COMMUNITY-BASED INITIATIVES IN WILDLIFE CONSERVATION AROUND PROTECTED AREAS: A CASE STUDY OF NAIROBI NATIONAL PARK, KENYA.

BY

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DECLARATION

This research is my original work and has not been presented for any other study program in any University.

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DEDICATION

To my Dad, because you believed. And my lovely daughter, Megan.

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LIST OF ABBREVIATIONS

ADMADE Administrative Management Design for Game Management Areas

AKPs Athi-Kaputiei Plains

CAMPFIRE Communal Area Management Program for Indigenous Resources

CBC Community based conservation

CBCIs Community-based conservation initiatives

CBNRM Community Based Natural Resource management

CCS Community conservation services

CPR Common-Pool Resource

CWM Community wildlife management

CWS Community Wildlife Service

EPZ Export processing Zone

IRDND Integrated Rural Development and Nature Conservation

KWS Kenya Wildlife Service

MAB Man and the Biosphere Programme

NACOBTA Namibian Community-Based Tourism Association

NACS Namibian Community Support Organisation

NGOs Non-Governmental Organisations

NNP Nairobi National Park

NRT Northern Rangelands Trust

RDCs Rural District Councils

SCIP Support for Community Initiated Projects

UNESCO United Nation's Educational, Scientific and Cultural Organization's

WWF World Wildlife Fund

WCL: Wildlife Conservation Lease

ZWP Zambia Wetlands Project

ABSTRACT

The general objective in this study was to assess community based initiatives around Nairobi National Park. To achieve this, the researcher specifically, identified membership of community based initiatives in NNP; analyzed the benefits of CBIs to the participating community; examined the effects of CBIs on wildlife conservation around NNP and the challenges facing the running of these CBIs. The study hypothesis was that wildlife conservation is significantly independent of community based initiatives. The study followed a survey design with a sample size of 66 respondents selected using random sampling techniques. Data was collected from the community using questionnaires with both closed and open ended questions. Key informants interviews and Focused group discussions were also conducted. Data was analyzed quantitatively using frequencies and percentages with hypothesis testing done using chi square. The presentation of results was done in figures, tables and charts. The results show that training, education and awareness (24.8%), direct payment in form of rent and land (24.4%) and compensation from predated livestock (22.4%) were the most stated benefits. CBIs have led to reduction in human-wildlife conflicts to a large extent (42.6%) while pollution relating to urban development has only reduced to a small extent (40.4%). In addition, the findings revealed that, meeting community expectation (12.5%), urbanization challenges (12.2%) and lack of sufficient funds for CBIs were the challenges hindering implementation of CBIs in wildlife conservation. The chi square test of independence yielded, calculated value (15.341)> critical value (0.004), thus the null hypothesis that wildlife conservation is significantly independent of CBIs was rejected. The study recommends that the CBIs be built on a foundation where the community can realize real benefits of conserving wildlife such as engagement in ecotourism activities, alongside constant aeration of awareness on importance of conserving wildlife and more budgetary allocation for land lease fee and compensation of predated livestock. Area of evaluating the cost and benefit for CBIs *vis a vis* wildlife conservation should be considered for future research.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Protected areas are vital to the preservation of biodiversity and landscapes. They help sustain valuable ecosystem services such as clean water, oxygen, and nutrients. There are approximately 102,000 protected areas, covering an area of 18,763,407 km2, or approximately 12% of the earth's area (Chape et al, 2003).

Historically, park management in developing nations has prioritized keeping people out of protected areas (often through forceful eviction), based on the view that human activities are incompatible with ecosystem conservation (Wells &McShane, 2004). This so-called 'fines and fences' approach denied communities living in close proximity to a protected area access to the resources that often formed the basis of their livelihoods. Until the 1960s, protected areas around the world tended to be managed by government administrators with little understanding or regard for the impact these restrictive policies had on local people (Colchester, 2004).

Throughout the 1970s and 1980s, conservationists increasingly recognized that strict enforcement was not successful in slowing the degradation of protected area resources. For one thing, this strategy was unrealistic, given the sheer numbers of humans inhabiting protected areas. For example, sources suggest that as many as 85% of the protected areas in Latin America are inhabited (Colchester, 2004). At about the same time, Our Common Future, a report authored by the World Commission on Environment and Development (1987) introduced the concept of sustainable development- ‚development that meets needs of the present without compromising the ability of future generations to meet their own needs' – to a wider audience. The authors of the report suggested that economic development could be achieved without depleting natural resources or degrading the environment. The United Nation's Educational, Scientific and Cultural Organization's (UNESCO) Man and the Biosphere Programme (MAB) is considered one of the first efforts to link the sustainable use and conservation of biological diversity to the improvement of the livelihoods of communities living in and around protected areas (UNESCO ‚2006). The Biosphere Reserve model aims to transform reserves into ‚models of sustainable

development in action' in part by including integrated rural development projects into reserve management plans (Sundberg, 1998).

Kenya's wildlife sector has taken a singular course during the past thirty years. In the late colonial era, private landholders possessed utilization and management rights over wildlife similar to what exists today in Namibia and South Africa. Barrow *et. al*. (2000) assert that the Kenyan wildlife policy remains supportive of private and community rights to manage and benefit from wildlife and is generally enabling, at least in principle, of Community Based Natural Resource Management (CBNRM). But administrative actions have worked to progressively centralize and limit private and communal landholders' rights and opportunities, at least over consumptive uses of wildlife, since the mid-1970.

Several major legal and administrative changes delineate the course of the Kenyan wildlife's sector's contemporary history. A critical action was a Presidential ban in 1977 on all forms of hunting, which remains in place to this day. As a result, Kenya is the only country in east and southern Africa with a significant large mammal population that does not allow any commercial hunting. In 1989, Kenya's Wildlife and Game Management Division, which was corrupt and responsible for rampant commercial ivory and rhino horn poaching- government guards were responsible for an estimated one third of all rhino poaching incidents- and threatening national security, was replaced by the newly formed parastatal Kenya Wildlife Service (KWS) (Gibson, 1999).

In the mid-1990's KWS, facing the same ecological, social, and financial pressures as natural resource managers throughout the region began broadly promoting community-based management strategies with a renewed emphasis on landholder incentives and benefits from wildlife (Barrow et al., 2000; Baskin, 1994). The leadership of KWS at that time was supportive of community rights and benefits, as well as the re-introduction of commercial hunting as a way of increasing wildlife's value to rural landholders (Baskin, 1994). With donor backing, KWS supported the formation of local wildlife associations in communal areas and private lands which were intended to provide a link between local landholders and central authorities, and help coordinate the development of rural wildlife-based enterprises.

A range of new community-based ecotourism initiatives did emerge from these efforts in the mid and late 1990's, such as the Ingwesi and Shompole community lodges, but the efforts to reform legislation by devolving ownership over wildlife to landholders and re-introducing hunting did not succeed. These efforts to reform Kenya's wildlife sector were spearheaded by state wildlife authorities, in the form of KWS, as well as some conservationists and landowners, while being opposed by some conservation organizations, tourism operators, and some communities and politicians. Of particular importance in opposing reforms, mainly the reintroduction of commercial tourist hunting, have been foreign animal welfare organizations, which have put significant resources into Kenya during the past two decades (Parker, 2005)

Efforts to empower local communities and increase wildlife's value to landholders by re-introducing commercial hunting as an economic option have continued intermittently for the past decade. In 2004-05, a group of conservation organizations and local landholder succeeded in working with members of parliament to pass legislation that would have significantly decentralized wildlife management in Kenya, but this bill was vetoed by the President (Parker, 2005). Thus Kenya is also a case of failed decentralization reform efforts. The main cause of failed reform is the strength of countervailing perspectives on how wildlife should be managed in Kenya, in particular the strength of preservationist sentiments as embodied by influential animal welfare groups. The economic interests of the tourism industry, which benefits considerably from the hunting ban through reduced competition for access to wildlife-rich lands, are also an important lobby for continuing the status quo (Johnston, 1997). Thus Kenya's failed CBNRM reforms appear unique to its own circumstances.

The perpetuation of strictly centralized and 'preservationist' policies in Kenya have not been successful at maintaining the country's rich wildlife resource. From 1977 to 1994, monitoring data indicates that Kenya lost 44% of large mammals in savannah rangelands and grasslands, which covers most of the country's main wildlife districts (KWS, 1996). Although many observers point to human population growth as the main cause of these declines, others argue that the situation is an outcome of policies which render wildlife a liability on all private and communal lands except the few areas where ecotourism is able to earn large sums of revenue for landholders (e.g. Norton-Griffiths, 1996).

Additionally, wildlife in Kenya is a major resource particularly in the tourism sector, which contributes significantly to the country's economy. The wildlife resources are unique and spectacular and constitute a major factor that attracts tourists to Kenya. Indeed Kenya is one of the last places on mother earth where vast herds of animals roam in the open savannah grasslands and transverse land under different tenure and use (Chapin, 2004). However, all wild animals are state owned and only about 8% of the country is gazetted as wildlife protected areas (Mansuri & Rao, 2004). This implies that most wild animals are found outside the protected areas for most of the year and that local communities whose land they use bear the cost of maintaining them through opportunity cost and damage caused by wildlife to property and human injury or death. In general this constitutes what is commonly regarded to as human-wildlife conflict. In this regard ownership and related issues raise a lot of concerns in context of mobilizing communities for involvement in wildlife conservation and management. Local community involvement in wildlife conservation and management is considered to be pivotal in resolving human-wildlife conflict and sustainable wildlife management and conservation.

1.2 Problem Statement

The rising human population has resulted in increased pressure on predominantly wildlife territories and lead to encroachment onto protected areas. The lack of a proper land utilization policy for Kenya has resulted in endless sub-division of wildlife corridors and dispersal areas. Since the creation of Community Wildlife Service (CWS), significant changes have been done and realized in community based wildlife initiatives; however, these changes are not embedded in the current legislation and as a result, the current problems of the management of protected areas and wildlife conservation. Key among the problems is the sideling of community based initiatives in the management of the Nairobi National Park, which has led to endless encroachment onto the park.

Currently there is the rapid process of land privatization and sub-division followed in the entire Kajiado County as the Maasai landowners passed on plots to several inheritors, and increased land sales mostly to non-Maasai's interested in agriculture. The land sales, alongside rapid increase in human population, has resulted in land uses such as expansion of urban centers (e.g. Kitengela and Athi River) and industries (e.g. the Export Processing Zones: EPZs), large scale

irrigated horticultural schemes, quarrying and expansion of permanent settlements with fencing, which have restricted the movements of livestock and seasonal dispersal of wildlife between NNP and the AKPs. These changes in land use have yielded wildlife conflicts through competition for water and pasture with livestock, transmission of infectious diseases to livestock, and livestock predation by the large carnivores. The NNP is amongst the most visited parks in Kenya accounting for 23% of park visitors, and thus generating very high revenues from wildlife tourism (World Resources Institute, 2007). The absence of a revenue sharing mechanism with the Maasai landowners in AKP whose land is critical as a dispersal zone for wildlife that attracts tourists to the park means that landowners have very little or no incentives for having wildlife on their private lands. Consequently, the lack of direct monetary benefits from the wildlife coupled with the increase in human wildlife conflicts in AKP over the years made Maasai households intolerant to and excluded wildlife on their land through fencing and direct killing of predators. Without any intervention to address the challenge of land use change with negative implications on wildlife dispersal, the future of Nairobi National Park and the viability of wildlife in the Athi-Kaputie Ecosystem are in jeopardy.

The Nairobi National Park formed Community wildlife conservation as a department for engaging the community in the co-management of the park. The department has initiated various community initiatives that aim at benefiting the community alongside enhancing conservation efforts e.g. the land lease program, the lion lights for cattle bomas, predation consolation scheme and Olmakao cultural centre. However, these community based initiatives have experienced low participation, with conservation effort suffering devastating blows from the increased cases of poaching, loss of biodiversity and human/ wildlife conflicts. This has left doubt on whether these CBIs have achieved their conservation and development objectives, besides producing sufficient benefits that can improve communities' living standards.

Studies on the subject have focused on general conservation and impacts of urbanization on the park (Kwadha, 2009), environmental values and nature-based tourism (Akama, 1996) and the role of community conservation in park management (Jonathan, 2012), leaving out the role of community based initiatives. This study aimed at bridging the gap left by the studies through

assessing the role of community based initiatives in wildlife conservation. To achieve this, the study attempted to answer the following research questions;

1.3 Research Questions

1. What is the membership of community-based initiatives in wildlife conservation around Nairobi National Park?
2. What are the benefits of community based initiatives to the people involved?
3. What are the effects of community-based initiatives on wildlife conservation in Nairobi National Park?
4. What are the challenges facing the implementation of these initiatives?

1.4 Research Objectives

1. To determine the membership of community-based initiatives in wildlife conservation around Nairobi National Park.
2. To analyze the benefits of community- based initiatives to the people involved.
3. To examine the effects of community-based initiatives on wildlife conservation in Nairobi National Park.
4. To determine the challenges facing the implementation of these initiatives.

1.5 Research Hypothesis

H_{o}- Community based initiatives do not significantly contribute to wildlife conservation.

H_{1}- Community based initiatives significantly contribute to wildlife conservation.

1.6 Justification for the study

This study is unique since it seeks to address the following concerns with respect to community based initiatives as far as conservation of wildlife is concerned. First, this study will be of great importance to Nairobi National Park in determining the level of effectiveness of community based initiatives in conserving the wildlife. Second, the community living around Nairobi National Park and donors would benefit significantly as it would outline the role of community-based initiatives on wildlife conservation. Third, the study would also provide information on

how effective implementation of community-based wildlife conservation initiatives can lead to improvement in wildlife conservation.

To the government of Kenya and policymakers, the study would provide information that can be used to formulate policies on community-based conservation initiatives in Kenya. To researchers and academicians, the study would provide a base upon which secondary material on the role of community-based initiatives on wildlife conservation would be drawn. The study would also provide good literature on community-based wildlife conservation initiatives. It would also set a base upon which more studies on role of community-based initiatives can be done**.**

1.7 Scope and Limitations of the Study

1.7. 1 Scope of the study

The study was carried out in Nairobi National Park which is part of a much larger system comprising the Kitengela, the Athi - Kapitutiei plains to its south. The Athi-Kaputiei plains comprise approximately 2,200 km^2 of open rolling land. Nairobi Park which is the protected part of the system is 114 km^2. The Kitengela to its immediate south measures 390 km^2 and is used seasonally but also has a resident population of many of the herbivores represented in the park.

The study also focused on the stakeholders in community-based wildlife conservation initiatives that include the Park management, administration representatives, opinion leaders, NGOs and the community living around Nairobi National Park.

1.7.2 Limitations of the study

The vastness of the area and the dispersed settlement posed a great challenge in reaching the respondents. Sholinke which is the most affected area in human- wildlife conflict is especially the widest. The respondent however utilized the opportunity of the KWS transport as they were going to visit these areas to resolve these conflicts.

The respondents at other times were unwilling to be interviewed because they were furious on the damages caused by the lions on their livestock. They preferred compensation for their livestock to the interview; the researcher however utilized the good relations the community has with the honorary wardens to win their confidence and also the promise that KWS was going to compensate them in the shortest time possible.

Language barrier between the researcher and some respondents was also a limitation. The researcher heavily relied on a KWS officer who speaks the native language of the respondents (Maasai) for translation.

1.8 Operational Definition of Terms

Conservation is defined as preservation of species, or wildlife community within its natural habitat or ecosystem.

Community refers to a number of people who have a goal and decide to work together to do something about it. While communities can contain mutual, overlapping and divergent interests and perspectives, the goal binds people together; giving them a common identity despite individual differences.

Community –based Initiatives are bottom-up (or grass-root) activities that bring individuals and organizations together to work towards achieving desired environmental goals and are voluntary, people-centered and participatory, with community members being active in making management decisions.

Livelihood is a means of making a living. It encompasses people's capabilities, assets, income and activities required to secure the necessities of life.

Community Participation is the organized process where communities negotiate and share control over conservation activities and the related decisions and resources of a community in a developmental effort which is expected to reduce conservation costs, increase service coverage and encourage technical and administrative flexibility. It is also anticipated that it will help improve operations and maintenance, stimulate broader socio-economic development and enhance the community's capacity to problem solving in the face of conflicts.

Wildlife is all undomesticated animals living in the wild, including those hunted for food, sport, or profit.

Sustainability refers to simultaneous pursuit of sustained or enhanced environmental quality, economic growth, and social justice.

1.9. Organization of the study

Chapter one has presented the background of the study, problem statement, research questions and objectives, research hypothesis, justification for the study, scope & limitations of the study, and operational definition of terms. Chapter two presents literature review associated with the research objectives. Chapter three presents the study area and highlights the research methodology and procedures used in data collection and data analysis. Chapter four presents the data analysis and Discussion of the findings. Chapter five presents the summary and conclusion of the study & recommendations for further studies.

CHAPTER TWO: LITERATURE REVIEW

2. 1 Introduction

This chapter reviews literature relating to community-based wildlife conservation initiatives. It outlines the definition, origin and rationale for CBIs. Also reviewed is the nexus of conservation and community participation highlighting the benefits derived by communities involved in CBIs. The next section reviews empirical studies on CBIs in a global, African and then the Kenyan context indicating the research gaps that this study aims to fill. The following section reviews the theoretical framework and outlines the conceptual framework.

2.2 Definition, origin and Rationale of CBIs

Community-based conservation initiatives (CBCIs) are bottom-up (or grass-root) activities that bring individuals and organizations together to work towards achieving desired environmental goals. These initiatives are fueled by a community force that is exerting pressure on government agencies in many parts of the world; commonly referred to as localization or subsidiarity. This force reflects peoples' desire for a greater say in issues that affect them. While government agencies may set strategies and prepare plans and policies, their ultimate success depends on the support of a wide spectrum of society, so this desire for involvement needs to be acknowledged and acted upon. People are usually proactive in protecting things of value to them, and it is in this context that biodiversity conservation initiatives have to be understood.

The rationale behind CBCIs is that, by working together, people are able to achieve more than individuals or organisations working on their own, and involving those affected is likely to result in a better and more acceptable long-term solutions. These desired outcomes have led to increased acknowledgement of participatory activities as a means of achieving environmental and sustainability goals. While these concepts are not new, their application has increased dramatically in the last 10 years (Forgie et al, 2001).

2.2.1 Origin of Community wildlife management

Conceptually, the CWM approach can be said to have a dual origin. First is the shift in environmental politics during the 1970s and 1980s from the "exclusionist paradigm which assumed an infinite supply of natural resources and excluded human beings from the laws of

nature, to an "alternative paradigm," which argues, among other things, that the supply of resources is limited. The "alternative paradigm" stresses the formulation and implementation of ecologically sound policies.'

Second is the new development concept, which emphasizes such matters as public involvement, cooperative management, power sharing, devolution, empowerment, and participatory democracy (Hildebrand, 1997) and demands a shift from concerns about wildlife to broader concerns about the wellbeing of people. At the same time, a group of conservationists argued that the fences-and-fines approach has failed mainly because of its top-down nature, and because it failed to take into account economic and other interests of local communities, or to involve them in making wildlife related decisions. Therefore, CWM is part of an application of the growing interest by development organizations, theoreticians, and practitioners in the general approach to community development and the interest by conservationists to protect biological diversity outside protected-area boundaries (IIED, 1994)

2.3 Compatibility of Wildlife Conservation and Community Development

The CWM approach intends to reconcile wildlife conservation and rural development. Two main outcomes are expected from the reconciliation: conservationists expect to achieve conservation goals, and the rural communities expect to realize development. The sort of development that proponents of CWM have in mind for the communities is often referred to as sustainable community development, which has been defined as "a community-based approach to development which relies on self-help, community economic development and ecological principles. However, CWM focuses on the socio-economic well-being of the communities and households and individuals in those communities, especially on increasing their incomes.

For instance, referring to the Communal Area Management Program for Indigeneous Resources (CAMPFIRE), Kiss (2004) argues, wildlife has proved to be a powerful agent for economic development, and CWM can help build rural economies. Having roots in the basic needs approach to development; CWM seeks to maximize use and control of local resources by the communities (Siachoono, 1995). It is argued that programs implemented in rural areas in poor countries must be integrated and must be able to deliver both short-term and long-term benefits

to communities. Expected short-term benefits from CWM programs are mostly socio-economic and tangible, for instance, health clinics, hospital drugs, school buildings, roads, cash dividends, and even food. CWM programs have to deliver these short-term, tangible benefits, because at the household level they act as incentives for people to participate fully in the programs (Hitchcook, 1995). The households and their members have to be given these incentives so that they can stop destroying wildlife and its habitats. Putting the farmers first is, in brief, the formula for successfully linking wildlife conservation and sustainable rural development in Africa, declares Murphree (Murphree, 1993).

2.4 Benefits and Incentives from wildlife resources

Rural people derive a wide range of benefits from their natural resources, some recognized, others not. The accrual of benefits relates to the rights of access to, and ownership of the land and the resources, as well as the institutional arrangements put in place. These range of local and national level incentives are what will help conserve biodiversity, provided the incentives are real and tangible at those levels, and are not merely more nebulous global incentives. Conservation value may not be simply one of local land use, but have national and global implications for the sustainable conservation of biodiversity. Benefits which may accrue from protected areas can be classified into 8 areas: recreation, tourism, watershed protection, ecological processes, biodiversity, education and research, non-consumptive benefits (e.g. historical and cultural), and future values (Dixon and Sherman, 1990). These benefits, representing the total economic value, however, are not all obvious nor are they divided among people in a manner proportional to the "costs" to local people (Barrow, Bergin *et al*. 1995).

The costs of wildlife conservation are better understood than the benefits. The problem of wildlife costs and benefits is not one of productivity but of equitable distribution.

For community conservation to be successful, there has to be a sense of responsibility and ownership, or proprietorship devolution at the community and resource user level. Without this, incentives for conservation become marginal and *ad hoc*. However there are often establishment incentives to resist this (Murphree, 1998). These two incentive sets can be harmonized where complimentary and mutually supportive roles are given primacy through local level responsibility and benefits, supported by government facilitation.

National park benefit sharing, through protected area outreach is one array of benefits which can be classified into five broad types, namely (i) those where no additional expenses are required such as provision of advice; (ii) those where a re-direction and planning of normal park budget is required, such as road maintenance near the park; (iii) those that involve some re-planning of park development expenditure such as a ranger post for which the planning is mostly park dependent; (iv) those that are community development type projects, supported by special revenues set aside, such as a dispensary for which considerable planning is required from both park and people and (v) those projects which are of a commercial enterprise development nature, such as a camp site which requires much commitment and responsibility by both parks and people (Barrow, et al. 1995; Barrow 1996).

2.5 Participation in wildlife conservation

Participation is a social process that entails devolving decision making power to the project stakeholders particularly, the beneficiaries. It calls for recognition and respect for local knowledge, experience and people's ability to judge their own experience with reasonable measure of objectivity (Mulwa, 2008). Practice have shown that project benefits and impacts can only be realized if there has been effective participation of the project beneficiaries, failure to which, it would lead to negative, irrelevant, or insignificant actions that do not add anything towards transforming people's lives. Mulwa argues that, in the light of the above, participation seeks to tap the diversity of people's perception on project performance and not just the views of experts and technicians. It essentially brings to the fore the plight of vulnerable group and those alienated when conventional approaches of development are deployed in isolation.

Participation varies from being passive at one extreme to self-mobilization at the other (Table 1). Participation helps strengthen the capacities of rural people to gain responsibility for their natural resources. But the meaning varies widely and is used to cover many activities, for instance the provision of labour, materials or cash; involvement in problem identification; project planning and implementation; community, institution, or individual participation; partnership, enablement or empowerment; or a combination. This reflects the many interests different people have in participation in terms of who participates, and the level of participation involved (White, 1996).

A wide range of people and stakeholders may need to participate in natural resource management, and may have different perspectives and stakes. Key issues include gender differences in the way men and women use natural resources; equity for improving conditions of the poor, and their relations with the wealthy and powerful; decision makers at individual, household and group levels, and the rest of the population. In addition the use of local knowledge systems can be a valuable information source and tool for conservation.

Adopting participatory approaches, is a powerful tool in planning and implementation, but does not in itself guarantee equity. Sharing through participation does not necessarily mean sharing in power (White, 1996). Participatory management styles give voice to local people but do they give voice to everyone? For instance vocal men may dominate discussions. Are there people who are negatively affected by something that benefit others? Can all different groups be consulted? The more varied a community is, the more difficult this is. Participation cannot be merely wished upon rural people. It must begin by recognizing the powerful, multi-dimensional, and in many instances, anti-participatory forces which dominate the lives of rural people (Oakley, 1991).

Table 2.1: Types of Participation

Participation Typology	**Some Components**
Passive Participation	Being told what is going to happen or already happened. Top down, information shared belongs only to external professionals
Participation in information giving	Answer questions posed by extractive researchers - using surveys etc. People not able to influence
Participation by consultation	Consulted and external agents listen to views. Usually externally defined problems and solutions. People not really involved in decision making. Participation as consultation
Participation by material incentives	Provision of resources, e.g. labour. Little incentive to participate after the incentives end, for ex. much on farm research, some community forestry
Functional Participation	Form groups to meet predetermined objectives. Usually done after

	major project decisions made, therefore initially dependent on outsiders but may become self-dependent, and enabling. Participation as organization.
Interactive Participation	Joint analysis to joint actions. Possible use of new local institutions or strengthening existing ones. Enabling and empowering so people have stake in maintaining structures or practices
Self-Mobilisation	Already empowered, take decisions independent of external institutions. May or may not challenge existing inequitable distributions of wealth and power. Participation as empowering

(Sources: Pimbert and Pretty 1994; Oakley 1991)

This framework recognizes that different forms of participation are used to different degrees of scale and scope in different types of community conservation. Prescriptive forms of participation cannot be forced on systems, which, under policy and statutory terms, cannot cater for them. It is the notion of real and responsible participatory approaches which is more important, which meet the goals implied in the term so as to suit the conditions for that participation. For instance a SCIP (Support for Community Initiated Projects) in Tanzania, a CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) project in Zimbabwe, Conservancies in Namibia, and Collaborative Management in Uganda all require different approaches to participation which ultimately relate to the statutory conditions which control access to, and ownership and use of conservation resources.

2.6 Global context of Community- Based Initiatives

Studies show that Nepal has witnessed a trend of deforestation throughout its history, as forest lands have been converted to crop lands. By 1951, most of the land suitable for agricultural production in the hills of Nepal had been deforested (Ives and Messerli 1989). One-third of the total forest and cultivated lands of the country, primarily in the Terai region, were under birtal tenure with 75 percent of that area belonging to the Rana family (Regmi, 1978).The nationalization of forest lands also led to a "tragedy of the commons" scenario where, in the

absence of government control, forests were rapidly exploited. By the 1970s there was a growing international concern over the rate of deforestation in Nepal. Initially, control of forest resources rested with the local "Panchayat" government. It took the change of control from local government to recognized community forest user groups (CFUGs), composed of those communities who are traditional users of a patch of forest.

These studies indicate that in terms of social costs and benefits, forest user groups are new social institutions in village Nepal. Traditional social institutions in rural Nepal are often caste bound and exclude women from decision-making outside of the home. Forest user groups were conceptually developed as egalitarian organizations, where all forest users, regardless of caste, gender, or economic status, would have an equal say in the decision-making process. Elected members of the user group's executive committee are to represent all settlements included in the community forest, as well as women, caste groups, and members of disadvantaged community groups (Department of Forests 2001).

Implementation, however, often runs up against village societal norms and accepted practices. For many disadvantaged, uneducated, or impoverished groups, low self-esteem also hinders their full participation in the program. As a new social innovation, and one with defined rules of inclusion, early evaluations found that CFUGs were shaking up traditional societies. With a guaranteed seat at the table, women were being elected to community forestry executive committees and serving as chairpersons of those committees. This process helped to increase women's participation in community forestry significantly (Subedit, 2006). Of 14,337 established CFUGs, 784 groups are headed by women. Often a CFUG would build a local office where informal literacy classes were being held and where "caste was left at the door" (Sowers *et. al*. 1994). A study of community-defined indicators of success (Pokharel & Suede, 2007) listed women's participation in CFUG operations as one of eight key indicators.

The social benefits of community forestry, however, including livelihood enhancement and democratic governance, have not reached their full potential. Second-generation issues or challenges, including post-formation support, equity in decision-making, benefit sharing, and determining potential commercial uses for the forest have emerged (Gilmour, 2002). Select

stakeholders, mainly the elite and powerful, have come to dominate decision-making in many CFUGs. A study on access to power through the narratives of 38 forest users (Lachapelle *et. al*. 2004) found the crosscutting themes of inferiority, vulnerability, and lack of transparency to be hindering social inclusiveness in CFUG operations. These second-generation issues are being dealt with through refocusing community forestry goals on livelihood enhancement. Pro poor and inclusive processes have been developed for use in the community forestry program. One of these involves working with communities to develop a livelihood enhancement plan as part of the forest management plan review process (Joshi *et. al*., 2006). As opposed to the prescriptive approach now taken, this new process embraces an adaptive management approach to planning and recognizes that the social setting in each village or community is unique, requiring an individualized response.

Relating to economic costs and benefits, Dev. *et. al*., (2003), in a study on the impacts of community forestry on the livelihoods of people in the mid-hills of Nepal, put the potential benefits in the following categories: Improved and increased sustainable flow of forest products, Improved social capital, Improved community infrastructure or physical capital, Improved human capital, Improved livelihood opportunities. Two community-run sawmills, established with assistance from the Nepal Australia Community Resource Management and Livelihood Project, and are providing markets for CFUG logs and employment for CFUG members.

In terms of sustainability, Community forestry in Nepal is being done on a national scale. It has a visible landscape presence and the forest user groups have changed, to some degree, village-level social interactions. One example of their resiliency under extreme conditions is the degree to which CFUGs continued to operate during the recent political difficulties in areas of Nepal under Maoist control. Although hindered in their ability to manage their forests, Rechlin *et. al*., (2007) found that CFUGs did not disband, and, in fact, often took responsibility for health care and other social services normally provided by the government. Social and environmental sustainability issues, however, do remain.

Domitila in Central America was established in 2001. The land, originally acquired by Captain Eulogio Morales in 1881, has been in the possession of his descendants since his passing. The area consists of the most diverse collection of precious woods and wildlife in the region. The family has long appreciated this and has lived in coexistence with the area's rich biodiversity for a very long time. Studies show that locals are employed to construct buildings and trails, to be guides and cooks as well as to maintain and protect the property. The reserve is located close to an area where the majority of inhabitants are small-scale agriculturalists and cattle farmers. Unemployment levels are very high, and there is a lack of community infrastructure (Barany *et. al*., 2001 as cited in Raggett, 2003). The reserve encourages community participation, and to facilitate this, a committee was formed to determine the community's needs. The main aim of this reserve is to use sustainable tourism development as a vehicle for growth while at the same time conserving biodiversity. A number of community development projects have been undertaken, some dealing with tourism such as making handicrafts for sale, while others are aimed at improving the welfare of locals as well as conserving the environment such as a chicken hatchery, tree farming, kitchen gardening and organic agriculture. Profits made from these various activities are distributed as follows, 50% to community members involved in the projects, 20% to finance new projects, 15% to finance new projects, and 15% for 'social character' (employee uniforms etc). Permanent jobs have been created for 15 people, with a further 7 being intended in the future (Mejia, 2002 as cited in Raggett, 2003).

The Community Baboon Sanctuary in Belize was established in 1985 with only 11 participating landowners, the sanctuary now includes land owned by more than 100 families and involves about 8 villages along the Belize River (Beletsky, 1998 as cited in Raggett, 2003). The Community Baboon Sanctuary (CBS) is a 'voluntary, grassroots conservation programme' which relies on the cooperative venture of private landowners, and conservation organisations, with the aim of protecting the Black Howler Monkey, Alouattapigra, and its habitat (Belize Audubon Society, 1990). All villages that participate in the CBS lie within the sanctuary area. Each landowner has pledged to follow an individualized conservation plan that will enhance and protect the howlers' habitat. This is done through sustainable land use practices and voluntary cooperation (Belize Audubon Society, 1990).

Tourism is encouraged in the sanctuary, with low-interest loans being offered to participants willing to take part in tourism ventures, such as guided tours and accommodation. CBS also actively encourages research, and volunteers from around the world, living with local families, help to staff the sanctuary and assist the researchers (Raggett, 2003). In a 1993 survey, 50 landowners were interviewed, with 60% of respondents identifying one or more benefits from participating in the CBS, and 83% being unable to describe a single negative value or cost to them. Tourism has been able to bring about social and educational programs leading to high levels of community satisfaction (Raggett, 2003).

2.7African Context in community-based wildlife conservation initiatives

During the 1980s and 1990s, conservation policies and agencies in Africa came under severe criticism. In several countries, the evidence of increased poaching in the 1970s and 1980s pointed to the inability of wildlife departments to manage their habitats and wildlife populations. Critics argued that government departments had relied on top-down bureaucratic approaches that excluded local communities, making wildlife management especially difficult outside protected areas and on private lands (Hulme & Murphree, 2001). Studies in Botswana observed that, by putting communities in charge of local conservation and development priorities and encouraging partnerships with the private sector, community-based nature resource management sought to give communities more power to improve conservation and development outcomes. CBNRM broke new ground in the early 1990s by integrating wildlife management, rural development, and tourism often singled out as an African success story because of its stable economy and democratic institutions, Botswana has many of the characteristics that bode well for sustainable development. The dominant aspects of Botswana's economy are; the current trend toward CBNRM in southern Africa started in the 1980s with Administrative Management Design for Game Management Areas (ADMADE) and the Luangwa Integrated Resource Development Project (LIRDP) in Zambia, and the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe. Since the late 1980s and early 1990s, Namibia, South Africa, and Botswana also have implemented CBNRM projects.

The population of the Ngamiland District in northwest Botswana, where CBNRM was initially implemented, is about 140,000, with 50 percent of the population in villages of less than 500

people. Tourism accounts for about 40 percent of employment opportunities in the region and increasingly shapes local political economies and livelihoods. With a sparse population and vast areas designated for wildlife protection, the prospects for CBNRM in Botswana were high.
Experience with Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe seemed to show that, unless material incentives accrued to rural communities, conservation would be an uphill task. Botswana's CBNRM projects, therefore, adopted elements of CAMPFIRE, specifically seeking to increase the economic value of natural resources and transfer the resulting benefits to rural communities. Under CBNRM, local communities were allocated community management areas and an annual quota of wildlife, which could be used for commercial hunting. NRMP's approach was to encourage the private sector to operate tourism enterprises in a way that would take into account the needs of rural communities.

By putting communities in charge of local conservation and development priorities and encouraging partnerships with the private sector, CBNRM sought to give communities more power to improve conservation and development outcomes. Communities gaining rights over their resources and working with private safari operators, local government, and national level ministries reconfigures existing social relations, especially patterns of social trust and reciprocity networks. On the other hand, CBNRM is also modified by and translated into each local context since its implementation is mediated by local politics, power structures, and histories

In terms of Economic Costs and Benefits, there are now more than 80 organizations in more than a 120 villages involved in CBNRM initiatives. By 2002 there were 46 CBOs, of which 12 had joint venture agreements with safari operators, which generated an estimated $1.3 million (an average of $120,000 per CBO). Income to the CBOs is used to pay staff salaries, board member sitting allowances, and for community projects of various kinds—including craft shops, bottle stores, guest houses, vegetable plots, and cultural villages (Arntzen *et. al*., 2003).

Although CBNRM projects have been able to generate income for rural communities, they have been deficient or limited on several fronts. The final CBNRM assessment identified a number of limitations. Most CBOs seemed unable to establish and manage projects and continued to rely on

the quota and other fees from the joint venture partners. The departure of donors is another source of vulnerability, making rural communities further reliant on mostly white private sector safari operators who tend to privilege the profit motive over community empowerment. These financial vulnerabilities are further compounded by weak fiscal management on the part of CBOs and distribution of benefits through patronage channels and corrupt practices by leaders. With these legal and 'extra-legal' expenditures taking up most of the revenues, very little income 'trickles down' to the household level. Current patterns of benefit distribution in Botswana's CBNRM projects thus may not contribute to the long-term livelihood security of the majority of community members at the individual level, but they provide several collective benefits for local communities.

In a Sustainability analysis done in 2005, after a decade of implementation of decentralized natural resource management, the problems of financial management were at the forefront, and contributed to "re-centralization" by the Botswana state. The National CBNRM Forum, which was created in 2000 to coordinate and bring together representatives of all CBOs, in its annual report identified the following issues that threatened CBNRM as a whole: There is a lack of skills at the community level to set up and maintain financial management systems that allow for full accountability (to government as well as to the general trust membership); In general there are insufficient control mechanisms to avoid a small and "better-skilled" section of the community taking advantage of the power vacuum and monopolizing the community benefits; The general membership of most trusts is not empowered enough to demand accountability and representative decision making from their leadership (CBNRM Support Programme, 2005).
The Forum argued that CBNRM contributes income for rural communities and is a mechanism of diversifying the livelihood sources of people residing in these communities, and has improved attitudes toward wildlife, but also noted that CBOs were operating in a "non-transparent and non-accountable manner" (CBNRM Support Programme, 2005).

In Zimbabwe, the CAMPFIRE programme had a significant impact on wildlife conservation. Communal areas contain 56% of Zimbabwe's population, but until 1982 only private farmers were given Appropriate Authority (AA) to use the wildlife on their land (Gujadhur, 2000). In 1982, the 1975 Wildlife Act was amended to give rural district councils Appropriate Authority

over their land, with Nyaminyami and Guruve being the first districts to be given that right. CAMPFIRE started in Zimbabwe in the 1980s with the aim of encouraging local communities to make decisions on wildlife management and control. CAMPFIRE is based on the notion of devolution of power from central to rural district councils (RDCs) and is an answer to the failure of the top down approach to development (Arntzen *et. al*., 2003).

The intention of CAMPFIRE is to help people manage natural resources in such a way that plants, people and animals (the whole ecosystem) benefit. The project's objective is to raise income by using natural resources in a sustainable way, and this is achieved through participation in five activities, which include trophy hunting, selling live animals, harvesting natural resources, tourism and selling wildlife meat.

Studies show that in 1998, CAMPFIRE diversified its operations and now also includes fisheries, community-based bee keeping, and the harvesting and processing of plane worms and fruits (Arntzen et al, 2003). 80% of the money raised through these activities is given directly to the communities and collectively they have to decide what to do with the money. The other 20% is retained by the district councils for administrative purposes as well as to manage local CAMPFIRE projects. Initial guidelines proposed 50% of wildlife revenue should distributed to the community, 35% be wildlife management and 15% for rural districts councils. (USAID undated as cited in Gujadhur, 2000). In 1992, revised guidelines increased the community share to 80%.

An example of one CAMPFIRE project is Nyaminyami district where wildlife conservation, tourism, crocodile hunting and hunting have been used to bring about community benefits. According to Chalker (1994) organizations such as WWF and IUCN (World Conservation Union) 'promote the CAMPFIRE approach as a practical example of environmentally sustainable development', and they have recommended other countries to follow this approach, in order to achieve both wildlife protection and ecotourism.

In light of all this, however, there have been problems mainly with the distribution of revenue from the district councils to local communities. The district councils make a lot of money

through the programme and 'have marginalised any participation in wildlife planning and management by communities' and instead 'serve the interests of rural district councils' making the decentralisation of CAMPFIRE a 'recentralisation of district level elite' (Murphee, 1999,).
The programme also tends to be successful under certain demand/ratio contexts, for example benefits are highest where the human population densities are low and wildlife resources high. Moreover, CAMPFIRE has become a political issue with the political elites seeking to gain much from projects through 'patronage, shrewd negotiations and bureaucratic recentralisation' (Murphee, 1999, 22).

In Namibia, studies have observed that CBNRM was started in 1980s with the Integrated Rural Development and Nature Conservation (IRDND), whose main aim was to combat poaching and to increase the benefits of wildlife tourism to local communities (Gujadhur, 2000). After independence in 1990, the Ministry of Wildlife, Conservation and Tourism was formed with the aim of including locals in sustainable resource management. Since the 1990s community involvement in tourism has been promoted by both the government and NGOs (non-governmental organizations) in the country (Ashley, 2000). According to Ashley and Garland (1994) tourism in communal areas 'builds local support for conservation and sustainable natural resource use (and a sustainable tourism product). Furthermore, they state that community-based tourism is promoted in Namibia for three main reasons, namely: To benefit the community by boosting welfare, economic growth and empowering locals, to benefit conservation by encouraging community commitment to wildlife conservation & sustainable management of the natural resource base and to benefit Namibian tourism by diversifying Namibia's tourism product, especially through ecotourism and ensuring long term sustainability in the country's resource base.

The country has allocated 74,000 square kilometers of land as conservancy areas with 38,000 people registered as members (usually adults over 18) and an estimated 150,000 benefiting from the conservancy programme (Arntzen, 2003). By the end of 2002, four conservancies had signed joint venture contracts with private sector companies to operate tourism lodges. The Namibian Tourism Development Study (NTDS) encourages local benefits through joint ventures and this is clearly stated in their study, which states that 'up to the present, tourism has not generated much

local income and it is the aim for the future to create a development model incorporating local benefits of tourism' by including the use of wildlife skills and tourism management skills from outside with local participation mostly in the form of joint ventures'(NTDS, Section 6.6.4 as cited in Ashley and Garland, 1994)

Several lodges that existed before the conservancy movement started are being encouraged to develop formal benefit-sharing agreements with conservancies. Seven conservancies have negotiated trophy-hunting agreements, which effectively lease hunting concessions within their conservancy areas to professional hunting outfits. Currently twelve NGOs, the Government of Namibia (represented through five directorates of the Ministry of Environment and Tourism) and the University of Namibia are involved in the CBNRM programme and support the conservancies (Arntzen et al, 2003). One of these NGOs, Namibian Community-Based Tourism Association (NACOBTA) is a membership and umbrella body that specifically supports tourism and enterprise development within and outside conservancies. All support organisations are members of a formally registered national CBNRM coordinating body, NACSO (Namibian Community Support Organisation)

2.8 Community- based initiatives and Wildlife Conservation in Kenya

In Amboseli National Park, a study was done by Jill Mechtenberg (2008). This study focused on the region surrounding Amboseli National Park which is a crucial dispersal zone for wildlife, making it of great interest for community conservation initiatives. Approximately 70% of the region's wildlife live outside the park and use the area for migration between Amboseli, Chuylu Hills, and Tsavo West National Parks (Mburu, 2003). The type of tenure largely determines the land uses, which in turn influence the ecosystem's flora and fauna.

The prevailing forms of land tenure linking these parks are the group ranch system and private ownership. The communally owned system of group ranches involves members sharing access to resources and land, with an elected committee to handle the lands title and finances (Berger 1993). This system could be favorable for initiating community conservation projects due to the established committee of elected community members managing affairs. However, Jill (2008) observed that while living near Amboseli, that the management of the group ranches possesses

structural flaws which foster corruption. Consequently, bribing and unequal benefit sharing is common due to a lack of transparency in accounting. The unchecked authority results in an obstruction of revenue distribution to the lower levels of the community (Munei, 1999).

Unfortunately, corruption has also occurred throughout the process of subdivision. The government and the elite members of society began demarcating land in an attempt to gain political support. Currently the demand for private ownership and accelerated subdivision is on the rise, although varied sectors of the community are receiving land titles on an unjust basis. The members of society who may not have direct political involvement are often those who receive land titles last (Munei, 1999).

The challenges of management within the group ranch system have initiated setbacks to conservation in the Amboseli area. The increase in subdivision has accelerated the drive to maximize land outputs through cultivation, causing further challenges for conservation (Emerton, 2001).

Simultaneously, several group ranches and individual land owners have realized the economic potential of their wildlife resources, and community conservation institutions have slowly begun to develop in the Amboseli area. The current community conservation initiatives include: ecotourism through lodges and campsites, cultural centers, KWS partnerships and benefit sharing projects, leasing land for conservation areas like the Selengei Conservation Area, and community sanctuaries like the Kimana Group Ranch Conservancy and the current construction of the wildlife sanctuary in Kuku Group Ranch (Mburu, 2003, Ogutu, 2002).

While many of the projects have had significant institutional flaws, the local communities have received some benefits through employment, revenues, and infrastructure development projects. For example, the Eselenkei Group Ranch committee leased 16 hectares of land to the private developer, Porini Ecotourism, for the establishment of the joint venture Porini Ecotourism Project (PEP).

The community has benefited from this initiative through revenues from lease payments, tourist-paid gate fees and bed charges, the employment of 26 community staff members, the support of Community projects, and the improvement of infrastructures such as roads and boreholes (Ogutu, 2002).

The Kimana sanctuary which was started by the Kimana Group Ranch committee in 1997, is another community-based conservation project that has brought a number of positive changes to the area. Following the establishment of the sanctuary, landowners' attitudes towards wildlife have changed from negative to positive. It has helped that some members of the community have received revenues and wildlife numbers have increased as well (Mburu, 2003). Overall, these community conservation projects have benefited community members in the areas surrounding Amboseli National Park, but these benefits are largely overshadowed by the greater implications and effects of the area's institutional failure. Poor institutional framework and lack of strong compensation programs for crop damage were two major failures that may have been preventable had the objectives of the institutions been thoroughly thought-out before implementation of these conservation programs.

The first major community conservation initiatives started by KWS set the standard of poor institutional framework and ended up contradicting their original goals of providing the community incentive to conserve (Ogutu, 2002). WCMS (Workers Compensation Management System), in previous years, had been involved in a compensation scheme to cover crop damage, but problems with the administration of claims caused the Kenyan parliament to drop the scheme in 1991 (Ogutu, 2002). KWS's problems with installing successful institutions has resulted in more broken promises and local frustration has emerged with the discontent over receiving little or nothing of the originally promised 25% of Amboseli National Park revenue (Ogutu, 2002). The mistakes made by KWS have been repeated in the Amboseli area's other community conservation projects; these failures have occurred as a result of several significant mistakes.
Faults of institutions in the Amboseli area have both previously and currently caused local animosity towards conservation, which in turn affects the long-term potential of community conservation initiatives. More often than not, promised funds do not make it back to local

communities. This is a result of mismanagement of funds within the tourism lodges and corrupt group ranch officials who do no fairly appropriate the revenue received from lodge officials.
The current institutions are yet to convince local people to conserve wildlife. This is partly due to landowners' doubtfulness on conservation as a sustainable, beneficial livelihood option. This doubt is a byproduct of the complexities and uncertainties of wildlife management which cause more costs to the community than overriding benefits (Mburu, 2003). As wildlife becomes more of a cost than a benefit to the local community, conservation becomes less popular and rather seen as a competition to local livelihoods. This threatens the viability of ecotourism projects since the local community believes there is not enough reason to continue wildlife conservation as a competitive land use. However the projects have achieved relative success in that wildlife numbers have raised and within some areas community members are gaining benefits from revenues or employment though the fundamental goal of community conservation, where benefits are shared with all sectors of the community and wildlife is protected, has not yet been met.

In a study done by Matiko (2014), the Wildlife Lease Conservation (WCL) Program was initiated to ensure that wildlife could move freely between the Nairobi National Park and Kitengela- Athi-Kaputie Plains. This program is currently managed by The Wildlife Foundation (TWF), a locally incorporated Non-Governmental Organization (NGO). The wildlife conservation lease program is a model that is aimed at providing incentives to the Maasai community in return to hosting wildlife in their privately owned land parcels south of Nairobi National Park which is payable three times a year, in January, May and September.

In the Wildlife Conservation Lease initiative, the Wildlife Foundation (TWF) - an NGO registered to manage the program, signs a contract with the landowners, which requires them to allow free movement of wildlife on their land and to meet the following conditions; to manage the land for the benefit of wildlife and sustainable livestock grazing, to leave land under lease open and not to install any perimeter fencing on my land, NOT to cultivate, mine or quarry in any manner the land under WCL, keep land under lease free of buildings or any other structures and to protect indigenous plants and trees. In return, the households are paid an annual fee of Ksh. 300 (US$ 4) per acre in three installments. During the pilot phase of the WCL supported by

the GEF/World Bank, the TWF enrolled landowners based on the following criteria; land adjacent to Nairobi National Park ,willing land owner, land unfenced (open rangeland) ,connectivity to other enrolled land parcels ,proof of land ownership using a title deed.
The key objective of the WCL to "ensure long term ecological viability of Nairobi National park by maintaining seasonal dispersal areas and migration corridor on adjacent privately owned lands and demonstrating the use of wildlife conservation leases as a conservation tool outside protected areas".

As part of the implementation, the WCL project consisted of six (6) Outcomes and 11 Outputs implemented under three (3) Project Components; (1) Increasing land secured for conservation; (2) Institutional strengthening for implementation and dissemination/ replication of WCL program; and (3) Enhancing the long term sustainability of the WCL program and the NNP ecosystem. The study done assessed six (6) of the 11 Outputs, and conducted an analysis of the achievement of the WCL in respect to the secondary objective of enhancing the economic security and quality of life for local landowner households in Athi-Kaputie Plains. All the six Outputs assessed were achieved, which contributed to the realization of the respective outcomes.
There were four (4) main positive effects identified in terms of the contribution of the WCL to the economic security and quality of life of local landowner households. These are;
Provision of cash income and poverty reduction-Poverty in the AKP is very high, with an estimated 70% of the households living below the Kenyan poverty line. Cash income is therefore critical for these families who depend on livestock. The WCL disbursed a total of US$ 837,120 (in US$ 2005 equivalent) to a total of 417 households for the 12 year between 2000 and 2012. The average income to the participating households ranged from US$ 248 in 2004 (7% of gross household income) in a period of normal rains to US$ 345 per year in 2009 (25% of gross household income in a period of severe drought).

Building human capital through education investments-More than three-quarters of the WLP income is spent on education (76% in 2008 and 80% in 2009), including payment of school fees, purchase of school uniforms, books. The WCL therefore enables pastoral families to invest in education of their children, and helps build the human capital that is critical for the future of the Maasai youth.

Reducing pastoral vulnerability to drought-The WCL is invaluable in helping to reduce pastoral vulnerability to drought because it provides a regular and stable income that can serve as "safety-net" protecting families from the fluctuating livestock income during drought periods when pastoralists suffer drastic livestock losses. In addition, by helping to keep the rangelands in AKP open, the WCL benefits all pastoral families that are able to move with their livestock unhindered by fences in search of pasture and water during drought

Some of the current and future challenges observed by the study include;
Rapid urbanization- the expansion of urbanization leads to conversion of rangelands to settlement areas as urban residents purchase land, further increasing land prices, leading to land sub-division, land sales and conversion of land use to non-pastoral uses such as crop cultivation. The expansion of urbanization is expected to continue as Nairobi Metropolis expands into Kajiado as part of the implementation of the Kenya Vision 2030 economic blueprint (Government of Kenya, 2008).

Road infrastructure-The fencing of land in AKP is directly associated with roads. Therefore, a proposed plan to build a US$ 200 million road bypass that crosses the southern section of the Nairobi National Park may hamper the land lease program and further accelerate the fragmentation of the landscape in Athi-Kaputie Plains.

Population growth- The population in the AKP and in the Kajiado County is growing rapidly and this creates more pressure on the AKP ecosystem, including increase in human-wildlife conflicts in the area.

Rising land prices-The high demand for land has raised the land prices in AKP. The land prices are particularly high near the Nairobi National Park (currently around $10,700 per acre) and near the major roads, while far away from the tarmacked roads, land prices average merely about $530 per acre (ACC, 2005) . In parts of AKP land value has appreciated at over 11% per annum over the last 10 years, which compares well with the average ten-year returns from Treasury bills. The high land value and the rising land prices in the AKP reflects the peri-urban and urban

potential of land where wildlife has no future, and not the agro-ecological potential of land, which allows for wildlife as a form of land use (Matiko,2014).

2.9 Research Gaps

From the above review of literature it is evident that multiple studies that have been carried out concerning the management of wildlife have been conducted mainly in South Africa. Limited focus has been placed in Kenya and, especially on the Nairobi National Park. Notably, the overall decline of wildlife population is a concern across the globe. In Kenya, unregulated human activities coupled with rising human population and dwindling resources, have put significant pressure on wildlife on the Nairobi National Park. From the reviewed literature it is clear that a number of measures have been advanced in order to combat this growing challenge. However, the reviewed data clearly reveals a gap in as far as community base initiative as a method of conserving the environment around protected areas is concerned. It is against this ground, that this study is founded and aims at filling the existing gap by examining the role of community based initiatives on the conservation of protected areas.

2.10. Theoretical framework

2.10.1 Participatory Theory

Participation theory put forward by Putman (1993) promotes citizens' involvement in decision-making as a means of encouraging community members to consider issues of common interest. There are many potential benefits. Foremost these include the ability to build local skills, interests and capacities that are on-going. Others include the ability to improve outcomes by extending the range of values and inputs into the decision-making process, and, the increased probability of acceptance and successful implementation when decisions are seen by those involved as responsible and appropriate. Involvement, it is argued, enhances co-operation, as co-operation is strongly influenced by the possibility of individuals having to deal with each other repeatedly (Berry et al., 1993; Putnam, 1993). In addition, identification with a group, association, or cause, elevates common interests (Lakoff, 1996), even if individuals' motives for membership are self-serving.

One reason for this development is that the power of the traditional 'command and control' hierarchical government is being eroded by information and communications advancements (Clark & Reddy., 1999). Organisations and citizens have the ability to access much of the information that governments use, and increasingly governmental decisions are being questioned. This has resulted in the emergence of a more diverse and assertive political culture lobbying for greater participation and empowerment. A decline in general public confidence in government combined with greater demands on government resources has resulted in a shift towards a more community-based form of governance. Government now regularly solicits the input of citizens

To fully engage in the kind of creative experimentation needed to make the new structures and practices more responsive to citizens, governments have accepted that they cannot and should not do everything; and what they do, need not – often should not be done by them alone (KPMG, 1999).

Applied to this study, participation theory encourages communities or groups to work together to achieve goals that are broader than those that can be achieved by individuals. Where citizens are jointly involved with elected representatives and managers, this necessitates agreements for sharing responsibility and decision-making authority. Increasingly the concept of partnership is promoted, where organisations, agencies and citizens work together as equals (despite differences in power and resources) to achieve agreed objectives. In this respect, the participatory theory is the key theory that this study invoked.

2.10.2 Liberal Democratic theory

Community-based conservation originates from Jeffersonian ideals of civil society to encourage citizens voluntarily participation in democratic processes to advance the public good (Lurie & Hibbard, 2008). The major motivation for a bottom-up community-based conservation approach is local sustainable development. Local communities are closer to the environmental problems and the connections to the solutions; thus, it is appropriate for residents to play important roles in local environmental conservation. Community residents and key stakeholders can be more

responsive to local environmental preferences and have more motivation to ensure local environmental quality.

Local communities generally have strong commitment to their own places, and the commitment provides bottom-up motivation and necessary local knowledge to effectively manage the environment. Recent research has highlighted the critical linkage between environmental planning and sustainable development in the local context. Since the 1990s, local jurisdictions have been aware of sustainability and some local governments have been motivated to work towards sustainable development. For example, many local governments in California have started to strategically incorporate critical environmental elements as a part of local sustainable initiatives into their local long-term comprehensive land use plans. The motivation and movement towards sustainability provides a great opportunity to integrate environmental conservation as a part of local jurisdictions sustainable development campaigns. Taking action in environmental conservation at the local jurisdictional level can result in a sustainable development outcome.

2.10.3 Social learning theory

Recently considerable emphasis has been placed in the more communicative and strategic aspects of Social learning Theory which is based on the idea that people, collectively, are capable of forming a learning system that can cope with uncertainty and challenges (Muro and Jeffery 2008). Making use of stakeholders' different knowledge, interests and experiences, it has been applied through a vast array of participatory methods, with the intention of fostering collective sustainable change (Muro & Jeffery, 2008). This orientation makes it particularly relevant in natural resource management, as it addresses complex social processes such as the role of participation in its governance process. As explained by Muro and Jeffery (2008), "social Learning is understood as a process of communication and collective learning potentially establishing and changing relationships thus contributing to transforming existing structures of governance".

2.11 Conceptual Framework

This research study sought to assess the role of community-based initiatives (CBIs) in wildlife conservation. The community based approach to wildlife conservation draws upon the principles of building social capital that includes building local social networks, norms, and trust. CBIs are generally viewed as a mechanism to address both environmental and socio-economic goals and to balance the exploitation and conservation of valued ecosystem components. It requires some degree of devolution of decision making power and authority over wildlife as a natural resource to communities and community-based initiatives. This approach- seeks to encourage better resource conservation outcomes with the full participation of communities and resource users in decision-making activities, and incorporation of local institutions, customary practices, and knowledge systems in conservation processes.

In the conceptual framework below (Fig 2.1), CBIs strive to conserve wildlife through adoption of wildlife conservation as the main land use, reduction in Human-Wildlife Conflict (HWC), compensation for any form of predation and sharing of wildlife benefits between Nairobi National Park (NNP) and the community living around it. This has been achieved through the land lease program, lion Lights for cattle bomas, predation consolation scheme and Olmakao cultural centre respectively. Its continued operation and sustainability however is pegged on active community participation and strong partnership and learning between NNP and the surrounding community (intervening variables).

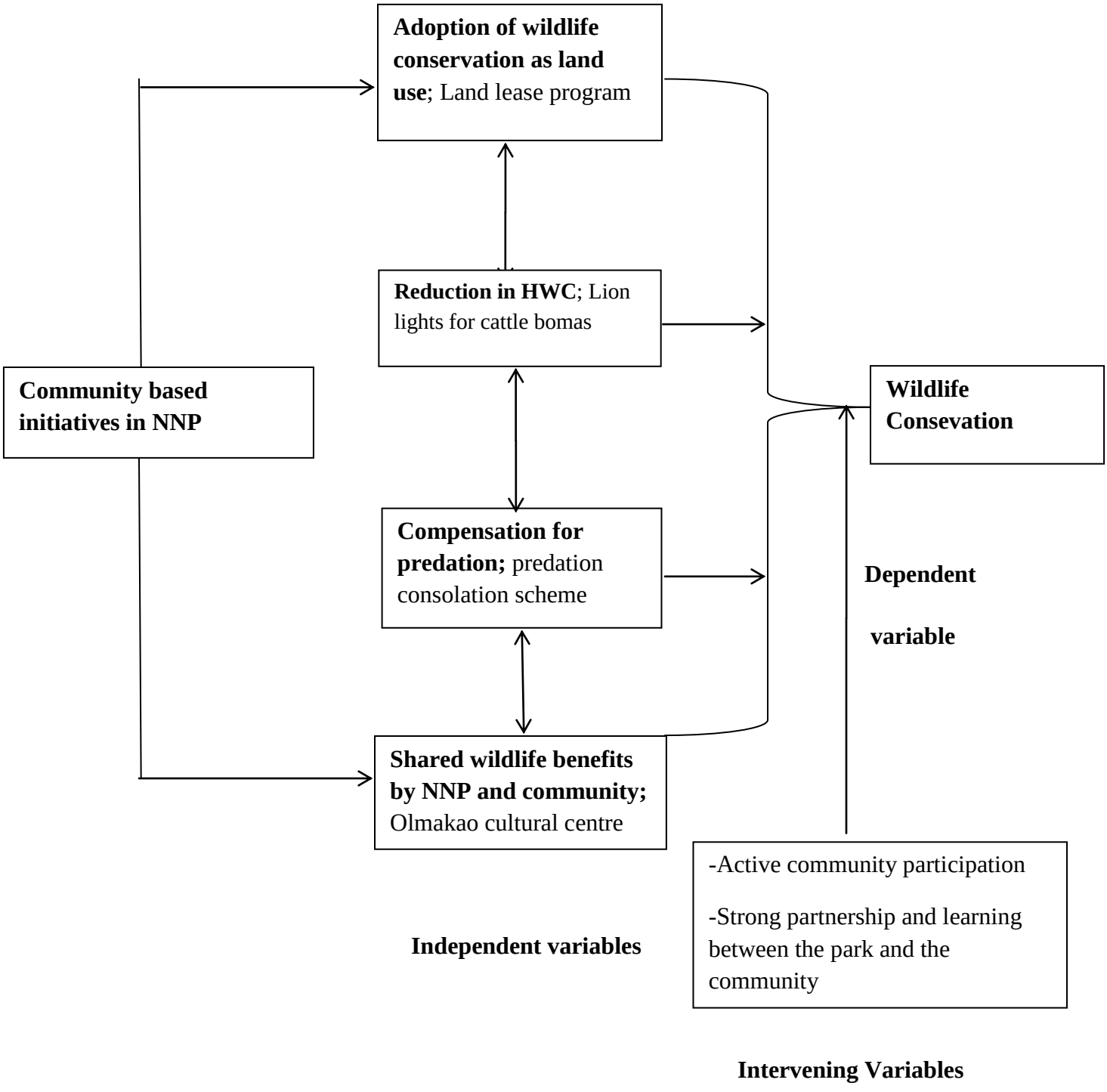


Figure 2.1 Conceptual framework

Source; Researcher (2015)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

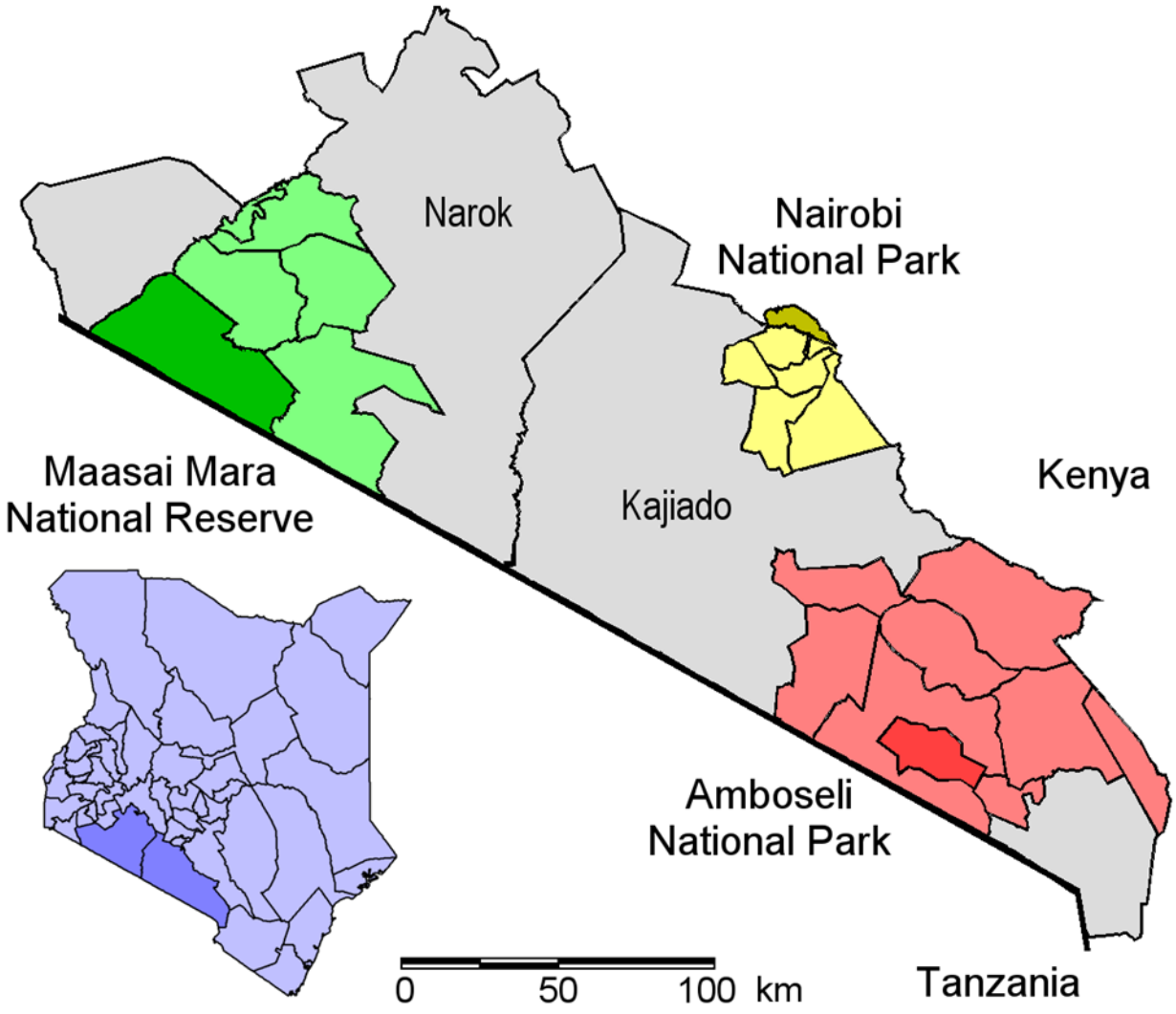
This chapter describes the study area and sets out various stages and phases that were followed in completing the study. It involves a blueprint for the collection, measurement and analysis of data. Specifically the following subsections were included; study area, research design, target population, sampling & sample size, data collection tools, data collection procedures and finally data analysis.

3.2 Study Area

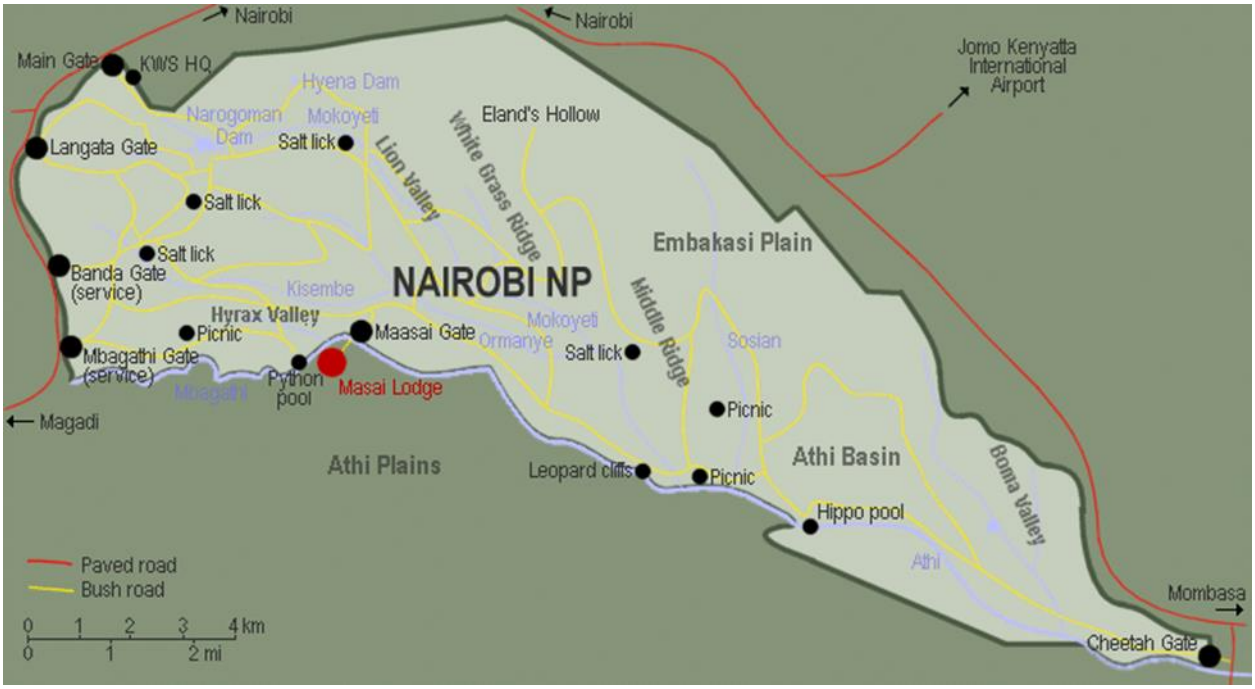
3.2.1 Location and area

Nairobi national park is situated 10km south of Nairobi city Centre. It covers a surface area of 117 km2 at an altitude of 1600-1800 m between latitudes 1º 20′ -1º 26′ S and longitudes 36º 50′-36º 58′ E. The park was established on the borderlands between pastoral grazing lands and highland farming areas in 1946. It is separated from Nairobi Metropolis in the north by a wire fence, and its eastern and western boundaries are also fenced. Its open southern boundary is formed by the Empakasi River. The Kitengela region immediately to the south was part of the Kitengela Conservation Area (777 km2), which, in turn, was part of the Ngong National Reserve (1178.44 km2) that formerly adjoined the Nairobi National Park and was officially gazetted in September 1949. Though not officially degazetted as a game conservation area this Reserve has since become settled by Maasai pastoralists and their livestock and immigrant populations (Ogutu et.al, 2013).

The Athi-Kaputiei Plains, as defined by the movements of migratory undulates, covers a total area of about 2200 km^2. Its limits are bounded by the Rift Valley escarpment to the west, the Nairobi-Mombasa railway in the east, and the Konza-Magadi railway in the south. Administratively the park is in Nairobi County. It borders Kajiado County to the South and Machakos County to the East (Nairobi National park Ecosystem management plan, 2005-2010)



Map 3.1: Map of Nairobi national Park in Kenya



Map 3.2: Nairobi National Park and surrounding Athi Plains

3.2.2 Climate

3.2.2.1 Rainfall

NNP is within the highland wet zones of Ngong and Nairobi area. The area has a bi-modal rainfall patterns similar to the most part of Nairobi and receives mean annual rainfall of between 762mm (east side) and 911mm (west side) in two rainy seasons. Long rains occur during the months of Mid-March –May while short rains occur from October to December. The maximum number of rain days in the ecosystem is up to 85 with daily annual averages of 6.9 sunshine hours a day and 147.6km for wind run (Gathitu et.al, 2010).

3.2.2.2 Temperature

The park has an annual evaporation rate of 1721mm based on Wilson airport. NNP also experience cool climate with minimal temperature ranging between 12.3 degrees Celsius - 13.1degrees Celsius. The maximum temperature ranges between 24.8 degrees Celsius- 25.4 degrees Celsius. This meteorological characteristic gives NNP a sub humid climate with seasonal dry periods (Nairobi National park Ecosystem management plan, 2005-2010)

3.2.3 Physiography and Hydrology

3.2.3.1 Topography

The park is gently undulating with the highest point being to the North West at an altitude of 1710m above sea level. Along Mbagathi River, there are deep rocky valleys and gorges covered by scrub and long grass. (Nairobi National park Ecosystem management plan, 2005-2010)

3.2.3.2 Hydrology

The Mokioyet system forms the main tributary into Mbagathi River and drains the upper reaches of Nairobi National Park. Other small tributaries that drain the lower reaches of the park are Sosiani, Donga and Boma. With the exception of Mbagathi River, which borders the park to the south, most rivers dry up during the dry season. This has called for the establishment of 15 dams which augment water during the dry seasons. River Mbagathi has a permanent flow and use of its water is very competitive along its course. Before the river enters the park, its water is used for domestic purposes, horticulture, irrigation and fish farming, mainly in the Karen and Ongata Rongai areas. The river becomes seasonal in the years when rainfall falls below average. (Nairobi National park Ecosystem management plan, 2005-2010)

3.2.3.3 Soils

Most of the park has volcanic rocks formed in the middle and upper tertiary periods. The southern part of the park has tertiary sediments while calcareous clay loam soils derived from colluviums cover the most of the park. (Nairobi National park Ecosystem management plan, 2005-2010)

3.2.4 Natural features and Heritage of Nairobi National Park

3.2.4.1 Flora

The major types of vegetation in NNP consist of open grasslands, forests and bush land. Forests cover about 1000hectares and are situated in the western side of the park at an altitude of between 1700-1800m above sea level. The forest is broken by open grasslands and the actual glades and actual forest covers only about 350hactares. The dominant tree species is Croton megalocarpus, c.macrostachys, brachylaenahutchinisii (mahungu tree) (KWS, 2012)

3.2.4.2 Fauna

The Park is a home to a wide range of fauna. This includes rhino, buffalo, giraffe, Zebra, hippo, more than a dozen types of antelope, lion, cheetah, leopard, crocodile, and countless smaller animals. Six animal counts are done within Nairobi National Park every year. The numerically dominant wildlife herbivores in Nairobi National Park are wildebeest, Connochaetestaurinus (B.); Buchell's zebra, Equusburchelli (G.). Others include Grant's gazelle, (Gazellagrantii (B.); and Thomson'sgazelles, Gazellathomsoni(G.);Coke'sHartebeest, Alcelaphusbuselaphuscokii(P.); Warthog,Phacochoerusaethiopicus(P.); Cape eland, Taurotragusoryx(P.);Common waterbuck, kobusellipsiprymnus(O.);Impala,Aepycerosmelampus(L.);Maasaigiraffe,Giraffacamelopardalisti ppelskirchi (L.); buffalo, Synceruscaffer(S.),Bohor reedbuck, Reduncaredunca (P.); bushbuck, Tragelaphusscriptus (P.); Leopard, Pantherapardus (L.);Lion, Pantheraleo (L.); Spotted hyena, Crocutacrocuta(E.); black backed jackal, canismesomelas(S.); and bateared foxes, Otocyonmegalotis (D.) (KWS, 2012)

3.2.5 The Role and Significance of NNP in Wildlife conservation

Nairobi National Park is among the metropolitan national parks in the world in a capital city, and it is a renowned tourist destination and major source of revenue for the country. It terms of biodiversity, the park has a major rhino sanctuary for breeding and restocking other parks. It has over 400 bird species, at least 20 of which are seasonal European migrants. The park is home to over 100 mammal species, four of the 'big five' (lion, buffalo, leopard and rhino) and which are tourist attractions and in some years, it has a spectacular wildebeest and zebra migration. The park conserves samples of two major ecosystems, highland dry forest and the savannah. The boreholes drilled in the park are major water sources for KWS headquarters and park administration. This ensures that KWS never experience water shortages as common in Nairobi. It is also a focal area for experimentation and documentation of ecosystem fragmentation and habitat loss and its sociological importance integrating wildlife conservation in urban environment which sets the park apart from other national parks in the wildlife protected areas. (KWS, 2012)

3.2.6 Management and development of NNP

The Park is managed by KWS who along with the Kitengela land owners association (KLA) distribute some of the park revenues for community projects in the area. There are many issues in wildlife predation on domestic livestock, and KWS and KLA have an enormous task of managing human/wildlife conflicts whose results contributes directly to revenue which is instrumental in looking after both the community and the park. The National Environment Management Authority (NEMA), the Kenya government agency in charge of management and development of environmental resources is actively involved in the management of wildlife conservation in NNP. Local community living near the park has recently been getting engaged by the KWS in the parks management, to avert poaching activities and control problem animals. KWS perceives that it is the local community who are mostly responsible for the high levels of poaching, thus the realization that it is important to recruit and train the community game scouts to enlist the community support in curbing wildlife poaching. (KWS, 2012)

3.3 Research Design

This study was a descriptive survey which was preferred for it is used to obtain information concerning the current status of a phenomena and purposes of these methods is to describe "what exists" with respect to situational variables i.e. it looks at relationship between and among variables (Mugenda and Mugenda 2003).

This study also employed qualitative and quantitative approaches. According to Kothari (2004), it is important to highlight the main methods when investigating and collecting quantitative and qualitative data. A quantitative approach is strongly linked to deductive testing of theories through hypotheses, while a qualitative approach to research generally is concerned with inductive testing (Kothari, 2004). This study was largely quantitative with qualitative approaches being used to gain a better understanding and possibly enable a better and more insightful interpretation of the results from the quantitative study.

3.4 Study Population

The target population comprises the community involved in the community based conservation initiatives. The distribution of the population is as shown in table 3.1 below.

Table 3.1: Target Population

Category	**Population**	**Percentage**
Land Lease Program	67	34.4
Olmakao Cultural Center	32	16.4
Lion Lights for Cattle Bomas	53	27.2
Predation Consolation Scheme	43	22.0
Total	**195**	**100**

Source: Researcher (2015)

3.5 Sampling Design

The study followed a stratified random sampling technique in order to get a representative and unbiased sample. The sample size was determined scientifically by the formula adopted from Israel (1992);

$n=N/ (1+Ne^2)$

Where

n= desired sample size for the study area

N=total population in the study

e=desired margin error (in this case 10%)

$n= 195/ (1+195 (0.1)^{2)} = 66.10 \approx 66$

The sample distribution was done proportionately to the population size per category i.e.

$Ss= \frac{pc}{tp} * n$

Where pc = Population per category, tp = Total population and n= sample size

The distribution is shown in the table 3.2 below.

Table 3.2: Sample Size

Category	Population	Sample Size	Percentage
Land Lease Program	67	23	34.8
Olmakao Cultural Center	32	11	16.7
Lion Lights for Cattle Bomas	53	17	25.8
Predation Consolation Scheme	43	15	22.7
Total	**195**	**66**	**100**

Source: Researcher (2015)

The selection of the respondents was done from a list obtained from NNP on the CBIs membership (Appendix V). The randomization process involved calculating the n^{th} person on the list and a follow up done on the field with a guidance of an honorary warden referred by KWS. Replacements were done using the same method with a start point of K+1 from the earlier starting point.

3.6 Data Collection

Primary data formed the main data source for this study with supplementary secondary data from appropriate existing literature.

3.6.1 Primary data

This was raw data obtained from the field through use of questionnaires, observations and guided discussions. Participants included stakeholders in community-based wildlife conservation initiatives that include the Park management, administration representatives, opinion leaders, NGOs and the community living around Nairobi National Park.

3.6.2 Secondary data

This data was obtained from libraries, the internet and mass media through a review of literature both published and unpublished works from books, magazines, theses, newspapers, materials posted on internet and official documents from public offices. These sources provided information on origin & rationale of wildlife management, benefits of wildlife conservation, compatibility of wildlife conservation and community development, participation in wildlife

conservation and challenges faced in implementation of CBIs. This information was used to compare with the findings from the primary data sources to establish how effective community based initiatives in wildlife conservation are.

3.7 Data Collection Tools

3.7.1 Questionnaires

Data about effectiveness of Community Based Initiatives was required. A largely pre-coded quantitative questionnaire administered to community members involved in CBIs in areas surrounding Nairobi National Park was used to gather information. The study used both closed ended and open ended questions (Appendix II). The questionnaire was used to collect data on gender, education level, role in CBIs, benefits accrued from CBIs as well as the challenges that individuals felt were facing in involvement in CBIs. To assess the level of effectiveness of each item in the questionnaire, the five-point Likert scale (1= Very Small Extent; 5= Very Great Extent) was used. Consequently, 66 questionnaires were issued to the target population. The questionnaires method was preferred because it enabled the researcher to collect a lot of information within a short period of time.

3.7.2 Focus Group Discussions

In this study, two focus group discussions were conducted. These FGDs comprise of members of the community around NNP. The first group covered the community in the northern part of the park (Sholinke) and the other on the southern part of the park (Kitengela). The first group comprised 11 participants that included 5men, 3youths and 3 women. The second group comprised 10 participants; 6 men, 2 women and 2 youths all of which are involved in the CBIs. Through the guidance of the Honorary warden and one of the village elder proposed by the chief, the researcher selected the members of the FGDs based on the period they have been living in the area, with consideration for gender and age. The questions were administered with the help of a translator in Maasai language. The questions were in the thematic areas of membership of CBIs, infrastructural development, community participation in decision making, women empowerment, environmental impact of CBIs and socio-economic benefits as well as challenges faced by the community in conserving through CBIs (Appendix III)

The FGDs provided an opportunity to probe for further information. The main challenge however, was that the respondents at the time of discussion were unhappy with the park as there was a recent invasion of the lions to their farms. Women tended to be reserved during the discussion and mostly just agreed with what the men said owing to the characteristics of the community.

3.7.3 Key Informants Interview

The study also used interview guides to collect data from 4 key informants; 1 KWS officer, 2 NNP staff under the division of community wildlife service (CWS) and the assistant county commissioner, Kitengela. The selection of the informants was based on direct involvement with the CBIs. The KI interview aimed at getting the policy, management and performance of the CBIs. Specifically the KI followed interview guides with open-ended questions (Appendix IV) that sought to reveal the following key issues;

1. The role of the community & NNP in management of the park
2. Conservation and protection strategies employed by the local people and how they relate to the wildlife Act
3. Challenges of the traditional institutions toward management of NNP.
4. Coping mechanism and the prospects of CBIs as outlined in the questionnaire
5. The role of education, gender and economic status as factors enabling the participation of communities in CBIs.
6. The wildlife population trend since the inception of CBIs.
7. Effectiveness of CBIs in Wildlife conservation

3.8 Data Analysis

Data analysis consists of examining and categorizing; tabulating or otherwise recombining the evidence to address the initial prepositions of the study (Yin, 1994).The data was collected, cleaned and coded according to the themes researched on the study in the statistical software, SPSS Version 20. The research was both quantitative and qualitative in nature. This implies that both descriptive statistics and content analysis were employed. Quantitative data was analyzed using descriptive and inferential statistical approaches while qualitative data was used to explain results of quantitative data.

The descriptive analysis was used to show the types of community based initiatives, the benefit accrued to the community by the CBIs and the challenges facing the implementation of these community based initiatives around Nairobi National Park. While doing this, measures of central tendency (mean and media), standard deviation and percentages were used. The statistical test was chi-square test. The results for descriptive analysis were presented in tables, charts and graphs. Inferential statistics were used in testing the hypothesis.

CHAPTER FOUR:RESULTS AND DISCUSSION

4.1 Introduction

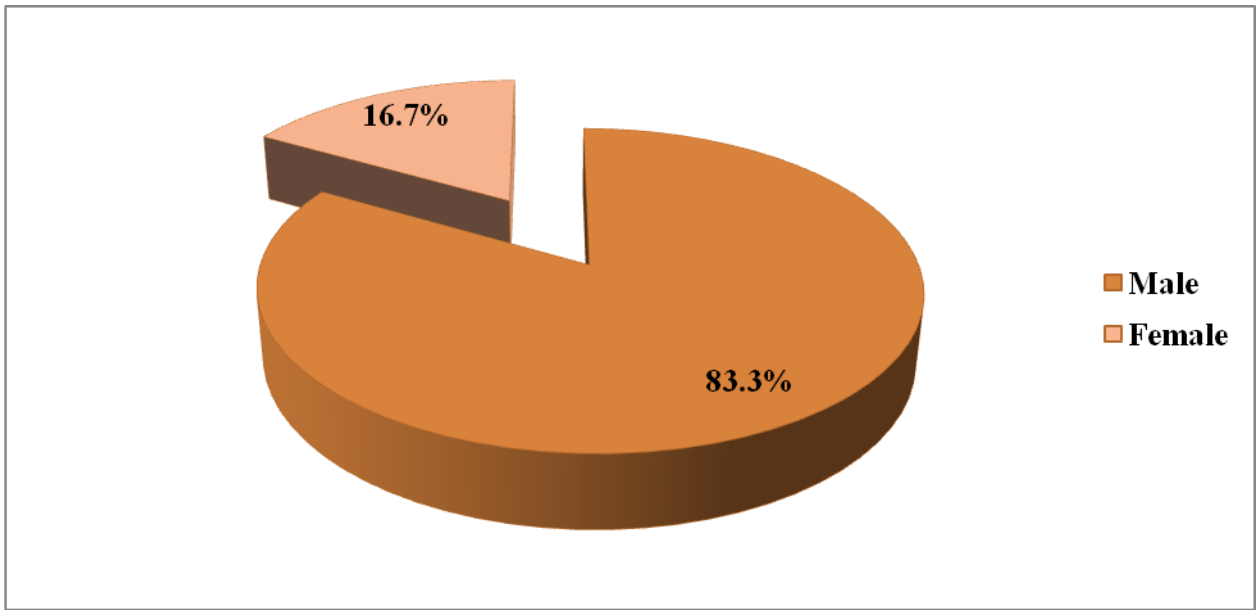
This chapter presents the analysis of data and discussion of the research findings. It outlines the findings based on the research objectives

4.2 General Characteristics of Respondents

4.2.1 Gender

The study sought to find out the gender of the respondents who comprised members of the Community Based Initiatives. The results are presented in figure 4.1 below;

Figure 4.1: Gender Distribution



Source: Survey Data (2015)

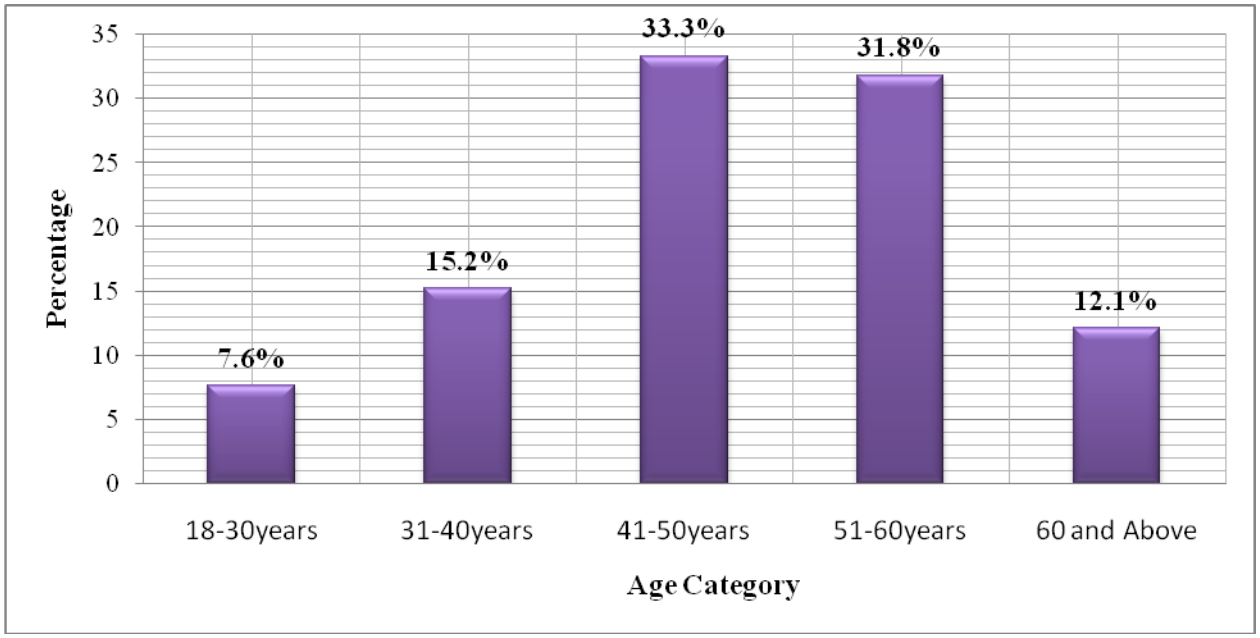
The results presented in figure 4.1 above show that 83.3% of the total respondents were male while 16.7% were female. The male bias in the study reflects their dominance in the membership of CBI since they are largely the decision makers on matters of property and land in the communities under study. This fact is emphasized by Job & Paesler (2013) when they observe that decision making in Sub- Saharan Africa is male dominated, especially those that connect to the issues of land and property. Decisions on land and property are mainly made by the male population and this explains the huge percentage discrepancy as far as the issue of

being a member of a CBI is involved. Job & Paesler (2013) further note that women are delineated to domestic roles that include, but not limited to raising children.

4.2.2 Age of the Respondents

In the study, respondents' age distribution was as presented in figure 4.2 below;

Figure 4.2: Respondents Age



Source: Survey Data (2015)

The analysis on age indicate that 7.6% of the respondents were of age 18-30years, 15.2% were aged between 31-40years; respondents aged between 41-50 years formed 33.3%; 31.8% fall between 51-60years; while 12.1% of the respondents were over 60years of age. This implies that majority of the respondents were above 40 years. Otto, et al. (2013) underscores the significance of a representative population in any study since these validates the study's outcomes. The discussion on the requirement for age and membership came up in the FGD where it emerged that membership was proposed based on age and that older people had more control of the decisions in the area. In fact, one of the participants explained, 'there is no way you can have any arrangement in this area without engaging the elders, they make decisions on almost all issues affecting the community '.

To the study, this composition was important because this group, not only did it have long experience with wildlife and conservation initiatives but also comprised largely of property and land owners therefore critical stakeholders for the success of wildlife conservation through CBIs.

4.2.3 Education of the Community Respondents

The respondent level of education was asked and the analysis was as presented in table 4.1below;

Table 4.1: Education Level of Respondents

Category	Frequency	Percent
None	16	24.2
Primary	21	31.8
Secondary	15	22.7
College	11	16.7
University	3	4.5
Total	**66**	**100.0**

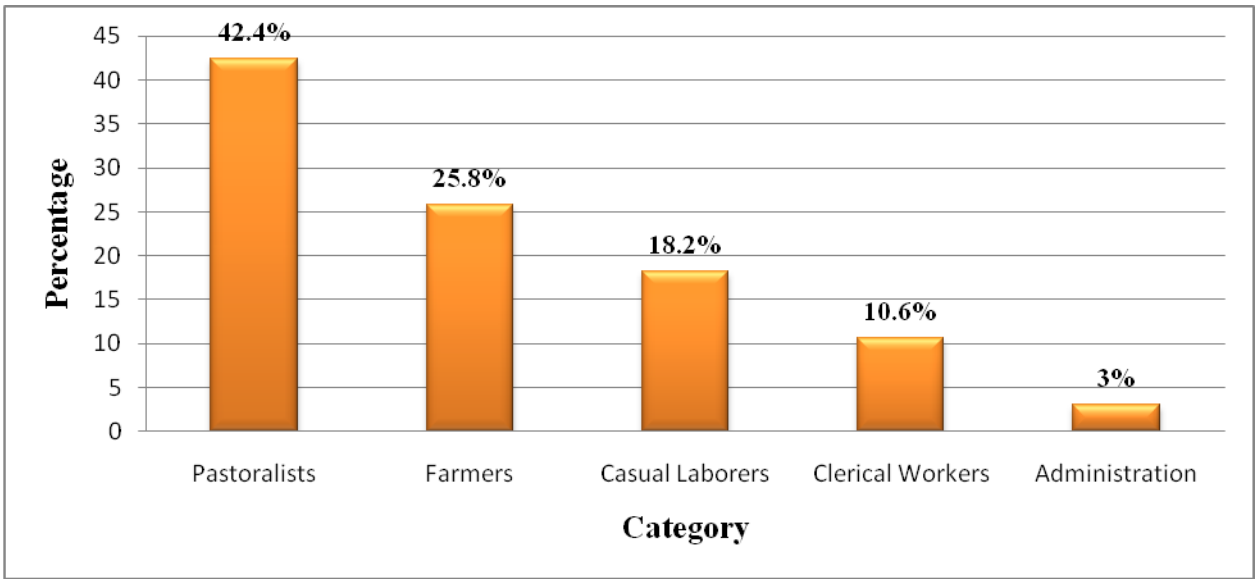
Source: Survey Data (2015)

The results indicate that a large proportion (31.8%) of the respondent had attained primary level of education followed closely by those who had no formal education at 24.2%. Based on the fact that pastoralism was still being practiced in the area, respondents reported that more often, to abandon school to attend to their animals. This had an implication in the study in that there was on one hand, a significant group of respondent with no education, but on the other, a large proportion had received formal education to a certain extent and understood the questions in the survey tool and also helped in interpreting to their colleagues who did not understand English and Kiswahili.

4.2.4 Respondents Economic Activity

Economic activities affected conservation efforts and CBI operation. A question seeking to know the economic activities of the respondents was asked and the analysis was presented in figure 4.4 below;

Figure 4.3 Respondents Economic Activities



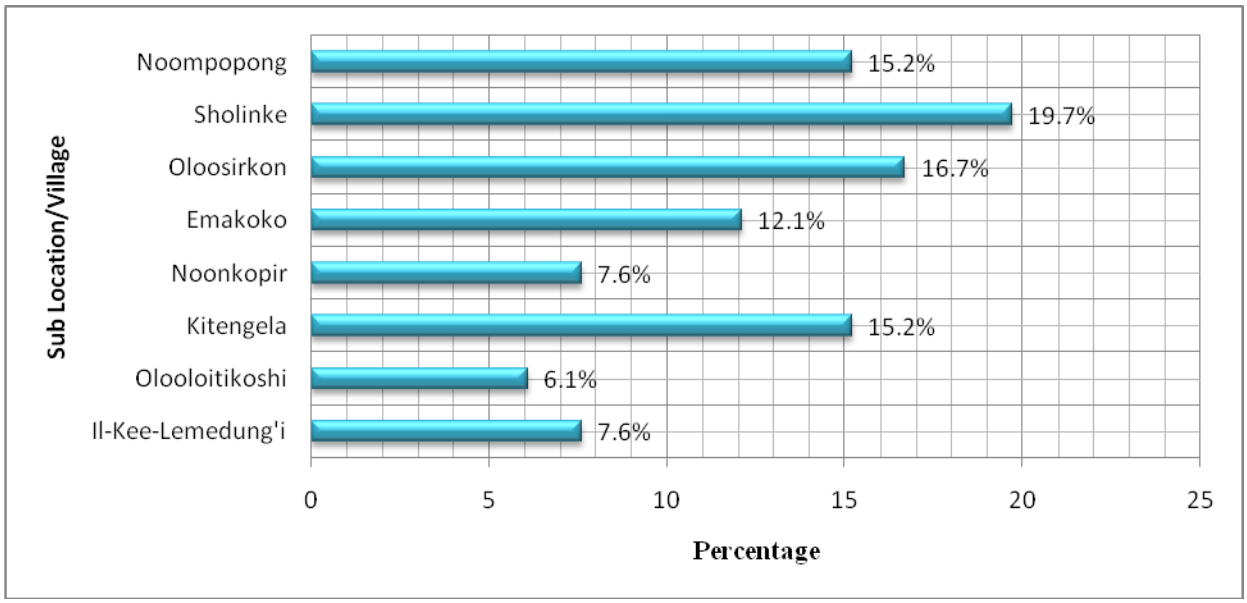
Source: Survey Data (2015)

The results show that majority (42.4%) of the respondents were pastoralists followed by farmers who comprised 25.8% of the total respondents. The rest were casual laborers, clerical work and administrators. Thus, majority of the respondents had, through their economic engagement, crucial information required regarding conservation and community involvement. As Mburu (2003) observed, the type of tenure and land use influence wildlife ecosystem and conservation efforts.

4.3 Distribution of CBI Membership

The respondents were asked the village/location they reside and the results were presented in figure 4.4 below:

Figure 4.4: Distribution of Respondents according to Villages



Source: Survey Data (2015)

The CBIs have memberships from 8 sub locations around the Nairobi National Park. From figure 4.2 the analysis show that Sholinke sub location had majority of the respondents, with 19.7% of the total respondents, followed by Oloosirkon (16.7%). The two locations had the highest membership owing to the fact that they are expansive and also relatively in much contact to the park. According to Matiko (2014), the criteria for enrolment of landowners in CBIs are pegged on land adjacent to the National park and willingness of land owners. However, the study got views from respondents spreads across all locations around the park.

4.3.1 Benefits of CBI to the Communities

The benefits of the CBIs to the community were numerous and in this study the respondents were asked to name all the benefits they enjoyed from their participation in the CBIs. They listed benefits that were categorized with multiple responses considering more than one benefit could be enjoyed. The results are presented in table 4.2 below;

Table 4.2: Community Benefits from CBI

		Responses		Percent of Cases
		Frequency	Percent	
Benefits [a]	Training, Education and Awareness	61	24.8%	92.4%
	Direct Payment in form of Rent for Land	60	24.4%	90.9%
	Compensation for Predated Livestock	55	22.4%	83.3%
	Honorary Warden ship	15	6.1%	22.7%
	CSR Activities/ Project's Funding	45	18.3%	68.2%
	Wildlife Use Right	10	4.1%	15.2%
Total		**246**	**100.0%**	**372.7%**

Source: Survey Data (2015) a. Dichotomy group tabulated at value 1.

The table presents frequency, percent and percent of cases. Being multiple responses, the responses per category were independent of each other and the participants could choose more than one category of benefits. The analysis presented the results of category against all the responses (in the percent column) and responses of category against total number of respondents (in the column 'percent of cases').

From table 4.2, the total responses were 246 responses from 66 respondents. The results indicates that training and education received majority response (24.8%) mentioned by 92.4% of the respondents. This was followed closely by direct payment in form of rent for land (24.4%) mentioned by 90.9% of the respondents and compensation for predated livestock (22.4%) mentioned by 83.3% of the total participants. The other benefits mentioned were participating in Corporate Social Responsibility (CSR) activities/ projects funded by KWS with 18.3% of the total responses; honorary warden ship 6.1% and wildlife use right 4.1% of the total responses. This implies that training, education and direct payment were the most common benefits enjoyed from participating in CBIs. The program design, according to NNP official who was a key informant in the study, put more emphasis on creating awareness and knowledge on importance.

Nelson (2012) notes that CBIs benefit the surrounding communities in various forms including, but not limited to education and training, funding of community projects such as water points as well as receive direct payment in form of rent and other payments.

Plate 4.1: Community members awaiting payment for the land lease

of wildlife conservation by the community around the park. This, he explained, 'saves the cost of financial settlements as community volunteered more based on their understanding of the worthiness of this course to conserve the park'. Additionally, the donors to the park mostly fund awareness programs thus more emphasis on it.

However, most of the programs such as land lease had a significant element of financial payment (Plate 4.1) although it emerged from the FGD discussions that the payments were not adequate and the community members have been pushing for increase in the amount. Elaborating this in the discussion, one participant who happened to be a pastoralist explained that, 'I have lost a lot of livestock to lions (…) the trend has been worsening, two weeks ago they attacked and the payments we get are not sufficient to cover for this loss, we are pushing for the park to change their compensation formulae and give adequate compensation'

4.4 Operational Effectiveness of CBIs

The respondents were asked to rate the extent to which the operation of CBIs was effective. In order to adequately cover operational effectiveness, the construct was broken down into 6 statements relating to running of CBIs. The statements were measured on a 5 point Likert scale where; 1=Very Small Extent; 2=Small Extent; 3=Moderate Extent; 4=Great Extent; 5=Very Large Extent. The reliability test was using Cronbach's alpha which yielded a value of 0.69, which is high implying a strong internal consistency among the 6 items. Table 4.3 presents the ratings of operational effectiveness of CBIs;

Table 4.3: Operation Efficiency of CBIs

	Very Small Extent n(%)	**Small Extent n(%)**	**Moderate Extent n(%)**	**Great Extent n(%)**	**Very Large Extent n(%)**
Community Members are Actively Involved In Wildlife Conservation Initiatives	6(8.5)	8(12.8)	18(27.7)	21(31.9)	13(19.1)
Community Members Have always been Cooperative in Park Conservation Efforts	4(6.4)	6(8.5)	11(17)	28(42.6)	17(25.5)
There has Been Effective Communication between NNP Management and Community Members	7(10.6)	6(8.5)	25(38.3)	20(29.8)	8(12.8)
There has been Clearly defined Conflict Resolution Mechanism between NNP Management and CBIs	0(0)	6(8.5)	14(21.3)	29(44.7)	17(25.5)
The Community Involved receives adequate cash benefits	1(2.1)	15(23.4)	27(40.4)	20(29.8)	3(4.3)
There has been Non-Financial benefits to the Community Involved in CBIs	4(6.4)	7(10.6)	13(19.1)	32(48.9)	10(14.9)

Source: Survey Data (2015)

From the results on the table, a large proportion of the respondents (31.9%) stated that community was actively involved to a large extent while 27.7% rated the active involvement of the community at moderate extent. This implies that in general over half of the respondents believed that the community was actively involved in the CBIs. As noted by Ogutu (2002) community involvement is an important incentive for ensuring that there is proper wildlife conservation. On cooperation of community members in the park conservation initiatives, 42.6% of the respondents stated that there was community cooperation to a large extent while, 25.5% of the respondents stated the community was cooperative to a very large extent.

The ratings of the communication effectiveness between park management and community indicated that large proportion (38.3%) stated the communication was moderately effective with 29.8% stating that the communication was effective to a large extent. Forty four point seven percent of the respondents indicated that there was, to a large extent, clearly defined conflict resolution mechanism while about one quarter (25.5%) said that the mechanism for conflict resolution existed to a very large extent.

According to the rating on financial and cash benefits to the community, a large proportion (40.4%) of the participants said that the community involved in the CBIs benefited from cash and financial benefits to a moderate extent, while 29.8% stated that they had cash and financial benefits to a large extent. Even though participants stated that they generally received financial benefits it was not adequate as one Warden engaged as key informant explained that, 'if more chances with monetary attachments were given to the community members then more involvement in the community based initiatives would be realized'. On the non-financial benefits, the results indicated that nearly half (48.9%) of the participants stated that there has been non-financial benefits to a large extent, while 19.1% said there were non-financial benefit to a moderate extent.

4.5 Effects of CBI on Conservation of Nairobi National Park

The study sought to establish the effects that CBIs have had on the conservation of Wildlife in Nairobi National Park. The construct was broken down into 4 statements relating to CBI and Conservation of wildlife. The statements were measured on a 5 point Likert scale where; 1=Very

Small Extent; 2=Small Extent; 3=Moderate Extent; 4=Great Extent; 5=Very Large Extent. The reliability test was done using Cronbach's alpha which yielded a value of 0.61, implying internal consistency was good among the 4 items. Table 4.4 presents the results;

4.6: Effects of CBIs on Conservation of Wildlife

Table 4.4 Effects of CBIs on Conservation of Wildlife

	Very Small Extent n(%)	Small Extent n(%)	Moderate Extent n(%)	Great Extent n(%)	Very Large Extent n(%)
Since the beginning of CBIs I have witnessed Increased Wildlife Numbers	24(36.2)	16 (23.4)	21(31.9)	4(6.4)	1(2.1)
Human-Wildlife Conflicts Have Reduced Since the Establishment of CBIs	0(0)	4(6.4)	24(36.2)	28(42.6)	14.9(10)
Since the beginning of CBIs Pollution Relating to Urban Development has Reduced	12(18.2)	27(40.4)	14(21.3)	7(10.6)	6(8.5)
CBIs have Contributed to Opening of Wildlife Routes	7(10.6)	10(14.9)	32(48.9)	17(25.5)	0(0)

Source: Survey Data (2015)

A large proportion (36.2%) of the respondents said that they have witnessed, to a small extent, an increase in wildlife numbers after the formation of CBIs while 31.9% stated that they have witnessed to a moderate extent, an increase in wildlife numbers since formation of CBIs (Table4.4). From the results, 42.6% of the respondents stated that human conflict had reduced, to a great extent since introduction of CBIs while 36.2% stated that it had reduced to a moderate extent. This implies that generally, the respondents have observed an increase in wildlife numbers as well as reduction in human wildlife conflicts. On this, one of the key informant explained, 'the arrangement we had under the CBIs was to access to water to the community as this was community center of conflict with wildlife (…) we left part of Mbagathi river open so

that the Maasais can have their cattle drink water in the river while we manage animal from the park'. Further, the park has drilled boreholes to further supplement water accessed from Mbagathi River and this has reduced water-based human-animal conflicts.

Hazzah, et al. (2014) notes that CBIs have helped minimized environmental pollution in areas where they have been effective. On the rating of reduction of pollution relating to urban development as a result of CBIs, a large proportion of the participants stated that the its had reduced to a small extent while 21.3% stating that it had reduced to a moderate extent. The results also indicated that nearly half (48.9%) of the respondents stated that the CBIs have contributed to opening of wildlife routes to a moderate extent while about one quarter (25.5%) indicated that CBIs have to a great extent contributed to opening of wildlife routes(Table 4.4). This shows that there has been improvement in the animal routes and as reported by one of the park official in the key informant interviews, there has been notable increase in wildlife catchment under the CBI arrangement on land and lease program currently funded by world bank/GEF.

4.7 Challenges facing the Running of CBIs in the Park

A question on challenges facing effective running of the CBI was asked and categorized under multiple responses which were analyzed and presented in table 4.5 below;

Table 4.5: Challenges in Running CBIs

		Responses		Percent of Cases
		Frequency	Percent	
Difficulties with CBIs[a]	Protocol and Information Sharing	28	8.3%	59.6%
	Lack of Standards in Engagement	20	6.0%	42.6%
	Political Interference	24	7.1%	51.1%
	Lack of Funds for CBI	39	11.6%	83.0%
	Meeting Community Expectation	42	12.5%	89.4%
	Sustainability of Initiatives	35	10.4%	74.5%
	Misunderstandings between NNP management and Community	37	11.0%	78.7%
	Limited control over CBIs	32	9.5%	68.1%
	Competing Land Uses	38	11.3%	80.9%
	Urbanization challenges	41	12.2%	87.2%
Total		336	100.0%	714.9%

Source: Survey Data (2015)

The table presents frequency, percent and percent of cases. Being multiple responses, the responses per category were independent of each other and the participants could choose more than one category of benefits. The analysis presented the results of category against all the responses (in the percent column) and responses of category against total number of respondents (in the column 'percent of cases').

Thus, the total responses were 336 from 66 respondents. The results indicate that meeting community expectation (12.5%), mentioned by 89.4% of the respondents; urbanization challenges (12.2%) mentioned by 87.2% of the participants and lack of funds for CBIs (11.6%) mentioned by 83% of the respondents were among the popular challenges. Indeed, in the FGD, it

emerged that even though there were compensation and other financial gains, they were not adequate. Additionally, one of the key informant explained that there has been challenges in raising enough funds to offer adequate compensation as some fund sources such as friends of Nairobi National park, wildlife trust and African Wildlife foundation had funding contracts ended. These results concur with King (2007) who established that economic expectations of conservancies are not met partly due to unrealistic expectation from the community. Other challenges include; competing land uses (11.3%); Misunderstandings between NNP management and community (11%); sustainability of initiatives (10.4%); limited control over CBIs (9.5%); protocol and information sharing (8.3%), political interference (7.1%) and lack of standards in engagement (6%). These management challenges are in line with a study by Jill (2008) who established that park management are marred with structural flaws that foster corruption thus ineffectiveness in the management of CBIs. Mahajan (2014) says that structural challenges are the primary challenge that limits the effective operationalization of CBIs. This has made it very difficult for CBIs established in Sub- Saharan Africa to achieve their desired goal of conserving wildlife around protected areas.

A follow up question was posed to the respondents on how to overcome these challenges in order to make CBIs more effective, the most suggested solutions were that; CBIs should have more benefits (17.5%), more capacity building to the community (26.7%), increase frequency of meetings and enhance communication channels (15%), increase funding for CBIs (14.6%) and more economic value to the community (12.9%).

Plate 4.2: Settlement and Road infrastructure right next to the park.

Source: Researcher, 2015

Plate 4.3: Wardens checking the posibilty of way within the park (field work)

Source: Researcher, 2015

4.8: Hypothesis Testing

The hypothesis formulated for this study sought to significantly test whether CBIs contribute to wildlife conservation.

H_0: Wildlife conservation is significantly independent of Community Based Initiatives

H_1: Wildlife conservation is significantly dependent on Community Based Initiatives

In order to test the hypothesis, a question relating to CBIs role on wildlife conservation was asked and tested using Chi-square. The results are as presented below;

Table 4.6: Chi Square test for independence between CBI and wildlife conservation

	More Wildlife (n)		Less Wildlife (n)	
	Observed	Expected	Observed	Expected
Before CBI	22	32.336	36	25.664
After CBI	41	30.664	14	24.336

Source: Survey Data (2015)

$$\chi^2 = \sum (O-E)^2 / E = \frac{(22-32.336)^2}{32.336} + \frac{(41-30.664)^2}{30.664} + \frac{(36-25.664)^2}{25.664} + \frac{(14-24.336)^2}{24.336}$$

$$= 15.341$$

Calculated $\chi^2 = 15.341$

Critical value; df =(c-1)*(r-1) = (2-1) (2-1) =1; sig level, 0.05, thus →0.004

The χ^2 test indicates that the calculated value (15.341)> critical value (0.004), therefore the null hypothesis was rejected and therefore indicating that community based Initiatives greatly contributes to wildlife conservation.

4.9 Summary of Data Analysis

The data analysis summary is as follows;

First, the analysis on the respondents' characteristics shows that CBIs had male dominance based on their role in the decision making within the community with majority being people above 40 years majority of which were pastoralists and farmers. The membership to CBI, based on the results was pegged on the size of location as well as the proximity to the park.

Secondly, large proportion of the participants stated that they had benefited more from Training, and awareness, direct Payment in form of Rent for Land and compensation for Predated Livestock. From the effectiveness of the CBI, the analysis shows that to a large extent, community members have always been cooperative in park conservation efforts; there has been clearly defined conflict resolution mechanism between NNP management and CBIs and there have been Non-Financial benefits to the community involved in CBIs. The most significant positive effect of CBIs, as per the analysis, is that human-wildlife conflicts have reduced to a large extent while pollution relating to urban development has only reduced to a small extent.

Lastly, the data analysis shows that, urbanization, meeting community expectation and lack of funds for CBIs are key challenges hindering the success of CBI in wildlife conservation. However, the chi square test shows that wildlife conservation is significantly dependent on CBI.

CHAPTER FIVE:SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the findings, draws conclusions and makes recommendations. The discussion is presented based on the study objectives. Afterwards, conclusions to the research questions are drawn in view of the discussions. Lastly, the chapter suggests recommendations and suggestions for further research.

5.2 Summary of the Findings

From the findings, the CBIs have memberships from 8 sub locations around the Nairobi National Park. Sholinke sub location had majority of the respondents, with 19.7% of the total respondents, followed by Oloosirkon (16.7%). The two locations had the highest membership owing to the fact that they are expansive and also relatively in much contact to the park. According to Matiko (2014), the criteria for enrolment of landowners in CBIs are pegged on land adjacent to the National park and willingness of land owners. 83.3% of the total respondents were male while 16.7% were female. The male bias in the study reflects their dominance in the membership of CBI since they are largely the decision makers on matters of property and land in the communities under study.

The results revealed that the respondents enjoyed several benefits participating in the CBIs where training, education and awareness (24.8%) and direct payment of rent for land (24.4%) were the most mentioned benefits. According to the rating on financial and cash benefits to the community, a large proportion (40.4%) of the participants said that the community involved in the CBIs benefited from cash and financial benefits to a moderate extent, while 29.8% stated that they had cash and financial benefits to a large extent. Even though participants stated that they generally received financial benefits it was not adequate. According to Dixon and Sherman (1990), the benefits of wildlife conservation must not only reflect gain to national planning, but also convince local people. Conservation benefits, both quantitative and qualitative, alongside enabling policy support are vital to effective conservation of wildlife (Murphree 1998).

In this study, effectiveness of CBIs operations was measured using statements measured on Likert scale. The results revealed that, a large proportion of the respondents (31.9%) stated that community was actively involved to a large extent while 27.7% rated the active involvement of the community at moderate extent. This implies that in general over half of the respondents believed that the community was actively involved in the CBIs. As noted by Ogutu (2002) community involvement is an important incentive for ensuring that there is proper wildlife conservation. On cooperation of community members in the parks' conservation initiatives, 42.6% of the respondents stated that there was community cooperation to a large extent while, 25.5% of the respondents stated the community was cooperative to a very large extent. The ratings of communication effectiveness between park management and community indicated that large proportion (38.9%) stated that communication was moderately effective with 29.8% stating that the communication was effective to a large extent. According to Hitchcook (1995), in order to achieve the effectiveness of any CBIs in wildlife management, they must deliver tangible, short term and long term benefits to the communities because they act as incentives for people to fully participate in the program.

CBIs were designed to conserve wildlife. From the analysis, majority of the respondents (36.3%) said CBIs have moderately led to increase in wildlife numbers while human wildlife conflicts (42.6%) have reduced to a great extent. On anthropogenic effects relating to pollution from urban development activities, majority (21.3%) stated that CBIs have led to reduced pollution to a small extent while they (CBIs) have contributed towards opening of wildlife routes to a moderate extent (48.9%). If the formula for running the CBI successfully link wildlife conservation to sustainable community development, then it will achieve its goal of conserving the wildlife (Murphree, 1993).

From the study, respondents in the park listed the challenges affecting the effective running of CBI. Majority, rating across various challenges, indicated that meeting community expectations (12.5%), urbanization challenges (12.2%) and lack of sufficient funds (11.6%) for CBIs were top on the list of challenges. Other challenges that came out from the study included; competing land uses for the community, management and community disagreements, sustainability of initiatives, limited control over CBIs and problems with protocol and information sharing.

From the chi square results, the null hypothesis was rejected and thus this study can conclude that there is a significant dependence of wildlife conservation and CBIs.

5.3 Conclusion

In conclusion, Nairobi National Park has over the last two decades accelerated its engagements with the community through formation of CBIs that respond to various issues concerning both the wildlife conservation and community development.

However, in the study, the community is still moderately content with the benefits they get from the park which still poses significant challenges such as effective cooperation with park management in wildlife conservation. The results also revealed that the conservation through community partnership is not realized comprehensively as there is moderate or below average arrangements to ensure sustainable development alongside effective wildlife conservation. Consequently, the effect of CBIs on the wildlife conservation is still marginal in some aspects such as a moderate reduction in wildlife human conflicts while anthropogenic effects such as urban pollution are not yet addressed significantly by the CBI approaches.

5.4 Recommendation

Based on the study results, this study makes the following recommendations;

5.4.1 Recommendation for Policy Makers

First, the success of CBIs approach to wildlife conservation should be built on the foundation where community realizes direct benefits from wildlife conservation such as engaging them in eco-tourism. Additionally, ways to increase the land lease fee should be considered alongside sufficient compensation to predated livestock. Secondly, emphasize increased awareness and education on the importance of wildlife conservation to the community and the country. This is important is shaping community's opinion with regard to wildlife conservation. More budgetary allocation should be dedicated to awareness beside infrastructural improvement within the community.

5.4.2 Recommendation for Further research

This study focused on the CBIs formation, functions and challenges facing their operations. However, the study left out areas that could be recommended for future studies and include;

First, studies should focus on carrying out the cost (both implicit and explicit) and benefit analysis of CBI to establish economically efficient point of CBIs compensations. Second, studies should expound the challenges identified in this research through interrogating the roles, relationship and marginal effects of these challenges in effective management of CBIs and wildlife conservation.

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APPENDIX I: LETTER OF INTRODUCTION AND CONSENT

Dear Respondent,

Re: Introduction

I am Rael Chepkorir, a Masters student at the University of Nairobi, Department of Geography and Environmental studies. I am doing fieldwork for my project that seeks to investigate the role of Community Based initiatives in Nairobi National Park. I would like to talk to you about Community Based Initiatives and wildlife conservation in the park, based on your knowledge and experience.

Your views and opinion in this interview will be treated confidentially and strictly used for the purposes of research work and no part of the report shall bear information that identifies you. Your contribution and cooperation will be highly appreciated.

Thanks in Advance

Yours Sincerely

Chepkorir Rael.

APPENDIX II: QUESTIONNAIRE

Part I: Demographic Data

1. **Please tell me your Name *(Optional)*:_____**

2. **Location_____**

3. **Sublocation_____**

4. **Gender:**

Male	1
Female	2

5. **Please tell me your age**

18-30years	1
30-40years	2
40-50years	3
50-60years	4
60 and above	5

6. **What is the highest level of education attained?**

None	1
Primary	2
Secondary	3
College	4
University	5
Other Specify……..	6

7. **Which job do you do? _____**

8. **Which CBI do you belong to?**

9. **When did you join the CBI?**

PART II: Community Based Initiative

10. **What are the Roles of your CBI?**

11. **What Conservation initiatives have your CBI carried out/participated in?**

12. **How does your CBI collaborate with KWS in the conservation of wildlife in Nairobi National Park? Tick where appropriate**

	Very Small Extent	**Small Extent**	**Moderate Extent**	**Great Extent**	**Very Large Extent**
Community Members are Actively Involved In Wildlife Conservation Initiatives					
Community Members Have always been Cooperative in Park Conservation Efforts					
There has Been Effective Communication between NNP Management and Community Members					
There has been Clearly defined Conflict Resolution Mechanism between NNP Management and CBIs					
The Community Involved receives adequate cash benefits					
There has been Non-Financial benefits to the Community Involved in CBIs					

Part III: Benefits

13. What benefits do you gain from the CBI partnering with management of wildlife in Nairobi National Park? Tick where appropriate.

Benefits	Training, Education and Awareness	
	Direct Payment in form of Rent for Land	
	Compensation for Predated Livestock	
	Honorary Warden ship	
	CSR Activities/ Project's Funding	
	Wildlife Use Right	

14. What are the challenges that you face while participating in the CBI?

		Tick
Difficulties with CBIs	Protocol and Information Sharing	
	Lack of Standards in Engagement	
	Political Interference	
	Lack of Funds for CBI	
	Meeting Community Expectation	
	Sustainability of Initiatives	
	Misunderstandings between NNP management and Community	
	Limited control over CBIs	
	Competing Land Uses	
	Urbanization challenges	

15. What are your views on the situation of wildlife numbers before and after the CBIs were formed? Tick where appropriate.

	Very Small Extent	**Small Extent**	**Moderate Extent**	**Great Extent**	**Very Large Extent**
Since the beginning of CBIs I have witnessed Increased Wildlife Numbers					
Human-Wildlife Conflicts Have Reduced Since the Establishment of CBIs					
Since the beginning of CBIs Pollution Relating to Urban Development has Reduced					
CBIs have Contributed to Opening of Wildlife Routes					

16. What would you suggest as the best way to solve these challenges to enhance wildlife conservation efforts in the park?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU

APPENDIX III: FOCUS GROUP DISCUSSION (THEMATIC QUESTIONS)
Time: 1hr

Focus GROUP AREAS-Northern region; Sholinke

-Southern region; Kitengela

Questions

A. Membership

a) How many members are there in the individual CBIs?
b) What is the criterion for membership?
c) Does the Park offer any job opportunities to the members of the CBIs?

B. Infrastructure development

a) Are there initiatives by the project to improve the local community?
b) How often does the park implement community such projects?
c) Which criterion is used to decide which projects to implement?

C. Community Participation in Decision making

a) What mode of communication does the park employ while engaging with the community?
b) How does the community access the project for any queries or any information?
c) What measures does the park employ to empower the community with regard to decision making? I.e. when the park wants to implement a community based initiatives?
d) Describe the structure of engaging the community in decision making processes with regard to anything that affects them

D. Women empowerment

a) Are there initiatives by the park to empower women in the local community?
b) What are these initiatives?
c) Have they succeeded?

E. Environmental impact of CBIs

a) Are the initiatives environmentally sustainable?

b) Does the park involve the local community in environmental management and improvement?

c) What is the mode of operation?

d) How does the park counter the negative environmental activities of its activities?

APPENDIX IV: INTERVIEW GUIDE FOR KEY INFORMANTS AND LEADERS

1. What is your role in general?
2. How are you connected to community – based initiatives?
3. What is your role in CBIs?
4. Which are some of the CBIs you are directly involved in?
5. How rewarding is your involvement in CBIs?
6. What is role of the community & NNP in management of the park?
7. What are some of the benefits that the park gets in conserving through CBIs?
8. What are some of the benefits that the community involved in CBIs gets?
9. What conservation and protection strategies are employed by the local people and how they relate to the wildlife Act?
10. What challenges are there for the traditional institutions toward management of NNP?
11. What are the coping mechanisms and the prospects of CBIs in wildlife conservation?
12. What is the role of education, gender and economic status as factors enabling the participation of communities in CBIs?
13. The wildlife population trend since the inception of CBIs.
14. In your opinion, is there a future for conservation through CBIs broadening?
15. What are some of the challenges faced in the implementation of CBIs?
16. What is the frequency of human- wildlife conflicts?
17. How do you respond to these conflicts?
18. In your opinion, do you find CBIs an effective way of conserving wildlife?
19. What would you suggest as the best way to address the challenges and enhance the effectiveness of CBIs in wildlife conservation?