

**FACTORS AFFECTING FOOD SECURITY OF HOUSEHOLDS: THE CASE OF
LODWAR, TURKANA COUNTY.**

BY

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**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
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2012

DECLARATION

This research project report is my original work, to the best of my knowledge it has not been presented for the award of a degree in any other University.

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DEDICATION.

This research project report is dedicated to my parents Mr. and Mrs. Musembi who have supported me financially and given me emotional support. My fiancée Albert Woga who has encouraged me through this research project ,my best friend Alice Wanza for her financial and emotional support, my director Dr. Louise Leakey and Ms. Farida Bana for allowing me flexible time to leave work early to attend to my research project report.

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ABBREVIATIONS AND ACRONYMS

- FAO: Food Aid Organization**
- WFP: World Food Program**
- NFNP: National Food and Nutrition Security Policy**
- NGO: Non-Governmental Organization**
- ASAL: Arid and Semi-arid Land**

ABSTRACT

The issue of food security has been of fundamental importance in Kenya. As a basic need, food has been a major discussion issue in many round tables held by food organizations like FAO, WFP and governments around the world. The purpose of this study was to evaluate how livelihood, poverty, conflicts and policy implementation affect food security of households in Lodwar. The site of the study was Lodwar in Turkana County. The study objectives of the study were; to establish the extent to which livelihood affects food security, to determine the extent to which poverty influences food security, to establish the extent to which conflicts affects food security and to determine the extent to which implementation of policies affects food security of households in Lodwar. The conceptual framework has also illustrated the moderating variables (food aid) and intervening variables (weather conditions) and their effect on the main variables under study. The study adopted a mixed mode research approach with a descriptive survey design. The target population is 48, 316, the sample size was 397 i.e. 66 households and was determined using Yamane Taro's (1967) formula. Primary data was collected using questionnaires and interview schedules. Triangulation was done to ensure validity by rephrasing the questions to ensure validity and the data collection instruments were pretested using peers to ensure reliability. The questionnaires were collected after which the data was analyzed, checked for errors in response, omissions, exaggerations and biases., Operationalization of variables was presented to show the overview of the study. The data collected was processed through tabulation and tallying, thereafter it was coded and analyzed by use of measures of central tendencies, dispersion, percentages as well as content analysis. The data was presented using tables and frequency distributions. The summary of the findings have also been outlined and discussed based on the variables under study. Conclusions have been made based on the information obtained. Finally study recommendations have also been made and suggestions for further research recommended as such will add great value to this project research.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The term food security is used to describe not only the availability of food, but also the ability to purchase and have access to food. Being food secure for a nation or a family is to have a reliable source of food and sufficient resources to purchase it. This is why it is of paramount importance to identify the underlying causes and the proximate factors of food shortages and of disruptions/losses in real incomes among the most food-needy populations.

The global food crisis that has web-caught the world since 2007 has exacerbated these causes and factors of food insecurity, although it has also provided Africa with an opportunity to find long-term solutions to hunger through agriculture led growth. Approximately 1 billion people – or one sixth of the world's population subsist on less than \$1 per day, 162 million of them having less than \$0.50 per day. Between March 2007 and March 2008, global food prices increased an average of 43 per cent, according to the International Monetary Fund.

The most pronounced price rises were on wheat, corn/maize and rice - the main components of the basic diet of billions of people as well as on soybean. Feed for cattle, chicken and other meat-producing animals have also been affected. These price increases have reached at various degrees many local markets in Africa, Asia and other parts of the world, deepening food insecurity in the process, especially among the poor, and raising fears of contagious social unrest and political instability in many regions.

In decades, the world had not experienced a food crisis on such a scale. However, from an African perspective, food crises are nothing new. With 45 per cent of the African population living on less than one dollar per day and spending 50-75 per cent of their income on staple foods –a high proportion of which are imports there were particular concerns for the poor, especially in those countries that are highly dependent on the international market for food and energy (Economic Commission for Africa).

Recurrent seasons of failed or poor rains, sustained high food prices, environmental degradation, outbreaks of disease, and flooding have led to deteriorating food security conditions throughout Kenya, straining coping mechanisms, exacerbating existing chronic poverty, and contributing to increased inter-ethnic conflict over access to limited land and water resources.

Food insecurity in Kenya has also occurred in the context of ongoing civil and political unrest, including violence associated with the December 2007 election that displaced more than 663,000 people in Nairobi and across areas of Rift Valley, Western, Nyanza, and Coast provinces, according to the Government of Kenya. Although the majority of displaced individuals have subsequently returned to areas of origin, vulnerabilities among remaining internally displaced persons and disruptions to agricultural production in affected areas have contributed to increased food insecurity.

On August 20, the Kenya Food Security Steering Group (KFSSG) increased the projected number of people requiring emergency food assistance between September 2009 and February 2010 to 3.8 million individuals, representing a 32 percent increase since February 2009. In addition, the report identified approximately 2.5 million chronically food-insecure individuals located in urban areas, 100,000 persons displaced by post-election violence, 1.5 million primary school students in drought-affected areas, and 2 million rural HIV/AIDS patients as food insecure countrywide and in need of humanitarian assistance.

On October 1, 2009, U.S. Ambassador Michael E. Ranneberger renewed the disaster declaration for food insecurity in Kenya for FY 2010. In FY 2009 and to date in FY 2010, the U.S. Government (USG) has provided more than \$245 million for humanitarian assistance programs in Kenya, including more than \$24 million in USAID/OFDA funding to support nutrition, economic recovery and market systems, health, agriculture and food security, and water, sanitation, and hygiene interventions, as well as local procurement and distribution of food

(http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/kenya/template/fs_sr/fy2010/kenya_fi_sr02_11-06-2009.pdf).

Turkana is hot and dry for most part of the year. Average rainfall in the plains is about 300-400 mm falling to less than 150mm in the arid central parts. Rainfall is erratic and unreliable and famine is a constant threat. Turkana has a very poor agricultural potential and is only suitable for extensive rearing of indigenous livestock. The urban population has no real economic alternatives for survival. Due to low productivity of the rangelands and the high variation of rainfall, pastoralists are forced to move frequently from one place to another to search for water and pastures. Yet this movement has to be carefully calculated and monitored due to security situation. Relatively safe areas in the central parts of the district have high concentration of pastoralists as compared to Northern, North-Western and Southern areas, which are prone to armed conflicts and cattle raids. (http://www.combonikenya.or.ke/charter_turkana.html).

1.2 Statement of the Problem

Food is a basic need. According to Maslow (1971), physiological needs such as food and sleep are dominant and precede all other needs. According to Linda (2004), until these needs are adequately satisfied, everything else is relatively insignificant. Anke (2001) adds that, food is a universal basic need unfortunately not met for large numbers of people in this world. For this reason, substantially reducing food insecurity was framed as one of the millennium development goals.

In order to achieve food security in Lodwar, factors like poverty, policy implementation, culture and conflicts have to be taken into consideration. This study, therefore, seeks to evaluate the factors that have affected food security in Lodwar thereby an understanding of these factors and their influence on food security will enable policy makers, the centralized government and the communities to develop policies and habits that favor food security and devise ways of curbing/improving those factors that hinder achievement of food security.

1.3 Purpose of the Study

The purpose of this study was to evaluate how livelihood, poverty, conflicts and policy implementation affect food security in Lodwar.

The study further seeks to assess the effects of policy implementation, poverty, livelihood, and conflicts directly affect food security, and how food aid moderates food security and how weather conditions interfere with food security.

1.4 Objectives

The objectives of the study are:

- i) To establish the extent to which livelihood affects food security of households in Lodwar.
- ii) To determine the extent to which poverty influences food security of households in Lodwar.
- iii) To establish the extent to which conflicts affects food security of households in Lodwar.
- iv) To determine the extent to which implementation of policies affects food security of households in Lodwar.

1.5 Research Questions

The study sought to find answers to the following questions:

1. To what extent does livelihood influence food security of households in Lodwar?
2. How does poverty affect food security of households in Lodwar?
3. To what extent does conflict influence food security of households in Lodwar?
4. Does Policy implementation affect food security of households in Lodwar?

1.6 Significance of the Study

It is expected that the study will contribute to a better understanding of how livelihood, poverty, conflicts and policy implementation affect food security. It is also expected that the study will encourage the communities to be open minded by extending their agricultural practices to farming and advise policy makers in the area of food security to realize the factors that inhibit food security. The study is also expected to add to existing knowledge and stimulate further research in the area of food security. Beneficiaries of the research will include the; households, policy makers, the centralized government and various stakeholders. Therefore food security issue will improve in Lodwar.

1.7 Delimitation of the Study

The study was bound to households in Lodwar; this is because there are many people living in the area for the researcher to be able to gather adequate information.

1.8 Limitations of the Study

This study was limited by various factors which will include: Time; the period within which this study is expected to be completed (Two and half months) is short for this type of research. However the researcher made a tight work schedule to enable her collect as much data as possible within the given time. Language barrier; the researcher was not from the community and so encountered language barrier. The researcher therefore hired a translator who helped overcome the problem.

1.9 Assumptions for the Study

It was assumed that the sample will represent the population, it was also assumed that the data collection instruments were valid and consistent and that the respondents would answer the questions correctly and truthfully.

1.10 Definition of Significant Terms

The following terms have been defined by the researcher in the context of the study;

Food Security:

Availability of food, but also the ability to have the resources to purchase food by a household, and have the sources and access to food.

Policy Implementation:

Execution of strategies meant to improve the lives of the Turkana people by the government that are meant to catalyze achievement of food security especially social amenities like; Schools both primary and secondary, health facilities, water and sewerage pipelines, electricity, other forms of energy, transport network, communication network and credit facilities/extension services.

Conflict:

Constant state of war and raids among the North of Kenya communities.

Weather conditions:

Unpredictable changes in weather leading to excess rains hence flash floods or lack of rain therefore drought.

Poverty:

Lack of necessary resources that inhibit the achievement of food security e.g. Title deeds, money to buy food.

Livelihood:

Sustenance of the Turkana communities in form of food.

Food Aid:

Food assistance from various organizations e.g. Nongovernmental Organizations and government agencies dealing with emergency responses.

1.11 Summary

This chapter has outlined the background to the study starting with a larger view and narrowing down to study area. Statement of the problem has been established, the study has also been justified. The objectives and research questions have been established. The following have been outlined; Limitations of the study, scope of study and assumptions of the study finally significant terms have been defined.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter outlines the factors that affect food security that exist in related literature. It brings out the various factors that have affected food security in Turkana District and Lodwar.

The factors include Livelihood, Poverty, Food Aid, Conflicts, Weather conditions and Policy Implementation. A conceptual frame work is also presented to show the relationship between the dependent and Independent variables.

2.2 Theoretical frame work

There is limited literature on theories of food security, however, scattered information attempting to layout the theories is available.

Food security may be reviewed as an underlying continuous, unidimensional, but not directly observable quantity that varies from household to household. Higher values of latent food insecurity are indicated by higher probabilities of endorsing or affirming survey items that indicate higher degree of not being able to obtain sufficient food due to lack of economic resources (Norwood ,2006).

Development theories focus with differing emphasis on the agriculture and food aspects and also carry different messages .Whilst for instance dependency theory and basic needs explicating stress more food production even in a subsistence economy and advocate self-sufficiency, structural adjustment and modernization theory are more concerned about export crops...when reviewing development theories with regard to their influence on food security ,one particular tendency becomes apparent ;in former days, much work was devoted to global food security and regional, national and sector analysis. Recent thinking relates the micro-level to a micro-perspective: families, households, communities and associations, as well as NGOs' and entrepreneurs are seen as actors to be actively involved in the analysis, planning and implementation of development strategies (Kracht and Schulz, 1999).

2.3 Overview of Turkana Food Security.

There are many challenges facing the food sector in Turkana being low or no food productivity occasioned by recurrent drought (inadequate feeds and water), insecurity, land tenure system, poor breeds and breeding practices, endemic livestock diseases and poor livestock husbandry.

Events in the 1990s and into the present have resulted in the pastoral areas making little contribution to the national development and food shortages is still a big threat. These negative events which have impacted negatively on the pastoral livelihoods includes: withdrawal of government from the provision of basic needs and services, for example, the introduction of cost sharing in education, health, water supply, and veterinary service; conflict spillover from the collapse of government in Somalia; the 1991-1992 and 2005-2006 droughts, and famines; and more recently, the tribal tension resulting from the 2007 Kenyan presidential election fiasco (Otieno, 2009).

2.4 Influence of Livelihood on Food Security

According to the common sense in the “outside world”, pastoralists are ‘closed communities’ locked into their own traditions, and stubbornly opposed to any change or push for innovation. At best, they are seen as very conservative and slow to embrace the new national society, in historical settings in which ‘the rest of the country cannot wait for them to develop’ (Saverio, 2001).

According to Dyson (1999)...the culture and technology and knowledge of the pastoralist is centered on livestock management and dependence and is linked to complex patterns of social organization and demographic structures, that is demographic structures of both herds and people.

The linkages between gender, rural livelihood and food security are still missing in many studies. Despite the fact that women provide the bulk of the food and agricultural production, they are disadvantaged with regard to entitlements, the ownership of assets and access to and control over resources such as land and credit that are essential for agricultural production and livelihood generation (Marianne, 2010).

Ownership of land or access to even small pieces of land for farming has substantial effect on the food security status of rural households, even when income level is controlled for; the prevalence of food insecurity tends to be higher among landless or quasi landless households, who are much more dependent on riskier sources of income than farm income and on the diversification of the rural economy (Joachim, 1992).

Bruce adds that, in Turkana where there is no tradition of legalized, personal ownership of land, all of it being vested in the Crown, the Kenya government will eventually have to set policy on this matter” (Bruce ,1984).

2.5 Effects of Poverty on Food Security

For all people to get enough food, agriculture must thrive. Higher yields, however, will not suffice to overcome hunger. The purchasing power of those in need must rise too (<http://www.dandc.eu/register/index.en.shtml>).

Pastoralism and poverty are often associated by force of logic: pastoralism is believed to be an irrational and underdeveloped mode of production, therefore pastoralists are, so to speak, poor by definition. They are believed to depend on food relief for their survival (Saverio, 2001).

According to (Food and Agriculture Organization of the United States. 2002), numerous studies confirm that improving access to land can have a major impact on reducing poverty and hunger. An exhaustive analysis in India found “a robust link between land reform and poverty reduction”...The study confirmed that land reform significantly reduced rural poverty and stimulated growth in agricultural wages.

It appears, in addition, that the role of hunting and fishing in the food provisioning is often neglected. ... The present-day heavy reliance on livestock by certain pastoralist groups, such as the Turkana (Galvin, 1985; Soper, 1985, Cited by Fekri, A. Hassan).

2.6 Influence of Conflicts on Food Security

Conflict remains a major constraint to development in the Turkana sub-region, impacting government led investment of humanitarian assistance, development, and community interdependence for the Turkana people. Complex socio-political factors have exacerbated conflict in recent decades within Turkana and Karamoja cluster in general. Whilst conflict in the sub-region is largely low intensity, the protracted and complex nature (raids, banditry, rape and a spiral of revenge attacks) leads to loss of lives and livelihoods, destruction of physical infrastructure, restriction and interruption of customary natural resource management and disruption of social services as well as displacement of populations ultimately contributing to continuing extent and depth of poverty(Turkana Pastoralist Development Organization – [TUPADO]. 2011).

The Turkana and Pokot are pastoralist communities in Kenya who live in the arid region of northwestern Kenya. They boarder each other, with the Turkana towards the North and the Pokot in the South. Conflict between these communities is historical as they both compete for resources that are increasingly diminishing with the increase in climate change. With the communities being pastoralists in such a region, they are inclined to follow a nomadic way of life ,in order to feed their cattle with the changing seasons and exhaustion of pasture, the communities therefore enter into the other communities' pasture land in order to ensure the survival of their flock (Muthoni ,Daisy).

The communities have access to small arms procured from the unstable regions of Sudan, Ethiopia, Somalia and Uganda. The existence of these firearms further increases the intensity of the conflict since more casualties exist during raids and the damage is more extensive (Gateway,2009)... their pastoral neighbors, the Toposa, luckily located on the 'right side' of both these boundaries, received free rations of food and veterinary services, local Turkana received nothing but for the bullets (Vigdis ,2005).

The food problem in arid and Semi-Arid areas can only be meaningfully addressed after the restoration of peace and security...The arid and semi-arid areas make up about 80% of the land surface of Kenya (Angie Dawa , 1999).

2.7 Influence of Implementation of Policies on Food Security

National Food and Nutrition Security Policy addresses food security issues and outlines the Kenya government's intervention measures that ensure that the country is food secure. This involved the review of the Sessional Paper No. 2 of 1994 on National Food Policy and setting up National Food Safety Agency incorporating the food traceability elements and international Sanitary or Phytosanitary standards. This also involved drafting of the Food Security and Safety Bill, which is now complete and has been forwarded to Agriculture Sector Coordinating Unit (ASCU). The draft NFNP is ready (Raphael, 2009).

However even with such promising policies that seem to change the status of food security in Kenya and especially among the marginalized groups, the vicious cycle of famine and droughts are evident. Even irrigation farming, which was originally intended to alleviate destitution, has had remarkably little impact either in alleviating poverty or increasing food production, and has increasingly become dominated by the wealthy... (Diedrich, 1986).

The impact of government policies on pastoralists in Kenya has been widely documented (Republic of Kenya. 1992, 2002). Some of these measures designed to remedy the problems of food shortages and under development in pastoral areas included: the Special Rural Development Project and the Kenya Livestock Development Project. The project definition of pastoral development was that of settlements based service delivery, implying that the pastoralists were to pay for the growing demand of beef in Kenya. This ignored the fact that these were people with very specific needs for frequent movements. The Kenya Livestock Development Project intervention saw an increase in health and education services and vaccination of livestock. With these free services, the local people got used to government provision of their needs, slowing down their practice of pastoralism (Omosa, 2003; Republic of Kenya. 1992). It should be noted that the project was meant for all the pastoral areas, but ignored the Turkana District completely (Livingstone, 1986; Otieno, 2009). This was despite the fact that, up to 1979, almost 90 percent of Turkana people were engaged in pastoralism, whereas only less than 7 percent relied on fishing, and only a little over 2 per cent on cultivation (Ochieng-Aketch, 1993).

The areas where camps (Kakuma and Dadaab) are located are almost totally devoid of any investment or development activity, whether by The Kenyan authorities, private enterprise or international agencies (Edward, 2011).

The contribution made by transport projects to long-term regional economic change obscures the role of transport in the daily struggle for survival in places afflicted by food insecurity. In sub-Saharan Africa, limited infrastructure and transport service has occasionally disrupted food production and circulation. During the widespread food crises of the past decade, land, sea and air transport have been used more constructively to distribute food aid. An empirical review of the contradictory relations between transport and food insecurity precedes discussion of the logistics and potential impact of emergency food aid transport in north-eastern and southern Africa in the 1980s and 1990s (Pirie, 1993).

2.8 Weather conditions and Food Security

The impacts of climate change are likely to be spatially variable, and developing countries – many in Africa – generally are considered more vulnerable than developed countries due to their lower capacity to adapt (Thomas and Twyman, 2005). Climate variability and change will result in fundamental alterations to ecosystem structures and functions. These in turn will affect human land-use and livelihoods and have the potential to make pastoralists more vulnerable (Galvin and Soper, 1985).

In the future, climate change may become a contributing factor to conflicts, particularly those concerning resource scarcity (Ashton 2002; Fiki and Lee 2004, cited in Boko, M., Niang, A.I., Nyong, C., Vogel, Githeko, M.A., Medany, B., Osman-Elasha., Tabo, B., and Yanda, P., 2007). The Turkana practice small-scale agriculture, relying on floods along the main rivers and the lake shore (Soper, 1985). Gufu Oba contends that, however, flood-dependent agriculture is a gamble, as crops are washed away whenever floods are excessive, whereas inadequate floods produce insufficient harvests. In spite of its important supplementary role, traditional agriculture does not provide enough surpluses to feed people during the periodic droughts. Furthermore, those groups inhabiting the lake shore are able to supplement their diet with fish from the lake.

Irregularity of rainfall is a characteristic feature from year to year and within individual years (Soper, 1985).

The very density of Kenya's arid and semiarid lands is low and the variation in forage quantity and quality is enormous. These variations and periodic lack of water for livestock due to low rainfall force pastoral communities (e.g. Maasai, Samburu, Turkana, and many others) to wander continuously with their herds of livestock. Due to drought, density as well as quality of pasture deteriorates and so do the physical conditions of the livestock that feed on the pasture many livestock get weaker and eventually die of starvation (fig 4 and 5) (Vijendra, Boken and Arthur, 2005).

Reduced food production in the arable farming areas implies that there is less food available in the markets thus raising the prices of the available food making it out of reach for the poor. Floods also hamper pastoralists' access to food by making it impossible to move food from the food surplus areas to food deficit areas. Food crisis occasioned by ecological disasters are not new in Kenya. In the past one century or so, Kenya is reported to have experienced close to 20 major droughts with varying magnitudes and spatial concentration (Bates, 2005; Campbel, 1999; FEWS NET 2006; Naomi Shanguhya, 2008).

2.9 Food aid and Food Security

Food aid can play an important role not only in alleviating existing food deficits once they occur, but also in preventing temporary food shortages. Major approaches to reduce the risk of temporary food shortages resulting from supply instabilities are early warning and immediate response mechanism, multi-annual programming and/or food aid contributions to buffer stocks and emergency food security reserves...These measures apply, in principle, to all types of food aid supplies: programme, relief and project food aid (Anne Margaret ,1997).

If the present trends continue, the Turkana nomads are more likely to rely on food aid during future droughts than ever before. During future events, planning of successful development may require identification of factors which in the past were responsible for project failures.

Unfortunately, there are few instances where development plans have relied on historical analysis to deal with development issues at a regional level (Anderson, 1981).

Helen (2001) adds that, the cycles of drought and floods threaten food security and are making more pastoralists and farmers dependent on food aid. Aid dependency takes pastoralists and farmers out of the production cycle, where they risk losing their craft and prevents them from receiving assistance to improve their production practices. The number of families without livestock or farming land is growing rapidly.

2.10 Conceptual Framework

To better understand how above mentioned factors affect food security of households in Lodwar a conceptual frame work has been presented here in figure 1 and draws from the literature review discussed in this chapter. Miles and Huberman (1994) and Huberman and Miles (2001) say that a conceptual frame work explains either graphically or in narrative form, the main dimensions of a study-the key factors, constructs or variables-and the presumed relationship between them.

$Y=f(x_i)$, Independent variables are; Livelihood, Poverty, Conflict and Policy implementation. These are factors that seem to have a huge effect on food security on households in Turkana County. Other independent variables are; Moderating variable is food aid this is because food aid affects the ability of the communities to enhance food security since they might be reliant on food aid thus not giving attention on enhancing food security.

Intervening variable is weather condition. This is because this is a factor beyond the researchers control and cannot be influenced. Dependent variable is Food security because its outcome is determined by the independent variables.

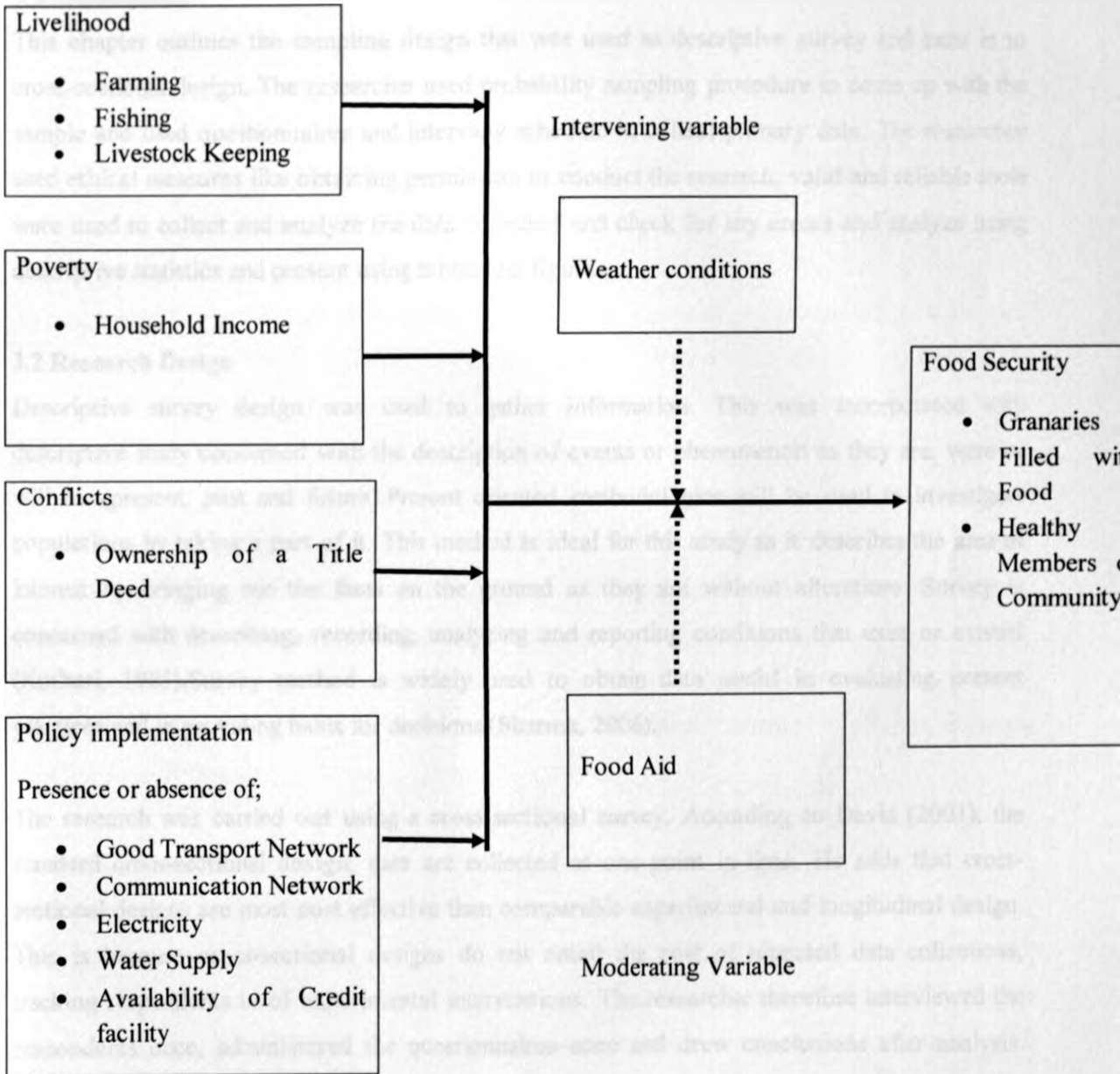


Figure 1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the sampling design that was used as descriptive survey and zero in to cross-sectional design. The researcher used probability sampling procedure to come up with the sample and used questionnaires and interview schedule to collect primary data. The researcher used ethical measures like obtaining permission to conduct the research, valid and reliable tools were used to collect and analyze the data collected and check for any errors and analyze using descriptive statistics and present using tables and figures.

3.2 Research Design

Descriptive survey design was used to gather information. This was incorporated with descriptive study concerned with the description of events or phenomenon as they are, were or will be (present, past and future). Present oriented methodologies will be used to investigate populations by taking a part of it. This method is ideal for this study as it describes the area of interest by bringing out the facts on the ground as they are without alterations. Survey is concerned with describing, recording, analyzing and reporting conditions that exist or existed (Kothari, 1985). Survey method is widely used to obtain data useful in evaluating present practices and in providing basis for decisions (Sharma, 2006).

The research was carried out using a cross-sectional survey. According to David (2001), the standard cross-sectional design, data are collected at one point in time. He adds that cross-sectional designs are most cost effective than comparable experimental and longitudinal design. This is because cross-sectional designs do not entail the cost of repeated data collections, tracking respondents or of experimental interventions. The researcher therefore interviewed the respondents once, administered the questionnaires once and drew conclusions after analysis. Survey research design allowed the researcher to investigate populations by selecting samples to analyze and discover occurrences.

The source of data collected was primary through administration of questionnaires and carrying out interviews. Questionnaires were administered to the people living in Lodwar in order to

collect data about livelihood, poverty/household income, land ownership and accessibility to credit facility. A guided style interview was adopted, the researcher used pre-set questions to interview the people.

3.3 Description of the study area

Turkana District is in north-western Kenya marks the end of a depression extending from Somalia across northern Kenya. However, the central part and most of the west of the district are covered by a range of hills. The lowest areas are the Lotikipi Plain in the north-west and the area around Lodwar town.

Lodwar is the largest town in Northwestern Kenya. It has a population of 48,316(Kenya National Bureau of Statistics; Commission on revenue allocation)... lowest rainfall is usually recorded in the central plains around Lodwar, with an annual average of 120 mm(Ministry of State for Development of Northern Kenya and other arid lands).

There is visible poor transport network. The area has low productivity which has led to little development taking place. After 1963 the government intensified its activities and security, medical care and famine relief were provided whenever they were needed. This has steadily increased the human population, which in turn has increased livestock numbers. Because of available facilities people have concentrated their manyattas around centers like Lodwar, Lokitaung, Lokichar and Kakuma.

3.4 Target Population

The target population were households in Lodwar, Turkana County in Rift Valley Province. Households are sparsely spaced and have been hard hit by famine and drought especially in 2011 thus making them eligible for the research. Households in this area are mainly headed by men and are nomadic in nature. They keep livestock mainly goats and sheep and incorporate this with fishing. Their diet is mainly fish, goat meat and blood and honey.

Table 3.1: Target Population

RESPONDENTS	TOTAL POPULATION	SAMPLE SIZE	NUMBER OF HOUSEHOLDS
Residents of Lodwar	48,316	397	66

3.5 Sampling Procedure

This study used probability sampling technique. Frederick and Lori-Ann (2011) claim, in probability sampling, the entire population is known, and sampling occurs by a random process based on the probabilities. This means the probability of each member being selected is known.

Yamane Taro's (1967) provides a simplified formula for sample sizes ($n=N/1+N(e)^2$), Where n is sample size and N is the population and e is the error margin, thus,

$$n=48,316/ (1+48,316(0.05)^2)$$
$$n=397$$

But 1 house hold has an average of 6 members

Therefore number of households will be $397/6 = 66$ house holds

3.6 Data Collection Method

Primary data was collected using questionnaires and interview schedules. Questionnaires were administered to the residents in order to collect data about the factors and how they are affecting food security. Group discussions were held and guided by an interview schedule.

3.7 Data Collection Procedure

Before collecting data, permission was sought from the chief at Lodwar .This was done before the actual date of undertaking the study. The researcher then visited the households in the sample after permission letter was given to her by the chief.

3.8 Validity

Validity indicates the degree to which an instrument measures what it is supposed to measure, it is the extent to which difference found with a measuring instrument reflects true differences among those being tested (Kothari, 2004). Validity of the instrument was achieved through pre-testing by administering to peers before administering to selected sample. Triangulation was ensured in formulating the instrument.

3.9 Reliability

Reliability refers to the consistence of the scores obtained. That is how consistent the scores are for each individual from one administration of an instrument to another and from one item to another. Reliability was ensured by rehashing the instrument with the research assistants to ensure they fully understood the instrument and not introduce unintended questions which may distort the responses.

3.10 Operationalization of Variables

This is making research concepts measurable. Table 3.2 below shows this.

Table 3.2: Operationalization of Variables Table

Objectives	Independent Variables	Indicators	Measurement	Measurement scale	Research Design	Data Collection Method	Type of analysis
To determine the extent to which livelihood affects food security of households in Lodwar	livelihood	Farming Fishing Livestock Keeping	Crops Grown Fish farming/Fishing Animals reared	Nominal and Interval	Descriptive Survey	Questionnaire Focus group discussions	Descriptive
To establish the extent to which poverty influences food security of households in Lodwar	Poverty	Household Income	Number of Meals per day Presence of a granary Type of house	Nominal	Descriptive Survey	Questionnaire Focus group discussions	Descriptive
To determine the extent to which conflict affects food security of households in Lodwar	Conflict	Ownership of a Title Deed	Possession of a Gun/Rifle Frequency of Cattle Rustling	Nominal and Interval	Descriptive Survey	Questionnaire Focus group discussions	Descriptive
To establish the extent to which implementation of policies affects food security of households in Lodwar	Implementation of policies	Transport Network, Communication Network, Electricity, Water Supply, Availability of Credit facility	Frequency of access to Credit Facility	Nominal and Interval	Descriptive Survey	Questionnaire Focus group discussions	Descriptive

3.11 Data Analysis

Once completed questionnaires were returned to the researcher, data collected was checked for errors in response, omissions, exaggerations and biases. Data analysis involved descriptive statistics such as percentages and frequencies and presented in tables and figures.

3.12 Ethical issues

The researcher observed the following ethical issues; Consent was obtained from the respondents before administering questionnaires and interview schedules, anonymity and confidentiality was taken into consideration and collected data was not doctored.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The purpose of this chapter was to analyze, present and interpret data in order to answer the research questions, data collection tools were questionnaires which have open ended and close ended questions and structured focus group interview. The variables under area of study include: how livelihood influences food security of households in Lodwar; how poverty affects food security of households in Lodwar and how conflict influences food security of households in Lodwar. Data analysis was to determine to what extent the variables can influence and affect food security in Lodwar, data is represented in form of tables and percentages.

4.2 Response Rate

Questionnaires were administered by the researcher and research assistants to 66 households as per the sample size. All the questionnaires were returned fully filled and data was analyzed based on this sample size.

4.3 Response per Gender and Occupation

Sample under study was analyzed in terms of gender; it was found out that, 70% were males and 30% were females as per Table 4.1.

Table 4.1: Gender of respondents

Gender	Males	Females	Total
Frequency	46	20	66
Percentage	70	30	100

The respondents were also asked what their occupations were. Table 4.2 below indicates that 3% of the respondents are farmers, 2% are fishermen, 6% guards, 41% do not engage in any occupation and 48% other occupation which included teaching and cleaning in NGO camps in the area.

Table 4.2: Occupations respondents are engaged in.

Occupation	Farming	Fishing	Guards	None	Others	Total
Frequency	2	1	4	27	32	66
Percentage	3	2	6	41	48	100

4.4 Livelihood of Households

The respondents were asked whether livestock keeping, farming and fishing were their sources of livelihood. Table 4.3 indicates 10.61% of the respondents strongly agree that they rely on farming for livelihood, 6.06% agree that rely on farming, none of the respondents disagree while 83.33% strongly disagree that they rely on farming as their source of livelihood.

Table 4.3: Farming as Source of Livelihood

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	7	4	0	55	66
Percentage	10.61	6.06	0	83.33	100

Table 4.4 indicates 81.82% of the respondents strongly agree that they rely on livestock keeping as their source of livelihood, 3.03% agree that rely on livestock keeping , none of the respondents disagreed while 15.15% strongly disagree that they rely on livestock keeping as their source of livelihood.

Further Table 4.5 indicates that only 6.06% of the sample population strongly agree that they rely on fishing as their source of livelihood, 1.52% agree, 3.03% disagree while 89.39% strongly disagree.1.52% of the respondents strongly agree that they rely on other sources apart from farming, livestock keeping and fishing for livelihood, 1.52% agree, none disagreed while 96.91 % disagreed that they rely on other sources for livelihood as per Table 4.6. Other sources included honey.

Table 4.4: Livestock as Source of Livelihood

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	54	2	0	10	66
Percentage	81.82	3.03	0	15.15	100

Table 4.5: Fishing as Source of Livelihood

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	4	1	2	59	66
Percentage	6.06	1.52	3.03	89.39	100

Table 4.6: Other Sources of Livelihood

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	1	1	0	64	66
Percentage	1.52	1.52	0	96.91	100

4.4.1 Focus Group Discussion

The researcher found out that the respondents would rather the government reclaims land under irrigation as this means they will engage more in farming activities and reduce reliance on livestock keeping as their source of livelihood. Those who relied on farming as their source of livelihood said that extension officers be deployed in the area to train them on modern ways of farming.

They also said that the government increase employment opportunities since most of them are educated yet engage in volunteer activities due to lack of employment opportunities. They added that the market for livestock and fish be enhanced and corruption reduced.

4.5 Poverty Situation of households in Lodwar

The respondents were questioned on their monthly income. 57.58% of the respondents earn between Kshs.0 and 5,000, 6.06% earn between Kshs. 5,001 and 10,000, 33.33% between Kshs. 10,001 and 15,000, 1.52% earn between Kshs. 15,001 and 20,000 while the same percentage earns above Kshs. 20,000.

Table 4.7: Income of the respondents

Income	0 to 5,000	5,001 to 10,000	10,001 to 15,000	15,001 to 20,000	Above 20,000	Total
Frequency	38	4	22	1	1	66
Percentage	57.58	6.06	33.33	1.52	1.52	100

The researcher further sought to find out if the households had difficulty in accessing and affording food. The respondents were therefore asked how many times they have meals in a day. 48% of the respondents have only one meal per day, 39% have a meal two times a day, 11% have 3 meals in a day while 2% have more than three meals in a day.

Table 4.8: Number of meals in a day

Number of Meals in a day	1	2	3	More than 3 times	Total
Frequency	32	26	7	1	66
Percentage	48	39	11	2	100

The researcher therefore sought to find out if the households had granaries.

Table 4.9: Availability of granary

	Yes	No	Total
Frequency	1	65	66
Percentage	2	98	100

Out of 2% that owned granaries, 100% of the granaries did not have any food in it.

Table 4.10: Situation of Granaries

	Yes	No	Total
Frequency	0	1	1
Percentage	0	100	100

The respondents were asked what type of houses they lived in.

Table 4.11: Types of houses owned by households in Lodwar.

Type of House	Temporary	Semi-permanent	Permanent	Total
Frequency	64	1	1	66
Percentage	96	2	2	100

4.5.1 Focus Group Discussion

From the focus group discussion held by the researcher, it was found out that there was a problem of illiteracy and unemployment,

The respondents complained of unfair distribution of economic resources and said that the government should introduce education for all in the region. They added that the government should introduce economic stimulus programs for the youth and encourage restocking.

Also they expressed the need of self-employment through income generation activities and said that introduction of irrigation schemes would greatly really help.

4.6 Conflict Situation in Lodwar

The researcher sought to find about conflict situation in Lodwar. The respondents were asked if it was easy to acquire/own a title deed and the reasons why they thought it was easy or not. It was found out that, 1.52% of the sample population strongly agree that it was easy to own /acquire a title deed, 1.52% agreed that it was easy own/acquire a title deed, 1.52% disagreed while 95.45% strongly disagreed.

Those who strongly disagreed said that the land was communal.

Table 4.12: Ownership of title deed

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	1	1	1	63	66
Percentage	1.52	1.52	1.52	95.45	100

The respondents were further asked if they owned a gun/riffle and how they acquired them.6% of the respondents said they owned a riffle while 94% did not own one. The respondents who owned riffles were reluctant to disclose how they acquired the riffles for the fear of their lives.

Table 4.13: Possession of a gun/ riffle.

	Yes	No	Total
Frequency	4	62	66
Percentage	6	94	100

The researcher further sought to find out if there were incidents of cattle rustling, it was found out that 7.58% of the respondents felt that cattle rustling was extremely common, 7.58% said it was a very common occurrence, 77.27% said that it was not a common occurrence, while 7.58 % said it was not a very common occurrence. The researcher further found out that the reason why it was not a very common occurrence is because a very few number of community members especially the elite only owned cattle. This included the chiefs and clan elders.

Table 4.14: Occurrence of cattle rustling

	Extremely Common	Very Common	Not Common	Not Very Common	Total
Frequency	5	5	51	5	66
Percentage	7.58	7.58	77.27	7.58	100

The researcher found out that, out of the 8% who said that cattle rustling was an extremely common occurrence 100% of them said it occurred during Drought and Famine as per Table 4.15.

Table 4.15: Season of extreme occurrence

	Political Instability	Drought and Famine	Others	Total
Frequency	0	5	0	5
Percentage	0	100	0	5

The researcher found out that limited access to food was a major contributor of conflicts in the area.

Table 4.16: Availability of and access to food and conflicts

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	40	4	2	20	66
Percentage	60.61	6.06	3.03	30.30	100

4.6.1 Focus group discussion

The researcher sought to find out how conflicts can be reduced in the area. The respondents said that there was need to create awareness of the impacts of conflicts at the same time engaging in peace initiatives and conflict resolution. They expressed the need for disarmament and the government tightening security in the region and to protect the vulnerable people.

4.7 Implementation of policy situation in Lodwar

The researcher asked the sample population if poor infrastructure has affected their access to food sources and availability of it, it was deducted that 48.48% of the sample population strongly agreed that poor infrastructure affected their access to food sources and availability of it, 37.88% agreed poor infrastructure affected their access to food and availability of it, 12.12% disagreed while 1.52% strongly disagreed.

Table 4.17: Sample population that feel infrastructure affects access to and availability of food

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	32	25	8	1	66
Percentage	48.48	37.88	12.12	1.52	100

The researcher sought to find out if the respondents have access to credit facility and what kind of credit facility they accessed. 3.03% of the respondents strongly agreed that credit facility is easily accessed, 3.03% agreed, 1.52% disagreed while 92.42% strongly disagreed that credit facilities are easily accessible. Those who strongly agreed said that the credit facilities can easily be accessed from Cooperative societies and banks.

Table 4.18: Ease of accessibility to credit facility

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	2	2	1	61	66
Percentage	3.03	3.03	1.52	92.42	100

The respondents were asked if the government has played any part in the access to food sources and availability of it. This was asked so as to gauge what measures can be put in place to enhance availability of and access to food sources by the government and other policy makers.

18.19% of the respondents strongly agree that the government has played an important part in the accessibility to and availability of food, 21.21% of the respondents agreed, 21.21% disagreed while 39.39% strongly disagreed that the government has played any part in enhancing accessibility to food sources and availability of it.

Table 4.19: Governments role in accessibility and availability of food sources

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Frequency	12	14	14	26	66
Percentage	18.19	21.21	21.21	39.39	100

4.7.1 Focus group discussion

The respondents said that in order to improve policy implementation in Lodwar, the community should be involved as the major beneficiaries of the policies. They added that there is need for monitoring of projects implemented as a result of the policies.

They also expressed the need of gender balance involvement in the formulation and implementation of the policies. They also added that the greatest enemy of policy implementation and success is corruption which should be dealt with.

4.8 Food Security Situation of households in Lodwar

The researcher carried out an observation exercise and observed that, 100% of the granaries owned were empty.

Table 4.20: Situation of granaries owned by households in Lodwar

	Filled with Food	Some food in	No Granary	Empty	Total
Frequency	0	0	65	1	66
Percentage	0	0	98	2	100

The researcher also observed that 29% of the respondents were healthy, 8% were disabled and 63% were emaciated. Those who were disabled were born with the disability while those emaciated had blotted stomachs, scattered hair which is brown in color and skin was cracked.

Table 4.21: Physical health status of households in Lodwar

	Healthy	Disabled	Emaciated	Total
Frequency	19	5	42	66
Percentage	29	8	63	100

The researcher also observed that the households rarely kept cattle because of the weather conditions but instead kept sheep, goats and camels.

4.9 Summary of Data Analysis from the Sample Group

The researcher summarized responses from the sample group to get the opinion of the importance that was attached to the variables understudy. Likert scale was used to measure mean and standard deviation and was summarized as follows;

Coding of likert scale;

- Strongly agree : Was assigned number 4
 Agree : Was assigned number 3
 Disagree : Was assigned number 2
 Strongly Disagree : Was assigned number 1

Table 4.22: Summary of data analysis

Variable	Mean	Variance	Standard Deviation
Farming as source of livelihood	1.44	2.07	1.44
Livestock as source of livelihood	3.52	0.62	0.79
Fishing as source of livelihood	1.00	1.00	1.00
Other sources of livelihood	1.00	1.00	1.00
Ownership of Title deed	1.09	1.28	1.13
Occurrence of cattle rustling	2.15	4.11	2.03
Influence of Conflict on Availability and access to food sources	2.97	2.15	1.47
Importance of infrastructure on availability and accessibility to food sources	3.33	4.33	2.08
Accessibility to credit facility	1.17	7.92	2.81
Governments role in availability and accessibility to food sources	2.18	3.75	1.94

The mean and standard deviation from the above summary deduces that, most of households in Lodwar rely on livestock as their source of livelihood as the mean is approximately 4 which stands for strongly agree and the standard deviation is 0.79 hence it is positively skewed as observed earlier, 81.82% for strongly agree and 3.03% for agree. As for farming as a source of livelihood, the mean is 1.44 which indicate strong disagreement with a standard deviation is 1.44 which is negatively skewed as observed 83.33% strongly disagreed while none disagreed. Fishing as a source of livelihood, the mean is 1 which indicates strong disagreement with a standard deviation of 1 as observed earlier, 89.39% strongly disagreed and 3.03% disagreed.

The researcher also deduced that it is not easy to acquire / own a title deed as the mean is 1.09 which indicates Strong disagreement with a standard deviation of 1.13. Cattle rustling is not a common occurrence as the mean is 2.15 with a standard deviation of 2.03 and as observed earlier, 77.27% for not common and 7.58% for not very common. Conflict occurrence affects availability of and accessibility to food sources as the mean is approximately 3 which indicate agreement with a standard deviation of 1.47.

It was further deduced that infrastructure plays an important part in the availability of and access to food sources as the mean is 3.33 which indicate agreement with a standard deviation of 2.08. Almost all the households find it not easy to access credit facility and the government has not played a major role in the availability of and access to food sources by the households as the mean is 2.18 which indicates disagreement with a standard deviation of 1.94, as observed earlier in table 4.16 , 21.21% disagreed and 39.39% strongly disagreed.

Finally, the researcher deduced that the households are not poor since the mean income is Kshs. 6666.87 which translates to Kenya shillings 222.29 per day which is above the poverty line which is one dollar per day i.e. Kenya shillings 85.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of findings, discussions, conclusions and recommendations for further research and policies that need to be taken into consideration. The researcher then draws conclusions by comparing study findings and literature review.

5.2 Summary of Findings

The researcher's first objective was to establish the extent to which livelihood affects food security of households in Lodwar, hence the researcher sought to find out the main source of livelihood of household in Lodwar and summarized the data as follows:

81.82% of the households in Lodwar rely on Livestock as their main source of livelihood some of the livestock kept include goats, sheep, camels and a few cattle, 6.61% rely on farming and crops commonly grown are sorghum, cowpeas and watermelon, 6.06% rely on fishing while 1.52% rely on other sources for livelihood which included honey and herbs.

The researcher's second objective was to determine the extent to which poverty influences food security of households in Lodwar by doing so, the researcher sought to find the economic status of household in Lodwar. On average about 59% of the households in Lodwar engage in occupational activities, either as guards, farmers, fishermen and other activities like bee keeping, cleaners in NGO camps in the area and teaching. 57% of the households earn between Kshs. 0-Kshs.5,000/- while 6% earn between Kshs.5,001 and Kshs.10,000-; 33% earn between Kshs.10,001-Kshs.15,000, 2% earn between Kshs.15,001 - Kshs. 20,000 and 2% earn above Kshs.20,000.

The researcher also found out that 48% of the households in Lodwar have only one meal in a day, 39% have only two meals in a day, 11% have three meals in a day while 2% have more than three meals in a day. In the case of granary availability, only 2% of the households in Lodwar own a granary and out of the 2% of the households with granaries, none of them had food in it.

96% of households in Lodwar live in temporary houses made out of reeds and grass roofing, 2% live in semi-permanent houses made out of mud while 2% live in permanent houses made out of bricks.

The researcher's third objective was to establish the extent to which conflicts affects food security of households in Lodwar. The researcher sought to find out the current situation of conflicts in Lodwar and noted the following findings:

1.52% of the households in Lodwar strongly agree that it was easy to acquire/own a title deed, 1.52% agree, 1.52% disagree while 95.45% of the households in Lodwar strongly disagree that acquisition/ownership of a title deed was easy. 6% of the households owned a gun or rifle while 94% did not own one. Out of the 6% who owned a gun or rifle none of them was willing to disclose how they acquired due to security nature of the way it was acquired.

The researcher also found out that 7.58% of the households feel cattle rustling is an extremely common occurrence which is the same as for very common and not common, 77.27% felt it was not a common occurrence since very few number of community members especially the elite only owned cattle which included chiefs and clan elders. All the households that felt cattle rustling was an extremely common occurrence said it occurred during drought and famine seasons. Further, 60.61% of the households in Lodwar strongly agree that conflicts has affected availability of and access to food sources, 6.06% agree, 3.03% disagree while 30.30% strongly disagree.

The researcher's fourth objective was to determine the extent to which implementation of policies affects food security of households in Lodwar. The researcher therefore sought to find out the current situation of infrastructure and government involvement and noted the following:

48.48% of the households strongly agree that poor infrastructure has affected the availability of and access to food sources, 37.88% agree, 12.12% disagree while 1.52% strongly disagree. The researcher found out that credit facility is not easily accessible by the households since 3.03% strongly agree that it is easy to access and the same percentage translates to agree, 1.52% disagree

while 92.42% strongly disagree .3.03% who strongly agree that it is easily accessible said it can only be accessed from banks and cooperative societies only.

About 18.19% of the households strongly agree that the government has played an important part in access to and availability of food sources this is through provision of food aid, 21.21% agree which also translates to the same percentage of those who disagree while 39.39% strongly disagreed.

5.3 Discussions

The first objective was to establish the extent to which livelihood affects food security of households in Lodwar. As observed from literature review in Chapter two, Dyson (1999) contends that the culture and technology and knowledge of the pastoralist is centered on livestock management and dependence and is linked to complex patterns of social organization and demographic structures, that is demographic structures of both herds and people. This agrees with the findings that 81.82% of the households in Lodwar rely on livestock as their main source of livelihood.

About 6.06% of households in Lodwar rely on fishing as their main source of livelihood, this is in comparison with Ochieng-Aketch (1993) who contends that almost 90 percent of the Turkana people engage in pastoralism whereas only less than 7 percent relied on fishing, and only a little over 2 per cent on cultivation.

As per group discussions, none of the respondents said they owned a piece of land and the households felt it was important to be allocated land under irrigation by the government and will engage in farming activities and not rely on livestock keeping alone. This is in comparison with Joachim (1992) who says that, ownership of land or access to even small pieces of land for farming has substantial effect on the food security status of rural households, even when income level is controlled for; the prevalence of food insecurity tends to be higher among landless or quasi landless households, who are much more dependent on riskier sources of income than farm income and on the diversification of the rural economy and in contrast with Saverio (2001), who says that according to the common sense in the “outside world”, pastoralists are ‘closed

communities' locked into their own traditions, and stubbornly opposed to any change or push for innovation. At best, they are seen as very conservative and slow to embrace the new national society, in historical settings in which 'the rest of the country cannot wait for them to develop'.

This may not be the case as the households are willing to embrace other ways which can enhance and expand their sources of livelihood. Therefore literature review seems to concur with the fact that source of livelihood affects food security of households in Lodwar .

The second objective of the study was to determine the extent to which poverty influences food security of households in Lodwar. The data collected indicated that the average income of a household in Lodwar is Kshs.6666.88 per month. This is in contrast with literature review in Chapter two which states that pastoralism and poverty are often associated by force of logic: pastoralism is believed to be an irrational and underdeveloped mode of production, therefore pastoralists are, so to speak, poor by definition. They are believed to depend on food relief for their survival (Saverio, 2001),the poverty line is survival below one dollar per day which is currently Kshs. 85 (Nairobi Stock Exchange,2012) yet the mean indicates that an average household in Lodwar survives on Kshs.222.30 per day.

However it is in agreement with literature review which states that, for all people to get enough food, agriculture must thrive. Higher yields, however, will not suffice to overcome hunger. The purchasing power of those in need must rise too (<http://www.dandc.eu/register/index.en.shtml>). No wonder 87% of the households only have 2 or less meal per day and only 2% of the households own a granary out of which none of them had food.

The third objective was to establish the extent to which conflicts affects food security of households in Lodwar, as observed 95.45% of the respondents say that ownership of a title deed is not easy. They said because the land was communal, are migrants in nature and get displaced during conflicts a report by TUPADO(2011) says that whilst conflict in the sub-region is largely low intensity, the protracted and complex nature (raids, banditry, rape and a spiral of revenge attacks) leads to loss of lives and livelihoods, destruction of physical infrastructure, restriction and interruption of customary natural resource management and disruption of social services as

well as displacement of populations ultimately contributing to continuing extent and depth of poverty.

About 77.27% of the respondents said that cattle rustling is not a common occurrence no wonder 94% of the respondents said they did not own a gun or riffle this concurs with the literature review in Chapter two that their pastoral neighbors, the Toposa, luckily located on the 'right side' of both these boundaries, received free rations of food and veterinary services, local Turkana received nothing but for the bullets (Vigdis ,2005).This indicates that households in Lodwar lack weapons to defend themselves against their neighbors.

Further, it was observed that 60.61% of the respondents say that limited access to and availability of food sources has been one of the major contributors of conflicts in the region. This agrees with literature review that the food problem in arid and Semi-Arid areas can only be meaningfully addressed after the restoration of peace and security (Angie Dawa, 1999).

The fourth objective was to determine the extent to which implementation of policies affects food security of households in Lodwar, 86.36% of the respondents agree that poor infrastructure has influenced the access to and availability of food sources this is in comparison with literature review that in sub-Saharan Africa, limited infrastructure and transport service has occasionally disrupted food production and circulation. During the widespread food crises of the past decade, land, sea and air transport have been used more constructively to distribute food aid. An empirical review of the contradictory relations between transport and food insecurity precedes discussion of the logistics and potential impact of emergency food aid transport in north-eastern and southern Africa in the 1980s and 1990s (Pirie, 1993).

About 60.61% of the respondents disagree that the government has influenced the availability of food, their ability to have the resources to purchase food and have the sources of food. They say that the government should take into consideration their nomadic nature, build more schools, make credit facilities and extension services available, initiate projects that the households will be more engaged in economic activities and reduce heavy dependence on livestock keeping agrees with the literature review in Chapter two that the Kenya Livestock Development project

intervention saw an increase in health and education services and vaccination of livestock. With these free services, the local people got used to government provision of their needs, slowing down their practice of pastoralism (Omosa, 2003; Republic of Kenya. 1992) it should be noted that the project was meant for all the pastoral areas, but ignored the Turkana District completely (Livingstone, 1986;Otieno, 2009).

Good and effective policy implementation will affect food security in Lodwar positively, this is because if the government of Kenya actually implements and executes all documented and shelved policies concerning food security issues in ASAL with emphasis on corruption reduction, then the different stakeholders will play their part to ensure a success of those policies as Raphael (2009) says, National Food and Nutrition Security Policy addresses food security issues and outlines the Kenya government's intervention measures that ensure that the country is food secure. This also involved drafting of the Food Security and Safety Bill, which is now complete and has been forwarded to Agriculture Sector Coordinating Unit (ASCU) The draft NFNP is ready. However, even with such promising policies that seem to change the status of food security in Kenya, the policies have had remarkably little impact either in alleviating poverty or increasing food production, and have increasingly become dominated by the wealthy... (Diedrich, 1986).

Also, improvement of transport and communication networks ,social amenities and electricity will help solve the issue of food insecurity in Lodwar.

5.4 Conclusions

The first objective was to establish the extent to which livelihood affects food security of households in Lodwar. The factors that the researcher considered were the sources of livelihood of the households. The researcher concluded that the households' main source of livelihood was livestock hence livelihood affects food security of household in Lodwar positively as if other sources of livelihood were emphasized and encouraged through different initiatives like irrigation schemes and reclamation of land

The second objective was to determine the extent to which poverty influences food security of households in Lodwar .The factors considered were the income of households, number of meals a household would have in a day and whether the households owned a granary and if they had food in it. It was found that poverty influences food security negatively since it was deduced that the households are not poor as they lived above a dollar per day yet their granaries were empty and only 2% of the households owned a granary and that 87% of the households had 2 or less meals per day.

The third objective was to establish the extent to which conflicts affects food security of households in Lodwar. The researcher sought to find out if a title deed was easily owned, the situation of cattle rustling, if the households owned guns or riffles and if limited access to food sources and availability of it were the major contributors of conflicts in the region. It was found out that though most of the households did not own guns or riffles, limited access to food sources and availability of it and resources to access food was a major contributor of conflicts in the region. The researcher therefore concluded that conflicts affect food security in Lodwar positively by resolving conflicts.

The fourth objective was to determine the extent to which implementation of policies affects food security of households in Lodwar, the researcher sought to find if government and poor infrastructure has influenced availability of food and access to food sources and how easy it is to access credit facility. It was found out that the government did not play an important role and poor infrastructure influenced access to and availability of food sources by making it hard to transport food, early communication of warnings of drought, famine and floods, lack of investors and that credit facility was not easily .The researcher therefore concluded that implementation of policies affects food security positively.

In summary, source of livelihood, conflicts and policy implementation have been the major factors to be taken into consideration to alleviate the problem of food security in Africa. The researcher believes that the factors would be of great importance if taken into consideration by any government to reduce problem of food security.

5.5 Study Recommendations

From the findings, discussions and conclusions presented in this chapter, the researcher concluded that source of livelihood, conflicts and policy implementation positively influence food security of households in Lodwar. The researcher therefore urges policy makers, households, the centralized government and other stakeholders to take into account the factors in the bid to alleviate the problem of food security of households in ASAL.

The researcher further suggests communal granaries to be taken into consideration as they have been tried and proven in Uganda in the reduction of problem of food security.

5.6 Recommendations for further study

The researcher recommends further research in the following areas;

1. Poverty as a factor ,
2. Food aid
3. Weather conditions

Further the researcher suggests that the above will greatly add in the knowledge gap as the residents' coping mechanisms to weather conditions would also affect food security and over reliance on food aid.

REFERENCES

- Angie Dawa. (1999). *Basic needs are basic rights: The Core Challenge for Constitutional Reform in Kenya*.
- Ankie Niehof. (2010). *Food, Diversity, Vulnerability and Social Change: Research Findings from Insular South East Asia, Vol 9*. Wageningen Academic Pub, 2010.
- Anne Margaret. (1997) *Implications of Economic Policy for Food Security: A Training Manual Vol 40 of Training Materials for Agricultural Planning*.
- Ashton, P.J. (2002) *Avoiding conflicts over Africa's water resources*. *Ambio*, 31, pp. 236–242.
- Boko, M., Niang, A.I., Nyong, C., Vogel, Githeko, M.A., Medany, B., Osman-Elasha., Tabo, B., and Yanda, P. (2007). Africa. In: Parry, M.L., Canziani, O.F., Palutikof, J.P., Linden van der P.J., and Hanson, C.E. (Eds.) *Climate change 2007: Impacts, adaptation and vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, Cambridge University Press.
Retrieved from
<http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter9.pdf>.
- Bruce Currey. (1984). *Famine As a Geographical Phenomenon*, p. 173.
- David de Vaus. (2001). *Research Design in Social Research*.
- Diedrich, W. (1986) *Africa*, Volume 56, International African Institute, International Institute of African Languages and Cultures.
- Dyson-Hudson, R. (1999) *Turkana in time perspective*. In *Turkana Herds of the Dry Savanna*. Ecology of Behavioral Response of Nomads for an Uncertain Environment. Ed by M.A Little and P.W Lesslie.

Edward, M. (2011). *Victims as Security Threats: Refugee Impact on Host State Security in Africa*.

Fiki, O.C., and Lee, B. (2004). *Conflict generation, conflict management and self-organizing capabilities in drought-prone rural communities in north eastern Nigeria: A case study*. *Journal of Social Development in Africa*, 19.

Food and Agriculture Organization of United. (2002). *State of Food Insecurity in the World* p. 26.

Frederick, J.G., and Lori-Ann, B. Forzano. (2011). *Research Methods for the Behavioral Sciences*. USA: Cengage Learning, 2011. p. 144.

Wunderlich, G.S., and Janet, Lippe Norwood. (2006). *Food Insecurity And Hunger in the United States: An Assessment of the Measure* .USA : National Academies Press, 2006.

Galvin, K.A. (2004). *Climate variability and impacts on east African livestock herders: The Maasai of Ngorongoro Conservation Area, Tanzania*. *African Journal of Range and Forage Science*, 21 (3), pp. 1–2.

Galvin ,(1985); Soper.(1985), Cited in, *Droughts, Food and Culture: Ecological Change and Food Security in Africa's Later Prehistory*, New York: Edited by Springer, (2002), p.263.

Gateway, P. (2009, June 12). Reports from Kenya, Kakuma Refugee Camp.

Retrieved from

Water Wars: <http://waterwars.pulitzergateway.org/?p=6764> , 14, May 2012

Gufu Oba , *Ecological Factors In Land Use Conflicts, Land Administration And Food Insecurity In Turkana, Kenya* .

Retrieved From <http://www.odi.org.uk/work/projects/pdn/papers/33a.pdf>

- Helen, E. Purkit. (2001) .*African Environmental and Human Security in the 21st Century*.
- Joachim, V.B., and Howarth, B. (1992), *Improving Food Security of the Poor: Concept, Policy, and Programs* (p.16).
- Kothari, C.R., (2008). *Research Methodology: Methods and Techniques*.(2nd Ed).Delhi: New Age International Publishers
- Kratch, U., and Schulz, M. (1999). *Food Security and Nutrition: The Global Challenge*. New York: LIT Verlag Münster,
- Linda, L. Dunlop. (2004). *What All Children Need :Theory and Application*. University Press of America 2004.
- Marianne, Maiga. (2010) .*Gender ,AIDS and Food Security: Culture and Vulnerability in Rural Cote D'Ivoire*. Vol.11 ,of Awlae Series':Wageningen Academic ,2010.
- Miles, M.B., and Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd ed. Newbury Park, CA: Sage Publications.
- Ministry of State for Development of Northern Kenya and other arid lands.Turkana District Profile.
- Retrieved on 11/6/2012 From <http://www.aridland.go.ke>
- Muthoni, Daisy M. *Climate Change as a Source of Human Conflict: A Case Study of Eastern Africa*.
From http://www.greenafricafoundation.org/documents/reserch%20project_2_.pdf
- Naomi, Shanguhya. (2008), *State Policy and Food Insecurity in Kenya's Arid and Semi-arid Land*, Thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in Geography at West Virginia University.

- Pirie, G.H. (1993). *Transport, food insecurity and food aid in sub-Saharan Africa*, Journal of Transport Geography. Elsevier Ltd
- Ochieng-Aketch, S. (1993). *Land Use and Land Tenure Systems in the Arid and Semi-Arid Lands (Asal) of Kenya*. Report Prepared for the Asal Team of the World Bank's Resident Mission in East Africa. Nairobi, Kenya.
- Omosa, E. (2003). *Natural Resource Based Conflicts and Pastoral Livelihoods: The Impact of Water Resource Based Conflicts on Pastoralism, Wajir District*. University of Nairobi, Institute of Development Studies.
- Otieno, R. (2009). Research Project: *Turkana Livelihood Strategies and Adaptation to Drought in Kenya*. A Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Development Studies to The Victoria University of Wellington. p. 159.
- Raphael, G. (2009). *Agricultural Policy-Making in Sub Saharan Africa: Kenya's Past Policies*. Nairobi: Tegemeo Institute of Agricultural Policy & Development .
- Republic of Kenya. (1992). *Development Policy for the Arid and Semi-Arid Lands (Asal)*. Nairobi: Government Printer, Kenya.
- Republic of Kenya. (2002). *Turkana District Development Plan 2002-2008: Effective Management for Sustainable Economic Growth and Poverty Reduction*. Nairobi: Government Printer, Kenya.
- Saverio, Krätli. (2001). Institute of Development Studies University of Sussex UK, p. 11
Retrieved from
<http://www.eldis.org/fulltext/edunompov.pdf>

Situation Report #2, Fiscal Year (FY)

Retrieved from

http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/kenya/template/fs_sr/fy2010/kenya_fi_sr02_11-06-2009.pdf

S.R. Sharma, S, R. (Eds.). (2006) *Encyclopedia of New Methods of Educational Research*
Set. New Delhi: Sarup & Sons

Soper, R.C. (1985). *Socio-Cultural Profile of Turkana District*. Institute of African Studies, The University of Nairobi, Kenya.

The Status of Food Security in Africa, Economic Commission For Africa ,Committee on Food Security and Sustainable Development Sixth session Regional Implementation Meeting for CSD-18, E/ECA/CFSSD/6/4.

Retrieved from

<http://www.uneca.org/csd/>

Thomas, D.S.G., and Twyman, C. (2005). *Equity and justice in climate change adaptation amongst natural-resource-dependent societies*. *Global Environment Change*, 15, pp. 115–124.

Turkana Pastoralist Development Organization – [TUPADO]. (2011), *Turkana North & West Conflict Prevention and Mitigation Project*.

Retrieved from

http://tupado.org/index.php?option=com_content&view=category&layout=blog&id=38&Itemid=59

Vigdis, B. (2005). *Violence and Belonging: The Quest for Identity in Post-colonial Africa*.

Vijendra, K.B., Arthur P. C., and Heathcote, R.L.(Eds.) (2005). *Monitoring And Predicting Agricultural Drought: A Global Study* .Oxford University Press, Inc 2005.

Yamane, T. (1967:886). Retrieved on 10th June 2012 from <http://edis.ifas.ufl.edu/pd006>

APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL

Muia Immaculate Mutheu

P.o Box 50388

Nairobi

Dear Sir/ Madam,

You are invited to participate in a survey that constitutes a part of Master of Arts Project Planning & Management research project at the University of Nairobi. The Survey is to determine the factors that affect food security of households in Lodwar.

Your answers will be completely anonymous and confidential. I will be pleased to discuss any concerns you may have about your participation in the research. Your assistance will greatly contribute to the success of my research. Each and every response is important and I appreciate your willingness to help. Thank you very much.

Yours Faithfully



Immaculate Mutheu Muia

APPENDIX II: A HERDER IN SEARCH FOR GREENER PASTURES FOR HIS SHEEP AND GOATS.



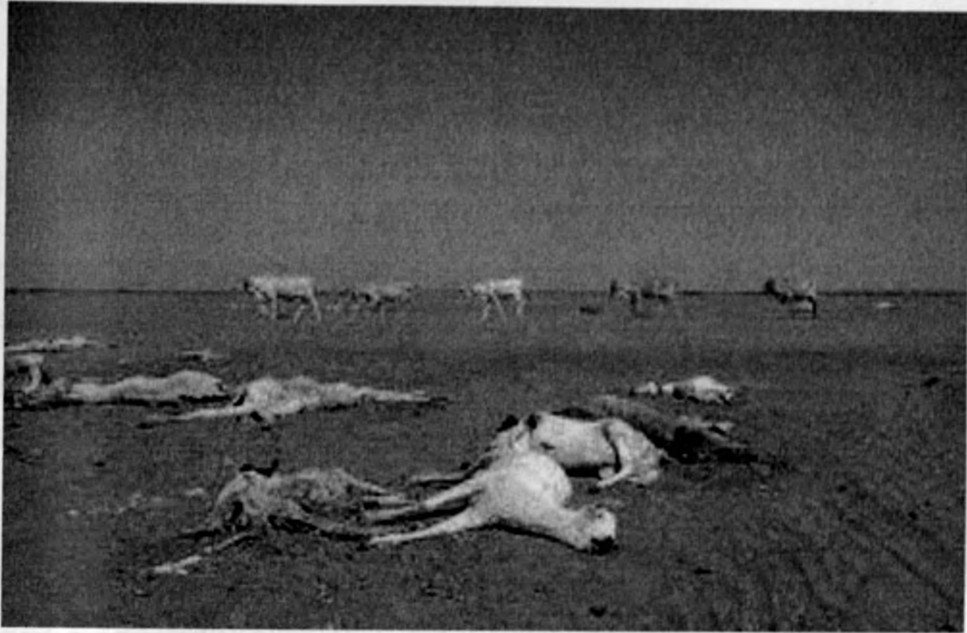
Source: <http://www.galdu.org>. Shadrack Kavilu.

**APPENDIX III: TURKANA WOMEN IN NADAPAL ALONG KENYA-SUDAN
BORDER ARMED WITH GUNS IN FEAR OF ATTACKS BY
TOPOSA MILITIA GROUP FROM SOUTHERN SUDAN**



Source: Felix Masi photo stream

**APPENIX IV: KENYA-DROUGHT LEAVES DEAD AND DYING ANIMALS IN
NORTHERN KENYA**



Source :Oxfam International (2006).

APPENDIX V: MAN COUNTING LOSS AFTER SEVER DROUGHT



Source: practicalaction.org

**APPENDIX VI: CLIMATE CHANGE: A YOUNG GIRL FROM THE REMOTE
TURKANA TRIBE IN NORTHERN KENYA DIGS A HOLE IN
A RIVER BED TO RETRIEVE WATER.**



Source: Getty Images (2010)

**APPENDIX VII: TURKANA RESIDENTS RECEIVE MAIZE FLOUR FROM
KENYA RED CROSS SOCIETY OFFICIALS DURING THE
HUNGER CRISIS 2011**



Source :Photo: file/standard

APENDIX VIII: SURVEY INSTRUMENT

A QUESTIONNAIRE ON FACTORS AFFECTING FOOD SECURITY OF HOUSEHOLDS IN LODWAR, TURKANA COUNTY.

Questionnaire no. _____

INTRODUCTION.

Thank you for taking time to participate in this research by answering the questions. It will require 20 minutes of your time. This research is purely for academic purposes and will not be used in any other forum apart from policy recommendations in the area of food security of households in Lodwar, Turkana County.

Anonymity and Confidentiality will be observed.

Please answer the questions as truthfully as possible to the researcher or assistants administering the questionnaire.

PART A: PERSONAL DETAILS

GENDER: Male Female

AGE IN YEARS: _____

OCCUPATION:

(a) Farmer

(b) Fisherman

(c) Guards

(d) None

(e) Others _____

HOUSE HOLD SIZE: _____

MARITAL STATUS: Single Married Divorced Separated

PART B: INFORMATION ON LIVELIHOOD

1. Is livestock keeping part of your livelihood?

(a) Strongly agree

- (b) Agree
- (c) Disagree
- (d) Strongly disagree

2. Is farming a common source of your livelihood?

- (a) Strongly agree
- (b) Agree
- (c) Disagree
- (d) Strongly disagree

3. If Yes in (2) above, what crops are commonly grown? _____

4. Is fishing the main source of your livelihood?

- (a) Strongly agree
- (b) Agree
- (c) Disagree
- (d) Strongly disagree

5. Others(Specify) _____

6. Do you own a piece of land? Yes No

PART C: INFORMATION ON POVERTY

7. What is your approximate monthly income (in Kshs)? _____

- (a) 0-5,000
- (b) 5,001- 10,000
- (c) 10,001-15,000
- (d) 15,001-20,000
- (e) Above 20,000

8. Others _____

9. What is your approximate monthly expenditure (in Kshs)? _____

10. How many meals do you have in a day?

- (a) 1
- (b) 2
- (c) 3
- (d) More than 3

11. Do you have a granary?

Yes No

12. If Yes in (11) above does it have food?

Yes No

13. What type of house do you stay in?

- (a) Temporary
- (b) Semi-permanent
- (c) Permanent

PART D: INFORMATION ON CONFLICTS

14. In your opinion, a title deed is easily acquired

- (a) Strongly agree
- (b) Agree
- (c) Disagree
- (d) Strongly disagree

15. If strongly disagree in (14) above, what is the reason? _____

16. Do you possess a gun/rifle?

Yes No

17. If Yes in (14) above, how did you acquire it? _____

18. Is cattle rustling a common occurrence?

Extremely Common	Very Common	Not common	Not Very Common
4	3	2	1

19. If Extremely Common in (18) above, during what occurrences does it happen?

(a) Political instability

(b) Drought and Famine

(c) Others(Specify) _____

20. Do you agree that limited access to food sources or resources to acquire food as one of the major reasons of conflicts?

(a) Strongly agree

(b) Agree

(c) Disagree

(d) Strongly disagree

PART E: INFORMATION ON POLICY IMPLEMENTATION

21. Do you agree that poor infrastructure has an influence on access to food sources and availability of it?

(a) Strongly agree

(b) Agree

(c) Disagree

(d) Strongly disagree

22. Do you agree it is easy to access credit facility?

(a) Strongly agree

(b) Agree

(c) Disagree

(d) Strongly disagree

23. If Yes in (22) above, how many number of times have you accessed the credit facilities? _____

24. What form of credit facility have you accessed? _____

25. Do you agree that the government has influenced availability of food, your ability to have the resources to purchase food, and have the sources of food?

- (a) Strongly Agree
- (b) Agree
- (c) Disagree
- (d) Strongly disagree

26. If Yes in (25) above then in what way, if No then what do you think should be done to improve this? _____

27. Any other issues you would like to see implemented in the area of food security in Lodwar? _____

HOUSEHOLD DETAIL INFORMATION ON FOOD SECURITY

(Observe and Tick Appropriately)

28. Situation of granary

(a) Filled with food

(b) Some food in it

(c) No granary

(d) Empty

29. Physical health status of household members

(a) Healthy(no deformed features and disabilities)

(b) Disabled

(c) Emaciated

APPENDIX IX: GROUP DISCUSSION

As residents of Lodwar;

1. What do you think should be done to improve the issue of food security?

.....
.....
.....
.....
.....

2. How do you think poverty can be eradicated?.

.....
.....
.....
.....
.....

3. What do you think should be done to reduce conflicts?

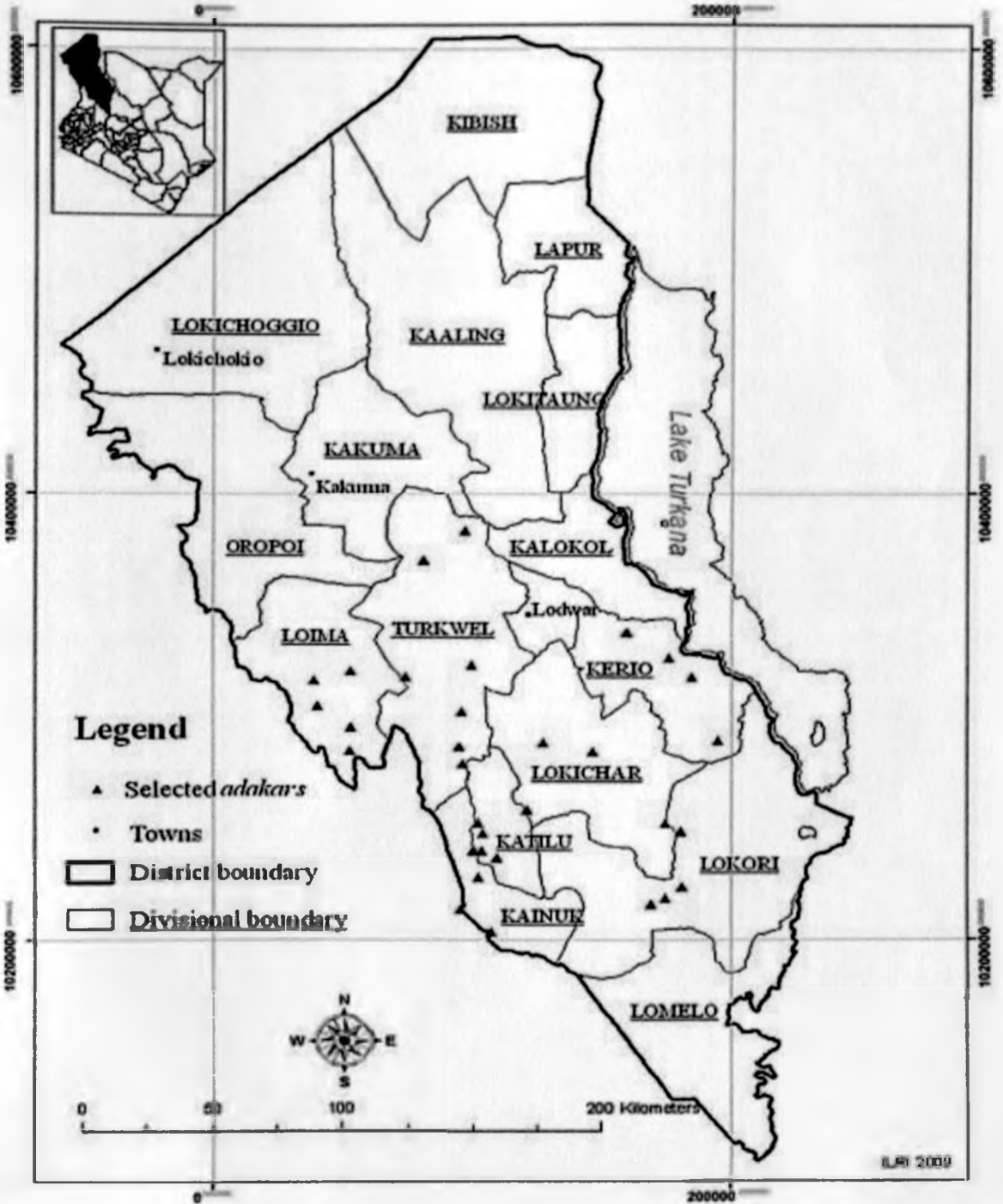
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4. How do you think policy implementation can be improved?

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APPENDIX X: MAP OF TURKANA



Source: ILRI 2009