

**THE IMPACT OF URBANIZATION ON THE LIVELIHOODS OF THE MAASAI
COMMUNITY: A CASE STUDY OF NGONG WARD, KAJIADO COUNTY**

BY:

SOGOTI PERIS KAPTUYA

REG NO: C50/63822/2010

**A Project Paper Submitted in Partial Fulfillment for the Requirement of Master of
Arts in Environmental Planning and Management in the Department of Geography
and Environmental Studies, Faculty of Arts, University of Nairobi**

October, 2013

DECLARATION

This project is my original work and has not been presented for award of degree in any other University.

Sogoti Peris Kaptuya
Reg No: C50/63822/2010

This research Project has been Submitted for Examination with our approval as University Supervisors.

Dr. Alice .A. Odingo _____ **Date** _____
Supervisor

Dr. Mikalitsa .S. Mukhovi _____ **Date** _____
Supervisor

DEDICATION

I dedicate this work to my husband, Mr. Solomon, sons Enoch, Elisha and Daughter Abigail. I say thank you for your time and support throughout this study period.

ACKNOWLEDGMENT

My deepest gratitude goes to the Almighty God for giving me the strength and life to pursue my studies to the completion stage.

I wish to acknowledge my profound gratitude to my supervisors, Dr. Mikalitsa. S. Mukhovi and Dr. Alice A. Odingo for their valuable guidance offered during the various stages of this study. Their wise counsel, encouragement and patience made it possible for this study to come to completion within a reasonable duration.

My great appreciation and indebtedness goes to all Maasai Elders of Ngong ward, who took part in this study without whom this study would not have been possible to complete. Deep appreciation to the area DC and Chief and his staff for assisting me during the data collection exercise. I am also grateful to my research assistant Peter Asai who played a key role during field work.

My very deep and heartfelt appreciation is expressed to my dear husband and children for their love, understanding and support during the time of the study. My parents and siblings also deserve thanks for encouraging me all the time and standing by me when the going seemed hard. Finally, to all my colleagues for their support which enabled me to undertake this study.

I thank you all.

ABSTRACT

The Maasai community has been known to be a pastoral community from time in memorial. Today, this is fast changing. Urbanization has fast caught up with the traditional lifestyle of the Maasai community. With pastoral land diminishing on a daily basis, the livelihood of the Maasai households has thus been affected. Most of them have been found to be lost in between culture and urbanization. The purpose of this study was to establish the impact of urbanization on the livelihood of the Maasai community in Ngong Ward, Kajiado County. The study explored ways in which changing land use and tenure coupled with rapid population growth had affected the livelihood of the Maasai households in Ngong Ward, Kajiado County. Further to this, the study also sought to find out the socio-economic and environmental impacts of urbanization and also established the coping mechanisms the Maasai's in Ngong Ward had adopted in response to urbanization.

This study used cluster sampling and systematic random sampling research design to get the sample population. The use of several research instruments which included; household questionnaires, interview schedule with key informants, observation schedule that was enhanced by the use of photography and a document analysis guide was employed. Cluster sampling and systematic random sampling approach was adopted to identify the households. In total 70 Maasai households participated in this study. The quantitative data generated by questionnaires was analyzed by the use of SPSS 17 while the qualitative data generated from the interview schedules, observation and from secondary sources of data was analyzed through content analysis. Analyzed data was then summarized into frequencies and percentages and presented in tables, bar charts and figures.

Findings of the study revealed that Ngong Ward was experiencing rapid urbanization due to its proximity to Nairobi County that had seen it emerge as a dormitory for the urban labour force. Rapid urbanization has led to the increase in demand for land leading to increased land subdivisions in the ward. This has led to changing land use and land tenures that has negatively impacted on the traditional Maasai livelihood of pastoralism. Though urbanization was seen as contributing to conservation efforts within Ngong Ward

environmental pollution was seen as the most visible negative impact of urbanization in the ward. Socio-economically urbanization was seen as having a positive contribution to the Maasai livelihood. Many Maasai households had diversified their livelihoods and had opted into new livelihoods as a result of the urban sprawl in Ngong Ward.

The study recommends that there is need to undertake an integrated urban planning framework for the ward and other emerging urban towns which incorporates the aspect of urban zoning as way of protecting local communities. Prevalence of employments should be given to local communities by organizations in urban towns to help provide sustainable livelihood strategies for the local communities. While adopting the aspect of planning the government should set regulations that limit very small subdivisions in lands set aside for agro-pastoralism. In Ngong Ward there is need for an infrastructural upgrade that should take into consideration of the increasing population. The study also recommends that community participation should be integrated in all development projects that are meant to benefit the Maasai households.

TABLE OF CONTENTS

Declaration	ii
Abstract	v
Table of Contents	vii
List of Figures	xi
List of Tables	xii
List of Plates	xiii
List of Abbreviations	xiv

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study.....	1
1.2 Statement of the Problem.....	4
1.3 Research Questions	5
1.4 Objectives of the Study.....	6
1.4.1 General Objectives.....	6
1.4.2 Specific Objectives	6
1.5 Hypothesis.....	6
1.6 Justification of the Study	6
1.7 Scope of the Study	7
1.9 Operational Definition of Terms.....	7

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction.....	9
2.2 Global Urbanization.....	9
2.3 History of Urbanization in Africa	11
2.3.1 Post-Colonial Urbanization in Africa	11
2.3.2 Pastoralism in the World.....	13
2.3.3 Pastoralism in Ladakh India among the Changpa Community	14
2.3.4 Pastrolism in the Sahel – The Fulani’s	16
2.3.5 Livelihood among the Maasai Community in Tanzania.....	17
2.4 The Maasai Land and Way of Life	18
2.4.1 The Maasai of East Africa	19

2.4.2 The Maasai of Narok and Kajiado	21
2.5 Livelihood Strategies	22
2.5.1 The Livelihood Framework Approach.....	23
2.5.1.1 Household Livelihood Assets or Resources	23
2.5.2 Urban Livelihood Strategies	25
2.5.3 Rural Livelihoods.....	26
2.6 Urban Poverty	26
2.7 Challenges Facing Pastoral Community.....	27
2.8 Theoretical Framework.....	28
2.8.1 Modernization Theory	28
2.8.2 Dependency Theory	28
2.8.3 Urban Bias Theory.....	29
2.9 Conceptual Framework.....	30
2.10 Study Gaps	32

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction.....	33
3.2 Study Area	33
3.2.1 Topography.....	33
3.2.2 Geology and Soils.....	33
3.2.3 Climate and Hydrology.....	33
3.3 Research Design.....	35
3.4 Target Population.....	35
3.5 Sample and Sampling Procedures.....	36
3.6 Sources of Data Collection 3.5.1 Primary Sources.....	37
3.6.1.1 Questionnaire	37
3.6.1.2 In-Depth Interview Schedules.....	37
3.6.1.3 Observation Schedule	37
3.6.2 Secondary Sources	37
3.7 Validity of Research Instrument	38
3.8 Data Collection Procedures.....	38

3.9 Data Analysis Procedures	38
3.10 Limitations to the Study.....	39

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1 Introduction.....	40
4.2 Demographic Information.....	40
4.2.1 Gender of Respondents	40
4.2.2 Age of Respondents	41
4.2.3 Marital Status of Respondents	41
4.2.4 Level of Education of Respondents	42
4.3 Factors Leading to Urbanization of Ngong Ward.....	43
4.3.1 Understanding the Concept of Urbanization.....	43
4.3.2 Experienced Urbanization.....	44
4.3.3 Factors leading to Growth in Urban Population	44
4.4 Land Subdivision	45
4.4.1 Possession of Land Title deed.....	45
4.4.2 Changes in Land Size as a Result of urbanization	46
4.4.3 Number of Cattle per Household	46
4.4.4 Grazing Area for the Cattle.....	48
4.4.5 Existence of Pasture Related Conflicts	49
4.4.6 Household Mobility	49
4.5 Socio-Economic Impact of Urbanization.....	51
4.5.1 Perception of the Maasai about Urbanization.	51
4.5.2 Accessibility to Schools.....	52
4.5.3 Accessibility of Services from Financial Institutions	52
4.5.4 Presence of Training on Investing Money	52
4.5.5 Influence of Urbanization on flow of Goods and services	53
4.5.6 Water Availability in Ngong Ward.....	54
4.5.7 Source of Water	54
4.6 Environmental Impact of Urbanization in Ngong Ward.....	55
4.6.1 Effect of Urbanization on Conservation areas e.g. Nairobi National park.	55
4.6.2 Negative Impacts of Urbanization	57

4.7 Coping Mechanisms adopted by the Maasai Community	61
4.7.1 Main Source of Income.....	61
4.7.2 Sources of Food	63
4.7.3 Manifestation of Poverty in Ngong Ward.....	64
4.7.4 Presence of Community Based Organizations.....	64
4.7.5 Community Based Organizations (CBO) in Ngong	65
4.8 Testing of the Hypotheses.....	66
4.8.1 Hypotheses 1	66
4.8.2 Hypothesis 2.....	66
4.9 Discussions	68

**CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND
RECOMMENDATIONS**

5.1 Introduction.....	71
5.2 Summary of Findings.....	71
5.3 Conclusions.....	72
5.4 Recommendations for Policy Makers.....	73
5.5 Suggestions for Further Studies	74
REFERENCES.....	75

APPENDICES

Appendix I: Questionnaire.....	85
Appendix II: Interview Schedule	95
Appendix III: Some of the SPSS Analyzed Data Sheets	96

LIST OF FIGURES

Figure 2.1 Conceptual Framework	31
Figure 3.1 Map of Showing Location of Study Area.....	34
Figure 4.1 Age of Respondents.....	41
Figure 4.2 Number of Cattle per Household.....	47
Figure 4.3 Household Mobility.....	50
Figure 4.4 Effect of Urbanization on Conservation Areas e.g. Nairobi National.....	56
Figure 4.5 Main Source of Income	62

LIST OF TABLES

Table 4.1 Gender of Respondents	40
Table 4.2 Marital Status of Respondents	42
Table 4.3 Respondents Level of Education	42
Table 4.4 Duration of Living in Ngong	43
Table 4.5 Respondents Understanding of Urbanization	43
Table 4.6 Factors leading to growth in urban population.	45
Table 4.7 Size of Land	45
Table 4.8 Possession of Land Title Deed.....	46
Table 4.9 Changes in Land Size	46
Table 4.10 Provision of Pasture for the Livestock.....	48
Table 4.11 Existence of Pasture related Conflicts	49
Table 4.12 Accessibility to Schools.....	52
Table 4.13 Presence of Training on Investing Money	53
Table 4.14 Influence of Urbanization on the flow of Goods and Services.....	53
Table 4.15 Presence of Enough Water in Ngong Ward.....	54
Table 4.16 Source of Water in Ngong Ward	55
Table 4.17 Negative Impacts of Urbanization	57
Table 4.18 Source of Food.....	63
Table 4.19 Manifestation of Poverty in Ngong Ward.....	64
Table 4.20 Presence of Community Based Organizations.....	64
Table 4.21 Community Based Organisations (CBO) in Ngong	65
Table 4.22 Table 4.22 Pearson Correlation Coefficient between the number of cattle in a Maasai household and the type of housing	66
Table 4.23 Spearman’s Rho Correlation between the Gender of Respondents and the Education Level of Respondents.....	67

LIST OF PLATES

Plate 1: Grazing of Cattle on Open Fields	48
Plate 2: Picture of the Ngong Ward Dumping Site.....	58
Plate 3: A Polluted Nol Chora Stream	59
Plate 4: Dust emission from a Ballast Quarry within Bul bul location.....	60
Plate 5: Impact of Urbanization in Ngong	61
Plate 6: Economic Activities among the Maasai in Ngong	63

LIST OF ABBREVIATIONS

ASALS	-	Arid and Semi –Arid Lands
DFID	-	Department for International Development
FAO	-	Food and Agriculture Organization.
FGM	-	Female Genital Mutilation
GDP	-	Gross Domestic Product.
IDS	-	Institute of Development Studies.
ILCA	-	International Livestock Center for Africa
KDDP	-	Kajiado District Development Plan
KFS	-	Kenya Forest Service
KNBS	-	Kenya National Bureau of Statistics.
KWFT	-	Kenya Women Finance Trust
KWS	-	Kenya Wildlife Service
NCBD	-	Nairobi Business Central District.
REPOA	-	Research on Poverty Alleviation
SPSS	-	Statistical package for Social Scientists.
TLU	-	Total Livestock Units
UNDP	-	United Nations Development Program
UNHCS	-	United Nations Commission on Human Settlement.
USAID	-	United States Agency for International Development.
WCED	-	World Commission on Environment and Development

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

In the past few decades pastoral communities in the world have been faced with many challenges among them loss of pasture-land to farmers and urban areas, increased commoditization of goods and services and out-migration of poor pastoralists to urban and settled areas. Nevertheless, they have shown an extraordinary buoyancy and adaptability to these changes which have affected their lives and livelihoods. It is notable that majority of the world's pastoral communities today, continue to rely on their livestock as a source of food, transportation and source of products for sale. An indispensable part of the livelihood strategies adapted by the pastoral communities has been to take advantage of the mixed social environment that many pastoralists find themselves in. They do this by trading, exchanging, or allying with neighboring groups including foragers, farmers, townspeople and occasionally other pastoral groups. These kinds of associations at times may become competitive and may lead to conflict over scarce resources. It is important to note that this is made worse by population growth and loss of grazing lands due to urbanization (Humphrey and Sneath 1999).

Traditional pastoralists survive in few places in the world. In Africa they can still be encountered in the Sahel and in the East African region where annual alternations of dry and wet seasons force them into continual mobility. In West Africa, the Fulani are the biggest pastoral community. They are known to be one of the major cattle raising community in the world and there exist significant groups of them in every state of West Africa and are also found in Cameroon, Chad, the Central African Republic and Sudan (Riesman, 1980). In East Africa the Maasai are found in Kenya and Tanzania.

The Fulani, just like all other nomads have over the years pastured their herds in dry pastures around wells in the dry season, while others during this season send their cattle to graze in the rangelands grasses created by the flooding of the inland river deltas, especially that of the Niger. According to Riesman (1980), the key to the adaptation of the Fulani to the environment has always been mobility. The growth of cities along the Niger has impacted both positively and negatively to the pastoral communities of the Sahel. Though urbanization has seen the demand for meat in the Sahel region soar, free

mobility of livestock along the river banks of the Niger has been affected. At the same time emergence of urban centres and cities along the Niger has led to pollution of the main water source for the pastoral communities and this has been noted to increase mortality of their livestock.

The Maasai, both of Kenya and Tanzania, are one of the most famous pastoralist populations in the world (Spears, 1993). Like all other pastoralists, the Maasai are people whose livelihood depends mainly on the raising of domestic animals mainly goats, sheep and cattle. They occupy large tracts of communally owned land and utilize kinship ties for mutual herding and defense. Their herds are often large and hardy enough to survive periodic drought and sparse vegetation. The Maasai have been known to practice localized livestock keeping in semi-permanent settlements (Society for Applied Anthropology, 2003).

In the recent past, the Maasai have been facing more pressures to their way of life than ever before. The Kenyan Maasai has had to cope with all the problems associated with urbanization. The threat of population growth and loss of pastureland to emerging urban centers is real. The challenges that come with urbanization today are threatening a way of life that has proved in the past to be a highly adaptive food production system in arid lands. Urbanization has resulted in declining mobility of livestock thus placing in jeopardy the sustainability of both rangeland resources and pastoral livelihoods (Society for Applied Anthropology, 2003).

It is noted that until fairly recently the Maasai used to practice transhumance which was made possible due to the availability of abundant land and low population levels of both human and livestock. This land use type made effective use of large tracts of land and at the same time maintained its productivity. The Maasai transhumant herding patterns have been in line with the ecological realities of arid and semiarid areas where rainfall and grazing are subject to high risk and seasonal variability. They allowed vegetation to be renewed annually as they resorted to temporary migration which has been a traditional drought-coping strategy and has had positive effects to the environment in that it allowed the affected area to recuperate (Ndagala, 1992; Homewood and Rogers, 1991). With urbanization this is fast changing.

Urbanization is associated with problems such as inadequate infrastructure, waste management and inadequate housing and these problems are difficult to eradicate or control, developed countries continue to battle these problems, but they are worse in the developing countries where the dearth of necessary resources tend to hinder attempts to solve urban problems. The rate of urbanization in Africa and other developing countries is quite different from what happened in the presently developed countries; at the time they were developing. Demographically migration is a result of urban pull which was the chief cause urbanization in Europe and the United States (Butler and Crooke, 1973).

Urban sprawl promotes the spread of urban land use into the rural-urban fringe and draws a larger number of people into the rural-urban interface. In the course of development, it is likely that out of the enormous number of rural people lacking opportunity in the economically underdeveloped places where they usually come from, many will continue to migrate to the cities. Gugler (1996) notes that most of the population growth in cities is due to migration; slightly less is due to natural population growth in towns and cities; and villagers in settlements that are integrated into the urban fold account for a small share.

In Kenya today, the expansion of urban centers has had a strong influence on the rural areas in terms of land use and population, both physically and in a socio-economic sense. The influence of urban growth stretches far beyond the immediately adjacent area. The Maasai too have not been left untouched. The traditional Maasai lifestyle of pastoralism is under increasing pressure with great differences in access to resources and opportunities among them leading to interesting new patterns of livelihood. For the Maasai's the options are enhanced by their proximity to the expanding Nairobi city. The Maasai community nearest to Nairobi, is feeling the encroachment of Nairobi's urban sprawl and pollution, and of a new, cash-driven society that is buying up pastoral lands and pressuring the Maasai in ways their forefathers could never have imagined.

Considering that rural-urban fringes, especially in developing countries, are often characterized by faulty and ad-hoc government planning and intervention, this thesis concentrates on the impact of urbanization on the livelihood of the Maasai in Ngong ward, Kajiado County. The area was predominantly occupied by the Maasai. The notion of livelihood is narrowed down here to reflect social and economic household variables;

of these, especially the occupational characteristics are studied thoroughly. The thesis further lays concern with how urbanization affects the livelihood of Maasai, investigating ways in which changes in land use affect the Maasai household livelihoods and how land-use patterns are determined within Ngong ward, Kajiado County.

1.2 Statement of the Problem

According to Bollig (1987) there exist a variety of ethnographic studies that discuss the interaction between pastoralists of sub-Saharan Africa and their neighbors. Many anthropologists have undertaken studies on African pastoral societies and most discuss the problems of collectivization (Anderson 2000). According to Coughenour et al (1985) the arid lands that the pastoral communities occupy are typically unstable and pastoralism has always acted as a measure against overpopulation and as a way of conserving a fragile environment. Nevertheless, these studies do not highlight the impact of urbanization on the livelihoods of the pastoral communities.

According to Fratkin (1987) the situations of pastoralists in East Africa compare to those of Central Asia where pastoralists face problems of land and common property rights, the commoditization of the livestock economy, urban migration, and increasing economic polarization. Fratkin and Ikeya (2005) note that the struggles of other environmentally driven social movements have a lesson that the struggles of the pastoralists, although nascent and distinct, can learn from them. On the hand, many studies have been undertaken by that discuss the viewpoints of marginalization of pastoral societies in Africa and globalization (Fratkin and Ikeya, 1987).

The ability of most Maasai to achieve self-sufficiency through livestock production alone is being lost, mainly due to the effects of urbanization. In response, Maasai have taken up farming in increasing numbers. Sustainability for the Maasai now means having access to cultivation of crops as well as livestock resources. Due to the increasing loss of the Maasai land, the Maasai situation may be more extreme than pastoralists living in other less-populated and more arid regions, such as northern Kenya where the rate of urbanization is lower. For the pastoral communities in these areas (e.g. Rendille, Samburu, Turkana, Pokot, Gabra, Boran, Somalis) the challenges are not of urbanization but due to other problems particularly of armed violence and livestock raiding caused by

a combination of drought, access to guns, and less police security (Fratkin et al., 2001). For pastoral groups in these more arid regions where agriculture is more difficult and population densities are lower, the trend toward individualization of land rights and commoditization of the pastoral economy is slower, but also shows signs of developing (Fratkin, 1998).

Riesman (1980) reveals that a major snag in many overseas development projects for pastoral communities has been the human factor. Failure by governments and development experts to take aspects of the opportunities that lie in pastoralism has resulted in several difficulties among them; radical misinterpretation by the target population of what the motives of development plans, significant disruption of an ongoing way of life, with the benefits going just to a few rather than to the majority or to all; and deterioration rather than improvement of the economic situation of the pastoral community.

Though many studies have been undertaken on the Maasai this study has not come across any study that has laid specific emphasis on the impact of urbanization on the livelihood of the Maasai in Ngong ward. Urbanization is not put at the center when it comes to the Maasai. The Maasai lifestyle and urbanization are considered to be far apart. This study therefore seeks to fill this gap by determining the impact of urbanization on the livelihoods of the Maasai Community by taking a case of Ngong ward of Kajiado County.

1.3 Research Questions

- i) What are the socio-economic impacts of urbanization on the livelihood of the Maasai Community in Ngong ward, Kajiado County?
- ii) What are the environmental impacts of urbanization in Ngong Ward?
- iii) What are the coping mechanisms adopted by Maasai in response to urbanization?

1.4 Objectives of the Study

1.4.1 General Objectives

The general objective of the study is to determine the impact of urbanization on the livelihood of the Maasai community in Ngong ward, Kajiado County.

1.4.2 Specific Objectives

- i) To find out the socio-economic impacts of urbanization to the livelihood of the Maasai.
- ii) To find out the environmental impacts of urbanization in Ngong Ward.
- iii) To establish the coping mechanisms adopted by the Maasai Community in response to urban sprawl

1.5 Hypothesis

H₀ There is no significant relationship between the number of cattle in a Maasai household and the type of housing.

H₀: There is no significant relationship between the sex and level of education among the Maasai.

1.6 Justification of the Study

For many years pastoralism has served as the bedrock of livelihoods and culture in the arid and semi-arid lands (ASALs). In East Africa the ASALs constitute most of the land mass (ILRI, 2006). The Maasai are largest and most widely known pastoralist group in the region and have traditionally lived as pure pastoralists, with their culture and livelihoods being centered on livestock.

Despite Ngong ward of Kajiado County, an originally a Maasai land, falling under the ASALS with pastoralism the best form of production suited for such land, things have changed. Today most of the land in Ngong is occupied by non Maasai's with the area reeling from the impact of urbanization. The pressure from urban sprawl has threatened the Maasai way of life and pastoralism in this area is currently faced with a lot of pressures, which are threatening the pastoral livelihoods and subjecting many to increasing poverty and food insecurity. In turn many Maasai have been forced to look beyond pastoralism for their continued survival. Ngong ward, therefore offers a chance

for a study of the impact of urbanization on the life of the Maasai Community. Ngong today is cosmopolitan area with an increasing number of the Maasai are engaging in agro-pastoralism, as one of the means of coping with their adverse conditions and improving their food security. The prevailing weather conditions make cultivation of crops to thrive in the area as others irrigate their crops. The weather is mostly humid and crops can grow with minimal rainfall. This livelihood diversification however need to be understood and explained in view of the rapid urbanization that has been taking place within this area. Ngong therefore offers an ideal area of study in understanding and addressing the livelihood of the Maasai community, the urban sprawl in Ngong Ward, Kajiado County.

1.7 Scope of the Study

The area under study was Ngong ward in Kajiado County. The study targeted all the Maasai households within the ward. Ngong was part of Ngong forest which has been cleared for settlement and part of it for cultivation of crops. It is bordering Southern part of Nairobi. It is included in the Nairobi metropolitan city. The total population of Ngong Ward is 237,805 people, the households are 68,120. The area is 716.7 km² (KNBS, 2009). The area was mainly inhabited by the original natives who were the Maasai but is now an urban center which has almost all the forty two tribes of Kenya including the people of the Southern Sudan who had sought asylum in Kenya. This has been necessitated by the urban sprawl.

1.9 Operational Definition of Terms

Immigration	Act of moving to or settling in another country or region, temporarily or permanently
Livelihood Concept	is the way people (rich and poor alike) earn a living be it in town or in the rural areas or both. A livelihood comprises of the capabilities, assets and activities required for a means of living (Solesbury, 2003).
Modernization	term used for the transition from the traditional society of the past to modern society as found in the west.

nomadic	a migratory term which is used to describe 'a restless mobile society' that tend to travel and change settlements frequently.
Pastoralism	practice whereby human populations live on the products of their domestic animals in arid environments or areas of scarce resources .A way of life as way of making a living
Semi-nomadic pastoralism	Pastoralism is the main activity but agriculture is used in a supplementary capacity. This form of pastoralist, involves extensive grazing and periodic changing of pastures over the course of the year.
Transhumant	Transfer of livestock from one grazing ground to another, as from lowlands to highlands, with the changing of seasons.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section reviews literature on urbanization and livelihoods. Urbanization is centered on the global view, urbanization in Africa, primarily during the post-colonial era. It also looks into the factors that various urban researchers indicate were the causes of urbanization and the theories developed to explain urbanization process, concepts of urbanization. Issues surrounding pastoralism and the changing livelihoods of the pastoral communities in the world have also been discussed. The case of the Changpa Pastoral community in Ladakh India and that of the Maasai of Tanzania has been highlighted and with a view of understanding the changing livelihoods of these pastoral communities as a result of urbanization.

2.2 Global Urbanization

Urbanizations is not a modern phenomenon; it has been occurring since about 5000 BC (Sjoberg, 1960). The level of urbanization, measured by the proportion of urban population to total population has been increasing over the years. After second world war, organization took place around the globe – urbanization levels were high in developed countries – Europe, North America, and Oceanic with more that 50% of the population living in the urban areas (United Nations, 2002).

A relatively high level of urbanization is also true in Latin America and the Caribbean region, with more than 40% of the population living in urban areas. In Africa and Asia by the year 2000, 40% of the population lived in the urban areas. Literature sources indicate that urbanization is faster in Africa than was the case in the developed countries during the industrial revolution era with regard to particular cities, rate of population growth range from less than 1 percent per annum in places like New York to more than 6 percent annum in many African cities like Nairobi, Lagos and Lusaka. This is another indication that Africa is rapidly urbanizing. In Asia and Latin America, many cities are growing at rate of about 5 percent per annum (Butler and Crooke, 1973).

The industrial revolution in Europe during the 18th century and industrialization of America beginning in the mid-19th century brought about rapid urbanization in these areas. Factories needed labor and arise in commercial activities created the needed

opportunities in the urban areas population then moved from rural areas to urban areas for employment which was a stepping stone for better life.

Economic growth which is the increase in the value of goods and services produced by an economy (country) and urbanization (an increase in the proportion of total population living in urban areas) go hand in hand. The increase and the globalization of the world economy has encouraged greater international trade, providing urban areas with greater roles since they have become the hub for the various global economic activities resulting into migration to these urban centers hence increased global urbanization. In 1900, worldwide, there were 6 to 7 rural dwellers to each urban dweller; now there is less than one and projections suggest close to three urban dwellers to two rural dwellers by 2050 (United Nations, 2008). This has been underpinned by the rapid growth in the world economy and in the proportion of gross world product and of the economically active population working in the industry and services. However, hundreds of millions of dwellers face under-nutrition today due to related lack of income than to lack of capacity to produce food. There is a very large urban population worldwide with incomes so low that their health and nutritional status are at risk. Staple food price rise as become evident with rising hunger among urban populations after the food price rises in 2007 and the half of 2008 (Cohen and Garrett, 2009).

UN projections suggest that the world's urban population will grow by more than a billion people between 2010 and 2025 while the rural population will hardly grow at all (United Nation, 2008). It is likely that the proportion of the global population not producing food will continue to grow as will the number of middle and upper income consumers whose dietary choices are more energy and greenhouse gas emission intensive. There are still very serious development problems in many urban areas, including high levels of urban poverty and serious problems of food security and high infant and child mortality. Many urban areas in Sub-Saharan Africa also have very high prevalence rates for HIV/AIDS; where there are large urban populations unable to get required treatments and a lack of programmes to protect those most at risk, these increase urban mortality rates significantly (van Donk, 2006).

Urban expansion inevitably covers some agricultural land while changes in land values and markets around cities often result in land left vacant as the owner anticipated the gains they will make from selling it or using it for non-agricultural uses. For prosperous cities, the demand for agricultural commodities has long since gone far beyond what is or could be produced in their surroundings. They draw on large ecological footprints for food, fuel and carbon sinks (Rees, 1992). A range of studies in urban centers in East Africa during the 1990s showed 17-36% of the population growing crops and or keeping livestock (Lee-smith, 2010).

2.3 History of Urbanization in Africa

Urbanization in Africa has been widely misconceived assumed that the Africans did not have the political sophistication and the organizational ability to build towns but rather lived in isolated settlement (Hull, 1976). The assumption was that town living existed as a result of an alien inspiration. Urbanization in Africa started long before the arrival of the Europeans in the 1400s. According to Chandler (1996) urbanization appeared in the Northern Africa as earlier as 3200 BC and later extended to the rest of the continent. These urban centers were located along the trade routes used by Arab traders who brought waves from the middle and Far East to trade with Africans, mostly from the forest regions (Becker et al., 1994). Some of the urban centers include Cairo and Alexandria in present day Egypt, Tripoli in Libya, Fez in Morocco Timbuktu in Mali, Kumadi in Ghana and Kano in Nigeria.

2.3.1 Post-Colonial Urbanization in Africa

The 1960s and early 1970s were often referred to as the beginning of the post-colonial era although some countries gained independence long before the 1960s. Liberia for instance was established as an independent country by the United States in 1847 after the abolition of the slave trade. Egypt became independent in 1922, Libya in 1951, Morocco, Sudan and Tunisia in 1956 Ghana 1957 and Guinea in 1958. Despite this, more than fifty percent of the Africans countries gained their independence during 1960s and early 1970s hence the period is often referred to as the commencement of the post-colonial era.

Urbanization during the post-colonial era had been rapid. By 1960, about 18.5% of the population in Africa lived in urban areas and by the year 2000, it increased to 37.2% and

increase of nearly 100% (United Nations, 2002). Rapid urbanization was taking place in Eastern Africa with an increase of over 200% while the least urban growth region was Southern Africa with less than 30% increase between the years 1960 and 2000. Zacharia and Conde (1981) attribute post-colonial urbanization to rural-urban migration. Gugler and Flanagan (1978) agreed that migration contributed largely to urbanization in Africa although it is not the only course.

Rural-urban migration was explained by the migration theory, which suggested that the volume of migration was related to income differentials between rural and urban areas. This theory has been expanded by not limiting the reasons for rural-urban migration to income differentials but also to the probability of obtaining formal sector work (Rakodi, 1997). A part from income differences, the urban bias nature of investment and policies by various governments (Lipton, 1977) serve as a pull factor for migration into the urban areas. Environmental deterioration, with increased agricultural densities most often become so high in the rural areas that land owners could not afford to subdivide land to accommodate additional farmers. Ideally, new lands are needed for cultivation but such lands are often not available hence excess farm labour migrates to urban centers (Dutt, 2001 and Firebaugh, 1979). Another cause of change in urban population during the post-independence era is natural increase. It has been estimated that 40 – 50% of population growth in cities in developing world is due to natural increase as a result of improved medical technology, mortality rates have fallen resulting to increased life expectancy rates while fertility and birth rates continue to be high (Konadu and Agyemang, 2001).

According to Wertz (1973), urban centers have been main recipients of the new improvements in mortality rate because they are the places where the medical facilities, scientific techniques as well as expert personnel are located and where the largest number of people can be reached at the least cost. Alteration in city boundary is another component of urban growth (Konadu and Agyemang 2001) city boundaries is altered and as a result the outlying suburbs are being incorporated into city boundaries resulting in growth in terms of population and city size.

2.3.2 Pastoralism in the World

The nomadic communities are facing substantial pressure from external socio-economic change and migration to the urban area is seen as a strategy for survival and security optimization. Sedentarization of nomadic pastoralists, that is the shift away from predominantly mobile form of existence to a more sedentary one, is an undeniable trend characteristic of the late 20th century. Salzman (1980) views the process of sedentarization as a response to constraints and opportunities in the physio-biotic and social cultural environments. Many view this natural consequence of development and progress and by extension urbanization. Governments in many parts of the world have long thought of pastoral nomadism as an archaic form of production that eventually vanishes with development (Barfield, 1993).

In many parts of the World, pastoralism has been a way of life. In the middle East, Central and Inner Asia, northern Asia and Africa among 30 to 40 million people depend on pastoralism as a source of livelihood. In these areas the pastoral communities often make a significant contribution to national economies through the exploitation of otherwise unproductive and marginal areas in most cases the Arid and Semi Arid Lands (ASALs). The global distribution of nomadic pastoralists includes the arid plains and deserts of Africa, the Middle East, South and Central Asia, the highland of Tibet and the Andes, and Arctic Scandinavia and Siberia.

Gharakhalou-Narrei (1996) notes that before the mid-1900s pastoralism was dominant in several parts of the world. However, while it continues to be practiced in many parts of the continent there is a general decline in the prevalence of the pastoral lifestyle. It is only in Mongolia and China where through decentralization of economies and growing markets is the return to pastoralism being encouraged. Otherwise as a livelihood strategy, pastoralism is facing unprecedented change and decline (Goodall, 2007).

Grossman (1992) attributes the decline in pastoralism to three major factors: Socio-economic, internal forces, socio-economic and political, external forces and ecological forces or resource limitations. The external factors include growth and prosperity among neighboring societies. This encompasses the growth of opportunities in adjacent urban centers. Internal causes include demographic processes, changes in the local economy,

ecological changes and social change brought which arise as result of external influences like education and tourism. In many developing countries where the benefits of development (e.g. health care, education) are largely focused in urban Centre, or are only accessible in the larger settled areas, this inequality elicits dissatisfaction among the pastoralists giving them a motivation for out-migration and settlement.

The Changpa communities in Ladakh, India are possibly the only group of pastoral nomads in India falling in between being ranked as pastoral nomadic and semi-nomadic. In Ladakh, the term ‘Changpa’ is being used a pejorative tone where its use by the general community implies that a person is dirty and simple. Despite this, the nomadic population use the term in self-reference (Goodall, 2007).

2.3.3 Pastoralism in Ladakh India among the Changpa Community

The sedenterization of nomadic pastoralist in Ladakh, north-west India, is taking place amidst a global trend towards settlement. Despite a few exceptions, where pastoralism either continues to thrive or is being revitalized by market form, many nomadic pastoral communities are facing a period of unprecedented change, as they are increasingly drawn into national and international economies. Through all these, the pastoralist communities are now considered to be unsophisticated, dirty and backward by their settled neighbor’s. This is unlike in the past where they were once held in awe or envied for their apparent freedom (Chatty, 1996).

The ‘Changpa’ nomadic pastoralists are the traditional inhabitants of the high altitude plateau region in south-east Ladakh, an area that borders China. The locals refer to the area as Changthan which means northern plain. The Changpa refer to their pasture land as Rupshu-Khamak. The estimated population of the Changpa communities is 1200 and has been grazing livestock in the pastures of Rupshu-Khamak for hundreds of years. Though they constitute a very small percentage of the Ladakh’s total population they contribute significantly to the local economy of Ladakh and to India’s national economy. According to Darokhan (1999), at the local level the Changpa provide meat to the urban population and nationally they contribute between 33,000 – 40,000 kg of the highly sought-after pashmina fibre to the Kashmiri shawl industry. Just like all other pastoralist in the world, the Changpas of Ladakh have effectively been using some of the harshest

and most marginal areas which are free from the competitive advances of agriculturalists. The Changpas are an ethnically distinct group that speak a separate dialect of Ladakhi and have their own cultural identity.

The population of Ladakh is primary rural-based but in the recent past there has been a clear evidence of increased urbanization in the district of Leh. According to the Indian Bureau of Statistics 1981 and 2001 by the year 2001 over 117,000 people (almost one-quarter of the districts total population) was located in Leh. There exists a housing colony of rural migrants at the edge of Leh which has been expanding steadily since the 1960s. This migration pattern has not only been taking place within a development context but is one that is also taking place among a nomadic pastoral society which has its own economic, social and cultural specificity (Goodall, 2007).

Goodall (2007) notes that, Leh is the primary destination for the majority of migrants from the pastoral communities in Rupshu-Khamak. The migration signals a major shift away from the traditional, low-level forms of intra-rural migration, towards large-scale, urban oriented migration that is taking place alongside urbanization. This migration is highly attributed to the availability of wage employment and availability of social amenities such as education and health care that are lacking in the rural areas of Ladakh and in particular Rupshu-Khamak. The degree of urbanization in the Leh District is not high and is comprised of natural increase of excess births over deaths, net migration gain and reclassification of rural areas to urban areas.

Though Leh District has only a moderate level of urbanization the pace of transformation has had serious implication on the pastoral communities. The establishment of an administrative centre in Leh has created positions that are highly coveted for security and social prestige. Availability of education centres has led many parents to the area in the hope that once the children get educated they will eventually end up getting a government job. Nevertheless, and as highlighted by Goldstein and Goldstein (1981), Leh has experienced negative side effects of rapid development, with the emergence of unemployment, environmental pollution, unprecedented income generation by some and rapidly expanding urban sprawl situated at the outskirts of the capital. Grist (1998) concludes that despite increased urbanization in Ladakh, which has led to improvement

in health care and food availability, the Changpa nomadic communities remain in state of relative disadvantage compared with other areas throughout the region especially the urban centre of Leh. More so due to the remoteness of parts of the region that has slowed the rate of inclusion in the development process and access to services. With increased urbanization the Changpa Communities have not been insulated from the effects of urbanization. Push factors such as lack of health care and educational services in the pastoral areas have in turn caused migration of many of the Changpas to migrate to the urban centres.

2.3.4 Pastrolism in the Sahel – The Fulani’s

In the Sahelian Region of Africa, the Fulani’s form the highest percentage of the pastoral community. They are found in all countries in West Africa and also in Cameroon, Chad, the Central African Republic, Sudan and South Sudan. Their main source of livelihood is rearing of cattle. Economic dependence of people on cattle is greater among the nomadic Fulani than among the semi-sedentary ones, but both groups perceive their dependence to be very great. The Fulani view that their whole way of life as depending entirely on cattle and their key adaptation to the Sahelian environment is mobility (Reisman, 1977).

The Fulani's socio-political behaviors include building alliances, compromise and integrationist strategies with non-Fulani's and this has contributed to the longevity of their culture (Dupire, 1970). They exhibit an extremely responsive and symbiotic interface with farmers, nomadic and semi-nomadic communities and they are the principal pastoralist community in West Africa. They are known to highly specialize in livestock management that exploits well the harsh Sahelian environment. Their transhumant routes crossing within the Sahel rarely competes directly with land under agro farming.

Swift (2000) predicts that the pastoral economy in the Sahel is bound to thrive after the year 2020 due to increased industrialization of the coastal regions of West Africa. Swift envisages that this will increase rural to urban migration in turn leading to increased food needs for the urban population. At this time the pastoral communities are expected to benefit from better prices of animal products such milk and meat. This is likely to lead to

the Fulani's and other pastoral communities in West Africa intensifying and commercializing pastoral production.

2.3.5 Livelihood among the Maasai Community in Tanzania

Pastoralism plays an important role in the economy of Tanzania. Apart from the supply of meat and other animal products, pastoralism makes productive use of a large percentage of the available dry lands where the scarcity and variability of its natural resources has few alternative uses. Although not so openly acknowledged by western landscape history, the African pastoralist, including the Maasai, has widely been an active manager of their natural land (REPOA, 2003).

In the recent past, pastoralism has been in deep crisis. The cause of this crisis has mainly been as a result of loss of grazing land among the Maasai pastoral community. There has been an increase in the number of agricultural populations that have steadily encroached on rangeland areas in Kiteto District. In Loliondo district the Tanzania Breweries Ltd. introduced mechanized barley farming after acquiring 10,000 acres of Maasai grazing land triggering off a proliferation of medium scale barley farming around Loliondo town. Apart from contributing to population increase in the area, this development alienated much of the dry season pastoralist grazing land. More pastoral land has also been taken over by smallholder farming of new drought resistant crops (e.g. Serena) in the area (REPOA, 2003).

Joekes and Pointing (1991) note that increasing sedentarization and degradation of rangelands has had a negative impact on the herd size of the Maasai pastoral community in Tanzania. There has been a diminishing access to livestock which curtails the exchange and reciprocal networks that traditionally facilitated the exchange of productive resources and food. Childless women and women from poor homesteads are particularly disadvantaged as a result of the breakdown of these traditional redistributive mechanisms.

Potkanski (1994), states that a combination of factors has led to the breakdown of the traditional resource management systems. In response to the changing face of pastoralism the Maasai have been forced to take up several adaptive strategies. Confronted with the loss of grazing land due to geographical factors and political marginalization, some have

carried on with livestock keeping, others are seeking non-pastoral livelihoods either by adopting crop cultivation or migrating into urban areas.

More Maasai have, increasingly, found themselves at the margins of existence as such land squeezes have forced them to adopt a sedentary mode of existence and new lifestyles within Maasai land itself or move out and invade new areas in search of alternative socio-economic resources and niches. The Maasai have consequently been migrating southwards into Iringa, Mbeya, Tanga, Morogoro and Coast Regions. There are indications that some may even have crossed into Rukwa Region and possibly into northern Zambia (Galaty, 1989). The socio-ecological predicament of migrant pastoralists has forced many of the Maasai to move from their semi-arid environment and into an alien world of agriculturists and different geophysical environments (REPOA, 2003).

2.4 The Maasai Land and Way of Life

The Maasai land comprises some 150,000Km² of semi-arid rangeland straddling the Kenya/Tanzania border and famous for both spectacular large mammal wildlife and its iconic pastoralist population. The Maasai land is undergoing rapid change. The events unrolling there are of central importance on the one hand to development trajectories for many people struggling against poverty and on the other hand environmental sustainability and the conservation of dwindling wildlife populations. There is a pressing need to understand people's changing land use and livelihoods better to foster positive outcomes for conservation and for development in Maasai land.

Historically, populations in and around Maasai land have depended on livestock, cultivation and to some extent hunting and gathering. Individual's households and whole communities have for centuries shifted between different mixes of herding, farming and gathering/hunting. Specialized pastoralism traditionally at the core of Maasai cultural industry has declined throughout the twentieth century (Spear and Waller, 1993). Although the population of Maasai land is still primarily rural and strongly livestock dependent with some communities and households remaining almost entirely livestock oriented the majority is increasingly diversifying either towards agro-pastoralism or away from natural resources based livelihoods to non-farm activities.

The growing importance of diversification away from livestock production is taking place alongside drastic changes in tenure with rapidly diminishing access due to land privatization, subdivision and conservation of wildlife. The subdivision of formerly communal rangeland into private holding, their conversion to commercial cultivation or their designation as conservation estate have had radical implications for the people of Maasai land. The most significant consequences of subdivision include the loss of access to key resources by people and livestock and increasing constraints on movement between and competition for, those key resources that remain (Rutten, 1992 and Turner, 1999). Privatization and fencing of formerly communal land also excludes wildlife from access to critical resources and can block vital corridors between wet and dry season areas.

2.4.1 The Maasai of East Africa

The Maasai of East Africa rear cattle and small stock goats and sheep and occupy the savanna grasslands of southern Kenya and northern Tanzania. Maasai who today number about 843,000 in Kenya (KNBS, 2009) and 200,000 in Tanzania are composed of a dozen independent groups including the Kisongo of Tanzania, the Poko, Loita Matapato and Kaputei of Kenya. The Maasai politically dominated their agricultural neighbours in the 19th century but this situation was reversed both during colonial and post-independence rule when African governments made up of peoples from more populous agricultural communities displayed little sympathy for pastoralist concerns (Waller, 1988).

Maasai pastoralists wearing red are perhaps the most recognizable ethnic group in East Africa as Thomas Spear and others have observed (Spear, 1993). The mid-90s saw the migration of large numbers of Tanzania Maasai from rural; mostly semi-arid lands they have long occupied into urban areas in 1999 migrant's pastoralists were strikingly visible throughout Dar-es-Salaam.

Rural migrants in an urban setting are broadly deemed "aliens" deviants and outsiders often disparaged as backward, as people out of place, arguably, Maasai pastoralists are highly visible than other Tanzanians in the city of over three million.; easily identified by such features as elaborate beaded decorations and virtual scarring, missing lower incisors

and pierced earlobes adorned with red ochre and intricate hairstyles are further differentiated from urbanites because they carry the ubiquitous long sticks of the pastoralist. The relatively few Maasai women now coming to cities are distinctive too, with their shaved heads –long red or cobalt bowed gown, and flashing metal ornaments.

Through treaties in 1904 and 1911 the Kenyan Maasai lost 60 percent of their lands to British settlers and were confined to the unproductive regions south of the Kenya rail road in present day Kajiado and Narok countries. The Maasai were restricted from grazing their cattle on former lands converted to the national game reserves created by the British including Serengeti Park and Ngorongoro crater in Tanzania (Homewood and Rodger, 1991). Following the Kenyan independence in 1963, the Maasai faced competition for land with Kikuyu and Kamba farmers, moving off the highlands as their populations increased. Kajiado county populations grew, so the population has been increasing rapidly at an average annual growth of 3.5 percent. Some of this growth is through the non- Maasai farmers onto Maasai land and due to migration and others are due to natural increase among the Maasai.

The economic and social conditions of the Maasai have changed throughout their history in response to a myriad of factors operating over a variety of spatial and temporal scales (Spear, 1996). The influence of nation-states, monetization of the traditional economy, formal education, land tenure changes and demographic factors have all played part in shaping the current socio-economic situation of Maasai in Kenya and Tanzania. While Maasai held considerable military power, the proximity of people whose livelihoods were based on agriculture and livestock resulted in considerable interaction between them. This include, trade of meat and milk for grains and some intermarriages with Chagga of Tanzania and other groups e.g. Kikuyu tribe in Kenya. The interactions between Maasai and Chagga of Tanzania led to the use of boundary system to exist between the Maasai pastoral land use system and the Chagga farming system.

The pastoral nomadic way of life was perceived as being incompatible with the requirements of modern states and economic needs of modern societies. Even after independence the pastoral land and resource use was seen as leading to environmental degradation, a view that continued from the colonial period. Policies were put in place

that led to alienation of pastoral lands for wildlife conservation and agricultural development. The lands of the Maasai were confiscated in the process without much consideration for their way of life on the pretext that they were no man's land (Lissu, 2000). These policies became a source of conflict among pastoralists, farmers and wildlife an aspect that has continued today and is officially acknowledged by the new land policy of 1996.

The national level divergence in policies between socialism in Tanzania and capitalism in Kenya are heightened within Maasai land in Kenya the impact of the group ranch program had profound implications for Maasai access to land. The group ranch concept was rooted in post -independence Kenya and is based on the premise that if livestock production could be raised, bringing it into the commercial sector, then any wealth generated could be ploughed back into development of semi-arid areas (Evangelou, 1985).

Changing land tenure towards individual or group ownership was seen as key in the commercialization of pastoral production systems initially policy involved registration of small, the registration of small (10m²) areas of land to individual Maasai which were neither ecologically nor economically viable for livestock production. The natural success to the original plan was to parcel up land into larger blocks to be held by cooperative of land owners. Recently, the group ranch system has been subjected to subdivision of land in a move toward individual land ownership in line with Kenyan government policies (Grandin, 1987).

2.4.2 The Maasai of Narok and Kajiado

They are normally the largest single group pastoralists in Kenya in, the Maasai counties. It is expected that the Maasai community will soon account for less than half of the Kajiado county population. There is a complex web of normative food-sharing practices among the Maasai, for example, in a polygamous family each wife prepares and cooks food such as maize porridge for the household consumption. The type of housing occupied by a household reflects three factors, household wealth, local policies restricting certain housing types and the levels of household transhumance. Maasai houses (*enkaji*)

are traditionally made from a mixture of dung and mud, smeared on a wooden framework.

Every married woman owns a house and it is her responsibility to build and maintain it on behalf of the household. Housing has become common taking from a rectangular structure with corrugated iron or thatched roofs (Kipuri, 1989). Changing houses styles also represent a, shift away from houses being associated solely with women. Iron roofs require money to buy, the building materials and it is more likely that a man is able to make the purchase and the need to measure and cut materials means that specialists in house building are brought in from outside to the family unit .It is becoming increasingly common for a man to build himself a house as a status symbol and not necessary for the use of his family. The degree of permanence of building structures has important implications for a traditionally transhumant society such as the Maasai. An iron-roofed house may be both a cause and as effect of increasing levels of sedentarization. The increased level of permanent building particularly in Koyaki Group ranch may represent an effect of changing livelihoods away from traditional transhumant pastoralism toward formal employment and cultivation.

2.5 Livelihood Strategies

Painter (1996) in his notes for geography defined livelihood strategies as how individuals, households or other corporate groups gain access to use and exercise control over any number of resources that they identify as important for their wellbeing. Thus livelihood strategies are the activities that people undertake and the choices they make to achieve their livelihood goals. Livelihoods are becoming increasingly complex, multi-local and multidimensional (de Haan and Amers, 2003).

The livelihood concept is therefore, a realistic recognition of the multiple activities in which household engage to ensure their survival and improve their well-being (Rakodi, 2002). This may involve deploying different activities in one locality e.g. in town but also spreading activities over different locations e.g. in town and in the rural areas. There is already a growing body of researches documenting a wide range of livelihood strategies in rural Africa, especially in times of crisis (Kaag et al., 2004). One area of the research focuses on how individuals of households deal with risk in unstable physical

environments, while another research looks at diversification of livelihoods in rural Africa. In the early 1990s Dietz et al., (1992) found that households had various livelihood options: peasant household could be engaged in different household livelihood strategies as micro decision units and partly in inter-household network of mutual assistance. They attempted a typology of a livelihood strategy that included accumulation strategies (improving the consumption situation sustenance or adaptive strategies) social maneuvering to preserve consumption or wealth; Mechanisms to cope with seasonal stress and survival strategies. It is noted that, when times are normal, people's activities are called livelihood strategies, but in times of crisis they change into coping or survival strategies. However in the last few decades one cannot speak of a "normal situation" and coping strategies have become part of daily life and have changed into adoption strategies (De Bruin and Van Disk, 2001).

2.5.1 The Livelihood Framework Approach

According to the livelihood framework approach a household's livelihood strategy and so its level of well-being, depends on assets or resources it has access to. The livelihood approach distinguishes five vital assets, although their boundaries are not always that clear, nor is the categorization exhaustive (Rakodi, 2002). These are human, natural, physical, financial and social assets or resources. Although the livelihood approach distinguishes five assets, the importance of "cultural asset" in the livelihood studies should also be recognized. Such as cultural aspects as language, taboos, cultural institutions, religion may have an important influence on an individual's or a house holds pursuits of livelihood.

2.5.1.1 Household Livelihood Assets or Resources

1. Human resources: capabilities, skills, experience, labor knowledge, creativity, health. These are important to the fulfillment of productive and reproductive from capacity to work is the main asset of an urban and rural livelihood.
2. Natural resources: Land and pasture. Natural assets may be less significant in an urban setting (Meikhle, 2002) but increasing reliance on agriculture both urban and rural, access to land, security of tenure and function is largely an important "asset" to urban dwellers.

3. Physical resources: basic infrastructure and services (shelter, transport, water, energy, communications, hospitals) equipment, tools input food stocks household assets. Land in urban areas can as well be categories as a physical asset. It enables households to access shelter, has locational attributes that provide access to other livelihood possibilities and has an investment potential
4. Financial resources: savings, loans, credit wages/ salaries, pensions and remittances of urban household are highly monetized and so access to a monetary income is essential for survival.
5. Social resources: formal and informal networks from which various opportunities and benefits can be drawn by people in their pursuit of livelihoods. Closely linked to social resources are political resources based on access to the political process and decision making (Devas, 2002)

Every group, household and individual has a stock of “assets” at its disposal to achieve sustainable livelihood. A livelihood is sustainable when it can cope with and recover from stresses and shocks maintain or enhance its capabilities and assets while not undermining the natural resource base (Scoones, 1998). Livelihood embodies resilience, the ability to cope, adapt and improve well beings, resilience is the ability to mobilize assets to exploit opportunities and resist or recover from negative effects of the changing environment (Rakodi, 2002).

In addition to direct and physical benefits, adequate and decent livelihoods can and often do have other good effects. They can improve capabilities in the broader sense of term by providing conditions and opportunities for widening choices, diminishing powerlessness, promoting self-respect, reinforcing culture and moral values and in other ways improving the quality of living and experience.

About 175 million people (more than 2% of the world’s population) live in a country in which they were not born (Boswell and Crisp, 2004). Urbanization brings major changes in demand agricultural products both from increases in urban populations and changes in their diets and demands. It is expected that in nations with successful economies and rapid urbanization, there is a rising demand for meat, dairy products, vegetable oils and

luxury foods which implies a more energy intensive production and for many nations' imports (de Haan and Amers, 2003).

2.5.2 Urban Livelihood Strategies

The urban household tend to mobilize resource and opportunities and to combine these into a livelihood strategy. Urban households rich and poor have diverse a number of livelihood strategies in their attempt to manage the changes in their economic environment and circumstances. Because of the economic, environmental, social and political context in which the urban household lives the livelihood strategies of the urban household may be different form their rural counter parts (Owuor, 2006).

Urbanization can have profound effects on people's livelihoods, daily commuting for work or to visit markets to buy and sell rural produce and use of urban facilities such as hospitals and government institutions. According to Satterthwaithe (2000) stresses the interdependence of urban centers and rural surroundings for marketing and processing agricultural produce. Urban centers are more culturally diverse, more socially fragmented, and less likely to be safe than rural areas. Urban neighborhoods contain a diversity household types which are often fluid in their structure and income inequality is often at its most striking. This social diversity is likely to create tensions and the need for different livelihood strategies from those practiced in rural areas (Wratten, 1995).

Urban livelihoods is also associated with dietary shifts towards more processed and pre-prepared foods in response to long working hours a proportion of the urban population with reduced physical activity (Popkin, 2001). This would include favoring larger and often non-local agricultural producers and major changes in the distribution and marketing of food (Kennedy *et al.*, 2004). This would mean a shift in employment within the food system with fewer people working in agriculture and more working in transport, wholesaling, retailing food processing and vending (Cohen and Garret, 2009).

In the long run, cities must be judged not just in terms of the quality of life provided to urban dwellers, but also in terms of ecological realists between city and country side. The climate change relates risks facing the population of any urban center are a function only

of what climate change brings but also of the quality housing and the existent of provision for infrastructure and services (Revi, 2008).

2.5.3 Rural Livelihoods

Rural livelihoods themselves comprise cultivation, herding, hunting, gathering, reciprocal or wage labor trading, hawking, artisan work such as weaving and carving, processing, providing services in transport, fetching and carrying and the like begging. They variously provide food, cash and other goods to satisfy a wide variety of human needs. Some of these outputs like farm produce are consumed immediately, and other goes into short or long-term stores to be consumed later or to be invested in other assets.

As Swift (1989) points out, such investments like savings occur when production leads to a surplus beyond immediate consumption requirements. Investments are made in enhancing or acquiring resources in establishing claims in gaining and improving capabilities. Resources may be enhanced through investing labor as in terracing to improve the stock of soil through investing money in a cart to take produce to the market. Claims may be established by investing in a marriage or by giving presents. Access to information may be obtained by investment in a radio or in education. Capabilities may be enhanced through investment in useful education and training and in apprenticeship. The results of successful investments are added variety or quality of assets and capabilities which can be used for further production or in responding to future contingencies and threats to survivals.

2.6 Urban Poverty

The urban poor are commonly concentrated at high densities in areas where they can afford to live either with low rent or an urban land which is lying vacant and can be squatted upon both of which generally reflect the poverty of the environment and the consequent demand for such locations (Elliot, 1994). Poor urban men and women make a trade between the quality and the location of their living spaces, living in areas with poor, unsanitary environments in order to be in a preferred location with access to livelihood generating assets. These areas are frequently located on polluted land close to industrial

facilities or where dumps are sited and water courses are contaminated or hillside river plains which are susceptible to landslides and flooding.

2.7 Challenges Facing Pastoral Community

Pastoralist populations are facing more pressures to their way of life than ever before. Population growth; loss of pasture land to private firms, ranches, game parks and urban areas; increased commoditization and rising inequality within the livestock economy; out migration of poor pastoralist and periodic dislocations brought about by drought, famine, and civil war collectively threatening a way of life that has proved in the past to be highly adaptive food production system in arid lands. Although the driving forces vary widely from region to region, virtually all these trends result in declining mobility of livestock which places in jeopardy the sustainability of both range land resources and pastoral livelihoods. Livestock productivity, defending their rights, access to water and grazing resources ensuring political and economic security.

Anthropologist and applied ecologist have demonstrated through numerous studies the rationality of pastoral strategies, including herd flexibility, diversify and mobility to ensure survival of human and animal populations in arid lands (Dahl and Hjort 1976). For environmentalists, especially from northern countries, sustainability refers to the need to protect the earth natural resources against further degradation. Development policy towards pastoralist has conventionally upheld a world view shared by many national governments that pastoralists are irrational, wasteful and short sighted. This view is owed in no small part to Garret Hardin's tragedy of the commons which became a metaphor for the state of the environmental degradation worldwide freedom in a commons brings ruin to all.

Governments have displaced local authority over range and water use, undermined the effectiveness of customary sanctions, and facilitated manipulation of development outcomes by the wealth and inferential (Little and Brokensha, 1988). With development and social change while representing two of the world's major pastoral people are these examples were selected to represent the significance of the broader political, economic

and historical context for the long run sustainability of pastoral livelihoods (Fratkin, 2001).

2.8 Theoretical Framework

This study relied heavily on three theories of urbanization which were; the Modernization Theory, the Dependency Theory and the Urban Bias Theory.

2.8.1 Modernization Theory

According to Berliner (1977) the Modernization theory was developed in the mid-20th century. Modernization is the term used for the transition from the traditional society of the past to modern society as found in the west. Modernization theory presents the idea that by introducing modern methods of production – like the use of advanced technology of industry the under-developed countries will experience a strengthening in their economies and this will lead them to development. This theory holds that the modernization of states through economic development encourages other forms of development like social and political development. This theory focuses on economic development as operationalized variables such as GDP per capita.

According to the modernization school there cannot be urbanization without industrialization (Berliner, 1977). In other words the more industrialized a society is the more urbanized it is. In this study modernization and urbanization is thus underpinned on the modernization theory. With the emergence of urbanization the Maasai Community are seen to adopt to new ways of life as way of strengthening their economic opportunities adopting a lifestyle that would be considered ‘modern’ – away from the pastoral way of life.

2.8.2 Dependency Theory

In views of the flaws of modernization theory and its inability to account for third world under-development, an alternative theory was devised by a group of scholars known as collectively as the dependency school which originated in Latin America (Firebaugh, 1979) this school holds that development in the developing countries is conditioned by the growth and expansion of Europe.

It addresses certain issues not considered by modernization theory. It lays importance on historical processes in explaining the changes which have occurred in the structure of cities as a result of the switch from the pre-capitalist to capitalist mode of production. It also lays emphasis on the dependent nature of capitalist development in the third world which places emphasis on external economic forces in the study of cities. The dependency school argues that the developed countries use the developing countries as a source of input (raw materials supplier) for their factories. This results in foreign investment in large scale agricultural production which displaces peasant farmers in the rural areas. The displaced farmers then move to urban areas to seek employment (Firebaugh, 1979).

In this study the 'modernization' of the Maasai is highly attributed to external forces that have led to the emergence of urban centres around and within the traditional Maasai land (Ngong Ward) and which in turn has an impact on their livelihood.

2.8.3 Urban Bias Theory

Another approach to understanding urban development in developing countries is through the application of urban bias theory. This theory shifts emphasis of urban development from economic perspective to political perspective. This perspective spearheaded by Lipton (1977) argues that policies favour the urban areas to the detriment of the rural areas; hence the concentration of facilities and the creation of favorable conditions in the urban areas state politics allegedly overtax the rural citizens with similar incomes. The production of the rural areas notably agricultural product is overtaxed due to price twists. Overtaxing works in the following way. State controlled marketing boards buy agricultural products from the local farmers at an artificially low price and then resell these products to the consumers at the prevailing higher market price; the different is often used to provide facilities in the urban areas.

In addition, governments in the developing countries tend to invest domestic capital on the provision of development facilities. These facilities are largely located interurban areas while a larger proportion of the population is found in the rural areas. The facilities include hospitals, schools, libraries and other government/semi-government facilities. Investable resource in favour of rural dwellers who are basically farmers, in form of

roads, small scale irrigation facilities, agricultural machinery and storage facilities are often down played by the policy makers. Higher standards of living are created in the urban areas resulting in the creation of disparity between urban and rural areas. As a result the rural dwellers tend to migrate to the urban areas to take advantage of the favorable policies.

In this study, it is evident that areas around the urban centers have more social amenities and improved infrastructure than the rural areas, arguably policies within the area of study favour the urban areas to the detriment of the rural areas; hence the concentration of facilities and the creation of favorable conditions in the urban areas in line with urban bias theory.

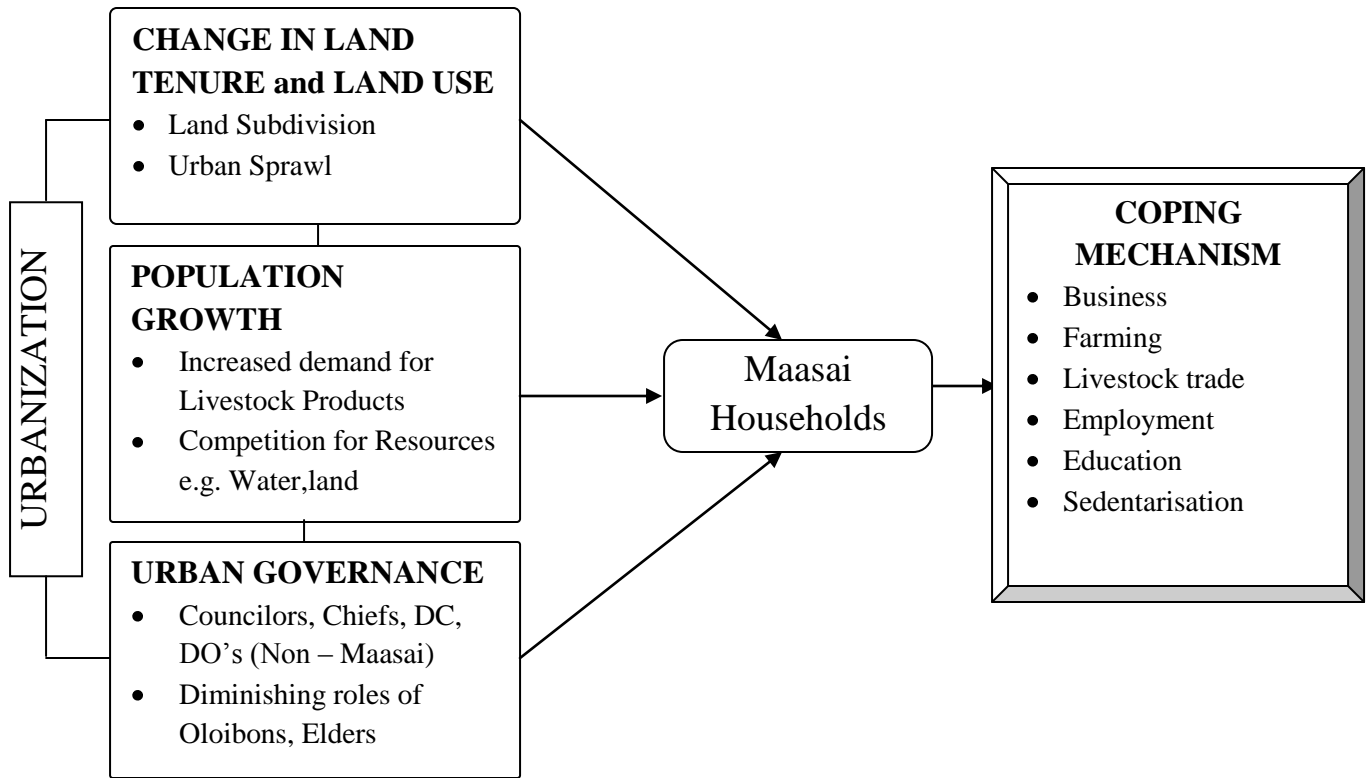
2.9 Conceptual Framework

This section presents a conceptual framework that seeks to capture the main components of the theory of urbanization and livelihoods changes and their interrelationships. The conceptual framework cannot claim to be exhaustive. It is an oversimplification of the complex reality and should be treated merely as a guide or lens through which to view the world (Rakodi, 2002). Figure 2.1 shows the conceptual framework of this study which was modified from the DFID model of livelihoods.

These livelihood sources may include own food production (farming) diversification and multiple sourcing of cash income (non-farm income generating activities) and social networks including urban rural reciprocity. Through these livelihood sources the aim is to generate a flow of income, food or other benefits and increased wellbeing, reduced vulnerability) and there by improve the Maasai's household livelihood, security and income situation.

The conceptual framework goes to show how the various variables in this study interlink to address the purpose of the study and meet the research objectives. Urbanization, which in this study seeks to highlight modernization, is characterized by change in land tenure and change in land use patterns, population increase and emergence of urban governance in traditional pastoral land, Ngong Ward. These form the independent variable each having an impact on the Maasai households and their way of life – pastoralism.

Figure 2.1 Conceptual Framework



INDEPENDENT VARIABLES

Dependant Variable

Source: DFID (2000)

Urbanization impacts not only on the environment that the Maasai live in but also impacts on them socio-economically. As a result they are forced to turn to several coping mechanisms such as farming, business, livestock, employment, education and sedenterization in order to sustain their livelihoods. The coping mechanisms form the dependant variables of this study as they are determined on the aspect of urbanization the Maasai households have to cope with. The three theories discussed earlier in the previous chapter have all been integrated in the formulation of this conceptual framework. The urban bias theory highlights the impact of urban governance from an economic to political perspective while the dependency theory goes to show how traditional land use is being lost to urbanization. The modernization theory manifests itself on the impact of population growth in contributing to the modernization (culture change) among the Maasai living in Ngong Ward and its environs.

2.10 Study Gaps

Review of the literature reveal that over the years the pastoral way of life has been suitable for the ASALs. Mobility of the pastoral community is a way of coping of the harsh environment in which the pastoral communities occupy. Though they practice a variety of livestock-keeping strategies they have been affected in various ways. State policies, histories and urbanization have had an impact on the lives of the Pastoral communities. Many of them have lost their livestock and have been forced to flee to the cities or take up work as herders. This study finds that the pastoral crisis, as a result of urbanization, has led the pastoral communities and especially the Maasai into complex socio-economic transformation that is leading to their marginalization as it is inferior when it comes to access to resources and local socio-economic influence.

The reviewed literature lacks any special focus on the importance of continuing access to rangelands for pastoral viability, the importance of social and economic ties of the Maasai community to their non-pastoral neighbors, and shared problems of the political marginality of pastoral populations' vis-à-vis national governments. More so the social, economic, and political relationships between pastoralists and their non-pastoralist neighbour especially the urban populations and state institutions.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the research design, target population, sample and sampling procedures, research instruments, instruments validity and reliability, data collection procedures and data analysis procedures.

3.2 Study Area

The area of study was Ngong Ward in Kajiado County. Kajiado County is considered as an Arid and Semi-arid (ASAL). It is also a dormitory to the Nairobi County. Ngong is mainly composed of Maasai as the indigenous people. However, there is an increasing influx of people due to urban sprawl and natural increase of amongst the Maasai. The urban sprawl from the city centers has been growing towards Ongata Rongai, Kiserian, Kitengela and Isinya

3.2.1 Topography

The ward is characterized by plains and occasional hills and valleys. The wards topography lies in the Kaputiei plains consisting of volcanic rolling plains and is a source of Athi River. The landmark of the ward is the Ngong hills at altitude of 2460m.

3.2.2 Geology and Soils

Ngong Ward has tertiary volcanic soils. Ngong basement system rocks comprise of various gneiss, schist, quartzite and crystalline limestone. Soils such as Ferrasols, Luvisols, Arena sols, Regosols, Leptosols, Lixisols, Cambisols and Vertisols in the low-lying areas. According to FAO, (1999) the soils are of poor agricultural productivity and require high input levels to make them agriculturally viable.

3.2.3 Climate and Hydrology

The area has a bimodal rainfall pattern with the short rains falling between October and December while the long rains fall between March and May. The rainfall pattern in the area is strongly influenced by altitude. Moisture deficit is also observed in the greater part of the year. This gives the area a dry season of between 7-9 months. The climate scenario in the Ward indicates that the bulk of the area (with annual rainfall of 700-850mm), is suitable for ranching.

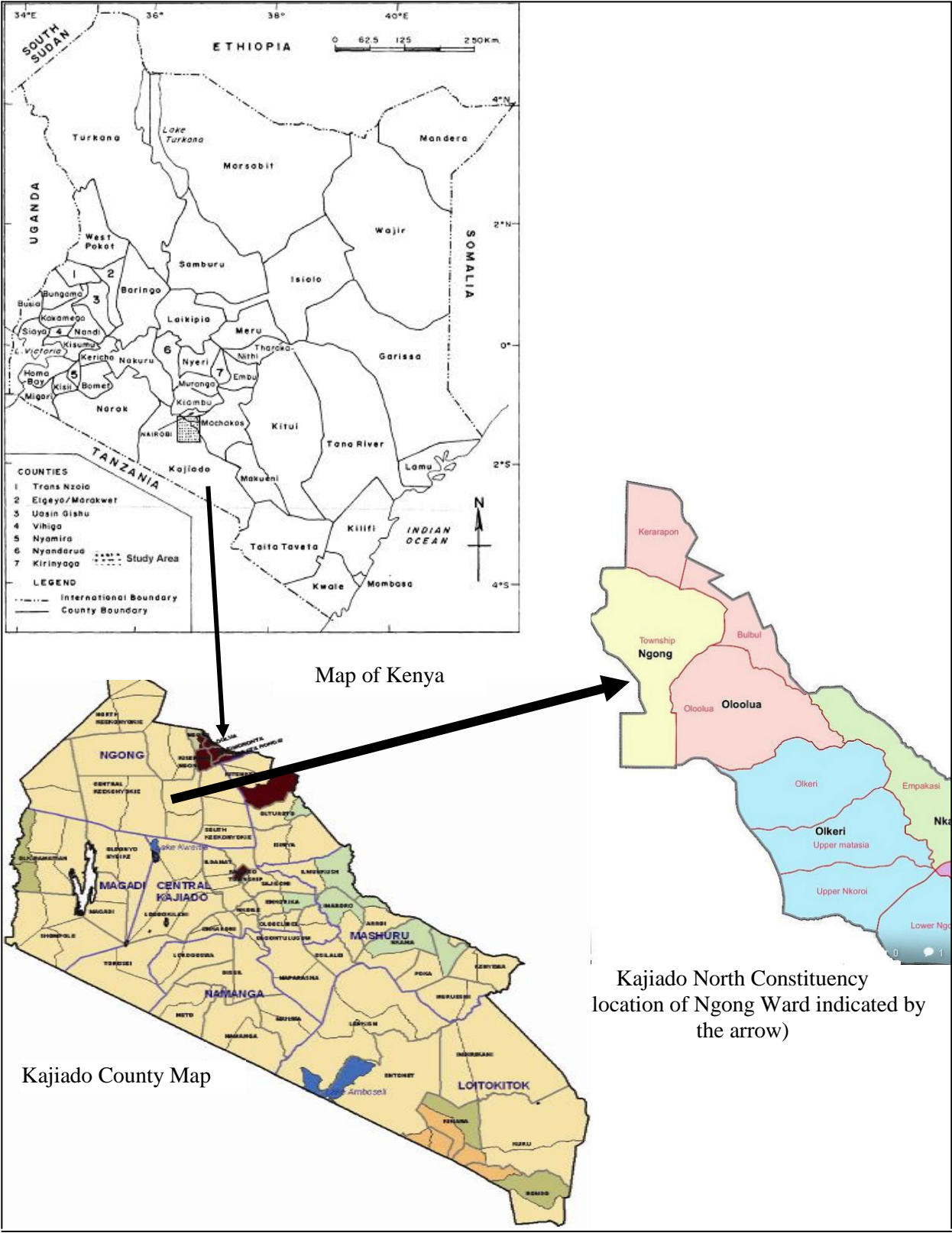


Figure 3.1 Map of Showing Location of Study Area

Source: Adopted from the Kajiado District Development plan; 2002-2008

3.3 Research Design

Borg and Gall (1996), states that a research design is a logical and valuable way of looking at the world. In this study, the main research questions were addressed using both a set of common quantitative survey data collection and statistical analytical techniques combined with more qualitative and descriptive approaches. Both Survey and ethnography was adopted.

Surveys were undertaken by use of questionnaires and enable gathering of data at a particular point in time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared or determining the relationship that exist between specific events (Cohen and Marion, 2007). The closed ended questions in the questionnaires generated quantitative data while the open ended questions generated qualitative data for this study.

In this study the survey design enabled the researcher to look into a wide range of variables that affect the Maasai Community in the Ngong Ward of Kajiado County. Among these were the Maasai's; housing, integration within the urban setting, land use within the area of study. Extent to which the Maasai land has been occupied by non-Maasai and remaining communal land was also taken into consideration.

Ethnographic design relies on observations in which the researcher is a participant in the situation and collects the required information (Orodho, 2009). For the purposes of this design, the researcher visited the area of study and observed the developments taking place including nature of land sub-division, land fencing, provision of physical amenities within the study area and other related factors. Hence, the analysis of the data collected was done without constraining, manipulating or controlling the variables. Ethnography also generated part of the qualitative data for this study.

3.4 Target Population

The target population was all the Maasai households, taken in political and economic context within Ngong ward, which has an estimated population of 57,483 people (GoK, 2009). These households are critical to understanding the changing land use and livelihoods in Maasailand.

In this study 'household' refers to the Maasai entity of an *olmarei* (pl. *Ilmareita*) within the homestead (Maa *enkang* Pl. *Inkang'itie*), that is, one household head with his or her dependents, which may include, in the case of male-headed households, more than one wife and her children and grandchildren, parents and dependent siblings, as well as non-related individuals who reside with the family and depend on them for food in return for assistance with household chores (most commonly herding).

3.5 Sample and Sampling Procedures

According to Borg and Gall (1996) sampling is a research technique used for selecting a given number of subjects from a target population as a representative of the population. Mulusa (1988) emphasizes that a sample must represent the target population or the universe in all aspects. A large sample normally has more of the attributes of the universe than a small sample especially if the same method of selection is used. In this study all households and its members were involved.

The first challenge was to decide how to choose the sample of households to interview, and how many households to cover in order to ensure the results were representative and supported statistical analyses. To address this, the researcher adopted a cluster sampling. Cluster sampling classifies a set of observations into two or more mutually exclusive unknown groups based on combinations of interval variables. The purpose of cluster sampling is to discover a system of organizing observations into groups where members of the groups share properties in common (Williams, 1994). In this case, households were classified on the basis of livelihoods activities and economic variables. The study classified all the households in the study area into Maasai and non Maasai households. The Maasai households were targeted through a systematic random sampling procedure. Once a household had been interviewed the researcher would ensure that he counted ten Maasai households in an area and then would settle on the 11th household. In several instances the researcher had to settle on the 10th or 12th household as the members of the identified household were not in. A total of 70 Maasai households participated in this study.

3.6 Sources of Data Collection

3.6.1 Primary Sources

The study employed the use of three sets of instruments, a questionnaire, interview schedule and an observation schedule.

3.6.1.1 Questionnaire

This is a research instrument that gathers data over a large sample. As stated by Orodho (2009) a questionnaire has a diverse number of merits upon which a researcher may opt to use it as an instrument to collect data.

The researcher therefore opted to use the questionnaire as it enabled the researcher to collect information from a large number of people and the questionnaires were easy to analyze.

The Questionnaire was divided into Demographic data, urbanization, Livelihood, socio Network, Livestock production, transport, Land, water, energy and Access to healthcare and Education

3.6.1.2 In-Depth Interview Schedules

The researcher used an interview schedules as it enable the researcher to use both open and closed ended questions in order to get a complete, clear and detailed understanding of the impact of urbanization on the livelihood of the Maasai Community. This instrument was used to collect data from the Maasai Elders and Council officials.

3.6.1.3 Observation Schedule

This was used in order to obtain variable information on aspects changing land tenure and land use and the impact of population growth on the livelihood strategies of the Maasai Community. It was also used to observe the activities that members of the Maasai Community are engaging in as a source of livelihood.

3.6.2 Secondary Sources

This was from various sources including literature from government records such as monthly and annual reports, District development and work plans, records and maps from the Survey of Kenya, statistical abstracts among others.

3.7 Validity of Research Instrument

Orodho (2009) states that, validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under investigation. Validity is concerned with “are you measuring what you think you are measuring which is applied when the researcher uses two or more methods of data collection to measure variables (Cohen and Marion, 2009).

3.8 Data Collection Procedures

The researcher conducted the field study with the help of three research assistants who were college students and hailed from the Maasai Community. The research assistants helped greatly in administering the questionnaires to respondents who were not literate and needed translation on the questions. For this kind of respondents the questionnaires were administered and filled on site by the research assistants who were to capture the views of the respondents as instructed, where the respondents were literate the questionnaires were left with the respondents and collected at an agreed date.

3.9 Data Analysis Procedures

In this study and is indicated earlier in the literature review three theories were employed; Modernization, Dependency and the Urban Bias Theory. Data on modernization theory was gathered and analysed from questions 18, 19, 46, 47, 57 in the household questionnaires. This was used to address the impact of urbanization on the livelihoods of the Maasai and coping mechanisms adopted as a result of the impact. The modernization theory is highlighted through questions 28, 29, 57, 70 and 71 in the same instrument and sought to bring to light the external forces that is contributing to urban sprawl. The urban bias theory is addressed in 15, 16, 63, 64, 68 and 69. These questions discuss the availability and concentration of infrastructural and social amenities.

The data generated by questionnaires, interview and observation schedules were coded into the Statistical Package for Social Science (SPSS) 17. Analysis was through the use of descriptive statistics, covariate correlation and cross tabulation. The data was then summarized into frequencies and percentages and presented in tables, bar charts and figures. Frequencies and percentages were adopted to present, discuss and interpret

findings obtained. The research questions giving qualitative data were analyzed using content analysis procedures.

Testing of the hypothesis was undertaken by the use of correlation coefficients that measured the degree of association between the given variables. In answering the first objective data was analysed using the bivariate Pearson Product Moment Correlation coefficient (r) between the number of cattle per household and the type of housing. Spearman's rank correlation coefficient was used in testing the second hypothesis. A bivariate correlation was done between the sex of the Maasai and their level of education. The finding obtained for all the data analyzed was discussed and all data interpreted in respect to the research questions.

3.10 Limitations to the Study

- a) The research was conducted in the month of April and there was a lot of rain. Most areas were not accessible due to poor road network. Some villages were cut off as some bridges could not be crossed during the rainy season. The researcher therefore had to wait until the rain had subsided to access these areas.
- b) The Maasai people were also very cautious about the research as others declined to be interviewed while others also needed money. The researcher countered this by seeking assistance from the area chief who gave instructions a village elder to talk to the people that the study was purely academic and thus their co-operation would be highly appreciated and this really worked out.
- c) The language barrier was also a challenge because as the researcher was heading to the homestead they could directly speak the Maasai language and it needed an immediate response to create a rapport and the researcher could not easily speak although the research assistants came in handy.
- d) The distances to be covered to reach a given homestead were quite far on foot. The researcher had to use motor bikes to access this homes and thus this challenge was countered.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter will provide presentation, analysis and interpretation of all the data collected from the area of study during the research period. Data was collected through various research instruments which included questionnaires, interview schedule with key informants and an observation schedule of the area of study.

4.2 DEMOGRAPHIC INFORMATION

The researcher prepared 100 questionnaires that were used for the field study. In total 70% of this had been adequately answered and thus formed the sample size for this study.

4.2.1 Gender of Respondents

Table 4.1 indicates that most of the respondents, 52.9%, were male while 33% were female. During the study most of the women refused to discuss matters of their households and requested that the questionnaires be answered by their husbands. Enquiries from several of the respondents revealed that in the Maasai culture men were the head of their households, and by extension the family spokesman, and as such the women were not to comment on matters of their households without permission from them. The Maasai society is strongly patriarchal in nature, with elder men, sometimes joined by retired elders, deciding major matters for each Maasai group. Though this was the main contributing factor resulting to the high participation of males the researcher was also able to have over a third of the respondents being women and the researcher considered this composition ideal for the study.

Table 4.1 Gender of Respondents

Gender	Frequency	Percentage (%)
Male	37	52.9
Female	33	47.1
Total	70	100

Source: Fieldwork (2013)

4.2.2 Age of Respondents

Most of the respondents interviewed, 42.9%, were between the age of 21 – 40 years while 38.6% were between the ages of 41 – 60 years, 17.1% were between 61 – 80 years and only 1 respondent (1.4%) was aged 20 years thus falling in the age of less or equal to 20 years as indicated in figure 4.1.

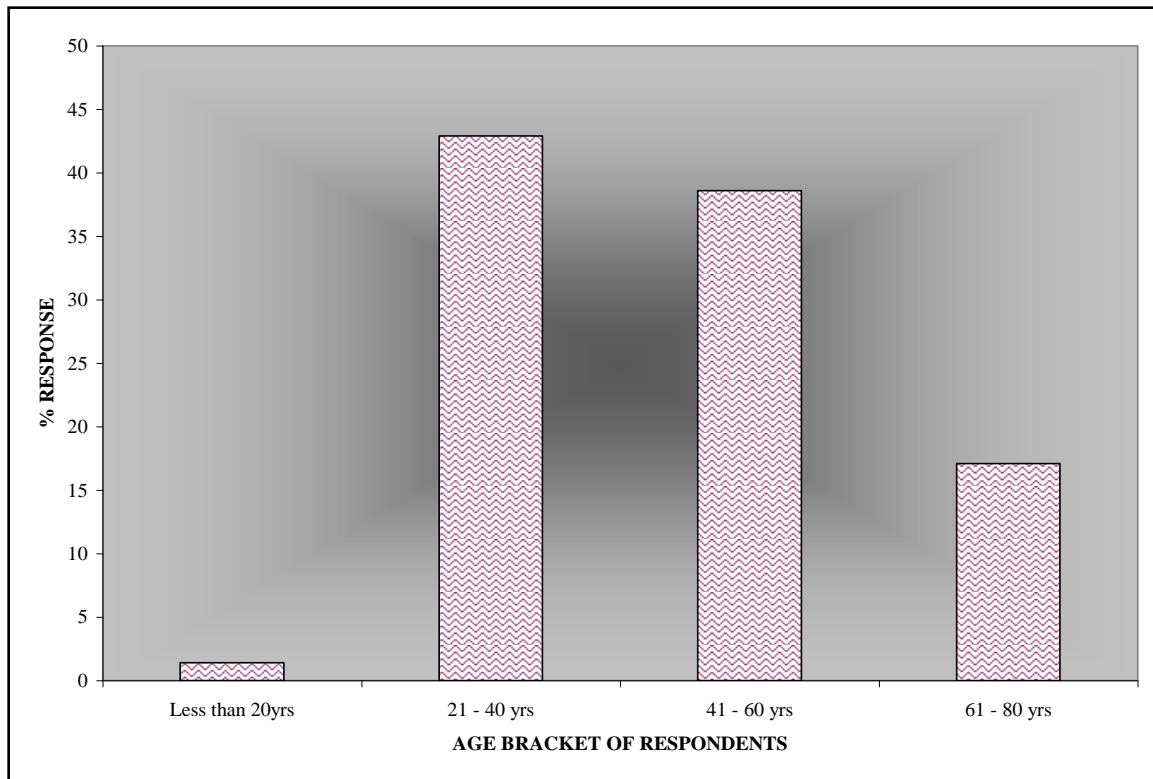


Figure 4.1 Age of Respondents

Source: Fieldwork (2013)

4.2.3 Marital Status of Respondents

Table 4.2 indicates that most nearly all the respondents 92.9% were married with 60% being in monogamous marriages while 32.9% were in polygamous marriages. The respondents who were single were 7.1% while none of the respondents were divorced, separated or widowed.

Table 4.2 Marital Status of Respondents

Marital Status	Frequency	Percentage (%)
Single	5	7.1
Married Monogamous	43	60.0
Married Polygamous	22	32.9
Total	70	100

4.2.4 Level of Education of Respondents

From the findings and as indicated by table 4.3 below most of the respondents, 37%, had made it up to the tertiary level while 23% had not attained any level of education with 21% having university education and 13% had not made it beyond primary education. The remaining, 6%, had made it up to secondary school. With 64.2% of the respondents having attained an education level higher than basic education (primary) this made administration of the questionnaires easy for the researcher as a high percentage of the respondents were able to fill the questionnaires on their own. For the 23% of the respondents who had not managed to have any formal schooling the help of the research assistants, who were from the Maasai community, was of great help. This is captured in table 4.3.

Table 4.3 Respondents Level of Education

Education	Frequency	Percentage (%)
None	16	22.9
Primary	9	12.9
Secondary	4	5.7
Tertiary	26	37.1
University	15	21.4
Total	70	100

Source: Fieldwork (2013)

Majority of the respondents in this study, 83%, had lived in the area of study for more than 5 years while 12.9% had lived in this area for between 3 – 5 years. The high composition of respondents who had lived in the study area for more than five years made it ideal for this study as it gives the assurance that most of the respondents, due to their long stay in the area, had an experience and information vital for this study. As

indicated in table 4.4, 2.9% of the respondents had been in Ngong Ward for less than one year while 1.4% had only been in Ngong for between 1 – 2 years. From the open ended questions in the questionnaires the study learnt that the Maasai respondents who had moved into Ngong came from different parts of the country which included Samburu, Naivasha, Komarock and Narok among other areas.

Table 4.4 Duration of Living in Ngong

Duration	Frequency	Percentage (%)
Less than 1 Yr	2	2.9
1 - 2 yrs	1	1.4
3 - 5 yrs	9	12.9
More than 5 yrs	58	82.9
Total	70	100.0

Source: Fieldwork (2013)

4.3 FACTORS LEADING TO URBANIZATION OF NGONG WARD

This section gives an analysis of information regarding urbanization and factors that have led people to settle in Ngong Ward.

4.3.1 Understanding the Concept of Urbanization

Though the researcher had offered a definition of the term urbanization to the respondents, the questions ‘*What do you understand by the term urbanization?*’ was also posed. Most of the respondents referred to urbanization as population increase and growth of town while 15.7% termed it as the growth of a town and 2.9% termed it as population increase. As indicated in table 4.5, 1.4% of the respondents were not sure of what urbanization entailed.

Table 4.5 Respondents Understanding of Urbanization

Definition	Frequency	Percentage (%)
Population Increase	2	2.9
Growth of town	11	15.7
Population Increase and growth of town	56	80.0
Not Sure	1	1.4
Total	70	100

Source: Fieldwork (2013)

4.3.2 Experienced Urbanization

When the respondents were asked, have you experienced urbanization? All of them responded in the affirmative. This further consolidated the researcher believe that the information obtained from the respondents could be relied on to answer the study objectives. This is because the study objectives depended on Maasai's who had come into contact and had experienced urbanization in one way or the other.

4.3.3 Factors leading to Growth in Urban Population

The greatest factor that had led to an increase in population in Ngong Ward was from immigration of people from other areas into Ngong Ward for one reason or the other. As indicated in table 4.6, 87% of the respondents attributed population increase in Ngong Ward to immigration while 8.6% attributed it to natural live births with only 2.9% attributing it to improved infrastructure. This is highlighted in table 5.6.

From discussion with various officials at the municipal offices the researcher was able to learn that there were many people who had bought land and settled in Ngong Ward. Most of these people were non-Maasai. Due to its proximity to Nairobi and with favorable land prices, Ngong Ward had attracted interest from many people. With the mushrooming of many residential and commercial buildings and with a road network connecting it to Nairobi, Ngong Ward has seen a rise in population in the recent years.

For the Maasai respondents interviewed search of employment was one of the main factors that had led them to move into Ngong Ward. They viewed the town as having many job opportunities emerging from its growth. Others had moved into this area so as to set up business while others moved as a result of job transfer. There also exist respondents who had moved into Ngong Ward as a result of marriage while there are those who moved into Ngong after they bought land and needed to settle in it. From the findings there was a single household that had moved into Ngong Ward as a result of conflict in their original land which was in Samburu. The respondent indicated that they had moved into this area as a refuge from cattle rustling.

Table 4.6 Factors leading to growth in urban population.

Factors	Frequency	Percentage (%)
Natural (Live Births)	6	8.6
Immigration	62	88.6
Improved infrastructure	2	2.9
Don't Know	0	0
Total	70	100

Source: Fieldwork (2013)

4.4 Land Subdivision

This section takes a look at the issues pertaining to land subdivision in Ngong Ward. Most of the respondents (40%) had more than 3 acres of land, those whose land between 1 – 2 acres were 18.6%, those with less than one acre were 15.7%. Also, and as indicated in table 4.7 below those who had 2 - 3 acres were 15.7 while 10% of them had no land at all.

Table 4.7 Size of Land

Size of Land (Acres)	Frequency	Percentage (%)
None	7	10
0 – 1 Acres	11	15.7
1 – 2 Acres	13	18.6
2– 3 Acres	11	15.7
More than 3 Acres	28	40
Total	70	100

Source: Fieldwork (2013)

4.4.1 Possession of Land Title deed

Of those respondents, (n=63) who owned land most of them had title deeds to their land. As indicated in table 4.8 below 85.7% had title deeds while 14.3% did not have title deeds to their land. Those who did not have title deeds lived on communal land which they claimed possession. The other lived in some informal settlements within the town Centre. This is indicated in table 5.8

It is evident that the Maasai communal land ownership in Ngong has almost collapsed with most of the Maasai now individually laying claim to their land. As observed by

Fratkin, Galvin and Roth (1994) the communal land ownership system among the Maasai has collapsed with most of the communal land being subdivided and owned by individuals rather than the Maasai Community.

Table 4.8 Possession of Land Title Deed

Response	Frequency	Percentage (%)
Yes	54	85.7
No	9	14.3
Total	63	100

Source: Fieldwork (2013)

4.4.2 Changes in Land Size as a Result of urbanization

Most of the respondents (68.6%) indicated that there had been a reduction on the size of land owned while 15.7% indicated that it had remained the same while a similar percentage was not sure. With their land diminishing the Maasai are definitely at a crossroads thus forcing some of them to value money by selling off their land and some of their kin have become profoundly individualistic. Table 4.9

Table 4.9 Changes in Land Size

Response	Frequency	Percentage (%)
Reduced	48	68.6
Remained the same	11	15.7
Not Sure	11	15.7
Total	70	100

Source: Fieldwork (2013)

4.4.3 Number of Cattle per Household

As can be seen from figure 4.2 most of the respondents, 35.7%, did not have any cows while 28.6% had between 1-10 cows and 18.6% had between 11 – 20 cows. Respondents with more than 30 cows were 14.3% with the household with the highest number of cattle's being 80. The remaining 2.9% had between 21 – 30 cows.

Though most of the Maasai in Ngong Ward still practice livestock production it is evident that a good number of them no longer rear livestock. In the past, one would have expected that all the Maasai households would be rearing livestock in this case cattle.

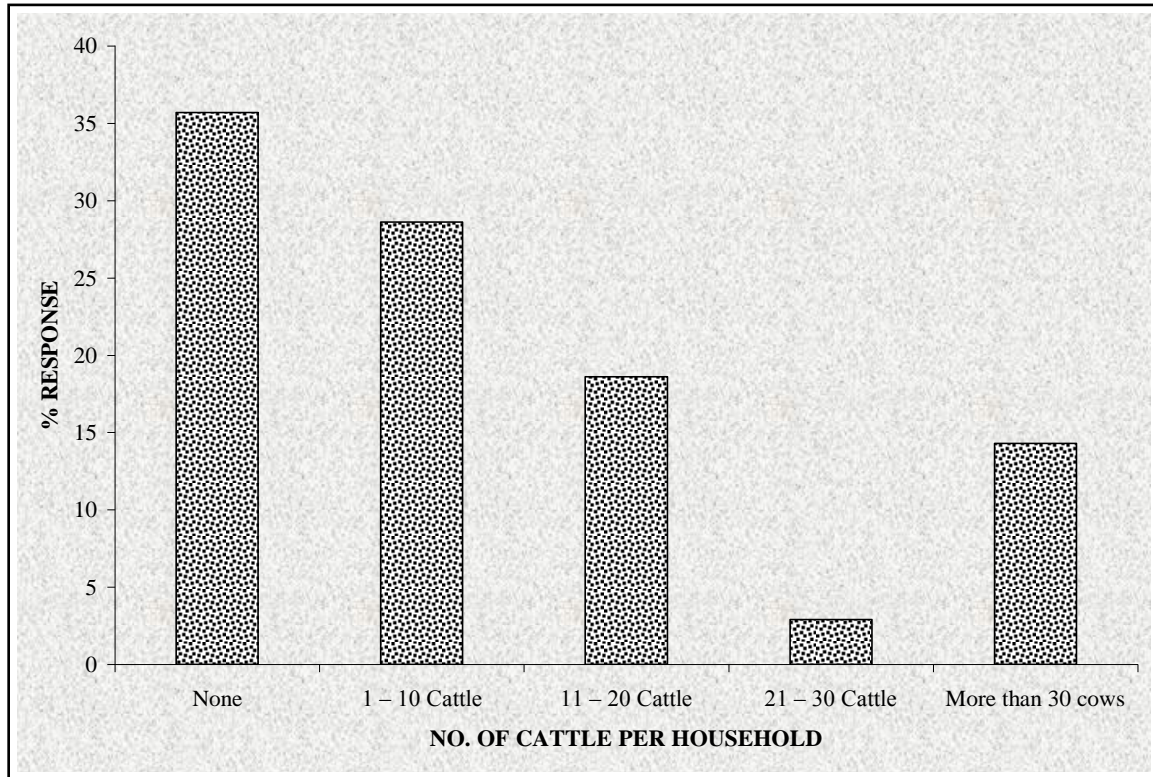


Figure 4.2 Number of Cattle per Household

Source: Fieldwork (2013)

Inquiries from the village elders and various people within the community revealed that for members of the Maasai community who were employed or in businesses and lived with their nuclear family, rearing of livestock had become difficult and strenuous to the families and had thus opted out of it. One of the respondents who was running a wholesale shop in Ngong Town indicated that the cost of returns on livestock production when compared to those of his wholesale shop could not be compared. The wholesale shop, he claimed, offered him very high returns of which he could never have gained through livestock production. The respondent who hailed from Narok had opted to sell his entire herd of livestock and start the wholesale shop in Ngong town.

4.4.4 Grazing Area for the Cattle

From the findings of the study 80% of the respondents who were rearing cattle (n=45) grazed their livestock in open fields while 20% of them had resulted to zero grazing. Apart from one respondent who had 2 cows and who grazed the animals in open field all the other respondents with not more than five cows were zero grazing. (Table 4.10)

Table 4.10 Provision of Pasture for the Livestock

Grazing Area	Frequency	Percentage (%)
Open field	36	80
Zero grazing	9	20
Total	45	100

Source: Fieldwork (2013)

Plate 1 below shows one of the households grazing the household cattles in open field within the area of study.



Plate 1: Grazing of Cattle on Open Fields

Source: Fieldwork (2013)

4.4.5 Existence of Pasture Related Conflicts

Most of the respondents were aware of the existence of pasture related conflict. The number formed 75.7% while those who were not aware of any pasture related conflict were only 24.3%. Several respondents in the area showed that most of the conflict was between the pastoralists and the farmers as a result of the livestock of the farmer trampling and destroying crops of the later. Table 4.11

Table 4.11 Existence of Pasture related Conflicts

Response	Frequency	Percentage (%)
Yes	53	75.7
No	7	24.3
Total	70	100

Source: Fieldwork (2013)

4.4.6 Household Mobility

Most of the Maasai households in Ngong Ward had adopted a sedentary lifestyle with 97.1% of the households interviewed being sedentary. Only 2.8% of the respondents interviewed were nomadic. Figure 4.3

Elders interviewed indicated that pastoralism among the Maasai was fast declining with many of the Maasai households turning to sedentary lifestyles. They attributed this to governance and the structures that came with a centralized government. The elders explained that the area administrative officers, the District Commissioner (DC) and the Division Officer (DO), and who were mandated by law to chair the lands board meeting in the area were usually non Maasai's and hence could not work in their favour.

As the Lands Board was the one that was mandated to oversee all land transactions' in an area, two elders claimed that several civic leaders, DC's and DO's in the past had used their position to own part of the Maasai communal land and had subdivided and sold it out to land developers. This has led to many Maasai's to turn to sedentary lifestyles as a way of protecting and claiming ownership to their land. They fear that if the land is left unattended, like in the past when the entire household moved in search of pasture, then the land could be grabbed, subdivided and sold out.

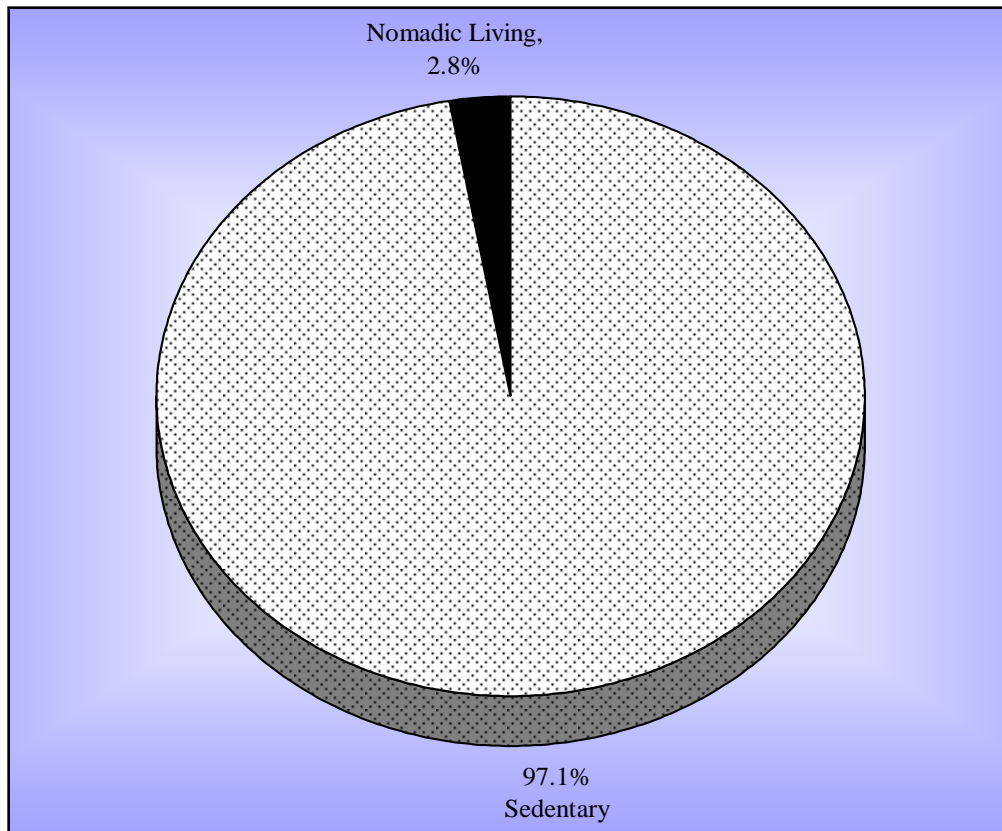


Figure 4.3 Household Mobility

Source: Fieldwork (2013)

Some of the chiefs who were interviewed blamed loss of Maasai land to high illiteracy levels and ignorance among members of the community, especially the elderly men. Most of them, they claimed, did not have land title deeds and instead of approaching the necessary institutions so as to be assisted to acquire them, most of them had been duped that without land title deeds then the land was as good as lost. This had forced many households to sell their land within this area and had moved further away. At the same time there are those who decided to get into arrangements with willing buyers in turn enabling them to acquire title deeds. In one such arrangement, a household which had over 50 acres of land sold 8 acres at a throw away price to a buyer so that the buyer could help them acquire a title deed as he acquired his.

4.5 SOCIO-ECONOMIC IMPACT OF URBANIZATION

This section will discuss information that pertains to the social-economic impact of urbanization as gathered from the field study.

4.5.1 Perception of the Maasai about Urbanization.

All the respondents (100%) were of the view that urbanization was good. Most of the respondents indicated that urbanization helped bring about improved infrastructure and better social amenities to the study area. More to this was improved security and had enhanced the availability of goods and services to the area. For those who were in business, urbanization had not only provided easy accessibility of goods and services but had also provided adequate market for their goods and services. The Maasai respondents were of the view that urbanization had improved the living standard of the community while at the same time provided them with increased interaction with members of other communities. Provision of employment for members of Maasai community was also another benefit that was being accrued as a result of urbanization in Ngong Ward.

When it came to the effects of urbanization on the way business was being carried out in the study area most of the respondents indicated that it had created healthy competition among the businesses therefore providing a variety for the consumers to choose from. This has helped in sustaining quality goods and services as businessmen feared losing to competitors if they supplied poor quality goods or services. Due to the population increase in the town there were increased business activities in the area with all types of businesses mushrooming. Discussion with municipal council officials indicated that the urbanization had brought with it increased revenue collections for the councils.

With improved social amenities, the Maasai households had access to better healthcare, better education facilities, better roads and improved water supply and provision. The respondents too indicated that electricity supply for the households and Ngong Ward had increased ensuring that many of the respondents had been connected to the national grid. All this had contributed to better living standards among the members of the Maasai community who had previously been purely nomadic and thus improving their living conditions.

4.5.2 Accessibility to Schools

All the respondents indicated that schools were accessible with 95.7% stating that they were easily accessible and 4.3% indicated that they are accessible. (Table 5.14)

The presence of many schools and provision of basic education by the government were hailed for contributing greatly to the reduction of Female Genital Mutilation (FGM) among the Maasai girls. Another aspect that many of the respondents hailed as an advantage of urbanization was increased education facilities, they said had helped reduce early marriages for the Maasai girls. (Table 4.12)

Table 4.12 Accessibility to Schools

Accessibility	Frequency	Percentage (%)
Easily Accessible	67	95.7
Accessible	3	4.3
Total	70	100

Source: Fieldwork (2013)

4.5.3 Accessibility of Services from Financial Institutions

In addition, financial services were easily accessible from financial institutions within Ngong Ward as indicated by all respondents.

With urbanization Ngong Ward is host to many financial institutions today. The work was able to observe that many of the leading financial institutions in the country had branches in the area. Banks with a high presence in the area were; Barclays, Equity and Cooperative Bank of Kenya which have a visible presence within the town centre. There are also several shylocks that were operating within the town and offering financial services to the people. A visit to one of the shylocks revealed that their clientele was across all the communities in the area.

4.5.4 Presence of Training on Investing Money

The findings of the study reveal that despite the presence of many financial institutions there was little presence of training offered to the respondents with 85.7% of them not having any financial training on how to invest their money. Only 14.3% had received some form of financial training from financial institutions. Table 4.13

Discussion with a few women Maasai women traders revealed that the Kenya Women Finance Trust offered financial training to women who had organized themselves into groups or *chamaas*. Members of the *chamaas* who needed loans did not have to provide collateral as the *chamaas* acted as one. The interest rate on these loans was usually at a lower rate than for loans taken outside the *chamaas*.

Table 4.13 Presence of Training on Investing Money

Response	Frequency	Percentage (%)
Yes	10	14.3
No	60	85.7
Total	70	100

Source: Fieldwork (2013)

4.5.5 Influence of Urbanization on flow of Goods and services

When asked how urbanization influenced the flow of goods and services, most of the respondents (55.7%) indicated that it eased movement of goods and services while 30% stated that it enhanced the quality, 12.9% stated that through urbanization the flow of goods and services was sustained while 1.4% indicated that it provided a variety for the consumers to choose from. (Table 4.14.)

Table 4.14 Influence of Urbanization on the flow of Goods and Services

Influence	Frequency	Percentage (%)
Enhances quality	21	30.0
Eases movement	39	55.7
Sustains supply	9	12.9
Provides variety	1	1.4
Total	70	100

Source: Fieldwork (2013)

4.5.6 Water Availability in Ngong Ward

When the respondents were asked whether there was enough water in their area for human consumption, 91.4% indicated that the water was enough while only 8.6 % indicated that the water available was not enough. This is captured in table 4.15.

On the contrary water availability for livestock use was considered as not enough and costly. On the other hand, water for cultivation was considered scarce a result of unreliable rainfall.

Table 4.15 Presence of Enough Water in Ngong Ward

Response	Frequency	Percentage (%)
Yes	64	91.4
No	6	8.6
Total	70	97.1

Source: Fieldwork (2013)

4.5.7 Source of Water

Table 5.16 indicates that most of the respondents, 48.6%, drew their water from piped water, while 44.3% drew their water from boreholes, 5.7% from the river and 1.4% from water pans within the study area.

Most of the respondents indicated that piped water in the study area had become more available as compared to several years back when very few homes had piped water. Increased water connection was attributed to the immigrants who had bought land and settled in the area. Through the actions of immigrants and other institutions that sought to have piped water, the water supply pipes ended up transversing long distances a position that would cost a lot of money if left upon the Maasai community.

The researcher was able to find out that the area has two major perennial rivers draining through the area (Kiserian and Ngong rivers) and two seasonal streams, Kandizi and Nol Chora. These acted as the main source of water for most of the livestock within the study area.

Table 4.16 Source of Water in Ngong Ward

Source of Water	Frequency	Percentage
River	4	5.7
Borehole	31	44.3
Piped Water	34	48.6
Water pan	1	1.4
Total	70	100

Source: Fieldwork (2013)

4.6 ENVIRONMENTAL IMPACT OF URBANIZATION IN NGONG WARD

Urbanization, one of the major drivers of land use change, has profound impacts on environmental resources. This section takes a look at the environmental impacts of urbanization in Ngong Ward.

4.6.1 Effect of Urbanization on Conservation areas e.g. Nairobi National park.

The study sought to find out how urbanization had impacted on the conservation areas within the area of study and which included among others the Nairobi National Park and the Ngong Forest. Most of the respondents 94.3% indicated that urbanization had helped improve the conservation of these areas while 4.3% indicated that it hinders their conservation and 1.4% indicated that it had no effect. Figure 4.4

Urbanization, in the world over, is known to impact negatively on native and animal diversity (Luniak, 1994). Nevertheless, this study finds that most of the respondents were of the view that there were some positive ways in which urbanization was serving conservation. Majority of them were of the view that faced with the threat of land grabbing the government through the Kenya Wildlife Service (KWS) and the Kenya Forest Service (KFS) had embarked on measures to protect the Ngong forest, Ololua forest, and the Nairobi National Park. Discussions with members of the local authorities revealed that as a result of these conservation measures there had been tremendous decrease of illegal logging within the forests. Charcoal burning within the forests was illegal and so was the herding of livestock. This deterrent measures were therefore seen as ways in which the threat of urbanization had triggered a reaction from the government leading it to take conservation measures to preserve them.

By the government, through the various agencies, being able to raise funds by allowing members of the public to visit the parks at fee the agencies were therefore able to raise funds for the maintenance and management of the parks and forests. To the respondents in this study this had helped develop a more ecologically informed public. According to Kendle and Forbes (1997) creation of an ecologically well-informed public could be an effective means of promoting effective conservation of native species.

Despite this, discussion with the two game wardens revealed that urbanization had impacted negatively on the movement of wildlife by greatly reducing their natural habitat. The wardens cited recent cases of warthogs and lions finding their way out of the park into human settlements. They blamed this to poor urban planning and slow policy implementation among stakeholders. One of the wardens blamed ignorance and lack of effective awareness campaigns on the importance of conservation of natural resources as issues that have led to diminishing conservation of the natural habitat.

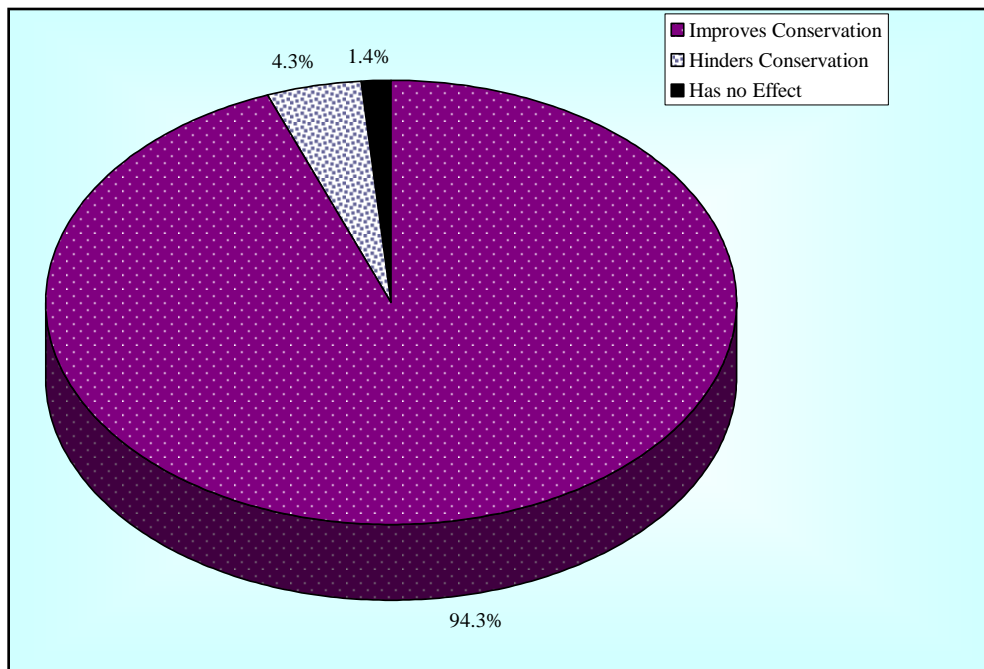


Figure 4.4 Effect of Urbanization on Conservation Areas e.g. Nairobi National
Source: Fieldwork (2013)

Observations revealed that the natural habitat was being replaced with a built environment of buildings and sealed surfaces such as roads and water tanks and empty

lots of abandoned farmlands and other green spaces that had been cleared but not managed.

4.6.2 Negative Impacts of Urbanization

Among the negative impacts of urbanization on the environment, pollution emerged as one with the highest negative impact on the physical environment. Many of the respondents (31.4%) noted environmental pollution as a negative impact of urbanization while 51.4% noted that environmental pollution and soil erosion were negative impacts of urbanization. Table 4.17

Visits within the area of study revealed a very high extent of environmental pollution within Ngong Ward. Interviews with the chief revealed that there was no active authority that was concentrating on tackling pollution within the area although he said there is a plan to relocate the dumping site out of town.

Table 4.17 Negative Impacts of Urbanization

Negative Impacts	Frequency	Percentage (%)
Erosion of Culture	1	1.4
Environmental Pollution	22	31.4
Slums	5	7.1
Crime	4	5.7
Moral Decay	2	2.9
1 and 2	36	51.4
Total	70	100

Source: Fieldwork (2013)

Discussions with residents revealed that as a result of urbanization a land that previously could be used as Maasai's grazing land, today is a dumping site. From a visit to the dumping site this study was able to learn that the site occupies a large tract of land. It has no authority governing its usage and in place it is controlled by parking boys who have turned it to a source of livelihood. As can be seen from the picture below the extent of environmental pollution is high within Ngong Ward.



Plate 2: Picture of the Ngong Ward Dumping Site

Source: Fieldwork (2013)

Plate 2 above clearly highlights the extent of environmental pollution as a result of urbanization. All types of wastes, collected within Ngong Ward and its environs, are dumped on this area. Interviews with the area Chief revealed that the land on which the dumping site stands had not been earmarked as a dumping site. Due to corruption the land today has been turned into the Ngong Ward dumping site. Generally, the area is not only a health hazard to the street families who reside within and around the dumping site but is also health hazard to all the residents of Ngong Ward.

There was a Catholic Church located at close proximity to the dumping site. Though efforts to contact the clergy did not bear fruits, interviews with the watchmen at the church revealed that the garbage was not only an eye-sore to the staffs and the church goes but it was also a source of major concern for them. The general feeling was that the rate at which the dumping site was growing if left unchecked would result in the entire area being a garbage center. The area lacked an organized garbage system thus garbage was left uncollected for too long and thus a health hazard

Water pollution was also evident in the maasai land. Some of the respondents viewed water pollution as a threat to livestock production in the area. Lack of a functional sewerage system had led to contamination of the existing rivers and seasonal streams within the area. Plate 3 shows a polluted *Nol Chora* stream which is located within the area of study.



Plate 3: A Polluted *Nol Chora* Stream

Source: Fieldwork (2013)

Destruction of the original Ngong natural habitat is evident. A visit to the several quarries revealed that quarrying activities that are ongoing have resulted to massive excavations thus contributing negatively to the environment. Air pollution from these quarries is likely to be a cause of chronic illnesses within the area. (Plate 4). Air pollution from quarry emissions is also evident.



Plate 4: Dust emission from a Ballast Quarry within Bul bul location

Source: Fieldwork (2013)

Air pollution was evident from smoke emissions from the vehicles and from some of the industries from the area. It has been noted that in many cities the air pollution is so high such that it has been causing illnesses and premature deaths among elderly people and children. Studies show that disease rate rises when the air pollution level increases. Air pollutants are also harmful for water and environment, for example, by causing acid precipitation and acidity of waters. Most of the ambient air-pollution in urban areas comes from the fossil fuels industry, motor vehicles, heating and electricity generation. Instead of carbon dioxide the emissions can include various toxic and carcinogenic chemicals, heavy metals, trace organic chemicals and fibers, photochemical pollutants, lead and carbon monoxide, which are much more harmful to human health (HABITAT, 1996).

Despite this, the study found out that with increasing urbanization, the influx of people into Ngong Ward had brought with it tremendous social ills. Several participants of this study indicated that crime was on the increase and so were the levels of prostitution.

Several Maasai traders had fallen prey to con men and women who had swindled them of their fortunes. The social aspects of the Maasai had been greatly hampered.

The effect of soil erosion is also evident along the road sides where gulleys have formed as a result of surface run-off during rainy seasons. This is best illustrated through plate 5.



Plate 5: Impact of Urbanization in Ngong

Source: Fieldwork (2013)

4.7 COPING MECHANISMS ADOPTED BY THE MAASAI COMMUNITY

4.7.1 Main Source of Income

Most of the respondents, 62.8%, indicated that their main source of income was from Informal employment with many of them having turned to business. Those in formal employment were 24.3%, while those who practiced livestock production as a trade were 11.4% and one of the respondents, an elderly woman, depended on financial support from his children. Figure 4.5

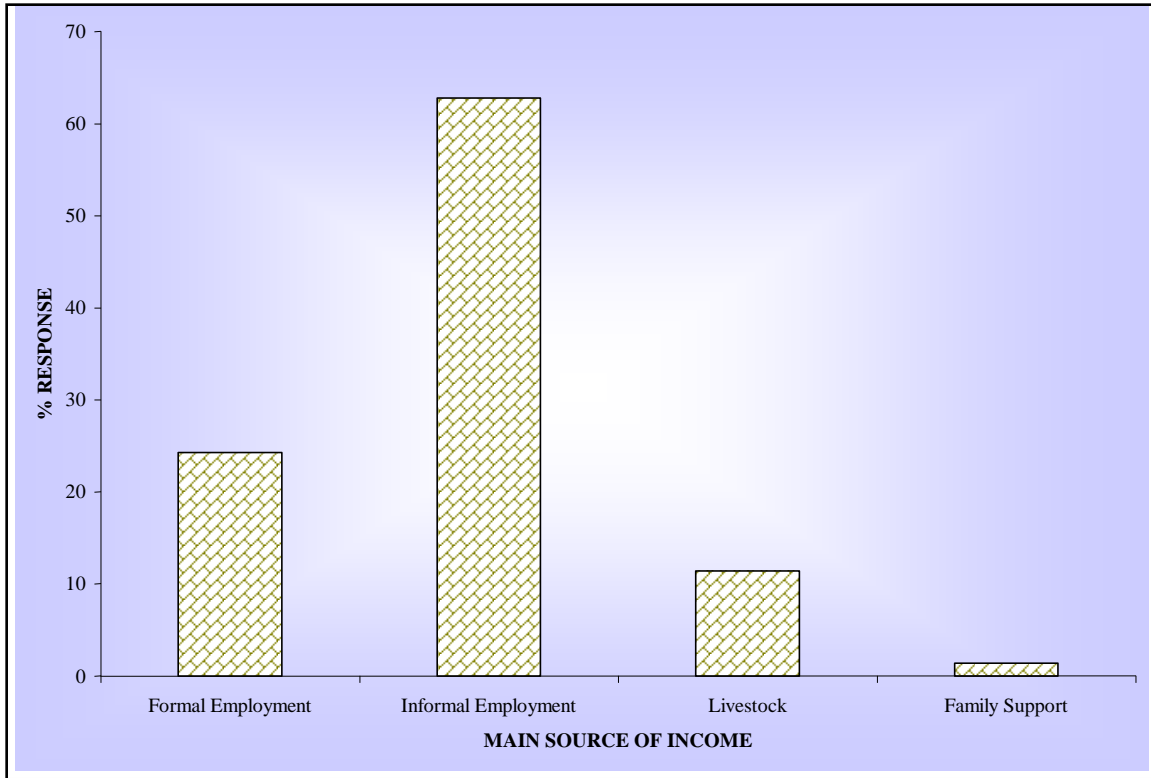


Figure 4.5 Main Source of Income

Source: Fieldwork (2013)

Findings of this study show that the Maasai community in Ngong Ward have rapidly diversified their economies and are no longer reliant on livestock production as a way of livelihoods. Personal observation reveals that in Ngong Ward the Maasai men and women are engaging in all kind of economic activities ranging from wholesale business to small scale businesses. Others in the area are employed in white collar jobs like teaching, nurses, doctors and lawyers while others were doing manual jobs within the town. Many Maasai women were engaging in bead works and for those households that were in livestock production an increase and availability for a ready market for their goods was also a positive aspect of urbanization. With urbanization the living standards of the Maasai had improved and the cosmopolitan nature of Ngong had allowed room for increased interaction. Increased business activity has created healthy competition that allowed for the provision of a variety of goods and services for the Maasai community. Furthermore to this was the availability and presence of financial institutions seeking to cash in on the growth of Ngong into an urban setting.



Plate 6: Economic Activities among the Maasai in Ngong

Source: Fieldwork (2013)

4.7.2 Sources of Food

Most of the respondents, 80%, sourced their food from farm produce and from the market, while 11.4% sourced their food from their farms and 8.6% depended on food purchased from the supermarkets. (Table 4.18)

The study revealed that there were many Maasai looking for ways to supplement their sources of wealth. While some Maasai are venturing into agriculture against their wishes, others have started micro-enterprises. Most enterprises are those that either meets their local requirements (retail business) or that relate to livestock products (sale of milk, manure, hides and skins) as it becomes difficult to keep livestock as the main source of income.

Table 4.18 Source of Food

Source of Food	Frequency	Percentage (%)
Farm Produce	8	11.4
Purchase from Market	6	8.6
All the above	56	80
Total	70	100

Source: Field Work (2013)

4.7.3 Manifestation of Poverty in Ngong Ward

From the findings of the study 71.4% of the respondents found inequality as the main manifestation of poverty in Ngong Ward while 14.3% found it to be rural urban migration and 12.9% found it to be the emergence of slums. One of the respondents did not know of any manifestation of poverty in the ward.

Inquiries from several elders revealed that several members of Maasai community complained that immigration of people from other communities into Ngong had led to further marginalization among the Maasai's as most of them employed people from their communities who were non Maasai's .The only work which was being preserved for the Maasai was that of guards or watchmen while the well-paying jobs went to the non-Maasai's.(Table 4.19)

Table 4.19 Manifestation of Poverty in Ngong Ward

Source of Poverty	Frequency	Percentage (%)
Inequality	50	71.4
Rural Urban Migration	10	14.3
Slums	9	12.9
I don't know	1	1.4
Total	70	100

Source: Field Work (2013)

4.7.4 Presence of Community Based Organizations

When asked whether the respondents were aware of the presence of a community based organization, most of the respondents (54.3%) respondents responded in the affirmative while 45.7% said no (Table 4.20.)

Table 4.20 Presence of Community Based Organizations

Response	Frequency	Percentage (%)
Yes	38	54.3
No	32	45.7
Total	70	100

Source: Field Work (2013)

4.7.5 Community Based Organizations (CBO) in Ngong

The respondents who indicated of being aware of a CBO (n=38) 57.9% were aware of the Catholic Welfare Group, 13.2% the Namayan, 10.5% were aware of Impido, while Simoi Simbi, Naibosho had 5.3% each with 2.6% of the respondents being aware of Jitegemee Self Help Group. Most of the respondents indicated that the CBO's assisted them financially while others got moral support from being members of the organizations. The Catholic Welfare group assisted its members financially, and also assisted in their spiritual growth.

The active indulgence of most of the respondents in the Catholic Welfare Group which is not a traditional Maasai Social Unit indicates that many of the Maasai's have turned to other non-Maasai way of social interaction and this can be attributed to urbanization (Table 4. 21)

Table 4.21 Community Based Organisations (CBO) in Ngong

CBO	Frequency	Percentage (%)
Catholic Welfare Group	22	57.9
Namayan	5	13.2
Impido	4	10.5
Jitegemee Self Help Group	1	2.6
Simoi Simbi	2	5.3
Kwft (Organised women Groups)	2	5.3
Naiboisho	2	5.3
Total	38	100

Source: Fieldwork (2013)

4.8 Testing of the Hypotheses

4.8.1 Hypotheses 1

There is no significant relationship between the number of cattle in a Maasai household and the type of housing.

The Information generated by the Pearson Product Moment Correlation coefficient (r) analysis of number of cattle when correlated to the type of housing produced a correlation at the .05 level of significance ($p < .05$) in only sixty six out of seventy possible cases. These correlations indicate a direct relationship existed between the two.

Table 4.22 Pearson Correlation Coefficient between the number of cattle in a Maasai household and the type of housing

Correlations			
		Number of Cattle Possesed	Type of Housing
Number of Cattle Possesed	Pearson Correlation	1	.263*
	Sig. (2-tailed)		.033
	N	70	66
Type of Housing	Pearson Correlation	.263*	1
	Sig. (2-tailed)	.033	
	N	66	66

*. Correlation is significant at the 0.05 level (2-tailed).

Results, as shown in Table 4.22 above, substantiate a significant correlation between the number of cattle and the type of housing among the Maasais, thus the null hypothesis is rejected.

4.8.2 Hypothesis 2

There is no significant Relationship between the sex and Level of Education among the Maasai.

Bivariate correlation analysis was used to examine this hypothesis and to determine the degree of relationship between the level of education and the gender of the respondents who were all Maasai's. Considering that the data for these two variables are not at the interval or ratio level of measurement, the Spearmans Rho Correlation was chosen.

Charles Spearman's rank correlation coefficient is quite simply the linear correlation of the ranks of the observations and a measure of association for ordinal variables. It is quite simply the linear correlation of the sample ranks (Spearman, 1904).

Table 4.23 Spearman's Rho Correlation between the Gender of Respondents and the Education Level of Respondents

			Sex of Respondent	Level of Education of Respondents
Spearman's rho	Sex of Respondent	Correlation Coefficient	1.000	.307*
		Sig. (2-tailed)	.	.010
		N	70	70
	Level of Education of Respondents	Correlation Coefficient	-.307*	1.000
		Sig. (2-tailed)	.010	.
		N	70	70

*. Correlation is significant at the 0.05 level (2-tailed).

Results, as shown in Table 5.23 above, substantiate a significant correlation between the gender and level of education of the Maasai's thus the null hypothesis is rejected.

Table 4.8.2 Cross Tabulation between the Sex and Level of Education of Respondents

	Male		Female	
	Frequency	Percentage (%)	Frequency	Percentage (%)
None	6	16.2	10	30.3
Primary	1	2.7	8	24.2
Secondary	2	5.4	2	6.1
Tertiary	18	48.6	8	24.2
University	10	27.0	5	15.2
Total	37	100	33	100

As shown in table above, over 50% of the male respondents had education levels higher than secondary education while more than 50% of the female respondents had education levels lower than secondary education. 75.6% of the male respondents had attained between tertiary and university education while only 39.4% of the female respondents

fell within this category. Most of the female respondents (30.3%) had not gone to school while 24.2% had received up to primary education. Within the same categories, 16.2% of the male respondents had no formal education while only 2.7% had received up to primary education. It clear therefore that among the Maasai the gender of respondents had a significant bearing on their level of education with the men being more educated than the women.

4.9 Discussions

As far as pastoralism is concerned there is an emergence of culture change within the Maasai community in Ngong ward. The traditional Maasai lifestyle centers on their cattle constituting their primary source of food. To the Maasai, the measure of a man's wealth is in terms of cattle. The more cattle one had the more respected he was. This was further reinforced by the Maasai religious belief that talks of God having given them all the cattle in the world. In the study, this is fast changing.

Findings of the study fall in line with an earlier finding by Government of Kenya. According to the Government of Kenya (2005) the population concentrations within Kajiado District varied across the district's administrative areas with Ngong Ward having the highest population density of 40.5 persons per Km². The population density was expected to grow to 66 persons per Km² by 2008. This high population density was attributed to immigration of persons from other parts of the country with its proximity to Nairobi being a leading contributor to high migration to the District.

Weinstein, (2011) notes that given the opportunity to complete high school and possibly even move to college, Maasai girls would be able to participate and even lead the transition towards environmental sustainability. An increased level of education for the Maasai girl means more contribution of the Maasai girl child to the local economy. Thus, they would have the opportunity to serve as key figures in finding solutions to issues like water shortage and overwhelming poverty. Overall, a shift in Maasai thought that would lead to basic rights for Maasai girls, such as education, would create environmental sustainability for the Maasai community (Weinstein, 2011).

Personal observation revealed that the natural habitat was being replaced with a built environment of buildings and sealed surfaces such as roads and water tanks and empty lots of abandoned farmlands and other green spaces that had been cleared but not managed. Amidst the rising residential areas in Ngong ward. A candid interview with some of the Maasai elders revealed that they were worried for the Maasai children as they claimed that the newly acquired value attached to land, and due to the commercialization of this inelastic commodity a new 'tribe' of landless Maasai had emerged in the past few decades and was increasing at an alarming rate.

Growing urbanization has been noted to mean more consumption and need of different products. The production of these needs water and creates more pollutants. According to Vakkilainen and Varis (1999), the quality of water is often threatened in poor areas due to domestic and industrial wastes. Agriculture as well produces numerous side effects to water resources, including erosion, leaching of nutrients, accumulation and wash off of pesticides and heavy metals, increased salinity due to evaporation losses and spreading of various diseases such as schistosomiasis and malaria. This therefore means that the high levels of water pollution in Ngong Ward can be expected to lead to the spread of such diseases.

Government of Kenya (2005) note that most people in Kajiado, in which Ngong was part of, practiced the traditional Maasai mode of life that encouraged semi-nomadism and most land was communally owned. However, the land adjudication and sub-division of group ranches led to individual land tenure that contributed to land sales to other people and therefore opening the area to farming communities from other parts of the country. Thus, the land in medium and high potential areas has been sold out and thus pushed the local pastoralists to drier parts of the county (Government of Kenya, 2005). The same case with this study

Ndemo (2005) notes that it is the Maasai tradition not to deny anyone access to natural resources such as land and water and attributes this socialist approach to life as source of constant conflict between the Maasai and their neighbors. According to Gluckman (1965) the Maasai think that when mother nature takes away the rains, everyone should

understand the concept of sharing, more so when it means protecting their livestock – their source of wealth. Government of Kenya (2005) notes that, the rapid human population growth in Ngong has also led to competition with wildlife over resources and thus a source of human wildlife conflict in the area. This can be attributed the cases of conflict that have been found to exist by this study.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of the findings linking the results and findings to the general literature and its implications. The aim of the study was determine the impact of urbanization on the livelihood of the Maasai Community. The chapter offers the recommendations and also outlines suggestions for further research.

5.2 Summary of Findings

Findings of the study indicate that Ngong Ward has experienced a rapid rate of urbanization in the recent past. With many of the immigrant coming from all walks of life, Ngong today is a cosmopolitan area and part of Nairobi Metropolitan. Private land developers have contributed to the increase of residential and commercial buildings.

Due to the proximity of Ngong Ward to the Nairobi Central Business District and with the availability of rental houses, Ngong has attracted many workers and job seekers who had opted to reside in the area. Investors on the other hand took advantage of the population increase to set up businesses leading to the mushrooming of all kinds of businesses in the town. All this have contributed to the diminishing presence of the Maasai and the traditional Maasai houses.

The study revealed the presence of increased land subdivisions within Ngong Ward as a result of many Maasai households opting to sell part if not all of their land to cash in on the ever increasing demand for land from ‘outsiders’¹. Land developers bought big chunks of land and sub-divided into plots of sizes as small as 50 by 50 ft. This Subdivision of Maasai land reduced land size for cattle herding, reduced the number of cows per household, and reduced food production.

Urbanization had brought about improved infrastructure and better social amenities. Water, health services and education are more accessible to the Maasai community today than in the past. Electricity and tarmacked roads were now common phenomena in the

¹ Outsiders in this study referred to Non-Maasai

area. More to this were improved security and the easy availability of goods and services to the area. Conservation measures of the natural areas like the Nairobi National Park were seen to have greatly increased. Despite this pollution was seen as the major negative impact of urbanization on the environment in the area.

From the findings of the study it is evident that changing property regimes have led to the increased sedentarization of the Maasai household thus resulting in modifications to their pastoral culture through reductions in their herd sizes and through diversification of livelihoods. With most of the respondents viewing livestock production as not giving high returns when compared to running a business, there are those who had decided to sell their livestock and invest the money in businesses.

5.3 Conclusions

The impact of urbanization on the Maasai livelihoods is evident. Rapid urbanization in Ngong Ward has impacted on the Maasai households and Maasai men and women in different and contrasting ways. Urbanization has opened up the area for people from all walks of life meaning that Maasai had new neighbors and friends. Despite this, the Maasai's have not been changing their neighbor's; instead it has been them who were changing.

The benefits and influence of urbanization has had an over bearing on the Maasai's. With improved infrastructure, improved social amenities and improved water supply and sanitation, the Maasai have seen improved standards of living with many of them turning to sedentary lifestyles. In turn they have had to diversify their livelihoods from basic animal diets and pastoral ways of life to adapt to the new 'modern' lifestyles.

Though changing land tenure has seen increased land divisions and increased source of capital for the Maasai, the very act is not only contributing to landless Maasai but leading to a further marginalization of an already marginalized community. Apart from increased rates of crime and the erosion of the Maasai culture and traditions, pollution, both land and air pollution, is negatively affecting the Ngong Ward,

5.4 Recommendations for Policy Makers.

Envisaging that urbanization is likely to be on the increase there is need to undertake an integrated urban planning framework for the entire Ngong Ward. This should incorporate land zoning while at the same emphasizing on a building code and an adherence to set standards of housing. At the same time there is need for commercial institutions and government agencies to give prevalence of employment opportunities to members of the Maasai community as leverage to changing livelihoods.

There is need for concerted efforts to create awareness to the members of the Maasai community on the impact of land subdivisions to their livelihoods. The government should come in to regulate and limit land subdivisions by zoning of areas and setting a limit to the size to which the land can be subdivided. A candid interview with some of the Maasai elders revealed that they were worried for the Maasai children as they claimed that the newly acquired value attached to land, and due to the commercialization of this inelastic commodity a new 'tribe' of landless Maasai had emerged in the past few decades and was increasing at an alarming rate. This is confirmed in this study where 10% of the respondents had no possession to any land.

Though there has been an increase in infrastructural provision and an improvement in social amenities the maintenance and upgrade levels have been very low. This has resulted to dilapidated road networks and overcrowded health and primary schools. All relevant authorities and organizations should come in to ensure that the infrastructural upgrade is line with the change in population. Ngong is in urgent need for a functional and modern sewerage system to serve the ever increasing population. On the hand most of the roads in the area lack storm drains which results in soil erosion along the roadsides during floods. Therefore, construction of storm drains should be incorporated in the current road network in the area and all future expansion programs.

For all matters of conservation there is need for community participation. Incorporation of the members of the Maasai community in conservation measures will not only provide a source of livelihood but will also go a long into integrating members of the community into modern ways of life. The National Environment Management Authority through the

local government authorities should enforce all rules on dumping and transportation of refuse and disposal waste.

It is important that gigantic efforts be undertaken to on the quality of primary schooling available to Maasai children. An improvement in the quality of schooling available to Maasai children could make a difference in the future. By concentrating on the improvement of teaching in the existing primary schools more children would be capable of secondary education leading to places in the university system and in the Kenya job market. This will go a long way in improving the Maasai's general sense of economic security.

The researcher recommends that the government intervenes in setting up a modern abattoir in place of the existing one as a way boost to livestock production in Ngong Ward. This will go along into uplifting the Maasai livelihood in the area which will boost their earnings from selling of meat products.

5.5 Suggestions for Further Studies

There is need to look into how the subdivision of land into individually owned units in Ngong Ward is likely to help or hinder the sustainable economic development of the Maasai households. At the same time there is need for study to be undertaken to determine ability and resilience of the Maasai households in Ngong Ward to cope with and adapt to change in governance. There is need for research on to determine the impact of land degradation as a result of mining and quarrying activities within Ngong Ward. Finally, the emergence of open dumpsites in Ngong Ward is a matter of concern. Understanding the dynamics and ways of sustainable waste management in Ngong Ward is therefore a matter that needs to be researched further so that a sustainable waste management framework for the area can be formulated.

REFERENCES

- Acharya, B. P. (1987). Policy of Land Acquisition and Development Analysis of an Indian Experience. *Third World Planning Review*, 9 (2).
- Anderson, D. (2000). *Identity and Ecology in Arctic Siberia: The Number One Reindeer Brigade*. Oxford: Oxford University Press.
- Barfield, T. J. (1993). *The Nomadic Alternative*. Engelwood Cliffs: Prentice-Hall
- Becker, Charles M., Hanner, Andrew A. and Morrison, Andrew R. (1994). *Beyond Urban Bias in Africa: Urbanization in the Era of Structural Adjustment*. Portsmouth: Heinemann.
- Berliner, J., (1977). Internal migration: A comparative disciplinary view. In Alan Brown & Egon Neuberger (Eds.), *Internal migration: A comparative perspective*. New York: Academic Press.
- Bollig, M. (1987). *Ethnic Relations and Spatial Mobility in Africa: A review of the peripatetic niche*, A.Rao (ed.) *The Other Nomads: Peripatetic minorities in Cross-Cultural Perspective*, Böhlau Verlag Köln Weimar Wien.
- Borg, W. R. and Gall, M. D. (1996). *Educational research: An introduction*. N. Y. Longman.
- Butler, J. and Crooke, Patrick (1973). *Urbanization*. London: Angus and Robertson Limited.
- Chandler, T., (1994). *Urbanization in ancient Africa*. In Tranver J. D. (Ed.), *Urbanization in Africa*. Westport, Conn.: Greenwood Press.
- Chatty, D., (1996). *Mobile Pastoralists: Development Planning and Social Change in Oman*. Columbia University Press: New York.
- Cohen, L. Manion L. and Morrison K. (2007). *Research Methods in Education*, New York. Routledge.
- Cohen, M. D. Garrett, J. (2009). *The Food Crisis and Urban Food Insecurity*. London, UK: IIED.

- Coughernour, M. B., J. E. Ellis, D. M. Swift, D. L. Coppock, K. Galvin, J. T. McCabe, T. Hart (1985). Energy Extraction and Use in a Nomadic Pastoral Ecosystem. *Science* 230
- Darokhan, M. D. (1999). The Development of Ecological Agriculture in Ladakh and Strategies for Sustainable Development In: Goodall S., (2007)
- De Bruijn, M and H van Dijk (2001). Moving people: pathways in the Hayre- sees area, central Mali. A paper presented at the impact of climate change on Drylands (ICCD) Workshop, Wageningen April 20-27,2001
- De Haan, L and Amers (2000).Globalization, Localization and Sustainable Livelihood. *Sociology Ruralis* 40 (3) 339-365
- de Haan, L and Amers (2003).Development geography at the cross roads of livelihood and globalizations. *TESG Journal of Economic and social Geography* 94 (3): 350-362
- Devas N. (2002). Urban Livelihoods: Issues for Urban governance and management.
- DFID (2000): Sustainable Livelihoods Guidance Sheets. Department for International Development. Retrieved from www.livelihood.org/info/info_guidancesheets.htm. on 20th July, 2013.
- Dietz, T., Drujiven P and D Foeken (1992).Coping Mechanisms and Livelihood Strategies.A Summary of Concepts.
- Dupire M., (1970). Organisation sociale des Peul. Etude d'ethnographie comparee. Paris: Plon.
- Elliot, J. (1994). Sustainable Urban Livelihoods in an Introduction to Sustainable development. The Developing WorldLand Routledge.
- Evangelou, P., (1985). Livestock Development in Kenya's Maasailand: Pastoralists' Transition to a Market Economy. Boulder, Westview Press,
- Firebaugh, G., (1979). Structural Determinants of Urbanization in Asia and Latin America, 1950 – 1969. *American Sociological Review*, 44, 199 – 215.

- Foeken, D. and Owuor S. O. (2001). Multi-spatial Livelihoods in sub-Saharan Africa: Rural farming by urban household. The Case of Nakuru Town Kenya.
- Fratkin, E., (1998). Aerial Pastoralists of Northern Kenya: Surviving Drought and Development in Africa's Arid Lands. Cultural Survival Studies in Ethnicity and Change. Needham Heights, Mass: Allyn and Bacon.
- Fratkin, E., (2001). East African Pastoralism in Transition: Maasai, Boran, and Rendille Cases. African Studies Review 44
- Fratkin, E., Galvin A. K., and Roth, A. E., (1994) (eds). African Pastoralist Systems: An Integrated Approach. Boulder, Colo. and London.
- Galaty, J.G.(1989). Pastoral and agro-pastoral migration in Tanzania: factors of economy, ecology and demography in cultural perspective. In: Power and autonomy: anthropological studies and critiques of development, edited by J. Bowen and J. Bennett. Washington (D.C.): University Press of America.
- Gharakhalou-Narrei, M. (1996). Migration and Cultural Change in Urban Communities of Qashqa'i of Iran. Unpublished PhD Thesis, Department of Geography, University of Ottawa, Canada.
- Gluckman, M. (1965). Politics, Law and Ritual in Tribal Society. Oxford: Basil Blackwell.
- Goldstein, S and Goldstein, A., (1981). Survey of Migration in Developing Countries: A Methodological Review. Papers of the East-West Population Institute, (71). East-West Population Institute, Honolulu.
- Goodall S. K., (2007). From Plateau Pastures to Urban Fringe: Sedentarisation of Nomadic Pastoralists in Ladakh, North-West India. Department of Geography and Environmental Studies, University of Adelaide.
- Government of Kenya, (2005). Kajiado District: District Strategic Plan 2005 – 2010. Ministry of Planning and National Development

- Government of Kenya, (2009). Census 2009.
- Grandin, B.E. (1987). East African Pastoral Land Tenure: Some Reflections from Maasailand. In Land, Trees and Tenure ed. John B. Raintree. Proceedings of an International Workshop on Tenure Issues in Agroforestry. Nairobi, May 27-31. ICRAF and the Land Tenure Center, Nairobi and Madison, WI.
- Grist N. (1998). Local Politics in the Suru Valley of Northern India. PhD Thesis, Department of Anthropology, London University.
- Grossman, D. (1992). Rural Process-Pattern Relationship: Nomadisation, Sedentarisation, and Settlement Fixation. Praeger, New York.
- Gugler J. (1997). Cities in the Developing World: Issues, Theory, and Policy. Oxford University Press, New York.
- Gugler, J. and Flanagan, W. (1978). Urbanization and social change in west Africa. New York: Cambridge University Press.
- Gugler, J., ed. (1996). The Urban Transformation of the Developing World. Oxford: Oxford University Press.
- HABITAT (1996). An Urbanizing World: Global Report on Human Settlements. United Nations. Oxford University Press, New York.
- Haen, H., (2003). The World Food Economy in the Twenty-first Century: Challenges for International Co-operation. Dev. Policy.
- Homewood, K. and Rogers, W. A., (1991). Maasailand ecology: pastoralist development and wildlife conservation in Ngorongoro, Tanzania. Cambridge: Cambridge University Press.
- Hull, R. W., (1976). African Cities and Towns Before the European Conquest. New York: W. W. Norton and Company Inc.
- Humphrey, C. and D. Sneath (1999). The End of Nomadism? Society, State and the Environment in Inner Asia. Durham NC: Duke University Press.

- Ikeya and Fratkin (2005). Pastoralists and Their Neighbors in Asia and Africa. SENRI Ethnological Studies 69.
- ILRI, (2006). Pastoralism: The Surest Way out of Poverty in East African Drylands.
- Joekes, S. and J. Pointing (1991). Women in pastoral societies in East and West Africa. IIED Dryland Networks Programme. Issues Paper No.28, September.
- Kaag, M. et al. (2004). Ways Forward in Livelihood Research, in D. Kalb, W. Pansters and H. Siebers (eds) Globalization and Development. Themes and Concepts in Current Research, pp. 49–74. Dordrecht, Boston, MA and London: Kluwer.
- Kendle T, and Forbes S. (1997). Urban Nature Conservation. London: Chapman and Hall.
- Kennedy, G., Nantel, G. and Shetty, P. (2004). Globalization of food systems in Developing countries. A synthesis of country case studies. In Globalization of food systems, in Developing countries: Impact of food security and nutrition, pp. 1-25 Food and Nutrition paper 83 Rome, Italy FAO.
- Kenya Population and Housing Census, (2009).
- Kipuri, Naomi, (1989). The Maasai in transition: Class and gender in the transformation of a pastoral society. Temple University, Unpl. PhD thesis.
- Konadu and Agyemang, K. (2001). The Political Economy of Housing and Urban Development in Africa: Ghana's Experience from Colonial Times to 1998 West Port, Conn: Praeger.
- Lee-Smith D., (2010). Cities Feeding People: and up-date on Urban Agriculture in Equatorial Africa. Environ Urban 22.
- Lipton, M., (1977). Why Poor People Stay Poor: A Study of Urban Bias in World Development Cambridge: Harvard University Press.
- Lissu, T. (2000). Policy and Legal Issues on wildlife Management in Tanzania's Pastoral Lands the case of the Ngorongoro Conservation Area Law, Social and Global

- development. Retrieved from <http://eljwarwick.ac.uk> global issue on 23rd June, 2013.
- Little, P. D., and Brokensha, D. W. (1988). Introduction: Anthropology, Development and Change in East Africa. In *Anthropology, Development and Change in East Africa*. David W. Brokensha and Peter D. Little, eds. Pp. 1-12. Boulder, Colo.: Westview Press.
- Luniak M. (1994). The development of bird communities in new housing estates in Warsaw. *Memorabilia Zoologica* 49.
- Meikhle, S., (2002). The Urban Context and the Poor People. In C. Rakodi and T. Lloyd – Jones, eds *Urban livelihoods: A people – centered approach to reducing poverty*. London: Earthscan Publication Ltd.
- Mitlin, D., (2000). With and Beyond the State: Co-production as a route to political influence, power and transformation for grassroots organizations. *Journal of Urban Environment*:20.
- Mulusa, T., (1998). *Evaluating Education and Community Development Programme Nairobi*, CADE University of Nairobi Press and Deutshcestiffond Fur International Ent Wickling.
- Ndagala, D. K., (1992). Territory, pastoralists, and livestock: Resource Control among the Maasai. *Uppsala Studies in Cultural Anthropology* 18. Uppsala: Acta Universitatis Upsaliensis.
- Ndemo, B., (2005). *Maasai Entrepreneurship and Change*. *Journal of Small Business and Entrepreneurship*. Canadian Council for Small Business and Entrepreneurship.
- Orodho, J. A., (2009). *Elements of education and social science research methods* by Publication: Kanezja Publisher, Maseno, Kenya.
- Owuor, S. O., (2006). *Bridging the urban-rural divide Multi-spatial livelihoods in Nakuru town, Kenya*. PHD Thesis. African Studies Centre, Leiden, Netherlands.

- Painter, T. M. (1996). Space, Time and Rural- Urban linkages in African. African Rural and Urban UNCHS (studies 3 (1): 7a – 98. An urbanizing world: Global report on human settlement London/Nairobi oxford University press/ United Nations centre for Human settlements (Habitat).
- Popkin, B. M., (2001). The Nutrition and Obesity in the Developing World.
- Potkanski, T., (1994). Property concepts, herding patterns and management of natural resources between the Ngorongoro and Salei Maasai of Tanzania. Pastoral Land Tenure Series No. 6. London: IIED.
- Pugh, C., (1990). Housing and Urbanization, A Study of India. New Delhi: Sage.
- Rakodi, C., (1997). Global Forces, Urban Change and Urban Management in Africa: In Rakodi Carolee (Ed). The Urban Challenge in Africa: Growth and Management of its Large Cities. New York: United Nations University Press.
- Rakodi, C., (2002). A livelihood approach – conceptual issues and definitions. In: C Rakodi and T – Lloyd – Jones eds, Urban Livelihoods: A people centered approach in reducing poverty, pp 3-22 London: Earthscan Publications Ltd
- Rees, W. E., (1992). Ecological footprints and appropriated carrying capacity. Environ. Urban 4, 121 – 130.
- REPOA (2003). Poverty and Changing Livelihoods of Migrant Maasai Pastoralists in Morogoro and Kilosa Districts, Tanzania Mkuki na Nyota Publishers, Dar es Salaam, Tanzania.
- Revi. A., (2008). Climate change risk: an adaptation and mitigation agenda for Indian cities. Environ. Urban. 20.
- Riesman, P. (1977). Freedom in Fulani Social Life. London: University of Chicago Press.
- Salzaman, P. C. (Ed) (1980). When Nomads settle: Process of Sedentarization as Adaptation and Response. Praeger, New York.

- Satterthwaithe, D., (2004). The under-estimation of urban poverty in low and middle – income nations. London, UK IIED.
- Scoones, I., (1980). Sustainable Rural Livelihoods: A framework for Analysis. IDS Working Paper 72.
- Sjoberg, G., (1960). The Pre-industrial City. Free Press, New York.
- Society for Applied Anthropology (2003). Sustainability and Pastoral Livelihoods: Lessons from East African Maasai and Mongolia. Human Organization Vol. 62, No. 2
- Solesbury, W., (2003). Sustainable Livelihoods: A Case Study of the Evolution of DFID Policy. Overseas Development Institute, London.
- Spear, T. and Waller, R., eds. (1993). Being Maasai. Athens, OH: Ohio University Press, 1993.
- Spear, Thomas (1993a). Introduction; in Thomas spear and Richard Waller (eds) Being Maasai Ethnicity and Identity in East Africa London, James Currey.
- Spearman, C. (1904). The Proof and Measurement of Association Between two Things. Amer. J. Psychol., 15 , 72–101.
- Swift J., (2000). Sahelian Pastoralists: Underdevelopment, Desertification, and Famine. Annual Review of Anthropology Vol. 6.
- Swift, Jeremy and Robin Mearns, eds (1993) Pastoralism in Mongolia Nomadic peoples.
- UNCHS (1996). An Urbanizing World. Global Report on Human Settlement. Oxford University Press.
- United Nations (2002). World Urbanization Prospects: The 2001 revision. New York: Upper Saddle River.
- United Nations (2004). World Urbanization Prospects: The 2003 revision. New York: Upper Saddle River.

- United Nations (2008). World Urbanization Prospects 2007 revision, CD-ROM edition. New York NY United Nations Department of Economic and social Affairs population Division.
- Vakkilainen P., and Varis O., (1999). Will water be enough, will food be enough?, Technical report, UNESCO, Paris, France
- Van Donk M. (2006). Positive' Urban Futures in Sub-Saharan Africa: HIV/AIDS and the need for ABC (Broader Conceptualization) Environ. Urban.
- Varis, O., (1999). Modelling Vicious Circles. AIT 40th Anniversary Conference, Thailand.
- Waller, R. E., (1988). Crisis and Response in Maasailand 1883-1902, in The Ecology of Survival, edited by D. H. Johnson and D. M. Anderson. Boulder, CO: Westview Press, 1988.
- Waller, R., (1985). Ecology Migration and Expansion in East Africa affairs 84: 347-370.
- WCED (1987). A Food 2000: Global policies for sustainable Agriculture, a report of the advisory panel on food security, agriculture forestry and environment to the world commission on environment and Development, zed Books Ltd, London and New Jersey.
- Weinstein Emma-Jean, (2011). Maasai Girl in the Modern World: How Educational Opportunities for the Maasai Women of Kenya Will Lead To Environmental Sustainability
- Williams , T.. (1994). Identifying Target Groups for Livestock Improvement Research: The classification of sedentary livestock producers in Western Niger. Agricultural Systems.
- Wratten E., (1995).Conceptualizing urban poverty in Environment and urbanization: London International Institute for Environment and development.

Zachariah, K. C. and Conde, J., (1981). Migration in West Africa: Demographic aspects
oxford: Oxford University Press.

APPENDICES

APPENDIX I: QUESTIONNAIRE

THE IMPACT OF URBANIZATION ON THE LIVELIHOOD OF THE MAASAI COMMUNITY: A CASE STUDY OF NGONG WARD, KAJIADO COUNTY.

INTRODUCTION

I am a student at the University of Nairobi pursuing Master of Arts Degree in Environmental planning and Management. I am carrying out a research on the impact of urbanization on the livelihood of the Maasai community. A case study of Ngong Ward on Kajiado County .The research is purely for academic purposes. Any information given to me will be treated with utmost confidentiality.

This questionnaire is divided into ten sections:

- a) Demographic Data.
- b) Urbanization.
- c) Livelihood
- d) Social Network.
- e) Land
- f) Livestock production
- g) Transport
- h) Water
- i) Energy
- j) Access to health care and Education.

DEMOGRAPHIC DATA

- 1. Head of household.....
- 2. Name of the person interviewed.....
- 3. Incase not the Head of the household.....
- 4. Village..... Location Sub-location.....
- 5. Gender
- a) Male b) Female

6. Marital status

- a) Single
- b) Married monogamous
- c) Married polygamous
- d) Divorced/separated
- e) Widowed

7. Level of education attained.

- a) Never went to school
- b) Primary
- c) Secondary
- d) Tertiary
- e) University.

8. What is the main source of income?

9. How long have you lived in Ngong?

- a) Less than 1 year
- b) 1 – 2 years
- c) Less than 5 years
- d) More than 5 years

10.i) Where were you living in the last five years?

ii) If somewhere else in above where did you come from and why?

11. What can you attribute to the population increase in Ngong Ward?

- a) Natural increase from live births.
- b) Migration of people from other areas.
- c) Improved infrastructure.
- d) Don't know.

b). Urbanization

Urbanization is the concentration of population in town, or it is a process of town formation.

12. What do you understand by the term urbanization?

.....

13. What benefits do you get in being in an urban area?

.....

14. i) Have you experienced any urbanization?

a) Yes

b) No

c) Don't know.

ii) What can you say about the growth of Ngong Ward?

.....

15. What benefits can you say are as a result of Ngong being an urban area?

a) Improved infrastructure.

b) Improved social amenities.

c) Improved security

d) Availability of goods and services

e) All the above.

16. i) How are you serviced by financial institutions like banks and co-operatives?

a) Easily accessible

b) Not Accessible

ii) If (1) in above do you get training on how to invest your money?

17. What are the disadvantages of being in Ngong Ward?

a) Insecurity

b) Housing

c) Poor infrastructural planning.

18. How has the growth of Ngong affected the way business is done?

.....

.....

19. Where do you get your basic needs?

- a) Shops
- b) Market
- c) Supermarkets
- d) All of the above.

20. How has urbanization affected the conservation areas like the Nairobi National park?..

.....
.....

21. In your opinion has urbanization influenced goods and services and if yes how has it influenced explain?.....

.....

22. In your view how is urbanization influencing accessibility of goods and services compared to the last 10 years ago?

- a) Very efficient
- b) Easy accessible
- c) In availability of some products
- d) Don't know

23. What positive changes can you attribute to urbanization?

24. What are the negative impacts of urbanization on the physical environment?

25. What are the positive impacts of urbanization on the on the socio-economic lives of the Maasai as a community?

26. In your own opinion is urbanization good or bad now that Ngong is a town? Explain your answer.

27. What is your suggestion to policy makers about urbanization and the livelihood of pastoral communities?

28. What is the cause of urban poverty in the livelihood of Ngong residence?

1. Inequality in the distribution of wealth
2. Rural-urban migration
3. Young men and women of the informal jobs prefer living in slum.
4. Don't know.

29. In your view since Ngong became an urban center has the social amenities improved in this area?

1. Yes
2. No

c) Livelihood

Livelihood is the way people rich and poor earn a living; be it in town or in the rural areas.

30. What is your source of livelihood?

1. Employment-Employed
2. Self-employed-Casual

b) If 1 in above are you a casual labourer or a salaried employee to be paid at the end of the month?

1. Self -Employed.
 - 2 . Jobless
-

31 What was the main source of livelihood before Ngong became urbanized?

1. Pastoralism
2. Farming
3. Trade
4. Don't know.

32. What is the source of food?

- 1 .farm produce
- 2 .purchase from the market
3. purchase from the supermarket
4. All the above.

32. What is your staple food? _____

33 How do you prepare your food?

1. Frying
2. Boiling.
3. Traditional way of cooking.
4. Don`t know.

34. How did you used to prepare the food long time ago, compared to your way of doing it now? Explain _____

d) Social Network

35 Do you belong to any community based organization?

1. Yes.
- 2 . No

b. If yes in the above, which one? _____

36. How does it assist you? _____

37. Do you know of any other community Based organization?

1. Yes
2. No

b) If yes in above which one?

38. Do you have social gatherings to aid boost interactions and intercommunity co-existence?

- 1. No
- 2. Don't know
- 3. Not applicable
- 4. Other please specify

LAND

39. How big is your land? _____

43. How did you acquire the land is it own land or purchased?

44. Since Ngong became an urban center, how is the size of land you own has it changed, is it the same, or it was bigger specify? _____

40. How is the ownership of land?

- 1. Communal
- 2. Individual

b) If (2) above do you possess a title deed? _____

LIVESTOCK PRODUCTION

41. How many cattle do you have? _____

42. Where do your livestock graze? _____

- 1. Open field.
- 2. Zero grazing

43. Has anything changed as far as livestock is concerned since Ngong became an urban center?

44. What can you say about livestock trade is it still being practiced?

45. Where do you sell the livestock?

- 1. Government meat commission.
- 2. Slaughter houses.

- 3. Nearby butcheries.
- 4. Individuals.

e) Transportation

46 What is the main transport mode for goods?_____

47. What are the modes of transport you use between work and home?

- 1. Walking
- 2. Public transport
- 3. Private car
- 4. Private motor
- 5. Public transport
- 6. Other specify
- 7. Not applicable

48. Which of the following options best suit your household in terms of mobility?

- 1. Sedentary living
- 2. Nomadic living
- 3. Semi – nomadic living

f) Water

49 Where do you get the water?_____

- 1 .River
- 2. Borehole.
- 3. Piped water.
- 4. Water pan.

50.What do you use the water for?

- 1 .farming.
- 2. Domestic use
- 3 livestock use
- 4.All the above

51. What can you say about the water use? Is it enough, and if it is not enough where else do you get the water?_____

52. How far is the water point?_____

53. How many minutes does it take one to draw the water from the watering point?_____

54. What are the challenges of water for livestock Use?

- 1. Scarcity
- 2. Distance covered to reach the water is very far.
- 3. Conflict of human wildlife over the same resource.
- 4. Many users over the same resource.

55. What are the challenges of water for cultivation?

- 1. Unreliable rain fall
- 2. Unreliable water supply from the vendors
- 3. No irrigation available from the government

56. What are the means of water transported to the household?

- 1. Piped
- 2. Water containers/walking
- 3. Water container/bikes
- 4. Donkey
- 5. Cut pulling
- 6. Livelihood sources

57 How has the situation changed since the area became an urban area, specify?_____

58. Are there conflicts related to land pasture and water in Ngong since Ngong became an urban center?

1. Yes

2. No

59. What are the challenges of water for livestock use?

60. What are the challenges of water for cultivation?

ENERGY

61. What is the source of energy?

62. How much do you spent per week in terms of energy consumption?

DAY WEEK MONTH YEAR

63. Are there any changes in energy since Ngong became an urban center? If yes, specify?

ACCESS TO HEALTHCARE AND EDUCATION

64. Are you accessible to health care facilities?

65. How far is the healthcare facility near you?

66. How long does it take you to get to the healthcare facility near you?

67. In your own opinion how is health care services since Ngong became an urban center?

68. How is your accessibility to schools?

69. How far is the nearest school to your home?

70. Are there any new education centers in Ngong?

71. In your view how is the education system since Ngong became an urban center?

72. What type of housing do you live in?

a) Bungalow

b) Maissonette

c) Traditional house

73. Which challenges are faced by the pastoralist?

APPENDIX II
INTERVIEW SCHEDULE

1. Position
2. Institution/Organization.....
3. Department

Aspect of Urbanization	Informants Comments
Land tenure/land Use (nature of sub-division, Process)	
Population Growth (contributors, housing, approvals)	
Socio-economic Impacts	
Environmental Impacts	
Coping Mechanisms among the Maasai (trade licences, Preferential for the Maasais)	

APPENDIX III
SOME OF THE SPSS ANALYZED DATA SHEETS

Sex of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	37	52.9	52.9	52.9
Female	33	47.1	47.1	100.0
Total	70	100.0	100.0	

Duration of Living in Ngong

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 1 Yr	2	2.9	2.9	2.9
1 - 2 yrs	1	1.4	1.4	4.3
3 - 5 yrs	9	12.9	12.9	17.1
More than 5 yrs	58	82.9	82.9	100.0
Total	70	100.0	100.0	

Level of Education of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid None	16	22.9	22.9	22.9
Primary	9	12.9	12.9	35.7
Secondary	4	5.7	5.7	41.4
Tertiary	26	37.1	37.1	78.6
University	15	21.4	21.4	100.0
Total	70	100.0	100.0	

Age of Respondent – (Ungrouped)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	1	1.4	1.4	1.4
	21	1	1.4	1.4	2.9
	22	1	1.4	1.4	4.3
	23	1	1.4	1.4	5.7
	25	4	5.7	5.7	11.4
	31	1	1.4	1.4	12.9
	32	1	1.4	1.4	14.3
	33	1	1.4	1.4	15.7
	34	2	2.9	2.9	18.6
	35	4	5.7	5.7	24.3
	36	2	2.9	2.9	27.1
	37	3	4.3	4.3	31.4
	38	4	5.7	5.7	37.1
	39	1	1.4	1.4	38.6
	40	4	5.7	5.7	44.3
	42	2	2.9	2.9	47.1
	43	2	2.9	2.9	50.0
	45	2	2.9	2.9	52.9
	46	1	1.4	1.4	54.3
	47	1	1.4	1.4	55.7
	48	6	8.6	8.6	64.3
	50	3	4.3	4.3	68.6
	52	1	1.4	1.4	70.0
	53	3	4.3	4.3	74.3
	54	2	2.9	2.9	77.1
	58	4	5.7	5.7	82.9
	61	1	1.4	1.4	84.3
	63	4	5.7	5.7	90.0
	67	2	2.9	2.9	92.9
	68	3	4.3	4.3	97.1
	73	1	1.4	1.4	98.6
	80	1	1.4	1.4	100.0
Total		70	100.0	100.0	

Age Bracket of Respondents – (Grouped)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20yrs	1	1.4	1.4	1.4
	21 - 40 yrs	30	42.9	42.9	44.3
	41 - 60 yrs	27	38.6	38.6	82.9
	61 - 80 yrs	12	17.1	17.1	100.0
	Total	70	100.0	100.0	

Presence of Training on Investing Money

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	14.3	14.3	14.3
	No	60	85.7	85.7	100.0
	Total	70	100.0	100.0	

Source of Basic Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Shops	4	5.7	5.7	5.7
	Market	3	4.3	4.3	10.0
	All of the Above	63	90.0	90.0	100.0
	Total	70	100.0	100.0	

Negative impacts of urbanisation on physical environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erosion of culture	1	1.4	1.4	1.4
	Environmental Pollution	22	31.4	31.4	32.9
	Slums	5	7.1	7.1	40.0
	Crime	4	5.7	5.7	45.7
	Moral Decay	2	2.9	2.9	48.6
	1 & 2	36	51.4	51.4	100.0
	Total	70	100.0	100.0	

Belonging to a community Based organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	54.3	54.3	54.3
	No	32	45.7	45.7	100.0
Total		70	100.0	100.0	

Number of Cattle Possessed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25	35.7	35.7	35.7
	1	2	2.9	2.9	38.6
	2	1	1.4	1.4	40.0
	3	6	8.6	8.6	48.6
	4	1	1.4	1.4	50.0
	5	3	4.3	4.3	54.3
	9	2	2.9	2.9	57.1
	10	5	7.1	7.1	64.3
	11	1	1.4	1.4	65.7
	14	3	4.3	4.3	70.0
	15	1	1.4	1.4	71.4
	20	8	11.4	11.4	82.9
	25	1	1.4	1.4	84.3
	26	1	1.4	1.4	85.7
	32	1	1.4	1.4	87.1
	33	1	1.4	1.4	88.6
	35	1	1.4	1.4	90.0
	38	1	1.4	1.4	91.4
	40	2	2.9	2.9	94.3
	50	1	1.4	1.4	95.7
60	1	1.4	1.4	97.1	
65	1	1.4	1.4	98.6	
80	1	1.4	1.4	100.0	
Total		70	100.0	100.0	