IMPLEMENTING SUSTAINABLE ENVIRONMENTAL MANAGEMENT IN DEVELOPING COUNTRIES: A CASE STUDY OF COMMUNITY PARTICIPATION IN FOREST MANAGEMENT IN KENYA

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A Research project submitted in partial fulfilment of the requirement for the award of the Degree of Master of Art in International Studies at the Institute of Diplomacy and International Studies, University of Nairobi

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DECLARATION

This Research project is my original work and has not been presented for an award of a degree in any other university.

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SUPERVISOR APPROVAL

This research project has been submitted for examination with my approval as a university supervisor.

Anita Kiamba, PhD.

Sign................................................................. Date.........................................................
DEDICATION

Special dedication goes to my family in particular my wife Jennifer and my children Mpailan, Naserian and Namaiyan for their full support during my Master of Arts study.
ACKNOWLEDGEMENT

I wish to acknowledge the inspirations from my supervisors, Dr Anita Kiamba who dedicatedly guided me through the research project writing.

I wish to thank the Kenya Forest Service (KFS) for awarding me the opportunity for the training at Kenya Defence College and the Commandant of the college, the entire faculty and my colleagues for their professional and moral support.

My sincere gratitude also goes to my family members for their encouragement in the course of this study, to my friends and relatives who have provided me moral support in special ways that have made it possible to see this studies come to a logical conclusion.
Environmental sustainability has become increasingly important as we witness more extreme weather changes, global warming and environmental degradation. As the world population grows, the need for more resources increases, and forest resources are one of the public goods that are adversely affected. The increasing industrial activities over the years do not consider the resulting environmental degradation such as water, air, and land pollution. Many ecosystems have been affected to the point where they can no longer withstand or recover from disasters resulting from human activities. Sustainable forest management encompasses the administrative, legal, technical, economic, social, and environmental aspects of the conservation and use of forests. Therefore, there is a need to increase forest cover and reduce forest destruction and degradation in Kenya. The government has recognized the critical role to be played by forest-adjacent communities in ensuring that forest cover in the country increases from the current two percent to the recommended ten percent. The local communities constitute the core of these actors. Where the local communities depend heavily on forest resources, their involvement in forest management is essential, and without effective mechanisms and strategies to ensure local-level participation in forest management, there cannot be sustainability of forest resources. This study interrogates environmental sustainability in respect to community participation in forest management in Kenya and suggests policy recommendations on the best strategies to manage forest resources in Kenya.
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LIST OF ACRONYMS AND ABBREVIATIONS

CBD: Convention on Biological Diversity
CBFM: Community Based Forest Management
CBNRM: Community Based Natural Resource Management
CEDARE: Centre for Environment and Development for the Arab Region and Europe
CFAs: Community Forest Associations
CFM: Collaborative Forest Management
CFM: Community Forest Management
CFs: Community Forests
DFS: Central Forest Reserves and District Forestry Services
EAC: East Africa Community
ECOWAS: Economic Community of West African States
EIA: Environmental Impact Assessment
FAC: Forest Adjacent Community
FAN: Forest Action Network
FAO: Food and Agriculture Organization
FCC: Forest Conservation Committees
FD: Forest Department
GHG: Greenhouse Gas
GoK: Government of Kenya
IUCN: International Union for Conservation for nature
KFS: Kenya Forest Service
KFWG: Kenya Forests Working Group
KWS: Kenya Wildlife Service
MEA: Millennium Ecosystem Assessment
MNCs: Multinational Corporations
NFA: National Forestry Authority
NFP: National Forest Programme
NGOs: Non-Governmental Organizations
NTFP: Non Timber Forest Products
NTZDC: Nyayo Tea Zone Development Corporation
OECD: Organization for Economic Cooperation and Development
PFM: Participatory Forest Management
PFs: Private Forests
SADC: Southern African Development Community
SCBD: Secretariat of the Convention on Biological Diversity
SFM: Sustainable forest management
TFAP: Tropical Forest Action Plan
TNCs: Transnational Corporations
UN: United Nations
UNCED: United Nations Conference on Environment and Development
UNEP: United Nations Environment Programme
UNESCO: United Nations Educational, Scientific and Cultural Organization
UNFCCC: United Nations Framework Convention on Climate Change
WWF: World Wildlife Fund
CHAPTER ONE

INTRODUCTION

1.1. Background

Community participation in sustainable forest management has rapidly spread in developing countries in the last twenty years.\(^1\) Support for the principle is derived from grounds of economic efficiency, public accountability, community and individual empowerment.\(^2\) Previously forest resources were fully controlled by the state without involvement of other stakeholder rendering management forest to be very ineffective. These reforms are expected to reconcile both conservation and livelihood needs. In particular Community involvement in forest management is aimed at enhancing peoples’ livelihoods, poverty alleviation and preservation of the forest condition.

In enhancing community participation, the Participatory Forest Management (PFM) model is being adopted widely in many developing countries as an all inclusive method of managing forestry resources.\(^3\) The state forest authorities incorporate the adjacent communities to the forest through the PFM model in management of forest resources. PFM is increasingly being used as an approach through which to achieve the sustainability of threatened forests and conservation of biodiversity. This is done through a process of

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inclusion, equity, and democratization of governance of the forest resources. The local communities are organised, elect officials and get registered with the social services for them to be legally recognised by the authorities. PFM is a multi-stakeholder approach where the private sector, institutions, and communities are involved in management of forests and sharing of benefits that accrue from such management processes. While PFM can be considered in the wider perspectives of Community Based Natural Resource Management, community forest management is the most emphasized approach for implementing PFM in many developing countries. CFM is basically an approach towards achieving forest sustainability and biodiversity conservation with socioeconomic objectives. These socioeconomic objectives include equity, conflict resolution, awareness, forest production, poverty reduction, and sustainable utilization. The positive results of implementing PFM process will be demonstrated through the changed attitude of local forest-adjacent communities and hence, a change in the level of forest conservation, but such results will be highly influenced by the mode of participation adopted by the PFM implementation process.

Conducted studies on community participation in forest management by scholars among them Guthiga, Koech and Ongugo demonstrate that there is a challenges on communities’ integration in forest management. This study therefore interrogates the implementation

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strategies in place and finally come up with remedial measures for sustainable forest management.

1.2. Statement of the problem

Developing countries experience environmental problems like desertification, deterioration of urban physical quality, land degradation, deforestation, soil erosion, and flooding. It has been established that these problems emanate mainly from human activities created in the quest to achieve a higher level of development. The implication is that sufficient precautions have not been taken to balance development objectives against the need to maintain desirable environmental quality.

Community participation in sustainable management of forest resources in Kenya has been viewed as follows; community groups lack experience and tradition of forestry operations, in some instances, Kenya Forest Service (KFS) has had tensions with social organizations and also some of the Community Forest Associations (CFAs) obsessed by expectations beyond what the legislation provided for. Thus, the study analyzes the environmental problems in developing countries in regard to community participation in forest management in Kenya.

1.3. Objectives

1. Examine sustainable environmental management in developing countries in particular forest management.

2. To assess the level of Community Participation in sustainable management of forest resources in Kenya.
1.4. Literature Review

The literature on sustainable environmental management and participatory forest management are many and varied, this study will be limited to only those literatures that provide incisive thrusts in on implementing sustainable environmental management in developing countries and narrowed down to community participation in forest management in Kenya. The global governance theory is adopted in the study as a theoretical framework. This is because in 1990s issues concerning the environment were the driving force behind the debate on global governance. This was attributed by the fact that environmental issues transcend national boundaries, they can be transnational, local, and still of global interest. In all aspect the world is now going green thus this theory is very relevant in these study.

1.4.1. Sustainable management of forests

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 long-term development. In its broadest sense, forest management encompasses the administrative, legal, technical, economic, social and environmental aspects of the conservation and use of forests. It implies various degrees of deliberate human intervention, ranging from actions aimed at safeguarding and maintaining the forest ecosystem and its functions, to favouring specific socially or economically valuable species or groups of species for the improved production of goods and services.

Many of the world's forests and woodlands, however, especially in the tropics and subtropics, are still not managed in accordance with the Forest Principles adopted at the

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United Nations Conference on Environment and Development.\textsuperscript{8} Many developing countries have inadequate funding and human resources for the preparation, implementation and monitoring of forest management plans, and lack mechanisms to ensure the participation and involvement of all stakeholders in forest planning and development. Where forest management plans exist, they are frequently limited to ensuring sustained production of wood, without due concern for non-wood products and services or social and environmental values. In addition, many countries lack appropriate forest legislation, regulation and incentives to promote sustainable forest management practices.

The need to increase forest cover and reduce forest destruction and degradation has been recognized in Kenya and included Kenya constitution 2010.\textsuperscript{9} The Government has recognized the critical role to be played by forest-adjacent communities in ensuring that tree cover in the country increases from the current two percent to the recommended 10 percent.\textsuperscript{10} In order to appreciate the point from which the country has to move in order to achieve its targeted forest cover, Nurse and Edwards describe the previous Forest Act, Cap 385 as a forest management system that has been practiced in Kenya over the years as demotivating for local communities and one that has made them participate in the destruction of the country’s forest and tree resources.\textsuperscript{11} The Forests Act, 2005 is therefore a positive move for the local communities and this has already begun to act as a catalyst in

\textsuperscript{8} UNCED, 1992, \textit{Agenda 21}, UNCED, Rio de Janeiro


their involvement in the management of the remaining forest resources.\textsuperscript{12} The Forests Act, 2005 encourages local communities to participate in the management of forest resources adjacent to them. Arising from this new policy and law, new institutions are emerging to implement the process of involving local communities in the management of forest resources. These institutions are being established with the aim of co-managing forest resources with central and local government institutions such as the Kenya Forest Service (KFS) and the County government.

In order for the local communities to enter into such co-management arrangements, they are expected to form and register Community Forest Associations (CFAs) within different forests distributed across the country.\textsuperscript{13} Such an association will have to be vetted based on the following criteria before it can be allowed to operate: its objectives, composition of its management committee, election procedures, and the purpose for which its funds may be used. Despite all these requirements, CFAs just like any other institution may be mismanaged and eventually collapse. In addition, communities that form forest associations may not be homogeneous. They may also have varying socio-economic objectives for forming the associations. Lack of homogeneity may also affect their forest management objectives and this in effect may have an impact on the sustainability of the forest resources to which they are adjacent.\textsuperscript{14} There is therefore a need to evaluate community forest

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\textsuperscript{13} Ibid
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association in Kenya and come up with the best ways to integrate them in sustainable forest management.

1.4.2. Participatory Forest Management

Evolving procedures that enable all actors to participate in the development, implementation and appraisal of natural resource policies, particularly forest-dependent communities, is critical for sustainable forest management and rural livelihoods. Without such effective mechanisms and strategies to ensure local-level participation in forest policy dialogue, development and implementation, there cannot be long-term commitment for survival of forest resources. While new approaches and tools for participatory forest management have been developed, genuine participation with real benefits for local populations is yet to be realised.\(^\text{15}\) Forests are sources of timber, fuelwood, pulp for paper, and medicine besides hosting activities such as mining, grazing, recreation, hunting and gathering. They also protect watersheds, thus regulating the flow of water from highlands into rivers and streams and help in controlling soil erosion, flooding as well as the amount of sediment washed into streams, reservoirs and lakes. Forests influence local, regional and global climates and constitute important habitats for wildlife. Hence, they are major reservoirs of biodiversity. They provide buffer zones against noise, absorb air pollutants and nourish the human spirit through their aesthetic value.

More than two million indigenous people (4 percent of world’s population) representing 5,000 of the world's 6000 cultures live in environments ranging from the polar to tropical

forests and rain forests.\textsuperscript{16} Long-term survival of forests and their roles therein is thus dependent on carefully formulated policies that take into consideration the views, needs and aspirations of the forest-adjacent communities.

The Forest Act, 2005 established Kenya Forest Service which is a government agency empowered to manage forests.\textsuperscript{17} The Act also embraces community participation in forest management. There have been some challenges in implementation process since some communities adjacent to the forest feel that they are not properly recognised by Forest Authorities in the management of the forests. There has been some resentment by these communities. Lack of involvement of the forest-adjacent community through consultations in the policy formulation processes exacerbates these threats, as the community does not feel as part of the management team. At the same time, the local communities have often perceived government's forest management policies negatively, as being against their interests, and have therefore been indifferent to government-led conservation initiatives\textsuperscript{18}.

This has given clear indication that without local support, implementation of these state based forest conservation initiatives, regulations and policies, is deemed to fail. Management of forests in Kenya has been facing similar challenges in its sustainable management since forest destruction has been going on in presence of the adjacent community. There is therefore a need to assess community participation in its efforts in mitigating illegal forest deforestation for sustainable management of forests in Kenya.

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\textsuperscript{17} GOK, Forest Act No 7, 2005. Government printers, Nairobi, Kenya.

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1.4.3. Decentralization policies in forest management

Decentralization policies do not affect forest users’ behaviour directly—rather they change local incentive structures by altering security, access and the power structure of local governance which in turn lead to behavioural change. The expected outcomes, of regime change are mediated by forestry regulations that impose conditions for use of forest resources, and by the capacities of small holders and communities to adopt to those regulations. For instance the communities are required to implement workable systems of governance for their collective lands, exclude third parties and engage in competitive conditions with the forest markets. Indirectly, the outcomes of the reform are also influenced by access to financial and non-financial services. In the absence of these conditions, forest tenure reforms are unlikely to achieve their livelihood and conservation goals.

Thus decentralization policies may change patterns of land use and local governance that produce a variety of outcomes, some desirable and some not. For example, many of the CFAs formed in Kenya were driven by expectations beyond what the legislation provided for. Indeed some CFAs anticipated converting forests into farmlands for production of cash and food crops. In some cases if property rights are devolved to diverse forest groups, the new property rights holders may hesitate to invest in forest resources if they fear that these changes are temporary.

These diverse outcomes may be explained by several reasons. First, for groups that lack experience and tradition of forestry operations such institutional arrangements are complex.

19 Ibid

Second, in some instances, these new organizations have had tensions with existing social organizations. The state assumes that these organizations have the capacity to govern on their own and provide the required support to local people. Lastly, with regard to market engagement, while some communities are capable to participate aggressively and adopt entrepreneurial activities, others do not have the capacity to do so.\textsuperscript{21} Thus, to clearly understand the effects of forest decentralization, one should examine the plethora of relevant variables in different contexts that might be altered.

The links between national policy changes and their effects on the ground in terms of local level behaviour are mediated by a host of complex processes that inhibit policy implementation.\textsuperscript{22} Forests are usually located in remote and sometimes marginal areas with many poor people. It is no surprise that evaluations of forest decentralization have posted disappointing results.\textsuperscript{23} A solid understanding of how local users’ behaviour change in response to these policies is also critical and required.

### 1.5. Justification of Study

Community participation in sustainable environmental management requires concerted and transparent involvement among all actors. The local communities constitute the core of these actors. Where the local communities depend heavily on forest resources, their involvement in forest management is essential and without effective mechanisms and


strategies to ensure local-level participation in forest management, there cannot be sustainability of forest resources.

Integrated natural resource planning and management is now recognised internationally as a prerequisite for sustainability of resource use. Agenda 21, recognizing this need, reiterates that “natural resources are used for a variety of purposes which interact and may compete with one another therefore it is desirable to plan and manage all uses in an integrated manner.” Community participation is part and parcel of integrated natural resource planning and management. There are three principal actors in the management of forest in Kenya: the Kenya Forest Service, the Kenya Wildlife Service and the Community.

There is no single recipe for successful forest conservation in developing countries and recognising this, individual forests have different conditions and value, and suitability for increased community involvement varies accordingly. This study therefore is of paramount importance in formulation of best community participatory practises for sustainable management of forest in Kenya. The results of the study will contribute to strategies and methodologies for achieving sustainable participatory conservation. This will enable policy makers and managers better understand the stand of local communities and adequately accommodate their aspirations during policy formulation process.

24 UNCED, 1992, Agenda 21, UNCED, Rio de Janeiro

1.6. Conceptual Framework

This research study adopts global governance framework. Global governance emerged out of the debate on global change at beginning of 1990s.²⁶ There are several definitions of global governance approach as it relates to environment. According to Rosenau, one of the leading scholar on global governance and other theories on political change, “governance without government” expands political sphere.²⁷ The World Resources Institute defines governance as the formulation of decision making and its process, and is thus concerned with the function of power and distribution of responsibilities.²⁸

In considering the environmental dimension of global governance, Vogler identifies four ways in which international cooperation can occur: international law, international organisation, international regime, and scientific cooperation.²⁹ International law in this context refers to the growing body of international law. The objects of analysis are framework conventions, such as the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, the Rio Declaration, and other institution advancements.

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The issue of the environment was the driving force behind the debate of global governance when the concept was first theorised. This can be attributed to the fact that environmental issues transcend national boundaries. They can be transnational and local, but if the latter, still of global interest in two scenes; local matters can still have impacts beyond their geographical location and secondly, the same or similar issues may occur in many places around the world. The introduction of environmental issues into International Relation necessitated the expansion of the scale of research in the field to include the multiple roles of actors and institutions in their engagements with the environment.

Rosenau emphasises the changing direction on governing to express the view that the ‘political sphere’ is moving towards both micro-level and macro-level. This perspective includes the alliance of actors such as scientist/experts, Non Governmental Organisations, transnational corporations/multinational corporations and local authorities which could have an important influence on the process of global change. In particular, the impact of communities on the process of policy making has been incorporated into the context of international regime building.

The forest sector has seen many initiatives to promote sustainability. The 1990s saw the emergence of multilateral initiatives such as the intergovernmental Panel on Forests (IPF) and the United Nations Forum on Forests (UNFF). The private sector also established certification schemes for sustainable forest management, such as the Forest stewardship Council in 1993. These initiatives to promote sustainability and, indirectly, legality were seen as a way to address the most pressing concerns in global forestry. For example, it was hoped that curtailing illegal logging would advance the broader governance agenda and increase revenues in forest rich countries.

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Governance reform is a very sensitive issue, and global dialogue is often complicated by the view that reform is a matter of national sovereignty. In this environment, the legality of trade in global forest products was seen as an issue in which consumer and producer countries could join forces to improve the rule of law in the forest sector. Several regional initiatives have emerged in which the governments of client and producer countries, the private sector, civil society, and international development partners are cooperating to improve forest governance. Often but not always such cooperation takes the form of regional and sub-regional political processes, such as the ministerial conferences in Bali (2001) for Asia, Yaoundé (2003) for Africa, and St. Petersburg (2005) for Europe and Central Asia. These processes have created a regional momentum for governance reform and have led to tangible efforts (e.g., in the Association of South East Asian nations, ASEAN) to promote field-level implementation.31

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31 Brown, david, Kate schreckenberg, neil Bird, Paolo Cerutti, Filippo del Gatto, Chimere diaw, Tim Fomété, Cecilia luttrell, Guillermo navarro, rob oberndorf, Hans Thiel, and Adrian Wells. undated. Legal Timber – Verification and Governance in the Forest Sector. london: overseas development institute.
Poor governance in the forest sector has been a concern for several reasons. Forest crime such as illegal logging, arson, poaching, or encroachment is a severe problem. In many developing countries, corruption in the forest sector (e.g., in concession allocation and revenue collection) and rent seeking have led to the loss of public revenue and diminished the reputation of forest agencies in the eyes of the public. Development outcomes in forestry depend on many factors both inside and outside the sector (Figure 1).

In developing countries, community rights to and ownership of forests is a major governance issue. The complexity of overlapping management and legal systems (legal pluralism) persists in many countries. Lack of clarity regarding ownership of forest lands, obscure forest laws dating back to colonial eras, and lack of open dialogue between the state
and its citizens are all manifestations of poor governance. Colonial rulers often defined forests as terra nullius land without human occupation or a recognizable government which paved the way for large-scale state ownership of forest lands in many countries. State ownership is a major issue of disagreement between indigenous and forest dependent communities and national governments in many developing countries. Land ownership has evolved over time and depends on political structures. In India for example forests are governed under dual jurisdiction between federal and state governments and with different degrees of decentralization of management to communities. Thus, the governance debate in the sector is not only about ensuring the legality of forest resources but also about the rights of communities to the resources and about benefit sharing among stakeholders. Even considered legal actions may lead to unsustainable management of resources good governance and legality does not always deliver sustainability and the opposite holds true: not all technically illegal activities are unsustainable.

It is in this regard that this study utilizes global governance framework in studying implementation of sustainable environmental management in developing countries in reference to community participation in forest management in Kenya. Local communities adjacent to the forests are major stakeholder to be incorporated by the state authorities in forest management and policy making.

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1.7. Hypotheses

1. Examine sustainable environmental management in developing countries in particular forest management.

2. To assess the level of Community Participation in sustainable management of forest resources in Kenya.

1.8. Research Methodology

The study utilised both primary and secondary data. Secondary sources of literature was from books, journals, periodicals, government documents, papers presented at conferences, policy reports, newspapers and online sources at National Defence library, University of Nairobi, Kenya Forest Service headquarters among others. On primary data collection, a Key Informant technique was used to solicit information from senior staff in Kenya Forest Service, local communities adjacent to forest and other relevant stakeholder. Relevant data from Kenya Forest Service, Ministry of Natural resources and any other significant information was also utilized.

1.9. Chapter Outline

The research project is structure in five chapters;

1.9.1. Chapter one: Introduction

The chapter covers introduction and provides the study setting. It discusses the background of the study, statement of the problem, research question, objective, justification, literature review, theoretical framework, research methodology and chapter outline.
1.9.2. Chapter two: Environmental management in developing countries

The chapter discusses sustainable environmental management in developing countries in regard to forest management.

1.9.3. Chapter three: Forest management and community participation in Kenya

The chapter discusses the background of forest management and Community participation in Kenya from the Pre-Colonial period to the present situation.

1.9.4. Chapter four: Analyses of community participation in forest management in Kenya

The chapter covers critical analysis of community participation in forest management in Kenya by addressing the objectives and hypotheses outlined in the study.

1.9.5 Chapter five: Conclusion and recommendation

This is the final chapter and covers Conclusion and Recommendations. It sums up the main findings and suggests policy recommendations.
CHAPTER TWO

ENVIRONMENTAL MANAGEMENT IN DEVELOPING COUNTRIES

The chapter discusses sustainable environmental management in developing countries particularly by analysing forest management in developing countries. The chapter also examines community participation in forest management in east Africa in particular Tanzania and Uganda because these countries have shown some significant advanced in participatory forest in the region.

2.1. Environmental Sustainability

Environmental sustainability has been defined by Daly and Daly & Cobb as: 36 1) Output rule: Waste emissions from a project or action being considered should be kept within the assimilative capacity of the local environment, without unacceptable degradation of its future waste absorptive capacity or other important services. 2) Input rule: Renewable resources: Example, Forest, fish, harvest rates of renewable resources inputs must be kept within regenerative capacities of the natural system that generates them. Non-renewable: depletion rates of non-renewable resource inputs should be set below the historical rate at which renewable substitutes were developed by human invention and investment according to the Serafian quasi-sustainability rule. An easily calculable portion of the proceeds from liquidating non-renewable should be allocated to the attainment of sustainable substitutes. Sustainable Growth: Growth that is possible to continue without causing economic

problems and economic growth that is possible to sustain without causing environmental problems.

**2.2. Unsustainable exploitation of natural resources**

Man is considered to be a danger to the whole of nature, and ultimately, as part of nature that totally depends on it, also as a danger to mankind. Garret Hardin’s “*Tragedy of the Commons*” approach in 1968 is best known on environmental sustainability. Garret Hardin proposed a particularly influential model to explain why communities may over-exploit shared environmental resources even where they know that they are doing so and are aware that it is against their long-term interests. Garret Hardin compares these pressures on the global environment to the slow destruction of the common grazing area of eighteenth century in England. All ends up with the same conclusion: we are heading for an ecological disaster that can only be prevented if we develop a new way of life, an alternative society and social consciousness, in which responsibility and a harmonious relation with the totality of nature are the most important values. The village herdsmen shared the commons peacefully as long as the number of cattle did not exceed the pastures’ carrying capacity, for it that happened, the land would be ruined and the cattle would die. In this situation, a rational actor would realize that the interest of all would be served if each showed self-restraint and alleviated the pressure of the land by reducing the size of his herd.


A purely self-interested herdsman, however, would argue that the addition of one more cow would produce a great personal gain for him, whereas the cow’s contribution to overgrazing would be small and the cost borne by everyone. In addition, if he voluntarily reduced his herd, he could never be sure that others would follow suit. All things considered, the self-interested herdsman would therefore increase the size of his herd. Ultimately, the collective impact of each herdsman’s self-interested effort to maximize gain would result in overgrazing the commons. “Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons”.

“Tragedy of the Commons” is now a standard image in ecological analysis. It is a disturbing warning for the fate of such “global commons” as oceans, atmosphere and forests. Thomas Schelling explains that “the commons are a special widespread case out of a broad class of situations in which some of the costs or damages of what people do occur beyond their preview, and they either don’t know or don’t care about them”.\(^{40}\) The notion shows how it is possible that “rational” individual actions can lead to “irrational” collective practices resulting in catastrophic over-exploitation of common resources.

The forest resources in this case are regarded as “public goods” and hence can be seen as commons because they are meant for all, but not for anyone in particular. This means that they can be used by all people neighbouring the forest and even those from far off the forest. The local community (the people who are the users) would want to maximise benefits from the forest resources such as timber, firewood, poles, grass, among others, but would not want to invest in these resources as is illustrated by evasion of permit payments for resource

extraction. In an attempt to exploit as much as possible from the forest for oneself, forest degradation results. This degradation is an example of the tragedy of the commons. While the benefits from the use of forest resources are enjoyed by individuals, the forest degradation costs are borne by all users. Hardin describes the conflict between individual self-interests and the good of the community as the “tragedy of the commons”.\textsuperscript{41} Each individual uses forest resources at will without caring about the effects on the environment. The community however shares the dire consequences of a deteriorating environment. The tragedy is that society at large pays for environmental degradation but there is little or no incentive for individuals to curb their activities unless the government (Kenya Forest Service, Kenya Wildlife Service) steps in to represent the broader public interest.

However, if sustainable use of forest resources is to be achieved, there is need for partnership with the local communities in the use and management of these resources. The goal of community participation is to check the “tragedy”. Participation depends on the people’s willingness to co-operate and this in turn depends on how they perceive both their particular interests as rational actors exploiting the resources, and the general interest of sustainable environment.\textsuperscript{42} The commons problem is the social dilemma. Moral commitment to any government’s initiative, environmental protection being the main one in this case, derives from the way the community perceives it. Commitment to participation requires perception that measures reflect the people's needs and aspirations. The question of needs and aspirations in sustainable management of the environment, forest adjacent community can be approached by reconciling the tenets of the tragedy of the commons with

\textsuperscript{41} Ibid

community development by involving the community in problem identification, planning, resource mobilisation, implementation, monitoring and sharing of benefits that accrue from such efforts.

### 2.3. Sustainable Forest Management

The General Assembly of the United Nations adopted in December 2007 the most widely, inter-governmentally agreed definition of Sustainable Forest Management (SFM): Sustainable forest management as a dynamic and evolving concept aims to maintain and enhance the economic, social and environmental value of all types of forests, for the benefit of present and future generations. It is characterized by seven elements, including: 1) extent of forest resources; 2) forest biological diversity; 3) forest health and vitality; 4) productive functions of forest resources; 5) protective functions of forest resources; 6) socio-economic functions of forests; and 7) legal, policy and institutional framework. 43

#### 2.3.1. Ecosystem services provided by forests

Ecosystems generate numerous benefits or “ecosystem services”. River systems provide freshwater, recreation, power, and food supply. Coastal wetlands help mitigate against flooding, filter waste, and serve as nurseries for fisheries. Forests provide us a wide variety of ecosystem services, including provisioning, regulating, cultural, and supportive services. These ecosystem services not only deliver the basic material needs for survival, but also underlie other aspects of well-being, including health, security, good social relations and freedom of choice. Forests are amongst the most biologically rich terrestrial systems.

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Together, tropical, temperate and boreal forests offer diverse sets of habitats for plants, animals and micro-organisms, and harbour the vast majority of the world’s terrestrial species. In the past, timber production was regarded as the dominant function of forests.

However, in recent years this perception has shifted to a more multi-functional and balanced view. Today, it is understood that forest biodiversity underpins a wide range of goods and services for human well-being. Ecologically intact forests store and purify drinking water, they can mitigate natural disasters such as droughts and floods, they help store carbon and regulate the climate, they provide food and produce rainfall, and they provide a vast array of goods for medicinal, cultural and spiritual purposes. The health of forests and the provision of these and further forest ecosystem services depend on the diversity between species, the genetic diversity within species, and the diversity of forest types.

The Millennium Ecosystem Assessment (MEA), a scientific undertaking involving over 1300 experts working in 95 countries globally, indicates that a large and increasing number of forest ecosystems, populations and species are threatened globally or being lost due to the loss and degradation of forest habitats, and that this reduction of forest biodiversity will be aggravated by the effects of climate change44. Tropical moist forests are home to the largest number of threatened species of any biome. It is assumed that numerous, but not yet scientifically described, species are presently being lost together with their tropical forest habitats. Conserving forest biodiversity is a prerequisite for the long-term and broad flow of forest ecosystem services.

2.3.2. Environmental impacts of forestry

Environmental impacts to forest ecosystem include: 1) Biodiversity loss resulting from unsustainable forest operations and other pressures on forest resources, such as gathering of fuelwood, can lead to forest degradation and permanent losses in biodiversity. Globally, over half of the temperate broadleaf and mixed forest biome and nearly one quarter of the tropical rain forest biome have been fragmented or removed by humans.\(^{45}\) 2) Illegal hunting, for example increased hunting continues to be a major threat to forest biodiversity in many countries. The depletion of wildlife is intimately linked to the food security and livelihood of numerous tropical forest-region inhabitants, as many of these forest-dependent people have few alternative sources of protein and income. Unsustainable hunting pressures are often linked to logging activities.\(^{46}\) 3) Illegal settlements: side effect of forestry operations, illegal settlements are a threat to forest biodiversity following construction of new forest access roads to previously inaccessible regions. 4) Livelihoods of forest dwellers: Forestry can also have negative impacts on indigenous and local communities and on the livelihoods of other forest dwellers by competing with these communities for access to a finite forest resource base, and by disregarding cultural or spiritual sites and practices. 5) Climate change: As forest ecosystems are important stores for carbon, their loss has serious implications for climate change. Forests account for about 50 percent of the total above-


ground terrestrial organic carbon, and deforestation and forest degradation are estimated to cause about 20% of annual greenhouse gas emissions.\textsuperscript{47}

2.3.3. Trends of Forest biodiversity

Forest biodiversity is being lost at an alarming rate. Key publications such as the Millennium Ecosystem Assessment (MEA 2005) and the Red List of Threatened Species indicate that a large and increasing number of forest ecosystems, populations and species are threatened globally or being lost due to the loss and degradation of forest habitats, and that this reduction of forest biodiversity will be aggravated by the effects of climate change.\textsuperscript{48}

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The percentage of forest area designated for the conservation of biological diversity has increased significantly between 1990 and 2005, with an estimated 11.2 percent of total forest area having this objective as its primary function.\textsuperscript{49} This positive trend was observed in all regions with the exception of Northern, Eastern and Southern Africa. However, it is often unclear how effective the protection of these areas is, and different forest types are represented very unequally in the total area of protected forests. The aim of the CBD to

\textsuperscript{47} Ibid


\textsuperscript{49} FAO. 2006b. Global forest resources assessment 2005: Progress towards sustainable forest management. FAO: Rome.
achieve effective protection of at least 10 percent of all forest types by 2010 will presumably not be met.⁵⁰

Forested wetlands represent a particularly vulnerable forest type. Forested wetlands are highly biodiversity rich and provide significant ecosystem services, such as carbon sequestration, and they underpin productive fisheries. A significant proportion of Ramsar Sites include forested areas, although a lack of data constrains estimates of the extent of coverage of this forest type under existing protected area systems. Forested wetlands are vulnerable not only to excessive direct use, but also to the added threat of unsustainable water use.

Areas under agriculture and pasture are expanding, often at the expense of forest. The Millennium Ecosystem Assessment reports that agricultural land is expanding in approximately 70% of the countries examined. The impact of agricultural expansion has been particularly severe in tropical forest regions, where pasture and crop land is expected to continue to increase over the next 30 to 50 years.⁵¹


⁵¹ Ibid
The above map shown in figure 1 was authored by a team involving NASA, Google and the University of Maryland researchers, who used images from the Landsat satellite. It reveals mapped forest cover worldwide as well as forest loss and gain between the years 2000-2012. 888,000 square miles (2.3 million square kilometers) of forest were lost, and 309,000 square miles (800,000 square kilometers) regrew.

Source: Hansen et al\(^5\)

2.3.4. Trends on Sustainable use and consumption of Forest resources

More than 1.6 billion people depend to varying degrees on forests for their livelihoods, for example fuelwood, medicinal plants and forest foods. Approximately 300 million depend on forests directly for their survival, including about 60 million people of indigenous and tribal groups, who are almost wholly dependent on forests. Forests play a key role in the economy of many countries. Urban areas often depend on forested areas for their water supply and benefit from the multiple environmental services of urban forests and trees.54

The consumption of main timber products (round wood, sawn wood, pulp, paper) is expected to increase over the next 30 years. The use of solid biofuels for electricity production could be three times larger by 2030 than current levels.55 Globally, by 2050, the demand for industrial round wood is expected to increase by 50 to 75 percent.56 In consequence of growing demand, tropical forest plantation area more than doubled between 1995 and 2005, to 67 million hectares, mostly in Asia. Other plantations, in boreal and temperate regions, have also increased in area and this trend is expected to continue.57 The

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55 Ibid

56 Sedjo, R. A. 2001. From foraging to cropping: the transition to plantation forestry, and implications for wood supply and demand, Unasylva, 204 (52).

use of relatively few tree species in plantations and modified natural forests is an issue of concern for a number of forest dependent species and for ecosystem resilience.\textsuperscript{58}

Illegal or unsustainable logging and harvesting of forest products seriously undermine national efforts to improve sustainable forest management in many countries. Governments, mostly in developing countries, lose an estimated US$15 billion a year as a result of uncollected taxes and royalties. Recent estimates suggest that up to 15 percent of internationally traded round wood might originate from illegal sources.\textsuperscript{59} Rare tree species and those with high value for timber or non-timber forest products are often in danger of becoming locally extinct.

Market-based responses are redistributing rights to stakeholders, making them more effective in securing both wood supplies and other ecosystem services. Market approaches to allocating use rights to public lands, and voluntary certification, are helping to change the structure of wood industries. However, it is usually existing “good practice” companies that are benefiting. Step-wise incentives are needed to encourage the bulk of wood producers to gradually develop existing capacity, to cover transaction costs, and hence improve forest management practice. Other responses are needed to “close doors” to bad practice; these are unlikely to be market-based, but will need legal action and enforcement.

There has been significant growth in some non-timber forest products (NTFP) markets with extension of market systems to more remote areas; growing interest in products such as herbal medicines, wild foods, handcrafted utensils, and decorative items; and development


projects focused on production and trade of NTFPs. Few NTFPs have large and reliable markets, and those tend to be supplied by specialized producers using more intensive production systems. Many other NTFPs are vital to the livelihoods of the poor but have little scope for commercialization.

Civil society and private sector players are playing an increasingly important role in management of forest products, reflecting the public’s desire to secure a range of ecosystem services from forests. Consequently, multi-stakeholder processes, from a local to an international level, are becoming significant in developing, debating, and reviewing response options. They are important in determining a suitable distribution of public and private benefits from the use of forests.

There has been a strong move toward both privatization and the decentralization of control over forests, forest management services, and enterprise. This, together with other forms of liberalization and structural adjustment, has helped to remove perverse incentives that acted against sustainable wood supply. This has helped to create a wider range of willing stewards of forests, but has not always conferred adequate rights and powers on them to enable them to exercise stewardship.

The forest area under certification has increased rapidly in recent years. However, to date this trend is seen primarily in industrialized countries, and only locally in developing countries, and certification does not yet seem to be affecting timber production or trade at a significant scale.\textsuperscript{60} Certification can be an effective tool for change, improving the sustainability of forest management both in developed and developing countries, but only where timber markets are interested in sustainably produced timber.

\textsuperscript{60} Ibid
2.4. Forest management in Africa

Africa’s total forest cover is estimated at 674 million hectares, or 23 percent of the continent’s land area and 17 percent of the world’s forest-cover.\(^6^1\) The distribution of forests and woodlands varies from one sub-region to another, with Northern Africa having the least cover while central Africa has the densest. On average they account for 6 percent of GDP. Forests have an immense potential to contribute to Africa’s social and economic development insofar as they can offer a range of ecological, economic and social services, including the protection of water and soil resources.

Africa’s forests are under threat. The continent lost 3.4 million hectares of forests per year between 2000 and 2010 and 4.1 million hectares per year between 1990 and 2000.\(^6^2\) The threat comes from agricultural expansion, commercial harvesting, increased fuel wood collection, inappropriate land and tree tenure regimes, uncontrolled livestock grazing, accelerated urbanization and industrialization. The demand for wood products - especially fuelwood, charcoal and round-wood has increased rapidly throughout Africa.

The need to preserve forests is highly evident. Forests play an important role in climate change mitigation and biodiversity conservation, providing among other things sinks for carbon, with global environmental benefits. Given these real and potential benefits, why are African countries not doing more to manage their natural resources, and specifically their forests, in a sustainable manner?

\(^{61}\) FAO (2010), Forest Assessment Report, Rome

\(^{62}\) Ibid
2.4.1. Challenges of forest management in African countries

A number of constraints make it difficult for the majority of African countries to implement sustainable forest management practices. The forestry sector has historically been given low priority compared to food security, health, education, and other sectors, and therefore received insufficient budgetary allocations. Sustainable forest management programs require a long-term view and adequate investments that are often overlooked, under the pressure of more immediately pressing issues.

This situation is reflected in the weak forestry policies and institutions in many African countries that fail to support adequate protect and sustainably manage their forest resources. Policy failures are reinforced by market failures that promote unsustainable management and use of forest resources, favouring higher, faster returns from logging and mining. Further, mechanisms to promote the participation and involvement of local communities and the private sector in sustainable forestry management initiatives are also generally lacking. The long-term threat is the destruction of forests and with them, biodiversity, livelihoods, and the mitigating of the adverse effects of climate change.

2.4.2. Opportunities in forest management in Africa

Sustainable forest management in Africa is a necessity. There are significant opportunities to rehabilitate degraded forests and expand forest cover, protect biodiversity, enhance forest production, contribute to improved livelihoods and bring on board policy and institutional frameworks that will contribute to sustainable forest management. Some regional and global environmental initiatives are as follows; 1) The African Ministerial Conference on the Environment (AMCEN) was established in 1985 to strengthen cooperation between Africa Governments on economic, technical and scientific activities to halt the degradation of
Africa’s environment and satisfy the food and energy needs of its people. 2) Since 2000 AMCEN has also initiated environmental assessment and reporting to keep the regional environment under review in order to provide early warning on emerging environmental issues. 3) Within regional development blocks (SADC, EAC, ECOWAS) there are platforms to dialogue on environmental issues. 4) Centre for Environment and Development for the Arab Region and Europe

There are several Multilateral Environmental Agreements to which countries have signed up including; 1) Convention of Biological diversity. 2) Basel convention on trans-boundary movement of hazardous waste. 3) United Nations Convention to combat desertification. The agreements is aimed at easing the administrative difficulties hampering cross-border efforts to combat illegal activities on biodiversity.

2.5. Development of Participatory Forest Management in Developing Countries

The inclusion of communities in the management of state-owned or formerly state-owned forest resources has become increasingly common. Almost all countries in Africa, and many in Asia, are promoting the participation of rural communities in the management and utilisation of natural forests and woodlands through some form of Participatory Forest Management. Many countries have now developed, or are in the process of developing, changes to national policies and legislation that institutionalise PFM.

A report from Forest Trends suggests that the forest area under community tenure or management is now approaching 25 percent in global terms.\(^6\) However, the definition of what is meant by community tenure or management can vary. For example, in Ghana forests

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are nominally held by the customary authorities but in reality tree tenure is in the hands of the state which acts in the name of communities and the customary authorities.

There are now a wide range of activities variously called community forestry, adaptive co-management and Community Based Natural Resource Management to name but a few. These originated in a fairly narrowly circumscribed set of activities during the 1970s, consisting of woodlots for fuel and ‘social forestry’ in India, Collectively they represent a new set of relationships between the state (usually through forest departments) and people living in and close to forests and woodlands. This is the collection of activities which this overview terms ‘Participatory Forest Management’. There is therefore great variability in the institutional arrangements of PFM, ranging from community ownership and management of forest resources to partnerships for forest management between the state and local communities, and devolution of management of forest resources from the state to individual households.

Different motivations dominated in different countries. In Nepal and India community forestry programmes were initially conceived to reverse degradation of national forests, which could not be managed and protected effectively by state forestry services. This was also one of the motivations for the establishment of the first village-owned forest reserves in Tanzania. Rural poverty alleviation was a further motivation behind Leasehold Forestry in

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64 Shepherd, G. (1990) Forestry, social forestry, fuelwood and the environment: a tour of the horizon. Social Forestry Network Paper 11a, ODI.


Nepal and Joint Forest Management in India. Increasing local communities’ involvement in forest management has in many cases been associated with governmental decentralisation programmes, such as in Honduras and Bolivia where responsibility for forest management, and for increasing local people’s involvement in it, has been devolved to municipal authorities. In contrast with cases from developing countries, those from Europe and North America have shown no significant ‘top-down’ drive for participatory forest management, and involvement of communities has proceeded on a case by case basis. This has resulted in great variability in the role of participatory forest management and the institutional arrangements that have developed.

Elsewhere, as in Cameroon and Bolivia, donors, political organisations and NGOs have been instrumental in developing participatory forest management programmes. These programmes emerged in recognition of local people’s rights to resources, controlled by state authorities and exploited by the timber industry that could be better used in improving the livelihoods of the poor. Indeed the support of the international community for efforts to achieve sustainability and efficiency through decentralisation and public sector reform was a major factor in the promotion of PFM. In 1997, the UK’s Department for International Development alone was funding over 200 PFM projects. Early support for PFM was motivated by donors’ interests in improving the conservation status of forests that were

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largely out of reach (both in terms of physical access and resource availability) of forest departments. However, this soon gave way to an interest in PFM as a route to poverty reduction. This shift in emphasis took place within the context of a global focus on poverty reduction and the recognition that the location of many of the world’s poorest people in and around forests suggested an important role for forests in poverty alleviation. While the contribution of forests to national economic development and poverty reduction is often argued to be significant, the magnitude of this contribution is unclear. This is particularly true for PFM, which because of its direct engagement with local communities, has often been assumed to be an obvious way to achieve poverty reduction.

PFM also encompasses a wide range of different co-management arrangements with different levels of control from relatively conservative “benefit sharing” to genuine “community-based natural resource management” where local communities have full control over management of the resource and the allocation of costs and benefits. These differences are highlighted by Wily in her review of the forms of PFM allowed for by policies in Uganda, Kenya, Tanzania and Ethiopia. A review by Moss et al. differentiates between PFM projects on the basis of a number of factors, including: how they were set up; by whom (i.e. social movements, government programmes or development intervention); whether there was real devolution of power; the level of participation, control and ownership; and what the situation was prior to the introduction of PFM.


There is an expectation that PFM can bring substantial benefits in terms of livelihood security and poverty reduction, as well as providing important indirect benefits to the poor in terms of improved local governance and empowerment. At the same time, there is growing concern that PFM approaches may not be as pro-poor as they could be and that, in some cases, underprivileged people may be actively disadvantaged by PFM initiatives. It is recognised that many programmes supporting co-management and community based management of forests have outcomes that are not positive for the poorest elements of society. Co-management processes, and the institutional arrangements that oversee their implementation, may easily be dominated by wealthier, more powerful members of the community, producing an outcome that perpetuates or even reinforces social inequity. In the worst case, termination of “open access” in favour of “controlled utilisation” can actually result in negative impacts on the poorest members of the community (Example women and marginalized ethnic groups), who may lose access to the resource. For example in some cases users have been excluded from forest-user groups (Nepal) and in others the returns from co-management are not sufficient to cover community investments (East Africa). This may not be the case where communities have complete ownership. The lack of solid evidence for the impacts of PFM is in part due to the difficulty of measuring the range of costs and benefits for different groups of people. Substantial efforts have been made to monitor the quantity and value of forest goods and services accruing to communities at an aggregate level but, with the notable exception of recent work in Zimbabwe and Nepal, less attention has been paid to the distribution of benefits within communities.74

2.6. Community participation in forest management in East Africa

Community participation in East Africa region has evolved overtime since independence. There is significant evolvement of participatory forest management in Uganda and Tanzania which will be disused in a more detailed and comparisons made on Kenya situation.

2.6.1. Post independence policies on Forest management

Structural changes in forest policies in East Africa can be seen as a contributing reason that decentralization is more in tune with the prevailing ethos of governance. For example the Tanzania National Forest Policy of 1998 clearly states that involvement of local communities and other stake holders in conservation and management will be encouraged through joint management agreements. On the other hand decentralization has been a controversial political issue in Kenya. Shortly after independence the Kenya African National Union (KANU) under the leadership of Jomo Kenyatta, successfully dismantled the autonomy of provincial administration. Centralizing policies were defended in the name of national unity, the need for rapid development and more effective service delivery. On the other hand Kenya just like the other two sister countries in East Africa: Uganda and Tanzania, is plagued by present and potential fiscal crises, among them increasing population, rising demands of forest products and services, higher debt service burdens and central budget deficits. These fiscal pressures have led to a cautious attitude about expanding central government and have created incentive for willingness to devolve power


to local authorities. As Agrawal et al., argues, although central governments may often need and wish to intervene in local affairs to address local institutional weaknesses, it would be best to design reform programmes that gradually relax central controls as local governments meet a progression of defined and verifiable performance criteria.

2.6.2. Forest management in Tanzania

It is estimated that in 2005, Tanzania mainland had 35.3 million ha of forest, representing 39.9 percent of total land area. These resources are under enormous pressure from human settlements and activities such as illegal harvesting, fires and mining. These pressures lead to deforestation, estimated to be 91,000 ha per annum. Forests play an important role in the livelihoods of Tanzanians. It is estimated that more than 90 percent of the population uses wood energy for domestic. Forests also provide various non-wood products and are important for water catchment.

PFM has been accorded high priority both in the National Forest Policy and the National Forest Programme (NFP). Legal and institutional frameworks for supporting PFM implementation are also in place. PFM is part of an overall rural development strategy, intended to improve rural livelihoods and thereby help reduce poverty, while at the same time protecting the environment and promoting equitable distribution of benefits.

Over the years a range of projects have been testing PFM in many parts of the country and have made generally good progress. Over 902 out of 10 000 villages are currently practising PFM in Tanzania and over 441 881 ha are under Community Based Forest Management

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(CBFM) while 396,330 ha are under Joint Forest Management (JFM). In order to secure the sustainability of PFM, focus is both on conservation and economic incentives for communities. One of the most significant developments in PFM in Tanzania has been the effort to strengthen or reintroduce indigenous knowledge and practices in managing and protecting forests.

The forest resources need sustainable management for the benefit of the present and future generations. For a long time forests in Tanzania have been managed without full participation of the local communities and other relevant stakeholders living around the forest resources. Local communities have a significant role in improving forest management and their participation can therefore contribute significantly to effective management of these resources.

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2.6.3. Forest management in Uganda

Uganda covers a total surface area of 241,038 km². About 82 percent of this is land area and the rest is water and swamps. Subsistence farmland covers 41 percent of the land area, while forests cover 24 percent and bush land 7 percent. The remaining 28 percent is

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Forests in Uganda cover 4.9 million hectares (ha) and consist of woodlands (81 percent), tropical high forests (19 percent), and plantation area (less than 1 percent).

In many countries including Uganda, management of forest resources has moved away from command and control system to a more participatory approach that require involvement of a broad spectrum of stakeholders. The introduction of PFM was sparked by several factors: both international and local. At the international level, treaties and accords such as the Tropical Forest Action Plan, an outgrowth of the agenda 21 framework initiated in Rio-de-Janeiro in 1992, sought to reverse the loss of forests through the involvement of stakeholders, especially adjacent communities. The Convention on Biological Diversity (1992) highlights the importance of sustainable use and equitable sharing of benefits that arise from biodiversity resources. At the local level, the original argument for increasing community participation in the maintenance of rural conservation projects stemmed from the need to better target people's needs, incorporate local knowledge, ensure that benefits were equitably distributed and lower management costs. The inclusion of communities in the management of state-owned or formerly state-owned forest resources has become increasingly common in the last 25 years. Strengthening and Empowering Civil Society for Participatory Forest Management in East Africa.

In Uganda, the form of Participatory Forest Management approaches adopted for managing forest resources include Collaborative Forest Management (CFM), Community Forests (CFs) and Private Forests (PFs) (Strengthening and Empowering Civil Society For

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Participatory Forest Management in East Africa.⁸² CFs is the forest management approach where communities register as legal entities for purpose of seeking gazettement of a forested communal land as a Community Forest and henceforth manage it for the common good of the community. PFs is the forest management approach where local community members manage own trees on private land or participate in the management of private natural forests, private plantations, forests owned by cultural and traditional institutions. CFM is the most widely used and adopted form of participatory forest approach in Uganda today. It is a forest management approach where communities enter into agreement with the National Forestry Authority in case of Central Forest Reserves and District Forestry Services local governments in case of Local Forest Reserves to manage part or the whole of gazetted forest reserve. CFM is defined as a structured collaboration between governments, interested organisations and community groups, and other stakeholders to achieve sustainable forest use. It defines a local community’s rights to use and/or participate in forest management and focuses on improving the livelihoods of the forest adjacent communities through mutually enforceable plans but the government does not surrender ownership of the forest to partner stakeholders (National Forestry Authority, 2003) and is the most widely used form of PFM in Uganda.⁸³

Sustainable management of forest resources in Uganda has remained a challenge to forest managers and policy makers because the population is highly dependent on them for timber,

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agriculture, energy production and other non-timber forest products.\textsuperscript{84} In addition, forest agencies responsible for forest management have been unsuccessfully in their effort to sustainably manage forests due to breakdown in law and order, ineffective rules and inadequate funding to manage forest resources.\textsuperscript{85} Since most of the forest reserves are small and scattered over a large area, the governmental lacks both financial and human resource to monitor the use of the resources.\textsuperscript{86} Therefore, in the current forest policy, there has been a shift of control of forest resources, especially those outside protected areas from state controlled to community level in an attempt to improve management.\textsuperscript{87} CFM was viewed as the one approach to achieving improved and more efficient management of the country’s forest estate.

2.7. Conclusion

Sustainable forest management means the environmentally appropriate, socially beneficial, and economically viable management of forests for present and future generations. It is the management of forests according to the principles of sustainable development. The forest principles adopted at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 captured the general international understanding of sustainable forest management. A number of sets of criteria and indicators have since


been developed to evaluate the achievement of SFM at both the country and management unit level. These were all attempts to codify and provide for independent assessment of the degree to which the broader objectives of sustainable forest management are being achieved in practice.

On forest governance, a majority of forests continue to be owned formally by government, the effectiveness of forest governance is increasingly independent of formal ownership. Evolvement of Global governance theory ideology in the 1990s and the emanation of the climate change challenges, evidence that the state is failing to effectively manage environmental resources has emerged. Under global governance in the developing countries, the role of the state has diminished in environmental management and environment is because environmental issues transcend national boundaries. Non Governmental Organisations, transnational corporations/multinational corporations and local authorities/communities have an important influence on the process of global change.

Community forest management is an evolving branch of forestry whereby the local community plays a significant role in forest management and land use decision making by themselves in the facilitating support of government as well as change agents. It involves the participation and collaboration of various stakeholders including community, government and non-governmental organisations. The level of involvement of each of these groups is dependent on the specific community forest project, the management system in use and the region. Community forestry first came to prominence in the mid 1970s and has continued to evolve over the last few decades in a growing number of countries including Nepal, Indonesia, Korea, Brazil, India and North America. It has been also been adopted in several countries in Africa and particular in East Africa it is gaining ground in Kenya, Uganda and Tanzania.
CHAPTER THREE

FOREST MANAGEMENT AND COMMUNITY PARTICIPATION IN KENYA

This chapter analyses the background of forest management and community participation in Kenya from Pre-colonial period to the current position. The chapter analyses various policies and legislation put in place from the pre-colonial period, level of enforcement and actors involved as outlined in the conceptual framework. Each administrative system and effects of policies, legislations and level communities’ participation on forest management is observed. Furthermore since forest management has a lot of political interference, differing political situations influencing forest policy and practice is also analysed.

3.1. Pre-Colonial Period on forest management

Prior to 1895 when Kenya was declared a protectorate of the British Empire, the use of forest resources, like other resources, was controlled through a system of traditional rules and rights. For most communities, the rules were enforced by a council of elders, who through sanctions and fines ensured the sustainable use of communal tree and forest resources. Characteristic of traditional systems of management were those pertaining to religious and cultural systems, for example amongst the Kikuyu.

Sacred groves represented an excluded forest area in which traditional religious ceremonies were conducted by elders. Such ceremonies included sacrifices for bountiful harvests, for rain, thanksgiving, and rites of passage e.g. circumcision, burial sites for elders. Consumptive activities, for example firewood collection and grazing were excluded from

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such sites. Any such activity was fined, shunned, considered a sacrilege and treated as a serious antisocial act. Drought, epidemics and other calamities were frequently attributed to illicit use. Sacred groves occupy relatively small areas, and may range in size from one tenth of an acre to two to three acres. 89 Beyond the highly fragmented sacred groves, large areas of forest were utilized under specific rules. For example among the Samburu and Maasai, a system of elders imposed sanctions on people who destroyed live trees, or cut protected species. 90

Certain areas of the forests were reserved for dry season grazing, and certain species used specifically for fencing, construction or roofing. Amongst the Luhya in Kakamega forest, although forests were communally owned, they were managed by clans living in proximity to the forest. Management within each clan was divided according to specialization and function. For instance, a group of families of medicine men ensured sustainable exploitation of medicinal species, and deliberately planted trees to replace or check against losses. 91

Many communities collected deadwood for firewood, and practiced selective maintenance of valued species for medicinal purposes, as fodder and as timber reserves.

Land management in forest areas was closely regulated. Around Mt. Kenya forests for example, the Kikuyu and Embu, both agricultural communities, had evolved a system of land management in which forest land was owned by clans, but only up to a maximum of

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two miles into the forest.\textsuperscript{92} Land above this cultivation line belonged to the community. The forest was inviolable, and bringing new land into cultivation was the result of community consultation and consensus. These examples indicate the existence of organized, well defined forest management systems amongst indigenous communities prior to the onset of colonialism. Such systems comprised scattered core areas (sacred groves) protected by religious sanction, from which human interference was excluded. These were surrounded by utilization zones, the use of which was determined and regulated by specific rules. Forest management fell under a clearly defined structure of authority (elders, clans, family heads). These systems combined to promote sustained production of the forest's goods and services.

Contradictory accounts of destructive indigenous practices exist. Ofcansky describes the shifting cultivation practices of the Kikuyu, and the grazing practices of pastoral communities as particularly destructive to forests.\textsuperscript{93} He asserts that the ravages of war, disease and famine, which limited population, kept in check the spread of this destruction. Ofcansky's account is based on information recounted by British forestry "experts" whose exaggeration of the situation may have provided a rationale for the colonial forest department's bureaucratic expansion. Such a position may also have served to promote the interests of the settler community who needed productive land for settlement. Indeed, the amount of degradation may have been exaggerated by colonial observers who viewed land use methods other than those preferred by themselves as necessarily degrading. Logie and Dyson claim that surviving blocks of forest had survived under special circumstances of

\textsuperscript{92} Ibid

"non-inflammability or because they were mountainous, cold or inaccessible."\textsuperscript{94} Castro observes that misconceptions about Kikuyu agriculture may have caused some writers to over-estimate its impacts, and proposes that the issue of Kikuyu deforestation be accorded further historical attention. Today, very few of these traditional systems survive, particularly in the highly productive closed canopy forest areas. The most important are the Loita Masai and the Digo groups at the Kenyan coast. The former are found on hilly outcrops in remote semi-arid areas, and the latter in relatively remote areas at the coast.

Increasing population, resettlement patterns associated with urbanization, introduction of modern economies, changes in local government and a shift to western cultural practices had some impact on Kaya conservation. Castro indicates challenges to sacred groves as land appropriation by colonial administration and white settlers; the formation of a formal political hierarchy by the colonial government which eroded traditional authority of clan leadership, religious conversion to Christianity, mass education, land privatization, all of which diminished the status of sacred groves and traditional systems of management. The survival of some traditional strategies and their effectiveness in forest conservation serve to indicate the potential role they could play today.

\textbf{3.2. Colonial Forestry legislations}

Several legislations and policies were enacted during the colonial period which also transited to the post colonial period. The statutes were meant to guide development and management forest resources in Kenya.

3.2.1. Forestry Legislation (1895-1962)

The Ukamba Woods and Forest Regulation of 1897 represent the first forestry legislation in Kenya. This regulation aimed at ensuring fuel supplies for railway locomotives, after the construction of the Uganda railway. The regulation placed forests within one mile of the railway line under the control of the railway administration. Forests beyond this were placed under the local government administration i.e. under the District Officer's management.

The East African Forestry Regulations, published in 1902, transferred management mandate to the Forest Department. These regulations were designed to curtail forest destruction by shifting cultivators and pastoral groups. These rules provided for the gazettement or de-gazettement of forests; outlined forest offences and their penalties; introduced the compounding of offences; authorized the issuing of licenses for permitted activities; and allowed *bona fide* travellers to use dead and fallen timber for fuel. These laws set the backbone for the reservation of gazetted forests. Initially, reservation targeted potentially productive forest areas, consistent with timber production objectives. But as the available productive forests diminished, emphasis shifted to catchment protection, rather than production forestry. By 1908, most major forest blocks had been declared forest areas.

Also by 1908, 264410 acres of prime forest land had been alienated to the settlers, vaguely entrusted with the task of rationalizing the use of forest land. The forest department in 1902 encountered competition in the form of the settler community interest. Since the mid-1890s the settlers had been clamouring for land in the forest zone, and their wishes were given priority. In 1903, the chief conservator of forests stressed the need to act with dispatch to

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95 Ibid

demarcate the forests, or the settlers would destroy them. Throughout the decade forest officers insisted in vain that settlers be kept away from forested areas, or only be allowed in if they took out timber contracts to supply the railway with fuel under forest department supervision.

Later amendments to the 1902 regulations comprised the Forest ordinances of 1911, 1915 and 1916. These expanded the earlier law by making provision for the recruitment of honorary forest officers (farmers with forestry interest, but live in remote areas); and the recruitment and terms of service for forest guards. The Forest Ordinance of 1941 provided for the creation of nature reserves within forest reserves. It also consolidated provisions of forest guards’ terms of service under the control of this ordinance, and not as separate legislation. Nature reserves are sections within forest reserves which do not permit any form of consumptive utilization. Most importantly, the 1941 Ordinance required the formulation of a forestry advisory committee whose main task was to formulate forest policy for promoting timber production in the Colony.

The Ordinance required that committee members have experience in commerce, woodland management and silviculture. Amending Ordinances of 1949 and 1954 attuned forestry administration to the political and constitutional changes within the Colony. Forestry responsibility was transferred from the Governor, to a member of the legislature, and finally to a Cabinet Minister in 1954. The 1949 amendment more narrowly defined the offense of illegal entry into the forests. Further, "closure of forests rule" was defined as subsidiary legislation in 1954, with the purpose of restricting public access to certain forest areas during seasons of high fire danger. This final rule was enacted two years after the declaration of a state of national emergency by the Colonial administration. The state of emergency was declared to deter the spread of the Mau Mau nationalist movement which
was formed by indigenous Kenyans to agitate for freedom and independence from British rule. *Mau Mau* activities were concentrated in Kenya's central highland forests, and the closure of forest rules was likely designed to limit these activities.

The progress of colonial forestry legislation reveals an interesting pattern. First, a move by the forest department to define or carve out an area of jurisdiction via the reservation process as an attempt to justify and legitimize its existence. This contrasts with the Ukamba Woods and Forest Regulations of 1897 which conferred management responsibility of forests to the railway administration, and those not under railway administration, to local government administration. Secondly, a deliberate attempt to consolidate and concentrate control of forest resources to the forest department by restricting entry, defining offenses, imposing fines and penalties for offences. Thirdly, defining an administrative structure for enforcement through forest guards and a forestry advisory committee. Finally, by placing forestry under the direct responsibility of a cabinet minister, the legislation entrenches forestry as a national imperative. This protracted history of forest legislation resulted in the emergence of a legal framework for the sector, which provided the fundamentals for forest protection measures, and in particular for the creation of forest reserves. The laws reflected the concepts and forest policy objectives mainly as they were understood and pursued by the administrators at the time. Instead of being oriented towards a balanced socio-economic development, they were to a large extent regulatory in character and were promulgated with little reference to local conditions. Never the less, they offered a first start for planned use of forest resources and the institutional basis for the activity of a national forestry administration.

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97 Ibid
3.2.2. Forest Policy and Practice (1895-1962)

White Paper number 85 of 1957 is Kenya’s first forest policy. Prior to this, forest management was based on specific guidelines and recommendations by visiting experts. Hutchings (1909) report on the forests of East Africa provides the earliest coherent statement of the direction forestry in Kenya should take. Hutchings proposed boundary demarcation; policing of reserved forest to protect them from destruction; the establishment of tree nurseries; enrichment planting to assist natural regeneration; selective cutting to replace indiscriminate felling; the use of the Kumri or collective cultivation system of the Kikuyu to establish forest plantations. Hutchinson’s plan contributed to the low cost establishment of fast-growing exotic plantations through the shamba system (a modified Taungya, using the Kikuyu Kumri system of cultivation).

Initially reservation was a more urgent objective; but later during the world war, increasing timber supplies to the war became more important. By the end of the Second World War, the government appointed a development committee to review the country’s national development strategy. A sub-committee was appointed to determine and prepare a forest policy for Kenya. The sub-committee recommended further reservation of protection forests and catchments, as well as expanding the annual planting of exotic softwood plantations. In spite of the numerous laws, rules and ordinances passed between 1902 and 1954, no formal forest policy was passed, but rather legislation was enacted to support recommendations by visiting colonial experts. In tandem with legislation, when policy was finally formulated, it was also concerned with forest reservation, and exotic plantation establishment through the Taungya system. Under this system, plantations were established by a resident labour force, who tended plantation seedlings in return for farm land for growing subsistence crops that

would enable them meet their food needs. After 3 to 5 years of cultivation, the tree seedlings would shade the crops, and cultivation would come to an end. The residents tended, weeded and protected plantation seedlings in exchange for cultivation land. This catered for the landless populations displaced during the reservation process, and during the settling of the settler community. It also provided a cheap source of labour for plantation establishment.  

The commissioning of a forestry sub-committee, within a broader development committee, was a significant development. This represents an early dissatisfaction with narrow sectoral approaches to forestry, and reflects a realization of the inter-connectedness of forestry with other development activities. Equally significantly, mandating the sub-committee to develop a formal forestry policy for Kenya indicates the government's concerted effort at planning for the resource. This may have been prompted by the increasing acreage of forests under its control, or possibly the high timber demand during the world wars. In addition, competition between forestry and other land uses may have been increasing, and a growing awareness among policy-makers that the process of reservation without specific economic and social justification may be self-defeating. Thus there is need for a planned strategy.

3.3. The Outcomes of colonial forestry

The outcome of the colonial forestry was characterised by establishment of forest estates/exotic plantations which increased forest areas under government control and prime land alienate to settlers. This resulted to displacement of indigenous population thus creating conflicts between forest department and the local communities.

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3.3.1. The forest estate

The reservation process increased forest areas under government control. In 1902 the reservation process began; by 1908, 1378 square miles, about 2.6 percent of the fertile part of the country reserved. By 1930, 4812 square miles had been reserved.\(^{100}\) By 1932, 43 forests re-defined as government forests, covering an area of 830 000 hectares, and by 1940, the gross total of gazetted forest land had increased to 1,050,000 hectares.\(^ {101}\) The colonial contribution to forestry was to slow down the forces of destruction, both real and perceived, and to develop additional forest plantations to cater for the country’s increasing timber requirements. In spite of this progress, the war years left large areas of forest denuded of all accessible timber. Areas subjected to degradation, and whose natural potential for regeneration was impeded were converted to exotic softwood plantations.

3.3.2. Alienation to settlers

By 1908, 264410 acres of prime forest land had been alienated to settlers, and much forest was in private ownership.\(^{102}\) By 1930s over 10 000 square miles of agricultural land had been handed over to a few thousand settlers. Passing of the Land Grants to Settlers regulations in 1902 was supposed to reduce forest destruction by settlers. Under this regulation, after conversion to agriculture, 10 percent of farms had to be kept under perpetual forest, and to be made up to 10 percent where necessary, except on treeless farms.

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\(^{101}\) Wass, P. 1995. Kenya’s indigenous forests: Status, management and conservation. IUCN forest conservation program with the Overseas Development Administration.

where only planting of up to 2 percent could be enforced. The Conservator of forests had discretion to reduce these requirements, but did not seem to have been enforced it for long.

3.3.3. Displacement of indigenous populations and forest squatters

Forests alienated by Forest Department either provided a home for forest dwelling people (the Dorobo), or had been utilized by non-forest dwellers for fuel, water, grazing, honey, saltlicks, refuge or territory for expansion and protection. The forest department claimed land without considering the rights of local inhabitants and imposed strict regulations on the use of forest products by forest-adjacent communities. Native rights to the forests were not recognized, instead they were termed as either illegal squatters or tenants-at-will of the Crown. The displacement of indigenous peoples resulted in their being confined within native reserves, under the Native Lands Trust Ordinance of 1930. Under this Ordinance, forests within native reserves were declared as native forest reserves. The provisions of this law limited further reservation of native lands, a great source of frustration to the forest department. An important consequence of confining indigenous populations to native reserves, restricting access to large forest blocks and charging for fuel, was the depletion and over-exploitation of forests within native reserves. Forest department attempts at instituting afforestation programs in native reserves met with hostile resistance since native reserves were managed by local native councils. Later, however, the chief conservator gazetted forests within native reserves, effectively foreclosing the last opportunity for access to forest products by the indigenous population.

While the Taungya system of plantation establishment lowered forest department costs, and provided a temporary solution for the landless/displaced people, it created more problems

103 Ibid.
than anticipated, even beyond the colonial forestry administration. After plantations were established the landless peasants had nowhere to go, and remained against the department's will on forest land. By virtue of the length of time settled, the landless acquired squatter rights, and resulted in the government excising forest to provide for the land needs of the squatters. In this way, much forest land was lost to settlement in the 1950s.

3.3.4. Tensions between forest department and local administration

Forest department's disregard for indigenous population rights; their reluctance to compensate natives their loss of access to forest goods and services met with strong disfavour and opposition from local government officials and administrators. The local administrators had to contend with complaints from an increasingly discontented native population. This made their administrative job more difficult, particularly in the 1940s and 1950s due to rising political consciousness and re-assertion of native rights and national freedom. The administration insisted that the forest department re-instate native rights and work out a firm policy regulating forest reservation. The Government officials felt that the forest department should clarify its boundaries, and also insisted that the department give up some grazing areas, salt licks, watering holes and provide land for cultivation by dispossessed right holders. Without such concessions the intensification of political discontent was inevitable. Nowhere was this most evident than in the Lembus forest, where traditional use of forest was restricted due to a 99-year lease to concessionaires.\textsuperscript{104} In order to defuse the political tension over Lembus, and to protect free grazing rights of the native populations and the customary rights that may have been exercised in the forest prior to the dates of the concession, the Governor crafted the "Coryndon definition" of 1923. This

provided usufruct rights for grazing, cultivation and fuelwood gathering to the Africans. The Coryndon definition was specific to native use of Lembus forest and did not apply to other forest areas, further fuelling native discontentment. The Coryndon definition over-rode the forest department's legislation, and stoked the tensions between forest department and the local administration. Political expediency, rather than forest department's preservation policies, was the ultimate deciding factor.

3.4. Post Colonial period

Post colonial period is characterised by a transition of forest legislation from Cap 385 which had a number of challenges to the current forest Act 2005 which embrace participatory forest management.

3.4.1. Post colonial legislation

The legal framework for forest management in Kenya was provided by the Forest Act, Chapter 385 of the Laws of Kenya of 1942 (revised in 1982 and 1992). The Act was enacted by Parliament to provide for "the establishment, control and regulation of central forests, and forest areas in the Nairobi area and any unalienated government land." Section 4 of the Act provided for the declaration of unalienated government land as forest; alteration of forest boundaries and the de-gazettement of forest areas by the Minister. Prior to degazettement, the Act required that the Minister issue a 28 day notice of this intention to the public via the Kenya Gazette. Section authorized the Minister to create nature reserves within existing forest reserves for the purpose of nature preservation. The section prohibited any form of consumptive use of forest resources within a nature reserve. The director of

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forests was authorized by section 7 to issue licenses/permits, and prescribe and collect royalties or fees from permitted users. Section 8 lists prohibited activities or prohibitions to include the unlicenced harvesting of forest produce, cattle grazing, forest cultivation, honey collection, among other prohibitions. Section 10 authorized the director of forests, through his/her personnel, to accept compensation for offences, provided the compensation does not exceed five times the value of the estimated damage or where the value cannot be estimated, two hundred shillings ($4) for each offence. Sections 9-14 were enforcement provisions. Section 13 outlined prescription concerning forest produce, for example, "where produce had been obtained from a central forest, it would be presumed to have been so cut or obtained unless the contrary was proven." Section 15 empowered the Minister to develop regulations for the sale of and/or dispatch of forest produce; for the use of and for residence, agriculture, cultivation, commercial or industrial purposes, or for camping or picnicking or cattle grazing. This authority was afforded the Minister with the intention of enhancing the protection and management of indigenous forests on government land, and facilitated the implementation of the Act's provisions.

The Forest Act was a legacy from the colonial administration. Its purposed reservation, protection, centralization and control of forestry within government echoes that of colonial forestry objectives in Kenya in the late 19th to mid 20th Century. The Forest Act, passed in 1942, predated the 1968 policy and could not have been framed to meet the goals of the 1968 forest policy. The Forest Act was purely procedural, it did not provide any standards or principles along which forest management would be modelled, but rather provided a procedure consisted with reservation and protection goal. It prescribed punishment for non-compliance with its restrictions. Most importantly it accorded discretion to the Minister and the Forest Department, and did not set standards by which the Department's actions or
inaction could be held in violation of the law. Penalties prescribed under the law were minuscule and did not serve as an adequate deterrent. Low levels of fine in fact provided incentives for breaking the law. The most contentious provision in the Act was the authority conferred on the Minister for de-gazetting forest areas, via a 28-day public notice. Wass criticized the period as too brief; and cited the lack of a legally defined procedure for handling objections to excisions as an important constraint to sustainable forest management. He also cited the lack of environmental impact assessments and adequate consultation between the forest department and affected parties as another constraint. Although the Act permitted forest protection on unalienated government land, rarely had such protection been implemented, until after gazettlement. Furthermore, the legislation did not recognize traditional systems, local knowledge and traditional rights. But rather had been used under Section 8 to expel forest squatters without regard for how they came to be in the forest. The Act also limited the creation of nature reserves to areas within previously gazetted forests; this excluded areas or potential areas which would not be currently gazetted forest areas. Subsidiary legislation passed under the Forest Act allowed some communities, by virtue of customary practice and law, as right holders and had the right to use forest without license or fees. The Act however, did not provide for the settlement and inquiry into such claims.

The Forest Act applied to public lands and did not give protection to other forests; it failed to address the protection and conservation of forests on private land. Thus in addition to being exclusionary and prohibitive, the Forest Act did not provide adequate protection and


safeguards to Kenya's forests. It did not anticipate future threats to the resources caused by demographic change and human activities. It did not provide definite procedures for integrated planning. Presidential directives were used to regulate certain forestry activities, for example, the extraction of indigenous timber was banned through a presidential directive. While the directive had no legislative support, it was enforced, within forest reserves by the Minister under the Forest Act; and outside forest reserves it was enforced through the Chiefs Act, Trust lands Act and Local Authority government Act. Other legislations were applicable to forestry, but which was enforced by other agencies; the Wildlife Act, Agriculture Act, Trust Land Act, Fisheries Act, Registered Land Act, and Antiquities and Monuments Act.

3.4.2. Forest Policy development

Kenya's first official forest policy was formulated in 1957, through White Paper number 85. This was subsequently restated by the government of Kenya in 1968 as sessional paper number 1 of 1968.\(^{108}\) It sets out the basic principles under which forests would be managed for the greatest common good. The 1968 forest policy aimed to reserve forest areas for catchment protection; to provide timber and other forest products; to protect forests from fire and grazing and eliminate private rights in gazetted forests; to promote sustained yield management; to develop industrial forestry; to provide funds for policy implementation; to provide employment, in particular under the Shamba system for reforestation and forest maintenance; to designate county council forests; establishment of private forests for protection and production, recreation, conservation, research and education. The policy says little about afforestation efforts outside government forest reserves, and did not visualize

extension services as doing anything other than issuing tree seedlings on national tree planting days.

This policy assumes centralization of forestry under government, and government control of all initially important forests; but does not provide for other forest areas an e.g. Private forest which was a crucial shortcoming. As with legislation, which predates it, the forest policy's intent was reservation, restriction and prohibition. Beyond protection forestry, its other purpose was the sustained production of timber, through industrial forestry. The policy does not recognize or acknowledge the role of forestry in local livelihoods; and any such consideration (e.g. through the shamba system) is purely incidental, with a central purpose of reforestation, plantation development and forest maintenance. Kenya's forest policy objectives are adjusted to and integrated into periodic national plans. They may change from one plan period to another and are increasingly a reflection of the dynamic nature of economic development in the country. Sessional paper no. 1 of 1986 focuses on economic management for renewed growth. It defined a broad strategy and specific measures to achieve a targeted GDP growth of 5.6 percent by 2000. It forms the framework for all future development plans. Agriculture as a key sector for economic growth emphasized the growth of coffee, tea, wheat and horticultural products. This policy thus had negative implication on forestry sector. Expanding agricultural production in these mentioned crops may have meant sacrificing forests, particularly those outside government control. The national forest policy had been strengthened or constrained by policy pronouncements in other sectors of the economy. The national food policy (sessional paper no. 4 of 1981) for example, promotes food self-sufficiency, and emphasizes the production of export crops to earn foreign

109 Ibid
exchange. This policy fuelled strong pressures to convert gazetted forest reserves to crop land, particularly those adjacent to places with high population densities.

The fifth development plan (1984-1988) proposed further forest reservation, protection, conservation and management; agroforestry development and tree planting on private and trust lands. It noted constraints facing forestry as competition with agriculture and grazing, woodfuel shortage, inadequate financing, and lack of long term master planning for integrated forestry development. It outlines strategies such as tree planting on private land, intensification of plantation production, it gives credibility to rural afforestation and extension schemes. Similar sentiments are echoed in the 6th development plan of 1989-1993. From both plans it is clear that the government strategy of forest reservation is intractable and increasingly challenged by land unavailability and other pressures. As a result, both communicate a change in government strategy, to increase the areas under forestry by focusing on private and communal lands. A task unsupported both by policy and legislation.

It is not until the economic reform paper for 1996-1998 that the government came to terms with the real solution to forestry problems. Key forestry concerns were decline of indigenous forests and unproductive plantation forests, and mandated the re-formulation of existing policy to reflect the current socio-economic and political situation in the country. It mandated the development of supportive amendments to the Forest Act.

The Kenya Forestry Master Plan which began in 1991 projected the forestry sector in the country to go beyond 2000, and had a broad objective of enhancing the role of forestry

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sector in socio-economic development and to contribute to environmental conservation.\footnote{KFMP, 1994. Kenya forestry master plan: Development programs. Ministry of environment and natural resources, Nairobi.}

The Master plan comprises both a macro-level and micro-level planning component. The former considers future scenarios under varied policies and socioeconomic conditions. The micro-level component is concerned with operational strategies at the local or district level. The most important outcome of the master plan process is a review of the current forest policy, done in consultation with government agencies, NGOs, education and research institutions, concerned individuals and international donors.

The reviewed policy looks beyond government forests, and includes private forest and cross-sectoral issues affecting forestry. Despite its completion in 1994, and its presentation to the Attorney General for endorsement, the policy had not undergone Parliamentary debate. An important policy directive was that concerning the resident cultivation system of plantation development, the Shamba system. The Shamba system had been an economical and technically successful method of plantation establishment, but was based on squatter labour. Between 1985 and 1989 it was wound down and officially terminated after a Presidential directive. The squatter status of the labourers became a source of strong political pressure to excise land for permanent settlement. Despite problems inherent in the Shamba system, its abandonment reduced plantation establishment rates, and a new system based on non-resident labour was established to replace the original system.

The establishment of the Nyayo Tea Zone Development Corporation, first by Presidential order in 1986, and later by an Act of Parliament in 1989 also affected forestry in Kenya. Under this program, plantations were established adjacent to indigenous forests to act as buffers against agricultural encroachment on forests designated for catchment protection. The plantations were also expected to generate income and employment. This program
obtained land from the government forests. It initially targeted 20,000 hectares for tea production. By 1990, 6000 hectares had been cleared.\textsuperscript{112} Tea zones were established in the high potential forest areas of Aberdare, Kakamega, Kikuyu escarpment, Cherangani, Mt. Elgon, Mt. Kenya, North and south Nandi, South West Mau, Tinderet and Trans Mara.

3.5. Forest Decentralization development

The colonial government of Kenya created a forest department in 1902, which alienate most prior existing community managed forests. The Forest Department managed and controlled all forests in the country with policy focused on conservation. Following independence in 1963, a series of donor funded forestry programs focused on afforestation and reforestation on farms, with the goal of alleviating fuel wood shortages. The Forest department managed the forests without consultation outside the relevant government ministry. Conflicts increased in the late 1980s between communities who needed fuel wood from neighbouring forests, and the forest department.\textsuperscript{113}

A new forest policy was drafted in 2005, which led to legislation of Forest Act, 2005 and establishment of Kenya Forest Service. The goal of this Policy is to enhance the contribution of the forest sector in the provision of economic, social and environmental goods and services. 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 (a total of about 1.64 million ha

\textsuperscript{112} Ibid

of gazetted forestland and about 100,000 ha of trust lands).\textsuperscript{114} The Government is therefore putting in place measures to significantly increase the area under forest cover, with the aim of attaining at least 10 percent by the year 2030. To attain this level of forest cover, the Government will promote farm forestry, intensify dryland forest management, involve the private sector in the management of industrial plantations and also promote community participation in forest management and conservation. This policy will address local and global forestry issues and challenges to ensure fair contribution of the forestry sector in economic development. The implementation of this policy is expected to improve the social welfare of the Kenyan population without compromising environmental conservation. The specific objectives of this policy are to: 1) Contribute to poverty reduction, employment creation and improvement of livelihoods through sustainable use, conservation and management of forests and trees. 2) Contribute to sustainable land use through soil, water and biodiversity conservation, and tree planting through the sustainable management of forests and trees. 3) Promote the participation of the private sector, communities and other stakeholders in forest management to conserve water catchment areas, create employment, reduce poverty and ensure the sustainability of the forest sector. 4) Promote farm forestry to produce timber, wood fuel and other forest products. 5) Promote dryland forestry to produce wood fuel and to supply wood and non-wood forest products. 6) Promote forest extension to enable farmers and other forest stakeholders to benefit from forest management approaches and technologies. 7) Promote forest research, training and education to ensure a vibrant forest sector.

3.5.1. Forest Act 2005

The Kenya Forest Act, 2005, was developed and enacted to end the colonial and pre-colonial command and control of forests while at the same time recognising that state agencies in post colonial period had failed to protect forests leading to massive forest destruction and illegal forest excisions. The Forest Act of 2005 saw the formation of the Kenya Forest Service, a semi autonomous government agency with representation from various government ministries. Under the Act, the KFS is expected to devolve powers to the private sector and to forest conservation committees and community forest associations. Community participation is achieved primarily through CFAs, and integrated management of forests is the central principle motivating the new policy.115 The Act established ten forest conservancies in the county each having FCC, each forest station is also supposed to have a CFA.

Section 46 of the Forest Act allows members of a community resident around a forest area to register a CFA under the Societies Act, 1998 (Chapter 108), in order to participate in the conservation and management of state or local authority managed forests. Communities registered in this manner can invoke Section 47 of the Forest Act to protect, conserve, and manage forests and formulate and implement forest programmes consistent with the traditional forest user rights of the community in accordance with sustainable use criteria.116 A number of CFAs have been formed through sensitization of communities adjacent to the

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major forests in the country by the Kenya Forest Action Network and the Kenya Forests Working Group.\textsuperscript{117} Kenya Forest Service has also been spearheading the formation of CFAs as a step towards meeting the requirements of the Forest Act, 2005.

CFA’s are supposed to assist the KFS in enforcing the provisions of the Forest Act, especially with respect to illegal harvesting of forest produce. Section 13(2) of the Forest Act, 2005, allows establishment of forest conservation committees under the Act, to, among other functions, assist local communities to benefit from royalties and other rights derived from flora or fauna traditionally used or newly discovered by such communities.\textsuperscript{118} Under Section 18 of the Forest Act, 2005, a Forest Management and Conservation Fund is established to be used for maintenance and rehabilitation of forests, promotion of community-based forest projects, establishment of nurseries and seedling production, and facilitation of education and research activities, among other uses. Section 25(4) of the Act allows owners of private forests to apply for exemption from paying part or all land rate charges and to obtain loans from the Fund and seek technical advice on appropriate forestry practices, while Section 52 of the Act deters any person from engaging in prohibited activities in the forest, and provides harsh penalties such as fines of not less than KES 50,000 or imprisonment of not less than six months, or both, to those who contravene this provision.\textsuperscript{119} According to the Forest Act, 2005, illegal activities may include cutting or extracting forest produce or collecting honey and beeswax without a license or permit, or


\textsuperscript{119} Ibid
clearing the forest for cultivation, or any other activities that are likely to be destructive to the forest. The low capacity of the KFS means that they are unable to patrol and guard the entire forest perimeter; hence the disparate need to engage local communities in forest conservation.

The Act further created various categories of forests that is; State, local authority and private. It gave Provision for declaration of provisional (mismanaged) forests and the process of reversion to original owner. Mismanaged private or local Authority forests, KFS can take-over the management according laid down procedure according to the act. According to the Act also, variation of forest boundaries and cessation of forest areas is subjected to a thorough consultative process, an independent Environmental Impact Assessment and approval by Parliament.

3.5.2. The Kenya Constitution 2010

Article 42 of the Constitution of Kenya states that, “Every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures”. 120 Moreover, Article 69 outlines the obligations of the government in respect to environment, asserting 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.” The constitution also mandates that the State increase tree cover to 10% of Kenya’s total land area, the minimum recommended for ecological sustainability. Collaborative approach in forest management, undoubtedly, will help the nation realize its promise to the people and environment.

3.6. Outcomes of post colonial forestry

The outcome of post colonial forestry is characterised by reduction of forest land due to legal/illegal forest excision and forest conflicts caused by squatters. This provided to legislation of forest Act 2005 to provide solid foundation of reforming the forest sector.

3.6.1. Forest Loss

The forest estate has shown a steady decline over the years. Since the 1970s a 10-year running average has been computed at 5000 hectares per year.\textsuperscript{121} Earlier estimates between 1972-1980 indicate an average loss of 2 percent per year. For 1980-1992, a ten year running average was 3700 ha per annum, ranging from 2000 hectares per year, increasing to 5000 ha per year at the end of the 1970s and early 1980s according to Wass. In addition to diminishing forest cover, biodiversity and socio-economic surveys show declining forest quality. Loss of forest estate is through a legal process of excisions. Majority of excisions occurred between independence and 1972, amounting to 67000 hectares. Wass also note that, losses to gazetted forests are 290 000 hectares, with 3500 hectares proposed for future excisions. Out of the 290 000 hectares, 210 000 hectares have been excised, while 115 000 hectares have been transferred to national parks or reserves. The transfer of forest estate to non-protected status amounts to 13 percent of Kenya's total gazetted forest reserves. Most excisions have been undertaken for agricultural purposes, but have been recorded as de-gazetted for "settlement".

Central to the excision process is the ease with which excisions occur. Wass and KENGO extensively criticize the 28-day degazettement notice contained in Forest Act Cap 385 as

insufficient; and observe that excisions are instigated for political purpose or private gain.\textsuperscript{122} Both recommend the inclusion of a two phase excision procedure which incorporates parliamentary and technical vetting. The former to ensure that excisions are conducted in the public interest, the latter to ensure that alternative land use, after excision, is environmentally sound. According to the forest department, the establishment of nyayo tea zones resulted in an estimated clearance of 6600 hectares of forest for tea establishment. However, in 1989, a world bank/FAO mission estimated a total of 11000 hectares cleared. Nyayo tea zones were initially intended to be ribbon-like 100m strips adjacent to forest boundaries to prevent encroachment. Some areas have however extended beyond the 100 meter limit, while others have gone as far as 500 meters into the forest. A survey of 350 000 hectares of indigenous forest that contain nyayo tea zones indicates that 3600 hectares (1.4\%) of the forest reserves is occupied by tea according to Wass.

The jurisdictional limitations of the Forest Act to gazetted forests may have accelerated forest decline in other areas for example, private forest. By 1982 the extent of private forests was 141 000 hectares. The 1989-93 development plan indicates that these forests have been reduced to 124 square kilometres. It is likely that much of this had succumbed to pressures to convert to agriculture, as well as charcoal production. In 1963-2004, Policy and legislative silence on private forests, and the government's passive attitude may have motivated the decline. However, the sensitivity of land issues stemming from colonial expropriation, and the subsequent primacy attached to individual landownership by the constitution may serve to limit the government's involvement in developing policy and legislation that may affect private land forestry. Jurisdiction over forests is not vested solely in the forest department. Majority of forests not gazetted under forest department occur on

\textsuperscript{122} Ibid
Trust lands. Forests on trust lands are under the jurisdiction of the county councils which have neither the expertise, resources nor incentives to protect forests.\textsuperscript{123} These are held in trust for local communities by local county councils with advisory support from the forest authority. Most county councils are under intense pressure from their constituents to permit clearance for more profitable development projects. There is little incentive to preserve and protect forests. Information on the extent of Trust lands forests is limited as denoted by Wass, but by 1995 forests on Trust lands directly under county council management covered about 100,000 hectares. This is no indication of the extent before then, but it can be reasonably assumed to have undergone considerable decline. There is evidence to this effect, for example forests in Trans Mara district have been converted into tea and wheat plantations. Standing volumes of commercial timber species in remaining forests have substantially decreased due to over-exploitation. This has adversely affected biodiversity conservation as well as long-term yields. The situation became so critical that a presidential directive in the late 1980s banned the extraction of indigenous timber in the country. Similarly grazing in forests was prohibited. Yet, even with these bans, illegal felling and grazing continue in many forests due to inadequate controls.

3.6.2. Forest encroachment

The presence of traditional hunter-gatherer communities dwelling within forest areas has been a major dilemma ever since the creation of forest reserves. In the South-West Mau forest there exists the largest population of forest-dwellers, Okiek Dorobo, of up to 15,000 people, scattered deep within the forest.\textsuperscript{124} Their presence was originally ignored by forest authorities, but was later deemed incompatible with forest conservation. Attempts by the

\textsuperscript{124} Ibid
government to evict the Dorobos have met with resistance; while attempts at resettling them has also been unsuccessful since the Dorobo have been unable to adjust to a sedentary, agricultural lifestyle. Politicians have cruelly manipulated the plight of the Okiek to gain political capital, and have offered no substantive solutions for the placement of the Dorobos.

In addition to forest dwellers there is an estimated 4000 squatters living and cultivating within the forest reserves, who are not traditionally forest dwellers. These people were originally cultivators under the Shamba system of plantation development. The Shamba system is a modified Taungya effected in the early 1900s to reduce plantation establishment costs, while meeting the requirements of the landless poor. The system came under increasing challenge due to increasing populations of the cultivators and their families. The current squatters are a legacy of this system; they acquired squatter rights due to prolonged settlement on forest land, and have resisted attempts to evict them. Ultimately, continued forest department restrictions on forest use by forest-adjacent communities reduced access to forest resources has fostered a deep resentment by communities to forest department and government, and resulted in heightened confrontation between the forest department and local communities over the use of resources. The conflict is exacerbated by a mix of issues such as, declining land availability, increasing population, and declining economic conditions. This mix of factors makes forest resources more crucial for the survival of rural populations.

An important outcome is that the forest department realized that its administrative approaches had failed to achieve forest sustainability, and that their capability for management is limited. Forest department had then been experimenting with participatory approaches to management in Samburu, Kakamega, Shimba Hills and Arabuko-Sokoke.
This change in approach is presented in the forestry master plan process, which seemed to promote a new forest policy more receptive to community needs. The most obvious conflict was between agriculture/settlement and forestry. Increasing populations and subsequent land pressures, as well as the need for agricultural production, exert considerable pressure on forest resources. Most of the forests are located in the more productive zones of the country where up to 80 percent of the nation's population reside. Conflicts between forestry and agriculture are indicative of a wider and more generalized problem, that of conflicting land use. Diverse land use interests for industrial development, human settlement, wildlife conservation are in competition for forest resources. Forest land in Kenya is viewed as idle land, waiting to be exploited in other more beneficial ways, and is accorded lower priority in the face of competing uses. The national policy environment exacerbates the problem. Most articulate the importance of preserving forest, but emphasize agricultural production. These policies, though they acknowledge the deterioration of forestry resources, and the need for environmental protection, remain a vague proclamation of goals. None provides explicit means of achieving its goals, nor guidelines for achieving the desired results. As government agencies set out to implement these policies, serious conflicts can develop, creating institutional bottle necks or political obstacles. The conflicts are intensified by the sectorally stratified mandates of government agencies.

3.6.3. Forest sector reforms

The Forests Act 2005 provides a solid foundation for the forest sector reform process. Enactment of the Forests Act led to improved change in forest management with creation of better organisational structures and participatory approach to forest management.

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Mismanagement of forest areas have been addressed by the Act by declaration of mismanaged private or Local Authority forest as provisional forest and KFS can take control of those forests. According to the Act also, variation of forest boundaries and cessation of forest areas is subjected to a thorough consultative process, EIA and approval by Parliament. The biggest challenge facing KFS at the moment is reclaiming forest land which was illegally allocated without following due process of law and also dealing with forest squatters. This has been experienced in Mau Forest complex, Cherangani escapement (Embubut forest block), Marmanet, Ol Arabel among others. This has been difficult to enforce because the forest land provides strong political incentives. For example, Parliamentary members often pressure for excisions in response to their constituents land needs. Allowing forest excisions is a form of political patronage through which members of parliament endeavour to ensure that constituents vote during elections.

3.7. Conclusion

The colonial forest department handed to the newly independent state a forestry resource base with vast opportunities for satisfying national needs. Practically all existing forest reserves in Kenya were declared and consolidated during the colonial period. In addition to the forestry base, the colonial forest service passed on a policy and legislative framework unsuited to the socio-economic needs of a newly independent state. It also handed over a legacy of hostility and suspicion from the local community and a sensitivity to land issues that constrains land resource management today. Lastly, it handed over a sector that was poorly funded, understaffed and whose political profile was subordinate to other land uses such as agriculture and settlement. Political tensions from landlessness and squatter status were also important legacies of the colonial forest administration.
The independent state had opportunity to change this inheritance, but political expediency at the time of independence dictated that the new government maintain the centralized system of governance. Thus in the new state, forestry remained as it was during the colonial administration. The political tensions have however increased tremendously due to population growth, inadequate land resources to support the increasing population, and a deteriorating economy. In many cases, the forest department has yielded to pressures to degazette part of the forest land. The forest department's prospects of maintaining the bulk of the forest resources and for developing the resource in order to contribute to socio-economic development was declining in post independence. This resulted in reforming of the forest sector to reduce the distance between resource users and decision-makers; and to harmonize or integrate forestry with other sectors.

The 2005 Forest Act underscores the importance of forests for poverty reduction and development, highlighting the government's role in sustainable land use and forest management. The Act also encourages private sector and community participation in forestry, as well as training, education and extension services to promote farm forestry. Fostering a newly proactive approach, the Forest Act establishes the Kenya Forest Service to manage the country’s forest resources. The Kenyan Constitution specifically addresses environment issues, going so far as to allow individuals to seek legal redress if their environmental rights are infringed.

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127 Ibid
CHAPTER FOUR

AN ANALYSIS OF COMMUNITY PARTICIPATION IN FOREST MANAGEMENT

This chapter analyses sustainable environmental management in developing countries in relation to community participation in forest management in Kenya. The analyses is based on the objectives of the study in chapters one and conceptual framework adopted in the study. It assesses forest governance and actor constellations, and factors that lead to sustainable governance arrangements in the developing countries.

4.1. An analyses of sustainable environmental management in developing countries

Environmental issues have been increasingly visible in the development agenda from 1990s. The loss of forests and other habitats, overexploitation of natural resources, chemical and lack of safe water and sanitation in a large proportion of developing world continue to affect societies and hinder development. Poor people’s livelihoods rely heavily on natural resources and environmental changes and fluctuations often have a devastating effect on their ability to survive, preventing them from fully accessing basic services like water, sanitation and energy.

4.1.1. Implementing sustainable forest management in developing countries

Forests are a safety net for the poor, but they continue to disappear at an alarming rate. Of all developing countries, South America and Africa saw the largest net losses of forest areas between 2000 and 2010. Some 13 million hectares of the world’s forests are still being deforested each year even if the rate of net loss of forest area has fallen since the 1990-2000

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period at the global level. Furthermore, primary forests with no visible signs of past or present human activities, and which include some of the most biologically diverse ecosystems on the planet are being lost or modified at a rate of 4 million hectares a year. Whilst the ocean occupies over 70% of Earth’s surface area and over 90% of the biosphere’s volume, less than 2% of the ocean surface is under marine protected areas.\textsuperscript{129}

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 long-term development. In its broadest sense, forest management encompasses the administrative, legal, technical, economic, social and environmental aspects of the conservation and use of forests. It implies various degrees of deliberate human intervention, ranging from actions aimed at safeguarding and maintaining the forest ecosystem and its functions, to favouring specific socially or economically valuable species or groups of species for the improved production of goods and services.

Many of the world's forests and woodlands, however, especially in the tropics and subtropics, are still not managed in accordance with the Forest Principles adopted at the United Nations Conference on Environment and Development.\textsuperscript{130} Many developing countries have inadequate funding and human resources for the preparation, implementation and monitoring of forest management plans, and lack mechanisms to ensure the participation and involvement of all stakeholders in forest planning and development. Where forest management plans exist, they are frequently limited to ensuring sustained

\textsuperscript{129} Realizing the Future We Want for All, Report to the Secretary General; UN System Task Team on the Post 2015 Development Agenda, New York June 2012.

production of wood, without due concern for non-wood products and services or social and environmental values. In addition, many countries lack appropriate forest legislation, regulation and incentives to promote sustainable forest management practices.

4.1.2. Change in forest governance in developing countries

Deforestation, forest degradation, biodiversity loss and rural poverty have long been important concerns in forest management in developing countries. Therefore, the search for governance arrangements that are better suited to meet the challenges of sustainable forest use in developing countries remains an important issue.

Since the early 1990s, the notion of good governance has gained widespread currency as a yardstick against which institutional arrangements should be measured. In a broader sense, the aim of good governance is to create mutually supportive and cooperative relationships among government, civil society and the private sector. Essential dimensions of good governance and key measures include: 1) Strengthening the local rule of law by working towards establishing clearly specified and documented legal rights on land, management and use. Pay attention to proper rights for the less powerful affected on local levels, particularly women and the poor. Promote regulatory reform towards fewer, clearer, simpler and more feasible rules wherever possible, recognizing limited capacities. Clarify the legal status of community bodies in relation to forest use and establish clear mechanisms vis-à-vis the central government. Establish and strengthen local enforcing mechanisms to secure ownership and tenure rights through empowering people and using modern technology 2) Improving local accountability and transparency through; establishing clear mechanisms for the provision of and access to information. Establish mechanisms and procedures for

reporting grievances and misbehavior. Establish clear mechanisms for debate, decisions, judgment and sanctions. Involve businesses, “civil society” organizations (NGOs) and disadvantaged groups 3) Strengthening local participatory planning and decision-making by; Helping unorganized groups to assemble in associations, and give them a voice. Promote platforms that encourage local coordination and conflict-management. Encourage and assist in participatory land-use planning, policy-making and budgeting 4) Improving local governance effectiveness and efficiency Shift from “supervising subjects” to “supporting and activating citizens”. Increasing responsiveness through reorienting agencies towards tailored rural service providers and finally developing effective monitoring and evaluation systems at local and central levels. Improving governance is a continuous process and none of the above strategies is particularly new, or easy to implement. It often requires reinforcing and complementing efforts to achieve gradual improvements in local governance, building on the reinforcing effect of the individual components. Changing governance arrangements typically is slow and more or less deliberate and difficult process of changing existing rules. Whereby modifying informal rules is more difficult and takes more time than changing formal ones. Effective change requires political will and knowledge of local governance tradition.

From the 1990s, the majority of national governments in Africa, Asia, and Latin America have launched decentralization initiatives in natural resource management. Since then, decentralization has become a prominent feature of forest governance. The expectation is that, given the right conditions, decentralized governance is superior to centralized governance regarding the improvement of the quality of public management and the

responsiveness to people’s needs. It would subsequently lead to enhanced and more equitable development. Moves to decentralize forest governance were impelled partly by international donor organizations who sought better forest governance from recipient countries. In addition to external pressures, decentralization was also spurred by domestic demands for a greater recognition of local communities’ needs for forest products and their role in managing local forests for multiple purposes. Concomitantly, challenges on sustainable management of forests resources from local participation, resource management, and governance helped provide some justification for decentralization reforms. Over the past two decades, decentralization reforms resulted in a significant increase of forest governance by local communities and organizations. In addition, we can observe a number of further trends and changes in forest governance. Civil society organizations and market actors play an increasingly dominant role, for example, through certification initiatives and changing consumer preferences. Another example concerns the substantial role of logging companies in forest concessions, typically for selective logging in tropical forests.

Today, changes in forest governance are for the most part related to non-hierarchical governing involving stakeholders and actors from different levels in formal and informal


processes of cooperation and interactions from local to global level. Like in other sectors, forest governance not only refers to governmental regulation and law enforcement for sustainable management but also involves the political, organizational, and cultural frameworks through which diverse interests in natural and cultural resources are coordinated and controlled. The changes in forest governance are associated with the emergence of new institutional arrangements to cope with complex challenges in the forest sector.

Efforts by governments as well as non-governmental organizations and environmental activists to improve forest governance have produced mixed results. At the same time, forestry research around the world has found a range of variation in governance outcomes for example conducive successful forest governance include; secure forest rights, a fit between the local context and the larger institutional context, effective monitoring and rule enforcement, governance arrangements that are able to adapt to social, economic, political, and forest-change processes, partnerships and deliberative processes.

4.1.3. Challenges in implementing sustainable forest management

Effective governance of forest resources is both critically important and an ongoing challenge. Governing both the rights and the responsibilities of an increasingly diverse group of public and private stakeholders requires that different stakeholders are aware of their respective rights and responsibilities. It requires effective arrangements to enforce regulations, monitor implementation and impose sanctions, while at the same time ensuring the provision of adequate means to defend the rights of individual parties. In cases of major transfers of ownership and tenure rights, e.g., in a land reform, a cost-efficient and fair


process is needed for rights transfer, as well as capacity-building for administrators and the new rights holders to fulfill their new roles.

As governments commonly have the right to regulate forest management in all forests, governments need to find a balance between the responsibility to ensure overall sustainability and the rights of owners and tenure holders. The latter need the freedom to make management decisions that allow forestry to be an attractive land-use option. More consistent data and information on ownership and tenure is a critical step towards effective governance of forest ownership and tenure arrangements. Current data on forest ownership is limited, and more so when it comes to tenure arrangements. This lack of data is perhaps one of the most urgent challenges.

The insufficient participation of stakeholders at all levels, including the marginalized and those most affected by a lack of environmental sustainability, is frequently mentioned as a major obstacle to progress. Consequently, there is a need to empower everyone to participate in efforts towards environmental sustainability through education, public awareness and training. Participation also implies taking into account the local context and the cultural dimension, as well as recognizing the relevance of free, independent and pluralistic media for progress towards environmental sustainability.

Lack of political will, pressure on environmental resources from high use and natural hazards and other external shocks, insufficient governance and planning policies, a lack of science, education, media and culture for environmental sustainability, social unrest and lack of financial resources are among the challenges contributing to insufficient progress
on environmental sustainability. One of the main challenges is the lack of coordination among national institutions and authorities stemming from an unclear definition of roles and responsibilities. Collaboration among the donors also presents difficulties in terms of country priorities versus those of the donor community. Another major issue is the lack of commitment regarding the necessary national investments to achieve environmental sustainability, pointing to the fact that targeted interventions and investments in environmental sustainability can have strong positive impacts.

4.2. An Analyses of Community Participation in sustainable management of forest resources in Kenya

Four main forces have been driving the management of natural resources process across in Kenya; 1) the rich cultural heritage of the local communities, including the Nchuri Ncheke of the Meru community, the Kaya traditions of the coast, and the Kikuyu/Kalenjin heritage and believes; 2) the decolonization and democratization movement since the 1950s; 3) the call for greater community participation and equity in natural resources for sustainable management that emanated from the 1992 Earth Summit in Rio-Brazil; and 4) the macro-economic and institutional reforms that have been on-going in the country in search for greater efficiency and accountability. To date, Kenya can claim significant progress towards success in improved the frameworks for governance in the management of its forest resources, having undertaken key institutional, legal and policy reforms to create an enabling environment for sustainable forest management. However, we should note that policy and institutional reforms and programmes are a delicate and time consuming undertaking, and could be sensitive as they involve changes in structure (reorganization) and

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139 UNDP. 2006. Making Progress on Environmental Sustainability: Lessons and Recommendations from a Review of over 150 MDG Country
relationship with other institutions, as well as the careers of staff. These could easily be derailed by political interference. Community participation in forest management must be seen in context of the beginning of a reorganization process that could take years to achieve.

4.2.1. Forest management in Kenya

Forests in Kenya cover a total area of 37.6 million hectares out of which 2.1 million hectares are woodlands, 24.8 million are bushlands and 10.7 million are wooded grasslands.140 Out of the total forest cover, only 1.7 million hectares are gazetted and managed by Kenya Forest Service. A total of 9.4 million hectares of a variety of tree coverage exists on farmlands, settlements areas and urban centres. Forests rank high as one of the important national assets with significant economic, environmental, social and cultural values.

Despite their importance to the social and economic development of the nation, forest resources face several threats, manifested mainly through increase in illegal activities from: illegal charcoal burning and logging, illegal harvesting of non-timber wood products and forest excisions. Table 1 illustrate the numbers of recorded cases by Kenya Forest Service in financial years 2011/2012 and 2012/2013. The analysis of the cases indicates that illegal activities in the forest are increasing because in comparing the two financial years, most cases were on an upward increase. Illegal activities include unlicensed grazing; illegal cultivation, forest fires, illegal hunting or collection of honey. There upward increase in illegal activities in the forests is attributed poverty and the local communities adjacent to the forest not properly integrated in the forest management. Areas were community forest association are working properly forest destruction is less. For example in the Mau Complex

(Eastern Mau Forest Reserve, South West Mau Forest Reserve and Maasai Mau forest), 6,032 hectares were destroyed between 2000-2003 while 9,334 ha were destroyed between 2003-2005. The local communities in these areas were not involved in most of the activities in forest management resulting to high destruction of forests.

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141 KFWG memo to KFS Director, December 2006
Table 1: Illegal activities in forest in Kenya FY 2011/12 and 2012/13

<table>
<thead>
<tr>
<th>S/no</th>
<th>Illegal activities in the forest</th>
<th>2011/12</th>
<th>2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No. of vehicles impounded and cases prosecuted in law courts</td>
<td>84</td>
<td>148</td>
</tr>
<tr>
<td>2</td>
<td>No. of motor cycles impounded for transporting charcoal</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>No. of culprits arrested and prosecuted</td>
<td>495</td>
<td>1514</td>
</tr>
<tr>
<td>4</td>
<td>Tons of various timber species recovered</td>
<td>61</td>
<td>192</td>
</tr>
<tr>
<td>5</td>
<td>No. of power saws impounded</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>No. of heads of cattle and donkeys impounded</td>
<td>236</td>
<td>37</td>
</tr>
<tr>
<td>7</td>
<td>No. of bags of charcoal recovered</td>
<td>1250</td>
<td>7526</td>
</tr>
<tr>
<td>9</td>
<td>Ha. Under narcotics destroyed (in scattered maize crop plantation)</td>
<td>9 ha</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>No. of Cedar posts</td>
<td>2929</td>
<td>21299</td>
</tr>
<tr>
<td>11</td>
<td>Structures demolished in Forest areas</td>
<td>3302</td>
<td>475</td>
</tr>
</tbody>
</table>

Source: Kenya Forest Service, 2013

4.2.2. Status of the forest Cover in Kenya and community participation

The Government cannot succeed alone in meeting the required standards of forest cover of at least ten percent. From the analyses of a report from Kenya Water Towers Agency of
2013, in areas where the government has close collaboration with the local Communities there is significant improvement in forest cover. Currently, Kenya’s forest cover is still minimal with the majority of the counties recording more than 10 percent forest cover.

According to the detailed report on the status of water towers by Kenya Water Towers Agency, only 18 out of 47 counties have attained the 10 percent minimum forest cover.\textsuperscript{142} Nyeri County has the highest percent at 38.03 percent with the least forested county being Siaya at only 0.42 percent. The national countries average is at 7.14 percent. Over the last decade there has been extensive degradation of water towers due to encroachment, excision, ill planned settlement and illegal logging. Coupled with conflicting policies from different arms of government charged with resource management and poor law enforcement, degradation has impacted negatively on Kenya’s environment. According to the report, thousands of acres of former forestland in catchment areas have been recovered. Approximately 25 percent of the land lost to Mau catchment grabbers has been recovered. There has also been voluntary surrender of 44 title deeds and rehabilitation of 17,000 hectares of catchment land and 97 kilometres of riparian reserve. The economic value of the Mau forest catchment area at KSH 110 billion and that of the Aberdare Ranges at KSH 59 billion per year. There is a big correlation between community participation and forest conservation. From the analysis Nyeri County has the highest forest cover in the country and at the same time the highest established Community forest Association and Forest scouts as shown in appendices I and II.

\textsuperscript{142} Standard, (November 3, 20013). Report raises fear over dismal forest cover and dying towers by Daniel Wesangula, Standard News paper, Nairobi, Kenya.
4.2.3. Forest land excision and encroachment

The excision of forest land and encroachment has a long history in Kenya, and clearly some of them may have been based on interest purely for public good (such as for settlement of landless and for public utilities such as schools and institutions). Concern however came in the late 1990s and early 2001 when several politically motivated excisions took place with no regards to EIA provided for in the EMCA. In 2001, a total of 67,000 ha were excised under unclear circumstances without following the legal procedures. One of the classic example of excisions without due diligence is that of the Nyayo Tea Zones. This is the largest alternative use of land within the forest estate undertaken in order to create the Nyayo Tea.

Development Corporation (NTDC). The purpose of establishing NTDC in 1986 (gazetted in 1988) was supposedly to promote conservation of the forest by establishing a buffer zone between agricultural land and the forest. Tea zones were created in the following areas: Mt Kenya, Mt. Elgon, West and East Mau,, Trans Mara, Tinderet, North and South, Nandi, Kakamega, Kiptabus, Uplands, Kikuyu escarpment and the Aberdares. Officially, a “100m” strip from the forest boundary was nominally used as the guideline. In practice however, the width of the tea zone strip went up to 5 km in some places, and 25 km width has been reported in one area. By 1990 the total area cleared for tea planting was 11,000 ha. (See Table 2)

143 Strategic Action Planning in the Kenya Forestry Sector; UNDP/Forest Department: 2003

Where community participation in forest management was active, there was a lot of resistance in forest excision. This is because these communities had stated to realise impotence of conservation of forests. In Aberdare and Mount Kenya forest there were less forest excision as compared to other areas in Rift Valley province like Mau forest, Marmanet, Ol Arabel among others. The perception of the local communities in central province region towards forest conservation and management is better compared to Rift Valley province and that is why forest destruction and excision is minimal.

Table 2: Forest Excision in the Ndung’u land Report

<table>
<thead>
<tr>
<th>S/no</th>
<th>Category of Excision</th>
<th>Area in Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excisions after Boundary plans, Gazette notices and legal notices</td>
<td>141,703.6</td>
</tr>
<tr>
<td>2</td>
<td>Excisions done by way of exchanges</td>
<td>911.4</td>
</tr>
<tr>
<td>3</td>
<td>Excisions done before finalizing the degazettment process</td>
<td>76,612.2</td>
</tr>
<tr>
<td>4</td>
<td>Proposed Excisions that have been challenged in court</td>
<td>67,724.6</td>
</tr>
<tr>
<td>5</td>
<td>Excisions done to create Nyayo Tea Zones</td>
<td>11,000</td>
</tr>
<tr>
<td>6</td>
<td>Excisions from Ngong and Karura Forest</td>
<td>1,125.5</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>299,077.5</strong></td>
</tr>
</tbody>
</table>


Population growth acts to increase overall direct pressures on land, timber and non-timber forest resources. In a country of about 40 million, the demand for additional farmland for subsistence agriculture is increasing every year. Population growth, including in-migration, also contributes to expansion of urban settlements. Population increases are also linked to
habitat degradation associated with increased demand for firewood, charcoal, timber, fuelwood, building materials and non-timber forest products. Population increase has also been a powerful driver of excisions of gazetted forest land for settlement of landless groups who convert forests to alternative uses, particularly agriculture and urban settlements. The removal of land from forest use leads to increasing gap between supply and demand for forest goods and services (limited size of gazetted forest areas in relation to the increasing population). Under this pressure on the limited resource and from a largely poor population, the opportunity for encroachment, illegal poaching of timber and wildlife, illegal charcoal burning and other crimes increase dramatically. This situation is aggravated by the over reliance on gazetted forests as the primary source of industrial wood and fuelwood for energy.

4.2.4. Community participation on management of forests

In the past, management of forests in Kenya has laid emphasis on protection through command and control system with minimal participation of other stakeholders. Consequently, communities have been alienated from the forest resources and participation in decision-making. Over time this has created animosity between forest managers and communities neighbouring the resources. The previous legislation and policy had inadequate provisions for community participation in forest management. In view of the aforesaid, there has been a significant reduction of the forests cover, unsustainable utilization of the forest resource and skewed distribution of benefits. To address this, the government has adopted Participatory forest management as a strategy to improve the management of Kenya’s forests and woodland areas for current and future generations.

The government’s commitment to PFM has come about partly as a result of pressure from community based associations who, in the past, approached the former Kenya Forest Department with proposals to pilot and work with them towards their involvement in forest management. Examples include the Gong Forest Sanctuary Society; the Ngare Ndare Forest Trust; the Eburu Forest Conservation Network, Ngong hills forest association; and the Olobollosat community forest associations. These associations contribute significantly to forest law enforcement and are expected to be more effective under the forest act 2005. Currently there are 94 established forest associations in Kenya. (See appendix I)

The Civil Society Organizations (CSO’s) (including the media, the forest associations and NGOs such as the Green Belt Movement, the Kenya Forest Working Group, the Forest Action Network) have been playing a critical role in bringing issues relating to forests to the attention of the public and holding the government to account on these issues. For example their role in lobbying against the 2001 forest excisions was vital in exposing mismanagement and bad practice. The Green Belt Movement in particular has been at the center of national debate on forest issues. Kenya Forest Working Group (KFWG) and the Forest Action Network (FAN) played an important role in the national forest policy and institutional reform process, and have been strong advocates of the PFM and Forest Law Enforcement and Governance (FLEG), including through studies, assessments and community mobilization for the establishment of forestry associations for forest blocks threatened by bad governance or inadequate law enforcement. The International NGOs, including IUCN, WWF and the East African Wildlife Society (EAWS) have been

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championing the case for PFM and the need for conservation and sustainable management of forests for livelihoods and biodiversity conservation. In particular, IUCN has documented important experiences on PFM, while WWF and EAWS have been in the forefront in forest conservation policy advocacy.

4.2.5. Inadequate/oudated or weak forest policy and legal frameworks

The overlap of the many Acts touching on forestry for instance the Water Act, the Wildlife Act and the Agriculture Act that are not harmonized creates uncertainty and confusion as to who is responsible for enforcing what laws and where. A good example is the dual gazettement of parts of Mt. Kenya forest reserve, Kakamega forest, Shimba Hills under mandate of Kenya Forest Service and Wildlife Service. This creates confusion when it comes to such activities as fire fighting and patrolling and the question of overall accountability in law enforcement.147 Other weaknesses with the forest policy and associated legislation include: 1) Forestry legislation that did not adequately recognize or reflect the role/rights of the communities adjacent to or living in the forests. 2) Forest Act that gave little recognition of the potential of forestry practice beyond the borders of gazetted forests. 3) A forest policy that focused on government programmes and little attention to provision of financial and technical assistance to forestry programmes and activities outside of the forest reserves. 4) Forest regulations/directives that were not backed by implementation guidelines, leaving room for subjective interpretation. For example the presidential ban on logging was not followed up with written instructions/guidelines on its implementation. 5) Forest policies and practices that paid little attention to the provisions of international norms relating to forestry.

The above flaws/weaknesses provided loopholes in the administration of the policies and regulation, and at the same time created opportunities for neglect and abuse of the due process in governance of the forest resources and the enforcement of forest law, thereby facilitating illegal logging and other crimes. There is need for involvement of all stakeholder/actor in participatory forest management to address these issues in a wholesome manner.
CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

From the analyses on sustainable environmental management in developing countries, developing countries continue to experience environmental problems like desertification, deterioration of urban physical quality, land degradation, deforestation, soil erosion, and flooding which mostly emanate from human activities. The UN summit which took place in 1992 in Rio de Janeiro, agenda 21 was intended to be a global action plan for sustainable development; it captured the general international understanding of sustainable forest management. A number of sets of criteria and indicators have since been developed to evaluate the achievement of sustainable forest management.

On forest governance, a majority of forests in the world continue to be owned formally by government but Community forest management is an evolving branch of forestry whereby the local community plays a significant role in forest management and land use decision making by themselves in the facilitating support of government as well as change agents. Community forestry first came to prominence in the mid 1970s and has continued to evolve over the last few decades in a growing number of countries including Nepal, Indonesia, Korea, Brazil, India North America and counties in Africa. Therefore on sustainable environmental management in developing countries in particular forest management we can conclude that there is some level of success on improved forest management and local community involvement in forest management. Since 1990, the process of community participation in forestry has been increasingly promoted by an expanding public sphere
although there is still limited knowledge with regard to how local people can effectively participate in forest governance policies and practices.

In the case of Community Participation in sustainable management of forest resources in Kenya, the study found that this was made possible when government forest officials realized that forest conservation is not possible without the involvement of local people in forest governance. This was because of challenges the forest department was facing in managing forest resources. Forestry in Kenya especially in 1990s witnessed massive forest destruction and illegal forest excision for political interest and there existed very poor institutional framework which had little involvement of the local communities in forest management. As a result Forest Act 2005 was legislated and the Act recognises participation of all actors in forest management. This has helped to curd forest destruction in Kenya facilitating a significant increase of the forest cover which from the analysis it is evident that there is a positive correlation of sustainable forest management and community participation in forestry.

5.2. Recommendations

The recommendations are based on the objectives outlined in the study. The first objective was to examine sustainable environmental management in developing countries in particular forest management. The research reveals that there is still a challenge in environmental sustainability; desertification, land degradation, deforestation, soil erosion flooding among other despite mechanisms put in place. The following recommendations are suggested: on objective one; Firstly on environmental degradation, developing countries should adequately integrate population concerns in environmental policies and strategies. Countries should decentralize government administration and strengthen political processes at the local level.
Furthermore, participatory approaches to facilitate dialogue and exchange of knowledge and information on Natural Resource Management should be enhanced. This will increase the knowledge base of communities, promote practices which are compatible with the environment, create awareness and foster partnerships among policy makers and civil society. Criteria and indicators for sustainable environmental management are recognized as an important framework for assessing the state and trends in environmental resources in order to ensure proper environmental planning and management. Secondly, create or strengthen spheres and mechanisms for the identification and settlement of disputes arising from environmental action and management in the community, the locality, the region, and/or the country. Thirdly, promote criteria for allocating resources from multilateral and bilateral cooperation and national programs that incorporate the strengthening of local environmental management and also elements of environmental sustainability in programs and projects for and local community development. Fourthly, holding regional and national workshops on local environmental management and community participation and also organizing exchange visits between countries to learn about successful experiences in this field. Fifthly, Link environmental resources and the social and economic development of developing countries through adequate integration of the environmental pillar for sustainable development if the region is to meet its sustainable development goals.

Objective two was to assess the level of Community Participation in sustainable management of forest resources in Kenya. From the analyses, despite forest reforms like the enactment of Forest Act, 2005, there is still a challenge in community integration in forest management. The level of community participation has been minimal for example it is only Nyeri County which has shown some significant level of integration as compared to other counties in Kenya. Community participation in sustainable forest management can be
achieved through; Firstly, Promotion of active participation through developing and strengthening capacities of the local people to gain responsibility for and authority over forest resources and effectively contribute to decisions on how these are used. This should also embrace efforts to change people's attitude of government "knows it all". Secondly, interventions need to be directed towards strengthening traditional methods of land and tree management and direct incentives for on-farm tree growing to diversify sources of forest resources. Thirdly, the government should empower the local communities through provision of alternative source of livelihood for them not to over rely on forest resource. Fourthly, institutionalize the instruments for citizen participation, preferably through existing structures and organizations. To achieve this, the forest sector should fast rack establishment of community forest association in the county. Lastly, to create or strengthen the technical agencies that facilitates community participation.

In conclusion forests enhance conservation of the environment, biodiversity, water, and soil resources while significantly contributing to the livelihoods of forest adjacent communities. Thus incorporating the local communities in forest management through participatory forest management (PFM) enables local people to deal with the unique ecological problems within their environs. PFM assist in establishing systems in which communities and government services (forest authority) can work together by defining rights of forest resource use, identifying and developing forest management responsibilities, and agree on how forest benefits can be shared.


Sedjo, R. A. (2001). From foraging to cropping: the transition to plantation forestry, and implications for wood supply and demand, Unasyla, 204 (52).


UNCED, (1992), *Agenda 21*, UNCED, Rio de Janeiro


Appendix I: Established Community Forest Associations

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Source: Kenya Forest Service, 2013
Appendix II: Established community scouts

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Source: Kenya Forest Service, 2013