THE EFFECTS OF ECOTOURISM ON COMMUNITY LIVELIHOODS AND NATURAL RESOURCES USE IN KAJIADO DISTRICT, KENYA

BY

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A thesis submitted in Partial Fulfillment of the Degree of Master of Arts of Kenyatta University.

January 2008
Declaration

This thesis is my original work and has not been presented for a degree or award in any other university.

Signed ___________________  Date ___________________
Winfred Wambui Ndege

This thesis has been submitted with our approval as the appointed University Supervisors.

Signed ___________________  Date ___________________
Dr. Joy Obando

Signed ___________________  Date ___________________
Dr. Ishmael O. Mahiri
I would like to dedicate this work to my beloved parents Mr. James Ndege and Mrs. Nancy Ndege for their continuous financial, social and emotional support during my studies.
Acknowledgements

Academic life has been very challenging. As a student, life at Kenyatta University has even been more challenging especially during the period of writing this thesis. In spite of all the boundless challenges encountered, there are many persons whose committed hands, minds, resources and hearts made this study a success. It is impossible for me to name all the individuals involved here. A few of them however deserve special mention.

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Above all, I extend special thanks to the Almighty God for His love, mercies, guidance, care and provision throughout my MA programme.
Abstract

This study examines the effects of ecotourism on community livelihoods and natural resources use in Loitokitok Division, Kajiado District. The analysis is based on benefits; both direct and indirect accrued from ecotourism, change of resources use from consumptive to non-consumptive ways, effects on frequency of human-wildlife conflict incidences as well as response of the community to these incidences.

Data for analysis were collected from a sample of 40 members of the community through questionnaire method. In addition, one member each from the institutions involved in ecotourism (AWF, KWS and Porini Ecotourism Company) in the area was interviewed. Direct observation and secondary data were also used to collect data. The Statistical Package for Social Sciences (SPSS) was used for data processing and analysis. The Chi-square test was used to determine if the differences in variables was statistically significant.

The results from the analysis revealed that with the introduction of ecotourism in the study area members of the community did not only utilise the natural resources in consumptive ways such as for game meat, but also they utilize in non-consumptive ways such as viewing. There was a significant difference ($P \leq 0.05$) in the use of natural resources before and after ecotourism. The results also show that ecotourism has influenced the community’s livelihood through benefits accrued from ecotourism. This has been possible through participation of the members in ecotourism either directly or indirectly. The findings however reveal that there is no significance difference ($P \leq 0.05$) in the level of participation by all members of the community.
Some community members work in the ecolodge as waiters while others sell their souvenirs to the tourists.

The conclusion that emerges is that though the community still utilises the natural resources in consumptive ways, ecotourism has enabled the members to use the same resources in a non-consumptive manner for the benefit of all. This in return illustrates that ecotourism is a sustainable land use option. The income accrued from ecotourism has played a role in boosting the economic status of the community, hence improving their livelihood. This has also been achieved through offering employment opportunities and financing the community’s projects such as schools and water holes.

The main recommendation is that ecotourism should be enhanced in areas in the vicinity of protected areas such as national parks more so in the rangelands or arid and semi-arid lands where livelihood options tend to be limited. This is because these communities experience losses and costs through attack and damage on lives and property from the wild animals. Indeed, wildlife does not recognize boundaries and most of it is outside the parks. Through ecotourism, the community will experience benefits from these resources and hence will in return conserve and manage these resources in sustainably. Ecotourism is therefore, a sustainable conservation strategy.
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Acronyms and abbreviations

ASALs- Arid and Semi-Arid Lands

AWF—African Wildlife Foundation

DFID – Department for International Development

ECOSOC - United National Economic and Social Council

ESOK – Ecotourism Society of Kenya


IUCN- World Conservation Union (International Union for the Conservation of Nature)

KWS -- Kenya Wildlife Services

MDGs- Millennium Development Goals

NGOs - Non- Governmental Organisations

SPSS- Statistical Package for Social Sciences

UNEP – United Nations Environment Programme

WSSD – World Summit for Sustainable Development

WCED - World Commission on Environment and Development
CHAPTER ONE
INTRODUCTION

1.1 Background to the study problem

Natural resources such as plants, animals, soils and water are a means of survival in majority of communities worldwide. Communities use natural resources like trees for medicinal purposes and fuel wood and wild animals' products such as skin, hides and game meat. These are consumptive uses that involve harvesting of these natural resources (Niamir, 1990). However, consumptive uses of natural resources may lead to degradation and extinction in the long run. Therefore, sustainable utilization and conservation of the resources is paramount for the survival of these resources more so in ASALs which are fragile ecosystems (Rutten, 2000).

In Africa, like many other parts of the world, the survival for the natural resources in the past had more to do with low human population densities, limited technology and undeveloped markets (Lusiola, 1996). However, growth in human populations, breakdown of traditional societies, commercial pressures and advanced technology has threatened the survival of the natural resources (Ntiati, 1997). This has led to creation of protected areas such as national parks, nature reserves, forest/game/biosphere reserves and wildlife sanctuaries. The principal function of all categories of protected areas is to guarantee the protection and conservation of natural resources, which lie within their boundary (Kamugisha et al, 1997). National parks are one of the most prominent forms of protected areas. These are national conservation areas established to preserve natural or scenic resources. The areas cover both terrestrial and aquatic resources and generally include large geographic territories.
In Kenya, the issue of conservation is not any different from what is happening in other African countries. Wildlife and other natural resources conservation dates back to 1898, when the first regulations were enacted by the colonial government to control indiscriminate hunting, and in 1907 the government formed a game department to oversee hunting (Campbell, 2000). The National Park Ordinance of 1945 marked a shift in approach, from protection through hunting legislation to preservation through land protection and eviction of local communities with the establishment of Kenya National Parks. Appendix 1 shows the location of some of the national parks and reserves in Kenya. Most of these parks are found in the rangeland ecosystems due to their richness in diverse vegetation types namely; shrublands, bushlands and woodlands and grasslands (Republic of Kenya, 2000) that are favourable for wildlife. On the other hand, the reason behind the location of the national parks in the ASALs is because the areas face climatic limitations that do not allow other livelihood options to be carried out. It is worth noting that there are also national parks and reserves that are aquatic in Kenya.

As a result of the creation of national parks and reserves in the 1990’s, the number of wildlife increased due to increased security. This increase brought problems or challenges to the wildlife management authorities because of human-wildlife conflicts, which increased as a result of increased human populations, urbanization and expansion of agricultural activities into previous wildlife corridors (Ntiati, 1997). Due to the increase in human-wildlife and natural resources conflict, there has been a change in the conservation strategy from the exclusion of communities, which was the case by use of parks, to community based strategy. The community based strategy to
conservation recognizes that the management of natural resources is inextricably linked to the survival of the local community who depend on these resources for sustenance (Rutten, 2000).

The main agenda of the conservationists is to make the natural resources available to community so as to regain control over them and through conservation practices improve their economic well-being. This approach referred to as ecotourism, involves activities designed to maximize the sustainable use of the natural and cultural resources on which it depends and at the same time, enhances the well being of the host community (World Tourism Organisation, 2003). Ecotourism is increasingly being recognized as a strategy that balances natural resources conservation and management and benefits to communities. Ecotourism has also been viewed as a change in the tourism industry from the “big five syndrome” (Republic of Kenya, 2003a) to other unexploited areas of the country. Ecotourism stresses not just the natural attractions but also the community who act as guardians of the land (Matiko, 2000).

One of the main principles of ecotourism is that the community should experience benefits (economic, social, or ecological) from the resources in their vicinity. By experiencing the benefits, the community is able to ensure that the resources are utilized in a sustainable manner and hence promoting their conservation and management (Honey, 1999). Ecotourism is a non-consumptive utilization of natural resources and hence it does not lead to over-exploitation of renewable resources.
Ecotourism was introduced in Loitokitok division, Kajiado district with the aim of providing the community with an alternative livelihood option as well as giving a chance to the community to experience direct benefits from the wildlife that form part of the available resources. On the other hand, these wildlife are a threat to the lives of the members of the community and their livestock. It is against this background that this study examines the effects of ecotourism in Loitokitok division, Kajiado district. Basically, the study looks at the role of ecotourism on the livelihoods of the community in the study area. It also observes the role of ecotourism in minimizing the problem of human—wildlife conflict and the change in natural resources utilization from consumptive to non-consumptive ways in the study area.

1.2 Statement of the problem

Kajiado District is occupied mainly by the Maasai people. When the British settlers came to Kenya, they found Maasai land suitable for occupation. The latter were persuaded into signing treaties surrendering their ancestral land for occupation and conservation (Cheeseman, 2002). This enabled the colonial government to establish the Southern Game Reserve in Maasailand (Nyeki, 1992), which cost the Maasai their best dry season pasture lands in Kajiado district. The community, which borders some of the most important conservation areas (in terms of visitor numbers), was thus marginalized by the introduction of agriculture and conservation leaving the poorest quality rangelands, which could no longer sustain their large herds especially in the dry season, leading to environment degradation and sever livestock losses. The Maasai, therefore, developed severe antagonism due to the uncompensated establishment of national parks and human wildlife conflicts around the conservation areas. This failure to incorporate the local people in conservation areas such as
Amboseli resulted in repeated spearing of wildlife and direct conflict with the national parks management (Cheeseman, 2002).

KWS (1990) suggests that communal ranches, which are a key form of land use in dispersal areas adjacent to national parks and reserves, should be an integral part of wildlife protection and conservation. However, this sometimes conflicts with the community’s desire to improve their socio-economic status by utilizing the land for subsistence agriculture or livestock production. According to Borini-Feyarabend et al (2000), if local communities receive more benefits from wildlife, they will have a greater incentive to ensure that the environmental impacts of tourism are better managed. By turning wildlife into an asset instead of a liability to the local community, biodiversity is more to be conserved in the long run (Reid, 1999). What is therefore, required are enterprises like ecotourism that benefit communities living adjacent to and who share such rangeland resources with wildlife.

In a wildlife utilisation study report, KWS (1990), acknowledges that local communities should be allowed to benefit from local wildlife resources rather than just bearing the cost of damage by wildlife to crops, pastures, water resources, fences and threat to human life. It also considers wildlife as a state resource with conditional user right to wildlife. This user right is exploited by private landowners(s) in game ranches and to a lesser extent by communal ranches. Embedded in this report are clear definitions of benefits from wildlife to the private landowners, such as the provision of economic incentives to induce them conserve wildlife on their land.
The effects of the ecotourism have not been fully investigated in all the areas where it has been introduced these being mainly ASALS. Since ecotourism has been introduced in Loitokitok division, there is need to examine the effects that ecotourism will have on the local community’ livelihoods as well as on its influence on natural resources use. There is also need to examine the role that ecotourism plays in mitigating human-wildlife conflict in the area which is recognized problem in the areas at the vicinity of national parks. The study examines the role played by the members of ecotourism, that is their level of participation.

1.3 Research questions.

The following research questions are addressed in this study;

1. What is the contribution of ecotourism towards the reduction of human-wildlife conflicts in the area?
2. What is the effect of ecotourism on natural resources use in the area?
3. What is the effect of ecotourism on the livelihoods of the community?
4. What are the roles played by all members of the community in ecotourism?

1.4 Research Objectives

The following objectives guided the study;

1. To determine the influence of ecotourism on human-wildlife conflict.
2. To determine the influence of ecotourism on use of natural resources in the area.
3. To evaluate the effect of ecotourism on the livelihoods of the community.
4. To determine the roles played by members of local community in ecotourism.
1.5 Research hypotheses

H0₁: There is no significant difference between the frequencies of human-wildlife conflict before and after ecotourism.

H0₂: There is no significant difference between the ways of using natural resources before and after ecotourism.

H0₃: The roles played by members of community; men, women, and youth as direct participants in ecotourism differ significantly.

1.6 Significance and Justification of the study.

This study seeks to establish the effects of ecotourism on natural resources use and on livelihood of the community living in the vicinity of these natural resources. This study will contribute to the global issue of natural resources conservation and poverty reduction including Millennium Development Goals (MDGs), Agenda 21 and World Summit for Sustainable Development (WSSD). Millennium Development Goals are a set of numerical and time-bound targets, arising from the United Nations Millennium Summit of September 2000, that seek to improve the livelihoods of humanity in the new century. They express the most important objectives of human development and assist in setting priorities of what need to be implemented within a given period to achieve the set targets (UNDP, 2003). Each goal is associated with specific targets, which are measured using particular indicators and providing countries with the chance to assess their progress over a period. The overall target is to reduce extreme poverty by half by the year 2015. The MDGs goals of ensuring environmental sustainability and poverty reduction are intricately linked. This study will contribute to the achievement of these two goals in Kenya since ecotourism as a conservation strategy involves local community in the conservation of natural resources, which
they depend on for survival. On the other hand, ecotourism provides an alternative livelihood option for reducing poverty.

The study focuses on ecotourism as a conservation strategy introduced with the aim of ensuring environmental conservation and offering livelihood options. Agenda 21 is a document developed at the 1992 United Nations Conference on Environment and Development called the Rio Earth Summit, which is a global plan of action to stop environmental degradation and promote equitable development (UNEP, 2004). It represents an outcome of a series of international policies and events. It is hoped that Agenda 21 would form an integral action plan for sustainable development into the 21st century. This is reinforced by the 2002 World Summit for Sustainable Development (WSSD) that provides the international community with an opportunity to forge a more integrated and effective global response to poverty and environmental decline. Agenda 21 has ever since the Rio Summit been customized into Local Agenda 21 chapters to serve the local need which is important to serve the whole network system of environment. One of the fundamental principles of Local Agenda 21 is the integration of social, economic and ecological issues (ibid). The study will therefore, contribute to the realization of this principle of Local Agenda 21, since the main principle of ecotourism is to ensure conservation of natural resources that are a backbone of tourism, while at the same time ensuring that community experiences economic and social benefits. This thus expresses the integration of the three systems; social, economic and ecological in ecotourism. The study will enhance understanding of sustainable development since ecotourism forges on sustainable utilization of natural resources.
This study will contribute to the extension of empirical knowledge on the effects of ecotourism in Kenya. It is an addition to existing studies on this theme, such as impact of ecotourism in community livelihoods and natural resources and biodiversity (World Tourism Organisation, 2003; ESOK, 2003a, 2003b; Ogutu, 2002; Sibanda and Omwega, 1996; Sibanda, 1995). These studies have analysed the impact of ecotourism on livelihood of community in the vicinity of national parks and wildlife sanctuaries. The study therefore goes deeper to analyse the effects of ecotourism on use of natural resources, its effects on livelihoods as a tool to poverty reduction and its effectiveness as a tool to solve human-wildlife conflict.

Ecotourism entails three main aspects; sustainable use of resources, participation of local community and the socio-economic benefits experienced by the community in return. This study brings the linkage of these aspects and hence its significance to policy makers, decision makers and resource managers. The policy makers can thus formulate a policy of ensuring that the local community participates in resources management. It is also expected that the study will enable decision makers, developers, resource managers, professionals and scientists to understand the need of involving local people in the promotion of natural resources management and also the use of strategies that will promote the local people’s values, concerns, aspirations and confidence.

This study is also relevant to the community management of natural resources through participation for their own benefit. The community is therefore not to be viewed as a threat to the resources, but as a manager of the resources. The resources are not to be conserved for the benefit of the local community only, but also for the region as well
as the international communities. Active participatory approach is hence enhanced in resource management by the local community and provides a basis of empowerment.

There is a tendency by many conservationists to blame pastoralists for environmental degradation in rangelands because of their large herds of livestock (Dahl and Hjort, 1979). While this may be the case, pastoralists are only struggling for economic survival. To reduce livestock populations among such pastoralists communities, so as to balance the carrying capacity of the rangelands, an acceptable alternative and sustainable source of livelihood had to be found. Over the past two decades, several developing countries in Sub-Saharan Africa have experimented with community-based wildlife utilization, which has, in most cases, been implemented in form of Integrated Conservation and Development Projects (ICDPs). Such projects include the Communal Programme Management for Indigenous resources (CAMPFIRE) in Zimbabwe; the Lungwa Integrated Rural Development Programme (LIRDP) in Zambia and the Conservation of Biodiversity Resource Areas (COBRA) in Kenya.

However, these have not been successful due to lack of responsive and supportive legal and institutional framework (Virtema, 2003). In addition, Kiss (1999) argues that community-based tourism activities, though essential for generating political support for conservation and reducing and mitigation human wildlife conflicts, can rarely, if ever, fully substitute direct protection of unique and valuable biodiversity resources. Ecotourism as an alternative source of income in rangelands has not been effectively assessed and where possible implemented. This study aims at assessing the effects of ecotourism in the study area as an alternative source of income.
One of the goals of ecotourism is to ensure that local communities participate in the conservation and management of wildlife and secure a fair share of direct and indirect economic benefits from this resource. Wandaka (2006) in his study in Kimana ecotourism project established that these benefits are not equitably distributed to the local community in the area. Whether this is the case in the study area it has not been documented and also the effectiveness of ecotourism in enhancing community participation in decision making and management of their natural resources.

1.7 Scope and limitations of the study

Due to limitations of time and finances, the researcher explored effects of ecotourism only in Loitokitok division, and not the whole of Kajiado district. The study explored only on the positive effects though the effects of ecotourism can be both positive and negative. Some of the negative effects include uneven revenue sharing mechanisms and lack of transparency in financial matters (Watkin, 2002). The effects examined are only socio-economic and cultural related to the community’s livelihood. The study also evaluated the use of natural resources before and after ecotourism, as a means of establishing the effect of ecotourism on use of natural resources and its influence on human-wildlife conflicts.

Due to high mobility of the local population due to the nomadic lifestyle posed a challenge in information gathering and verification. Further there were fewer female than male respondents, because, due to cultural briers, women do not express themselves freely in the presence of men. The researcher was however, able to interview the women through the introduction by opinion leaders, who were residents of the communal ranch.
1.8 Study Area

1.8.1 Location and Extent

The study was undertaken in Loitokitok Division, which is one of the six divisions in Kajiado District. The other five divisions include Central, Namanga, Magadi, Mashuru and Ngong. The division is situated on the southern part of the district along Kenya's boarder with Tanzania, which follows a northwest-southeast axis across the lower slopes of Mt.Kilimanjaro (see figure 1.1). It constitutes the lower northeastern slopes of Mt.Kilimanjaro, together with what is known as the Amboseli ecosystem. The division is the largest among the five divisions covering 6,266 square kilometres.

1.8.2 Climate and drainage

The area is one of the arid and semi-arid (ASAL) divisions in Kenya (Republic of Kenya, 2000). It is characterized by a bi-modal rainfall pattern. It receives an average rainfall of between 400-580mm per year, with long rains coming between March and May and short rains between November and December (Republic of Kenya; 2002). The short dry season is between January and February and the longest dry season is between June and October. According to Ntiati (2002), the annual rainfall in Kajiado is strongly influenced by mountains, hills, and the rift valley at large. High rainfall in Loitokitok occurs around the slopes of Mt Kilimanjaro and the Chyulu hills. Other areas especially the lower rangelands are characterized by lower rainfall. The lower rainfall is due to either rain shadow effects from the neighbouring mountains or to divergent wind flow between the Chyulu hills and Mt Kilimanjaro.

The area is also characterized by scattered pockets of permanent surface water making the rangelands more habitable than might be expected given the low rainfall over
most of the ecosystem (Republic of Kenya, 2002). Surface water is present in a few permanent and many seasonal rivers and swamps along the foot of Mt. Kilimanjaro. The seasonal water sources are significant in the distribution of the wildlife and human as well as their livestock (ETC East Africa, 2002).

Fig. 1.1: Location of Loitokitok Division in Kajiado District
1.8.3 Soils and Vegetation

The main type of soils in the area is the basement rock arising from different cycles of erosion. They vary from dark red to reddish brown sandy clay soils. Alluvial soils are also found in the area but mainly along the river valleys and some parts of the plains (Republic of Kenya, 2002). Generally these soils are of low fertility and are inherently shallow, permitting only limited capacity for water storage (Republic of Kenya, 2000). In addition to this, they have a high limestone content which makes them very poor in water retention and storage of moisture (ETC East Africa, 2002).

Finally, these soils have the added disadvantage of high erodibility due to the poor soil structure, which together with the low vegetation cover at the beginning of rainy seasons and the high intensity rainfall, lead to increasing susceptibility to land degradation (Republic of Kenya, 2000). This kind of soil has limited the land use activities in the area.

The vegetation consists of trees, bushes and grasses. Much of the grassland is pastoral savannah; mainly fire-induced grasslands with scattered trees and thickets. Acacias and commiphoras are the pre-dominant woody species in the grass and bush lands (Republic of Kenya, 2002). Some of these tree species are of medicinal importance to the members of the community. A good example is the Yellow Acacia whose bark is used to cure ailments for both the human and livestock (ETC East Africa, 2002). The members of the community obtain their source of energy (fuel wood) from the bushes and tree species in the area. Figure 1.2 shows the land cover of the study area, with major vegetation types in Kajiado district.
Figure 1.2: Vegetation cover, Kajiado District
1.8.4 Population

The Maasai predominantly occupies Loitokitok division. However, there are non-Maasai groups most of which are the Kikuyu and Kamba that form the largest non-indigenous groups. The total human population of the area is about 129,803 (Republic of Kenya, 2001). Like many of the ASALs, the area is characterised by low population density in comparison to the high potential areas but on the other hand, pressure on available resources is as much an environmental factor in ASALs as it is in the high potential areas. This is because ASALs have a relatively limited natural resource base and therefore a low carrying capacity. Population increase resulting from either natural growth or immigration tends to result in the overuse of resources unless they are carefully managed with regard to their future sustainability (Republic of Kenya, 2000).

Generally there are three migratory trends in an area: permanent immigration, temporary or seasonal emigration and return migration. Several factors influence these migration trends including climate, security, tradition, availability of central services, famine relief, gainful employment in towns / irrigation schemes and seasonal labour in high potential districts (Campbell, 2000). The study area has also experienced the above migratory trends. Ntiati (1997) postulates that the increase of population in the area may lead to encroachment on national park or the conservation areas within the group ranches. This is likely to lead to increased human-wildlife conflict in the area.
1.8.5 Land Use Activities

The land tenure in Kajiado district is characterised by three categories namely trust land, group ranches and privately owned land (Republic of Kenya, 2002). Most of the game reserves and national parks such as Amboseli and Tsavo are located in trust lands. A group ranch is a piece of land communally owned by a group of people who are registered as the legal owners through membership of the ranch (Stuart et al, 2002). The purpose of the group ranches established in Kenya by the government is to: increase productivity by increasing cattle off-take; preempt landlessness; improve earning capacity; and reduce environmental degradation caused by supposed overgrazing of communal lands (Southgate and Hulme, 1996). Most of the group ranches in Kajiado district are found in Central, Mashuru, Loitokitok and Namanga divisions.

Group ranches in the study area, Loitokitok division, include Eselenkei, Kimana, Olgulului, Mbirikani, Rombo and Kuku (Ntiati, 2002). The main economic activity in these group ranches includes livestock keeping mainly beef cattle, sheep and goats (Republic of Kenya, 2002). Pastoralism is the main economic activity in Kajiado district. Livestock statistics, as shown in Table 1.1 demonstrate the importance of livestock in the study area. Ecotourism is also another economic activity in the group ranches where the clans that own the group ranches set apart conservation area and set up campsites or tented camps and lodges for the tourists. In these camps, the tourists enjoy bird shooting and night game drives. Ostrich farming has been exploited in group ranches for tourism purposes (ibid).
Table 1.1: Distribution of livestock per square kilometre and household per Division, Kajiado District.

<table>
<thead>
<tr>
<th>Division</th>
<th>Area in sq. km</th>
<th>Livestock per sq km</th>
<th>Livestock per Household</th>
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<td></td>
<td></td>
<td>Cows</td>
<td>Goats &amp; sheep</td>
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<td>Central</td>
<td>2,815</td>
<td>16.8</td>
<td>42.2</td>
</tr>
<tr>
<td>Loitokitok</td>
<td>6,266</td>
<td>15.2</td>
<td>25.6</td>
</tr>
<tr>
<td>Magadi</td>
<td>2,749</td>
<td>9.3</td>
<td>38.1</td>
</tr>
<tr>
<td>Mashuru</td>
<td>2,250</td>
<td>26.1</td>
<td>45.3</td>
</tr>
<tr>
<td>Namanga</td>
<td>2,499</td>
<td>22.9</td>
<td>28.4</td>
</tr>
<tr>
<td>Ngong</td>
<td>3,692</td>
<td>28.8</td>
<td>72.1</td>
</tr>
</tbody>
</table>

Source: Republic of Kenya, 2002

On the privately owned land, there are several economic and agricultural activities taking place in the area. These include livestock keeping, rain-fed agriculture with maize and beans as the main crops and irrigated agriculture for vegetables. The lifestyle of the majority of the population depends on livestock and livestock products for subsistence. These include meat, milk, hides and skins (ETC East Africa, 2002). In addition to the already mentioned sources of livelihood in the area, are the businesses managed by members of the community as well as professional careers such as teaching.

1.8.6 Wildlife and Tourism

The study area has vast potential for development of tourism, due to presence of wildlife and Maasai culture, which are major attractions in Kenya’s tourism sector (Republic of Kenya, 2002). Tourism is an important sector in the economy of the area in terms of revenue generation and employment creation. Tourism has been a source
of income for members of the community such as women groups through the sale of Maasai handicrafts and artifacts (Ntiati, 2002; Western, 1994; Berger, 1991). This has been achieved through ecotourism. The rich Maasai culture is a major tourist attraction. Majority of the tourists come to the area to see the Maasai, their attire, manyattas, purchase of handicrafts for example necklaces and copper bracelets that are associated with the area (Republic of Kenya, 2002).

The study area is rich in wildlife of all types such as elephants, leopards, zebras, wildebeest, primates such as monkeys, as well as the several bird species (ibid). In addition to this, the area is located in the periphery of Amboseli National Park and hence the area is used as a dispersal corridor route by most of the animals as they move to or from either Nairobi or Tsavo national parks (Chiemelu, 2004). Most wildlife migrate during the wet season out of the parks and tend to concentrate within them in dry season, using them as dry season water and range reserves. This mobility leads to many cases of human-wildlife conflicts in the area. The wildlife present in the area is not only useful to the tourism sector, but are also used by the members of the community for purposes such as ornaments, bush meat and skins and hides (Ntiati, 1997; Fratkin, 1997).

1.9 Operational definition of terms and concepts

Ecotourism- a type of tourism activity designed to maximize the sustainable use of the natural and cultural resources on which it depends and at the same time enhances the well being of the host community.

Conservation – refers to the art of managing natural resources in a sustainable manner for the benefit of all people.

Participation- refers to roles played by the members of the community in ecotourism.
Protected areas - these are regions carved from indigenous ancestral lands where wild animals are kept at the expense of livestock and local community.

Livelihood - comprises the capabilities, assets (including both material and social resources) and activities required for a means of living.
CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

A review of both empirical and theoretical literature is presented in this chapter. The existing empirical literature related to the theme of the study is reviewed in subheadings namely; historical perspectives of natural resources management in Kenya; human-wildlife conflict in Kenya; ecotourism as a resources management strategy; ecotourism world-wide and ecotourism in Kenya. The review of empirical studies thus locates this study in the growing body of literature on ecotourism in Kenya, identifying existing gaps. The theoretical review has been utilized to locate this study in a broader global scene, and to develop a conceptual framework for the study.

2.2 Literature Review

2.2.1 Historical Perspectives of Natural Resources Management in Kenya

Natural resources are of paramount importance to human beings because the latter utilize them to meet their basic needs (food, clothing, and shelter), as well as economic and social needs (Smith, 1999). The natural resources include soil, water, rangelands, forests, wildlife, minerals, cultural resources or human populations that man can utilize to promote his welfare. These resources vary in quantity, mutability, renewability, and reusability (Niamir, 1990). Some resources are inexhaustible and therefore can either be immutable or misusable. Immutable resources are those that cannot be adversely changed through man’s activities. Examples of such resources include atomic energy, wind power, precipitation, and waterpower of tides. Misusable
resources are those that have little danger of being exhausted but when improperly used the resources quality may be impaired. These resources are solar power, atmosphere, and waters of oceans, lakes and water of flowing streams. Natural resources such as forests, wildlife and minerals on the other hand are exhaustible. When not used sustainably these resources may become extinct.

The conservation and management of these resources have therefore, been encouraged due to their value in economic, ecological and social terms. To realize these values, the resources are used for either consumptive or non-consumptive uses. Non-consumptive uses are those which do not involve harvesting of the natural resources (Jennings, 1993). Wildlife based tourism is one form of non-consumptive utilization.

On the other hand, consumptive uses involve harvesting natural resources such as utilising forest products for timber, fuel, and fodder and for construction purposes as well as hunting for game meat and mining. It is worth noting that in the study area, shrubs are mainly used for fuel purposes since most members of the community cannot afford other alternative sources such as solar due to their cost. On the other hand, utilisation of natural resources for construction purposes is not high since the community constructs traditional homesteads that do not require much timber. Since the area is an ASAL, the shrubs and the grasses are most suited for fodder for the livestock of the community (Niamir, 1990).

According to Ntiati (1997) and Anderson and Grove (1997), conservation in the past decades may have been achieved through an avoidance of over use of the wildlife due
to traditional taboos, religious beliefs, medicinal plants or lack of commercial outlets for wildlife products or plants. Traditional societies like, for example, the Maasai lived harmoniously with wildlife. This was made possible due to the low human population, low technology in agriculture and in other sectors (Campbell, 2000).

Due to the increase in hunting in the period between 1900-1945, wildlife faced a threat, as hunting became a lucrative business causing massive destruction of game in Africa and other parts of the world. This carnage brought worries about the future of wildlife. The fear on the future of wildlife created a new sensibility in conservation (Stuart, et al, 2002).

Different strategies were applied in order to ensure that the resources are conserved. For instance, from the 1950s to the 1980s the dominant strategy to ensure the conservation of natural resources was the creation or the revitalization of protected areas (Homewood, 1995). This strategy referred to as ‘fortress conservation’, has its main objective to improve wildlife conservation as well as the associated habitat and assure sustainability (Adams and Hulme, 1998). In Kenya, this strategy led to the creation of a number of national parks such as Tsavo, Aberdares, Meru, and Amboseli as well as Game Reserves and National Reserves such as Shimba Hills (see Appendix 1). In addition to national parks as protected areas, forest reserves and wildlife sanctuaries are other examples in Kenya.

The Kenya Wildlife Services (KWS) was created by the Kenyan government to ensure the conservation of the natural environment of Kenya and its fauna and flora for the benefit of present and future generations and as a world heritage (Okungu,
2005). The other major goal for the KWS is to use wildlife resources of Kenya sustainably for the economic development of the nation and to benefit the people living with the wildlife. These goals may not have been fully achieved due to the fact that the KWS authorities viewed the local communities in the vicinity of the wildlife as a threat to the wildlife (KWS, 2001). They viewed them as interfering with the grazing and the dispersal zone of the animals (Sibanda and Omwega, 1996).

The issue of ownership of the natural resources was also the cause of the objectives not being met. The local community saw land as belonging to them but regarded natural resources as the property of the KWS or the Government (KWS, 2001). For instance, they regarded wildlife as intruding on their land and therefore a nuisance. The KWS on the other hand, regarded wildlife as a national resource, which has a right to utilize any land as traditional and seasonal dispersal areas (Sibanda and Omwega, 1996). The KWS did not see these communities as partners in the conservation and management of the wildlife. It regarded people as beneficiaries even if they may well have lost more than they gained. This in turn resulted in the human-wildlife conflicts (Homewood, 1995).

This conservation strategy of creating protected areas is still used in Kenya. Kamugisha et al, (1997) postulates that these protected areas such as the national parks and reserves as well as forest reserves are created for the main goal of conserving biodiversity. On the other hand, due to the failure of creation of protected areas to conserve natural resources, there has been a shift from use of this as a conservation strategy to involving the community that live in the vicinity of these resources in their conservation. The change in conservation strategy is to ensure that
the communities in the vicinity of these protected areas are involved in the conservation and management of these natural resources within the boundary for their own benefit (Republic of Kenya, 2003a).

2.2.2 Human-wildlife Conflict in Kenya

Human-wildlife conflict has escalated in recent years because of changes in land-use, especially expansion and intensification of arable farming and sedentarisation of pastoralists in rangeland; inadequate wildlife control; the ban on hunting and capture of wildlife; and the natural increase of animal numbers (Okungu, 2005). These changes have contributed immensely to the hardships of landowners, who tend to invest and lose more as they try to cope with the wildlife challenge in their land-use enterprises. Human-wildlife conflict is considered to be any and all disagreements or contentions relating to destruction, loss of life or property, and interference with rights of individuals or groups that are attributed directly or indirectly to wild animals (Ntiati, 2002).

Kenya has 46 terrestrial national parks and reserves, most of which are not fenced, thus following the seasonal migration in and out to these parks and reserves. This not only allows the ecosystem to rejuvenate but also helps avoid inbreeding. In Kenya, 65% to 80% of the wildlife (large fauna) is found outside the protected areas (Ouko and Marekia, 1996). Since the wildlife is highly migratory and mobile, the lands outside the protected areas may have even more wildlife at certain times of the year, in comparison to those in the protected areas (Foley, 2004). The communal ranches provide migratory routes, dispersal areas and breeding sites for wildlife, for example, the wildlife migrate annually between Amboseli, Kimana Sanctuary, Chyulu and
Tsavo national parks. During the seasonal migration, the wildlife, rather than finding a buffer zone in the dispersal areas, often encounters competition for pastures, water from agricultural activities of the local communities (Western, 1975). This is the case with the migratory fauna with Amboseli ecosystem. This results wildlife being restricted in the protected areas. In the Laikipia –Ewaso Ng’iro ecosystem, Mwakima (2005) found that restriction of wildlife in the national parks resulted in increased predator-prey relationships. This reduced the hunting territories hence disrupting the life support systems. When the natural prey is in short supply, the predators resorted to killing livestock. The pastoralists consequently reacted by killing the predators in the dispersal areas of Nairobi, Amboseli and Nakuru national parks.

In the ostensible bid to preserve natural resources in Kenya, several categories of protected areas are recognized by law. These are: National Parks, National Reserves and Marine National Parks/Reserves. National parks are intended for the exclusive use of wildlife. Here human activity is permitted strictly as in the appreciation of wildlife in its natural state (Okungu, 2005; Chiemelu, 2004).

Unlike national parks, which are exclusively for the habitation of wildlife, national reserves are conceived in recognition of the need for local communities to continue benefiting from land, forestry and water resources while conserving wildlife (Kimega, 2003). A prime example is the internationally renowned Maasai Mara Game Reserve, now 8th wonder of the World, where the Maasai people have limited rights to graze their cattle, just as they did in previous centuries (ibid). Marine National Parks and Reserves act on the same principles only that they are not land-based and lie off
certain areas at the Indian Ocean coastline. Fishing is restricted in the marine national parks.

Have national parks in Kenya succeeded in their stated objectives of conserving wildlife? It’s a question with no easy answers. What however has been established is that wildlife numbers, mainly those outside the parks, have declined in the same time as the human population has grown (Okungu, 2005). Consequently hitherto uninhabited areas, including forestland, have turned into towns, farms, trading centres and roads. The wildlife previously existing in such areas has been pushed into the national parks where there is more or less guaranteed security from poachers (Dapash, 2002).

In return there emerges increased competition for food resources in the parks (Kimega, 2003). In this case, vegetation for the herbivorous animals, and flesh for the carnivores. All these creatures have to turn for survival, to areas outside the national parks where they can obtain food.

As it turns out, for reasons stated earlier, the areas surrounding our national parks have been settled and cultivated (Dapash, 2002). Herbivores straying from the congested national parks find their food in the settlers’ farm produce. Staple foods such as maize, cassava, beans, potatoes and fruit trees are the targets for the hungry herbivores that encompass elephants, baboons, zebra, buffalo and wild pigs. Carnivores devour cattle, sheep, goats and occasionally, human beings (Chiemelu, 2004).
Human-wildlife conflict in Kenya, as can be concluded from the facts, arises from the opposing interests between human development and wildlife conservation (Fratkin, 1997). There exists the inevitable expansion in human settlements towards areas previously considered uninhabited. At the same time, there is the necessity to preserve wildlife heritage for the purported sake of future generations (Dapash, 2002).

The human-wildlife conflict surrounding conservation sites in Kenya is characterized by conflictive relationship between humans and their wildlife neighbours (Chiemelu, 2004). Boundaries of conservation areas are often blurred and vague thereby creating conflict on the land use patterns between the wildlife habitats and their surrounding areas, which are normally used for human settlement, pasture land, farmland, commercial and/or other social functions. Occasionally often during migratory periods, wildlife invades and occupies the human inhabited land bordering conservation sites thereby preying upon, transferring disease to, and competing for grazing pasture and water with domestic stock and threatening human life through physical injury or death and damage to crops and other private property (Kassily, 2001).

In certain areas of Kenya, such as Taita Taveta District that borders Tsavo National Park, curfews have been imposed on the people by the uncontrollable movements of wildlife through villages and farms (Chiemelu, 2004; Kimega, 2003). During the dry season, women in the district occasionally encounter elephants at local community-built water supply points. The elephants uproot water pipes in a bid to cool their massive bodies. Examples of areas facing similar problems of wildlife conflicts are surrounding areas of Amboseli and Nairobi national parks.
KWS, which is charged with the conservation of wildlife throughout the country, acknowledges that conservation of wildlife outside protected area cannot be achieved without addressing the needs and rights of communities coexisting with wildlife. The National Environment Action Plan (NEAP) Report of 1994 (MENR, 1994) noted the importance of strengthening the partnership between KWS and local community for the conservation of protected areas. This is because parks and reserves are dependent on the land beyond the boundaries, which is under pressure for conservation to other land uses (MENR, 1994). Since most wildlife conservation areas are found in the marginal areas, which are unsuitable for cultivation, the local communities stand to benefit more through wildlife conservation and ecotourism than from cultivation (Wandaka, 2006).

Hence, a sustainable strategy of wildlife conservation in places where wildlife coexists with human beings is a major objective of KWS (Republic of Kenya, 2003a). To achieve this KWS has embarked on an outreach programme, through its Community Wildlife Service Department (Chiemelu, 2004). Through this program, awareness and mobilization of communities has been achieved to such an extent that, at present, people in dispersal areas are embracing wildlife conservation and utilization projects (Healy, 2000). It is with this view that the study has sought to examine if ecotourism as a conservation strategy acts as a tool to solving human-wildlife conflict in Loitokitok division.
2.2.3 Ecotourism as a Natural Resources Management Strategy

Ecotourism has had no consistent definition as applied in the different areas for different purposes. There are however conventional definitions that have been acceptable. According to IUCN (2003), the term has been defined as environmentally responsible travel to natural areas, in order to enjoy and appreciate nature and accompanying cultural features (both past and present), that promote conservation, have a low visitor impact and provide for beneficially active social-economic involvement of the local people.

From the definitions, the main principles behind ecotourism include; nature-based tourism, education, environmentally friendly and local participation. Nature-based component refers to the use of the natural environment by focusing on biological and physical features of the area. This aspect of ecotourism relates to visitations of natural sites or locations, namely, national parks, forests, beaches, lakes, and water falls among other natural sites. The education component refers to learning about species or being informed of the features of the environment. The degree of education varies from simple observation to intense learning. The education component involves the interaction of human with nature.

The environmentally friendly component in some ways, relates to the concept of sustainable development, which is defined by WECD (1987) as development that meets the needs of the present generation without compromising the ability of the future generations to meet their own needs. Hence the environmentally friendly component ensures that it will not degrade the environment or adversely affect future uses. On the other hand, local participation component requires that the local
community be involved in the management of the natural resources in their vicinity. This is to elevate the negative pressure on the environment by local communities, by providing them with an alternative source of income; and fairly distribute the revenue back to the local community (World Tourism Organisation, 2003; Honey, 1999).

Indeed, as recognized by the Convention for Biological Diversity, the key stakeholders, the local communities must be major beneficiaries of the natural resources being conserved. This approach is being progressively reinforced, for example, as expressed by the Executive Director of UNEP in his message on the International day for biological diversity that;

“One way to establish stronger support for our measures to conserve our biological diversity is to enlist the support of indigenous conservation efforts of the local people. Their indigenous knowledge and wisdom about the environment may well provide the resilience, which will enable us to adapt to the future environmental changes. The adoption has shown that wherever local people have been given greater responsibility for managing their own resources, they have shown both the capacity and a willingness to conserve” (Convention for Biological Diversity, 2003 pp, 20)

For any conservation strategy to succeed it must be ecologically viable, ethically admissible, economically practical and internationally responsible. For this to happen those who live and share land with the resources must be involved in the management of the same (Sibanda and Omwega, 1996). Therefore the local people must be held responsible.

The local community participation in decision-making process about resources ownership, resources utilization and the value of the natural and cultural resources
helps them to develop a sense of responsibility towards the resources (Watkin, 2002). This helps eliminate suspicion by the local people, but also creates conservation awareness. After all, conservation must utilize local knowledge, pride, participation, value systems, and be sensitive to local culture (Rutten, 2000).

It is due to this that in July 1998 the United Nations Economic and Social Council (ECOSOC) proposed to members of the UN General Assembly to designate 2002 as International Year of Ecotourism (World Tourism Organisation, 2003). The members of ECOSOC considered the designation of the International Year of Ecotourism as an encouragement for intensified cooperate efforts by Government, international and regional organizations as well as Non-Governmental Organizations (NGOs) to achieve the aims of Agenda 21 in promoting development and the protection of environment. Recognizing the importance of ecotourism, the UN General Assembly in December 1998 accepted the proposal and declared 2002 as an International Year of Ecotourism (ibid). It is important to note that the major outcome of the International year of ecotourism was that most countries accepted ecotourism as a conservation strategy.

In Kenya, the government, private investors as well as development agencies support the community involvement in the conservation of natural resources. Ecotourism has been established in Kenya as a way of involving community in decision-making in the conservation process of natural resources. The aim of the establishment has been to experience the benefits that accrue from ecotourism through the main principles already discussed. This study therefore examines whether the components of
ecotourism such as environmental friendly, education, and local participation have been achieved in the study area.

2.2.4 Ecotourism Worldwide

Ecotourism has been introduced worldwide in different places, for different purposes. The main goal of ecotourism has been to ensure conservation of natural resources while at the same time community experiencing benefits from the same. These resources range from wildlife, water, forests, soils and culture among others. Studies as those carried out by ESOK (2003a, 2003b), Norris, (2003), Ogutu (2002), Honey (1999), Sibanda and Omwega (1996), Cater and Lowman (1994) have shown that ecotourism is a strategy that has promoted the sustainable conservation of natural resources through its involvement of local communities. Therefore, in some countries ecotourism has been referred to as community based tourism, for example in Tanzania (Nelson, 2004) and others refer to it as community wildlife tourism (Stuart, et al 2002) since the participation of local community in decision-making as both direct and indirect participants is of paramount importance.

In Europe, ecotourism has been established around the Danube Delta (Cater and Lowman, 1994). It is a major wetland area and contains a diversity of species and habitats and is the most important wildlife area. The area is also a major bird migration route and acts as a natural biofilter for Danubian waters. According to Coman (2005), the introduction of ecotourism has enabled the local community to be educated on the importance of reducing the pollution and protecting the Delta from loss of biodiversity. In return the community has participated in the conservation of the resources for their own economic and cultural interests. In addition to this,
ecotourism has resulted to ecological benefits in the area by conserving the diverse species in the habitat.

In the Republic of Dominica, ecotourism is being pursued as one supplementary component of a diversified economy dominated by agriculture (Cater and Lowman, 1994). It has been introduced around Morne Trois Pitons National Park. The Dominicans have established hotels and lodges where they sell the local foods and emphasize on the traditional architecture. The local people also get employment from these hotels and income in return (Lees, 2004). It is on the basis of these findings that this study examines the role of ecotourism as a tool for poverty reduction and as an alternative livelihood option for the pastoralists of Loitokitok Division.

At the regional level, ecotourism has been established in countries such as Zambia, Zimbabwe, Tanzania and Uganda. According to Nelson (2004), community-based ecotourism in Tanzania has contributed to conservation and rural development. Ecotourism is established in Sinya and Ololosokwan village. The two areas contain important migratory routes and dispersal areas for wildlife, as wildebeest and zebra move from South of the Amboseli National park through Sinya during the wet season. During the past decade the area has become important for the Amboseli elephant population (Blanc et al., 2003). The village of Ololosokwan is next to both the Serengeti National Park in Tanzania and Maasai Mara National Reserve in Kenya and has some of the most wildlife-rich village lands in Tanzania. Hundreds of thousands of wildebeest pass through the village lands annually on their migration from the Maasai Mara to the Serengati plains, and there is a resident population of large mammals and their attendant predators (Nelson, 2004).
According to Shivji and Kapinga (1998), the pastoralists in the two villages have been in disagreements over local rights and wildlife conservation during much of the last fifty years. The pastoralists lost access to pasture when the adjacent Serengeti National Park was established in 1959. Due to this background, the members of the community have perceived ecotourism venture as a solution over access to resources such as water and pasture (Nelson, 2004). This is because through ecotourism they are able to get access to the resources as well as experience economic benefits from the adjacent park. These benefits are as a result of the increase in the number of tourists. For instance, when the number increased from 15,716 in 1989-90 to 63,031 in 2002-3, they earned the park US$ 1,528,215 (ibid). Therefore, with such benefits the community is in a better position to have alternative sources of livelihoods and hence been less vulnerable.

2.2.5 Ecotourism in Kenya

Kenya rangelands are endowed with unique natural resources, some of which include game viewing, bird watching, camel safaris, cultural safaris, and nature walks. Positive utilisation of other available natural and physical attributes of the environments, such as attractive scenery and landscapes, water and cultural resource could lead to the development of a wide range of other resources, with the possibility of increasing socio-economic benefits to the local communities and raising household incomes and reducing idleness within the communities.

The environment is the key resource for tourism and to eliminate a clean and healthy environment is to eliminate tourism. According to the World tourism organization
the haphazard and uncontrolled development of tourism is putting at risk the survival of natural environment, which is the very bedrock of ecotourism business. There are various elements needed to minimize the negative social, economic and environmental impacts of mass tourism and guarantee the long-term sustainability of any tourism development. The major difference between mass tourism and ecotourism is that the latter provides efficient coordination between public and private sectors including the active involvement of local communities in planning, developing, managing and regulating ecotourism projects. Also ensuring that a reasonable proportion of income from tourism is channeled into local communities and into conserving natural heritage and ensuring that tourism contributes to the conservation of natural resources and the sustainable development of adjoining lands (Mwakima, 2005).

Kenya’s current wildlife policy is embodied in the 1975 Sessional Paper and the 1991-1996 Policy Framework and Development Program (also known as then Zebra Book). The Sessional Paper No.3 of 1975 outlines the Government’s policy on wildlife conservation and management, while optimizing returns from wildlife for the benefits of landowners. The government’s conservation policy does not encourage explicit consumptive wildlife utilization on game ranches. However, wildlife is being cropped in selected private ranches, with game meat and other by-products being sold locally. This is done in order to check wildlife population increase and their demand for ranch resources as well as for financial gain. This activity is only allowed on commercial rather than communal ranches (Olukoye et al 2004). In addition, both private and commercial ranches have started utilizing wildlife through non-consumptive ways such as ecotourism but the government policy since 1978 has been
one of promoting wildlife use through tourism, with an often-heard argument that consumptive wildlife utilization is incompatible with successful wildlife tourism. The implementation and sustainability of this type of utilization has been compounded by lack of an ecotourism policy and guidelines in Kenya, which is an issue that needs to be addressed.

In recent years, KWS has been actively involved in the sensitization of communities coexisting with natural resources to get involved in their management so as to sustain these natural resources. While the conservation of Kenyan wildlife biodiversity is the core mandate of KWS, the organisation had long realized that without active community participation, resulting in their reaping of direct benefits from wildlife-based tourism, there could be no guarantee as to the survival of wildlife and nature for posterity (Chiemelu, 2004).

Ecotourism as an alternative tourism approach for the country is contained in the National Tourism Development Master Plan beyond the year 2000 (Republic of Kenya, 2003a). The following are the key features in the new plan: environmental conservation and preservation of beautiful scenery; sustainable use of tourism resources; equitable distribution of benefits derived from tourism; and respect and safeguarding of the local customs and culture. Kenya government has adopted ecotourism since it does not simply consist of environmentally sound ecolodges, but also provides a means for local community to benefit from the wildlife of which they have traditionally been custodians (Watkin, 2003). Ecotourism stresses not just the natural attractions but also the communities who act as guardians of the land.
Amboseli National Parks. The group ranch has set aside a conservation area and leased it out to a private investor who has built an ecolodge and camp (ESOK, 2003a). The community benefits from the conservation of the sanctuary through employment in the ecolodge such as wardens, local scouts and waiters in the ecolodge. Also the income earned by the sanctuary from gate collections is allocated to communities educational, health and other prioritized activities (Wandaka, 2006; AWF, 2001).

Based on the literature reviewed, this study examines effects of ecotourism in Loitokitok Division where it has been established. The study also examines the effect of ecotourism on the use of natural resources by communities in consumptive and non-consumptive ways.

2.3 Theoretical Framework

The main theme of this study is the effects of ecotourism on natural resources use and on community’s livelihood. There are two main frameworks that capture the theme of this research namely the DFID Sustainable rural livelihood framework (DFID, 1999; Carney, 1998) and the Benefit -Participation analysis model (Wight, 1995; 1993). The DFID Sustainable rural livelihood framework identifies an asset base on which the community derives its livelihood. The asset base includes land or other classic wealth indicators, as a portfolio of five different types of assets. These include Natural, Social, Human, Physical and Financial capital (Ashey and Carney, 1999).

The Natural capital includes the natural resource stocks from which resource flows useful for livelihoods are derived, for example land, water, wildlife, biodiversity and the general environment resources. The Social capital includes the social resources
(networks, membership of groups, relationships of trust, access to wider institutions of society) upon which people draw in pursuit of livelihoods. Human capital includes the skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies. Physical capital includes the basic infrastructure (transport, shelter, water, energy and communications) and the production equipment and means, which enable people to pursue their livelihoods. Financial capital is the financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options (DFID, 1999).

The livelihood of any community is dependent on natural resources. A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living (Ashey and Carney, 1999). A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Scoones, 1998). Therefore, the DFID Sustainable Rural Livelihood framework will allow the investigation of effects of ecotourism on the livelihoods of the community, as well as effects on natural resources use in the study area.

The Benefit-Participation analysis model also captures the theme of this study. This model identifies different levels of benefits and participation in ecotourism (Wight, 1993). These include, direct and indirect participants, as well as and direct and indirect beneficiaries. It is important to note that the entire community has some level of participation and some level of benefits experience. In ecotourism, the participation
of the community refers to giving people more opportunities to participate effectively in development activities; empowering people to mobilize their own capacities, be social actors rather than passive subjects, manage the resources, make decisions and control the activities that affect their lives (Watkin, 2003).

Direct participants in ecotourism would be the managing committee and the actual workers involved with producing products or services for sale (Chiemelu, 2004). In some instances, those who are primarily users of a resource might be involved as participants in an initiative as well. Indirect participants would be the broader community who selected the management committee of ecotourism and those who do not directly use the natural resources involved in the enterprise (ibid).

According to Wight (1995), direct beneficiaries are employees in the ecolodges, craft producers, tour guides, and committee members among others. While on the other hand, indirect beneficiaries are the wider community as the recipients of community development projects funded by tourism revenues. The use of Benefit-Participation analysis model enables the evaluation of the level of participation by all members of the community in ecotourism in the study area.

By adopting the DFID Sustainable Rural livelihood framework and Benefits-Participation analysis model, Figure 2.1 shows the interrelationship between: Ecotourism, Natural capital, and Livelihood outcomes. The study adopts this theoretical framework since the study is limited to evaluating the effects of ecotourism on Natural Capital and livelihood of the community.
LIVELIHOOD OUTCOMES

1. Direct Benefits
   - Employment
   - Alternative source of income
   - Boosts other economic activities.

2. Indirect benefits
   - Financing community projects.
   - Enables construction of social amenities such as schools, hospitals, roads.

ECOTOURISM

NATURAL CAPITAL

Ecological benefits
   - More sustainable use of natural resources base.
   - Reduced human-wildlife conflicts.
   - Reduced degradation and pollution of environment.

Figure 2.1: Conceptual Framework on the Effects of Ecotourism on Community Livelihood and Natural Capital
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
In order to achieve the objectives of the study, different variables were identified. The variables examined include the income accrued from ecotourism, direct and indirect benefits experienced by community, frequency of human-wildlife conflict before and after ecotourism and ways of utilizing natural resources in the area before and after ecotourism. This chapter discusses the research methodology used in the study. Central to this is the sampling procedure, data collection, analysis and methods of presentation of the research findings.

3.2 Sampling Procedure
In this study, stratified random sampling procedure was used to obtain a representative sample. The study area was divided into locations that have established ecotourism, which formed the strata. From the locations, one of the locations was selected randomly, and hence the sampling units were selected randomly. The population constituted the head of households that are farmers and pastoralists, businessmen, employees of the ecolodges and committee members of the group ranch. The sample constituted of farmers (5), pastoralists (15), businessmen (5), employees of the ecolodge in the area (10), members of group ranch committee (5) and one respondent each from three institutions involved with ecotourism in the study area. The purpose of having the different groups of people was to obtain a diverse spectrum of views on the effects of ecotourism on their livelihoods. The major limitation in the choice of sample size was the communities’ life style. The
community population is mainly the Maasai who are nomadic pastoralists. The researcher therefore employed snowball-sampling method in order to reach the relevant respondents. Snowball sampling is defined as type of sampling that involves identifying one respondent who introduces you to other relevant respondents (Ebdon, 1997). The researcher also held discussions with the group ranches committee members.

3.3 Quality Control

The research instruments were pre-tested during both their development stage and pilot survey so as to make necessary modifications where possible. Thus, the researcher was able to minimize errors that would result in collection of irrelevant and incomplete data.

During the pilot survey, two enumerators living in the study area were identified to assist in data collection process. They were trained to understand the objectives of the study as well as acquire adequate knowledge of the research instruments. The two were also used during the actual study and were of importance since snowball sampling required identification of respondents that could provide relevant information.

A sample of ten respondents was interviewed to determine the kind of responses that may be anticipated in the actual field survey. Accordingly, the questionnaire (Appendix 2) was revised to reflect the anticipated situation in the field. Hence, the actual sample size of the study was determined.
3.4 Data Collection

This study utilized both secondary and primary data. The secondary data was drawn from published and unpublished works in the form of research reports and publications by individuals, development agencies and Government agencies. The primary data comprised field-based data reflecting on issues raised in the research questions, and was collected using data collection methods: questionnaires, interview guide, and direct observation. In addition to the use of these methods, informal discussions were also held with the leaders of Eselenkei Group ranch, and also the workers of the ecolodge in the group ranch.

3.4.1 Questionnaires

Questionnaires were administered to the local community making up the sampling units (40 respondents). The questionnaire had three sections (Appendix 2): section A focused on the socio-economic information of the respondent; section B focused on the awareness of ecotourism and roles played in ecotourism by the respondent; and section C focused on the ways in which the respondents utilized the natural resources before and after the establishment of ecotourism and the benefits experienced.

The questionnaire had open-ended and closed-ended questions. The use of open-ended questions yielded to the desired information without necessarily restricting the respondent to specified categories of responses. Nonetheless, closed-ended questions tapped information on the effects of ecotourism on livelihood of the respondents.
3.4.2 Interview Guide

The interview guide was used for institutions involved with ecotourism in the study area (Appendix 3). These were the respondents from African Wildlife Foundation (AWF), Kenya Wildlife Service (KWS) and Porini Ecotourism Company. One respondent from each institution was interviewed. The interview guide assisted in gathering data on various issues pertaining to ecotourism and challenges faced with respect to the study area. The interview guide was informal and discussions took place in order to gather information regarding ecotourism.

3.4.3 Direct Observation Method

The researcher made visits and directly observed the effects that ecotourism has had on the livelihoods of the community. An observation guide (Appendix 4) was used to reduce the problem of the observer losing objectivity to the extent that he/she participates subjectively. Hence, the method verified the truth of statements made by the respondents. Photographs were also used to support the data collected on ecotourism activities observed in the study area.

3.5 Methods of Data Processing and Analysis

All data collected from both secondary and primary sources was assembled for further processing and analysis. The interview guides and data from secondary sources were examined to ensure the required information was included. Data processing also involved checking for completeness of the questionnaires; verifying the consistency in responses, coding, data entry and preparation of summary tables. In case of gaps in the data that went unnoticed during data processing, revisits were made to the field to fill up the gaps. The data collected were entered in a database developed using SPSS,
a statistical package. The database was then used to carry out further analysis. Field observations were compiled as well as photographs.

The questionnaires were analysed by using quantitative methods. The data was subjected to computation of simple statistics such as frequencies, percentages, and cross-tabulations. The results, where necessary, were displayed in graphic form such as bar graphs and pie charts and tables. In testing the null hypotheses, chi-square test was used for each hypothesis and the variables to be measured. The chi-square test formula (Everitt, 1997) takes the form

\[ X^2 = \sum \frac{(O-E)^2}{E} \]

Where, \( X^2 \) is the test statistic to be subjected to a significance test, \( O \) is the observed frequency of choice of the category and \( E \) is the expected frequency of the category.

The \( X^2 \) values were then tested at the 0.05 significance levels. Testing null hypothesis involves comparing the value of \( X^2 \) as obtained from the calculation with the tabulated chi-square value for degrees of freedom at the conventional significance levels (Hammond and Mc. Cullagh, 1998). Values of \( X^2 \) greater than the tabulated chi-square value for a given number of degree of freedom (df) and a given significance level would result in the rejection of the hypothesis of independence between the variables (O’Brien, 1992).

Bivariate correlation coefficient was also used to measure the association between the variables. This was chosen since the data used in this analysis was not normally distributed (Everitt, 1997). Correlation coefficients range in value from -1 (a perfect
negative relationship) and a +1 (a perfect positive relationship). A value of 0 indicates no linear relationship.
CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents a discussion the results of the study with respect to the use of natural resources in the area before and after ecotourism. The research question addressed in this chapter is: Does ecotourism affect the use of natural resources in the area? The objective guiding the analysis in this chapter is: to determine the influence of ecotourism on the use of natural resources. The null hypothesis tested is $H_0$: there is no significant difference between the ways the community use natural resources before and after ecotourism.

This chapter also presents findings on the effects of ecotourism on human-wildlife conflict. Changes in the frequency of human-wildlife conflict in the area are demonstrated and explained. The following research question is also addressed in this chapter: Does ecotourism contribute to the reduction of human-wildlife conflict in the area? The null hypothesis also tested in this chapter is: There is no significance difference between the frequency of human-wildlife conflict before and after ecotourism.

The chapter presents a discussion on the influence of ecotourism on livelihoods of the community, benefits that the community experiences and roles played by different members of the community in ecotourism. The results are presented using frequencies, and percentages in form of tables, graphs, and pie charts, and thereafter discussed.
4.2 Socio-economic Characteristics of Respondents

4.2.1 Gender of Respondents

From the number of respondents interviewed there were 29 males, which was 72.5 percent of the respondents and 11 females, which is equivalent to 27.5 percent of the respondents. This kind of results shows that there were more males interviewed than the females. This can be explained from the cultural perspective of the respondents who were mainly the Maasai, about 95 percent of the respondents. The Maasai community experiences dominion of men in social and political issues as well as decision-making (Stuart et al, 2002) and this explains why the sample is constituted of more men than women.

4.2.2 Age of the Respondents

Most of the respondents interviewed ranged between the age of 20 years and 34 years whose percentage was 72.5 percent (29) of the respondents. There were few of the respondents that ranged from 35 to 44 years and they were 22.5 percent (9) of the respondents. Very few of the respondents ranged between the age of 45 to 54 years and they were 5 percent (2) of the respondents. This shows that most members of the community in the study area are economically active and hence capable of effectively contributing to the economy if involved in ecotourism activities in the study area.

4.2.3 Level of Education

The level of education attained by the respondents was also one of the socio-economic characteristics of the respondents that were considered in the study. Figure 4.1 illustrates the level of education attained by the respondents in the research.
Figure 4.1: Respondents' level of education

Source: Author (2005)

Figure 4.1, indicates that there were 32.5 percent (13) of the respondents that had no formal education, while 32.5 percent (13) of the respondents that had attained only primary education. 15 percent (6) of the respondents had attained secondary education while 20 percent (8) of the respondents had attained tertiary education. According to Republic of Kenya (2002), the area is characterized by low school attendance. This explains why there are more respondents that have not attained any formal education. This lack of school attendance could be attributed to nomadism pastoralism, their mode of life. The respondents confirmed this during the informal discussions held during the study. The researcher also visited the school, which is sponsored by funds collected from ecotourism, and it was observed that the number of students was low. It was also evident that participation of the girl child is also a challenge due to cultural practices.
4.2.4 Livelihoods of the Respondents

The livelihood of the Maasai has been changing with time. The rapid population growth and the diversification of economic activities, along with their implications for land use, have contributed to the changes that have occurred in the area over the past 20 years, which still continue to date (Campbell, 2000; 1999). A confluence of factors, both locally and externally driven, has resulted in the diversification of pastoralism to cultivation, expansion of rainfed cultivation and irrigated horticulture, and the increased importance of the tourist economy for the national economy and for local community (Ntiati, 2002; Campbell, 2000). Traditionally, the community was pastoralist, but due to the immigration of other ethnic communities such as Kikuyu and Kamba who are agriculturalists, their livelihood has changed (Ntiati, 2002). Some of the Maasai practice farming in Kajiado district especially those in the wet area at the slopes of Kilimanjaro practice rain-fed farming and irrigation (Republic of Kenya, 2002). Due to the introduction of tourism in the group ranches, some of the members of the community derive their livelihood from the tourism sector. Figure 4.2 illustrates the diversity of the sources of income, though pastoralism is still the dominant source of livelihood.

Figure 4.2: Major sources of income

Source: Author (2005)
From Figure 4.2, it can be seen that the major source of income for most respondents in the area is pastoralism (57.5 percent), while tourism is next in the order of importance (30 percent). Some of the respondents have business and farming as major sources of income and these are about 7.5 percent and 5 percent respectively.

From these results, it is clear that the respondents view tourism as a source of income and therefore tourism can be regarded as a source of livelihood for members of the community. Income earned from employment and participation in ecotourism activities is a direct benefit that communities can derive from ecotourism activities. Tourism activities include working in the ecolodge as illustrated by Plate 2.

Plate 1: Members of community working as waiters in an ecolodge in the area.

The tourism economy has grown in volume and diversified its activities in the area. Tourism is a major source of foreign exchange for Kenya (Republic of Kenya, 2002). The two parks that border the study area, Amboseli and Tsavo, (see Figure 1.1) are among the most popular tourist destinations among Kenya’s renowned parks and reserves. Ecotourism in the area offers employment opportunities (ESOK, 2003b;
Watkin, 2002; Ogutu, 2002) to members of the community. They are employed as game wardens, clerical maintenance staff, waiters and road maintenance staff. This illustrates ecotourism as an alternative livelihood option and hence playing a role in poverty reduction in the area.

The study also examined the level of income for the respondents. The level of income ranged from an amount below Sh. 3,000 to above Sh.7, 000. Figure 4.3 illustrates the results of the findings.

![Figure 4.3: Respondents' level of income](image)

**Figure 4.3: Respondents’ level of income**

Source: Author, 2005

From Figure 4.3 it can be observed that majority of the respondents (35 percent) earn below Kshs. 3,000. The second largest group of respondents is those that earn between Kshs.5,000 and 7,000 (32.5 percent). The rest of the respondents earn between Kshs.3,000 and Kshs.5,000 (27.5 percent) and a small percentage of the respondents (5 percent) earn an income per month above Kshs.7,000. In Kenya, the poverty line is estimated to be about Sh. 1,239 and 2,648 for the rural and urban households respectively (Republic of Kenya, 2003b). From the results of the study, it
is evident that ecotourism provides an income level that is above the poverty line in Kenya. This is evidence that ecotourism has played a major role in poverty reduction in Loitokitok division.

A cross tabulation of the relationship between the source of income and the income level is shown in Table 4.1. This was to determine if there was any association between the two variables.

**Table 4.1: Relationship between income level and source of income.**

<table>
<thead>
<tr>
<th>Source of income</th>
<th>Below Kshs 3,000</th>
<th>Btw Kshs 3,000-5,000</th>
<th>Btw Kshs 5,000-7,000</th>
<th>Above Kshs 7,000</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Pastoralism</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>Business</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Tourism</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>11</td>
<td>13</td>
<td>2</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Author (2005)

The analysis indicates that pastoralism provides the main source of income as indicated in Table 4.1. The results from the table shows that 25 percent (10) of the respondents have pastoralism as their major source of income and have an income level of between Kshs. 3,000 and 5,000. On the other hand, 2.5 percent (1) of the respondents who have tourism as major source of income received a similar income. 12.5 percent (5) of the respondents receive an income between Kshs. 5,000 and
Kshs.7,000 from pastoralism while 20 percent (8) of respondents receive the same amount from tourism.

The community in the study area depends on different livelihood options as their sources of income such as farming, tourism and business. From Table 4.1, it is evident that those who depend on farming and business as major sources of income only receive below Kshs 3,000 per month. These results can be interpreted to mean that there is some relationship between the source of income and the income level. Those that have pastoralism and tourism as major sources of income earn a relatively high income as compared to those that have business and farming as major sources of income. This shows that ecotourism has played a role in boosting the livelihood of the members of the community. In the study area ecotourism has been introduced with the view that it can act as a supplementary component to the dominated pastoralism economy. Elsewhere, Cater and Lowman (1994) showed that ecotourism was introduced in Dominica as a supplementary component of a diversified economy dominated by agriculture.

4.3 Benefits Experienced from Ecotourism

According to Watkin (2002), ecotourism brings forth both direct and indirect benefits that lead to improved livelihoods. The findings of the study have shown that the community has experienced both the indirect and direct benefits from ecotourism. The direct benefits from ecotourism were of different forms such as direct employment in the eco-lodge in the area, sale of souvenirs as well as services such as tour guiding. 65 percent of the respondents experienced direct benefits from ecotourism in the area. While on the other hand, 35 percent of the respondents reported that they did not
experience direct benefits. Fifty percent of the respondents experiences direct employment as waiters, road maintenance and borehole managers from ecotourism, 10 percent of the respondents sell souvenirs to the tourists that visit the area while 5 percent are tour guides in the conservation area.

The 35 percent of the respondents who reported not to have experienced direct benefits from ecotourism experienced indirect benefits. Some of these indirect benefits include creation of jobs for members of their families, community projects such as schools, better roads and boreholes. Figure 4.4 illustrates the different indirect benefits experienced by the community and the number of respondents that experienced the different indirect benefits.

![Figure 4.4: Indirect benefits to community](image)

Source: Author (2005)
From Figure 4.4, 85 percent of the respondents experienced jobs as an indirect benefit to the community, while 65 percent of the respondents considered ecotourism as financing the community projects such as schools and boreholes. This can be illustrated by Plate 2, which is a photograph of a primary school (Oloirero primary school) that was funded by income accrued from ecotourism. The school has pupils from nursery level to class eight. The enrolment at the school is for both boys and girls. Republic of Kenya (2001) identifies that the enrolment is on the rise in the primary schools in the area since education is becoming a priority to the Maasai community. Another reason is that the children are not excluded from the school for reasons of dress and this has led to increase in the number of girls in the schools. This is yet another sign of the changing livelihood of the Maasai community who are known popularly to marry off their daughters at an early age. The teachers of the school are employed by the Kenya Government and are members of the community. According to Republic of Kenya (2002), enrolment of various levels is characterized by gender, region and income disparities. In the year 2000, the national Gross Enrolment rates in the primary education in the study area was 87.6 percent as compared to the northeastern province, where the rate was 17.8 percent, and central province being 106 percent. Female representation in schools was 49.1 percent in pre-primary and 49.4 percent in primary; 46.2 percent in secondary, and 29.2 percent in national polytechnics with 31.7 percent in public universities.
72.5 percent of the respondents view ecotourism as creating conservation awareness among the members of the community. This conservation awareness as well as the influx of tourists revolves around the education component of ecotourism (World Tourism Organisation, 2003). The component entails capacity building within the community and the tourists (international and domestic) (Rutten, 2000).

In addition to this, 32.5 percent of the respondents view ecotourism as promoting the creation of good roads in the area. Plate 3 shows some members of the community building the roads, and the financing of the same is done by the income earned from ecotourism in the area. On the other hand, 52.5 percent of the respondents consider ecotourism to have enhanced the publicity of the area and increased its popularity. This has been made possible through the help of Game Watchers Safaris, which is a tour agent company. The area has a tented camp which the guests make use of during their visit. The camp receives most of its guests through a Kenyan tour operator called "Gamewatchers Safaris" (Rutten, 2000).
Plate 3: Members of community repairing a road financed by ecotourism

4.4 Community Roles in the Ecotourism

According to Wight (1995), there are two kinds of participants in ecotourism, the direct and indirect participants. A good example of direct participants are the members of the committee that are responsible in decision-making and other management responsibilities in ecotourism and those that offer different services to tourists. A cross-tabulation of the relationship between the members of committee and sex of respondents is shown in Table 4.2.

Table 4.2: Relationship between Gender and membership of committee

<table>
<thead>
<tr>
<th>Gender</th>
<th>Committee membership</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>35</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Author (2005)
Table 4.2 indicates that only 12.5 percent of the respondents are members of the committee and all are male. There is no female who is a member of the committee of the group ranch. This is due to the influence of the Maasai culture; women or rather females are not actively involved in decision-making of the community’s affairs.

Table 4.2 shows that 87.5 percent of the respondents are not direct decision-makers in ecotourism, of whom 27.5 percent are female. Stuart et al (2002) identifies that a group ranch in which ecotourism is practiced is run by the group ranch committee of ten, who are responsible for the conduct of all business, including enforcing grazing regulations, grazing management, record keeping and accounts as well as decision-making in ecotourism. These committee members are all men. However from the discussions held with the committee leaders, it was evident that men take the position of decision-making in the group ranch. The committee members decided on the introduction of ecotourism in the group ranch and leasing part of the land to a private investor who was to establish eco-lodge and tented camp for the tourists.

Since ecotourism emphasises on all members of community playing roles in decision-making (Watkin, 2002; 2003), the representation of all age groups in the committee should be fair. Ecotourism offers an opportunity for all groups within the community to have a role in the decision-making process. A cross-tabulation of the relationship between the different ages of the respondents and membership of committee is show in Table 4.3.
Table 4.3: Relationship between age and membership of committee.

<table>
<thead>
<tr>
<th>Age</th>
<th>Committee membership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>20-34</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>35-44</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>45-54</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Author (2005)

It can be observed from Table 4.3 that at least all the age groups had been represented. Out of the five members of the committee interviewed 20 percent are between the ages of 20-34 years, 40 percent of the respondents are from the ages between 35-44 years and the rest 40 percent are aged between 45-54 years. The results of Table 4.3 show that all age groups are members of the committee that is responsible for decision-making for community’s affairs and especially ecotourism. According to Campbell (2000) the young members of the community are asserting a lot of influence on what is happening in the group ranches. Therefore their representation in decision-making process is important (Ntiati, 2002).

While other members of the community are not involved in the decision-making processes and the management process as committee members, they offer services to the tourists. Some of the members of the community offer entertainment to the tourists in form of local dances and music, others sell artifacts (souvenirs) to the tourists while others are tour guides and worked in the ecolodge. Figure 4.5 displays the different services that are offered to the tourists by the community.
The community provides different services to the tourists in the area. This is summarized in Figure 4.5. The services range from selling of souvenirs to the tourists, tour guiding, working in the ecolodge in the area, providing inspected meat and milk to the camp for the tourists use and also providing local music and dances to the tourist. There are also a number of members of the community who do not provide any services to the tourists. 22.5 percent of the respondents sell souvenirs to the tourists, while 2.5 percent of the respondents interviewed work as tour guide for the tourists during the game drives or the culture walk in the conservation area. Plate 4 shows tourists and members of the community as they take a culture walk where the local community discusses about their culture with the tourists. This takes place in a dry riverbed, ‘ lugga’ as referred to in the Maasai language. This is the same place where the young men from the community offer some entertainment in form of dances and songs. The local community understood animal behavior, flora and fauna, and appreciated the importance of maintaining their local environment in its prime
state, which enabled them to survive in otherwise hostile environments. They, therefore, possess inherent knowledge that could greatly improve the quality of tourism experience, through guiding.

Plate 4: Members of community taking a walk with tourists in a dry riverbed.

Figure 4.5 also indicates that 20 percent of the respondents work in ecolodge as waiters or housekeepers who clean up the tents, 5 percent and 42.5 percent provide meat and milk to the ecolodge and offer entertainment to the tourists in the form of local dances respectively. On the other hand, a small percentage of the respondents (7.5 percent) reported that they do not offer any services to the tourists. As postulated by Honey (1999), it is through offering these services that the community is able to experience benefits accruing from ecotourism.

From the results of the chi square test, the null hypothesis \( H_0 \) that the roles played by members of community as direct participants differ significantly was rejected at \( P \leq 0.05 \) (\( X^2 = 11.27; \text{df}=5 \)). The difference was found not to be significant. It was
observed that the direct participants in ecotourism who are the members of the community and who were involved in offering services to the tourists as well as the members of the committee were from all age groups. This however showed that ecotourism emphasizes on participation of all members of a community in achieving the objectives for which it was established and also enhancing the achievement of livelihood outcomes.

4.5 Use of Natural Resources

The study area has a number of natural resources. These include soils, rainfed herbaceous crop, irrigated herbaceous crop, shrubs, mangrove, woodland, swamps, natural water-bodies and wildlife and land among others (See Figure 1.2). These natural resources form the natural capital from where resource flows and from which services useful for livelihoods are derived (Stuart et al, 2002). From the identified resources, different benefits are derived such as meat, hides and skins, firewood and ornaments. Figure 1.2 and Table 4.4 shows the vegetation cover of the area, which is part of the natural resources in the area.
Table 4.4: Vegetation cover of Loitokitok division

<table>
<thead>
<tr>
<th>Category</th>
<th>Area covered (Km²)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grassland</td>
<td>2318</td>
<td>37</td>
</tr>
<tr>
<td>Bushland</td>
<td>3196</td>
<td>51</td>
</tr>
<tr>
<td>Wood and bushland</td>
<td>376</td>
<td>6</td>
</tr>
<tr>
<td>Woodland</td>
<td>125</td>
<td>2</td>
</tr>
<tr>
<td>Swamps</td>
<td>188</td>
<td>3</td>
</tr>
<tr>
<td>Soda lakes</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total area</strong></td>
<td><strong>6266</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>


It is estimated that between 65-80 percent of Kenya’s wildlife live outside the parks (Republic of Kenya, 2000). Many wildlife animals migrate during the wet season out of the parks and tend to concentrate within them in the dry-season. This mobility makes it possible for the local communities living in the vicinity of these parks to make use of these animals and derive resources such as hides and skins for their livelihood. Plate 5 shows some of the animals that are found in the study area.
Plate 5: Some of the wild animals found in the study area

During the study, it was observed that the community utilized the natural resources before ecotourism as well as after ecotourism was introduced in the area. However, the number of respondents who used the different resources changed with the introduction of ecotourism. It was also observed during the study that the respondents used more than one of the natural resources identified. This resulted in the treatment of each resource as an independent variable during the analysis. The table 4.5 below illustrates this.
Table 4.5: Use of natural resources by the respondents before and after Ecotourism

<table>
<thead>
<tr>
<th>Resource</th>
<th>Respondents using the resources</th>
<th>Chi square value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Ornaments</td>
<td>15</td>
<td>37.5</td>
</tr>
<tr>
<td>Meat</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td>Hides and skins</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>Medicine</td>
<td>29</td>
<td>72.5</td>
</tr>
<tr>
<td>Firewood</td>
<td>35</td>
<td>87.5</td>
</tr>
</tbody>
</table>

Source: Author (2005)

Table 4.5 shows that the use of different natural resources has changed before and after ecotourism. The number of respondents that used natural resources such as ornaments before ecotourism is 37.5 percent while on the other hand only 12.5 percent of the respondents used the resource after ecotourism. The percentage of the respondents who used game meat before and after ecotourism, reduced from 30 percent to 5 percent. There is also a decrease in the number of respondents that used tree products for medicinal value, from 87.5 percent to 77.5 percent. The same is observed for hides and skins where the decrease is from 72.5 percent to 57.5 percent.

The uses of the natural resources discussed in Table 4.5 are mainly consumptive. But it is worth noting that natural resources can be utilized in non-consumptive ways. Some of these non-consumptive ways include bee keeping, aesthetic or scenery viewing, or ecotourism. The non-consumptive ways of utilizing natural resources does not lead to harvesting of the same (Niamir, 1990). Ecotourism is one of these non-
consumptive ways that have been introduced in the area for the benefit of all members of community. By introducing ecotourism in the area, it has provided a chance to the members of the community to utilize natural resources in a non-consumptive manner other than in consumptive manner only. Ecotourism has led to utilisation of natural resources in sustainable manner. This is one of the ecological benefits derived from ecotourism.

Chi-square test was used to test the significance of the difference of the use of natural resources before and after ecotourism. The null hypothesis was rejected at $P \leq 0.05$ ($X^2 = 8.1; df = 1$). The alternative hypothesis was accepted which was that there is significant difference between the use of natural resources before and after ecotourism. This shows that the community has embraced the idea of ecotourism as conservation strategy and has therefore reduced the consumptive ways of utilising natural resources. This is also an indication that the resources are being utilised sustainably by the community after the introduction of ecotourism.

### 4.3 Awareness of Respondents on Ecotourism and Natural Resource Use.

A cross tabulation between the resource use in consumptive ways after ecotourism with the awareness of ecotourism in the area, was carried out in the study. The researcher intended to find out whether the use of natural resources was associated with the respondents’ awareness of ecotourism in the area. Table 4.6 shows a cross-tabulation between the awareness and resource use after ecotourism.
Table 4.6: Awareness of ecotourism by the respondents and their use of resources after ecotourism.

<table>
<thead>
<tr>
<th>Awareness of ecotourism by respondents</th>
<th>Resource use after ecotourism</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>32</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>Yes</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Author (2005)

From the survey conducted, 80 percent of the respondents interviewed claimed that they were aware of ecotourism in the area while 20 percent of the respondents were not aware. From Table 4.6, 57.5 percent (23) of the respondents were aware of ecotourism and continued to use the natural resources. While on the other hand, 22.5 percent (9) of the respondents claimed that they were aware of ecotourism but never used the natural resources after ecotourism had been introduced in the area. In addition to this, 15 percent (6) of the respondents claimed that they were not aware of ecotourism but they used the resources. The results of Table 4.6 shows that the number of respondents utilizing resources in consumptive manner decreased but some of them still continued to make use of the available natural resources. The decrease in the number of respondents in the use of natural resources in consumptive manner is an indication that they utilised them in sustainable manner.

The correlation between awareness of respondents of ecotourism in the area and resources use after ecotourism is very weak and negative ($r = -0.028$). The two variables have a degree of independence. The independence of these two variables
could be because the natural resources form the natural capital for the livelihood of the community (Stuart et al, 2002). They depend on the natural resources for consumptive uses such as firewood, which is the main source of energy in the area (Republic of Kenya, 2002). The alternative source of energy is solar energy, which may not be available to most of the members of the community. This source of energy has been utilized in the ecotourism projects in the area such as the Porini ecotourism project in Eselenkei group ranch. The solar energy is utilised for lighting in the tents.

4.4 Frequency of Human-Wildlife Conflict.

Human wildlife conflict is a problem, which is brought about by presence of wildlife in close proximity to human activities such as pastoralism found in the rangelands. Some of the consequences of these encounters include serious injury or death of humans, predation of domestic animals, competition for pasture between livestock and herbivores and spread of diseases to livestock. As noted earlier, the study area has been used as a corridor route by a number of wild animals. More so, the area is in the vicinity of Amboseli National park. Therefore, incidences of human-wildlife conflicts have been reported in the area. Some of the respondents argue that the incidences have been very frequent, while others report they have been frequent and to others, they have been rare as illustrated in Table 4.7.
Table 4.7 Frequency of human-wildlife conflict before and after ecotourism.

<table>
<thead>
<tr>
<th></th>
<th>Conflict before</th>
<th></th>
<th>Conflict after</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage (%)</td>
<td>Frequency</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td><strong>Very frequent</strong></td>
<td>15</td>
<td>37.5</td>
<td>6</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>Frequent</strong></td>
<td>13</td>
<td>32.5</td>
<td>14</td>
<td>35.5</td>
</tr>
<tr>
<td><strong>Rare</strong></td>
<td>12</td>
<td>30.0</td>
<td>20</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>40</td>
<td>100</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author (2005)

Table 4.7 shows that there is a remarkable reduction in the frequency of human-wildlife conflicts after the introduction of ecotourism. The frequencies of the respondents that reported the incidences to be very frequent decreased from 37.5 percent to 14.5 percent. There is an increase in the number of respondents that perceived the frequency to be rare from 30 percent to 50 percent. On the other hand, there was a slight increase on the number of respondents that perceived the incidences to be frequent from 32.5 percent to 35 percent.

Reduced human wildlife conflict was reported by majority of the respondents as an important benefit accrued from ecotourism. From table 4.7, 35.5 percent of the respondents view the incidences of human-wildlife conflict as frequent while 14.5 percent view them as being very frequent. Total percentage of those respondents that reported the incidences of human-wildlife conflict to be very frequent and frequent are 50 percent while those that view the frequency as rare is 50 percent. This is illustrates that ecotourism partially provides a solution to the problem of human-wildlife but by leading to a reduction of the conflict.
From the results of the chi-square test, the null hypothesis $H_0$, which states that there is no significant difference between the frequency of human-wildlife conflict before and after ecotourism. The chi-square test $P \leq 0.05 (X^2 = 22.2; \text{df}=3)$ revealed that the difference is significant. The null hypothesis is therefore rejected and the alternative hypothesis, which is that there is a significant difference between the human-wildlife conflicts before and after ecotourism is accepted.

According to Stuart et al (2002), communities that live in the vicinity of national parks live with the wildlife that roam in and out of those parks. Indeed as noted earlier that between 65 to 80 percent of wildlife in Kenya is reported to be outside the parks (Republic of Kenya, 2000). The advantages of living with wildlife are few, the inconveniences and dangers many. This has resulted to human-wildlife conflicts in these areas. From discussions held with the members of committee of the Eselenkei group ranch, it was confirmed that the major problems are related to the destruction of crops by trampling of elephants and wildebeests. Conflicts also arise due to predation of livestock by hyenas, leopards and lions. On the other hand, ESOK (2003b) argues that ecotourism has been identified as a weapon to reducing the human-wildlife conflicts in the areas living in the vicinity of national parks. In addition to this, Nelson (2004) notes that ecotourism through the benefits experienced by the community has led to decrease in human-wildlife conflict incidences.

Some of the animals found in the area are elephants, lions, cheetahs, wildebeests, hyenas and a number of birds’ families among other wild animals (Republic of Kenya, 2002). From the data collected through the use of questionnaires, it was clear
that the community does not consider all wild animals that are present in the conservation area as a threat.

Table 4.8 illustrates the most troublesome animals in the area that cause a threat to community, livestock and property. These animals are the major sources of conflict in the area. During the study it was noted that each respondent identified more than one animal as being a threat in the area. This resulted in treating each animal as an independent variable during the analysis.

Table 4.8 Most troublesome wild animals

<table>
<thead>
<tr>
<th>Type of animal</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lion</td>
<td>27</td>
<td>67.5</td>
</tr>
<tr>
<td>Hyena</td>
<td>26</td>
<td>65.0</td>
</tr>
<tr>
<td>Leopard</td>
<td>10</td>
<td>25.0</td>
</tr>
<tr>
<td>Cheetah</td>
<td>9</td>
<td>22.5</td>
</tr>
<tr>
<td>Elephant</td>
<td>4</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Source: Author (2005)

Results of Table 4.8 indicate that 67.5 percent of the respondents view the lion as the most troublesome animal and 65 percent of the respondents view the hyena as the most troublesome animal in the area. The elephant, leopard and cheetah are viewed as relatively troublesome and not a threat to the livestock and the lives of members of the community since 10 percent, 25 percent and 22.5 percent of the respondents respectively viewed them that way. Therefore, the most troublesome animal in the area is the lion, followed by the hyena, leopard, cheetah and elephant in that order.
4.5 Response to Human-Wildlife Conflict

Members of the community reacted or responded differently to human-wildlife conflict before and after ecotourism. Some of the members attacked the wild animals, others reported to the game warden while the rest reported to the area chief. Table 4.9 shows the respondents’ response to human-wildlife conflict in the study area before and after introduction of ecotourism.

Table 4.9: Responses to conflict before and after ecotourism

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency before ecotourism</th>
<th>Percentage(%)</th>
<th>Frequency after ecotourism</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attack animal</td>
<td>34</td>
<td>85.0</td>
<td>9</td>
<td>22.5</td>
</tr>
<tr>
<td>Report to warden</td>
<td>5</td>
<td>12.5</td>
<td>30</td>
<td>75.0</td>
</tr>
<tr>
<td>Report to chief</td>
<td>1</td>
<td>2.5</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Author (2005)

Before the introduction of ecotourism in the area, 85 percent of the respondents attacked the animal when it caused any damage or attacked the livestock. On the other hand, 12.5 percent and 2.5 percent of the respondents reported to the game warden and the chief respectively. The response to conflict has changed since the introduction of ecotourism whereby 22.5 percent of the respondents attacked the wild animal when they witnessed the animals’ attack on the livestock or a member of the community. Seventy-five percent of the respondents reported to the wardens of the Amboseli
National Park and also of wardens of the conservation sanctuary in Eselenkei group ranch. On the other hand, 2.5 percent of the respondents reported to the area chief.

The results imply that the number of community members that attack wild animals as a response to conflict has reduced. The reason behind this was that the members of the community were given a warning that when one attacks an animal, one is supposed to pay a fine to KWS authorities. This information was collected through interviews conducted throughout the research to the development agencies in the study area such as AWF and KWS and also though the informal discussions. Ecotourism can be viewed as influencing response to the human-wildlife conflict in the area. According to Honey (1999), as a result of benefits accrued from ecotourism, members of a community change their responses towards the wild animals, in return reducing human-wildlife conflicts. Watkin (2003) argues that ecotourism has therefore influenced the perception of the community on the wild animals from the parks. Since they derive benefits from these animals, the conservation of the same has been considered as being of paramount importance. The wild animals are a resource to them.
5.1 Summary and Conclusions

This study investigated the effects of ecotourism on the livelihoods of the community as well as on the natural resources use. The effects on the livelihood were examined with respect to variables such as the income and direct and indirect benefits accrued from ecotourism. Variables such as the frequency of human-wildlife conflict, response of the community on the incidences of human-wildlife conflict as well as the change in the natural resource use by the community were used to examine the effects of ecotourism on natural resources use.

Data for analysis were collected using a questionnaire in which a total of 40 respondents were interviewed. Data from institutions (AWF, KWS, Porini ecotourism company) involved with ecotourism in the area were collected using interview guide. The study also utilized observation for objectivity purposes of the study as well as from informal discussions held with some members of the community. Data processing and analysis involved checking for completeness of questionnaire, verifying consistency, data coding and entry, computation and presentation of descriptive statistics. Tests of significance were been done using the chi-square test. Conclusions arrived at and recommendations made thereof are summarized in this chapter.

The success of any ecotourism enterprises is heavily dependent upon involvement of local community, and hence their good will. This ensures that the natural, historical,
cultural and other resources benefit the present society, and at the same time are conserved for continuous use in the future. Furthermore, involvement of the local people adds to the quality of visitors’ experience, while at the same time determining its long-term profitability and future.

Watkin (2003) observes that ecotourism is a conservation strategy that greatly influences the livelihood of the people involved in it. Through the participation by the local community in decision-making with respect to the conservation and management of the natural resources in their vicinity and derivation of benefits from the same, the local community has ensured sustainable use of resources. In return ecotourism has proved to be alternative land use to the pastoralist in ASALs (Republic of Kenya, 2000). Ogutu (2002) postulates that ecotourism leads to conservation of biodiversity, which results in the increase of almost extinct species in protected areas. Since the area is an ASAL that is faced with other constraints, the conservation of the natural resources is of utmost importance. Therefore, ecotourism helps in boosting the conservation of the resources.

The findings of this study reveal that though ecotourism is not the only major source of income to the residents of the area, it plays a role in diversifying their source of income through offering employment to the members of the community. Ecotourism hence acts as alternative livelihood option (Watkin, 2003). The community at large experiences benefits such as community projects such as boreholes, schools, and improved infrastructure. These benefits have influenced the way the community utilises the natural resources in its vicinity. The community is not only utilising the resources consumptively but also non-consumptively. The community has also
changed their reaction towards incidences of human-wildlife conflict from attacking the animals to reporting to the wardens.

Wight (1995) observes that ecotourism involves participation of members of community in decision-making. The levels of participation can either be direct or indirect. The findings of the study reveal that the members of the community participated in ecotourism both as direct and indirect participants. The direct participants are members of committee of the group ranch that have the responsibility of making decisions on behalf of the community at large. Indirect participants are the other members of the community that provide services to the tourists such as selling souvenirs, tour guide and offering entertainment.

5.2 Recommendations

On the basis of the findings of this study, the following recommendations are made:

a) There is need for the government, Non-governmental institutions and development agencies to enhance the community-based conservation strategy for the sake of promoting conservation of natural resources in protected areas such as national parks, nature reserves, wild lands, marine reserves and forest reserves.

b) Ecotourism has proved to be a strategy that has positive influence on livelihoods of people. Therefore an ecotourism policy and its implementation should be developed in Kenya in order to increase ecotourism enterprises. This will ensure ecotourism sustainability and natural resource conservation gains. Providing communities with economic incentives through ecotourism will result in better natural resource management, at the same time overcoming the
root economic factors, which cause them to threaten natural resources. This therefore, makes ecotourism and economically and environmentally viable option countywide compared to other alternative land uses.

c) Since ecotourism encourages participation of all members of community, there is need to encourage more participation of women especially in communities where cultural aspects do not encourage them to participate in decision making. To enhance equitable distributions of economic benefits derived form ecotourism, there is also need for capacity building of the community by the government, private investors and non-governmental conservation agencies.

5.3 Further research

This study concentrated on the positive effects of ecotourism on livelihoods of the community and natural resources use, the following are suggestions for further research.

a) Constraints and challenges of ecotourism in Loitokitok Division, Kajiado district.

b) A comparative analysis of perception benefits of ecotourism of members of community of a group ranch that has established ecotourism and that without ecotourism.
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Ntiati, P.M. (2002). “Group Ranches subdivision study in Loitokitok Division of Kajiado District, Kenya.” *Land Use Changes, Impacts and Dynamics working Paper No. 7, AWF, Kenya*


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APPENDICES

APPENDIX 1: NATIONAL PARKS AND GAME RESERVES IN KENYA

LEGEND
1 Maka Mari Game Reserve
2 Sibiloi National Park
3 Marsabit National Park
4 South Turkana National Reserve
5 Losai National Reserve
6 Maralal National Reserve
7 Mt. Elgon National Park
8 Mt. Kenya National Park
9 Aberdare National Park
10 Meru National Park
11 Ruma National Park
12 Masai Mara National Reserve
13 Nairobi National Park
14 Amboseli National Park
15 Tsavo National Park
16 Shimba Hills N Reserve
17 Arabuko National Reserve
18 Tana National Reserve
19 Arawale National Reserve
20 Boni National Reserve
21 Dodori National Reserve

200 Kilometers

0

N

200
APPENDIX 2: QUESTIONNAIRE FOR THE HOUSEHOLDS IN THE STUDY AREA.

Date of Interview: ____________________________

Place of Interview: ____________________________

Section A  (Tick where appropriate)

1. a) Sex
   Male _______   Female _______
   
   b) Age
   Below 19 years _______  20-34 _______
   35-44 _______  45-54 _______
   Above 55 _______

   c) Highest level of education reached
   No formal education _______ Primary _______
   Secondary _______ Other level (specify) _______

2. Marital status
   Married _______  Single _______
   Widow (er) _______  Divorced _______

3. a) What is /are your major source (s) of income? List where appropriate.
   Farming _______  Pastrolism _______
   Business _______  Tourism _______
   Other (specify) _______

   b) Income per month
   Below Ksh 3,000 _______  Btw Ksh 3,000-5,000 _______
   Btw Ksh 5,000-7,000 _______  Above Ksh 7,000 _______

4. What is the size of your household?
   a) Number of children _______
   b) Ages of the children _______
   c) Other dependants _______
   d) How many of the children are in school?
      Boys _______  Girls _______

5. How long have you lived in this area?
   Less than 5 years _______  Between 5- 10 years _______
Between 10 – 15 years _______  More than 15 years __________

Section B

1. a) Are you aware of ecotourism in Eselenkei group ranch?
Yes _______________________ No _____________________

b) If yes, when did you know about it?

c) Do you know when ecotourism began in the group ranch? (Give the month and year).

2. a) Were you involved in the conceptualization and development of ecotourism?
Yes _______________________ No _____________________

b) If yes, at what level?

Planing _______________ Design _______________
Management _______________ Implementation _______________
Other (Specify) _______________

c) If no, give reasons for this.

3. a) Are you a member of committee that is involved in ecotourism?
Yes _______________________ No _____________________

b) If yes, how many times do you meet?

Daily _______________ Twice per week _______________
Once per month _______________ Other (specify) _______________

c) Who constitutes the members of the committee? (Indicate the number of each.)

Men _______________ Women _______________
Youth _______________ All _______________
Others (specify) _______________

d) What are the roles played by each group?

Men _______________
Women _______________
Youth _______________

4. a) Apart from the members of your community who are involved in ecotourism, are there any other stakeholder?

Yes _______________________ No _____________________

b) If yes, what are the roles played by those stakeholders?
Section C

1. a) What wild animal is most troublesome in the area?
   - Lions
   - Leopards
   - Giraffe
   - Gazelles
   - Other specify

b) How many of your livestock have been killed in the last 5 years?
   - Cows
   - Goats/sheep
   - Donkey
   - Others specify

   c) Has any of your member of family been killed or injured by the wild animals in the last 5 years?
   - Yes
   - No

   d) If yes, how many are they?

2. a) Before the introduction of ecotourism, how often did you experience human-wildlife conflict in the area?
   - Very frequently
   - Rarely
   - Frequently
   - Not at all

b) Has the frequency of the conflicts changed since the introduction of ecotourism in the area?
   - Yes
   - No

   c) If yes, state the sequence of the change.
   - Increased
   - Decreased
   - Constant
   - Not applicable

   d) How do people of your community react during a conflict incident?
   - Attack the wild animal
   - Report to the game warden
   - Report to the chief
   - Other specify

3. a) Before the introduction of ecotourism, did you use wild animals and forests products for any purpose?
   - Yes
   - No

   b) If yes, please specify the major uses.
   - Ornaments
   - Hides and skins
   - Meat
   - Medicines
   - Firewood
   - Other specify
c) After the introduction of ecotourism, do you still use wild animals and the forest products?

Yes ________________________  No ________________________

d) If yes, in what ways? Please specify

Meat ________________________  Medicine ________________________

Fire wood ____________________  Ornaments ____________________

Hides and skins ____________________  Other specify ____________________

e) If no, give reasons.

4. a) Do you personally benefit from ecotourism?

Yes ________________________  No ________________________

b) If yes, in what ways?

Direct employment ___________  Sale of souvenirs ___________

Tour guiding ___________  Camel/ donkey safaris ___________

Other specify ____________________

c) What was your job prior to the introduction of ecotourism in the area?

Government employee ___________  Not employed ___________

Self employed ___________  Other specify ____________________

5. Which of the following benefits has ecotourism brought to your community?

Jobs ________________________  Foreign currency ________________________

Good roads ____________________  Telephones ________________________

Electricity ____________________  Building of Schools/ hospitals ____________________

Made people more aware of conservation ____________________

Publicity of the area ___________  Other specify ____________________

6. a) Have tourists been in your area?

Yes ________________________  No ________________________

b) If yes, has the number increased/ decreased since the introduction of ecotourism?

Increased ___________  Decreased ___________  Constant ___________

c) Which of the following services do you provide to tourists? Please tick more than one if applicable to you.

Selling of souvenirs ___________  Tour guiding ___________

Work in the lodge/camp ________  Provide meat and milk to the lodge/camp________

Local music and dances ________  Other specify ____________________
APPENDIX 3: INTERVIEW GUIDE FOR THE INSTITUTIONS

Interviewer: ________________________________
Date of interview: ____________________________
Place of Interview: ____________________________
Name of Institution ___________________________

1. Principles of ecotourism
2. Significance of ecotourism as a conservation strategy.
3. Reasons for adopting ecotourism in the study area.
4. Main stakeholders and their role in ecotourism.
5. Decision-making process involved in ecotourism.
7. Other matters arising from the discussion.

APPENDIX 4: OBSERVATIONAL GUIDE

Observer ________________________________
Date of observing ____________________________
Place of observing ____________________________

1.a) What are the ecotourism activities can you observe in the area?
   b) Who are carrying out the activities?
2.a) What natural resources can you observe in the area?
   b) In what ways can you observe the utilization of these resources by the local community?
3. What can you observe as regards land use activities in the area?
4. What are your views, after observation, on the sustainability of ecotourism in the area?