for the formation of committees at the conservancy level for such forests.⁴⁸⁶ There are no clear linkages in the working of these committees, whose compositions differ. Again, the Agriculture, Fisheries and Food Authority Act, promotes putting more land under agriculture, which may impact on forest areas, something that the Forests Act seeks to protect.⁴⁸⁷

Poor coordination in policy formulation and implementation is to blame for most of the sectoral policy conflicts. Most of the government ministries work as separate entities, not knowing what the others are doing. Most of the policies and laws are reviewed and formulated on a need basis and are driven by sectoral demands. In other cases, forest land allocations, including surveys, are made by the ministry of lands, in isolation from the ministry of environment, forest or natural resources, which is the custodian of forest resources.⁴⁸⁸

⁴⁸³Okidi C O & Mbote P K (2001) (note 19) 11.

⁴⁸⁴See section 5 (n) of the Act.

⁴⁸⁵See the Water Act 2002, Act No. 8 of 2002

⁴⁸⁶See in Forests Act, Act No. 7 of 2005, section 13.

⁴⁸⁷See World Bank (2007) (note 295) 52. Note that the new Act contains similar provisions as the Agriculture Act, Cap 318 (now repealed).

⁴⁸⁸See World Bank (2007) (note 295) 53.

Specific examples include forest land allocations in Nandi, Mau and Marakwet forests where the forest department was not aware of the extent of the settlement schemes because it was not involved or furnished with boundary plans.⁴⁸⁹

The Principle that environmental considerations should be built into development planning and management is captured fully in Kenya's policy documents. Sessional Paper No. 6 of 1999 on Environment and Development notes, for example, that:

planning and development policies affect the behaviour and attitudes of those involved in the development process. In the past, many projects and programmes were executed without due regard to their impacts on the environment. ...mining and quarrying activities also constitute a source of land degradation as well as water and air pollution, while open mines are a source of aesthetic degradation. ...loss of genetic resources often result from clearing of vegetation.⁴⁹⁰

The challenge for the country is to ensure that the requirement of integration of environment and development is operationalized, by legislating on it. There is no legal backing on this requirement as at the moment.⁴⁹¹

Kenya's policy of sustainable forest utilization is presented by the government as a pragmatic answer to the main concerns of conservation and development in situations where there are many pressures on forest resources and government finance.⁴⁹² The imperatives of development and conservation ought to be integrated. It has therefore been observed that a real solution to forest conservation must include state actions in family planning and programmes of social and economic justice.⁴⁹³

⁴⁸⁹See Republic of Kenya (2009) (note 292) 38.

⁴⁹⁰See Republic of Kenya (1999) (note 49) 6.

⁴⁹¹See Tanui J & Kinuthia I (2011) (note 5) 47.

⁴⁹²See Okidi C O (1996) (note 335) 225, See also, Duffy R *Killing for Conservation: Wildlife Policy in Zimbabwe* (2000) 19.

⁴⁹³See Hardaway R & Dacres K D (1994) (note 477) 420.

Kenyan law must recognize the relationship between environment and socio economic issues and that the objective of the law should be to achieve a level of forest use that allows for sustainable management and conservation of forest resources at the same time.⁴⁹⁴ The Forest Principles require that fiscal, trade, industrial, transportation and other policies and practices that may lead to forest degradation should be avoided,⁴⁹⁵ something that Kenya needs to adopt. Kenya needs to ensure that areas adjacent to forests should be managed together with forests in an integrative approach.⁴⁹⁶

One of the policy objectives identified by the *Kenya Forestry Master Plan* is to fulfill the agreed national obligations under international environmental and other forest related conventions and principles.⁴⁹⁷ Kenya signed the Convention on Biological Diversity on 4 June 1992 and ratified it on 26 July 1994. Kenya is thus a full member of the Conference of the Parties to the Convention. The implementation of our international obligations under the Convention on Biological Diversity is an essential ingredient in addressing many of the country's most pressing forest problems. The focus of the Convention on the need for the conservation of biological species, sustainable use of its components and the fair and equitable sharing of the benefits, are convincing elements which would contribute to the sustainable management and conservation of Kenya's forest resources.⁴⁹⁸

⁴⁹⁴See the Preamble to the Forest Principles, Paragraphs (b) and (c).

⁴⁹⁵See Principle 13 (e) of the Forest Principles.

⁴⁹⁶See Principle 8 (e) of the Forest Principles.

⁴⁹⁷Republic of Kenya (1994) (note1) 217. See also Aseka EM *Africa in the 21st Century* (1996)29.

Aseka has noted:

No nation, no matter how large or powerful, is able to manage its economy without reference to events elsewhere. It is the world economy which sets the pace and domestic economic policies are only formulated to strengthen and not to impair the country's international competitive position ...Unmanageable population growth and environmental deterioration are among some of the factors which may undermine that effectiveness

⁴⁹⁸See Republic of Kenya (2005) (note 45) 18.

It is noted that countries that have implemented this Convention have benefited greatly. As an example, Nepal has given utmost importance to *in situ* conservation of biological species through the establishment of protected areas. Nepal has utilized its forest resources in line with the provisions of the Convention, and this approach has substantially contributed to poverty alleviation, leading to higher socio-economic development.⁴⁹⁹

In its endeavour to operationalize some of the principles agreed upon at the 1992 United Nations Conference on Environment and Development, the Kenya Parliament enacted the Environmental Management and Coordination Act, to provide for the establishment of an appropriate legal and institutional framework for the management of the environment and related matters. Kenya's forestry law seeks to ensure that the provisions of any treaty, convention or international agreement to which Kenya is a party are implemented under the Forests Act.⁵⁰⁰ The Act requires the Kenya Forest Service to promote national interests in relation to international forest related conventions and principles.⁵⁰¹ The issue that arises is the extent to which the law enacted meets the requirements of the Convention on Biological Diversity. The new regime on the conservation of biological diversity requires the establishment of legislation that gives a legal framework for the administration and enforcement of the Convention.⁵⁰² Legislation should be developed to allow for the implementation of the Convention. Such law must demonstrate how local actors will participate in conservation.⁵⁰³

4.4 WEAKNESSES OF KENYA'S FORESTRY LAW

Forestry law is principally concerned with ensuring the sustainable utilization of forest resources. In an ideal setting, the utilization of forest resources

⁴⁹⁹See His Majesty's Government of Nepal *National Report on the Implementation of the Convention of Biological Diversity in Nepal* (1997) 9.

⁵⁰⁰See section 61 of the Forests Act. Note also, the provisions of Article 2 (6) of the Constitution of Kenya 2010 which provides that any treaty or convention ratified by Kenya shall form part of the law of Kenya.

⁵⁰¹See section 5 (o) of the Act.

⁵⁰²See for example Svarstad H " National Sovereignty and Genetic Resources" in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 145-54.

⁵⁰³*Ibid.*

should meet the principles of sustainability, inter- and intra-generational equity, public participation, protection and conservation. These principles will ensure that forest resources are utilized in a way and at a rate that does not lead to the long term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of the present and future generations.⁵⁰⁴ These principles strive for equity in the allocation of the benefits of development and decry short term resource exploitation which does not consider the long term costs of such exploitation. They advocate prudent utilization of forest resources. However, Kenya's forest law does not fully support the sustainability principle due to an array of weaknesses.

4.4.1 SECTORAL NATURE OF FORESTRY LAW

For a long time, Kenya did not have a comprehensive legislative framework for forest regulation. The law governing forestry matters is confined to the Forests Act, yet forests are closely related to other sectors of the economy such as water, agriculture, industry and wildlife which are governed by other statutes.⁵⁰⁵ The effective implementation of the Forests Act, demands that an integrated approach to sustainable forest management, incorporating long term cross sectoral approaches and harmonized policies and legislation, be implemented.⁵⁰⁶ Increasing environmental activism and governmental appreciation of the significance of a sound legislative framework for environmental regulation culminated in the enactment of the Environmental Management and Coordination Act (EMCA) of 1999.

On the whole, the Environmental Management and Coordination Act does not repeal the specific sectoral legislation, but instead seeks to regulate the various sectors.

⁵⁰⁴As per the Convention on Biological Diversity, Article 2.

⁵⁰⁵These areas are governed specifically by the Water Act, Act No. 8 of 2002; the Agriculture, Fisheries and Food Authority Act, Act No. 13 of 2013; the Factories Act, Cap 514, Laws of Kenya, (Revised edition 1990); and the Wildlife (Conservation and Management) Act, Cap 376 Laws of Kenya, (Revised edition 1985); see also Republic of Kenya (2005) (note 45) 35.

⁵⁰⁶See for example Mbote P K & Gullet P (1999) "Biological Diversity Management in Africa: Policy Perspectives" IELC Working Paper No. 1999-2 (1999)4.

The fact that environmental regulations are scattered across the various sectors impedes a coordinated approach to overall environmental management. Specific policies and statutes on water, wildlife and agriculture also have provisions for forest management. Some of these policies are contradictory, for example, policies for agriculture, forestry and wildlife. The Wildlife (Conservation and Management) Act 1985, for example, prohibits extractive uses of the forest, which the Forests Act permits.

Again, despite the enactment of the Environmental Management and Coordination Act in 1999, large forest areas have been excised in 2001, more particularly the Mau forests, despite objections by the public and non-governmental organizations that the Act should be enforced.⁵⁰⁷ There is inadequate capacity to enforce this law coupled with political fears to fully implement the law. Although the Act gives the Director General of the National Environment Management Authority tenure of office, it has been difficult for the office to be fully in charge.⁵⁰⁸

While the forestry legislation is fairly comprehensive, the same is spread over various Acts of Parliament, which are administered, without proper coordination, by a wide range of public bodies and individuals. Many of these agencies may not be aware of the power available to them nor of the significance of these powers for conservation.⁵⁰⁹ In some cases, there is lack of trained or motivated personnel to enforce the legislation.

It has also been observed that the sustainable management and conservation of forests is not a forest, environment, or water conservation issue alone. The

⁵⁰⁷On October 19, 2001, the Government went ahead with the excisions despite the objections raised and the public outcry. See Republic of Kenya (2009) (note 292) 37.

⁵⁰⁸See Republic of Kenya (2009) (note 292)20.

⁵⁰⁹These agencies are the Water Conservation and Pipeline Corporation, the Kenya Forest Service, the Kenya Wildlife Service, the National Environment Management Authority together with their respective parent ministries among many others.

management of this resource should be considered the responsibility of many government departments and laws.⁵¹⁰ For example; the Chiefs Authority Act 1998⁵¹¹ empowers the chiefs to issue orders in relation to forest areas, which orders should be enforced. Again, the Wildlife (Conservation and Management) Act, 1985 not only defines wildlife to include flora, but also empowers the minister to declare special sanctuaries, which normally include forests and wetlands. The Water Act, 2002,⁵¹² makes provision for the conservation, control and apportionment of water and incidental purposes, including forest conservation. The Agriculture, Fisheries and Food Authority Act focuses on the promotion and maintenance of sustainable agriculture, requires the conservation of the soil and vegetation, including indigenous forests.

The Forests Act has provided a sound basis for sustainable forest management, but it has proved deficient in that it concentrates on state forests, leaving out local authority and private forests. There is need for the sustainable management of all types of forests including those on state, trust and private land.⁵¹³ In effect, Kenya's forest law still tends to demonstrate a sectoral approach to environmental conservation. Little evidence exists of a cross sectoral approach or of mechanisms of multidisciplinary coordination and ecosystem management. While policies appear to be consistent, in that sustainable forest management and conservation is identified as a priority, in practice, forest land is disappearing rapidly, often as a result of government actions. Forests continue to be excised. The chief problem regarding excisions has been traced to a range of many problems. The report of the Government's Taskforce on the Conservation of the Mau Forests Complex has observed:

Over the years, there has been extensive degradation of the Mau forests complex. Such degradation resulted from encroachment and excisions as well as illegal forest reserve extraction. The degradation is a major threat to the water resources, biological diversity and livelihoods of forest dependent communities, leading to conflicts over resources and land.

⁵¹⁰See Republic of Kenya (2009) (note 292) 14.

⁵¹¹See the Chiefs Authority Act Cap 128 Laws of Kenya Section 10. The impact of the new constitutional dispensation on this issue, is yet to be felt.

⁵¹²See the Preamble to the Water Act Act No. 8 of 2002, Laws of Kenya.

⁵¹³See Republic of Kenya *National Development Plan 2002-2008* (2002) 125.

The degradation is attributed to political interference, weak law enforcement and management capacities of mandated institutions, high dependence on the forest by the communities and inadequate governance systems.⁵¹⁴

The checks provided by the Wildlife (Conservation and Management) Act, that Parliamentary approval be obtained for such excisions,⁵¹⁵ and now by the Forest Act 2005,⁵¹⁶ are worth reflecting on when considering the issue of excisions from forest reserves. This is beneficial to the sustainable management and conservation of forests and biological diversity as ^{few} national parks have lost their protected status due to the requirement for parliamentary approval which has made it difficult to alter the status or boundaries of forests. Many processes that are detrimental to the sustainable management and conservation of forest resources are occurring on a daily basis. Some of these, such as forest encroachment and the excision of forests are known to occur, yet little is done to address these threats to the conservation of forests.⁵¹⁷

The Environmental Management and Co-ordination Act now requires the National Environment Management Authority to develop, issue and implement regulations, procedures, guidelines and measures for the sustainable use of forests and to control the harvesting of forests and any natural resources.⁵¹⁸ On its part, the Forests Act requires that where it is intended to vary the boundaries of a state or a local authority forest, or to declare that a forest shall cease to be a state or local authority forest, then a notice shall be forwarded to the Kenya Forest Service.⁵¹⁹ The Kenya Forest Service shall recommend such proposal only after confirming that the proposal shall not endanger any rare, threatened or endangered species, or does not adversely affect its value as a water catchment area and does not prejudice biodiversity conservation, cultural site protection of the forest or its use for educational, recreational, health or research purposes, and that such proposal has been subjected to an independent environmental impact assessment.⁵²⁰

⁵¹⁴See Republic of Kenya (2009) (note 292) 20.

⁵¹⁵See section 7 of the Wildlife (Conservation and Management) Act, Cap 376 Laws of Kenya.

⁵¹⁶See the Forests Act 2005 section 28(2).

⁵¹⁷See IUCN (1996) (note 148) 6.

⁵¹⁸See section 44 of the Act.

⁵¹⁹See the Forests Act 2005, section 28 (1).

⁵²⁰See the Forests Act 2005 section 28 (2) (ii).

The Act also provides for public consultations calling for submissions, comments and objections from the public.⁵²¹ Unfortunately, the law does not say exactly what the person or public entity receiving the objections will do, should the objections be overwhelming.⁵²² Parliamentary approval has also been made part of the process for authorizing an excision to make it much more difficult to change forest land to any other use.⁵²³

The enactment of the Environmental Management and Coordination Act and the Forests Act as well as the creation of the National Environment Management Authority and the Kenya forest service, should contribute to transparency, effectiveness and efficiency of all environmental laws and forestry laws in particular. What should matter is not the form, but the substance of forestry law. Again, what is required is coordination between the National Environment Management Authority and the lead agencies as an alternative to full integration. Various decision-making authorities should take each others decisions into account as they address forest management and conservation issues. There is no doubt that sectoral differences have hampered the effectiveness of sustainable forest management, but again, a full integration of all environmental laws may be difficult to accomplish given the special requirements of each sector.

In the long run, a comprehensive review of all the laws of Kenya touching on biodiversity, forestry, agriculture and land use would have to be undertaken. The review should emphasize the harmonization of the existing laws so that there is less overlap in the law and institutional mandates particularly as regards the Environmental Management and Coordination Act and the Forests Act.

4.4.2 COMMUNITY INTERESTS

Kenya's forest law does not adequately cover the needs of local communities. This leads to conflict which may result in forest degradation or loss of forest

⁵²¹ See the Forests Act 2005 section 28 (2) (ii) (d).

⁵²² See UNESCO & the Republic of Kenya (2002) (note 199) 3.

⁵²³ See the Forest Act 2005 section 28.

areas. The current practice of excluding other forms of land use from state forests may not be sustainable in the long run since it does not allow for integration of farmers in forest areas.⁵²⁴ In this respect, the state should devolve ownership, control and management of forest resources to individuals, groups and County Governments. This will increase the self interest of local communities and provide them with an incentive to conserve the resources.⁵²⁵

Policies and laws that deny communities access to forest resources in the name of conservation should be ignored. Again, policies that seek to teach communities how to live with resources in terms that they do not understand, should also be ignored. Kenya still has much to do in terms of involving local communities, non-governmental organizations, women and other stakeholders in the planning, development and the implementation of forestry programmes. Devolution of management of forests to lower levels of government or local community groups is widely considered essential for good governance, equitable distribution of benefits, and sustainable forest resource management. However, the implementation of these schemes has often resulted in the local elites benefiting more than the ordinary people, thus creating conflict in local communities.⁵²⁶ The result has been unsustainable forest management and social disruption. Issues of gender equality in access to forest resources have often not been adequately addressed when forest management has been decentralized. Such matters need to be on board in any decentralization or devolution process to ensure that systems for equitable benefit sharing and sustainable management are put in place.⁵²⁷

The impact of decentralization under the Constitution of Kenya 2010, is yet to be seen. The Constitution provides for devolved government and the creation

⁵²⁴See for example Republic of Kenya (2009) (note 68) 3, which states:

To manage these resources sustainably, the government shall ... review the gazettement of forests and protected areas to foster the realization of their multiple values and ensure that they are protected for their ecosystem values and not merely to physically exclude human activities.

⁵²⁵See Situma FDP (2003) (note 22) 204; See also, UNEP & Kenya Wildlife Fund Trustees (1988) (note 318) 8.

⁵²⁶See IUCN (1995) (note 3) 13.

⁵²⁷See UNEP and Kenya Wildlife Fund Trustees (1988) (note 318) 8.

of counties as the basic governing units of the country.⁵²⁸ The operationalization of county governments will have direct implications for the management of natural resources generally, and especially forest resources. The Constitution clearly provides that one of the objects of devolution is to recognize the right of counties to manage their own affairs and to further their development. Devolution must further ensure the equitable sharing of national and local resources throughout Kenya.⁵²⁹ It is hoped that these provisions will impact positively on the sustainable management of forests under the devolved county governments.

It is important to note that the enactment of laws on forestry must be based on local circumstances and that the legislation so enacted, must be enforceable through the establishment of workable controls and mechanisms. The law should be management oriented and provide practical mechanisms for using forest resources wisely.

The approach of the law to keep the people out of the forest and failing to provide for modern methods of sustainable forest management which allow for more distributive notions of governance and use, will defeat any long term efforts aimed at sustainable management and conservation.

Good forest governance includes forest management principles that support progress from mere legality to sustainable participation of forest stakeholders with special support to poor communities and indigenous people.

4.4.3 EMPHASIS ON COMMAND AND CONTROL MEASURES

With respect to the criminal law framework of the law, in addition to problems of inadequate policing to detect detractors, the penalties prescribed by most of the statutes are inadequate. This state of affairs defeats the role of criminal law as a tool for the conservation of forest resources. It has been observed that:

⁵²⁸ See Constitution of Kenya 2010, Article 174.

⁵²⁹ Ibid Article 174 (d).

there is an economic rationale for using criminal law sanctions, because an effectively enforced criminal statute raises the cost of certain kinds of conduct and, therefore, encourages compliance with laws and regulations that would otherwise be largely ignored. This must, however, be accompanied by effective mechanisms for apprehending offenders and deterrent punishment.⁵³⁰

For example, failure to comply with the terms and conditions of a licence issued under the Forests Act, is a criminal offence.⁵³¹

While a licence must be issued for all forms of interference with a forest, the penalty for failing to comply with its terms is a fine of a mere fifty thousand Kenyan shillings, (about US dollars 595), or ten thousand Kenya shillings (about US dollars 119), as the case may be.⁵³² The use of the criminal law framework can only be justified on grounds of its deterrent capacity. Low fine levels give the impression that instances could arise in which breaching the law could be more beneficial than obeying it. These penalties should be heavy enough so as to act as a sufficient deterrent against forest degradation.

In the long term, a participatory and an incentive based legal framework may contribute more towards sensitizing the population to the imperatives of sustainable forest development, than such command and control legislative machinery. It is also clear that avenues for revenue generation from the penalties exacted do exist. These revenues should be placed in the Forest Management and Conservation Fund that should support research, community forest programmes and conservation measures.⁵³³ However, this source is not recognised by the Forests Act as one of the sources of revenue for the Fund.⁵³⁴ The Forests Act should specifically provide for revenue generation, not only through forest based industries, ecotourism and environmental services, but also through the fines imposed by courts of law

⁵³⁰See Mbote P K "The Use of Criminal Law in Enforcing Environmental Law" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 110 113.

⁵³¹See section 52 (1) of the Forests Act.

⁵³²See sections 54 and 57 of the Forests Act, 2005.

⁵³³See section 18 of the Forests Act 2005.

⁵³⁴This will require an amendment of the Forests Act, section 19.

on offenders of the laws relating to forestry.⁵³⁵

The law should also require that persons who cause the degradation of forests should pay for the abatement of the injuries caused by their acts. The Forests Act does not emphasize the issue of forest restoration orders. By adopting suitable afforestation techniques, the biological diversity of degraded forest systems can be restored.

This will also enhance forest productivity levels and increase the percentage of tree cover.⁵³⁶ The use of criminal penalties without requiring the offender to repair the damage he has caused, serves very little purpose in sustainable forest management. This is because it is often difficult to identify anyone suffering sufficiently as a result of the destruction of a forest, wetland or species, and again, it is difficult to assess the amount of damage involved in restoring them to their pre-existing state.⁵³⁷ The measure of the fine imposed should ideally be the full cost of restoration of the forest. Forestry law should require that the damage occasioned, should be fully recovered in the fine imposed, without necessarily causing any prejudice to the imposition of any other civil penalties.

In addition to compensating the Kenya Forest Service or the owner of the forest by the payment of a fine or forfeiting forest produce, tools and implements used in the commission of an offence, the Forests Act should make provision for the restoration of the forest.⁵³⁸ Indonesia's experience with

⁵³⁵ See Misra C M & Dubey P "Conservation of Biodiversity in Degraded Ecosystems" in Kotwal P C & Banerjee S (eds) (2009) *Biodiversity Conservation in Managed Forests and Protected Areas* 138 141; See Kenya Forest Service (2009) (note 79) 32.

⁵³⁶ See Kenya Forest Service (2009) (note 79) 32.

⁵³⁷ See for example Guilmin F B (1986) (note 239) 123.

⁵³⁸ The series of compensation remedies provided for in section 55 of the Forests Act 2005 do not capture the issue of forest restoration orders even though section 108 of the Environmental Management and Coordination Act, 1999, provides clearly that the National Environment Management Authority may issue and serve on any person an environmental restoration order, requiring that person to restore the environment as near as possible to the state it was before the harm was occasioned. It is therefore clear that the need to have an integrated and comprehensive approach to the management of forest resources will call for the harmonization of all laws, policies and regulations dealing with the environment to accord with the framework established by the Environmental Management and Coordination Act 1999. See also, Republic of Kenya *Sessional Paper No. 3 of 1999 on National Land Policy* (2009)32.

respect to forest restoration is instructive here. In Indonesia, the government controls and manages the nation's forests. It grants applicants concessions in the form of legal rights to exploit forest resources. The concessionaires are required to regenerate or replant the forests in their concession areas and contribute to the Reforestation Fund, the equivalent of US dollars 10 per cubic metre of logs produced.⁵³⁹

The system has been partly successful, though a criticism has been raised to the effect that the forests regenerated were not indigenous forests; they were reforested with a monoculture plantation. The lands should have been reforested with native species.⁵⁴⁰

4.4.4 CONSTITUTIONAL FRAMEWORK FOR SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

The Constitution of Kenya, 1963, did not have any direct environmental or forestry protection provisions. However, it had provided for the compulsory acquisition of property for, among other things, public health, town and country planning or the development or utilization of property so as to promote the public benefit.⁵⁴¹ Further, the Constitution permitted the government to compulsorily acquire private property if it was in a dangerous state or was injurious to the health of human beings, animals or plants. Again, the government could compulsorily acquire land for the purposes of conserving soil or other natural resources. Thus, the power of compulsory acquisition provided an important instrument for environmental management.

This power has, however, not been used for the purposes of environmental conservation. The new policy dimension should require a reconceptualization of private property rights as incorporating a conservation ethic, and a residual power of the state to qualify such rights, where private land owners are in

⁵³⁹See Bowles I *et al* "Economic Incentives and Legal Tools for Private Sector Conservation" (1998) 8 *Duke Environmental Law and Policy Forum* 209 229.

⁵⁴⁰*Ibid* 229.

⁵⁴¹See Constitution of Kenya, 1963, section 75.

default.⁵⁴² In addition, the constitutional protection given to private property creates an impediment to prohibiting land owners from taking or destroying plants on their own lands.⁵⁴³

Kenya has now properly entrenched environmental protection provisions in its Constitution.⁵⁴⁴ This confirms the importance of environmental matters in the sustainable management and conservation of forest resources. Sustainable forest management and conservation is now part of routine governmental obligation.⁵⁴⁵ The Constitution has established principles that ensure that every person in Kenya is entitled to a clean and healthy environment and has a duty to safeguard and enhance the environment.⁵⁴⁶ This includes access to public elements or segments of the environment for recreational, educational, health, spiritual and cultural purposes. The Constitution also provides for any person who alleges that his or her entitlement to a clean and healthy environment is being or is likely to be contravened, to apply to a court for redress.⁵⁴⁷

The court, in determining such environmental matters, shall be guided by the principles of sustainable development. It must put into account the principles of public participation in the development of policies, plans and processes for the sustainable management of the environment, the cultural and social principles traditionally applied by any community in Kenya for the management of the environment or natural resources, and the principle of international cooperation in the management of environmental resources

⁵⁴²See Ogolla D B & Mugabe J (1996) (note 193) 108.

⁵⁴³ See for example Guilmin F B (1986) (note 239) 125.

⁵⁴⁴See Constitution of Kenya 2010, the Preamble and Article 42.

⁵⁴⁵See Ojwang J B "Kenya's Place in International Environmental Law Initiatives" (1993) 2 *The Advocate* 11.

⁵⁴⁶See Article 42 of the Constitution of Kenya, 2010.

⁵⁴⁷See Article 70 of the Constitution of Kenya 2010.

shared by two or more states, inter- and intra-generational equity, the polluter pays principle and the precautionary principle.⁵⁴⁸

Indeed, the courts have affirmed the Environmental Management and Coordination Act's liberal approach to legal standing in environmental matters. Thus, in the case of *Rodgers Muema Nzioka & others v. Tiomin Kenya Ltd*,⁵⁴⁹ Hayanga J, stated that in cases where a person seeks to vindicate his or her right to a clean and healthy environment, he or she does not need to demonstrate a right or interest in the land alleged to be invaded. The judge was of the opinion that since environmental degradation affects the public at large, the balance of convenience test should be applied with a view to considering the convenience of the public as opposed to that of the parties to the suit. This position is now vindicated by the Constitution of Kenya 2010, which provides that where the right to a clean and healthy environment is being enforced, one does not need to demonstrate that any person has incurred any loss or suffered any injury.⁵⁵⁰

4.4.5 LACK OF A PROPER INCENTIVE BASED SYSTEM

There are gaps in the law relating to sustainable forest management and conservation. Forest conservation is development oriented and, therefore, there is a necessity for fiscal or general economic incentives to utilize the resources in a sustainable manner.⁵⁵¹ Mobilization of funds to provide economic incentives for compliance with forest standards, or the promotion of conservation goals, is lacking. Only a complete and creative legislative review would deal with such gaps sufficiently. In the area of farm forestry, for example, the major challenge is the lack of appropriate incentives to support production of wood as well as the inadequate funding to support stakeholders including the provision of technical support by the Kenya Forest Service.

⁵⁴⁸ See the Environmental Management and Coordination Act, section 3 (5).

⁵⁴⁹ High Court of Kenya at Mombasa, Civil Case No. 97 of 2001 (unreported).

⁵⁵⁰ See Constitution of Kenya 2010, Article 70 (3).

⁵⁵¹ See Okidi C O & Mbote P K (2001) (note 19) 89. It is argued here, that in so far as the law is concerned, it should provide for the national economic and planning system to take into account the precautionary principle, by integrating environmental and economic issues.

The technique of the law in the pursuit of rational forest use is markedly traditional in character. The law emphasizes the use of prohibitions, zoning, restrictions, licensing and a permit system to control undesirable uses or unauthorized change in use. Such a system is dependent on proper supervision and a clear appreciation of policy on the part of those enforcing it.⁵⁵² However, there is no guarantee that the person responsible in enforcing the law will always be aware of the policy objective of instituting such a system of control. What is required are clear partnerships between the private and public sectors to stimulate growth in the forestry sector. Lack of clearly defined roles for the public and the private sectors has, in the past, hindered the development of the forestry sector in Kenya. The grant of concessions to organized groups of the public to utilize forest resources, will ensure that the concession area is protected from destruction and encroachment and also ensure the sustainable management and conservation of biodiversity while meeting local needs, cultural and recreational use.⁵⁵³

Payments for the climate regulation services of forests through reducing forest degradation and deforestation, offer the greatest opportunity for Kenya and landholders to capture the value of forest ecosystem services. Payment for ecosystem services provides valuable lessons for developing effective and equitable sustainable forest management mechanisms.

4.4.6 POOR ENFORCEMENT OF FOREST RULES AND STANDARDS

Kenya's forestry law vests the powers of the enforcement of forest law on the Kenya Forest Service officials who have not always acted to enforce the law with the result that forest degradation has persisted. It has been noted by the Government's Taskforce on the Conservation of the Mau Forests Complex, that the reason for the degradation of the Mau forests was that the laws were either abused, or disregarded altogether in the practice of illegal and irregular

⁵⁵²See Ojwang J B *Environmental Law and Constitutional Order* Ecopolicy Series 3 (1993)11.
⁵⁵³*Ibid.*

allocation of the Mau Forests Complex.⁵⁵⁴ Part V of the Forests Act, provides for certain powers to be exercised by officers of the Kenya Forest Service in the enforcement of the provisions of the Act and regulates the use of those powers. Additionally, the Act provides for offences and for the right of citizens to take court action to restrain breaches of the Act.

However, the implementation of the law is hindered by inadequate capacity and political will. Penalties for forest offenders have been lenient, contributing to illegal forest activities. Wass has suggested that penalties should be revised so that they exceed the potential gains from committing offences.⁵⁵⁵ Additionally, the details of the fines and other penalties should be defined in the schedules rather than in the main Acts, in order to facilitate timely amendments.⁵⁵⁶ There is also no adequate coordination between the police, the Kenya Forest Service and the Kenya Wildlife Service being the agencies charged with enforcing the laws and regulations governing sustainable forest management and conservation. Whereas the Forests Act confers the Kenya Forest Service with the power of prosecuting offenders, this power has not been exercised by the Service.⁵⁵⁷ The Kenya Forest Service will need to employ a specialized cadre of officials to prosecute its own cases in court, rather than make use of the Kenya police. This will avoid uncoordinated efforts to curb forest destruction and track illicit forest products.

In forests under serious threat from inadequate law enforcement, operations should be improved through more effective law enforcement methods focussing on mobile units and the market place.⁵⁵⁸ The involvement of local communities in regulating forest use should be increased, possibly with a system of honorary forest guards.

A cadre of trained prosecutors should be built up, within the Kenya Forest Service and the Kenya Wildlife Service, specializing on the enforcement of the

⁵⁵⁴See Republic of Kenya (2009) (note 292) 44. See also Part IV of the Forests Act, 2005, and the first and second schedules to the Act.

⁵⁵⁵See Wass P (1995) (note 12) 114.

⁵⁵⁶*ibid.*

⁵⁵⁷See section 56 of the Forests Act, Act No. 7 of 2005.

⁵⁵⁸See Wass P (ed) (1994) (note 12) 115.

provisions of the Forests Act and the Wildlife (Conservation and Management) Act.⁵⁵⁹ Forest management has previously emphasized utilization with little regard to sustainability, particularly with regard to indigenous forests.⁵⁶⁰ The forests are inadequately managed. A general challenge is the acquisition of information and creation of standards that will enable forest management to be monitored overtime. Similarly, valuation of resources and products has not reflected the whole range of associated production and replacement costs and the benefits foregone, yet this is key to providing the necessary data for rational resource allocation and planning in the forestry sector.⁵⁶¹

The *Kenya Forestry Master Plan* was developed in 1994 by a project that ran for two years to come up with a management plan for forests.⁵⁶² It documents on information from study reports carried by the Kenya Forestry Master Plan Project from 1991 to 1994. The project identified some of the gaps in the management of forests. The Master Plan noted that, on average, about 5000 hectares of gazetted forests are lost annually by way of officially endorsed excisions, directly contravening the 1968 forest policy, which stated that no more forest land should be lost.⁵⁶³ It further noted that there were about 3300 households which became squatters when the shamba system⁵⁶⁴ was abolished, another 4000 traditional forest dwellers and 530,000 households living at a distance of less than five kilometers from indigenous forests and many of them have extended their cultivation into adjacent forest reserves. It proposed social justice to be exercised to allow people to maintain their traditional way of life. It also noted that there was need to protect the

⁵⁵⁹ Ibid.

⁵⁶⁰ See Republic of Kenya (2005) (note 45) 3.

⁵⁶¹ Ibid.

⁵⁶² Republic of Kenya (1994) (note 1) 4.

⁵⁶³ See Republic of Kenya *Kenya Forestry Beyond 2000: An Overview of the Kenya Forestry Master Plan* (1994) 22.

⁵⁶⁴ In the shamba system, farmers were given pieces of forest areas to cultivate while taking care of planted tree seedlings. They could occupy the area until the canopy closed, or to a maximum of three years. The system was discontinued in 2003 following claims that plots were sold to prospective cultivators and that staff in the forest department, colluded in these activities. Shamba is a Swahili word meaning farm.

remaining forest from illegal exploitation and a need to ensure recovery in various types of indigenous forests. It proposed the need to ensure that in forests in national parks, recovery to the natural climax was desired.⁵⁶⁵ The Master Plan proposed various remedies to improve Kenya's forests. It proposed development programmes as guidelines for the forestry sector for the next twenty-five years from its inception in 1994.

These programmes include identification of the main problems being excisions, illegal encroachment and over exploitation. Proposed activities include resource surveys, assessment, monitoring, zoning, operational management plans, conservation and regulation of forest use.⁵⁶⁶

The application of plans into the field of forest conservation, demands that there should be recognition for protecting the physical and natural environment. The intention is to encourage healthy and sustainable communities with the express aim of ensuring sustainable development and to make planning an important tool for future generations.⁵⁶⁷ Serious gaps still exist with regard to ensuring that this requirement of the law is fully enforced.

It is important to note however, that the Forest Principles require that any forest conservation plans that are developed, should consider the relationship between the conservation, management and sustainable development of forests, and aspects of production, consumption, recycling and the final disposal of forest products.⁵⁶⁸ This is lacking in Kenya's system of use of forest resources as what happens in practice in terms of the use of forest resources is different from the policy regime and the law.⁵⁶⁹ The Forest Principles promote the use of planted forests and permanent agricultural crops to meet the demands of energy, food, employment and industrial raw

⁵⁶⁵Republic of Kenya (2000) (note 563) 22.

⁵⁶⁶Republic of Kenya (1994) (note 1) 4.

⁵⁶⁷See for instance McEldowney J F & McEldowney S *Environmental Law* (2010) 208.

⁵⁶⁸See Principle 6 (b) of the Forest Principles.

⁵⁶⁹See Republic of Kenya (2009) (note 68)20.

materials and to relieve pressure on indigenous forests.⁵⁷⁰ Another strategy is greening the world through reforestation, and restoration of degraded and deforested areas.⁵⁷¹

The law has made provision for the establishment of protected areas and buffer zones and has enjoined the National Environment Management Authority to issue guidelines for land use methods that are compatible with the conservation of biological diversity.⁵⁷²

The Forests Act has also made provision for the establishment and maintenance of arboreta, miniforests or recreational parks for the non consumptive use of persons residing within a local authority's jurisdiction by that local authority.⁵⁷³ Further, the law empowers the President, on the advice of the minister, by order published in the Gazette, to declare any tree or family of tree species to be protected in the whole country or in specific areas of the country.⁵⁷⁴ Any person who fells, cuts, damages or removes, trades in, exports or attempts to export any protected trees, species or family of trees or regeneration thereof or abets in the commission of any such act, commits an offence.⁵⁷⁵

Commentators have noted, however, that *in situ* conservation techniques may succeed to protect species and habitats in the short run, but may do incalculable harm to conservation in the long run by alienating local people.⁵⁷⁶ Forests, national parks and sanctuaries have been set up, and the essential element being the exclusion of the people who live near the forest or national park area. It is not surprising therefore, that local people have often turned hostile to forest and wildlife conservation attempts or become passive onlookers while the government struggles to conserve the area. It is now

⁵⁷⁰See Principle 6 (d) of the Forest Principles.

⁵⁷¹See Principle 8 (a) of the Forest Principles.

⁵⁷²See section 30 of the Forests Act 2005.

⁵⁷³See the Forests Act, section 30. See also section 34 (1) thereof.

⁵⁷⁴See section 34 (1) and 34 (2) of the Forests Act 2005 Laws of Kenya.

⁵⁷⁵See section 22 of the Act.

⁵⁷⁶See for example Kothari A "Beyond the Biodiversity Convention: A View from India" in Sanchez V & Juma C (eds) (1994) *Biodiplomacy: Genetic Resources and International Relations* 66 76.

recognized that this 'guns and guards' approach is not in the interest of sustainable forest management and conservation.⁵⁷⁷

4.4.7 LACK OF AWARENESS

There is a high degree of ignorance of environmental matters in Kenya. This lack of awareness is a great challenge to litigation in forestry matters.⁵⁷⁸ Citizens will only take to court matters of public interest when they are environmentally conscious. The success of the litigation process also requires a judiciary that is alert. Unfortunately, the levels of awareness among these key sectors are inadequately low and needs to be addressed if public interest forest litigation is to be successful. It is for this reason that Kabeberi has observed:

If any legislation is to be enforced successfully, it is important to create awareness regarding the need for sound environmental management. For instance, different incentives can be given to those persons or companies which undertake to conserve the environment and environmental education must be offered at all levels of education within the society if we are to have a conservation minded population.⁵⁷⁹

The majority of local communities neighbouring forests appreciate the benefits from forests. Devolution of management to conservancies and forest associations solves this problem. The challenge is to organize communities and to build their capacities to enable them to manage and protect the forests; and also have a sense of ownership in them. The Kenya Forest Service should promote the empowerment of forest associations and communities on the control and sustainable management of forests. This is because an enlightened citizenry will vigorously assert their rights and protect their forests, environment and natural resources.⁵⁸⁰ This must, of course, be supported by encouraging public interest litigation which require finances for research, materials, court fees and legal representation, which calls for a downward

⁵⁷⁷ Ibid.

⁵⁷⁸ See MakOloo M O *et al Public Interest Environmental Litigation in Kenya: Prospects and Challenges* (2007) 46.

⁵⁷⁹ See Kabeberi J W "Policies and Laws Affecting the Environment" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 287 334.

⁵⁸⁰ See Sifuna N W "The Role of Courts in the Implementation of Environmental Law in Kenya" (2005)1 *The Law Society of Kenya Journal* 75 90.

review of court fees in relation to environmental matters so as to allow for as many people as possible to access justice.⁵⁸¹

4.4.8 FAILURE TO EVALUATE FOREST OUTPUTS

One area of priority activity to enable Kenya's forests to make their full contribution to development, is a full scope evaluation of all goods and services available, namely, genetic resources, watershed systems, climate controls, the entire spectrum of non wood products and environmental functions.⁵⁸²

While Kenyan forests are much more than timber producing lands, our market place mechanisms tend to deny this by highlighting what can be readily bought and sold, with disregard for the multiple benefits that cannot be bought by consumers' money, such as watersheds.⁵⁸³ This is precisely the case with respect to the forests' function in support of climate stability. Precisely because climate benefits carry no price tag, they have been entirely overlooked in economic planning for forests in Kenya.

There is therefore an urgent need to ensure that ecological requirements are incorporated and made mandatory by law in the planning and development process. Kenya must also focus on the carbon sequestration role of forests. Kenya must also ensure that sustainable forest management and conservation activities are pursued.

Increasing the availability of forests for carbon sequestration also implies that more carbon market traders will come into play, boost competition and propel sustainable forest management and conservation activities.

Investment in greening the forest sector should consider sustainable forest management, payment for environmental services, reducing forest degradation and deforestation, increase the area of planted forests

⁵⁸¹ Ibid.

⁵⁸² See Myers N (1992) (note 473) 430 448.

⁵⁸³ Ibid.

and intensify the protection of existing forests.⁵⁸⁴ Investing in the ecological infrastructure of forests, protecting forests, maintaining biodiversity and reducing carbon emissions require scrutiny and enforcement of the law.⁵⁸⁵ Subsidies, fiscal instruments and other means to get the price right for forest ecosystem services should also be covered, ensuring that externalities are reflected in payments for forest services.

4.4.9 PRINCIPLES OF ENVIRONMENTAL LAW AS APPLIED TO SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

The Environmental Management and Coordination Act requires that the High Court shall be guided by the principles of sustainable development when exercising its jurisdiction under the Act.⁵⁸⁶ These principles include the principle of public participation in the development of policies, plans and processes for the sustainable management of environmental resources shared by two or more states, the principles of inter- and intra-generational equity, the polluter pays principle, and the precautionary principle.⁵⁸⁷

These principles, as applied to sustainable forest management and conservation, ensure that all existing indigenous forest reserves on public land remain reserved, and that participatory forest management ensures that local communities and local stakeholders, participate in the management of indigenous forests. The principles also ensure, through the 'user pays principle', that users of benefits derived from indigenous forests, contribute to their sustainable management and conservation.⁵⁸⁸ This will enhance the sustainable management of indigenous forests. The Forests Act does not make any specific reference to the principles of environmental law in the sustainable management of forest resources. Section 41 of the Act, however, provides that the management of all indigenous forests and woodlands shall

⁵⁸⁴See UNEP *Towards A Green Economy: Pathways to Sustainable Development and Poverty Eradication* (2011) 189.

⁵⁸⁵Ibid

⁵⁸⁶See the Environmental Management and Coordination Act, section 3 (5) thereof.

⁵⁸⁷Ibid section 3(5) (a) (c) (d) (e) and (f).

⁵⁸⁸See Ludeki J V *et al* (2006) (note 18) 15.

be on a sustainable basis for the purposes of water, soil and biodiversity conservation, cultural use and heritage, recreation and tourism, carbon sequestration, environmental services, education, research purposes and habitat for wildlife in terrestrial forests and fisheries in mangrove forests.

The High Court has had occasion to elaborate on these principles, in the case of *Peter K. Waweru v Republic*.⁵⁸⁹ In this case, some 23 persons who had built septic tanks that were discharging waste sewage into the Kiserian river, were charged with criminal offences under the Public Health Act 1972.⁵⁹⁰ They successfully challenged their prosecution on the grounds that the selection of only a number of the offenders for prosecution, was discriminatory and contrary to the Constitution of Kenya, 1963. The Court noted, however, that there was need to take measures to install proper sewage treatment facilities in order to avoid the risk of environmental pollution occurring as a result of the unplanned developments that were coming up in the area. The court noted that intergenerational equity, which involves equality between present and future generations, demands the balancing of the economic rights of the town dwellers, who were polluting the river, with the rights of the downstream dwellers, to use unpolluted water.

The court emphasized that the need to formulate and maintain ecologically sustainable development, gives rise to the equally important principle of intra-generational equity, because the water table and river courses affected are held in trust by the present generation for future generations. The court was of the view that with respect to land resources, forests, wetlands and waterways, the government and its agencies are under a public trust to manage them in a way that maintains a proper balance between the economic benefits of development, with the needs of a clean environment.

⁵⁸⁹See *Peter K. Waweru V. R* High Court of Kenya at Nairobi, Miscellaneous Civil Application No. 118 of 2004.

⁵⁹⁰Cap 242 Laws of Kenya (Revised edition 1972).

The court ordered that no further development should be undertaken without satisfying all the environmental and health requirements, thus emphasizing the critical importance of an environmental impact assessment to the conservation of fauna and flora. The court, in being guided by the principles of sustainable development while interpreting the right to life as enshrined in section 71 of the Constitution of Kenya 1963, stated thus:

In our view, the right to life is not just a matter of keeping body and soul together because in this modern age, that right could be threatened by many things including the environment. The right to a clean environment is primary to all creatures including man.⁵⁹¹

The court observed that although the case did not call for an authoritative determination of environmental concerns, it found it necessary to compare the affected lives downstream the Kiserian river with the economic activities of the Kiserian town developers, who were polluting the environment and therefore denying them a healthy life.⁵⁹²

In a bid to ensure that the citizens of the locality enjoy a clean and healthy environment, the court ordered the National Environment Management Authority to stop further development in the area until such time that sanitation facilities had been afforded to the citizenry. The court applied section 3 of the Environmental Management and Coordination Act, in particular, the precautionary principle, to halt further developments.

It is clear that a lot of the new developments in international environmental law are slowly finding their way into Kenyan forest legislation. Kenya has implemented a number of the requirements of the Convention on Biological Diversity, such as the implementation of programs, the development of action plans and the promulgation of the necessary legislation, including the provision to have the environment protected for the benefit of present and future generations.⁵⁹³ These are important steps towards achieving national and international goals, but which also bring many challenges that still have to be addressed.

⁵⁹¹*Peter K Waweru v. R* (2004) (note 589) 7.

⁵⁹²Ibid 8.

⁵⁹³See Constitution of Kenya 2010, Article 42.

The Environmental Management and Coordination Act provides that where Kenya is a party to an international treaty, convention or agreement, whether bilateral or multilateral, concerning the management of the environment, the National Environment Management Authority shall initiate proposals for consideration by the Attorney General for purposes of giving effect to such treaty, convention or agreement in Kenya or for enabling Kenya to perform the obligations under such treaty, convention or agreement.⁵⁹⁴ The Authority is further enjoined to identify other appropriate measures necessary for the national implementation of such treaty, convention or agreement.⁵⁹⁵

In so far the Forests Act is concerned, the Act provides that:

the provisions of this Act shall be carried out in accordance with any treaty, convention or international agreement concerning forests or forest resources to which Kenya is a party.⁵⁹⁶

Kenya's current forest policy notes that the Convention on Biological Diversity impacts on forestry.⁵⁹⁷ The Policy appreciates its positive impact on sustainable forest management and pledges to play an active role in its development and implementation. The Policy observes that the global implications of forests should therefore be considered in accordance with the convention and other instruments to which the country has an interest.⁵⁹⁸

Contrary to these observations of the Policy, the reality is that no action has been taken by the Government to conserve Kenya's forests. Kenya's forests have continued to be impacted by extensive illegal, irregular and ill planned

⁵⁹⁴Section 124 (a) of the Act.

⁵⁹⁵Section 124 (b) of the Act. It may be noted here, that some of the forests in Kenya such as the Mau forests complex straddle the frontiers of many countries including Tanzania and the Democratic Republic of the Congo. International agreements on their management would be essential. In addition, Kenya would forego some benefits of developing these forests whereas the rest of the world will be deriving important values from the conservation and protection of Kenyan forest reserves. International financing for their establishment, conservation and management would be essential. For this argument, see Pearce D *et al* (eds) *Sustainable Development: Economics and Environment in the Third World* (1990) 205. Kenya and Uganda have recognised the need for a regional approach in ensuring the sustainable management of the Mt. Elgon ecosystem. Joint management plans for community conservation on both sides of the ecosystem have been implemented. See UNESCO & Republic of Kenya (2002) (note 199) 10.

⁵⁹⁶See section 61 of the Forests Act 2005.

⁵⁹⁷See Republic of Kenya (2005) (note 45)18.

⁵⁹⁸*Ibid.*

settlements as well as illegal forest resources extraction.⁵⁹⁹ Again, there has been no respect for international obligations.⁶⁰⁰

The Government's Task Force on the Conservation of the Mau Forests Complex observed:

The destruction of the Mau Forests Complex is a violation of several multilateral agreements to which Kenya is a party. These include the East African Community Treaty, the African Convention on the Conservation of Nature and Natural Resources, the Ramsar Convention on Wetlands, the Convention on Biological Diversity, the Convention on Migratory Species and the United Nations Framework Convention on Climate Change.⁶⁰¹

Kenya is frequently an articulate participant in conference diplomacy and this has been the case, particularly in environmental matters.⁶⁰² Indeed, the articulation by Kenyan diplomats of environmental matters led to the United Nations Environment Programme being located in Nairobi. This trend should be revitalized if forest resources are to be effectively conserved.

Kenya shares forest areas such as Mt. Elgon and Kilimanjaro, and Wildlife reserves such as Amboseli and Serengeti with other countries. Kenya's laws should provide requirements for at least prior notification where a nationally initiated activity is likely to impact on the common forest. In the process, Kenya will make a contribution to the development of international environmental law, while protecting its own national interests.⁶⁰³

4.5 SUMMARY

It is clear that the problem of sustainable forest management in Kenya is

⁵⁹⁹ Republic of Kenya (2009) (note 8) 16.

⁶⁰⁰ *Ibid.* 17. This implies that there should be an exploration of mechanisms to improve coordination of Convention related activities. There should be an integration of national reporting requirements. Parties should be able to file and periodically update national reports and action plans. There should also be an overarching legal instrument or forum that would review and verify the attainment of global environmental goals in an integrated manner. For this and more insights on this issue, see Watson TR *et al Protecting Our Planet: Securing Our Future* (1998).

⁶⁰¹ See Republic of Kenya (2009) (note 292) 17. The Preamble to the Forests Act, 2005, recognises that forests play a vital role in protecting water catchments and moderating climate by absorbing greenhouse gases. However, the Act does not specifically provide for how this particular benefit can be factored into the national income, so that resources are provided for forest conservation, commensurate with the importance of the resource.

⁶⁰² See Okidi C O and Mbote P K (2021) (note 19) 189.

⁶⁰³ See Okidi C O (1996) (note 284) 233.

highly complex and can only be addressed by a range of actions targeted at the policy framework, strengthening the legal regime, removing market distortions, engaging the market actors, full valuation and sharing of forest benefits through market and other mechanisms. Improvements in forest law enforcement and governance are critical to capturing the full potential of Kenya's forests in a sustainable manner. Combating large scale criminal activities requires forest law enforcement so that criminals are apprehended and punished.

Kenya has many policies and laws in support of sustainable forest management and conservation. The country has a firm foundation on which the sustainable management and conservation of its forests could be achieved. However, the Forests Act 2005 and other forestry related legislation emphasize the domination of the state in the practice of forestry. As forestry concern is now a multi-sectoral issue, it is clear that legal reform will be needed. Some of the factors necessitating revision of the law are the ascendancy of biodiversity to a position of prime importance internationally. This is evidenced by the coming into force of a plethora of international instruments for its conservation and sustainable use, particularly, the Convention on Biological Diversity and the promulgation of the Constitution of Kenya 2010. The continued inability of government agencies to integrate, harmonize and enforce land use policies and legislation intended to conserve forests and other natural resources, also calls for a new examination of the law.

Kenya's forest management and conservation policy is characterized by segmentation. A vast majority of the pieces of legislation on forestry which are currently used to implement the policy cut across different laws and institutions.⁶⁰⁴

⁶⁰⁴Indeed, the government of Kenya has recently appreciated this dangerous situation in Republic of Kenya (2009) (note 68) 32-33 where it is stated:

To conserve and manage the environment, measures on conservation and sustainable management, ecosystem protection, urban environment management, environmental assessment and audits, shall be undertaken. The government shall ...create an effective institutional framework and capacity to implement international conventions especially touching on access to land based natural resources.

Although the Environmental Management and Coordination Act was enacted with the primary objective of improving the coordination and management of the environment, legislation of relevant laws and regulations for stricter enforcement still poses a challenge.⁶⁰⁵ The government itself has taken note on this position by stating that:

In recognition of the importance of good governance in the environment, ...the government has instituted a number of legal and institutional reforms. ... However, the major challenge relates to low enforcement to the provisions of the Act. This has been occasioned by inadequate institutional capacity to oversee its implementation and low level of environmental education in the country.⁶⁰⁶

For Kenya to reverse this unsustainable development of its forest resource base, it will need to take three important steps. First, as argued in this thesis, improvements in the valuation of forest products are required to ensure that forest markets and policies incorporate the full costs and benefits of forest resource exploitation. Valuation and accounting for forest depreciation must be fully integrated into Kenya's economic development policy and strategy. As already observed, the most undervalued components of Kenya's forest capital, are its ecosystems and the myriad goods and services that Kenya's forests provide.⁶⁰⁷

Secondly, the role of Kenya's forest policies in controlling excessive forest degradation and deforestation, requires the implementation of effective and appropriate information and incentives. Better information on the state of the forests, their ecosystems and biodiversity is essential for proper decision making. The use of market based instruments, the creation of markets and the application of regulatory measures will allow for proper decision making in relation to the forests. Encouraging more effective property rights regimes, good forest governance structures and support for local communities, is also critical. At the same time, the Kenya government will need to continue to protect critical forest ecosystems and emphasize on

⁶⁰⁵ See Situma FDP (2008) (note 101).

⁶⁰⁶ See Republic of Kenya (2008) (note 47) 109.

⁶⁰⁷ See World Bank *Forests SourceBook: Practical Guidance for Sustaining Forests in Development Cooperation* (2008) 85.

overall biodiversity conservation and legislate new incentive mechanisms such as payment for ecosystem services and foster knowledge necessary for improving forest restoration.⁶⁰⁸

Thirdly, further and more widespread improvement on forest governance to allow for wider stakeholder participation in the allocation of forest resources will need to be addressed. The approach to be adopted must be a carrots and sticks strategy. Skills and training in sustainable forest management and conservation as well as the provision of economic incentives must go hand in hand with tightening laws and enforcing the law against illegal logging, harvesting and degradation of the forests.⁶⁰⁹ Kenya's protected forest areas remain an important option for preventing the permanent loss of forest cover, critical ecosystems and biodiversity. The emergent payment for ecosystem services and reducing deforestation and degradation (REDD+) schemes are innovative avenues for the sustainable management and conservation of Kenya's forests. Continuing demand for forest land, particularly for agriculture, is likely to fuel further deforestation.

Policy measures beyond the forestry sector, such as agricultural subsidies are as important as policies within the forest sector. In effect therefore, innovative policies that exploit synergies between related sectors are valuable in the fight against deforestation.⁶¹⁰

The country needs to intensify the conservation of forests in a sustainable manner along with the other strategic natural resources, including the water towers, wildlife sanctuaries and marine ecosystems. Other strategies to achieve the goals of sustainable forest management and conservation must include the implementation of compensation schemes for environmental services, including carbon markets and the promotion of the use of biotechnology in forest conservation.⁶¹¹

⁶⁰⁸ See Republic of Kenya (2005) (note 8) 17.

⁶⁰⁹ See Kenya Forest Service (2009) (note 79) 12.

⁶¹⁰ See World Bank (2008) (note 607) 86.

⁶¹¹ See McEldowney J F & McEldowney S (2010) (note 567) 177.

Ideally, all forestry laws should be combined into a single Forestry Act. Under such a system, every chapter and section would be linked to all the others, which makes it easier to interpret and apply the law. Unfortunately, in the case of Kenya, there are a number of laws affecting sustainable forestry management and conservation. This makes legislation on forestry fragmented in nature and, hence, the need to review and consolidate all the various pieces of legislation into a coherent forestry law.⁶¹² This calls for coordination of all players in the forestry sector so that an integrated approach to conservation is implemented.

Kenya's Forests Act, though enacted in 2005, has failed to consolidate and harmonize the law in the manner required of a comprehensive forestry law. One feature of recent developments in many areas of environmental law has been the realization that a legal response based on discrete compartments cannot work effectively in the face of the interdependence of the environment.⁶¹³ Kenya is, therefore, still a long way from achieving a properly integrated policy and law which can actually deliver sustainable forest development.

Kenya, having ratified the Convention on Biological Diversity, should come up with more convincing legislation, if it is to comply with the provisions of the Convention. Chapter five will be devoted to presenting options for legal reform. It concludes the study and highlights some recommendations for possible directions in the reform of Kenya's forestry law.

⁶¹²This issue is discussed in Part 4.2.4 above.

⁶¹³See Republic of Kenya (2009) (note 68)33.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

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5.1 INTRODUCTION

The study sought to assess the effectiveness of Kenya's forest law as a mechanism for the sustainable management and conservation of forest resources. The study acknowledged that forests are an important component in sustainable development, and examines the contribution of the law in that development.

Forest management and conservation are long term investments in the sense that there should be a fair distribution of the benefits of forest resources so as to meet the needs of not only the present generation, but also those of future generations. This is geared to reduce poverty, as a world in which poverty is endemic will always be prone to ecological catastrophes. This study has revealed that the main goal of sustainable forest management and conservation is the prudent management of the forest resource and the enhancement of the

resource base, which alone can ensure that the elimination of poverty is permanent.¹ Forests are important because of their contribution to the livelihood of the poor, the potential they offer for sustainable economic development and the essential global environmental services they provide. As this study has shown in chapter two, the causes of forest depletion are an incredibly complex mix of economic, political, social, and ecological factors.² In recent years, Kenya has experienced irreversible degradation of forests that undermines prospects for long term economic growth and socio-political stability.³ Although constituting a small percentage of Kenya's land area, forests have been depleted or lost at a rate of thousands of hectares per year.⁴

It is incumbent to realize that without a properly managed environment, Kenya will have no hope of achieving her commitments on the development front, and the many global and regional obligations will not be achieved since a poor environment leads to further poverty and the more the poverty, the more environmental degradation is witnessed.⁵ Like all other resources, Kenya's forests have undergone considerable stress over the past century. They have

¹See Bhargava V "Sustaining the World's Forests: Managing Competing Demands for Vital Resource" in Bhargava V (ed) (2006) *Global Issues for Global Citizens: An Introduction to Key Development Challenges* 305-323.

²Seymour F J & Mugabe J "Kenya" in Seymour F J et al (2000) *The Right Conditions: The World Bank, Structural Adjustment and Forest Policy Reform* 114.

³See Republic of Kenya *Sessional Paper No. 9 of 2005 on Forest Policy* (2005)3.

⁴See Republic of Kenya *Kenya Vision 2030: First Medium Term Plan 2008 -2012* (2008) 105. The Plan puts Kenya's forest cover at 2% of the Country's total area.

⁵See Angwenyi A N "An Overview of the Environmental Management and Coordination Act" in Okidi C O et al (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 142-182.

been over-exploited and now demand more respect, in terms of their sustainable management and conservation. Indeed, Kenyans are now calling for a new attitude based on a more indepth knowledge of the forest ecosystem and its renewable capacities.⁶

Sustainable forest development is a fundamental objective of the *World Conservation Strategy*⁷ which is aimed at maintaining the essential ecological processes and life support systems upon which humanity's survival and development depends, preserving the genetic diversity and the very future of the ecosystem on which many rural communities rely. The Kenyan economy is largely based on forestry which plays an essential role in water conservation, serves as wildlife habitats and climate controls, and is the focus of many tourist related activities.

The next generation of Kenyans may lose the forests unless attitudes towards using the forests sustainably are instituted. This study maintains that a proper legal and policy regime relating to forests can contribute to sustainable conservation and management of Kenya's forests. By incorporating the principles of sustainable forest conservation, such as the precautionary principle, the principle of environmental impact assessment, public participation in decision making, inter- and intra-generational equity, the legal and policy regime can effectively give substantive meaning to the concept of sustainable development.⁸

The material reviewed in chapter three has shown that

⁶See Republic of Kenya *Sessional Paper No. 3 of 2009 on National Land Policy* (2009) 25. The policy calls for a range of actions to preserve forest resources by calling for sustainable management, provision of incentives to communities, establishment of legal frameworks that incorporate access to resources, as well as sustainable use of forest resources by all stakeholders.

⁷See IUCN *et al World Conservation Strategy: Living Resource Conservation for Sustainable Development* (1980) 2.

⁸See Marong A B M "From Rio to Johannesburg: Reflections on the Role of International Legal Norms in Sustainable Development" (2003)16 *The Georgetown International Environmental Law Review* 21.

new and emerging principles, such as sustainable development, have a significant effect in the formulation of forestry law and policy.

While Kenya's rapid rate of population growth has contributed to environmental degradation, economic policies and political factors have also played a significant part.⁹ Government policies have often failed to reflect the full economic value of forest resource exploitation and property rights regimes have also presented perverse incentives.¹⁰ A careful analysis of these factors, however, shows that they are a result of survival strategies by the local people. Poverty is fast driving the majority of the people into the forests in attempts to eke out a living.

The study has confirmed in chapter three, that law has a role to play in the sustainable management and conservation of forest resources. It has shown how new techniques, such as environmental impact assessments, have been adopted to take greater account of forestry and environmental issues. It has shown how the regulatory regime operates to ensure greater focus on conservation of forests as well as allow for greater openness in the management of forests.

As the discussion in chapter three and four has shown, the pursuit of economic systems that emphasize endless growth, will clearly lead to unsustainable use of Kenya's forest resources.

But it must be noted that in the long run, the economic health of the Kenyan nation is dependent on ecological health.¹¹ The economy cannot thrive in the face of the total devastation of our forests and the environment. It is therefore,

⁹See Republic of Kenya *Kenya Vision 2030: First Medium Term Plan 2008-2012* (2008) (note 3) 105.

¹⁰See Republic of Kenya *Sessional Paper No.3 of 2009 on National Land Policy 2009* (2009) (note 5)24.

¹¹ See for example Miller M A L "Protecting the Global Commons: Sustainable Development in the 21st Century" in Snarr M & Snarr D (eds) (2002) *Introducing Global Issues* 275 290.

necessary that we make the economic, social, and cultural changes that will support sustainable development at the community, national and global levels.

The general conclusion that this study has drawn, is that forest depletion is a complex problem. To blame the farming systems, expansion of agriculture, commercialization of forest products, poverty and population growth as being the principal causes of forest depletion is to do injustice to the people and fail to appreciate the problem itself. These are only subproblems of the much wider concept of development and are reinforced by trends in public policies. However, they may be spread out into several fundamental causes that lead to specific alternative land uses, ending in the loss or degradation of forests.

When it comes to offering specific legal solutions to the particular causes of deforestation, as chapters three and four have illustrated, the challenge that arises is how to disentangle ourselves from these skewed patterns of development. Perhaps a more important lesson to learn is that there is a great need to alter our use of forest resources to a more sustainable level. The UN World Commission on Environment and Development has defined sustainable development as development which meets the needs of the present without compromising the ability of future generations to meet their own needs.¹² The goal is to ensure that while basic human needs are being met now, we do not jeopardize the ability of future generations to meet their needs. For Kenya, this means finding alternatives to many of the development techniques that are currently depleting forest resources. This might result in finding inherent value in standing forests, rather than valuing deforested plots of land.

5.2 CONCLUSIONS

This study set out to determine how the law attempts to create a balance between the needs of society in relation to forestry and the wider requirements of

¹²See World Commission on Environment and Development *Our Common Future* (1987) 40.

sustainable management and conservation of forest resources. It set out to determine the strategies that can be applied by the law in order to ensure sustainable management and conservation of forest resources. The study set out to determine the effectiveness of Kenya's forest law as an instrument for the conservation of forest resources. As can be seen from the details raised in chapters three and four, it is clear that Kenya has a long way to go to achieve sustainable management and conservation of its forest resources. We now turn to the more specific conclusions drawn from this study.

5.2.1 KENYA'S FOREST LAW SHOULD CONFORM TO KENYA'S INTERNATIONAL LEGAL OBLIGATIONS TO ASSURE EQUITABLE ECONOMIC AND SOCIAL DEVELOPMENT

Kenya's forests support most of the country's wild animals, which are the foundation of tourism and contribute to climatic variations and rainfall, and is crucial for agricultural production.¹³

The material reviewed in chapter two illustrates that forests are also a major source of energy in rural areas where they are the main source of wood fuel. They conserve biological diversity, water and soil. They supply products and generate income and revenue for individuals, communities, the government, the private sector and the nation as a whole. Forest loss has negative impacts on agriculture and the tourism industry which are vital to the national economy. Excessive deforestation also upsets the carbon dioxide balance in the atmosphere, which results in adverse climatic changes, such as global warming.

The total effect of these is loss of biodiversity and productive potential of the land.

¹³See Mugabe J & Marekia N "Biodiversity Management in Kenya" in Mugabe J & Clark N (eds) (1998) *Managing Biodiversity: National Systems of Conservation and Innovation in Africa* 93.

The discussion in chapter two illustrates that deforestation and the loss of diverse species will rob Kenya of its biological richness which will undermine long term ecological security and the country's economic potential. Sustainable forest management and conservation will require a commitment to conservation, so that the forests can continue to provide a continuous flow of goods and services with little ecological disruption.¹⁴ A sustained shift towards ecologically rational policies in Kenya towards the forests should be closely related to the country's structural, economic and social problems, as the numerous needs associated with forest products, such as timber, fuelwood and catchment protection, will need a properly integrated policy which can actually deliver sustainable development. Forest problems should, therefore, be taken into account in many areas of policy to ensure that the forests are conserved.¹⁵ The greatest challenge is to ensure that the balance between long term forestry sustainability and short term economic imperatives is properly restored.

The discussion in chapters three and four reveals that international environmental law has an array of instruments which can be applied to ensure sustainable forest management and conservation in Kenya. The study has shown that Kenya is a party to many international environmental agreements which are relevant to the design of national forest legislation. When a revision of the Forests Act 2005 is considered, this should be taken as an opportunity to translate international forest-related treaty obligations into national legislation. In many respects, Kenya's Forests Act 2005, is not in compliance with Kenya's international legal obligations. The implementation of international treaty obligations should be taken as an opportunity for Kenya to improve the quality of its national legislation.

¹⁴See Cooper R N "The World Economic Climate" in Mathews J T (ed) (1991) *Preserving the Global Environment: The Challenge of Shared Leadership* 227 329.

¹⁵Hurrell A "Brazil and the International Politics of Amazonian Deforestation" in Hurrell L A & Kingsbury B (eds) (1992) *The International Politics of the Environment: Actors, Interests and Institutions* 398 428.

The Convention on Biological Diversity recognizes that the protection of biodiversity must be integrated with private land management.¹⁶ Strategies to address forest conservation on private land should be implemented and should use the full array of policy and legal instruments that are available.

Legislation relating to sustainable forest development should be drafted with the principles of the Convention on Biological Diversity in mind and should address some of the legal issues such as entrenching community involvement by widening the rules on *locus standi* and applying alternative remedies to fines and imprisonment.¹⁷ As Oposa observes, because law is an agreement, the participants must fully understand and appreciate the reason behind, and the need for the law. Compliance is possible when those whose conduct is sought to be regulated or modified understand the reason for the law and appreciate its value. But at the same time, the incentives and discentives or the carrot and stick approach must be applied by the law to assure compliance.¹⁸

The Convention on Biological Diversity requires states to protect the variety of species, habitats and ecosystems within their boundaries and to assist such measures in other countries. The impact of forest clearance and sustainable forestry management practices on habitats means that any policies to secure biodiversity must take forestry into account.¹⁹ Concerns have already been raised over climate change in terms of attempts to reduce the emission of greenhouse gases, yet climate change issues are linked to forestry through the role of growing trees as carbon sinks and trapping air borne carbon dioxide. This

¹⁶See for example Faure M & Niessen N "Towards Effective Environmental Legislation in Indonesia" in Faure M & Niessen N (2006) *Environmental Law In Development: Lessons From the Indonesian Experience* 273.

¹⁷See Herbert C "Developing Environmental Legislation for Sustainable Development in Small Island States: Some Legal Considerations from the Commonwealth Caribbean" (1996) 22 *Commonwealth Law Bulletin* 1208 1209.

¹⁸See Oposa A A "Legal marketing of Environmental law" (1996) 275.

¹⁹See Reid C T (1997) "The Changing Pattern of Environmental Regulation: British Forestry and the Environmental Agenda" (1997)9 *Journal of Environmental Law* 22. There is need to ensure that as new policy instruments come up, for example, Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy* (2009), their provisions are transformed into law.

issue has not been fully captured in Kenya's forestry law, policy and practice.

Again, for Kenya as a country to be seen to implement international forestry related obligations, it is necessary that all treaties and conventions ratified in this area should be enacted into national law in conformity with the provisions of the conventions or treaties in question.²⁰ It is in this way that international forest related law can influence Kenya's law. In Kenya's case, it is possible to conclude that the Convention on Biological Diversity has not influenced its national law in practice, since the destruction of forests in Kenya has been noted to be a violation of various multilateral environmental agreements to which Kenya is a party.²¹ It is clear that environmental issues and, by extension, forestry issues, have now become matters of international concern.

Chapters two, three and four have shown that the manner in which a nation treats its own environment has ceased to be a matter of internal sovereignty only. This is because of the realization of the global scale of some environmental problems such as climate change, as well as a moral and political stand point which identifies environmental issues as the ones which are of universal concern in much the same way that human rights transcend national concerns.²²

²⁰See for example Fombad C M "The Effectiveness of Environmental Measures in Cameroun's 1994 Law Laying Down Forestry, Wildlife and Fisheries Regulations" (1997) 9 *Journal of Environmental Law* 41-48.

²¹See Republic of Kenya (2009) *Report of the Government's Taskforce on the Conservation of the Mau Forests Complex* (2009) 17. It is noted that the Constitution of Kenya 2010 provides, in its Article 2 (6), that any treaty or convention ratified by Kenya, shall form part of the law of Kenya, but it is necessary that Kenya must take steps, either to enact or amend its national laws in conformity with the provisions of such conventions

²²See Reid C T (1997) (note 18) 29.

5.2.2 EQUITY IS A PREREQUISITE TO SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

As chapters three and four have shown, the law provides a wide range of methods and techniques for conserving forest lands that are important for forest conservation and are endangered by development. It has become clear that protective land use controls cannot come exclusively from police power regulations or by outright purchase through the use of the power of eminent domain.²³

The law may provide for legal mechanisms that allow land owners to ensure conservation on their lands in the long term.²⁴ Legislation may provide for conservation easements, and establish guidelines for conservation agreements in which landowners contract with government agencies or conservation organizations to manage their land so as to conserve forests, biodiversity, natural habitats, or lands of cultural or aesthetic significance.²⁵ The law, therefore, has a role to play in the sustainable management and conservation of forest resources. But, as Faure and Niessen have observed, law does not provide answers to all the shortcomings in the forest protection scheme. Instead, profound cultural and institutional changes are demanded.²⁶

Measuring the impact of legal and institutional structures and processes on the environment is not always easy, since many factors, other than law, are involved in land-use decision making. The only guarantee that the legal rules will have

²³Roe C E "Innovative Techniques to Preserve Rural Land Resources" (1976) 5 *Environmental Affairs* 419.

²⁴See for example Farrier D "Conserving Biodiversity on Private Land: Incentives for Management or Compensation for Lost Expectations?" (1995) 19*The Harvard Environmental Law Review* 303 405. The content of Farrier's observations is that an effective strategy for forest conservation requires active management and restoration of ecosystems. Conservation of forests cannot be achieved by command and control regulations alone.

²⁵See Marong ABM (2003) (note 8) 21 76.

²⁶See Faure M & Niessen N (note 16) 263.

effect is if they become integrated into the social and cultural psyche of those who manage environmental resources on a day to day basis.²⁷ The core function of forestry law is the protection of the threshold of sustainability. From a purely legal perspective, effective legal solutions are unlikely to be found in conventional legal doctrines. What is called for is the development and implementation of policies and programmes that will mediate between the process of economic transformation and the demands for national exploitation of forest resources and sound environmental management. The current forest conservation approaches are largely sector based and neglect the essential economic and social value associated with forests.²⁸

Equity is an essential and important prerequisite to sustainable forest development since both poverty and affluence have been associated with unsustainable practices.²⁹ But while the affluent can choose to live sustainably, the poor and the landless may be constrained to make unsustainable choices, such as cutting down biodiverse forests to grow food crops. A sustainable strategy for the conservation of forests will have to be based on an awareness of how the environment is viewed and used in different parts of the world. In many third world countries, including Kenya, earning a livelihood involves the destruction of natural resources, such as soil, forests and minerals, to a greater extent than is the case in the industrialized world. Nyangena has observed thus:

Kenya faces serious environmental and resource challenges. The most urgent class of problems are those in which environmental degradation and poverty occur together. The effects of both problems, commonly reinforce each other. Therefore, environmental degradation leads to decreased access to water, fuelwood and other important materials. The shortsightedness caused by poverty, may compel poor people into unsustainable practices that worsen resource degradation.³⁰

²⁷See Okoth Ogeto HWO "Managing the Agrarian Sector for Agrarian Sustainability" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 222-232.

²⁸See Republic of Kenya (2008) (note 4) 108.

²⁹See Miller M A L (2002) (note 11) 275-289.

³⁰See Nyangena W "Economic Issues for Environmental and Resource Management in Kenya" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 88.

The challenge can be surmounted if a more sustainable economic path can be pursued. The greatest challenge today is to restore the balance between long term environmental sustainability and short term economic imperatives.

Interventions that improve the sustainable management of forest resources and those that reduces inequality are desirable. In other words, policies to reverse forest degradation and deforestation should not be pursued in isolation from socio economic policies. There is need to harmonize forest management and development goals so as to ensure sustainability.³¹

Ongoing policy, legal, regulatory, environment, land and wildlife review efforts provide an opportunity to introduce measures aimed at reducing inequality.

Opportunities to strengthen the integration of sustainable forest management and inequality concerns into overall economic and social development policy should be pursued. This should be achieved though a multisector framework to ensure that sustainable forest management and conservation are an integral part of societal decisionmaking.³² Measures that would reduce inequality include those aimed at addressing skewed access and use rights to the forests, corruption and poor governance in general.

5.2.3 KENYA'S FORESTRY LAW IS NOT EFFECTIVE TO ACHIEVE THE DEMANDS OF SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

Kenya's law for the sustainable management and conservation of forest resources is not comprehensive in scope and its adequacy and efficacy are not satisfactory. Kenya's answer to forest depletion concerns has come in a series of laws, rules and regulations covering the environment, forests, land use, wildlife,

³¹See Kenya Institute of Public Policy Research and Analysis (KIPPRA) *Inequality, Poverty and the Environment in Kenya* (2009) 64.

³²Ibid.

water resources and pollution.³³ As the analysis in chapter four has demonstrated, there is a wide divergence between what the law states or appears to state and what obtains in reality. An overview of the law will show that although it makes reference to forest conservation, protection and rational management of resources in several provisions, these are usually brief and instead, more detailed on matters of their exploitation. The law turns out to be a very poor tool for forest conservation purposes.

The most important matters which would have indicated in unequivocal terms the commitment to the conservation and sustainable management of forest resources are expressly reserved for subsequent regulation by ministerial orders and other similar stipulations.³⁴ In this manner, the real issues at stake in sustainable forest management and conservation have been taken out of the public scrutiny of both parliamentarians and ordinary citizens, into the exclusive domain of ministers.³⁵ This unsatisfactory position will continue to prevail as there is no mechanism in place to ensure that such subsidiary legislation is actually enacted and implemented or whether it is effective or satisfactory. In the absence of proper public participation, sustainable forest management and conservation are not achievable. The sustainable use of forest resources requires the government to support decision making by communities of forest users and promote the sustainable utilization of forests and ecosystems.

³³See for example the Environmental Management and Coordination Act, Act No. 8 of 1999; Forests Act 2005, Act No.7 2005; the Physical Planning Act 1996, Cap 286 Laws of Kenya; the Agriculture, Fisheries and Food Authority Act, Act No. 13 of 2013; the Wildlife (Conservation and Management) Act (Revised edition 1985), Cap 376 Laws of Kenya; the Water Act 2002, Act No. 8 of 2002.

³⁴See for example the matters raised in section 59 of the Forests Act 2005. These matters are weighty as they include harvesting, use and occupation of state forests, cultivation, grazing, issue of licences and permits, regulation of entry into state forests, regulation of felling and removal of produce from state forests. These are the issues responsible for deforestation, yet the same are being left to the discretion of the minister.

³⁵See for example Fombad C M (1997) (note 19) 41.

There are three other limitations of the forest legislation in Kenya which explain the ineffectiveness of the law. First, there is little intersectoral coordination. This is, no doubt, a result of the separate character of the legal regimes and the conception of their purpose to be that of resource management and exploitation. The lack of coordination means, in turn, that conflicting objectives are sometimes pursued in the name of forest conservation. Thus, clearing of rural or forest land to make way for decent urban housing, may be pursued while observing the provisions of the Physical Planning Act, but this may affect conservation efforts in forestry and wildlife under the Forests Act, or the Wildlife (Conservation and Management) Act.³⁶

Again, most of the activities in the agricultural sector are governed by policies on food. Policies and objectives are elaborated in the National Food Policy, being Sessional Paper No. 2 of 1994³⁷ on National Food Policy, which is an extension of Sessional Paper No. 4 of 1981.³⁸ The primary objectives of the National Food Policy are self sufficiency in food and food security at the household level, as well as the generation of raw materials for domestic industries.³⁹ While the National Food Policy outlines the necessary strategy to achieve these aims, it does so in the recognition that high potential land is extremely limited and the population continues to increase.

The Policy states that no further destruction of forests should occur in light of their ecological importance.⁴⁰ However, the Policy, in stating so, refers only to state forests and it is clear that forest patches on private land may be targeted for conversion to agriculture.

³⁶See The World Bank *Strategic Environmental Assessment of the Kenya Forests Act 2005* (2005) 26.

³⁷See Republic of Kenya *Sessional Paper No.2 of 1994 on National Food Policy (1994)*.

³⁸See Republic of Kenya *Sessional Paper No. 4 of 1981 on National Food Policy (1981)*.

³⁹See Republic of Kenya (1994) (note 37) 2.

⁴⁰See Republic of Kenya (1981) (note 38) 3.

A further conflict is witnessed between the Forests Act, 2005 and the Wildlife (Conservation and Management) Act 1985. The latter does not allow for the use of natural resources within national parks, which the former does. It is important to note that there are forests gazetted as both national parks and forest reserves, thus being double gazetted.⁴¹

The effect of this is that there has been incessant fights between the Kenya Forest Service and the Kenya Wildlife Service, due to the overlapping mandate between the two institutions in respect of the areas gazetted as both forest reserves and national parks. The fact that the Wildlife (Conservation and Management) Act does not allow for the use of natural resources within national parks, while the Forests Act does, has caused the local communities to perceive that the Kenya Wildlife Service is more interested in wildlife conservation than in the security of the people from wild animals.

Secondly, there is an over-fragmentation of environmental responsibility. While forests on public land are the responsibility of the minister in charge of forest resources, it is only the minister in charge of agriculture who may control soil erosion and require afforestation on private land, which is a forestry function. Fragmentation of responsibility leads to conflict in jurisdiction, delay in action and confusion as to what the content of policy objectives ought to be. Given this fragmentation, coordination of policy is difficult. One of the toughest problems in dealing with forestry is the degree to which it is part of an integrated system, a delicate whole in which a change in any one part affects all the others.⁴² This makes it difficult to set priorities for sustainable forest management and conservation.

⁴¹See World Bank (2005) (note 36) 46.

⁴²See for example Mitchell B "Beating Conflict and Uncertainty in Resource Management and Development" in Mitchell B (ed) (1991) *Resource Management and Development: Addressing Conflict and Uncertainty* 284.

Nevertheless, environmental problems do not easily lend themselves to any degree of ranking. It is important that forestry conservation is done in an efficient and equitable manner. Forest conservation is a multifaceted issue that does not recognize political and institutional boundaries.

One of the main observations in chapter four is that it will be necessary for all government agencies to work together to address these issues. A collaborative and cooperative approach among all agencies concerned is needed, more particularly with the sharing of profits and expertise. There are different institutions involved in forest management in Kenya, the most important being the ministries of Forestry and Environment, the Kenya Wildlife Service, the Kenya Forest Service and the National Environment Management Authority.

In most cases, these institutions do not work collectively, resulting in duplication of efforts and institutional conflicts.⁴³

Thirdly, there is no provision for the incorporation of forest policy into the legal process. There is no guarantee that if and when policy changes, some specified measures are to be used in ensuring its incorporation into law. New policies that are adopted must be transformed into legal instruments and implemented as law.⁴⁴ Forest conservation agencies, more particularly, the Kenya Forest Service, should be under an obligation to achieve a reasonable balance between sustainable forest management and conservation and the enhancement of the natural beauty and the conservation of flora and fauna. It is significant that forest and wildlife considerations take a pre-eminent role in forest conservation rather than timber production.⁴⁵ Emphasis must be put on sustainability of forest resources rather than on economic interests.

⁴³See World Bank (2005) (note 36) 53.

⁴⁴See Reid C T (1997) (note 19) 22.

⁴⁵See Hardaway R & Dacres R D "Tropical Forest Legislation and Policy: Focus on South East Asia" (1994) 11 *Environmental and Planning Law Journal* 419 428.

The current forest law and policy should also focus more on the sustainable management of the existing forests, and the expansion of tree cover to increase the many diverse benefits that forests provide.⁴⁶

A host of new ideas and concerns have made their mark in the global environmental debate. The pre-eminent example is the concept of sustainable development. Forestry policy and law should embrace sustainable management of existing forests, enhancing their economic value as well as seeking other gains of biodiversity, recreation and the expansion of forests in pursuit of multiple land use.⁴⁷

5.2.4 LAW IS NOT THE ONLY INSTRUMENT TO ACHIEVE SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

One of the main contributions of this thesis is that in the field of forest conservation, law is an appropriate instrument with which to achieve policy objectives. However, the success of the law will be determined by attitudes in the community which society should address for itself, if the ethic of conservation is to be achieved.⁴⁸ Legislation is just a cog in the wheel of a system in forest management and conservation. If the law is to play its part effectively, then even other aspects of the system must be rationalized. Because deforestation and the loss of biodiversity result, first, from mismanagement at the local level, effective interventions must also occur at this level, building upon local norms, traditions and cultures that will promote sustainable forest management.⁴⁹

⁴⁶See the Constitution of Kenya 2010, Article 69 (1) (b) which provides:

“The State shall ...work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya”. This should be emphasized also in the Forests Act 2005, and stated as a duty of the Kenya Forest Service, the Ministry of Environment and Natural Resources, and the National Environment Management Authority, the regulatory body.

⁴⁷See Reid C T (1997) (note 19) 24.

⁴⁸See Curran D “The Conservation of Biological Diversity on Private Property in New South Wales” (2000) 17 *Environmental and Planning Law Journal* 34 56.

⁴⁹See for instance McBeath G A & Leng T K *Governance of Biodiversity Conservation in China and Taiwan* (2006) 94.

At the national level, sustainable forest management will require a commitment to conservation, land use planning and secure property rights so that forests may continue to provide a continuous flow of goods and services with minimal ecological damage.⁵⁰ While respecting local and community property rights that promote ecologically sound management, the Kenya government can help by eliminating distorted economic incentives that encourage mismanagement, such as below cost timber sales. Market exploitation of forests, particularly for charcoal, has been done haphazardly and attempts by the government to regulate this activity through licensing and fees have failed to curb the illegal charcoal business. There has been inadequate government control of forest reserves resulting in their encroachment for settlement, agriculture and charcoal production.⁵¹

The Forests (Charcoal) Rules 2009, prohibit the issue of any trading permit or licence for the undertaking of any activity relating to commercial charcoal trade, unless the applicant has produced a licence for charcoal production or transportation.⁵² Poor enforcement of the law has allowed illegal business in charcoal to thrive.⁵³

The domestic enforcement of the criminal law aspects of forest conservation may not be taken as the effective solution to the issue of conserving the forests. Most of the activities such as charcoal burning, tree cutting and cultivation in forests, which have contributed to massive forest degradation are covered by the law, as they carry criminal law sanctions. Yet these activities have continued in spite of statutory regulation. The scarcity of agricultural land and the concomitant pressure on available land, has made legal prohibition an ineffective tool in

⁵⁰Faure M & Niessen N (2006) (note 16) 269.

⁵¹See Republic of Kenya *Report of the Governments Taskforce on the Conservation of the Mau Forests Complex* (2009) 65.

⁵²See Rule 4(2) of the Forests (Charcoal) Rules (2009), Legal Notice No. 186 of 2009.

⁵³See World Bank (2005) (note 35) 50.

regulating improper land use practices. This latter factor clearly points out the limits of the law as an instrument for social engineering.⁵⁴

Again, as observed in chapters three and four, environmentally sustainable forest development must be supported as an essential prerequisite to forest conservation. This conclusion is based on the analysis that sustainable economic growth will be the forest's best insurance, particularly growth that gives the local populace a concrete stake in the survival of the forests.⁵⁵ Sustainable forest management and conservation must be emphasized. In the long term, enhanced law enforcement can only be a stop gap measure, unless economic incentives to destroy the forests are greatly reduced.⁵⁶ Broadbased educational campaigns undertaken by the Kenya Forest Service must be continued.

Ultimately, the sustainable management and conservation of the forests will require a change in mindset by both individuals and institutions. Forest practices that are consistent with the goals of biodiversity conservation should be emphasized.

5.2.5 FAILURE IN THE POLICY REGIME HAS LED TO ACCELERATED DEFORESTATION

If farmers can be helped and encouraged to practice more intensive agriculture, they could make productive use of relatively limited areas with less impact on forests. As chapter two has shown, the causes of deforestation are multiple, but

⁵⁴See Ogolla D B "Role of Environmental Law in Development" (1987) *Journal of the Indian Institute of Law* 187 192.

⁵⁵See for instance Glennon M J "Has International Law Failed the Elephant?" (1990) 84 *The American Journal of International Law* 1 39. Glennon has argued that in order to protect the elephant, the issue of conflict between development and conservation must be attended to. In particular, efforts such as intensive agriculture, which will enable the local people to have income, will reduce instances of unlawful conduct, such as poaching. In effect, economic development becomes a guarantee to successful conservation.

⁵⁶See Kenya Forest Service *Forester* Quarterly Magazine of the Kenya Forest Service, Issue No.3, July –September 2010. See also, Pickles M "Implementing Ecologically Sustainable Development in China: The Example of Heilong Jiang Province" (2002) *The Georgetown International Environmental Law Review* 577 589.

all are a result of human development. The leading and more direct causes are settlement and expansion of agriculture and charcoal production. Other factors are timber production and the breakdown of the traditional natural resource management systems. If farmers are forced to continue with extensive agriculture, which is inherently unstable, then farming will tend to spread throughout the remaining forest areas.⁵⁷ However, if they are helped and encouraged to practice more intensive agriculture, they could produce more from relatively limited areas, with less impact on forest lands.

Farmers will, however, need help, particularly training, marketing support, fertilizers, pesticides and tools that they can afford. This will need the full support of the government of Kenya in ensuring that conservation policies are designed with the benefit of agriculture foremost in mind.

Farmers can also be helped by being granted secure property rights since sustainable use of forest resources can only become a reality with the creation of secure prospects for future returns. This means that farmers may be given property rights over forest resources. Improved property rights are imperative to ensuring sustainable development.⁵⁸ Individual farmers who are interested in sustainable forest management and conservation are not properly protected under the current property law regime. Those who want to ensure conservation either on private or public land, are simply unable to guarantee whether any investment made will succeed in implementing effective and sustainable land management.⁵⁹

⁵⁷See World Commission on Environment and Development (1987) (note 12) 157.

⁵⁸See for instance Hite K "Back to Basics: Improved Property Rights can Help Save Ecuador's Rainforests" (2004) 16 *The Georgetown International Environmental Law Review* 763 793.

⁵⁹See for example Wanjala S C "Land Tenure and Soil Conservation in Kenya" in Wanjala S C (ed) (2000) *Essays in Land Law: The Reform Debate in Kenya* 113 137.

The results of this study have also shown that the numerous needs associated with forest products, such as timber, fuelwood, and catchment protection, require legal provisions which encourage the development of forests on unalienated government land and the payment of appropriate rents.⁶⁰ Similarly, private lands could be leased either to private forest developers or to the government for the development of forests. Again, individual farmers should be induced by fiscal incentives to set aside their farm lands, especially those in catchment areas, to grow trees with technical support from the Kenya Forest Service.

Efforts should be put into expanding the forest area by targeting the provision of grants to farmers to enable them to plant forests on their lands, as an alternative use of agricultural land.⁶¹ As the pressure for more agricultural land increases and its impact is felt on the continued conservation of forests, it may be necessary to consider the lease of private lands for forestry development.

5.2.6 POOR SECTORAL COORDINATION HAS LED TO CONFLICT IN THE IMPLEMENTATION OF THE LAW

The analysis of the material in chapter four has shown that Kenya has numerous policies, laws and agencies to address forest conservation problems. However, the law on the management and conservation of forests has not achieved the objectives of the forest policy with such degree of success as it was hoped to achieve. The government has adopted national legislation and ratified international conventions to create a new framework, yet the most significant challenge is integration of the law with development initiatives.⁶² It is crucial to

⁶⁰See Okidi C O & Mbote P K (eds) *The Making of a Framework Environmental Law in Kenya* (2001) 70.

⁶¹See for instance Reid C T (1997) (note 19) 31. The use of the fund created under section 18 of the Forests Act should include the making of grants to farmers in the forestry sector, so that forestry can be treated like any other useful and rewarding form of land use.

⁶²See for example Watters L & Xi W "The Protection of Wildlife and Endangered Species in China" (2002) 14 *The Georgetown International Environmental Law Review* 489 524.

co-ordinate efforts at the national, provincial and local levels along with improving protection and enforcement. Equally essential is providing the necessary resources, expertise and management. Forests reflect important common interests and interdependence with the prospect of stimulating new levels of international cooperation. However, we are still a very long way from achieving a properly integrated policy which can actually deliver sustainable forest development.

The study has demonstrated that Kenya's Forest Policy must put into account all sectors of the economy. Steps are being taken to ensure that forestry matters are taken into account in many areas of policy, yet that policy remains fragmented.⁶³

Even where the connection between different areas are obvious and are stressed in separate policies, like agriculture and forestry, no attempts have been made to reconcile them.⁶⁴ Kenya has continued to experience forest resource degradation and increasing environmental degradation. Generally, the government of Kenya has not shown deliberate efforts to institute and implement new and adequate policies and legislation. Much of the recent forest loss has resulted from government approved, politically motivated, and dubious legal excisions of forest land from protected areas and reserves.⁶⁵ Okoth Ogendo has observed that the existing legal organization of the agrarian sector does not provide a rational framework for the making of environmentally sound decisions.⁶⁶ The Forests Act, for example, fails to clarify the role of the National Environment Management Authority in the creation of forests, the variation of forest boundaries or the

⁶³See generally Republic of Kenya *Sessional Paper Number 3 of 2009 on National Land Policy (2009)*; Republic of Kenya *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya (2007)*; Republic of Kenya *Report of the Government's Taskforce on the Conservation of the Mau Forests Complex (2009)*.

⁶⁴See Seymour F J *et al* (eds) *The Right Conditions: The World Bank, Structural Adjustment and Forest Policy Reform* (2000)114.

⁶⁵See Republic of Kenya (2009) (note 51) 66.

⁶⁶See Okoth Ogendo (2008) (note 31) 234; See also Situma FDP "Forestry Law and the Environment", in Okidi C O *et al* (2008) *Environmental Governance in Kenya: Implementing the Framework* 235 240.

revocation of state or local authority forests, yet these actions have fundamental environmental implications.⁶⁷

Chapter four has illustrated the fact that the Forests Act has failed to adopt and entrench the principles of environmental management which are well laid out in the framework law, the Environmental Management and Coordination Act 1999. The principles of sustainable forest management should be applied in the overall environmental management regime. Principles, such as public participation in the development of policies, plans and processes for sustainable forest management or inter- and intra-generational equity, have direct relevance to forest management.⁶⁸ Remedies, such as forest restoration and conservation orders, as well as easements recognized under the framework law, have a direct impact on the implementation of forestry law and need to be incorporated into forestry law in order to create synergy, and reduce conflict between the two laws.

The sectoral approach has diffused power and authority in a plethora of institutions, created jurisdictional conflicts, and has ignored the indivisibility of the environment, its interrelationships and the interdependencies inherent to it.⁶⁹

⁶⁷See Situma FDP (2008) (note 66) 235 240. See also Kamau N “Nema and KFS Locked in Legal Tussle Over Tree Harvesting in Forest” *The Standard* Wednesday, October 5, 2011. This was an example of the conflicting roles of both the Kenya Forest Service and the National Environment Management Authority. The Kenya Forest Service had issued authority to timber merchants to harvest native trees in Mt. Kenya forest. The National Environment Management Authority thereupon issued notice to stop the timber harvesting and called for an environmental impact assessment report as to the mitigations put in place to cover the open spaces created by logging. The results of the court action are still awaited. This appears to be an aspect of disrespect of the law by the Kenya Forest Service. The mere fact that it is the custodian of the resource, does not mean that it cannot obtain an environmental impact assessment report from the regulator.

⁶⁸See Situma FDP (2008) (note 66). See also, the Environmental Management and Coordination Act, section 3. These principles recognize the relationship between environmental and socio-economic issues and that the objective should be to achieve a level of forest use that allows for conservation and sustainable development of forest resources at the same time.

⁶⁹See Ogolla D B (1987) (note 54) 187 190.

Pressures on forests from poorly aligned strategies in agriculture, transportation, energy and industry as well as unsound policies are major causes of forest loss and degradation. Cross-sectoral cooperation to coordinate policies is essential to avoid forest degradation and to ensure that forests are managed in a sustainable manner.

5.3 RECOMMENDATIONS

This study recommends a number of possible actions that could be undertaken by the Kenya government, its agencies and other organizations interested in sustainable forest management and conservation to assist them in achieving the goals of conservation, sound management and sustainable forest development.

5.3.1 THERE IS NEED TO APPRAISE KENYA'S FORESTRY LAW

The study proposes that the Kenya government should appraise the laws, regulations and institutions relating to forest conservation in light of the need to conserve forest resources. The government of Kenya is urged to come up with fresh legal and institutional reforms that would ensure the sustainable use of its forest resources and put in place regulatory mechanisms which can limit future forest loss. These institutional and legal reforms must focus on strengthening national institutions to enforce forest standards, carry out environmental impact assessment and enforce forest legislation. Such legislation must establish a more effective institutional structure to manage Kenya's forests.⁷⁰

The Forests Act and the Environmental Management and Coordination Act have to be amended and revamped so that greater controls may be placed on the way to ensure sustainable forest management and conservation. In particular, such new laws must provide that excisions, alterations or additions to the existing

⁷⁰See Republic of Kenya (2009) (note 6)11.

The Policy notes: Existing policies and laws on land in Kenya pursue economic productivity at the expense of other equally important values. Accordingly, these policies and laws have largely neglected the need to ensure equity and the preservation of culture in the utilization of land. Ibid .

government forest estate, must be approved by Parliament or that the independent National Land Commission will advise the minister on proposed excisions, alterations or additions.⁷¹ Such new laws must require the government and any other parties concerned to undertake and publish an environmental impact assessment before carrying out any excisions or alterations to forest boundaries and offer technical advice to the appropriate parties, and more particularly, the proponents of such projects, so that this process will be adopted as the norm in Kenya.⁷²

The Environmental Management and Coordination Act should be retained as the framework law that establishes the legal and institutional framework for the coordination of the diverse sectoral initiatives for environmental management. Such framework legislation should provide the skeleton for environmental governance. The meat and flesh in respect of forest governance should be provided by the Forests Act as well as the requisite subsidiary legislation to implement and enforce the provisions of the Act and the framework law.⁷³ The activities of all the environmental agencies, particularly the National Environment Management Authority and the Kenya Forest Service, should be coordinated and harmonized. It will then be possible to bring all the government agencies together and ensure effective governance. Standard setting and coordination should be the role of the framework legislation and the National Environment Management Authority while the sectoral laws should be strengthened to create a strong system of forestry law.⁷⁴

⁷¹See Constitution of Kenya 2010, Article 67 (3); See also Genadio M A “Towards a New Biodiversity Policy for Forest Management” (1995) 2 *Wisconsin Environmental Law Journal* 303 328.

⁷²See for example Republic of Kenya (2009) (note 51) 63.

⁷³Ibid 39.

⁷⁴See Republic of Kenya (2009) (note 6) 34.

Indeed, the Policy notes that in order to achieve an integrated and comprehensive approach to the management of land based natural resources, all policies, regulations and laws dealing with these resources shall be harmonized with the framework established by the Environmental Management and Coordination Act (EMCA) (1999).

The Environmental Management and Coordination Act should be amended to encompass an ecosystem approach to conservation. It should be amended to explicitly require the protection of ecosystem viability and develop a property rights regime that would require the government to pay land owners if the actions of such landowners lead to sustainable forest management and conservation.⁷⁵

Legal responses based on a sectoral approach cannot work effectively in the face of the interdependence of the various sectors of the environment. All policies affecting land use, agriculture and conservation should be able to promote the conservation of forests. Laws promoting sustainable forest management should be introduced and must promote public awareness, and require the implementation, monitoring and enforcement of forestry laws.

There is need for the government of Kenya to prepare a comprehensive forest policy, which policy should be approved by Parliament and the same should be implemented. The Government must reappraise the current policies, programmes, projects and resource commitments, giving due attention to rural development, in addition to farming on forests, habitats and the overall ecosystem.⁷⁶ Forest management and conservation projects must include funding and a programme of activities to be implemented on a long term basis.

This policy should marshal the competencies of all the diverse institutions involved in environmental management towards a common organizing mission, vision and targets.⁷⁷ Such comprehensive policy should ensure that land regains its central role in the country's political economy. The current existence of fragmented policies in the land sector has made it difficult for agrarian resource

⁷⁵Ibid.

⁷⁶See Seymour F J & Mugabe J (2000) (note 2) 120.

⁷⁷See Ochieng B O "Institutional Arrangements for Environmental Management in Kenya" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 183.

managers to consolidate a holistic vision of the likely consequences of their activities on the overall economy.⁷⁸

In relation to sustainable forestry management and conservation, the commitment to sustainable conservation cannot be translated into practice except within a strategic framework which calls for a clear national strategy containing targets related to the main economic, environmental, and social benefits that forests could provide, and identifying incentives needed to meet those targets. This strategy would help to integrate forestry with other land uses.⁷⁹ There is still a considerable way for Kenya to go before it can be said that the reality of sustainable forest management and conservation has been made. This is because of the conflict of interests between competing alternative uses for land such as agriculture, forestry, wildlife, water conservation and human settlement which has been compounded by the statutory dispersal of power and responsibility over a wide range of institutions which more often than not, are in disagreement or confusion over the basic issues.⁸⁰

The institutional framework for sustainable forest management has been run separate from related sectors such as water, wildlife and land use. The policy should emphasize the fact that forestry and environmental management should be run as a cooperative requiring the involvement of all concerned citizens.⁸¹ Sectoral institutions should also change their mindset from the Stockholm protectionist agenda of the early 1970's, to Rio's emphasis on sustainability.⁸²

⁷⁸See Okoth Oendo (2008) (note 32) 233.

⁷⁹See Reid C T (1997) (note 19) 27.

⁸⁰See Ogolla D B (1987) (note 54) 191.

⁸¹See Ochieng B O (2008) (note 77) 204.

⁸²The issue of the overlapping mandates of the environmental management institutions should be streamlined. Sectoral laws should be revised to accord with the Environmental Management and Coordination Act. The process should be accelerated and all laws and policies should be streamlined with the Environmental Management and Coordination Act.

The government of Kenya should uphold the principles of the Convention on Biological Diversity. In particular, special attention must be paid to monitoring, conservation and the sustainable management of forest resources. The need for international cooperation and the importance of integrated approaches to problem solving are crucial to the formulation of successful conservation schemes in Kenya and other countries of the world.⁸³ In many instances, the Convention on Biological Diversity offers specific plans for action that will be effective if implemented. Certain aspects of the Convention do have the potential to evolve into a respected and influential set of international standards and regimes for forest conservation. However, it must be noted that the Convention itself is lacking in implementation and enforcement provisions. Yet, despite political and legal limitations, the Convention does hold promise as it provides influential guidelines for sustainable forest management, conservation and sustainable development.

In relation to forest conservation, it can now be argued that the notion of absolute sovereignty over forest resources is becoming increasingly eroded in practice, in the planning and the implementation of policies of sustainable development.⁸⁴

The government should fully embrace national legislation and international conventions to create a new and workable legal framework. The need for international cooperation and the importance of integrated approaches to solving the problems of sustainable forest management and conservation are, therefore, crucial to the formulation of successful forest conservation strategies.⁸⁵

⁸³See for instance Royer M B "Halting Neotropical Deforestation: Do the Forest Principles Have What It Takes?" (1996) 6 *Duke Environmental Law and Policy Forum* 105 153.

⁸⁴See Woodliffe J "Tropical Forests" in Churchill R & Freestone D (eds) (1991) *International Law and Global Climate Change* 57 73.

⁸⁵See Royer M B (1996) (note 83) 153. Royer observes that the Forest Principles do have the potential to evolve into a respected and influential set of international standards and regimes for forest conservation, perhaps pioneering the way towards a 'Treaty on Forests', something that Kenya can borrow from.

The importance of the relationship between forests and the Convention on Biological Diversity cannot be over-emphasized since much of the world's biological diversity is found in forests. To a certain extent, therefore, the Convention on Biological Diversity is itself a forests instrument and its effective implementation would address many problems relating to forests. The advantage of the application of the Convention on Biological Diversity to sustainable forest management and conservation is that it is based on the premise that the conservation of forest biological diversity cannot be achieved without the sustainable use of all the goods and services a forest can provide.

As the government implements the Convention's provisions, it should ensure that the benefit sharing principles provided in it are incorporated into legislation that sets guidelines for biodiversity prospecting agreements.⁸⁶ On the other hand, the government must ensure that the Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations 2006, are implemented with the interests of the local communities being paramount. Appropriate indigenous capacity and local knowledge regarding the conservation and sustainable development of Kenya's forests should be recognized, respected and developed as appropriate.

5.3.2 THE GOVERNMENT SHOULD ENCOURAGE LOCAL PARTICIPATION IN SUSTAINABLE FOREST MANAGEMENT AND CONSERVATION

The government must support local community participation by empowering local communities in decisions over forests and natural resources. Few Kenyan communities are directly benefiting from the transformation of forests. The analysis in chapter four has shown that, the existing forms of exploitation are

⁸⁶ See for example Republic of Kenya (2009) (note 6)33. The Policy notes that in order to manage land based resources sustainably, the Government shall create an effective institutional framework and capacity to implement international conventions, especially those touching on land based natural resources.

seriously damaging the resource patrimony of what has been sustainable agricultural communities.

The study proposes that the Kenya government should enhance local participation by recognizing indigenous and local community rights to forest resources and should encourage community participation in the definition and design of programmes and projects which affect the use of local community forest resources.⁸⁷ It has been observed that when governments allow people to benefit directly from sustainable forest management and conservation, experience shows that people respond to these incentives and find ways to maintain and improve their natural environments.⁸⁸

The key is creating appropriate incentives within an institutional environment that effectively devolves rights to manage natural resources and encourages entrepreneurial activities. Sharing of benefits accruing from forests has not been well articulated in Kenya's forestry law. Local communities have not benefited from the timber industry because most benefits go to the central government. Lack of tangible benefits has therefore contributed to forest destruction in Kenya.⁸⁹ The challenge is to organize communities and build their capacities, enabling them to undertake this role to combat the low sense of forest ownership among local communities.⁹⁰ Community Forest Associations should be engaged in the formulation and implementation of forest programs consistent with traditional forest user rights as well as sustainable forest management. Forestry

⁸⁷Downing T E "The Oaxaca Recommendations" in Downing T E *et al* (eds) (1992) *Development or Destruction: The Conversion of Tropical Forest to Pasture in Latin America* 367 369.

⁸⁸See Boaudreaux K "A New Call of the Wild: Community Based Natural Resources Management in Namibia" (2008) 20 *The Georgetown International Environmental Law Review* 297 298.

⁸⁹See The World Bank (2005) (note 36) 56.

⁹⁰See Myers N "The Anatomy of Environmental Action: The Case of Tropical Deforestation" in Hurrell A & Kingsbury B (eds) (1992) *The International Politics of the Environment: Actors Interests and Institutions* 430 449. See also section 47 of the Forests Act.

conservation is critically dependent on the support of people living within the forests or their immediate environs. The potential contributions of local people have generally been disregarded. They should be systematically brought into efforts to safeguard the forests right from the start of the planning process.

Public participation is not yet fully guaranteed in the forest sector at all levels, namely in forestry law and policy making. Public participation must be engaged in the drawing of management plans, forestry land classification, and the allocation of forest use and management rights. Regular presence of the public in forestry related decision making should be a legal requirement so that decisions taken in the absence of, or in violation of the participatory process may be rendered invalid.⁹¹

5.3.3 THE KENYA GOVERNMENT SHOULD INITIATE LAND REFORMS

There is need for the Kenya Government to institute land reforms. In particular, the study proposes that the government should spearhead the enactment of a land use law, which will determine how land use and land tenure issues influence the success of sustainable forest management and conservation projects.⁹² There is no need to clear primary forests for agriculture when the same can serve an environmental role. Policy initiatives should emphasize limiting physical access to the forests and increase the cost of converting forests to other uses. Programs which attract huge numbers of migrants to colonize new forest lands should be eliminated.

The government should address the social problems that drive migration into the forest by promoting agricultural reform and make agriculture more intensive. Use of fiscal instruments to encourage intensive use of agricultural land and forest

⁹¹ See KIPRA (2009) (note 31) 32.

⁹² See Constitution of Kenya 2010 Article 67; See also, The National Land Commission Act 2012, section 5, and Seymour F J & Mugabe J (2000) (note 1) 120. Such new law should determine the manner of access to land, the care of the natural resources therein, who has control of the resources therein, and must put into account the needs of the present and future generations.

conservation, such as land taxes, tax holidays, economic and fiscal incentives, will be appropriate.⁹³ Efforts to encourage long term usufructural land rights will allow for long term investments on private lands. The conversion of forests to agriculture destabilizes the ecological, social and economic systems of the country. It is apparent that the forest conversion process must stop. Alternative production systems might involve integrated uses such as agro forestry and the sustainable management of the present resources.⁹⁴ New models for research and sustainable management of Kenya's forests must focus on more integrated approaches with a stronger balance between sustainable management and conservation. Such research must focus on the characteristics of genetic variation in various types of forests, identify and preserve high quality stands of forests with major environmental and ecological services, breeding trees on onsite and offsite nurseries or seed banks, so as to preserve native species of trees for future use.⁹⁵

Lack of exclusive use and weak enforcement measures must be remedied through a lens of equitable justice, taking into account the needs of the indigenous communities, economic realities and the factors that are behind any policy position taken by the government.⁹⁶ Such new law must integrate environment and development at the policy, planning and management levels.

⁹³See Constitution of Kenya 2010 Article 67 (1) (c) (d) (g) and Article 67 (3) which will play a major role in ensuring that research into land and land use is carried out so that the use of land will not impact negatively on natural resources.

⁹⁴See Downing T E (1992) (note 87) 369. Efforts should also be applied into the development of a modern industrial sector to facilitate the absorption of surplus rural labourers in the urban economy.

⁹⁵See for example Dufour J "Toward Sustainable Development of Canada's Forests" in Mitchell B (ed) (1991) *Resource Management and Development: Addressing Conflict and Uncertainty* 85 102.

⁹⁶See Mbonde G P "Forestry Sector in the Context of Environmental Policy" in Mwandosya M J *et al* (eds) (1996) *Environmental Protection and Sustainable Development* 213 214.

This should involve the review of all economic, sectoral and environmental laws and land policies to ensure progressive implementation of environment and development issues, strengthening institutional structures and ensuring the involvement of all concerned individuals and organizations in decision making.⁹⁷

It may be possible to legislate for leases over private land so as to ease pressure on state forests. The case for land use legislation seems to be a strong one. It was observed, in chapter four, that one of the gaps is in land use legislation, agriculture, forestry, wildlife and land use planning. Land use is subsumed under agriculture, forestry and wildlife. Such legislation should provide for the protection of wetlands of local, national and international significance. It would also provide for catchment protection, taking into account the existing provisions under the agriculture and water laws.⁹⁸

Kenya needs to develop a forest zoning plan as one of the principal tools for sustainable forest management. Under the Constitution of Kenya 2010, ten percent of the national land territory is to be ultimately included in the permanent forest estate.⁹⁹ The government should set targets¹⁰⁰ and also to ensure that all catchment forests, whether in public lands or private land, should be sustainably managed by the government through the Kenya Forest Service. The same applies to fragile ecosystems as well as genetic resources and biodiversity. Nature reserves, protected areas to protect viable natural biodiversity as well as cultural

⁹⁷See Herbert C “Sustainable Development: Some Legal Strategies for a Small Island State” (1998) 24 *Commonwealth Law Bulletin* 563 593.

⁹⁸See Mbonde G P (1996) (note 96) 213.

⁹⁹See Constitution of Kenya 2010, Article 69(1) (b) which states:

“69(1) The state shall:

(a)

(b) Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya”

¹⁰⁰For example that the percentage of forest cover in every county in Kenya, should not be less than ten per cent the entire county size.

heritage, recreational features, rare or endangered species and habitats, should be proclaimed under the forest legislation.¹⁰¹ For such zoning plans to promote sustainable forest management, they must be supported by a comprehensive land use and zoning plan that will take into account different land uses and which tries to integrate compatible land uses where feasible.¹⁰² It is noted here that although the Physical Planning Act exists for the purpose of land use planning, it is primarily concerned with planning of urban areas and the development of roads, buildings and factories, leaving out environmentally sensitive areas.¹⁰³

5.3.4 THERE IS NEED TO EVALUATE FOREST RESOURCE PRODUCTS AND BENEFITS

There is need to incorporate sustainable forest management and conservation into the overall development planning process. The government is urged to incorporate sustainable forest management initiatives into the national planning process, in cooperation with development assistance agencies where appropriate, to ensure timely programming and execution of large scale conservation initiatives.¹⁰⁴ According to this perspective, there is urgent need for a better grasp of all goods and services, available genetic resources, watershed systems, climate controls, the entire spectrum of non-wood forest products and environmental functions. Precisely because climate benefits carry no price tag, they have been entirely overlooked in economic planning for forests.¹⁰⁵ In this regard, pricing of resources may be a powerful tool for conservation. Quantifying the intangible benefits of forests is always difficult, all the more so, when the long term benefits of forestry are considered and more has to be done to ensure that

¹⁰¹See Mbonde G P (1996) (note 96) 213 214.

¹⁰²See Mbote P K "Land Tenure and Sustainable Environmental Management" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 260 280.

¹⁰³See Ezaza W P "Perspectives on the African Environment and Development" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 254 275.

¹⁰⁴See Okidi C O & Mbote P K (eds) (2001) (note 60) 89.

¹⁰⁵Blair P N *Conservation of Critical Ecosystems and Economic Development: Report of the Asia Pacific Consultative Meeting* (1989) 14.

the full costs involved are measured and that commensurate benefits are, in fact, produced.¹⁰⁶ The pricing and revenue collection systems for forest produce should be reviewed to reflect the true value and contribution of the forests to the national economy and society.¹⁰⁷ Indeed, the government has the opportunity to provide leadership to ensure that the ecosystem services that forests provide and the economic benefits arising from these services can be enjoyed by Kenyans in perpetuity. Failure to do so will lead to untold suffering by the people of Kenya and the neighbouring countries, for which posterity will judge the present generation harshly.¹⁰⁸ The excluded costs of forest use, such as soil erosion, loss of bio- and cultural diversity, green house gas emissions and watershed degradation, should be recognized in any legal reform strategy to ensure forest conservation.¹⁰⁹

There is need to generate and sustain high level political support and public awareness, as well as increased financial support in favour of financing sustainable forest management and biological diversity conservation in Kenya. The government must allocate human and financial resources for educational purposes to enable the public to better understand the forests, the overall ecosystem and their sustainable uses. Forest conservation is not enough. It must be accompanied by aggressive, ecologically sensitive land use practices. Education should be used to increase awareness of conservation issues and knowledge of management options and community based action to influence land holder ethics and encourage social norms that value forest biodiversity.¹¹⁰ In particular, community education will play a big role in encouraging acceptance of sustainable forest management and conservation as a societal norm.¹¹¹ Kenya's forests are seriously undervalued. Many of their environmental benefits do not enter markets, and poor governance has fuelled illegal activities.

¹⁰⁶See Myers N (1992) (note 90) 430 448.

¹⁰⁷See Reid C T (1997) (note 19) 33.

¹⁰⁹See Republic of Kenya (2009) (note 6) 71.

¹¹⁰See Nyangena W (2008) (note 30)79.

¹¹¹See Curran D (2000) (note 48).

The rapid results of deforestation in the last decade are largely a result of the spillover from poor policies in other sectors and a lack of governance on the forest sector itself. The creation of new markets for the environmental services of Kenya's forests such as biodiversity, carbon sequestration and watershed protection are essential.¹¹²

5.3.5 THERE IS NEED TO EMPHASIZE ECONOMIC INCENTIVES

The study proposes that Kenya must move away from the command and control approach of enforcing compliance with forestry law based primarily on fines, forfeiture and imprisonment. This approach lacks innovation, and scarcely meets the intended purpose of the law.

There is an economic rationale for using criminal law sanctions because an effectively enforced statute raises the cost of criminal conduct and, therefore, encourages compliance with laws and regulations that would otherwise be largely ignored.¹¹³ This must, however, be accompanied by effective mechanisms for apprehending offenders and deterrent punishment. In this regard, it is important to synchronize criminal penalties with the economic value of forest degradation to ensure that the penalty is more expensive than the gains to be made from harvesting forest produce.

There is no single environmental instrument that can provide a miracle solution to all forest management and conservation problems.¹¹⁴ The way forward in forest conservation requires not only a sound normative framework, but also effective implementation tools.

¹¹² See KIPRA (2009) (note 31) 34.

¹¹³ See Mbote P K "The Use of Criminal Law in Enforcing Environmental Law" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 110 113.

¹¹⁴ See Faure M & Niessen N (2006) (note 16) 263 278.

Taking the cue from the Environmental Management and Coordination Act 1999, the Forests Act 2005 should use a mix of command and control measures and incentives to motivate sustainable forest conservation and management. Again, legal provisions, such as the use of easements, profits, exercise of police power, eminent domain and compulsory acquisition in the interest of sustainable forest conservation for posterity, should be used innovatively to achieve sustainable conservation.¹¹⁵ The criminalization of behaviour that constitutes people's lifelines, such as collecting forest produce, makes people resent the law and abets the violation of the law.¹¹⁶

What is required is a new approach to conserve forests and there is much evidence that supports the use of economic incentives.¹¹⁷ We need to ensure that farmers and private land holders view forests on their lands as an asset, not a liability.¹¹⁸ The provision of economic incentives by the Kenya government will be an important signal that sustainable forest management and conservation should be taken seriously.

For an economic incentive program to be a success, incentives offered will need to be high enough to encourage the majority of land holders to participate. This means that significant financial contributions will need to be made by the government of Kenya and the same should be sanctioned by the law.

¹¹⁵See Mbote P K "Aligning Sectoral Wildlife Law to the Framework Environmental Law" in Okidi C O *et al* (eds) (2008) *Environmental Governance in Kenya: Implementing the Framework Law* 110 113. It should be noted that planning law has, in the past, developed with a primary focus on permitted development and land use. This has meant that planning law has not engaged directly with environmental priorities with the consequence that sustainable development strategies have failed to be fully incorporated into the planning system.

¹¹⁶See Faure M & Niessen N (2006) (note 16) (2008) 281 304.

¹¹⁷See for example Heywood V H & Watson R T (eds) (1995) *Global Biodiversity Assessment* 1044. The authors call for disincentives to conservation, such as high land taxes on idle land or the abolition of incentives to develop natural habitats. They give the example of the United Kingdom, where taxation on forest land is exempted if the landowner manages the land according to a management plan approved by the conservation authority.

¹¹⁸See Curran D (2000) (note 48) 34 59.

There are opportunities that the government should be examining to increase the available budget for sustainable forest management and conservation.¹¹⁹

The government should remove all perverse incentives that place pressure on forests, such as allocating forest land for settlement. As chapters two and three have shown, the government should increase payments made by industry users of various products dependent upon forest products and require them to pay the real costs for products derived from state forests. It should also make users and polluters of forests pay for their use and pollution.¹²⁰ Without funds, very little can be achieved. The Kenya Forest Service should be allowed to operate the Forest Management and Conservation Fund for forest development purposes.¹²¹ A reasonable percentage of all forest based revenue should go to the Fund, and donors should consider giving grants to this Fund. Money paid in the form of fines, sale of impounded forest produce, forest publications, as well as other grants, should be paid into the Fund.¹²²

It is noted that section 57 of the Environmental Management and Coordination Act sanctions the grant of fiscal incentives and disincentives by the government. Unfortunately, this has emphasized customs and excise waiver on imports and industrial products rather than incentives to deter bad environmental behaviour that will discourage the depletion of environmental resources.¹²³

¹¹⁹See Jacobson H K & Weiss E B "Assessing the Record and Designing Strategies to Engage Countries" in Weiss E B & Jacobson H K (eds) (2000) *Engaging Countries: Strengthening Compliance with International Environmental Accords* 512 551.

¹²⁰See section 57 of the Environmental Management and Coordination Act 1999.

¹²¹See the Forests Act, section 18.

¹²²See Mbonde G P (1996) (note 96) 213. See also McEldowney JF & McEldowney S *Environmental Law* (2010) 354 who note that we have the opportunity to make decisions for the future as part of a sustainable financial and economic strategy that must prioritize the environment and scarce environmental resources.

¹²³Orodho J M A "Development and the Environment" in Otiende J E *et al* (eds) (2010) *An Introduction to Environmental Education* 185 201.

5.3.6 THE CASE FOR THE ASSESSMENT AND RESTORATION OF FOREST DAMAGE

This thesis proposes that the law should empower the Kenya Forest Service to make an assessment of the extent of damage occasioned to the forests in monetary terms, with a view to ensuring that the actual costs incurred for the restoration of any forest damaged will be paid by the violator.¹²⁴ Such assessments should be enforceable by way of a court order where a person refuses to pay. The law should specifically empower the Kenya Forest Service, either alone or in conjunction with the National Environment Management Authority, to intervene in the event that the forest has been degraded by the actions of any person.¹²⁵ Such assessment should be able to meet the cost of restoration of any environmentally degraded forest or area, and limit any arbitrariness in the process of evaluation of the extent of the damage.

5.4 THE WAY FORWARD

The law for the sustainable management and conservation of forests in Kenya has changed a great deal in the recent past. The government of Kenya has adopted national legislation, more particularly the Environmental Management and Coordination Act, 1999, and the Forests Act 2005, and ratified international conventions which form part of the legal framework. The most significant challenge is the integration of sustainable forest management and conservation efforts. It is crucial that efforts between various sectors, including agriculture, wildlife, forestry, and water, are coordinated along with improving protection and enforcement.¹²⁶

¹²⁴See Herbert C (1998) (note 17) 1234.

¹²⁵See Ludeki J V *et al Environmental Management in Kenya: A Framework for Sustainable Forest Management in Kenya* (2006) 95. This will mean an expansion of the functions of the Kenya Forest Service as provided for under section 5 of the Forests Act 2005.

¹²⁶See Orodho J M A (2010) (note 123) 207.

The study has shown that sustainable forest resource management and conservation require an integrated approach.¹²⁷ Policy makers have touted the concept of sustainable forest management as providing a pragmatic, holistic and ecosystem based approach to forest management and conservation.¹²⁸ It is suggested that any permanent solution to the problem of forest destruction in Kenya, must include a concerted policy of population control, supplemented with programs of income distribution and social justice.¹²⁹

Fundamental changes are also required in the processes of government at every level if sustainable forest management and conservation are to be put at the centre of economic and political decision making. The effective use of economic instruments and market and other incentives should be promoted.¹³⁰ This involves policies and establishing effective combinations of economic, legal, regulatory and voluntary or self regulatory approaches to promote sustainable use through the enactment of sustainable forest management and conservation laws.¹³¹ The laws, as currently enacted, are rules or laws that are order oriented, stressing the application of command and control mechanisms, dealing largely with detrimental effects to the forests after the fact of destruction and by fixing criminal penalties, rather than being proactive. There is need to implement a scheme of forest restoration orders, assessment of projects, or other activities to

¹²⁷ See Dufour J (1991)(note 95) 105.

¹²⁸ See Misana B *Deforestation in Tanzania: A Development Crisis?: The Experience of Kahama District* Organization for Social Science Research in Eastern and Southern Africa OSSREA Pub/20/1999 (1999) 70.

¹²⁹ See Hardaway R & Dacres K D (1994) (note 45) 428.

¹³⁰ See McEldowney J F & McEldowney S (2010) (note 122) 354.

¹³¹ See Hardaway R & Dacres KD (1994) (note 45) 428. In this respect, Fombad CM (1994) (note 19) 56 has noted: Extensive research has shown that the Criminal Law has not proved to be the most appropriate means of ensuring compliance with environmental legislation. The incidence of prosecution is remarkably low.

prevent or mitigate adverse environmental consequences.¹³² General fiscal and economic incentives should be inbuilt into the law to ensure that forest resources are utilized sustainably. Existing laws and regulations should be fully implemented to ensure that sustainable forest management and conservation is taken into consideration countrywide.¹³³

Forestry law has an important role to play in the development process. This study proposes that the approach to change should be through the creation of sound normative structures for forestry management. This ensures that the utilization and development of forest resources proceeds on ecologically acceptable principles and that environmental considerations are incorporated into the development planning process.¹³⁴ The study reveals that although forestry law is important, it may not be the only critical factor for the sustainable management and conservation of forest resources. In the face of an increasing population and rapid economic growth, the law becomes inadequate in normative content and is functionally ineffective. It has therefore been observed that:

there has been a gradual recognition that managing scarce resources including natural habitats and nature conservation strategies, contribute to protecting the planet and to sustainability. Managing industrial processes and developments, especially in the newly developed economies requires careful adjudication to ensure that past mistakes are not repeated.... We have the opportunity to make decisions for the future as part of a sustainable financial and economic strategy that must prioritize the environment and scarce environmental resources.¹³⁵

Policy makers must therefore face the important challenges that arise from human activities affecting forests. The implementation of policies for sustainable forest management must measure the foreseen benefits as well as the detrimental effects of human activities on forests. Sustainable forest management must secure the best use of forest resources.¹³⁶

¹³²See Ochieng B O (2008) (note 77) 204.

¹³³See Okidi C O & Mbote P K (eds) (2001) (note 60) 88.

¹³⁴See Ogolla D B (1987) (note 54) 200.

¹³⁵McEldowney J F & McEldowney S (2010) (note 122) 354.

¹³⁶Ibid 362.