

Socio-Economic Benefits Arising from the Kitengela Wildlife Conservation Lease Programme

**A Project Paper Submitted in Partial Fulfillment of the Award for the Masters
of Arts Degree in Development Studies**

**By
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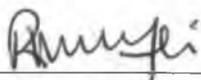
November 2008

Declaration

I, the undersigned, declare to the best of my knowledge that this is my original work and it has not been presented to any other institution for academic examination. Information from other sources have been acknowledged accordingly.

Mukiri Josey Njoki  28 | Nov | 2008
Signature Date

This project paper has been submitted for examination with our approval as the University supervisors

Dr. Rachel Musyoki  Dec. 10, 2008
Signature Date

Prof. Charles O. Okidi  19th December, 2008
Signature Date

Dedication

This piece of work is dedicated to my son **Mark**, my three sisters, **Betty**, **Muthoni** and **Njeri**, my two brothers **Gathu** and **Charlie**, my parents, **Samuel Gathu** and **Elizabeth Mukiri** and finally my nephew **Sam Mukiri**

I love you all in a very special way that I have written about in these pages.

Acknowledgements

I wish to acknowledge with thanks the help I received from many people who in diverse ways made it possible for me to write this paper. First and foremost, I would like to thank **Dr. Rachel Musyoki** and **Prof. C. O. Okidi** my supervisors, whose advice, comments, suggestions and encouragements made it possible for me to complete this work. The guidance, lively discussions, helpful suggestions and critical review of the manuscript made this work what it is. Thank you so much **Rachel** and **Prof.** and may God richly bless you, your families and professions.

Also deserving my warmest gratitude is **Ongeli Ole Makui**, **David Nkendiye** and **Jumaa Makopa** for their patience and assistance in providing me with useful contacts and helping me in steering my research on the right path. It is to the three that I owe for my field work. I am deeply indebted to their friends and relatives too in Kitengela who provided very confidential information without reassurance. Under the same breath, I want to thank **Nickson Parmisa** for the tiring walks, late working hours and the hard work of translation.

Special thanks to Dr. Philip Mureithi and Mr. Fondo of Africa Wildlife Foundation, Mrs. Elizabeth Lintoro of KWS, Ole Solonka of Friends of Nairobi National Park and Ben Becha of East Africa Wildlife Society, for accepting to provide information to me. Many thanks also to Olkajuado County Council for allowing me to peruse their vital documents and for information and assistance willingly given during my study. The groundwork in Kitengela is the result of dedication and times that the local community accorded me and I thank them all for that. I thank my colleagues in IDS for the lively discussions and jokes, for free consultations and encouragement that they accorded me. Lastly and most importantly, I owe it to God, thank you God in a special way.

Abstract

This study sought to assess the socio-economic benefits arising from the Kitengela Wildlife Conservation Lease (WCL) Programme in Kitengela location of Kajiado district in Kenya. The study also sought to assess the programme's sustainability and effectiveness in promoting community benefits from wildlife conservation. Kitengela is situated south of the Nairobi National Park (NNP) and embodies an important wildlife dispersal area for the Nairobi National Park. The Kitengela WCL Programme aims to protect and ensure sustainable management of this ecosystem by countering the accelerating trend of land conversion through a combination of interventions that have provided direct benefits to the local community inhabitants, who as owners of land, have increasingly made land use choices that have been negative for wildlife conservation.

In order to address the study topic, both probability and non-probability sampling techniques were used to select sixty participating landowners who were interviewed. The study relied on both primary and secondary data. Primary data was gathered through a questionnaire survey, using both closed and open ended questions, key informant interviews and focused group discussions. Participant observation was also used

The study findings indicate that programme is beneficial in promoting education, reducing reliance on livestock, increasing household revenue among other benefits. The study established most landowners used the money from the programme to take their children to school. The study also established that the programme has promoted wildlife conservation because the programme has discouraged land sub-division and conversion. However, the programme is strongly dependant on donor contribution for sustenance and its sustainability is vulnerable. The study also established that the programme is not financially sustainable and thus recommends better wildlife management mechanism with strong implications towards benefit to the communities

that co-exist with wildlife. This study concludes that future conservation initiatives should focus on multi-faceted approach with a people-centered and participatory approach, responsive to changing circumstances, and capable of working at multiple levels.

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LIST OF ABBREVIATIONS

ACC	Africa Conservation Centre
CAMPFIRE	Communal Areas Management Programme For Indeginous Resources
FoNNaP	Friends of Nairobi National Park
ILRI	International Livestock Research Institute
IIED	International Institute for Environmental and Development
KWS	Kenya Wildlife Service
NNP	Nairobi National Park
TWF	The Wildlife Foundation
WCL	Wildlife Conservation Lease
SASUSG	Southern Africa Sustainable Use Specialist Group

1.1 Background to the Study

This study, conducted in Kitengela location of Kajiado district in Kenya, assessed the socio-economic benefits arising from the Kitengela Wildlife Conservation Lease (WCL) Programme. The study also sought to assess the programme's sustainability in promoting community benefits from wildlife conservation. The Kitengela WCL programme is a scheme in which the local communities are remunerated for loss of access to their land for wildlife by the provision of an alternative source of income.

In many parts of the world, protected areas, which refers to areas designated for exclusive use of wildlife (Wildlife Conservation and Management Act, 1976) have proved to be too small to sustainably maintain long-term, viable wildlife populations and diversity (Newmark, 1994). Indeed, conservationists now recognize that the survival of the remaining wildlife resources depends upon the willingness and ability of people living near protected areas to support their presence outside the protected areas (Campbell, 2003; Gichohi, 1996; Child, 2004). As a result, globally there is a trend to move away from strict regulatory conservation to adopt approaches that recognize the importance of local people in the conservation areas of wildlife (Child, 2004). This has led to initiation of programmes and projects aimed at promoting both conservation and community benefits.

In Africa, community benefit from wildlife conservation has been realized through a range of consumptive and non-consumptive wildlife utilization programmes. Consumptive wildlife utilization programmes allow direct utilization of the wildlife resources e.g. hunting, while in non-consumptive utilization benefits are derived from in-direct use of the wildlife resources such

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as through tourism. In countries such as Malawi, Mozambique, Tanzania, Zambia, Botswana, South Africa and Namibia programmes aimed at promoting community benefits and livelihood as well as wildlife conservation are highly developed and legally provided for in the law. In Zimbabwe for instance, the communities' resource sharing is one of the principal means of alleviating poverty through sustainable utilization of wildlife resources. Community based natural resources management and wildlife based land reform policy are the key instruments used to promote better land management on land that is agriculturally marginalized and prone to desertification if exposed to conventional agricultural practices. Out of a total of 55 districts, 33 districts have been granted "appropriate authority status" in Zimbabwe with the aim of sustainably utilizing the wildlife resources in their area and generating revenue for communities living with the wildlife (Child, 2004).

There are no official statistics on the extent of community-wildlife conservation programmes in Kenya. However, according to a report by the KWS (2007) there are a total of 13 community-run wildlife conservation initiatives countrywide. Some of the programmes that have contributed to community benefit include Golini -Mwaluganje Community Game Sanctuary at the foot of Shimba Hills in Kwale District, Kimana Community Wildlife Sanctuary in Amboseli, Ilingwesi Tourist Bandas- a community project in Laikipia District and Lewa Wildlife Conservancy (LWC) among others. These programmes are aimed at promoting sustainable wildlife conservation outside protected areas for the benefit of the local people. They have linked community to revenue from wildlife and have encouraged wildlife conservation by communities living on land essential to wildlife.

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Gichohi, 1996, Mwangi, 1999). The land is privately owned in this dispersal area under Cap.300 of the Laws of Kenya. During the wet season, migratory wildlife move out of the park to the dispersal area in Kitengela and return to the park in the dry season (Gichohi, 1996). As a result, the area is dominated with both migratory and resident wildlife from the park. In fact, Gichohi (2000) argue that most of the wildlife population is found outside the protected area. The Maasai who are predominant in Kitengela have mainly been tolerant of, and shared these lands with wildlife. Their pastoral lifestyle coupled with communal land tenure and cultural values had for many years allowed wildlife to continue to thrive on these lands as it did not interfere with wildlife migration and dispersal patterns (Prins, 2000). However, rapidly increasing human population, changing land tenure and socio-economic lifestyles have contributed to unprecedented lose of rangelands in Kitengela. Today, the area is characterized by rapid subdivision that has led to economic diversification from pastoral livestock to crop agriculture, industrial, quarrying and permanent settlement (Gichohi, 2000; Kristjanson, 2002; Elliot et al. 1997). These factors have made pastoralism a less viable lifestyle and forced many Maasai to participate in other activities to earn a livelihood.

A study by Nkendienye (2004) and Mwangi and Warinda (1999) found that land leasing for wildlife conservation has become an important alternative source of income to the locals in Kitengela. According to Nkendienye (2004) many households have resorted to the leasing option because it provides a quick source of income. The landowners have for a long time experienced heavy losses incurred by wildlife mainly through livestock predation and stiff competition for water and forage (Bourn and Blench, 1999). Within the framework of current law, the government cannot compensate any damage on crops or livestock. (FoNNAP, 2002) observes that the Kitengela lease programme was initiated with the aim of promoting community benefits from co-existing with wildlife.

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The programme ideally, represents a “direct payment” approach to sustaining wildlife on private lands by protecting and ensuring sustainable management of this highly threatened yet nationally important conservation area (FoNNaP). The programme also aims to provide direct benefits to the local community, who as owners of land, have increasingly made land use choices that have had negative consequences for wildlife conservation (Gichohi, 2000). The programme began with 214 acres owned by two households, growing to 2,708 acres by January 2001 and to 84 households covering 7,000 acres by April 2002. Records in the month of September 2003 showed that 117 landowners were on the Lease programme with a total of 8,545 acres of land. Furthermore, more families are on the waiting list with a total of more than 14,000 acres of land. At the time of the study a plan was underway to increase the acreage under the Lease program to about 60,000 acres by January 2009.

1.2 Problem Statement

The Kitengela WCL programme provides a mechanism for local community to participate and derive income from wildlife conservation. Since the inception of the programme in April of 2000, the programme has taken active steps to address the plight of the Maasai families living in the Kitengela dispersal area by providing cash directly to those participating in the programme. Participants in the lease programme are required not to fence, quarry, cultivate or subdivide the designated area of land, and to actively manage their land for wildlife and sustainable livestock grazing. In return the Wildlife Foundation (TWF) pays a fee of Kenya shillings 300 per acre (approximately US\$ 4 per acre) per year directly to the landowner. This arrangement is formalized through a written contract between the individual landowner and the WCL. Currently the WCL pays US\$4 per acre per year, with a 5% base annual inflation factor built in (Appendix iv, Lease Contract). The average participating household earns US\$ 400-800 per year in three installments, timed to match with the period that school fees are due.

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Participation in the programme means allowing wildlife free access to the leased land.

The Kitengela WCL Programme is administered, with external support by a charity, Friends of Nairobi National Park (FoNNaP). The FoNNaP is a non-profit organization formed as a support group in August of 1995. FoNNaP's primary aim is to safeguard the future of Nairobi National Park against the backdrop of human-wildlife conflict within the Kitengela dispersal area.

Landowners in the Kitengela area have freehold titles to their land and are free to opt in or out of the WCL programme. These have implications on the sustainability of the programme.

1.2.1 Study Objective

The main objective of this study is to investigate the socio-economic benefits that have arisen from the Kitengela WCL programme. The study will also assess its effectiveness and sustainability as a mechanism that can promote benefit to local community from wildlife conservation. The specific objectives are as follows:

- To identify the socio-economic benefits of Wildlife Conservation Lease Programme to the Landowners.
- To evaluate the effectiveness of the lease programme as a mechanism of promoting community participation in wildlife conservation
- To examine the sustainability of the lease programme
- To recommend mechanisms for securing the Kitengela dispersal area

1.2.2 Research Questions

This study sought to answer one general and three specific questions. The general question was: what socio-economic benefits arise from the Kitengela WCL Programme to landowners? In order to address this question, the following specific questions were raised:

1. Is the Kitengela WCL Programme effective in promoting community benefit from wildlife conservation?
2. Is the lease programme sustainable?
3. What mechanism can be used to secure the Kitengela dispersal area for wildlife?

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1.3 Justification

This study is vital because firstly, it will contribute to the understanding of how local communities can participate in wildlife conservation. It will contribute to the academic knowledge in understanding community participation in wildlife management. Secondly, the study will assist in proposing mechanisms that can be used in securing wildlife corridors and dispersal areas. The study will contribute information that will be useful in policy formulation about community participation in wildlife conservation.

Thirdly, this study provides a useful precedent to give confidence for future implementation of community compensation initiative outside protected. It is hoped that the finding of this study will play a significant role through future replications elsewhere in the country where the local communities share their land with wildlife.

Lastly, no study had been done to systematically assess the socio-economic benefits have arisen from the lease programme to the local communities hence little relevant data have been produced to quantify the projects benefits to individuals or community.

1.4 Scope of the Study

This study limits itself to attendant socio-economic benefits accruing to local communities as a result of the lease programme either directly or indirectly. In regards to study area, the study was limited to the area under the lease programme, what is commonly referred to as the first triangle. At the time of the study, the programme was covering a total of 85 square kilometres and had a total of 140 participating families. The study sampled 60 families of the 140 households from the following sub-locations, Sholinke, Kitengela, Oloosirkon, Empakasi and Kisanju all within Kitengela Location.

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CHAPTER TWO: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Literature Review

The literature reviewed sought to provide a backdrop for assessing the socio-economic benefits arising from the Kitengela WCL programme, as well as in assessing whether the Kitengela WCL Programme is effective and sustainable in promoting community benefits from wildlife conservation. The process of reviewing literature also identifies the knowledge gaps that this research seeks to bridge. In Kenya, a considerable literature has been developed to underscore the importance of community wildlife conservation or what other studies have referred to as community participation in wildlife conservation. However, literature on socio-economic benefits arising from wildlife conservation initiatives in Kenya is scarce and difficult to come by. There are limited studies done in this area. As a result, there is little analytical literature specific to benefits arising from community wildlife conservation initiatives. It is within these limitations that literature for this study has been reviewed.

2.1.1 Wildlife Conservation and Community Benefits

The interactions of Maasai pastoralists and wildlife have been the object of study for quite some time now. The earlier studies have mainly been conservation-biased studies and have laid emphasis on protection of wildlife ignoring the local communities living adjacent to protected areas (Seno et al 2002; Barrow et al 2001; Norton-Griffiths, 1996; Bourne and Blenche, 1999). Recently, however, studies relevant for this study on how community can also benefit from wildlife conservation have been conducted in Maasailand. The works of Elliott et al (1997); Nkendienye, (2004), Gichohi, (2000); Campbell et al, (2000), for example, outline the way in which communities' lack of benefit from co-existing with wildlife has compromised community participation in wildlife conservation in

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Kenya and generally jeopardized the wildlife conservation outside protected areas. These works also highlight the complexity of rights to resources and points to a growing gap between the wildlife conservationist and the local communities and increasing human-wildlife conflicts.

In Africa and mainly in the southern countries studies have been conducted on community benefits from wildlife conservation. A comparative study conducted by TRAFFIC (Trade Records Analysis of Flora and Fauna in Commerce) found that the key to sustainable use of wildlife lies in promoting its comparative advantage over other types of land use (Barnett, 1997). The study established that wildlife conservation had a comparative advantage in Southern Africa countries, where wildlife utilization is allowed. This was linked to the direct benefits from wildlife utilization. Further the study linked direct economic benefits received by local communities to changing attitudes among the local people. However, Grootenhuis, (1995) has criticized the above arguments, stating that they fail to acknowledge the potential threats to long-term sustainability of benefits and maintaining management rights by the community. This information gap will be addressed in the current study by addressing sustainability of the benefits and the programme in general.

Another study by International Institute for Environment and Development (IIED, 1994), reports that wildlife management is likely to be sustainable ecologically, economically and socially only if wildlife conservation can be made sufficiently attractive to local people for them to adopt the practice as a long-term livelihood strategy. In the IIED, (1994) study, three broad principles are proposed to guide actions in achieving community- led initiatives. These include recognizing rights to ownership of wildlife resource, building on formal and informal structures that facilitate community participation in management and operations of effective mechanisms for the sharing of benefits of wildlife resource

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management with communities. This study is relevant to the current research in that it exhibits similar socio-economic implications of wildlife conservation to local communities. In addition the IIED study offers parallel management approaches for consideration in community wildlife conservation. Nevertheless it is very broad and lacks in specificity. The current study will aim to be specific in terms of the benefits that accrue to local communities.

Elliot, et al (1997) in their work on increasing landowner earnings from wildlife cropping found that wildlife conservation could provide a means of livelihood by providing monetary returns from wildlife cropping. Their study at the same time found that increased community benefit from wildlife led to change in attitude of those living with the wildlife. This study, Elliot, (1997) is important to this study since it presents some reasons behind community participation in wildlife conservation. The Elliot, et al study assessed benefits arising from consumptive (wildlife cropping) use of wildlife but there is need to assess benefits from non-consumptive utilization context as well. My study comes in to investigate benefits from conservation leasing which represents non-consumptive wildlife utilization.

Campbell et al (2003), in a study on the interaction between people and wildlife in South East Kajiado extensively explored the issue of community benefit from wildlife conservation. The study observed that direct and in-direct cost of living with Wildlife and communities' lack of benefits from wildlife has led the negative attitude towards wildlife. The study also added that the negative attitude has contributed to the declining rangeland connectivity and diminishing wildlife migratory corridors (Campbell, 2003). Campbell's research is valuable to my current study since it candidly explains factors that determine community's participation in wildlife initiatives even though it did not give the socio-economic implications of their participation.

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In another study by Mburu and Briner, (2003) investigating community participation in Kimana and Golini-Mwaluganje Community Wildlife Sanctuaries found that local community's participation had resulted in direct benefit from wildlife conservation. The local community derives cash and non-cash benefits from the presence of wildlife in their land, either through eco-tourism or conservation-based enterprises. The study also established that community accruing benefits promoted their conservation of wildlife as well. In both sanctuaries, participation is structured according to the three stages of the co-management process. The study concludes that the depletion of wildlife resources is due to management systems that have relied on the state to control access leading to unsustainable use especially outside protected area as it fails to create incentive for responsible use by those living with the wildlife. The study is important to the current study in understanding community benefits from wildlife conservation. However, the study has looked at benefits to the local community in general. There is need to go beyond community level by looking at benefits at household level. The current study will aim to fill this essential gap.

Another example of a successful wildlife conservation initiative is the Kasigau Bandas. The bandas are managed by a number of relatively small and isolated rural communities surrounding Mount Kasigau in the Tsavo District. With the assistance of The African Wildlife Foundation's Conservation Service Center programme, these communities have committed themselves to participating in a conservation programme that is aimed at not only securing a wildlife corridor between Tsavo East and Tsavo West but at its core is to generate a small but significant community income by means of revenue from visitor accommodation. Currently, community owned and operated accommodation is in use in the 5 villages surrounding the base of Mt. Kasigau - Rukanga, Jora, Bungule, Kiteghe and Makwasinyi. The programme has significantly benefited the 800 poor households living in these five villages. Not only are they receiving significant

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cash incomes, but also benefit from reduced livelihood vulnerability through diversification of income sources, employment opportunities and significant governance and empowerment. The programme also provides bursaries for enhancing education and training opportunities to otherwise marginalized people. In addition, business management and governance training provided to the shareholders is said to have changed perspectives and contributed to better management of the affairs at community level. The community members as a result of intensive training and catalytic exchange tours are demanding increased accountability. The programme is said to be financially and environmentally sustainable with a significant level of equitable distribution of benefits.

Another example is the Laikipia Wildlife Forum (LWF). The Forum aims to conserve wildlife ecosystems in Laikipia by managing its natural resources to improve the livelihood of its people by maintaining the ecosystem and processes. This has been achieved by developing community derived conservation projects and wildlife enterprises. LWF has acted as a catalyst for poverty alleviation through sustainable natural resource management. It has facilitated reforestation programmes, primary education, and security net work within the communities as well as marketing Laikipia as a new eco-tourism destination. The LWF has initiated development of more than a dozen of community initiated lodges and tourism facilities as well as private enterprises in Laikipia. The LWF emphasized better representation of community members in the management and the transparency that resulted led to the betterment of such enterprises. As a result the enterprises now contribute to 20% of the household incomes of members (see www.laikipiawildlife.com).

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2.1.2 Sustainability

Sustainability has a durability dimension. Prins (2000) observes that sustainability of community wildlife conservation is largely dependent on the magnitude of benefits derived by the people living with it. Gichohi (1996) in a review of Nairobi National Park and its dispersal area shows how the dispersal area is in danger of disappearing due to growing poverty, human population increase and due its nearness to the Nairobi City. Some of the options provided by the author include the need for compensation of landholders in Kitengela as an alternative to fencing which is a principle threat to wildlife migration. Important analogies will be drawn from this study. With the use of the WCL programme, this study will attempt to investigate further how socio-economic sustainability can promote wildlife conservation.

Szapary (2000) using Lewa wildlife conservancy in Laikipia District carried out an analysis of the financial viability of wildlife conservation through conservancy. The case study demonstrates that financial independence is difficult to achieve where an initiative is strongly dependent on donor contributions. The Author contends that increasing self-sustainability in community wildlife conservation is paramount in wildlife conservation. The Szapary study will be invaluable in analyzing the financial sustainability of the Kitengela Wildlife Conservation Lease Programme since it also is dependant on donor support. Important analogies will therefore be derived. The Szapary study however does not show whether there are any strategies that can be adopted to make the programmes sustainable. It is intended that the current study will recommend mechanisms that can promote sustainability of community conservation initiatives.

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In a study conducted on livelihood choices and returns among agro-pastoralists in Kitengela by Kristjanson et al (2002), contend that economic options and the

returns available to pastoralists in Kitengela are relatively few leading to community willingness to participate in wildlife conservation as an economic option. The amount paid in the Kitengela WCL programme was determined based on the findings of this study. A significant finding in this study was that if people benefited from wildlife, they would in turn strive to keep corridors open and dispersal areas free of many other land-uses. Thus, it is most likely that people's commitment towards conservation will grow as their dependency increases on the revenue generated from wildlife conservation. The study also recommended that the lease payments in the future may need to be adjusted to account for the varying value of land assets across the Kitengela landscape in order to be sustainable (Mwangi et al, 1999). The findings of this study are pertinent to the current study as they provide the baseline socio-economic issues to be considered. The findings of the current study will aim to compliment the findings of the above study.

Another study by Okello (2004) in the same Kitengela area illustrated that support for wildlife conservation is dependent on benefits received. Though a majority of the Maasais in his area of study still favoured wildlife conservation they were opposed to free wildlife use of their land. The study identified losses from problem animals, lack of compensation for these losses, and lack of community involvement in wildlife conservation as the major sources of local resentment. The study concluded that without an urgent redress, wildlife may be excluded from Maasai lands either by direct persecution or incompatible land use changes but it may continue to co-exist if benefits were enhanced.

2.1.3 Wildlife Conservation as a Livelihood Strategy

As already pointed out in chapter one, the local communities who live close to wildlife parks in mainly Arid and Semi-Arid (ASAL) have long shared their land with the wildlife due to their pastoral lifestyles. According to Galaty, 1994;

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Kristjansen et al, (2002); Nkendিয়ে, (2004), in the past decades, pastoralists have experienced constant pressure to alter their land use pattern as a consequence of multiple forces including government policies, land tenure changes, in-migration and population growth and encroachment of crop agriculture. For instance, governmental cultural bias against herders who were viewed as resistant to economic development; and extreme environmental circumstances, particularly droughts have been identified as major causes of land-use changes in Kitengela. These changes have disrupted livelihoods, altered access to land, and dislocated marketing systems of livestock leading to fluctuation in pastoral livelihood systems. A study by UNEP (2006) for example, established that pastoralism today is in deep crisis. The causes for the crisis are several but those related to loss of grazing lands and drought are most significant leading to fluctuation in the livestock populations over the years. For instance the impact of the 2005/06 drought experienced in Kajiado District devastated the district, causing majority of the pastoralists to seek other sources of livelihoods.

A study by Ntiati, (2002) observes that the viability of pastoralism is highly threatened. Traditionally, the Maasai practiced communal natural resource utilization and maintained sections of unique geographic territories either through marital arrangements or verbal agreements. These territories were open and could be used by any of the pastoralists and were composed of dry and wet season grazing areas, allowing each section to be independent of the other. During times of drought resources were shared among different sections, under the idea of reciprocity between the people. This provided livelihood security for the nomadic pastoralists during times of natural resource scarcity and also allowed wildlife to thrive in this area (Ntianti, 2002). In response to the changing face of pastoralism, the Maasai have been forced to take up several adaptive strategies that reduce risk associated with pastoralism. (Gichohi, 2000) argues

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that wildlife conservation, as a livelihood strategy is more reliable since its income is constant and environmental risks do not pose a threat. Furthermore, Homewood and Rodgers (1991) noted that the Maasai communities are taking up wildlife conservation as alternative ways of earning their livelihoods with the aim of both increasing their income base and spreading risks associated with pastoralism. Meanwhile, Murphee (2002) showed that there are genuine socio-economic developments, taking place among Maasai due to embracing wildlife conservation as an economic activity.

Galaty (1989) illustrates that diversification to wildlife conservation has resulted in better co-existence between the local communities and wildlife. The study attributes the co-existence to direct benefits to their livelihoods. Newmark (1994) provide a good example of this for the Maasai pastoralists of the Usangu Plains in Tanzania where pastoralists are abandoning pastoralism to participate in wildlife conservation programmes. Mung'ong'o et al (2003) in a study aimed at assessing poverty and changing livelihoods of Maasai Pastoralists in Morogoro and Kilosa Districts in Tanzania reveals that diversification into wildlife conservation has managed to buffer shocks and spread investments across a wider portfolio to maximize earnings potential.

2.1.4 Wildlife Conservation Leasing

Literature on conservation leasing is almost non-existent in Kenya despite the fact that the practice is becoming popular by the day, Barrow, (1996) describes conservation lease as the granting of interest on land by a proprietor to another for the protection and utilization of biodiversity in a sustainable way for a fixed period. Conditions could be attached to the rights and obligations of each park within the prescribed period. In simple terms, it is tantamount to a "Gentleman's Agreement" though it could be signed, sealed and delivered. Conservation leases are away of buying time, to limit sub-divisions and subsequent sale of crucial

pieces of land which are critical to biodiversity conservation. Barrow, (1996) enlightens that Conservation lease is usually provided in the form of cash payments in exchange for agreements by local communities to relinquish their rights of access to land set aside for a protected area and/or to cooperate with the objectives of a wildlife conservation initiative. According to Nkendenye, (2004) Conservation lease is based on the principle that people will protect wildlife because they are paid to do so.

Environmental Management and Co-ordination Act (EMCA, 1999) of Kenya provides for environmental easements to facilitate the conservation and enhancement of the environment (Gitahi, 2007). This is to be done through a court order on application by a person or group of persons who wish to hold an environmental easement over land. According to Gitahi, (2007) the court has discretion to impose conditions in the grant of an environmental easement. Such conditions would be aimed at advancing the object of an environmental easement. A person or persons whose land is burdened by environmental easement is entitled to compensation through an application to the court that granted the easement. In order to be able to effect the smooth application of the conservation easements, Gitahi (2007) emphasized that there is need for the creation of a financial base that would sustain the compensation scheme and the need to create guidelines for use in the application of easements.

A study on land leasing and wildlife conservation in the Maasai Mara by ILRI (2005) observe that before commencement of a compensation scheme or programme, key questions to be asked include whether or not the scheme will address wildlife conflict with humans, whether it is based on concrete information from the local communities, whether, the amount paid is the appropriate amount of compensation and if the payments are fair, timely, transparent and sustainable, and finally whether the target is right. The study

further illustrates that a programme aimed at compensating communities should incorporate groups or individuals with different socio-economic status. This heterogeneity calls for broad-based participation so that every group's interests are accommodated and not marginalized, especially when it comes to revenue sharing. This was earlier mentioned in Gichohi (2000) where it is argued that if a wildlife management programme is to be effective in the long term, it must be based on the broad socio-economic characteristics of those to be affected.

2.1.5 Community Wildlife Conservation and the Existing Legislation and Policy Framework

The *Wildlife Management and Conservation Act* (Cap.376) mandates the Kenya Wildlife Service (KWS) to manage and conserve Kenya's wildlife. KWS has the sole jurisdiction of national parks and assists local authorities in managing game reserves, and plays a regulatory role in the management of private wildlife sanctuaries. However, the Act is silent on wildlife management outside protected area and makes no reference to local communities who share their lands with wildlife. (Katampoi et al., 1990; Ogle, & Munyuki, 1994) have argued that the failure of the wildlife policy and legislation to consider community needs and benefit from co-existence with wildlife has largely contributed to the human-wildlife conflict experienced in many parts of Kenya. Even as the wildlife management policies advocate for the use of wildlife resources sustainably for national economic development and for the benefit of local communities living in wildlife dispersal areas these communities are not deriving sufficient benefits from these resources (Adams, and Thomas Mc Shane, 1992). A study by Barrow, et al (2001) aimed to understand the opinions of Maasai residents regarding wildlife resources, conservation processes, land use changes, and benefits from wildlife and associated tourism industries established that if communities were to tolerate and co-exist with wildlife the existing legal and policy framework

would need to explicitly provide for benefit-sharing mechanisms and co-management of the wildlife with local communities.

The Kenya Wildlife Service has a programme of sharing revenue generated from national parks with neighbouring communities. The funds provided are directed at community level, such as provision of social amenities such as classrooms for schools and cattle dips. Nkandienye (2004) argues that although the communities concerned appreciate such amenities, community level benefits do not compensate for individual losses, such as predation of livestock or destruction of crops. Barrow et al (1996) observes that it is open to question whether such revenue sharing programmes affect attitudes of affected communities to co-exist with wildlife.

2.2 Conceptual Framework

This study adopts sustainable livelihoods and conservation through sustainable use as its conceptual framework. From reviewed literature, there is a strong indication that pastoralism which has been the major source of livelihood for majority of the Maasai is in jeopardy due to social, economic, ecological and political issues. Secondly, it is also evident that wildlife conservation can directly contribute to livelihoods of the local communities. In fact, various studies argue that the main determinant of people's attitude towards wildlife is the kind of benefit they derive from the resource (Okello et al, 2004, Campbell, 2003; Nkandienye 2004). It is also evident from literature that the land-use options for the Maasai whose land is mainly Arid and Semi-Arid lands (ASAL) are relatively few. In trying to address these issues, based on reviewed literature, two approaches were chosen to inform the study. These are: sustainable livelihoods and conservation through sustainable use. These approaches were selected on the basis of their applicability to the research problem.

2.2.1 Sustainable Livelihoods

The Brundtland Commission in 1987 introduced Sustainable Livelihood (SL) in terms of resource access and ownership to basic needs and livelihood security, especially in rural areas. The International Institute for Sustainable Development (IISD) defines sustainable livelihoods as being “concerned with people's capacities to generate and maintain their means of living, enhance their well-being, and that of future generations.” The term ‘livelihood’ according to Chambers (1992) connotes activities, capabilities, and assets required for means of living. This entails social and human developments, which are essential for a household or community's existence. It extends to the rights and claims to natural resources that people make use of in securing those livelihoods (IISD, 2003).

According to IISD (2003) a livelihood becomes sustainable when a household or a community has the capability to withstand a trend that threatens its livelihood. As already pointed out, a majority of the Maasai depend on pastoralism to sustain their livelihoods. However, in recent decades pastoralism has been in deep crisis. The causes for the crisis are several but those related to loss of grazing lands and droughts leading to fluctuation in the livestock populations over the years are most significant. UNEP (2006) reports that the impact of the 2005/06 drought experienced in Kajiado district, for instance, devastated the district causing majority of the pastoralist to seek other sources of livelihoods. In addition, in the past 100 years, pastoralists have experienced constant pressure to alter their land use pattern as a consequence of multiple forces including government policy towards land tenure changes, in-migration, population growth, and encroachment of crop agriculture among other factors. These changes have disrupted livelihoods, altered access to land, and dislocated marketing systems of livestock leading to fluctuations in pastoral livelihood systems (Kristjanson, et al 2002). These factors have placed a considerable

constraint on the capacity of the Kitengela rangelands to support pastoralism as a viable livelihood option for the majority of households in the area. It is possible then that the pastoral households in this study have considered wildlife conservation an alternative source of livelihood.

As a natural response to the decreasing returns of pastoral production in the area, the local communities in Kitengela are beginning to diversify their income source strategies in an attempt to avoid or alleviate poverty as well as to spread the risks associated with the increasingly vulnerable pastoral livelihood by participating in the lease programme. This approach is therefore crucial in explaining how benefits of the lease programme have impacted on the livelihoods of participating and to some extent non-participating households.

The SL approach builds on the assumption that people require a range of assets to achieve sustainable livelihood outcomes and that no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. These assets include: human capital, physical capital, social capital and financial capital. The framework identifies human capital as representing the skills and knowledge that enable people to pursue different livelihood strategies and achieve their livelihood objectives. The other asset is social capital and in the sustainable livelihood framework it is taken to mean the social resources upon which people draw in pursuit of their livelihood objectives. These are developed through networks and connectedness, membership of groups; rules, norms and sanctions; and relationships of trust, reciprocity and exchanges (IISD, 2003).

The physical capital is another form of asset and it comprises the basic infrastructure and goods needed to support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive. Lastly, financial capital denotes the financial

resources that people use to achieve their livelihood objectives. It includes flows as well as stocks that contribute to consumption as well as production. It also includes the availability of cash or equivalent, which enables people to adopt different livelihood strategies (Chambers, 1992).

In this study, the assessment of socio-economic benefits will consist of a comprehensive characterization of the benefits accruing to local communities as a result of the lease programme on the four categories of capitals either directly or indirectly. This basically will aid in answering the research question 'what are the socio-economic benefits that have arisen from the Kitengela Wildlife conservation lease programme? The scope of the analysis will be the direct and in-direct benefits accruing to participating and non-participating communities' members and how this has impacted on their livelihoods. Although social benefits are inherently non-quantifiable, Ellis (1999) argues that they are indeed a capital element of the sustainable livelihood approach. Thus social benefits will be assessed from the benefits that arise from changes in social and natural capital in Kitengela as a result of the lease conservation programme, while economic benefits will be assessed from benefits as a result of changes in incomes and consumption. The approach will assist in assessing the ability of the lease programme to improve living standards as well as livelihood security. The expectation is that through the lease programme people increase their net income and improves their livelihood thus increasing popular interest in wildlife conservation, particularly in high wildlife potential areas, and in areas with few alternative livelihood options.

It is possible that the Wildlife Conservation Lease Programme will enable the local communities to improve their living standards as well as increase livelihood security through wildlife conservation. This implies that people will be able to meet an increasing portion of their basic needs and thereby reduce

fluctuations in living standards making the local people less vulnerable as their security is increased. This means therefore that, the livelihood security can be improved by engaging in the lease programme because of its contribution towards livelihoods as the income derived from the programme can be used in building up assets that strengthen and sustain livelihoods. For example Kitengela area is prone to droughts, if the rains do not come pastoralism becomes disrupted. The family or community that has an alternative method of getting income for instance lease programme participating households, can be said to have attained a degree of sustainability in its livelihood. This approach is therefore crucial in explaining socio-economic benefits of the lease programme.

It has to be noted however, that the Sustainable Livelihood framework has some shortfalls. For example, while there is agreement over the classification of assets (financial, physical, social and human) it is difficult to compare and measure social assets (Fox, 1997). For this reason, this study will use a combination of approaches. The strengths of the approach are that it aims to reflect the complex range of assets and activities on which people depend for their livelihoods, and recognizes the importance to people of assets, which they do not own. It provides a framework for addressing the whole range of assets relevant to the rural people. It emphasizes sustainability, with a people centered and participatory approach, responsive to changing circumstances, and capable of working at multiple levels.

2.2.2 Sustainable Use as a Conservation Approach

Southern Africa Sustainable Use Specialist Group (SASUSG) has extensively developed this approach. Though initially meant to explain conservation of natural resources in general, the approach is increasingly being used to analyze and describe wildlife utilization. SASUSG, (1996) defines sustainable use as the use of resources that allows the continued derivation of benefits, tangible and

intangible (Child, 2004). Central to sustainable use approach is that the prime beneficiaries of resource use should be the people living with the resource because this people have a vested interest in ensuring that they can continue to derive benefit from the resource SASUSG (1996).

Sustainable use approach holds that conservation can be achieved by providing the right incentives and benefits for landowners to adopt land uses that do not threaten the wildlife habitation (Child, 2004). In this context, conservation becomes a social and economic issue and with appropriate economic and institutional framework landowners can benefit and at the same time achieve resource conservation (Murphree, 2001). Central to sustainable use approach is the concept of participation of local communities.

2.2.3 The Concept of Participation

Participation in conservation by local communities is considered as an ambiguous concept since it has diverse definitions and interpretations. In conservation, it is important to differentiate participation as a means to facilitate and improve delivery systems of initiatives from participation as an end in itself (Oakley 1991). The latter is viewed essentially as a process which unfolds over time and whose purpose is to develop and strengthen the capabilities of local communities in their direct intervention in a conservation initiative. In wildlife conservation, participation can either be active or passive participation. Active participation is where local communities have extensive input into decision-making and control of a conservation initiative (IIED, 1994; Barrow and Murphree, 2001). While passive participation is where local communities are informed what is going to happen or already happened. Passive Participation has been seen as a means to a more efficient realization of conservation initiative. It is characterized by educating people to facilitate externally formulated plans and achieve objective (IIED, 1994). Such approaches have been described as

having a beneficiary orientation as they have been dominated by the provision of tangible economic benefits (Barrow and Murphree, 2001). Based on the above, Community participation can therefore be defined as a partnership by which various stakeholders agree on sharing among themselves the management functions, rights and responsibilities for a given territory, area, or set of natural resources which may or may not have protected area status (Berger, 1993).

Some key principles for community participation in wildlife management have been identified by Murphee's (2001) work on the communal Areas Management Programme for Indigenous Resources (CAMPFIRE). The principles for successful community participation in the management of wildlife include focused recognition for those who live with wildlife, differential benefits, a positive correlation between the quality of management and the magnitude of benefit and the unit of proprietorship should be as small as practicable within ecological and socio-political constraints (Murphee, 2001). The Kitengela Wildlife Conservation lease is characterized by passive community participation in wildlife management. The programme has promoted community participation because the local communities are compensated for loss of access to their land for money.

2.2.4 Conclusion

The Kitengela Wildlife Conservation Lease programme is focused on meeting a twin goal of wildlife conservation and improving livelihoods by providing alternative livelihoods by among other things reducing dependence on pastoralism. The adoption of these two approaches in this study will enhance the understanding of the interconnectedness between wildlife conservation and community benefit from conservation. The two approaches as well incorporate the issue of sustainability, which will help in understanding potential of wildlife conservation initiatives. This is helpful because instead of focusing only on wildlife conservation, the community aspect will also be analyzed. It will also

contribute to the body of knowledge in wildlife conservation by looking at the degree at which each of the elements contribute or hinder the effective implementation of wildlife conservation programmes.

CHAPTER THREE: METHODOLOGY

3.1 Site Description and Selection

The study site is Kitengela location in Kajiado District. Kajiado District, which covers 21, 105 km², is located in the southwestern part of the Rift Valley Province, and is one of seventeen districts within the larger province. The district is divided into six divisions: Central, Loitokitok, Magadi, Mashuru, Namanga, and Ngong, in which a census conducted in 1999 revealed a total district population of approximately 406,054, double what it was twenty years earlier (GOK 2003). This is due to an increased growth rate and in-migration to the district. Kitengela location is within Central division and it borders Machakos District to the southeast, Ngong to the west and Nairobi to the east. Maasai comprise the major ethnic group in the district; however representation of Kikuyu, Kamba, Luo, and other tribes have increased with recent years.

The majority (92%) of Kitengela and Kajiado District at large is composed of rangelands which support all locally found wildlife, 95% of livestock, and 81% of the human population of the region (Awere-Gyekye 1996). Kajiado District is characterized by a bimodal pattern of rainfall with two distinct dry and rainy seasons. The short rains occur between October and December and the long rains between March and May, with rainfall usually ranges from 300-500mm per year (Touber 1983). Generally, the area is characterized by scanty and unreliable rainfall (Prins, 2000). Nonetheless, the district is endowed with permanent water sources including Swamps and the Rivers (Berger 1993).

The predominant topography of the district is plains with vegetation relatively homogenous. Natural grasslands, scrublands, *Acacia* bushland, savannas and open thickets comprise majority of the Kajiado district and Kitengela in

particular. The riverine forest in the area is dominated by fever trees. It is climatically favoured for wildlife due to the rainfall patterns coupled with the grazing patterns which creates vegetation types and productivity and quality differentials that drive the wildlife migrations (Gichohi, 2000) but due to increasing human settlements rangelands has been notably reduced.

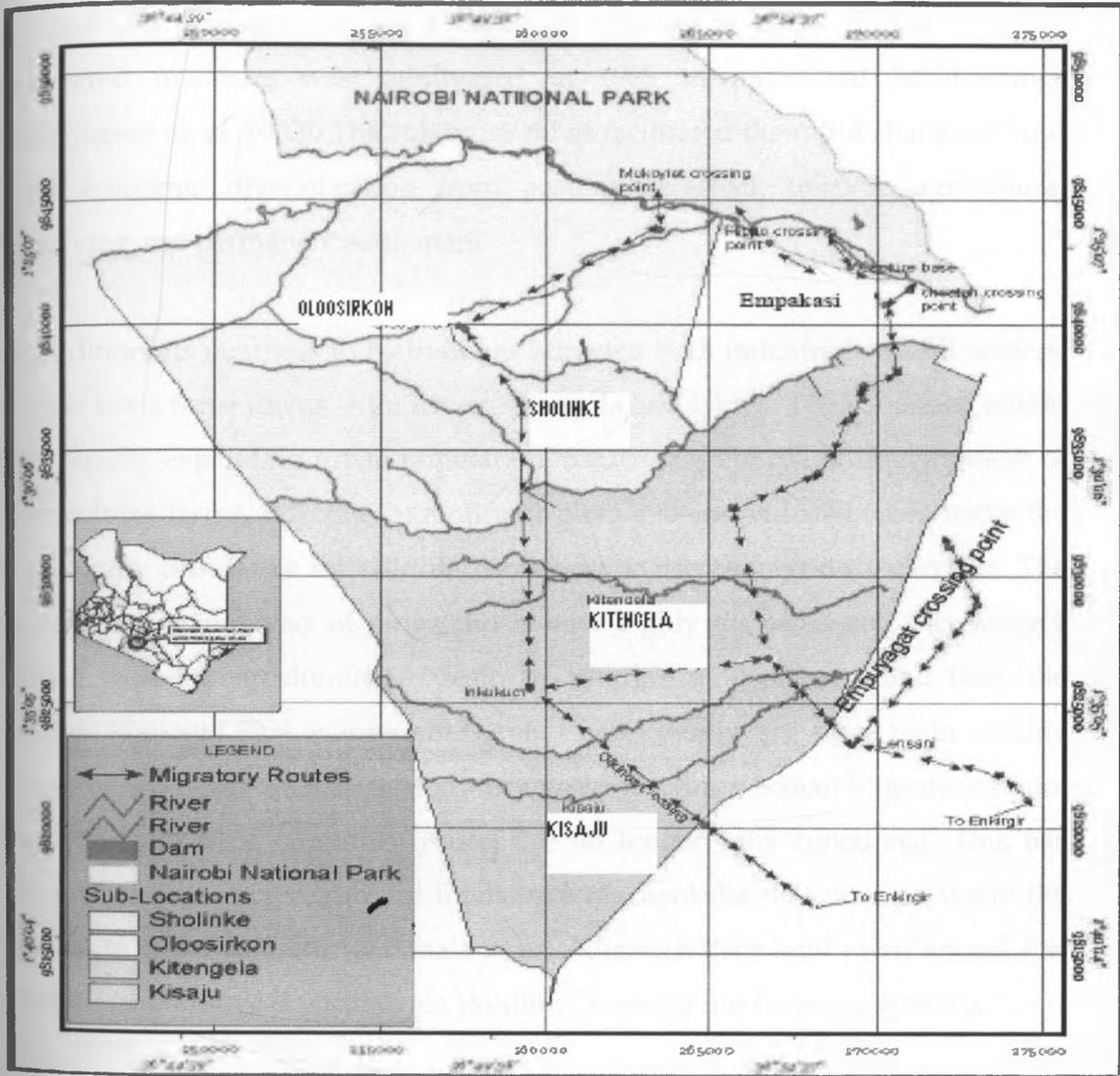
In the Kajiado District there are three major land tenure systems: trust land, group ranches, and privately owned land. Land tenure includes the rules governing access to land resources and the manner of their current use, which affect not only the welfare needs of present and future generations but also the ecological status of the natural systems of which land is part (Campbell 2003). The three land tenure regimes of the Kajiado District influence the predominant land uses: extensive pastoralism, crop cultivation, and wildlife conservation. The chief economic activity in local group ranches is beef cattle, sheep, and goats (GOK 1997). In privately owned lands primarily in Kitengela, small scale farming along with some pastoralism is the main economic activities. Lastly, the Nairobi National Park, which extends to Kitengela, is found in the trust lands of Kajiado District, (GOK 1997). Subdivision is becoming a pressing demand in a number of the group ranches and privately owned land, where it is estimated that 10% of individual ranches have already been sold to individuals (Gichohi, 2000).

3.1.1 Kitengela and the Wildlife Conservation Lease Programme

Kitengela is situated to the south of the Nairobi National Park (NNP). Livestock and large numbers of wild herbivores dominate the area with wildebeest and zebra constituting over half the total wildlife population. Other wildlife species in the area include the Coke's hartebeest, Grant's gazelle, Thomson's gazelle, impala, eland and giraffe. Rhino and buffalo occasionally wonder from the park

into the Kitengela. Predators such as lions, cheetahs, leopards and hyenas and a high diversity of birdlife are also present.

Figure 3.1: Study Area



Source: KWS

In Kitengela, land was held communal till the mid-sixties when privatization began. The change in land policy from communal to group ranches was seen as a compromise between the government's preference for individual tenure and the

production requirements of the semi-arid zones. These two forms of tenure which provided for large land holdings allowed for the great mobility needed by wildlife and livestock in the East African savannas as well as their coexistence. However, the system failed to operate as expected and the Maasai owners began to push for sub-division. As a result the Kitengela group ranch with 214 registered members was subdivided in 1988 to individual landholdings (Kristjanson et. al. 2002). The subdivision has facilitated the rapid change in land with economic diversification from pastoral livestock to crop agriculture, quarrying and permanent settlement.

In addition, its nearness to Nairobi has attracted both industrialists and settlers. It now hosts three towns, Athi River, Kitengela and Isinya. The combined effects of a rapidly expanding urban population, construction of roads, development of horticulture farms, quarries, agricultural plots and individual homes make the area totally unsuitable for wildlife habitation or use as migratory corridor. The initially expansive tract of rangeland is now highly dissected and increasingly dotted with human dominated features. Wildlife movement to and from the Nairobi National Park is interfered with. Consequently, the three main wildlife migratory routes (Athi Kapiti Migratory Route Corridor; Sosian Migratory Route and Maasai Lodge migratory route) are no longer fully functional. This has necessitated the intervention of innovative mechanisms that now persuade the settlers to allow migratory animals to pass through their land at an annual fee, thus the initiation of the Kitengela Wildlife Conservation Lease programme.

The lease programme aims to provide a financial incentive to encourage the landowners to the south of the park to continue allowing wildlife-unrestricted access to their land. Prior to the lease programme, these landowners had not directly derived benefits from wildlife as benefits generated by the Nairobi National Park accrue mainly at the national and international levels. On the

contrary, they suffer from competition for grazing, browse, and water resources and sometimes have their crops damaged or destroyed, their valuable livestock killed by predators or adversely affected by wildlife related diseases.

At the time of the study, the lease programme covered a total of 600 acres within Kitengela location. The area was selected for sampling for a number of reasons, first, the majority of residents of this location have been leasing out their land consistently for the last seven years. Secondly, the location has been selected due to its proximity to NNP. Finally, the rate of land-use change in this area is relatively low compared to other areas.

3.2 Research Design

The purpose of the section is to give an understanding into the methodological considerations that were used to be able to deal with the research question. The chapter presents the data collection techniques used; interviews, survey and participant observation. It continues with the research design and how the analysis of the study is done and ends.

3.2.1 Survey

The first part of the primary data was sourced through a field survey. The survey method was used because of its suitability and relevance to the problem at hand. Fowler (2001) points out that numerous facts about people's behavior and situations can be obtained by asking a sample of them. For this reason the survey was important in getting the views of the households who are affected by the lease programme. The survey involved administering questionnaires to 60 households in 5 sub-locations of Kitengela Location. Geographic and demographic factors were employed in the selection of the respondents. With the vastness of the area that had to be dealt with and the limited time set for the study, some assistants were employed in administering the questionnaire. The factors that were considered in the selection of assistants were based on their personal knowledge of the research area and the local language and their awareness on the issues involved. These factors combined, resulted in the selection of four assistants. Basic training was organized to expose them to the nature of issues involved.

During the training, agreement was reached on the standard interpretation of questions in the local dialect. Training on methods of conducting household interviews was done and the requirement that the research assistants be nonjudgmental and that they should not reveal their opinions was emphasized.

3.2.2 Interviews

The second part of the primary data was acquired through interviews with key informants. These included officials from KWS, AWF, ILRI, FoNNAP, TWF, and Ol Kajuado County Council. These organizations have in one way or the other participated in the lease programme. The basis of their selection was due to their ability to provide information on socio-economic benefits and other issues relating to the study and their involvement in the process of implementation of the programme. In all, 10 interviews with 12 interviewees were conducted which basically gives to a great extent a qualitative view. A semi-structured interview was suitable for the research since it left room for discussion.

In addition to key informant interviews, two focus group discussions were held. The aim of the focus group discussions was to add explanations to the data collected in the household survey. Focus group discussions have been recognized as an important data collection tool because they enable an outsider to quickly understand the range of perspectives in a community and at the same time give respondents an opportunity to learn from each other. The focus group discussions were led by a facilitator (the researcher) and each had 15-20 people invited to attend as recommended by Fowler (2001). The two discussions were held, one in Oloosirkon at the Olmakau Cultural Center and the other was held in Kitengela town. For both focus groups, similar topics were discussed, including changes in land tenure, land-use, livelihood strategies, wildlife trends, factors driving land-use changes, cost and benefits of living with wildlife and lease programme benefits among other topics.

3.2.3 Non-Participant Observation

Non-Participant observation was used as a means to examine the problem on the ground. The method of observation can be characterized by what Spradley terms moderate participation, which denotes someone who seeks to maintain a balance

between being an insider and outsider, between participation and observation (Spradley, 1980). Observation in the study area of Kitengela provided insights that were not revealed in the interviews and the survey. For instance a lot of wildlife interaction with human and livestock was seen and photos taken. This contributed immensely to visualizing the co-existence between wildlife and human. The observations were important in validating data from the interviews, survey and secondary sources.

3.3 Characteristics of the Study Population

The human population within the Kitengela area more than doubled in a 10-year period, from 6548 in 1989 to 17,347 in 1999 (GOK 1997; GOK 2003). The study population consists of Maasai pastoralists; however, there is an influx of non-Maasai in the area partly due to the land sub-divisions and its nearness to Nairobi. However the study only focused on local communities' affected by the Lease Programme and this was mainly from the Maasai community. This population was derived from Kitengela Lease Programme obtained from the Friends of Nairobi National Park. At present, the lease programme has one hundred and forty (140) members.

3.3.1 Sample Design

This study used simple random sampling whereby each unit of population (140) had an equal opportunity of being included in the sample. The register of the participating households acted as the sampling frame. The selection was also done with the help of some key informants and some local leaders who had participated in the implementation of the programme.

3.3.2 Sampling Size

The total population comprised of 140 individuals in WCL programme from six sub-locations. From this there were 60 respondents whose questionnaires were used for this analysis.

Table 3.1: Number of respondents interviewed

Sub-Location	Total Population (N)	Sample (n)
Kitengela	49	21
Oloosirkon	16	7
Sholinke	14	6
Empakasi	23	10
Kisanju	17	7
Olturoto	21	9
Total	140	60

The figures have been rounded off to the nearest whole number.

$$\text{Sampling fraction} = n/N = 60/140 = 0.43$$

Where n is the sample size while N is the total population

Table 3.2: Computation of sample size

location	N	Computation	Sample n
Kitengela	49	49x 0.43	21.1
Oloosirkon	16	16x0.43	6.9
Sholinke	14	14x 0.43	6.0
Empakasi	23	23x 0.43	9.9
Kisanju	17	17x 0.43	7.3
Olturoto	21	21x 0.43	9.0
Total	140		60.2

Source: Field Data

3.4 Data Analysis

Data analysis was carried out through quantitative and qualitative methods. Data from the 60 questionnaires was analyzed quantitatively. It was entered into Statistical Package for Social Scientists (SPSS) software, and was analyzed using cross tabulation. Data frequency distribution and percentages were used. The information was first coded by assigning numbers to the categories and analyzed with the aim of searching for emerging patterns. This was achieved by breaking it into manageable information that was meaningfully re-organized in tables and charts. For qualitative data, analysis was carried out right from the field. Percentages and cross tabulations were the major tools of analysis. Percentages were used to compare the frequency distributions. Cross tabulation, which entails the use of two-way tables to show relationship between two or more variables was used in this study to make comparison between variables. This was done with the aim of establishing relationships

CHAPTER FOUR: STUDY FINDINGS AND DISCUSSION

The purpose of this study was to assess the socio-economic benefits arising from the Kitengela Wildlife Conservation Lease Programme and assess its sustainability and effectiveness in promoting community benefits. This chapter presents the findings and discussion of these findings based on the research questions, which focused on socio-economic benefits, wildlife conservation and sustainability, as well as effectiveness of the lease programme in promoting community benefits from wildlife conservation.

A complete sample for the study was composed of 60 respondents interviewed. This represents about 43% of the 140 households currently participating in the lease programme. The 60 households were drawn from five sub-locations namely: Kitengela, Oloosirkon, Sholinke, Empakasi and Kisaju. These sub-locations are closest to the Park and currently under the lease programme. The area is commonly referred to as the first triangle of the Kitengela conservation area.

4.1 Socio-Economic Characteristics of the Respondents

The socio-economic characteristics of the study sample served to provide background information of the interviewees. The sixty (60) respondents in the sample belonged to the Ilkapūtei sub-tribe of the Maasai ethnic group and all speak the same Maasai language. They all subscribe to the Maasai culture and lifestyle including their mode of dressing, pastoralist lifestyle and living in communal traditionally constructed family *manyattas*. Culturally they consider wildlife as part of their environment and their culture does not allow them to kill wildlife for food.

Of those interviewed 51% of the respondents were from Kitengela sub-location. Empakasi and Kisanju each had about 15%. Oloosirkon sub-location had 12% while Sholinke had the least with less than 7% (Table 4.1).

Table 4.1: Distribution of respondents interviewed per sub-location

Sub-Location	Frequency	Percent (%)
Kitengela	30	50.8
Oloosirkon	7	11.9
Sholinke	4	6.8
Empakasi	9	15.3
Kisanju	9	15.3
Missing systems	1	1.7
Total	60	100

Source: Field Data, 2007

The sex ratio of the sample size was fairly representative of each gender with 40% of the respondents being female and 60% male, however male respondents exceeded female respondents. The main reason for the imbalance in gender was attributed to the fact that the majority of the household heads (the unit of analysis) were men.

Amongst those interviewed, their age distribution was highest for people above the age of 60 at 25%. The ages of 40-49 years made up the second largest proportion at 20% while the respondents between the ages of 20 - 39 made up the smallest sample at 16%. The mean age of respondents was 42 years.

In terms of education levels of the respondents about 10% had reached post-secondary school level (table 4.2) while about 25% had reached secondary school level . Another 16.7% had gone up to primary school level. Those who had no

formal education comprised 45% of the respondents. This implies a fairly high illiteracy level among populations in the study area.

Table 4.2: Level of Education

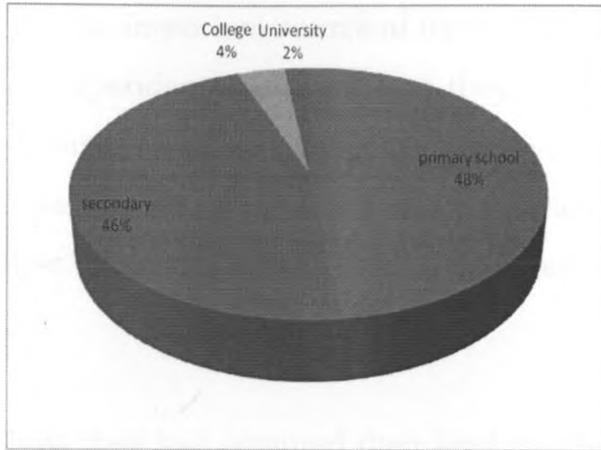
Education Level	Distribution	
	Frequency	Percentage
None	27	45.0
Primary	10	16.7
Secondary	15	25.0
College	6	10.0
Non-formal	1	1.7
University	1	1.7
Total	60	100

Source: Field Data, 2007

About 86% of those interviewed were married while 14% were either widowed or single. Amongst the men respondents more than half (53%) had more than one wife, with the number of wives ranging between two and five. About 39% had one wife while small percentage did not indicate the number of spouses. The results show that most of the households are polygamous.

Almost all respondents (98%) had children; 30% had children under the age of five years while 68% had children aged five years and above. Of those that had school-going children 48% had children at primary school level. Another 46% had children in secondary school, while 4% had children in college and 2% in university. This results show that most respondents had school-going children.

Figure: 4.1 Distribution of Children in School



Source: Field Data

The household size, expressed in the interviews, ranged between 4 and 20 people with an overall mean of 6.1 per household. Among the Maasai, a household is defined as all those living within the same homestead, i.e. within the same 'enkang' and typically includes the children, husband, wife and also members of the extended family. Of the total sample, 86% of the respondents had dependants. About 12% had a brother-in-law as a dependant while 6% had grandchildren. Another 5% had grandparents while the rest had extended family members such as cousins, nieces and nephews and a few 2% had hired labourers. The findings revealed that 32% of the dependants were children in primary school while 10% were in secondary school. 13% were children below school going age while the rest were adult-dependants at home.

Sixty three percent of the respondents practiced pastoralism for both subsistence and commercial reasons. An overwhelming majority (98%) of the respondents rear cattle as their primary source of livelihood. A majority (79%) of the respondents owned between ten and fifty cattle. They were followed by those who owned between sixty and a hundred heads of cattle (13%). About 7% had more than two hundred heads of cattle while 1% had six hundred and more

heads of cattle. Slightly more than half of the respondents (58%) engaged in selling milk, which was an important source of income for those who kept cattle in the area. All the respondents reported that they relied on more than one source of income. About 49% leased their land for wildlife as an alternative source of income to pastoralism while 9% practiced agriculture as a secondary source of income. Most respondents (98%) stated that they still needed space for their livestock.

On the question of how they had acquired their land and by what terms, all the respondents (100%) owned land (held title) in the Kitengela wildlife dispersal area. 56% acquired the land from government through sub-division of group ranches while 43% of those interviewed inherited land either from parents or spouses. Only 1% acquired the land through buying (Table 4.3).

Table 4.3: How Land was acquired

	Distribution	
	Frequency	Percentage
Government Given	32	56.0
Inherited	27	43.0
bought	1	1.0
Total	60	100

Source: Field Data

With regards to the duration of time respondents had lived within the dispersal area, the majority of the people (74%) were actual group ranch members before sub-division took place and they had lived in the land since birth. This was inclusive of those who had inherited land from parents since most of them were members of group ranches.

The land owned by those on the programme ranged between six acres and 1,216 acres with an average of 150 acres. About 90% owned over a hundred acres. There were very few (3%) who owned 20 acres or less.

The study established that there was large variation in the size of land owned by the households in the study area. Empakasi area recorded the smallest land parcels sizes. This was attributed to the large number of members during sub-division of group ranches that led to each member getting an average of about 300 acres of land. Further, it emerged during the focus group discussion that the area had experienced the highest percentage of land sales in the recent years. The high sale was attributed to its nearness to the National Park. The same observations were made for Oloosirkon sub-location. In Kisanju the study found sub-division to be modest though it was formally a group ranch.

Respondents in Kitengela sub-location had on average relatively large land parcels compared to all other sub-locations. About 20% of respondents drawn from Kitengela sub-location had 1,000 acres or more. The large land size was attributed to the fact that Kitengela was the first group ranch to be subdivided in 1986 and was sub-divided to fewer members who on average ended up getting two thousand acres and more. In addition, it was also reported that Kitengela sub-location has experienced less sub-division compared to the other areas due to high land speculation in the area making the land highly-priced. This partly explains why the average land holding in that sub-location is higher. Kitengela had the biggest number of landowners on the lease programme. Part of the reason for that was that it was larger than the rest.

In Sholinke and Oloosirkon sub-location land parcels were relatively smaller in size. Most respondents attributed this finding to the perception that the two sub-

locations experienced the most unfairly sub-division of all the group ranches in Kajiado district. The above explanations are consistent with information obtained during the focus group discussions. One elderly community member explained, *“Difference in land size in this area is glaring. Those in Kitengela sub-location own larger chunks of land, it’s because it was sub-divided many years back to fewer people compared to other areas...”* The Olkajuado County Council official echoed the same. In addition, the county council also attributed the size variation to factors such as nearness to the tarmac roads, the park and town centres which influenced land sales in the area. For instance one official from the council explained *“Sub-division in Kisaju is higher due to its nearness to Namanga road...land prices are also higher in the area”*.

On being asked whether they knew the land was utilized by wildlife before acquisition, 98% of the respondents said yes while 2% were reluctant to answer. The most frequently seen wildlife as reported by the respondents was as follows (Table 4.4).

Table 4.4: Distribution of most frequently seen wildlife on private land

Animals	Frequency	Percent %
Zebra	15	26.8
Wildbeast	8	14.3
Gazelles	14	23.0
Antelopes	9	16.1
Lions	1	1.8
Hyenas	3	5.4
Girrafes	1	1.8
Ostrich	3	5.4
Monkeys	1	1.8
Gnus	1	1.8
Total	56	98

Source: Field Data

The respondents were asked to give their views on the trends in wildlife populations in the area. This question was aimed at capturing the views of the respondents in relation to their experiences with the wildlife on their land. Close to half of the respondents (48%) believed that the wildlife population in the study area was decreasing, while about 32% felt the numbers were increasing. 20% felt the numbers was not changing (Table 4.5). The finding that wildlife numbers were declining confirms the 2002 Department of Resource Survey and Remote Sensing (DRSRS) wildlife survey, which reported that wildlife numbers were dropping (Norton-Griffiths, 2002).

Table 4.5: Wildlife population trend on private land

	Frequency	percent
Increasing	19	31.7
No change	12	20.0
Decreasing	29	48.3
Total	60	100

Source: Field Data

Of the respondents interviewed, 96% felt that wildlife was imposing a cost on them by affecting livestock (Table 4.7). 4% felt that wildlife was imposing costs on them through destruction of crops.

Table 4.6: How Wildlife was imposing cost on livestock

Causes	Frequency	percent
Competition on grazing land	13	22.4
Spread of diseases/pests	27	46.6
Predation	18	30.0
Total	58	100

Source: Field Data

Majority of the respondents (87%) were practicing agriculture for subsistence. On average, most of those who practiced agriculture did so on land whose size

ranged between one and ten acres. Maize and beans and to a small extent, vegetables were the most popular crops grown. About the same percentage complained of crop destruction by wildlife.

4.1.1 The Kitengela Wildlife Conservation Lease Programme

The Kitengela Wildlife Conservation Lease programme has been in existence since the year 2000. The study findings show that 13% of respondents joined the lease programme in the year 2001. About 43% of the respondents joined the programme in 2002 while 46% joined in 2003. The study confirmed that the lease programme pays Kenya Shillings three hundred per year per acre. The study also confirmed that the lease is bound by a contract between the landowners and The Wildlife Foundation.

Study findings show that there are four main reasons why the respondents agreed to lease out land to the programme for wildlife. About 32% joined the programme so as to benefit from the wildlife. 30% joined because of the introduction of cash payments with the aim of meeting socio-economic needs. 1.5% joined to increase their income. The rest joined because they believed that with or without the programme, wildlife would still utilize their land. Generally, the expected increased benefit was a major reason of joining the lease programme. This is supported by Campbell, (2000) when he posits that wildlife conservation can be achieved when the community co-existing with wildlife derives benefit from the resource.

On member's participation in the programme's activities, majority of the respondents (71%) contended that they were not involved in any way in the planning, design and the implementation of lease programme. Of those who were in some ways involved, 14% cited being involved in a survey that was conducted by Africa Conservation Centre (ACC) to assess the landowners'

acceptability of the lease programme in 1999. Majority of the respondents (88%) learnt about the programme through David Nkendienye or Benson Mutunkei, two local residents whom FoNNaP used as local community project communicators.

4.2 Socio-Economic Benefits

The study has established that the lease programme was offering a number of socio-economic benefits to both participating and non-participating land owners in Kitengela, either directly or indirectly.

4.2.1 Increased Income

All of those interviewed (100%) reported that they receive money in cheque form, three times annually from the lease programme. Study findings show that about 43% of the respondents earn between Kshs. 10,000 and 30,000 annually from the lease programme. Approximately 4.2% earn between Kshs. 31,000 and 50,000 while some 3.6% of the respondents earn between Kshs. 51,000 and Kshs. 100,000. The rest did not reveal how much they receive from the lease programme. The mean income from the lease programme was Kshs. 33,000. The lowest income recorded during the study was Kshs. 9,000 while the highest was Kshs. 100,000 per year. The above findings show that most respondents earn some amount of money from the programme. There was general consensus among the respondents interviewed that the lease programme had increased their income although a few felt that the change in income was negligible. These findings indicate that these respondents are therefore likely to continue leasing out land to continue getting the money in return.

4.2.2 Education

Amongst the respondents who used their lease income to pay for primary school requirements, 73% paid for boys while 13% paid for the girls. With the introduction of free primary school education, 17 % of them paid fees for

boarding schools, while the rest used the money to meet school related expenses such as buying of books.

It was established that the money obtained from the lease is mainly invested in the education of children. A majority (96%) of the respondents cited school fees as the greatest benefit they received from the lease programme. 48% of those interviewed were using the money to support primary school children while 42% paid for children in secondary school. About 6% used the money to pay for tertiary education. Of those using the money to support primary school education 11.3% paid for the girl child while the rest paid for the boy child. Key informant interviews and focus group discussions also revealed that one girl from the study area was awarded a bursary with funds from the lease programme.

Of the respondents whose children attended public primary schools where education is free, they explained that they used the money to pay for other expenses in the schools including boarding fees and buying school related items.

The above findings indicate that the programme has yielded high social benefits and is helping those households under the lease programme to educate their children, more so the girl child. The majority of the respondents opined that they have had more opportunities to take their children to attend primary school education since they joined the lease programme. This in general is likely to promote the human capital in the study area in future.

Another benefit with regards to education was attributed to reduction in human-wildlife conflict. Study findings show that since the programme started retaliatory killing of predator wildlife especially lions within the study area had reduced. Investigations revealed that before the programme started, young

people spent most of their time guarding their livestock, day and night, against attacks by wild animals. Many of the respondents interviewed recalled the difficult days when their youths had to keep guard in turns. The study found that the youth who act as warriors (*Ilmurran*) are now able to attend formal school due to the lease programme.

During the focus group discussion, one of elder explained, "*Most of our children did not go to school and even if they went, they had less time to concentrate on their studies.... They were so fatigued to concentrate.....*" It was established that the programme had reduced hostility between wildlife and the local community. Killing of lions in retaliation whenever they killed livestock was reported to have reduced during interviews with the park managers. "*Our lions are less in danger of being killed by the youth.*" a KWS official posed.

4.2.3 Livestock

As indicated earlier, livestock keeping is the primary source of livelihood and is still an important occupation for the Maasai in the study area. Livestock is a source of wealth, prestige, direct cash, and sustains other socio-cultural relationships (Prins, 2000). The study findings revealed that the lease programme is beneficial to livestock keeping in the study area in a number of ways.

First, amongst those interviewed there were those who did not use their lease income to pay school fees. 35% of them used the lease income to buy livestock drugs.

Secondly, the study results show that 86% of the respondents observed that there was increased space for livestock grazing in the Kitengela area as a result of the lease programme. About 14% felt that the grazing space had not increased significantly. The increased space for grazing was attributed to the fact that the

lease programme had reduced the sale of land in Kitengela thus providing more open land for grazing. Mwangi and Warinda, (1999) and Nkendieye, (1999) support this finding. In these two studies, fluctuation of livestock numbers in Kitengela area was attributed to loss of grazing land associated with land sub-division and fencing in the area.

Thirdly, it was found that the increased availability of open land had allowed for the wider dispersal of both wildlife and livestock and this helped in reducing spread of livestock diseases. As one of the respondent points out, *"When there is open access, livestock graze freely and chances of spreading cattle diseases are minimized..."* this claim was supported by key informant from International Livestock Research Institute.

The fourth benefit is the reduced reliance on livestock as an only means of deriving a livelihood. 13% of the respondents indicated that the lease programme has reduced their reliance on livestock. The same percentage reported that they do not have to sell their livestock to take children to school as they did before. *"Income from the lease programme is drought-proof, unlike income from livestock which is unpredictable due to weather and climate change."* one key informant remarked.

Lastly, accessibility to water points was another benefit that was found in relation to livestock keeping in the study area. Most respondents (65%) affirmed that water points were easily accessible in the area under the lease programme. The same was underpinned during the focus group discussion as put by one community elder, *"The fences had made it hard for us to access water points, it had also made us start keeping unprofitable number of livestock due to lack of water and grazing land..... this has now changed due to the programme."* The study found that this was beneficial even to those households that were not participating in the programme.

The above findings were attributed to the fact that the majority of the respondents (96%) were abiding to the conditions as set out on the lease contract which requires them, to leave the land under the lease open and unfenced, not to put it under cultivation, mining or quarrying. In literature, Elliot et al (1997) identified the issue of fencing as a threat both to livestock and wildlife.

4.2.4 Alternative Livelihoods

Amongst respondents, about 80% considered land leasing for wildlife as an important alternative source of livelihood after livestock keeping. One respondent remarks, *"Many households have resorted to the leasing option because it provides a quick source of income."* This finding is in tandem with findings in a study by Nkendienye (2004) and Mwangi and Warinda (1999) which established that land leasing for wildlife conservation has become an important alternative source of income to the locals in Kitengela.

A variety of responses were given to the question as to how the lease programme had improved livelihoods. Approximately 89% felt that the programme had improved their livelihoods because the income was not affected by drought which is common in the area. Another 6% felt that the programme had improved their livelihoods because income from livestock was found to be unpredictable. *"Livestock numbers have fluctuated over the years mainly due to droughts and diseases. During the El Nino 1997/8, large numbers of sheep were lost due to the disease..... This has made income from livestock very erratic."* The coordinators of the programme further underpinned this finding.

Of those interviewed, 8% revealed that they had reduced reliance on pastoralism as a result of the lease programme. By leasing out land for wildlife conservation, participating households reported that they were able to earn alternative income.

It can therefore be concluded that the leasing has promoted alternative livelihoods in the area. This is consistent with Berger (1993), who observes that alternative income from wildlife has provided livelihood security for the nomadic pastoralists during times of natural resource scarcity.

The study results show that of those that did not use the income to pay school fees, 17.9% used the money to meet other basic needs while others used the money to repair their houses.

4.2.5 Employment

Although no specific questions were outlined in the questionnaire to elicit information on benefits in form of employment, Key informant discussions revealed that up to eight residents from the study area had benefited by being employed in the programme. It was revealed that the eight work as community scouts to monitor conformity with the lease conditions.

4.2.6 Community Development Projects

Of the respondents interviewed 7.4 % felt that the lease programme has indirectly led to the introduction of community development projects into the area. 89% felt the programme had the potential to provide for community projects. 4% of those interviewed believed the programme has opened doors for other donors who have brought community development projects. Key informant interviews and focus group discussions revealed that the programme has improved personal contact between the park authorities and local communities thereby making it easier for the locals to present to them their problems for assistance. It was evident from respondents that positive relationships had been developed with local people some of whom had been distrustful if not outright hostile to park managers, especially the KWS.

As a result of the existing good relationship, the KWS through its Community Wildlife Service (CWS) programme had rehabilitated Empakasi Primary School, had constructed a cattle dip and had graded the access roads in the study area. At the time of the study, construction of a communal toilet by KWS was on going. "If the area was not available for wildlife I don't think we would be doing these things, we owe it to the programme..." a KWS official explained.

Another benefit to the community with attraction of other donors eager to fund wildlife conservation in the area is the construction of a bridge between the park and *Ol Makau cultural centre*-a community-run cultural centre by SDF - Netherlands government.

4.2.7 Increased Access to Natural Resources

Another benefit to both participating and non-participating households was in relation to access to indigenous trees and plants. It was visibly evident that the study area lacks modern institutions such as hospitals and modern homes. Information obtained from focus group discussions showed that the local community members relied heavily on local resources for everyday necessities. This view conforms to the findings by Seno and Shaw, (2002) which report that the Maasai have traditionally used the resources of the land for their survival. For hundreds of years they have used these resources for grazing, firewood, charcoal production, medicines, as well as the construction of *bomas* and fences (Seno and Shaw 2002).

A majority of the respondents (71%) observed that the lease programme has allowed the local community (participating and non-participating) to continue having access to natural plants. Some of the resource-uses, as highlighted in the discussion and in the household survey, include use for medicine, firewood, fencing and construction of *bomas*. Findings from the field observations and

that tree species such as the *Acacia* are used for fencing, firewood and other purposes. This can be explained by the finding that majority of the respondents had abided by the conditions of the lease which require them to among other things protect indigenous plants, trees and shrubs on their land.

4.2.8 Other Socio-Economic Benefits

The study also established there were other indirect socio-economic benefits that arose from the lease programme. Though only about 3% of respondents of the programme had improved food security in the area, the study results found that the increased grazing land for livestock could have led to increased food security in the area through increased milk yields, which is a major source of food in the study area. About 58% confirmed that they generate income from the sale of milk. It is therefore possible that these households continue to generate the income as a result of improved milk yields.

The Key informant survey and focus group discussions revealed that the success of the lease programme in preserving the dispersal area has led to initiation of other programmes that have been beneficial to the local communities. NaP and TWF revealed that they have initiated a consolation programme, which is aimed at compensating landowners for loss of livestock to wildlife.

Another initiative associated with the lease programme highlighted by key informants was the *reto-o-reto* initiative, which translated, means, "I help you, you help me" in the Maasai language. The *reto-o-reto* initiative is aimed at evaluating the economic returns to pastoral households from livestock keeping, crop farming and wildlife conservation, to provide information to enable landowners to make more rational livelihood choices and also to produce maps of fences and other land-uses to aid in land-use planning.

The *Reto-o-Reto* initiative, with the involvement of a number of community members, developed maps of the fences and land uses in Kitengela, including water points, wildlife migration routes, open areas available for livestock and wildlife grazing and areas of possible future land use conflict. ILRI officials explained that the *Reto-o-Reto* initiative has also mapped the location of participants in the Kitengela conservation lease programme. The maps show land parcels that are already on the programme, and those on the waiting list.

This information alongside the fence map has been used to target priority areas for expansion of the lease programme and provided information and raised awareness about the programme. Information generated through the *Reto-o-Reto* project regarding the lease programme has helped attract more funding from Kenya Wildlife Service (KWS), African Wildlife Foundation (AWF), African Conservation Centre (ACC) and The Wildlife Trust of United State. Donors such as The Nature Conservancy and Global Environment Facility (GEF) of the World Bank have also shown interest.

Overall socio-economic benefits of the lease programme were summed up by a Kajiado County Council official as follows, *"the lease programme has succeeded in saving lands as well as livelihoods. There is now more grazing land for livestock and wildlife and the once eroded and degraded land is recovering, since the grazing pressure has been reduced. The Maasai are working hard to conserve the Kitengela plains and are benefiting from the presence of their wild neighbours through ecotourism projects. The Maasai call it "Reto-o-Reto", which in Maasai language means, "I help you, you help me"*.

4.2.9 Benefits to Wildlife Conservation

Even though this study was mainly interested in assessing socio-economic benefits of the lease programme to the local communities, some benefits to wildlife conservation were obvious.

One important ecological role the lease programme fills is that of protecting the natural habitats necessary for the survival of wildlife. The area under the lease programme is open and rich in natural vegetation. There was visible evidence of wildlife grazing freely without restriction of movement. The wildlife most commonly observed within the study area were the plains zebra, Thomson's gazelle, Grant's gazelle, Impala, fringe-eared oryx, eland, and giraffes (Researcher's observation). This can probably be explained by the conditions imposed by the lease programme, which require that those participating in the programme must manage the land for the benefit of wildlife and sustainable livestock grazing.

Interviews with KWS officials revealed that the programme has managed to secure important calving sites for rhinos and breeding sites for zebras within the dispersal area and that this was likely to increase wildlife numbers. Norton-Griffiths (2000) and Mburu (2002) support this finding when they report that an important positive result of wildlife managers forging partnerships with local communities has been the improvement of the condition of the wildlife resource. In the study area, young Maasai men were seen guiding a large herd of cattle. Among the herd were several zebras grazing together with the livestock. The young Maasai didn't seem to mind the presence of the wildlife.

Another benefit to wildlife conservation was in regards to conservation awareness and changes in attitudes towards wildlife by the local community. In most discussions the Researcher had, it was stated that more and more people

are getting to know about the lease programme and many are expressing willingness to join the programme. Of the respondents interviewed 69% felt that human-wildlife conflict had reduced in the area since the introduction of the lease programme. This was attributed to reduced resentment; this finding was supported by KWS and by the local residents during the focus group discussions. The finding is also in line with many studies that indicate that when benefits become explicit the attitude of those living with wildlife invariably changes to positive (Elliott, 1997; Gichohi, 2000; Campbell et al, 2000).

KWS has included the lease programme in its Nairobi National Park management plan (2005-2010) as a viable community conservation tool on private lands. A strong and mutual partnership now continues between KWS and the community. The lease programme has helped change the attitudes of communities to be more positive towards wildlife conservation and has helped to mitigate human-wildlife conflict.

4.3 Sustainability

This study also aimed to assess the sustainability and effectiveness of the lease programme in promoting community benefit and wildlife conservation. Sustainability of the lease programme was assessed from two dimensions, namely the financial viability and the institutional structure. Financial viability refers to an institutions' ability to generate sufficient funds to cover the full cost of service delivery while institutional structure aims to assess the implementation, regulatory and administrative aspects of the programme. Effectiveness according to Gasper (2004) is the degree of, or success in achievement of a higher level of objective: output, purpose or goal. Relating this definition to the study, the programme would be considered effective if it is able to meet its primary objective, which is mainly to promote livelihoods and wildlife conservation outside protected areas.

Respondents were asked to give their views on the future of the lease programme. 93% expressed fear that the programme is not likely to exist in future while 7% felt otherwise. The reasons given by those who felt the programme is not likely to exist in future include; the low lease income which they said was not comparable to the land value in the area, the fact that those not in the programme were still selling and sub-dividing their land and the lack of adequate financial support.

However, all those interviewed expressed willingness to remain in the programme. Perhaps the main reason was that the direct benefits they were getting in form of the lease payments were the best incentive they had received so far from wildlife conservation.

Also, the costs of being on the lease were negligible to the landowners since the conditions they committed themselves to abide by were not different from what they practiced traditionally. Keeping their land open (without a perimeter fence), discouraging any poaching and picking up any snares, not sub-dividing the land further and not developing any quarries were not new conditions to be followed.

Lastly another reason why the respondents interviewed felt that they would continue supporting the programme was that their livestock benefited greatly due to the free movement in the lease area, unhindered by fences.

In relation to the appropriateness of the programme to wildlife conservation, 95% believed the programme was appropriate and was capable of promoting wildlife conservation while 5% found the programme not appropriate. However, the study found that the lease programme would be more successful in promoting conservation if more people joined it.

The respondents were asked if they thought that the lease programme was an appropriate intervention to discourage landowners from engaging in land sales. 68.6% felt it was not. On whether it was an appropriate intervention to promote livelihoods, 88% felt the programme was not a sufficient source of livelihood. 22% felt it was capable of sustaining livelihoods if the lease fees were improved.

The respondents were given choices to choose from regarding what they considered to be the most effective incentive for wildlife conservation outside protected areas. The respondents suggested that revenue sharing (34.1%), establishment of eco-tourism (30.7%) or a combination of both (27.4%) as the most important interventions. However, lack of capital investment and the bureaucratic legal procedures required in establishment of eco-tourism facilities were cited as a hindrance. In addition it emerged from key informant interviews that eco-tourism requires monitoring of the activities by KWS which may result in more hostility between the community and KWS.

Additionally, it was explained that the individual land holding in Kitengela is not conducive for eco-tourism activities. For instance it was explained there are those with special wildlife attraction features in their land e.g. Salt licks and water source points within their land parcels. Those with such features are likely benefit more from eco-tourism. One key informant explained *"Some areas lack commercially exploitable resources while other areas may become cash cows by generating surplus, this can be a recipe for failure of eco-tourism."*

The aforementioned suggestions by the respondents underscore the importance of revenue sharing with communities as a mechanism to ensure sustainable wildlife conservation outside protected areas. Results from numerous studies lend support to this proposition (IIED, 1994; Norton-Griffiths M. and Southey C.,

1994; Gichohi, 1996; Nkedianye, 1999). The main argument is that if people benefit from wildlife then they would protect it from harm, so that the benefit can continue flowing for a longer period.

With regard to the duration of the lease programme majority felt that the lease contract duration should be increased to a multi-year contract. Part of the reason for this response may be attributed to the fact that the landowners were developing increased trust in the arrangement and were no longer afraid that they could lose their land as had earlier been alleged. With that kind of confidence in place, perhaps it was high time that the lease contract duration was increased to bind landowners for longer periods and for better planning purposes. However, findings that some respondents would opt out if they got better economic alternatives cannot be ignored.

With regards to the issue of the lease fees paid, it was pointed out that the fee is too modest (Kshs. 300 per acre per year) and in future it may not compete with the high land prices in the area. As KWS official points out *"the locals' are likely to fall into the temptation of selling their land to Kikuyu and other tribes rather than lease it for wildlife. The money paid by the programme is little...so how do you expect the Maasai to survive with Kshs. 300 per acre per year? It can't be possible"*. The local community, during the survey supported this view adding that the future of the programme is at stake if the money is not increased. It was also found that the Kshs 300 per acre per year is sufficient primarily to those who prefer a pastoralist way of life and who still own large tracts of land. This, they attributed to the high and rising value per acre of land in the area. *"As the demand for land grows and the value per acre rises, we will find it difficult to resist selling especially as the sources of alternative income continue to be limited and the earnings from a combination of livestock and the lease remain modest."* one focus group participant remarked.

Many of the key informants interviewed are clear that funding is a problem because of reliance on donors support. This is why many locals felt that the programme was not an effective means to sustain livelihoods with some asking why the government cannot intervene and adequately provide financial support. The KWS officials in response answered, *"The issue of funding is very crucial to any conservation programme. Presently, the KWS has been contributing Kshs. one million each year. However, this is not sustainable. The government cannot afford to fund the programme 100%. We rely on tourism which can be very erratic at times..."* In addition it was found that there are still many families that are outside the programme and are eager to join but the programme is limited by its lack of adequate funds.

This problem of reliance on donor support leading to an unpredictable financial base in the programme is also expressed in the words of the FoNNaP coordinator and officials from The Wildlife Foundation who state, *"The programme largely relies on donor support. There is no guarantee that funds will be available tomorrow. Though currently we have enough to sustain those participating, it is worrying where future funds will come from, especially when we know that there are many in the waiting list"*.

Another major factor identified as likely to affect the long-term sustainability of the lease programme is lack of entrenchment of conservation initiatives in the wildlife policy. As explained by KWS official, *"At the moment the policy does not recognize conservation initiatives especially outside protected area but the one being developed does..."* In addition, it was revealed during the survey that the community still feels that formulation of the wildlife policy is still centered on state-control principles and lacks the contribution of households' and other stakeholders. Seno et al (2002) points out that the effectiveness of wildlife protection efforts may be greatly enhanced by the involvement of stakeholders

and the public at large. Surprising enough, it was also found that majority of households did not participate in the design, planning or formulation of the lease programme. *"We locals have never been part of the problem not to talk about being part of solving it."* one respondent generally explained in reference to their participation. Stakeholder involvement is important since according to Kameri-Mbote (2002), involving stakeholders and the public at large is important since such efforts demand a certain level of continuity, which strengthens wildlife policies. It was also reported that households' involvement raises a level of ownership of the objectives in the policy. As the Olkajuado County Council explains *"they will tend to ensure that their efforts are not uselessly set aside with changes of administration or otherwise..."* Thus, the absence of households' inputs is a significant impediment to the implementation of such initiatives. Findings indicate that the lack of community participation in the design and planning of the lease programme resulted in various rumors and myths surrounding the programme. For instance most of those that refused to join believed that their land was being taken away from them. During the focus group it was stated, *"For me I knew for sure this people were after my land..."*

Another challenge to the programme found in the study emanates from the rampant land sales that occur in the areas near tarmac roads and townships. In addition the new buyers often opted to fence their land parcels thereby posing a significant threat to the leasing process.

Another major challenge identified is the on-going Jamii Bora housing project in the Kisanju area within the lease programme that is aimed at settling 10,000 people from the informal settlements in Nairobi. The project site is in the middle of the wildlife dispersal area. NEMA refused to grant an Environmental Impact Assessment licence in 2005 but the National Environment Tribunal thereby

allowing the construction of the houses to continue reversed the decision. The on-going project is likely to have a negative impact on the lease programme

Another challenge facing the lease programme is the uncoordinated efforts amongst various conservation agencies. During the household survey it emerged that it was not clear to the households who does what. For instance, questions such as what institutions contribute money to the programme received conflicting results. Majority of the respondents were not aware that KWS had contributed one million to the programme. The participants were asked if KWS had in anyway improved their livelihoods. The response was *"go to KWS and ask them, they will tell you they have...but you can tell just by looking around, you can see how they are performing"*. In contrast KWS officials replied *"we have a very good relationship with the community even though our mandate is in protected areas... We have done a lot for the community including construction of school (Empakasi Primary), cattle dips among others."* Observations revealed that the cattle dip constructed by KWS was not in use due to poor state.

Respondents interviewed were categorical that Kitengela is threatened with increasing human population due to immigrants from other tribes resulting in permanent settlement and fences, social pressures on traditional Maasai lifestyles and industrialization of the Kitengela townships. They admitted that these new developments interfere with the seasonal wildlife migratory routes and reduce wildlife ranges and available habitats. This is likely to affect the sustainability of the programme.

Despite the above challenges, majority of the key informant considered the programme to be successful based on its objectives. However, most households expressed discontent with the management of the programme, which they termed as *"Jua Kali."* For instance it was reported that programme had not

implemented the annual 5% increase as stipulated in the lease contract. For instance, it was reported that in 2001 the respondents were not paid despite signing the contract. Majority of the respondents felt that the programme lacks a proper institutional and administrative structure.

4.4 Discussion of Findings

This Study sought to assess the socio-economic benefits arising from the Kitengela Wildlife Conservation Lease Programme and assess the programme's sustainability and effectiveness in promoting community benefits to locals in Kitengela dispersal area. The discussion focuses on the socio-economic benefits, sustainability and effectiveness of the programme. The findings of the study reinforce the central arguments within both conceptual frameworks.

In sustainable livelihoods, the premise that people require a range of assets to achieve sustainable livelihood outcomes and that no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek has been demonstrated in the study finding whereby the lease income has become an important alternative livelihood. With regards to conservation through sustainable use, the premise that by providing the right incentives and benefits to land owners, they are likely to adopt land uses that do not threaten the wildlife habitation have been illustrated in the study findings.

The study result strongly indicates that the programme has resulted in socio-economic benefits to households in Kitengela. The findings show that majority of the respondents have invested the income obtained from the programme in paying for the education of their children. Households interviewed attributed the success of the programme in promoting education to the timing of the payment, which is made to coincide with school opening, which enabled most of them to take their children to school.

Those that did not use the money for school fees used it in improving their houses and acquiring livestock medicines. Majority of respondents stated that they had increased their income by leasing out their land for wildlife

conservation. Further more, it was established that the some respondents had reduced reliance on livestock and land sales to meet short-term needs.

There was general agreement in all the interviews that due to the lease programme, even non-participating households were deriving benefits because they can still graze their livestock on the open rolling land under the programme without restrictions that come with fencing and land-use changes. In addition, the programme has allowed the local community (participating and non-participating) to continue having access to natural plants, which they use, for medicine, firewood and fencing and construction of *bomas*.

Taking livelihoods to mean people's capacities to generate and maintain their means of living, the study established that the programme directly contributes to livelihoods of participating households. Though livestock keeping remains central to their livelihoods, the study found that those under the programme depend on the supplementary income they receive from the lease programme especially due to unreliable rain and in periods of drought or low rainfall. The above scenario explains why majority of those interviewed identified conservation leasing as an alternative livelihood as opposed to agriculture.

At the time of the study, there had been some level of employment arising from the programme. Eight local people from the participating households are engaged in assisting in the implementation of the programme. For this they receive remuneration. Hence the study concludes that the programme provides some level of employment benefits.

Though the programme has not directly funded any major infrastructural development in the area, it established that due to the fact that the programme has reduced land-use changes in Kitengela and allowed wildlife to continue

thriving in the area, the area has attracted other donors that have invested in infrastructural developments. For instance KWS has been involved in grading of the roads in the study area and also in development of schools such as Empakasi Primary. Another community project has been construction of a bridge between the park and *Ol makau* cultural centre, which is aimed at promoting eco-tourism by tourist crossing from the NNP to the cultural centre.

The study established that the programme has led to social network connectivity amongst participating households. Those in the lease programme consider themselves to be in a more formalized group, which has enhanced their relationships of trust and social interactions. Though no specific questions were contained in the questionnaire to elicit this aspect of information, it emerged during the focus group discussions that those participating in the programme had a social network which gave them an opportunity to discuss common issues and exchange information. The lease payment ceremony, which is done in public, gives the landowners an opportunity to interact with each other and other stakeholders thereby developing social connectivity and togetherness. In addition, good relations are beginning to emerge between the Maasai and wildlife conservation managers especially with KWS officials. Before the programme, the human-wildlife conflict in Kitengela sparked hostile relations between KWS officials and the locals.

Though it was established that the money from the lease, on its own, was not enough for major investment in capital assets, a majority of the participating households use the money to improve their livestock. The Maasai community within the study area considers livestock a capital asset. As a result of the lease programme, majority of those that did not use the lease income for education invest it in improving livestock by buying medicine. In addition the existence of open grazing land has enhanced livestock keeping.

One important ecological role the lease programme fulfills is that of protecting the natural habitats necessary for the survival of wildlife. Field observations revealed that the area under the lease programme is open and rich in natural vegetation with large variety of wildlife grazing freely without restriction of movement.

The study also established that the leasing programme has generated a change in the attitude of landowners towards wildlife, reducing the number of retaliation events against predators after livestock losses. Most respondents concurred with the view that human-wildlife conflicts in the area have reduced since a result of the lease programme as retaliatory killings have reduced. Majority acknowledged taking their youth (*ilmuran*) to school as opposed to sending them to kill wildlife that killed their livestock. The KWS officials that confirmed that no lion had been killed since the inception of the programme supported these findings. This finding also confirms the argument advanced in the conceptual framework that when tangible benefits become explicit, the attitude invariably changes to positive as has been demonstrated in other studies (MurPhree, 1993; Gichohi, 2000; Nkendienye, 2004; Mwangi and Warinda, 1999)

Though it was reported that since inception, the programme has been recognized as a promising approach that offers a possibility to overcoming conflicting interests over wildlife exploitation, it was recognized by key informants that achieving successful implementation is confronted with many challenges, which may eventually hinder the approach from becoming widespread.

Many respondents felt that the programme is not sustainable as a source of livelihood. This was attributed to the amount that paid to the participating landowners. Though most households interviewed reported that they were likely

to continue participating in the programme, they were also quick to note that the money they receive from the programme was not enough to meet their needs. In the focus group discussions it was pointed out that the low lease fee paid is one of the reasons, which contributed, to their poor response to the lease programme when the programme started. This finding was supported by previous studies that have evidenced that this amount needs to be as high as Ksh. 60,000 acre per year to make the programme a competing land-use in the area. (Mwangi and Warinda, 1999). Information from key informants also supported this line of thought.

Majority of respondents also felt that the programme was not financially sustainable due to reliance on donor funding. Though majority felt that programme might continue in future the above findings suggest that perhaps the programme will come to an end if funds were unavailable. The finding is akin to the one recorded by Szapary (2000), which underscores the importance of financial independence in conservation initiatives.

Though all those interviewed acknowledge that fact that programme is dependent on availability of funds, majority felt that the programme is likely to continue into the near future because the local communities are still willing to co-exist with wildlife since they derive some income from the programme. Additional government support was seen as a favorable alternative to external donor funding.

A major challenge identified by implementing agencies is lack of a favourable policy that clearly defines benefit-sharing of wildlife resources.

Another challenge to the programme identified by both respondents and the key informants is the rampant land sales that occur in the areas near tarmac roads

that border the Kitengela Town. It was reported that as the demand for land grows, the value per acre is likely to rise and people will find it difficult to resist selling especially as the sources of alternative income continue to be limited and the earnings from a combination of livestock and the lease remain modest.

Although the wildlife conservation lease programme has increased the ecological value of Kitengela area, it has increased the risk of wildlife damage to crops and livestock. Wildlife may damage crops or water points used by livestock and predators may kill livestock. Thus, the conservation programme can result in significant expenses to households; crop losses may even threaten local food security.

An assessment of the leasing programme sustainability suggests that although the programme has resulted in benefits to the local community and to the wildlife, the money received is considerably modest and does not fully compensate the costs derived for using their land as a dispersal area. However, it was a general consensus among respondents that the programme helps to reduce the losses caused by wildlife and under the alternative of zero-payment and the lack of secure returns from pastoralism most pastoralists choose to join and stay in the programme. This finding is supported by other studies (Nkedianye, 2004, Mwangi and Warinda 1999).

CHAPTER FIVE: CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This study aimed to assess the socio-economic benefits arising from Kitengela wildlife conservation lease programme and assessed its sustainability and effectiveness in promoting community benefits from wildlife conservation. This chapter gives a summary of conclusions, recommendations and suggestions for further research drawn from the study findings.

5.1 Conclusions

From the study findings, the study concluded that the lease programme was offering a number of socio-economic benefits to both participating and non-participating landowners in Kitengela, either directly or indirectly. It confirmed that the programme provides opportunities for local communities to benefit from wildlife by directly making payment to the local communities. An apparent benefit has been the improvement in school enrolment as more families are able to pay school fees. The timing of the payment has yielded high social benefits and is helping the households under the programme to educate their children especially the girl child. The study also concludes that the lease income from the programme has promoted sustainable livelihoods by reducing the risks associated with pastoralism. The study also concluded that the programme one of the most promising ways of households diversifying their incomes in Kitengela. The study also concluded that the lease program has reduced reliance on livestock as it allows the participating household to choose not to sell land, because of reduced pressure to sell, usually arising from the need for cash for school fees.

Although cash benefits are somewhat limited, communities enjoy many important intangible (non-cash) benefits such as community infrastructure and open access to grazing land. Equally important gains include the strengthening

of their social connectivity and social networks and promoting great community cohesion.

With regards to wildlife conservation, this study concluded that the programme has contributed to wildlife conservation as migratory and resident herbivorous wildlife can still graze in Kitengela. This has an overall beneficial effect to wildlife welfare and is a significant promotional tool for Nairobi National Park as a tourism destination. Thus, the study concludes that the programme can be a viable conservation management tool to increase the availability of Kitengela dispersal land for wildlife migration and dispersal and at the same time protect viable resources for the wildlife.

The study concludes that the programmes financial sustainability is vulnerable due to reliance on donor funding. The programme lacks a reliable source of funding and its reliance on donor funding is a major threat to its long-term sustainability. Another challenge arises from the amount of the lease fee currently being offered. The study found that Kshs. 300 per acre per year is sufficient mainly for those who prefer a pastoralist way of life and who still own large tracts of land. The reason for this is high and rising value per acre of land in the area. As the demand for land grows and the value per acre rises, most locals are finding it difficult to resist selling especially as the sources of alternative income continue to be limited and the earnings from a combination of livestock and the lease remain modest.

The study also concluded that lack of a favourable policy that provides for the establishment of conservation lease programme is another threat to the sustainability of the lease programme. Other factors that are also important in this respect include lack of a regulatory framework to guide the implementation of the lease programme. In addition, problems associated with the involvement

of diverse community groups mainly immigrant who lack the capacity to participate effectively leading to local communities' loss of socio-cultural assets may adversely affect the success of this programme in the future.

The study also concluded that the rampant land sales that occur in some parts of Kitengela mainly near tarmac roads poses a significant threat to the lease programme as the new landowners often opt to fence their parcels.

5.2 Recommendations

Based on the findings, the following recommendations were made:

There is need for the lease programme to be converted into multi-year contracts to improve planning and ultimately to perpetuate arrangements such as easements in order to assure the long-term availability of land for the programme. Land purchase should also be considered in order to secure high value crossings points into and out of the park and lands under the lease programme that come up for purchase.

Wildlife conservation managers should support the local community in Kitengela to create community-based wildlife sanctuary within Kitengela. A Community Wildlife Sanctuary would suit this area well due to the high density of wildlife that would bring in tourists and revenue for the community. The community-based sanctuaries would enable communities to realize direct benefits from wildlife as a way of making them appreciate the existence of wildlife resources.

On sustainability, there is need for the TWF and FoNNaP to work with government and key development partners to facilitate development of a national institution that would oversee the implementation and resource

mobilization for the lease programme, in addition, there is need to establish a trust fund under the national trust promote financial sustainability of the programme. .

On the other hand, the Government through KWS needs to cultivate harmonious relationships with the local communities that live in areas important for wildlife. Additionally, institutions engaged in the lease programme in collaboration with KWS need to monitor land sub-division and subsequent land-use changes in areas that are not under the programme in order to keep corridors open and effective. This is mainly in the northern portion of Kitengela where land sub-division has almost completely cut off the migration route between Kitengela and Nairobi National Park.

The lease fees paid need to be reviewed to provide for increased monetary benefits to communities, especially during periods of increased human wildlife interaction as happens during periods of drought. In addition, local communities should be educated on the activities of KWS as well as the benefits of wildlife. If possible, local Maasai community should be educated to become wildlife managers. Children should be exposed to environmental awareness and be trained on maintaining indigenous knowledge systems as they were found to be compatible with wildlife conservation.

5.4 Policy Implications

One important policy implication is the need for development of a policy that provides for community benefits from wildlife conservation. In addition, there is need for the development of guidelines to facilitate the implementation of the community wildlife initiatives such as the lease programme. The policy makers in Kenya probably need to formulate the guidelines before such initiative of

managing wildlife resources in the dispersal areas through compensating private owners becomes widespread in the country.

There is need for the harmonization of existing policies that affect the management of wildlife resources. This should be supported by the development of appropriate policies and laws that are based on sustainable utilization of wildlife resources by communities that live with the wildlife. Other important areas of concern include the need for incorporation of Kitengela communities into KWS policy formation regarding Nairobi National Park.

A land use plan for Kitengela area needs to be formulated and implemented to ensure that the only land uses that occur in an area are those which fit within the ecological limits of that area. To be successful, this plan would require the input of local leaders, national government officials, conservation and land use planning experts. Together, enhanced community conservation efforts and a comprehensive land use plan would go a long ways towards ensuring that important wildlife habitat outside of protected areas will be conserved.

Further, development of appropriate land-use policies based on conservation easement and conservation leases should be explored. The policy should also discourage land subdivision to uneconomical sizes based on the carrying capacity of the ecosystem. In order to change the attitudes of local communities towards wildlife, there is need for wildlife conservation programmes or projects that involve them in the sustainable use of wildlife resources.

5.5 Suggestions for Further Research

The researcher recommends the following issues for future studies:

- Update studies to evaluate the impacts both positive and negative of the lease programme on local communities.
- Future studies should find ways to reach the areas inaccessible due bad terrain, especially the proposed second triangle to acquire more data points.
- Take into account the other initiatives and somehow combine the information to gain an overall broader view of benefits of wildlife conservation to local communities in Kitengela dispersal area.
- Map wildlife throughout the different seasons to get a better estimate on the corridors they follow and the dispersal areas they feel most comfortable in.

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Appendix I

SAMPLE HOUSEHOLD QUESTIONNAIRE

**SOCIO-ECONOMIC BENEFIT ARISING FROM THE KITENGELA WILDLIFE
CONSERVATION LEASE PROGRAMME**

Questionnaire No. _____

Name of Interviewer.....

Name of Respondent.....

Date of Interview

Time Started Time Ended

A) GENERAL INFORMATION

1. Location.....

2. Sex (Tick) **Female** **Male**

3. Age (Tick) < 20 20-29 30-39 40-49 50-59 60+

4. Level of Education a) None
 b) Primary
 c) Secondary
 d) Post- Secondary

(Specify).....

5. Number of spouses (for male respondents).....

6. Age of spouse < 20 20-29 30-39 40-49 50-59 60+
7. Specify age if more than one spouse.....
8. Household size.....
9. Number of children under 5 yrs in primary school secondary school
In post-secondary
10. Any other dependant (specify).....
.....

B) LAND USE

1. How many acres is this piece of land? Total acres
2. Who holds the title to this land? **Self** **Self with spouse** **Joint**
Other (Specify).....
- a) If self, how did you acquire this land?.....
- b) If a beneficiary, how was it acquired?
- i) Bought ii) Rented iii) Inherited iv) Given by government v)
Other (explain).....

3. What year did you acquire this land
.....
4. How long have you lived in this land (In years).....
5. How have you used the land since you first acquired it?
a) Farming Yes No
If yes
- i) How many Acres?.....
- ii) What type of crops?.....
- iii) Which crops are destroyed by wildlife.....
- iv) Do you derive any income from farming? Yes No
- b) Livestock keeping** Yes No
If yes
- i) What type of livestock?.....
- ii) What is the total number?.....

- iii) How are they affected by wildlife?.....
- iv) Do you derive income from the livestock.....
- c) **Other (Specify)**

SOURCES OF INCOME

11. What is your primary source of income? **a) Agriculture** **b) Pastoralism**
c) Agro-Pastoralism **d) Wildlife Conservation** **e) Other**
(Specify).....

12. List other important sources of income **a) Agriculture** **b) Pastoralism**
Agro-Pastoralism **e) Wildlife Conservation** **e) Other (specify)**

C) WILDLIFE CONSERVATION

1. Did you know that this land is a dispersal area for wildlife when you were acquiring it?
 Yes (Explain your answer)
- i) No (Explain your answer)
2. Do wild animals come into your land?
 i) Yes ii) No iii) Do not know iv) No response
 a) If yes, what animals?
3. State the months of the year or the season wildlife comes to your land

4. What have been the wildlife population trends on your parcel of land?
 a) Increasing b) No changes c) Decreasing
5. List most frequently seen wildlife in your land.....

6. What do these animals do when they come to your land?

.....

D) KITENGELA WILDLIFE CONSERVATION LEASE PROGRAMME AND ITS BENEFITS

I. GENERAL INFORMATION

1. Are you a member of the Kitengela wildlife conservation lease programme?
a) Yes b) No
2. If yes, for how long have you been a member?
.....
3. How did you get to know about the Lease Programme?
.....
4. Why did you join the lease programme?.....
5. How many acres of your land are on the Lease Programme? _____ Acres
6. Have you received any money from the lease programme?
i) Yes ii) No
a) If Yes how much?
Kshs.....
b) In what form is the money? Cash Cheque
7. In whose name is the payment made.....
.....
8. Who makes decision on how the money is allocated
Self Self Self and Spouse Other
(Specify).....

II. BENEFITS

i) Education

9. According to the Contract, the money is paid in three installments and is made to coincide with opening of school; do you use the money to pay school fees? Yes
No
10. If yes, Primary school secondary Any Other (specify)

.....
.....
i) If primary, Private school or public school.....

ii) If public, describe what the money is used for since the introduction of free primary education

11. How many children are you able to pay for school from the money acquired from the WCL programme?
.....

12. How many girlsboys.....

ii) Increasing Household Revenue

13. Since you joined the lease program has your incomes increased or reduced (explain your answer).....

b) If income has increased by how much per annum.....

14. Did the introduction of the WCL programme reduce your dependence on any of the following sources of income

code	Source of income	Tick appropriate	
1	Livestock	YES	NO
2	Agriculture	YES	NO
3	Agro-Pastrolism	YES	NO
4	Any Other (Specify below)	YES	NO

Any Other.....

15. Do you find the money you receive per acre from the Lease programme proportionate to the activities that are deprived of you for wildlife?

a) Yes b) No

16. If no, how would you have liked it?

.....

 17. Apart from the monetary benefit received from the WCL programme, what non-monetary benefits do you derive from the Lease Programme?

18. The contract between you and the TWF specifies the land- uses that may occur on their land, while protecting wildlife habitat, to what extent does the contract violate your right to utilize your land?

iii) Funding Social Infrastructure

19. Which of the following social infrastructures have arisen from the wildlife conservation Lease Programme?

code	Social Service	Tick Appropriate
1	School	
2	Health Centre	
3	Cattle dip	
4	Road	
5	Water source (Dam, Borehole or any other)	
6	Grinding mills	
7	Any other (specify below)	

Any other.....

v) Improving Livelihoods

20. Other than the above listed benefits, to what extent has the WCL programme improved your living conditions?

21. Has the lease programme played a role in promoting food security in your family

Yes No

If Yes How?

22. Is the WCL programme beneficial to other people in the area that are not in the programme?

Yes No

a) If yes, who

b) How do they benefit?.

THE WILDLIFE CONSERVATION LEASE PROGRAMME CONTRACT

23. The contract stipulates the conditions listed below, kindly answer the following questions (Tick appropriate)

code	Question	Answer	
		YES	NO
1.	The contract indicates that there will be a payment of Kshs. 300.00 per acre per year; did you play any role in determining this amount?		
2.	Is the money paid in three installments as indicated in the contract?		
Have you met the following conditions as indicated in the lease contract			
3.	To manage the land for the benefit of wildlife and sustainable livestock grazing?		
4.	To leave the land under lease open and not to install any perimeter fencing of the land?		
5.	Not to cultivate, mine or quarry in any manner the land under this wildlife conservation lease?		
6.	To actively protect wildlife and prevent poaching including picking up snares?		
7.	To protect indigenous plants and trees, and plant indigenous trees on your land where appropriate?		
8.	To abide by the above terms of wildlife conservation lease for a period of one year, with understanding that the lease can be continued by the agreement of both parties after one year with 5% yearly increase of the base amount?		
9.	Do you understand that if any of the above is violated, the wildlife conservation lease contract can be terminated immediately by either party?		

Additional information

24. What is your general view about the potential of Kitengela WCL programme?
.....

25. Any other issue about the Lease programme that need to be addressed?
.....

26. How do you rate the appropriateness of the lease programme to

i) To your needs (explain your answer)

a) **Highly sufficient** b) **Sufficient** c) **Not sufficient**

ii) To Wildlife conservation (explain your answer)

a) **Highly appropriate** b) **appropriate** c) **Not appropriate**
.....

27. What do you think might be reducing the lease programme effectiveness in promoting the welfare of the local community?
.....

28. What would you recommend to be done in this area to increase benefits from wildlife

a) **Ecotourism lodge** b) **Hunting** c) **Community sanctuary** d)

Revenue sharing from government-controlled parks e) **Traditional Uses** f)

Other (specify)
.....

29. Who should do it?(explain)

a) **Government** b) **local community** c) **Non-governmental organizations** d)

Any other (specify)
.....

30. Are you still willing to tolerate the presence of wild animals in your land in the absence of the benefits derived from the WCL programme? Please explain...
.....

Thank You

Appendix II

INTERVIEW SCHEDULE FOR KEY INFORMANTS

Kenya Wildlife Service (KWS)

GENERAL INFORMATION

1. What is the core mandate of KWS in wildlife conservation?
2. What role does KWS play in wildlife conservation outside the wildlife protected areas?
3. Does the Wildlife (Management and Conservation) Act provide for the participation of communities or local people in wildlife conservation? (Explain Your answer)
4. Does the law on wildlife consent to revenue sharing with local communities?
5. Communities living adjacent to the wildlife-protected areas and within the dispersal and migratory corridors bear direct and indirect costs of living with wildlife. Does KWS consider wildlife a threat to humans, livestock or crops?(Explain your answer)
6. If yes, what incentives can be created for land owners to conserve wildlife on their land?
7. What are the systems that KWS have in place in that provide conditions under which wildlife, livestock and human can co-exist?

WILDLIFE CONSERVATION LEASE PROGRAMME

8. Is the KWS aware of the Kitengela Wildlife Conservation Lease Programme?
9. Does KWS consent to the lease programme?
10. The Wildlife Management and Conservation Act (Cap.376) gives the KWS the sole jurisdiction to manage and conserve Kenya's wildlife, what implication does the WCL programme have on the mandate of KWS?
11. To what extent has the programme promoted wildlife conservation in the Kitengela Wildlife Conservation area?
12. The WCL programme operates through a contract between The Wildlife Foundation and the Land owners in Kitengela, to what extent does the KWS concur with this contract
13. According to KWS does the programme have any potential? (explain your answer)
14. What capacity is there for the KWS to support processes for directing benefit flows to local communities in the Kitengela wildlife dispersal areas?

15. What institutional (legal and policy framework) governs community-protected area interactions?
16. Does KWS consider formulating conditions under which there would be an ecological and economic synergy between people and wildlife? (Explain)

Thank you

QUESTIONS TO FRIENDS OF NAIROBI NATIONAL PARK (FoNNaP) AND THE WILDLIFE FOUNDATION (TWF)

GENERAL INFORMATION

1. What is the core mandate of this organization as much as wildlife is concerned?
2. How else does this organization participate in wildlife conservation?
3. What was the main objective of the Kitengela Wildlife Conservation Lease (WCL) Programme?
4. Describe the environment which led to the initiation of the Kitengela WCL Programme
5. To what extent has the original objective of the Lease Programme been realized?

PARTICIPATION

6. Who chooses which land owner is involved in the lease programme?

THE WILDLIFE CONSERVATION LEASE PROGRAMME CONTRACT

31. The contract stipulates the conditions listed below, kindly answer the following questions (Tick appropriate)

code	Question	Answer	
10.	The contract indicates that there will be payment of Kshs. 300.00 per acre per year; did local community in Kitengela play any role in determining this amount?	YES	NO
11.	Is the money paid in three installments as indicated in the contract?	YES	NO
	Have you met the following conditions as indicated in the lease contract		
12.	To manage the land for the benefit of wildlife and sustainable livestock grazing?	YES	NO
13.	To leave the land under lease open and not to install any perimeter fencing of the land?	YES	NO
14.	Not to cultivate, mine or quarry in any manner the land under this wildlife conservation lease?	YES	NO
15.	To actively protect wildlife and prevent poaching including picking up snares?	YES	NO
16.	To protect indigenous plants and trees, and plant indigenous trees on	YES	NO

	your land where appropriate?		
17.	To abide by the above terms of wildlife conservation lease for a period of one year, with understanding that the lease can be continued by the agreement of both parties after one year with 5% yearly increase of the base amount?	YES	NO
18.	Do you understand that if any of the above is violated, the wildlife conservation lease contract can be terminated immediately by either party?	YES	NO

Additional information

7. The contract signifies that conservation lease programme is a voluntary legal agreement with the land owners, it also identifies the uses that may occur on their land, while protecting wildlife habitat. To what extent do the landowners understand the implications of this contract?
8. What level of participation did the local communities have in the
 - a) Designing of the contract.....
 - b) Planning for the implementation of the lease programme.....
 - c) Determining the amount payable (Kshs300 /acre/per year)
9. Does the community have legal representation during the signing of the contract?

Yes No
10. What systems does the FoNNaP have in place to guarantee that the lands under the lease programme are managed for wildlife conservation?
11. Has Lease programme managed to effectively promote participation of the landowners in the management of wildlife? Yes No
12. There are some landowners in Kitengela that are not willing to enter into the lease programme, what implication does this have on the sustainability of the programme?
13. The contract between TWF and the land owners is not a binding legal document, to a large extent it is like a gentleman's agreement, the land owners can opt out of the contract, to what extent is the lease programme sustainable?

SOCIO-ECONOMIC BENEFITS

- 14. What has been the role of the Lease Programme in promoting the livelihoods of the local communities in the Lease Programme?
- 15. What development project or social infrastructures have arisen from the wildlife conservation Lease Programme?
- 16. To what extent has the WCL Programme contributed in reduction of human-wildlife conflict in the Kitengela dispersal area?

FUNDING

- 17. How is the Lease Programme funded?
- 18. To what extent is the source of funding sustainable?
- 19. In absence of the above source of funding, what other option does the programme have?
- 20. What are the major tangible benefits that local community in Kitengela benefited from the Lease Programme?
- 21. What are the main challenges facing the Lease Programme?
- 22. To what extent do the following frameworks enable or hinder community participation in wildlife conservation?
 - a) Legal.....
 - b) Policy
 - c) Administrative.....
- 23. In the event that the Kitengela WCL programme does not succeed, what mechanisms would you recommend for promoting community wildlife conservation in the Athi Kapiti plans?

Thank you

Appendix III

INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSION

a) The historical aspects of the local community in Kitengela.

1. What are some of the salient cultural features of the Maasai Community in regards to wildlife conservation in Kitengela?
2. What are some of the cultural changes that have taken place in the last two decades
3. What factors can be attributed to the cultural changes taking place today?
4. What are some of the socio-economic challenges is the local community facing today?
5. What are some of the coping mechanisms have been adopted?

Land tenure and land-use

1. Discuss the changes in land tenure that have taken place since the colonial time or before
2. Discuss the land uses of Kitengela area :
 - i. 30 years ago
 - ii. As you see it today
 - iii. And 30years from now

Wildlife conservation

1. Why should wildlife be protected?
2. What role do you play in wildlife conservation as a community?
3. What are your views on the status of Wildlife in Kitengela today? How has it changed over time?
4. Do you as a community find wildlife conservation of any Economic significance?
5. Conditions under which interventions that raise tolerance for wildlife but also reduce resistance to conservation efforts.
6. Do you as a community hold community meetings to discuss wildlife conservation in Kitengela?
7. Which are the issues that normally come up in the meetings?

8. As a community that lives with wildlife do you feel that you are participating in wildlife conservation?
9. What limits Community participation in wildlife conservation Kitengela?

KITENGELA WILDLIFE CONSERVATION LEASE PROGRAMME

1. What is the main objective of the lease programme?
2. Do you think this objective been achieved?
3. How effective do you find the lease Programme to be in conservation of wildlife?
4. How effective is the lease Programme promoting livelihoods?
5. In which way do you think local community in Kitengela have benefited from the lease programme?
6. What are the main challenges facing the lease programme?
7. What has been the role of the lease programme in promoting the livelihood of the local communities in the lease program?
8. What are some of the benefits of the Lease Programme to non-participating members
9. What role did the community play in the
 - i. designing
 - ii. Planning
 - iii. Implementation of the WCL programme?
10. What are your comments on the Economic feasibility and long-term sustainability of interventions?
11. As a community do you witness any form of partnership in wildlife conservation between the community and KWS?
12. What are some of the factors that have led to some community members not to participate in the lease programme?
13. In general, what other development project or programmes have arisen from wildlife conservation

CONTRACT
2007

THE WILDLIFE CONSERVATION LEASE PROGRAMME FOR
NAIROBI NATIONAL PARK

In return for compensation of Kshs. 300.00 per acre, per year-paid in three equal installments by **The Wildlife Foundation (TWF)** to _____, involving a total of _____ acres legally owned by me, i.e. **L.R. No.**_____.

I hereby agree to the following for the duration of this Wildlife Conservation Lease:

1. To manage this land for the benefit of Wildlife and sustainable Livestock grazing.
2. To leave the land under the lease open and not to install any perimeter fencing of my land.
3. Not to cultivate, mine or Quarry in any manner the land under this Wildlife Conservation Lease.
4. To actively protect Wildlife and prevent poaching including picking up snares.
5. To keep this land under lease free of building or any other structures.
6. Not to sell or sub-divide this land under this Wildlife Conservation Lease.
7. To protect indigenous plants and trees, and plant indigenous trees on my land where appropriate
8. To abide by the above terms of this Wildlife Conservation Lease for a period of one year, with the understanding that the lease can be continued by the agreement of both parties after one year with a 5% yearly increase of the base amount (due to inflation).

Allocation and distribution of the Wildlife conservation lease funds will be done by The Wildlife Foundation or their designated representative.

If any of the above is violated, this Wildlife Conservation Lease funds can be terminated immediately by either party.

1st Installment received Kshs. _____

LANDOWNER'S NAME	ID NO.	SIGNATURE	DATE
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(i) _____	_____	_____	_____
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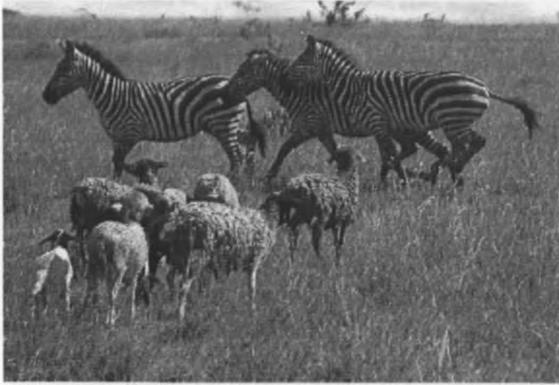
(ii) _____	_____	_____	_____
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Witnessed By:

(i) _____	_____	_____	_____
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(ii) _____	_____	_____	_____
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Appendix V: Pictures Taken During Field Work



Picture 1 and 2: Wildlife grazing together with livestock



Picture 3: The Researcher with wildlife in the background



Picture 4: Researcher conducting interviews