

**SUCCUMBING TO AND COPING WITH DESTITUTION:
THE CASE OF THE PASTORAL POPULATION IN KAMPI
TURKANA OF MARIGAT DIVISION, BARINGO
DISTRICT**

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**A thesis submitted to the Graduate School in partial fulfillment
for the requirements of the Master of Science Degree in
Natural Resources Management (Human Ecology) of Egerton
University**

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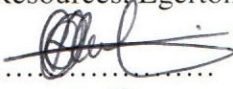
DECLARATION AND APPROVAL

Declaration

This thesis is my original work and has not been submitted for an award of a degree or diploma in any University.

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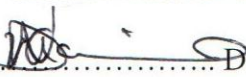
Approval

This work has been submitted with our approval as University supervisors

Prof. A. A. Aboud

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DEDICATION

This thesis is dedicated to my parents, Nabwile and Nato, who have sacrificed a lot
to educate me.

ACKNOWLEDGEMENT

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ABSTRACT

Pastoralists are often faced with environmental as well as socioeconomic risks. To survive these risks, they adopt traditional risk management strategies and primarily migrate to less threatening environments. In a number of desperate situations, pastoralists have opted to migrate to urban centres and modify their lifestyle and in the process succumb to poverty conditions. This study examines the issues and implications of the increasing influx of the Turkana and other pastoralists into Kampi Turkana who, in the process relented to destitution and impact negatively on the surrounding community. The broad objective of this study is to determine the factors leading to migration of pastoralists to Kampi Turkana, and how they have succumbed to destitution, the coping strategies they employ to deal with the destitute life, as well as the effects of the destitute community of Kampi Turkana on the surrounding community. A sociological inquiry was carried out on 260 randomly selected households in the Kampi Turkana and the surrounding area using a pre-tested structured questionnaire and two focus group discussions for qualitative data, to answer five research questions. Using the Statistical Package for the Social Sciences (SPSS) programme, data were subjected to descriptive analysis (frequency distribution, measures of central tendencies and dispersion) and inferential analysis (correlation, crosstabulation and regression analysis and ANOVA). The following were the research findings: (1) the primary reasons why pastoralists migrate to settle at Kampi Turkana are ethnic animosity (71 %) and cattle rustling (75%); (2) the primary factors that influence the inhabitants of Kampi Turkana into destitution are level of education, number of livestock and income; (3) the coping strategies for destitution in Kampi Turkana are casual job (89 %), local brew sale (49%), ballast sale (12 %), business (7%), charcoal burning (6%), water vending (5%) and goat keeping (29%); (4) there is a significant difference in total income, number of livestock, level of education and destitution between Kampi Turkana as compared to the surrounding communities; (5) the impacts of Kampi Turkana residents to the surrounding community are environmental degradation, theft and social instability. Basing on the results of this research, it is recommended that micro-financing and development of marketing infrastructure, in addition to job creation for Kampi Turkana residents be improved to enhance their productivity. Emphasis should also be put on improving the level of education for the immigrant pastoralists besides giving them permanent residence.

TABLE OF CONTENTS

DECLARATION AND APPROVAL..... II

DEDICATION III

ACKNOWLEDGEMENT.....IV

ABSTRACT V

TABLE OF CONTENTS VI

LIST OF TABLESIX

LIST OF FIGURES.....XII

ACRONYMS XIII

CHAPTER ONE

INTRODUCTION..... 1

1.1 BACKGROUND..... 1

1.2 STATEMENT OF THE PROBLEM 4

1.3 OBJECTIVES..... 5

1.4 RESEARCH QUESTIONS..... 6

1.5 THEORETICAL FRAMEWORK 6

1.6 JUSTIFICATION 7

1.7 LIMITATIONS..... 8

1.8 THESIS ORGANIZATION 8

1.9 DEFINITION OF TERMS 9

CHAPTER TWO

LITERATURE REVIEW 11

2.1 PASTORAL RISKS 11

2.1.1 Drought 12

2.1.2 Famine..... 13

2.1.3 Insecurity..... 14

3.2 URBAN MIGRATION 14

2.3 COPING AND SURVIVAL STRATEGIES 16

2.4 THE TURKANA CULTURE 18

CHAPTER THREE

METHODOLOGY 24

3.1 DESCRIPTION OF STUDY AREA 24

3.1.1 Geographical Description 24

3.1.2 Population Profiles..... 26

3.1.3 Rural Communities in Marigat 27

3.1.4 Resource Potential of the District 28

3.1.5 Resource Exploitation 30

3.1.6 Social Economic Infrastructure..... 31

3.1.7 Supporting Development Institutions 32

3.2 DATA COLLECTION AND ANALYSIS PROCEDURES 34

3.2.1 Survey Design 34

3.2.2 Sampling Procedures..... 34

3.2.3 Focus Group Discussions..... 36

3.2.4 Data Organization and Analysis 37

CHAPTER FOUR

RESULTS AND DISCUSSION 40

4.1 SURVEY RESULTS AND DISCUSSION 40

4.1.1 Description Of The Households Sampled..... 41

4.1.2 RESULTS AND DISCUSSION BY RESEARCH QUESTIONS 48

4.1.2.1 Factors Leading to Migration of Pastoralists into Kampi Turkana 48

Pastoralist 49

4.1.2.3 Factors leading to destitution 52

4.1.2.4 Strategies Employed by Kampi Turkana Residents to Cope with Destitution 76

4.1.2.5 The Socioeconomic Differences Between Kampi Turkana , Kampi Wakulima
and the Outside Kampi Turkana..... 83

4.2 FOCUS GROUP DISCUSSION FINDINGS 86

4.2.1 Historical Development of Kampi Turkana..... 86

4.2.2 Reasons for Coming to Marigat (Kampi Turkana) 90

4.2.3 Present Status (Problems and Existing Mitigation Measures)..... 91

4.2.4 Sources of Income..... 93

4.2.5 Impact on the Neighbourhood..... 95

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS..... 99

5.1 CONCLUSIONS..... 99

5.2 RECOMMENDATIONS 100

REFERENCES 104

APPENDIX 1 108

APPENDIX II..... 114

LIST OF TABLES

Table 1: 1999 Population and Housing Census Results for Marigat Division.....	26
Table 2: Average crop unit yield for Marigat division and Baringo district.....	30
Table 3: Baringo district goats numbers in 1998	31
Table 4: Age distribution of Household Heads	41
Table 5: Gender of the Household Heads	42
Table 6: Household Size	42
Table 7: Reasons for Migrating.....	43
Table 8: Education level of household head	43
Table 9: Occupation in the previous residence	44
Table 10: Sources of Income.....	45
Table 11: Total Income Per Year	46
Table 12: Pastoral risks experienced in the previous residence	46
Table 13: Number of meals per day.	47
Table 15: Place of birth for household heads of Kampi Turkana residents	48
Table 16: Previous occupation for Kampi Turkana households	49
Table 17: Year of Immigration for Kampi Turkana residents.....	50
Table 18: Crosstabulation for pastoral risks and reasons for emigration to Kampi Turkana.....	51
Table 19: Contingency table for pastoral risks by destitution for Kampi Turkana.....	53
Table 20: Contingency table for level of income by destitution for Kampi Turkana	54
Table 21: Contingency table for level of education by destitution for Kampi Turkana ...	55
Table 22: Contingency table for household size by destitution for Kampi Turkana	55

Table 23: Correlation matrix for independent variable and how each relates to destitution for Kampi Turkana.....	57
Table 24: Summary of the Regression Model for Kampi Turkana.....	58
Table 25: Pastoral risks and destitution in Kampi Wakulima.....	59
Table 26: Number of livestock by destitution in Kampi Wakulima	60
Table 27: Income by destitution for Kampi Wakulima.....	60
Table 28: Level of education by destitution for Kampi Wakulima.....	61
Table 29: Household size by destitution for Kampi Wakulima	61
Table 30: Correlation matrix for independent variables and destitution.....	62
Table 31: Summary of the Regression Model for Kampi Wakulima.....	63
Table 32: Level of education and destitution outside Kampi Turkana	64
Table 33: Income and destitution outside Kampi Turkana	64
Table 34: Pastoral risks and destitution outside Kampi Turkana.....	65
Table 35: Number of livestock and destitution outside Kampi Turkana	66
Table 36: Household size and destitution outside Kampi Turkana.....	66
Table 37: Correlation matrix between independent variables and how each relates to destitution.	67
Table 38: Summary of the Regression Model for Outside Kampi Turkana	68
Table 39: Crosstabulation for income and destitution in the study area	68
Table 40: Level of education and destitution in the study area.....	69
Table 41: Household size and destitution in the study area	70
Table 42: Number of livestock and destitution in the study area.....	70
Table 43: Pastoral risks and destitution in the study area	71

Table 44: Correlation matrix for independent and dependent variable.....	72
Table 45: Summary of the Regression Model.....	73
Table 46: Frequency distribution showing the proportion of households in various sources of income in Kampi Turkana	76
Table 47: Type of livestock owned by households in Kampi Turkana.....	77
Table 48: Number of meals per day for households in Kampi Turkana	78
Table 49: Type of meal for lunch for Kampi Turkana households.	78
Table 50: Type of breakfast for Kampi Turkana households.....	79
Table 51: Type of meal for supper in Kampi Turkana households.....	79
Table 52: Mean values for socioeconomic status.....	84
Table 53: Proportion of households in various sources of income across the residential quarters.....	85
Table 54: Major events in the development of Kampi Turkana.....	89
Table 55: Focus Group Discussion reasons for coming to Marigat/Kampi Turkana.....	90
Table 56: Present status of Kampi Turkana (problems and existing solutions).....	92
Table 57: Pairwise ranking matrix for problems faced by Kampi Turkana residents.....	93
Table 58: Pairwise Ranking Matrix for Sources of Income	95
Table 59: Pairwise matrix for suggested lasting solutions	97
Table 60: Inter-Item Correlation matrix for variables making up pastoral risk index	108
Table 61: Inter-item correlation matrix for destitution indicator variables.....	112

LIST OF FIGURES

Figure 1: Conceptual Framework.....7

Figure 2: Location of the study area in Baringo District.....25

ACRONYMS

ASAL- Arid and Semi-Arid Lands

CCF-Christians Children Fund

JICA- Japan International Corporation Agency

MARD- Ministry of Agriculture and Rural Development

OSSREA-Organization for Social Science Research in Eastern and Southern Africa

PRA- Participatory Rural Appraisal

TRP- Turkana Rehabilitation Project

CHAPTER ONE

INTRODUCTION

1.1 Background

Traditional pastoral systems are generally thought to be in the process of gradual disintegration through the combined effects of internal and external forces. The persistent climatic variability and general worsening climatic conditions is a global issue, which render fragile, unstable and precarious the social formations of the pastoral unit of production. There is no general consensus on the most important reason for disintegration of the pastoral economy. Many researchers have argued that drought is perhaps the major risk on this ancient form of production while others, such as Swallow (1994), hint on insecurity. However, it should be noted that there is high continental, regional, national and even parochial variation in risk exposure.

Drought and famine in Africa increased dramatically in the second half of the 20th century, particularly in the Sahelian countries of Senegal, Mauritania, Mali, Niger, Nigeria, Chad and Sudan from 1968-1973 and in the Horn of Africa in Ethiopia, Eritrea, Somalia and Djibouti in 1982-1984, 1990-1992 and 1996 (Maybury-Lewis and Macdonald, 1998). In Ethiopia for instance, drought is said to have caused large losses of herd capital, widening poverty and frequent famine (Coppock, 1994). In Sudan, the recurrence of drought and famines in recent decades has lent great support to the prediction that pastoralism is on the verge of extinction (Babiker, 2002). Western Sudan is faced with not only drought and famine but also the consequences of structural adjustment programmes that reduce government subsidies for services.

In East Africa, the situation is rather different. For the Karamojong pastoralists of arid north eastern Uganda, drought, restricted mobility, increasing cattle raids, banditry and growing insecurity within a general context of the denial of human rights (Duraiapah, 2000) are the major threats to pastoral livelihoods. In Tanzania, the focus is on land rights and control where villagization policies are problematic for pastoralists and has been recognized as a process of pastoral displacement, impoverishment and marginalization (Ibid.).

In Kenya the disruption of the pastoral economy has been caused in recent years by increasing insecurity especially in northern Kenya. Inter-pastoralists stock-raiding is increasingly violent as dangerous weapons fall into pastoralists' hands from neighbouring Ethiopia, Somalia, Sudan and Uganda (Maybury-Lewis and Macdonald, 1998). However, in the Maasailand of Kenya, land reforms have been cited as a major issue where pastoralists have lost access to grazing lands (Duraiapah, 2000).

Some disruption of the traditional patterns of life for the Turkana of northwestern Kenya has been caused in recent years by increasing insecurity along the Uganda border. The denial of traditional grazing areas within Uganda has led to more pressure on wet season grazing within the Kenya's Turkana district (Institute of African Studies, 1985). No homestead is ever safe for the whole year. In the early 1980's, the extended drought and raiding from Uganda and the Sudan depleted the livestock herds of the Turkana and led to concentration of people, especially the old and the children at administrative centres

such as Kakuma¹ where famine relief is distributed. The Turkana having been disarmed by the government, are at the mercy of raiders from Uganda, Sudan and Ethiopia where few such controls are enforced.

Pastoral groups regardless of location have responded to drought with frequent and periodic movements (Sperling and Galaty, 1990) and diversifying into different animal species and different breeds (McCarthy *et al*, 1999). Raids are traditionally responded to with counter raids from neighbouring people, begging from relatives or friends, and as a last resort by undertaking non-pastoral economic activities. However, the complexity of pastoral risks are straining the capacity of pastoralists in dealing effectively with them leading to their abandoning homes to seek relief rations elsewhere.

This study is focused on Turkana pastoralists who have settled in Marigat urban centre of Baringo district for over 20 years to date. With a total population of about 1,600 people, these pastoralists are concentrated in Kampi Turkana (literally translated as the camp of the Turkana) where they lead a destitute life² relative to their urban and peri-urban neighbours.

Kampi Turkana is characterized by congestion and by the presence of economic and moral outgroups of pastoral immigrants mostly from Turkana District. There is an existence of what Leslie, *et al* (1973) termed a "culture of poverty". A special set of values, attitudes and goals exist, which differ from that of the surrounding community.

¹ A refugee camp in Turkana district, which serves international and local refugees.

² Poorest of the poor, have no means of support and their consumption patterns fall short of the norms.

Immigrants are faced with a special set of problems, which do not exist in their native places and do not occur in the rest of the Marigat community. Plunged into destitution by pastoral risks of drought, cattle rustling and livestock diseases, the new found hardships in Marigat are sinking these pastoralists into deeper levels of destitution where they cope with a special set of strategies and tactics.

Negative trends in Marigat town such as accelerated crime, prostitution, drunkenness, general hooliganism and degradation of the environment have been attributed to the presence of the Turkana community in Marigat.

1.2 Statement of the Problem

Pastoralists are often faced with environmental risks as well as socioeconomic risks such as drought, famine, livestock mortality, theft, overall insecurity and frequent violence. Security in pastoral areas is on the increase. To survive in this risky environment, pastoralists adopt traditional risk management strategies and migrate to less threatening environments. In a number of desperate situations, pastoralists have opted to migrate to urban centres, modify their lifestyle, and in the process succumb to difficult poverty conditions.

There has been an increasing rate of influx of pastoralists into Kampi Turkana of Marigat division from other pastoral areas, especially Turkana district. This has occurred regardless of the destitute conditions in the camp. Consequently, the magnitude of destitution among the residents of Kampi Turkana has been on the increase. This

increase has serious impacts on the immigrant Turkana themselves, and the surrounding community in terms of its security, pressure on social amenities and degradation of the environment. It is imperative therefore to assess the situation and its implications so as to be able to suggest remedial measures as recommendation.

1.3 Objectives

The broad objective of this study is to determine the factors leading to migration of pastoralists to Kampi Turkana, and in the process succumbing to destitution, the coping strategies employed to deal with the destitute life, as well as the effects of the destitute community of Kampi Turkana on the surrounding community.

The study addressed the following specific objectives:

- a) To determine factors leading to migration of pastoralists into Kampi Turkana.
- b) To determine the factors leading to destitution among the inhabitants of Kampi Turkana of Marigat.
- c) To establish coping strategies³ devised by the Kampi Turkana residents in dealing with destitution in terms of livestock, sources of income and diet.
- d) To determine the socioeconomic differences that exist between the inhabitants of Kampi Turkana and the surrounding community.
- e) To determine the impact of Kampi Turkana on the surrounding community.
- f) To suggest recommendations as remedial measures.

³ Poor peoples responses to declining food availability and entitlement in abnormal seasons or years, characteristic of secure livelihood systems in periods of stress.

1.4 Research Questions

The study was guided by the following questions:

- a) Why do the pastoralists migrate into Kampi Turkana?
- b) What are the factors leading to destitution among the inhabitants of Kampi Turkana?
- c) How have they managed to cope with the conditions they found themselves in?
- d) Is there any significant difference in sources of income, level of income and education and number of livestock between inhabitants of Kampi Turkana and the surrounding community?
- e) What are the impacts of the destitute of Kampi Turkana on the socioeconomic and environmental conditions of the surrounding community?
- f) What would be possible remedial measures that can be applied to rid of the problem?

1.5 Theoretical Framework

The theoretical framework relate to specific objective (b) as the primary objective of this research, i.e. determination of factors leading to destitution in Kampi Turkana. In figure I below, destitution seems to be influenced directly by pastoral risks and through the intervening variables of migration, household size, number of livestock, level of education and income. The +ve signs show positive relationships, i.e. an increase in one variable leads to a corresponding increase in the other. The -ve sign indicates a negative relationship, i.e. an increase in one variable leads to reduction/decrease in the other.

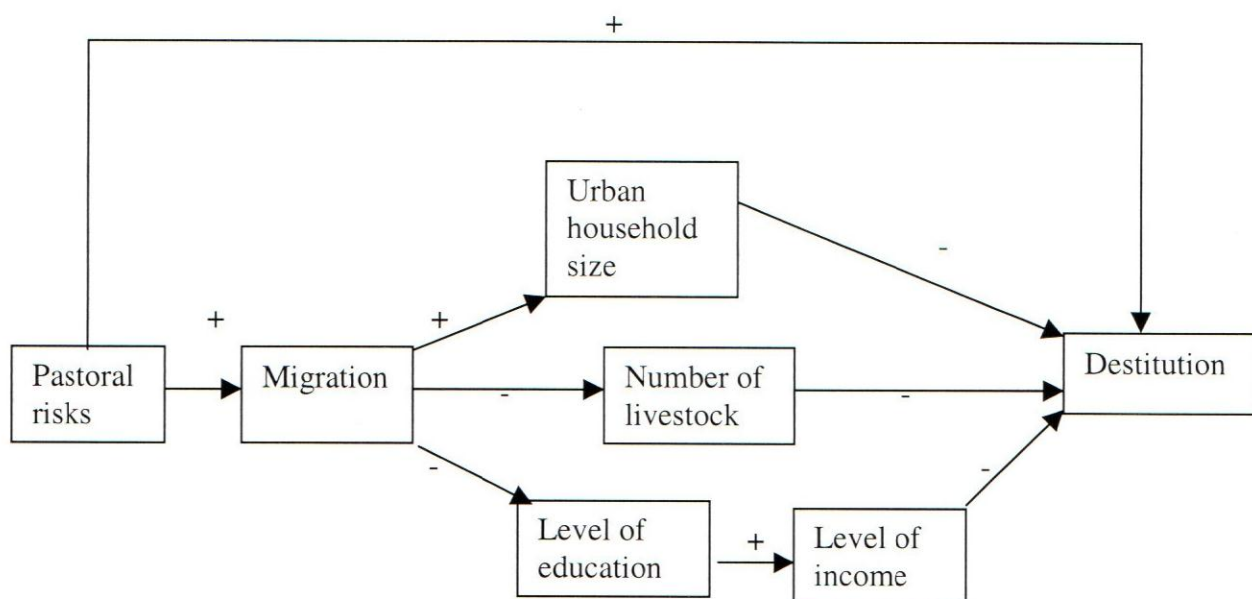


Figure 1. Conceptual model

1.6 Justification

According to Bonfiglioli and Watson (1993) pastoral areas are not only faced with drought and famine but also suffer the consequences of structural adjustment programmes, which reduce government subsidies for the services provided. For pastoralists to survive, however, there must be changes in both pastoral practices as well as the policies of national governments and international development agencies aimed at pastoral people (Maybury-Lewis and Macdonald, 1998).

The rehabilitation and development planning should take account of the rapid change in pastoral societies; consider the diversified situation of different pastoral groups and strengthen the positive aspects of coping strategies. It is in this context that the recommendations of this study are particularly important.

Literature on poverty in Africa has largely concentrated on the active poor and there is a particularly serious lack of hard information of the (destitute) poorest of the poor (World Bank, 2001). But indirect evidence is strong that dependants, the aged with no immediate families to help, refugees and other displaced people are numerous and are particularly likely to be impoverished. This research was intended to give empirical data on the status of such people in Kampi Turkana in Kenya.

1.7 Limitations

The major limitation that affected the study was lack of adequate resources to exhaustively probe the 260 sampled households. Honesty of the respondents regarding the income from some sources such as local brewing (which is illegal) among others could not be ascertained. Figures for total income should therefore be taken as being approximate.

1.8 Thesis Organization

The thesis is organized into five chapters with chapter one introducing the study. Chapter two gives the literature review. A general description of the study area and a detailed description of the methodology employed for data collection and analysis has been explained in chapter three. Results and discussion follow this in chapter four. The results are divided into survey results and findings from the focus groups discussions. The two (results and discussion) have been purposely combined for easy follow-up by the reader. A brief conclusion and recommendations have also been included in chapter five while

the measurement of variables has been placed in Appendix I and a sample questionnaire in Appendix II.

1.9 Definition of Terms

Destitution

Being impoverished and unable to meet the normal basic requirements of food, clothing, shelter and water, necessary for survival of an individual. A destitute household cannot, within its capacity, be able to provide food, clothing, shelter and water in sufficient amounts for its members. Number of meals, frequency of acquiring clothing and the source of the clothing and the dominant construction material of shelter, were used to measure destitution. From a scale of 7 to 34, a household with a score of between 25 and 34 on destitution index was regarded as destitute while that with a score of 7 to 24 was regarded as not destitute (see appendix I page 114).

Pastoral Risks

These are calamities through which pastoral households or groups will lose their access to or control over the resources from which they derive benefits. These risks include drought, famine, theft or cattle rustling, ethnic animosity and livestock diseases.

Level of Education

Refers to the number of years one has spent in pursuing formal education.

Level of Income

Total amount of money received as payment for work, as interest on investment, sale of products or property such as chicken, goats and cattle.

Coping strategies

Poor people's responses to declining food availability and entitlement in abnormal seasons or years, giving an impression of secure livelihood systems in periods of stress.

Survival Strategies

Responses to more permanent ecological and economic shifts. They are more permanent and more far-reaching in their implications for society.

CHAPTER TWO

LITERATURE REVIEW

2.1 Pastoral Risks

Pastoral risks come in various forms and include environmental risks such as drought, property risks such as theft and marketing risks. Property risks are some of the greatest constraints to pastoralists' mobility and production in the Horn of Africa and the Sahel (Swallow, 1994). The problems of drought, famine, privatization of the range, urban migration, increased ethnic violence are large and threaten the ability of pastoralists to continue their livestock based economy (Maybury-Lewis and Macdonald, 1998).

Among the Karamojong pastoralists of North Eastern Uganda, Bonfiglioli and Watson (1993) reported that the conditions are marked by drought, restricted mobility, increasing cattle raids, banditry and growing insecurity within a general context of the denial of human rights. In Tanzania, the same authors report that customary forms of land tenure for pastoralists are being extinguished in the intense competition for land, which is generating ethnic conflicts. Mesfin (2001) also concurs that the major difficulties faced by pastoralists are vulnerability to drought, food and famine, food insecurity at household level and ethnic conflict.

2.1.1 Drought

Drought can be said to occur when rainfall amount is below half the long-term average, or when rainfall in two or more successive years falls 75 % below average (McCarthy *et al.*, 1999). Rainfall failure stunts pastures, desiccates water points and kills livestock on which the main commercial output of pastoral systems depends. According to Mayburry-Lewis and Macdonald (1998), drought and famine in Africa increased dramatically in the second half of the last century, particularly in the Sahelian countries (Senegal, Mauritania, Mali, Niger, Nigeria, Chad and Sudan) from 1968-1973 and in the Horn of Africa (Ethiopia, Eritrea, Somalia, Djibouti, and Northern Kenya) in 1982-1984, 1990-1992 and 1996. Rainfall in the South Turkana region averages around 200-300 mm per year, but the coefficient of interannual rainfall variation (CVs) are near 50 % and reach 60 % in central Turkana (Scoones, 1995).

In Turkana, droughts occur every four to five years on average and severe multi-year droughts, which decimate livestock populations, happen about once a decade. One such multi-year drought occurred in 1979-1980 where roughly 50 % of monitored livestock died and upwards of 20 % of the human population temporarily emigrated from the drought area (Scoones, 1995). With major drought returning to Kenya in 1984 and then 1991/92 (in the northern ASAL districts) the Kenya Government drew upon the Turkana experience with the Turkana Rehabilitation Project (TRP) to negotiate several additional emergency projects aimed at the Northern ASAL zone which had been largely neglected earlier (Moris, 1999).

In the recent past, the East Pokot traditional survival strategies have become less effective. They were made to realise this for the first time during the last extreme drought in 1984 (Reckers, 1994). They suffered from a serious shortage of food and livestock losses were high.

2.1.2 Famine

Kenya has suffered food insecurity caused by drought since late 1999. The situation worsened in 2000 when the long rains failed early in the year, with Turkana district among the most seriously affected in the country (Young, 2002). As drought hits harder, it brings failure of cereal harvests and deteriorating animal conditions, grain prices rise while livestock prices fall. These relative price shifts provide an increasingly tight squeeze on herders' ability to raise cash to buy the food needed by their families (Scoones, 1995). Adults then drink tea with less milk but with generous amounts of sugar (IPAL), 1984).

The Turkana remain the most isolated and mobile of all Kenya's pastoralists. However, they have also been the targets of one of the largest famine relief efforts in Africa and today many Turkana are settled around famine-relief camps (Maybury-Lewis and Macdonald, 1998). In fact since the 1960s, the major impact on Turkana life has been the influx of famine relief agencies. According to the Daily Nation⁴ (22/11/1999: 1-4), *Akoro*⁵ stalks the region like a plague, leaving a trail of death, malnutrition and suffering. Drought in 1961 drove some 11,000 Turkana to famine camps seeking relief food.

⁴ A daily newspaper published in Kenya.

⁵ Turkana word for hunger.

Twenty years later following the drought of 1980, some 80,000 Turkana, nearly one half of the Turkana district population, sought famine relief as over ninety percent of their cattle, forty percent of the camels and eighty percent of their small stock died. In 1985, only 15,000 Turkana were receiving famine-relief although one third of the pastoralists in the districts remained in or near the famine camps (Maybury-Lewis and Macdonald, 1998).

2.1.3 Insecurity

Security in pastoral areas in the Horn of Africa and across the Sahel is particularly problematic at the present time (Swallow, 1994). The risk of theft is slowly related to overall security and the risk of violence. The risks of banditry, theft and loss of life mean that people stay closer to towns and keep their animals in larger herds.

Maybury-Lewis and Macdonald (1998) noted that in Northern Kenya, interpastoralist stock-raiding is increasingly violent as automatic weapons fall into pastoralists' hands from neighbouring Ethiopia, Somalia, Sudan and Uganda. There were intense cattle raids in West Pokot in 1974-1978 with the Turkana neighbours. Recently, the Turkana have been victims of heavily armed attacks by Pokots who are pastoral neighbours (Daily Nation: 2/11/1999). This was particularly severe in 1992.

3.2 Urban Migration

Generally, drought has a profound negative effect on pastoral economy. For instance, the severe droughts of the 1960s and early 1970s were turning points for Rendille pastoralists

of Northern Kenya. The losses of livestock incurred pushed many households out of the nomadic way of life because they no longer possessed the minimum subsistence herds. These destitute households flocked to trading centres, where the church and state provided famine relief as well as schools, clinics and water (IPAL, 1984). The same author reports that the drop in livestock numbers displaced a number of livestock owners and herders and some consequently moved to Nairobi and other urban centres to obtain low-paid jobs while leaving their wives and children residing at the trading centres back at home.

Migration of the household unit is usually seen as a last resort. Migration patterns are affected by environmental conditions, government policies, new technologies and public services (Swallow, 1994). In West Africa, there has been large-scale drought related migrations from the Sahel into the Sudan and Guinea.

Following the droughts and famines of the 1970s and 1980s, small towns among the Boran pastoralists grew dramatically as impoverished pastoralists settled in response to famine relief distribution by government and religious organizations. New towns appeared where formerly there were only water points or police posts, such as Korr and Kargi among the Rendille and Maikona and North Horr among the Gabra (Maybury-Lewis and Macdonald, 1998).

2.3 Coping and Survival Strategies

Many strategies have been developed by the pastoral people to cope with the pastoral risks. Bonfiglioli and Watson (1993) lists the following strategies: adoption of subsistence agriculture, alternative economic activities such as the sale of firewood, massive sale of animals, land and other assets, extensive migration both internally and externally, cross breeding of animals for greater endurance to drought, gathering of wild fruits; reduction of food intake, and removal of children from school to help with household chores. While many of these strategies allowed pastoralists to survive in times of crisis, they were generally not sustainable in the long run as a basis for future growth and development.

As noted by McCarthy, *et al.* (1999), diversifying into non- agricultural activities, particularly seasonal migration and non-farm employment is becoming common. Although most pastoral households engage in activities such as the cultivation of cereal or vegetable crops, gathering, hunting and even fishing, they are increasingly engaging in wage labour which forms an important component of their survival and risk management strategies. In some densely populated regions, however, the opportunities for non-agricultural employment are severely constrained (Swallow, 1994) for the pastoralists. Diversification is a better option that needs a strong and determined local policy backed by external understanding and support (Baker, 1987).

Involvement in non-pastoral activities may be a response to poverty, with the lack of livestock assets, as well as the capital to re-build herds after losses, compelling herders to

seek wage employment. Such employment tends to be unskilled and not financially lucrative, barely providing for subsistence costs (Horowitz and Little, 1987). Diversification strategies often vary depending on household wealth. The poor are pushed or forced into diversification through poverty (Little, *et al.*, 1999)

In many areas of Africa, wage labour and self-employment in non-agricultural activities are becoming increasingly important. Wage labour is particularly important as a risk absorption strategy during times of stress. Among the Samburu pastoralists of northern Kenya, the income from wage labour allows relatively wealthy households to maintain and expand their livestock holdings and relatively poor households to remain viable (Swallow, 1994).

The Rendille also sell firewood in Marsabit and provide farm labour for cash or food (IPAL, 1984). A small number of pastoralists engage in trade as a means of increasing household income. However, not all pastoralists have turned to non-pastoral sources of income. In North Horr and Kalacha, IPAL (1984) reported that women in trading centres use their newly found freedom to manufacture handicraft items. This provides a supplementary source of income, particularly for destitute households. One of the most common household responses to famine and severe food shortage is simply to reduce food intake (Futterknecht, 1997). Goods such as clothing are given lower priority in a drought year (Coppock, 1994). Income generating becomes an important survival strategy. Men and women engage in cutting of fuelwood, making charcoal and selling

both of these products along the main roads or in the local towns. The poorer the household, the more they had to rely on forest products (Ibid.).

However, intervening strategy of developing alternative economics has not been successful, largely due to lack of competitive solutions and also because they have worked to the detriment of the pastoralists as well as the natural environment (Darkoh, 1994). An example of this is the attempt at sedentarization of the Turkana of northern Kenya. The government of Kenya and donors have sunk colossal sums of money into the development of fisheries and irrigation farming in Turkana. The Turkana irrigation schemes have been a dismal failure. There is damning evidence of the adverse impact of the scheme on the lives of the local people involved (Ibid.).

2.4 The Turkana Culture

The Turkana people occupy the whole of Turkana district, with some living beyond its borders as far as Isiolo (Schneider, 1979). They have more enemies than friends from both sides of their neighbourhood (Institute of African Studies, 1985). Internationally, they share borders with Ethiopia, Sudan and Uganda, both of which are politically unstable and harbour rebel activities. Internally, they are bordered by West Pokot (whose inhabitants, the Pokot are their traditional foes), Baringo (in which Baringo East is occupied by the Pokot) and Samburu districts. Turkana life can therefore be said to be at the mercy of its neighbourhood.

The environment and their ecological relationship to it dominate the whole of Turkana life in almost all its aspects. In this harsh semi-desert territory (with high temperatures, frequent strong winds and low rainfall which is poorly distributed) maintenance of life is always close to the subsistence margin so that social and economic organization have to be fully adapted to extract the maximum potential from all available resources. Therefore, any understanding of Turkana culture must be based on an appreciation of their environment. Their life is shaped by the environment, which allows no margin for material or spiritual luxuries.

Because the Turkana are so well aware of their hostile environment, they do not resort a great deal to the supernatural and mystic sides of life, for they are eminently the ones who follow the common sense point of view of things and moves where opportunities are available. Difficult life and rampant starvation is accepted among Turkana land. Pleasant things are conveniently allowed to occupy the mind and there is a lot of dancing and singing, gossip and often-dramatic story telling. These among other activities help to suppress the consciousness of hardship and trouble.

As a matter of fact, the Turkana generally have a very independent cast of mind. An individual is therefore, not bound to stick to a group if better conditions exist and are available elsewhere. The philosophy of self-sufficiency is deeply entrenched in their psyche.

The Turkana appear typically prosaic, matter-of-fact and non-speculative, although very reticent about the beliefs and activities related to religion. Very few Turkana, are committed to any particular religion. Their chief religion is livestock (Institute of African Studies, 1985). Their main concerns are land and livestock and how to acquire them (Benthany, 1997). They have pursued these aims with single mindedness for nearly 300 years.

In Turkana, the production system revolves around livestock, which is the main productive capital (Sobania, 1979). The stock or property owning group among the Turkana is the nuclear family, while the nomadic unit may be a union of several sub-units of different property units, which live together for livestock management.

There is no fixed time for anything and most afternoons and sometimes mornings too are spent in general activities, interwoven with a good deal of gossip, meeting friends and other pleasurable activities. A Turkana is never in a hurry to perform a certain task and has no concept of meeting deadlines. To him what is done comes naturally as an individual contribution to the welfare of the nuclear family.

In terms of wealth, a family of about four wives with 133 cattle and 57 camels are regarded as exceptionally wealthy (Institute of African Studies, 1985). An average family could have about 31 cattle and 10 camels while a poor one might only have in its possession 11 cattle and probably no camels. In this context, goats and sheep are too

large in number to be easily counted. Wealth is, therefore, measured in stock especially cattle as opposed to the personal appearance or material possessions.

Each Turkana man is the centre of a field of direct and formalized interpersonal relations. The relations are established through marriage, blood kinship and bond friendship. These particular friends and relations are man's supporters in the world and the ones he can help in return. They are what is referred to as 'stock associates'. A man's closest associates are the cattle giving class. The social relationships between these stock associates have no legal content, but are fundamentally maintained by the factor of reciprocity, such that they consist of mutual assistance, support and interests mainly expressed in property rights. On the other hand, mutual begging is a constant activity of all Turkana and may involve almost anything except a man's wife.

The Turkana people own land communally in the district and no single person lays claim to any plot apart from women's garden plots, townships and land which is now put to public use. Any Turkana may go anywhere within the district with his herds.

Food available to the Turkana is milk, meat, blood, grain, wild plant produce (fruit, berries, leaves and roots) and some game birds and animals. Milk is the prime staple food and is obtained from camel, goats, sheep and to a lesser extent donkeys. However in the dry season, poorer families with few or no stock, reserve the limited milk for children as adults go without it.

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Meat is a fairly regular item in all but the poorest families. Routine family needs are met by the occasional slaughter of a sheep or goat. In addition, there is communal sharing of meat within a restricted neighbourhood. Blood is not a regular diet but is a useful addition when other foods are scarce in the dry season. Turkana like cereal food and acknowledge its values in supplementing their mainly animal food diet.

To the Turkana, stock is not just a means of livelihood, nor a necessary part of the mechanism of ritual and mystic affairs (Hoebel and Weaver, 1979). They are the very stuff of life to all the people, involved in their labour, happiness, worries and disasters. Cattle are the most highly regarded animals though economically goats and sheep are the most useful and indispensable. Cattle especially oxen, arouse the most emotional attachment. Quantity of stock is the main goal but quality is naturally appreciated and sought after in breeding and acquisition. Sheep and goats provide normal domestic supplies. Donkeys are not normally slaughtered for meat but may be eaten in times of need. Stock is mainly used for payment of bride-wealth, gifts, initiation, compensation and purification for crimes and other offences and magico-religious uses.

In general, most Turkana are individualistic and do not submit easily to imposed authority. What is lacking in Turkana society is any social sanction that can compel a person to follow others. Instead, a person is encouraged to follow his own desires. No one among the Turkana can claim to be an authority on tradition, custom and law because these are seldom complex enough for everyone to become outstanding in their mastery.

Turkana law is fairly simple and individualized. There are no specific codes of law, there is no one to make, perpetuate or explain the law, and legal action only rests upon the moral principle of each Turkana, influenced and supported by his own stock group and associates. The legal system is directly based on the moral principles of the people's social life. When a Turkana believes he is wronged he attempts to take action to put things right.

Education is almost completely neglected due to the fact that the Turkana people live in an unstable environment characterized by raiding from the surrounding hostile communities. When livestock is lost, the tendency is to seek wage employment. Besides, since they have a strong attachment to the environment, they embark on exploiting its meager resources for instance charcoal burning. These sources of income do not satisfy their subsistence needs thus leaving them destitute.

CHAPTER THREE

METHODOLOGY

3.1 DESCRIPTION OF STUDY AREA

3.1.1 Geographical Description

Baringo district borders Turkana district to the North, Samburu and Laikipia to the East, Koibatek to the South and Keiyo, Marakwet and West Pokot to the West (figure 2). It covers an area of 8,655 square kilometres of which about 140.5 square kilometres are covered by water surface (Republic of Kenya, 1997). Marigat division occupies an area of 1,224 square kilometres.

The district is one of the arid and semi-arid districts in Kenya, much of which receives low to average rainfall. Long rains are experienced from end of March to beginning of July, while short rains come towards the end of September to November. The former accounts for 70% of annual rainfall. The mean annual rainfall in the study area is estimated at 650mm (JICA, 2001). The rainfall is about 50 % reliable (Republic of Kenya, 1997) and varies from 1,000 to 1,500mm in highlands to 600mm in lowlands in the North Eastern parts.

Altitude of Baringo District varies from 1,000m to 2,600m above sea level with 46.3 % of the district either too steep or too plain. Temperatures vary from a mean annual maximum of 30 degrees Celsius to a mean minimum temperature of 16 degrees Celsius. Mean annual evaporation in the study area is estimated at 2,020 mm per year.

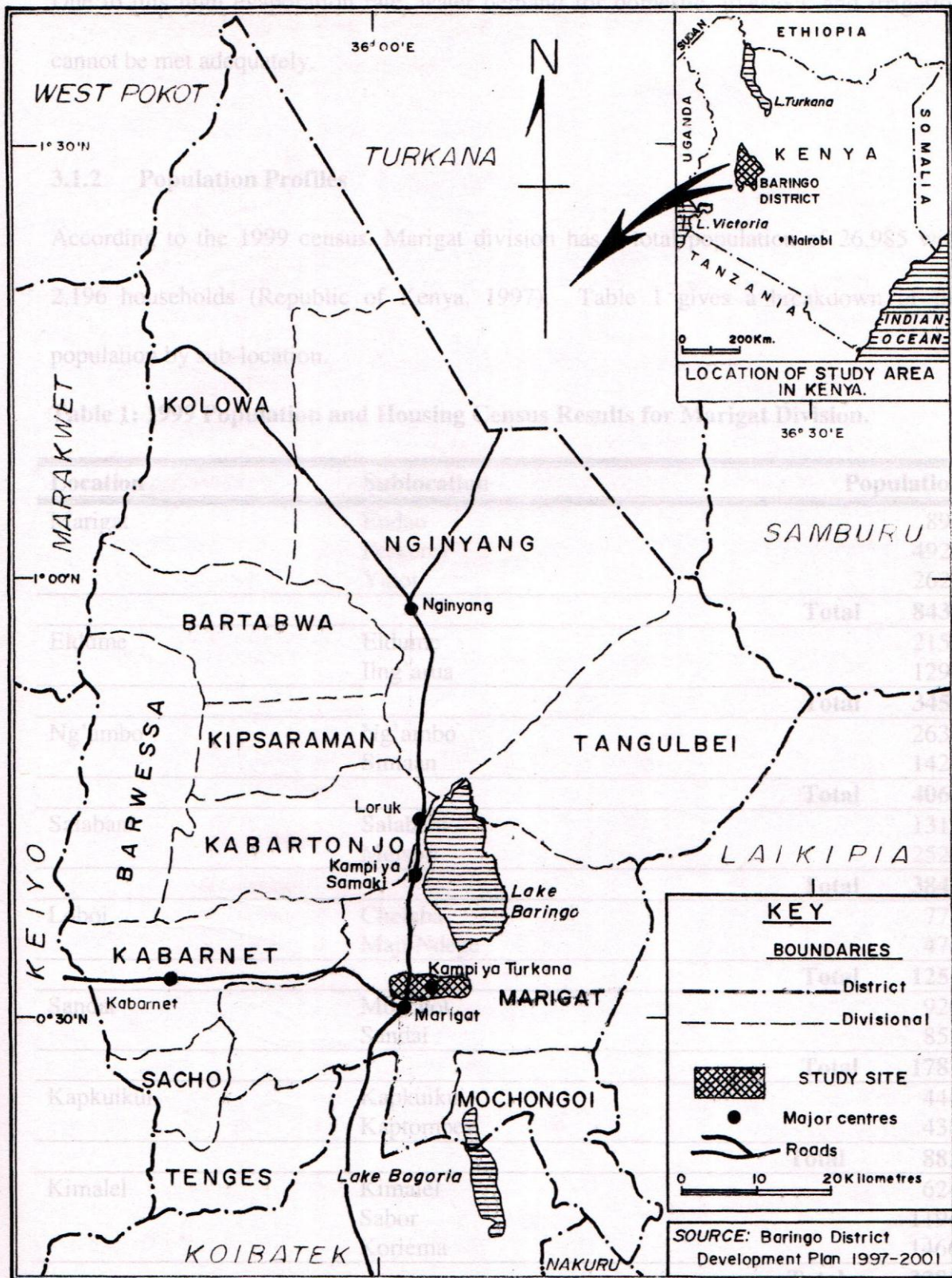


Fig.2: LOCATION OF THE STUDY AREA IN BARINGO DISTRICT

Due to this high evaporation rate, water demand for domestic, livestock and irrigation cannot be met adequately.

3.1.2 Population Profiles

According to the 1999 census, Marigat division has a total population of 26,985 with 2,196 households (Republic of Kenya, 1997). Table 1 gives a breakdown of the population by sub-location.

Table 1: 1999 Population and Housing Census Results for Marigat Division.

Location	Sublocation	Population
Marigat	Endao	893
	Perkerra	4920
	Yatoi	2621
	Total	8434
Eldume	Eldume	2155
	Ilng'arua	1297
	Total	3452
Ng'ambo	Ng'ambo	2636
	Sintaan	1424
	Total	4060
Salabani	Salabani	1316
	Meisori	2525
	Total	3841
Loboi	Chelaba	775
	Maji Ndege	476
	Total	1251
Sandai	Mbechot	926
	Sandai	855
	Total	1781
Kapkuikui	Kapkuikui	444
	Kaptombes	438
	Total	882
Kimalel	Kimalel	624
	Sabor	1194
	Koriema	1466
	Total	3284

Source: DO's Office Marigat, 2002.

Perkerra sub-location in which Kampi Turkana lies has the largest population. Baringo district has a population density of 44 people per square kilometre. The average family size is 5.5 persons and the number of households is estimated at 9,850. The Turkana, Pokot and others in the study area (Marigat) in 1999 are estimated at about 23 970, 5 130, and 1 100 respectively.

Urban population growth has been high throughout the district (Republic of Kenya, 1997). People living in small trading centres have been on the increase particularly in Marigat and Kabartonjo towns. Rural urban migration has largely been caused by the disparity in social structures between urban and rural areas. Immigration has been noticeable from 1989 to date due to improved infrastructure (especially roads) facilities in the district and rapid urbanization. The formal and informal sectors have also attracted a significant population from outside the district in search of jobs and business opportunities.

3.1.3 Rural Communities in Marigat

The two primary rural communities in Marigat are the Tugen who are mostly settled on the hill-slopes around the rim of lake Baringo basin and the Il Chamus who are concentrated on the flat plains. The economy of the above communities include livestock keeping (goats, cattle, sheep and donkey), bee keeping, off-farm employment (public, NGO, private), and self-employment (hawking, grocery, shops, honey collection, refining and marketing and burning of charcoal) and making of handicrafts.

The minority rural communities in the study area are the Pokot and the Turkana. The Pokot are settled on the fringes of the study area as well as in Marigat location. They came from their original home in the adjoining Nginyang' and Tangelbei divisions in search of pasture, water or new employment opportunities. Although they engage in some limited irrigated farming, the community has a deeper attachment to animals than other communities in Marigat and therefore rely largely on livestock for their livelihood.

The Turkana are presently settled at Kampi Turkana and Kampi ya Samaki within Marigat and Salabani locations respectively. As the name suggests, the community has settled in camps or villages consisting of small temporary houses made from sticks, mud and grass thatch but lacking the refined finish of either a Tugen or Il Chamus house. The Turkana community has been migrating from their home district of Turkana into the study area over the last 20 years in order to escape from persistent raids by the neighbouring Pokot community (JICA, 2001).

3.1.4 Resource Potential of the District

Land and Soils

In terms of land holding system, most of the lands are communally owned (trust land), except for the area of 20 square kilometres in Perkerra irrigation scheme, which is an estate owned by the National Irrigation Board. The territory of communal land is based on the administrative locations and the community members can build their homesteads anywhere in their locations and graze animals freely.

Lowlands such as Marigat and Nginyang' divisions in Baringo district, are in a semi-arid climate zone with complex soils of various texture and drainage conditions which have developed alluvial deposits. Some of these soils are saline. A large area of the division is characterized by shallow stony soils with rock outcrops and lava boulders. Most of the irrigated land is covered by either alluvium or colluvium soils (JICA, 2001).

Water Resources

There are surface and ground water resources. Types of surface water include river, lake, ground catchment and spring. They are the major sources for domestic and livestock use in the study area. Perkerra river has an annual discharge of 160 million cubic metres (RoK, 1997).

Other rivers in the district include Molo, Kerio, Lobo, Suguta, Ol Arabel and Weseges. They are all fresh water sources with fluoride content of less than 1.5 mg/ litre except River Suguta whose fluoride content is 7.5 mg/litre (Ibid.). The main lakes in the district are Baringo and Bogoria.

Forestry

Baringo district has a forest cover of 24,346 hectares (RoK, 1997) with 94 percent of this as gazetted forests. Ninety-six percent of the gazetted forest represents natural forests dominated by Acacia trees. The gazettelement of 1,393.2 hectares of forests in Marigat division has been approved by the County Council but has not yet been effected (ibid.).

3.1.5 Resource Exploitation

Irrigation agriculture is practised at Perkerra irrigation scheme in Marigat division. Here, land preparation for cotton production is fully mechanized. However cultivated land covered only 2.0% of the total area by 1998. The irrigated area covers about 76% of the total cultivated area. Apart from the irrigated land in Perkerra, land is held communally. This leads to lack of motivation to conserve and improve the land, and almost no access to loans.

Statistical data on crop production show that major crops grown in the division are maize, beans, finger millet and sorghum in that order. Maize covers nearly 70% of the total cultivated area. The average crop unit yield is as follows:

Table 2: Average crop unit yield for Marigat division and Baringo district

CROP	AVERAGE UNIT YIELD		
	Marigat Ton/ha	Bag/acre	Baringo district Ton/ha
Maize	1.69	7.6	1.61
Sorghum	0.44	2.0	0.50
Millet	0.41	1.8	0.41
Beans	0.41	1.8	0.30
Groundnuts	0.53	2.3	0.59

Source: Ministry of Agriculture and Rural Development Baringo District and Marigat Division Annual Report (1995-1998)

The main types of livestock reared in Marigat are cattle, sheep, goats, poultry, bees, camels and donkeys. Pastoralism is the mode of life. Livestock production is depressed due to lack of adequate water, insufficient pasture due to often prolonged drought, epidemic disease outbreaks and lack of breeding systems for better productivity. Sheep

and goats contribute a lot to food production and sources of income. Goats are the major source of livelihood for the community in Marigat (Table 3).

Table 3: Goat numbers in Baringo District, 1998

Division	Number of Goats
Kabarnet	71,690
Kabartonjo	44,800
Kipsaraman	101,250
Nginyang'	125,000
Marigat	230,000
Tangulbei	220,000
Tenges	25,970
Sacho	17,200
Mochongoi	54,210
Total	890,120

Source: MARD, Marigat annual report, 2002

3.1.6 Social Economic Infrastructure

Communication Network

The road network in the district is not sufficient to serve all the divisions. However, Marigat division with 273 kilometres of classified roads, has a better developed network than other divisions. In addition, the division also leads in air transport with 4 airstrips at Marigat, Kimalel, Loboï and Kampi Samaki. However, most of the airstrips are used for security purposes. Telecommunication services are also available but poorly developed to cope with the fast pace of economic development.

Water Facilities

Water shortage is prevalent throughout the district and more so in Marigat division. Most of the water supplies are piped schemes with high operational and maintenance costs.

Educational Facilities

The district has a total of 356 pre-schools, 318 primary schools, 29 secondary schools, 6 polytechnics and one teacher training college and of these, Marigat has 44 pre-primary schools, 39 primary schools, 4 secondary schools and one youth polytechnic in Marigat town.

Health Facilities

Health facilities in the district are mainly concentrated in high potential and medium potential areas. Marigat has 2 health centres, 6 dispensaries and one clinic.

3.1.7 Supporting Development Institutions

There are many voluntary agencies in the district involved in supporting various developmental activities, including the provision of basic needs and education. They are also intensively involved in the protection of water catchment areas and the environment. The main agencies in the study area are:

World Vision International

Most of the World Vision projects are located in the ASAL areas of Baringo District. So far some prototype projects have been initiated such as education of children whose parents cannot afford school fees, domestic and livestock water supply, women group support (resource mobilization and training) and demonstration gardens to provide the target group with more vegetables. According to the project coordinator, World Vision

Marigat, the project is now sponsoring 3,000 students in Marigat, Mukutani and Nginyang' divisions.

Christian Children's Fund

It provides boarding school facilities to children who cannot attend school under the normal circumstances, primary and secondary school building, family packages (shelter), family projects (bee-keeping, small enterprise development etc). The agency is currently sponsoring medical and educational needs for 80 children and families from Kampi Turkana. The agency had also initiated a department for small enterprise development in 1994 to train people in small enterprise management and give loans (CCF manager, personal communication). However, due to high defaulters rate this programme was stopped after 1995.

Other Organizations

Others are the Catholic Mission - with an interest in education, Department of Social Services Marigat for networking and JICA that has shown the most recent interest in the uplifting of ballast industry in Kampi Turkana.

3.2 DATA COLLECTION AND ANALYSIS PROCEDURES

3.2.1 Survey Design

A sociological survey was carried out among people living in the Kampi Turkana and those living outside, using a structured questionnaire. Three focus group discussions were employed to obtain supportive information. The sociological inquiry sought information on the reasons for the inhabitants of Kampi Turkana coming to settle there and how they cope with the destitute status.

3.2.2 Sampling Procedures

The research examined the household characteristics, hence the sample unit is the household. The total number of households (population) in the area under research was estimated to be 775. This number was taken as the sample frame since there was no criteria for choosing the final sample. A sample size of 260 households was therefore taken from this sample frame.

Stratified sampling was done based on the residential quarter. Three strata were identified i.e. Kampi Turkana, Kampi Wakulima and other villages collectively called outside Kampi Turkana in this research. A simple random sample of 105 households each from the first two strata and 50 households from outside Kampi Turkana were taken. To perform a simple random sample, each household in the sample frame was allocated a number. A table of random numbers was then used to select the households.

The sample size, for simple random sampling without replacement was determined by the following formulae adopted from Nassiuma (2000).

$$n = \frac{n'N}{N - 1 + n'}$$

Where

n= sample size for simple random sampling without replacement.

N= Population size

n'= sample size estimate for simple random sampling with replacement.

But n' is given by the formulae,

$$n' = \frac{Z_{\alpha/2}^2 P(1 - P)}{d^2}$$

Where

$Z_{\alpha/2}$ =degree of confidence taken as (at 95 % confidence, $z = 1.96$)

d= degree of accuracy i.e. the largest acceptable percentage of difference between the estimated value from the sample and the true population value(d= 0.08 was used)

P= variability of the characteristics to be measured in the population. A variability of 50 % ($P=0.5$) was chosen to maximize the expected variance and ensure that the sample size will be large enough to allow the sample mean or proportion to be considered as having a normal distribution.

n' was found to be 150 and therefore with the household size estimates of 350, 350 and 75 for Kampi Turkana, Kampi Wakulima and Outside Kampi Turkana

respectively, their sample sizes were calculated as 105, 105 and 50 respectively, giving a sample size of 260 households.

3.2.3 Focus Group Discussions

The first focus group discussion was carried out by six respondents to seek information on the historical development of Kampi Turkana and its current status. The criterion for selecting the participants was based on how long they had stayed at Kampi Turkana. Representatives were selected such that their immigration periods were evenly spread from 1970 to 2001. Three men and the same number of women were used. The second focus group discussion, with six respondents drawn from the surrounding community, was carried out for the purpose of determining the impacts of Kampi Turkana on the surrounding community in addition to the historical development of the destitute camp. Both groups were used to provide recommendations on improving the lives of the destitute residents of Kampi Turkana and on ways of reducing the negative impacts to its surrounding community.

The focus group discussions were carried out in the Marigat Divisional Social Services office in Marigat town. The social worker was not required to attend since some members would express themselves well in his absence. There was mixed sitting arrangement with the researcher chairing the meeting and his secretary facing the participants. No tape recorder was used as some participants expressed concerns of taped information being used against them.

Structured questions were used in both cases to build on the issues mentioned above. The secretary used a notebook in addition to manila papers, to record findings, the latter for Pairwise ranking matrix, to rank problem, activities and solutions. Participants were required to raise up their hands before being picked on to contribute. This enhanced order and ensured that all views were recorded.

3.2.4 Data Organization and Analysis

Frequency Distributions/tables

These were used to show the number of cases in each category, which was expressed as totals, proportions or percentages of totals. This was preferred because it reduces the amount of information that the reader must absorb (Bryman and Cramer, 1997). This was specifically useful for data measured in discrete, rating and ordinal scales. For interval variables such as income and year of coming to Kampi Turkana, the data was grouped and presented in a frequency table.

Descriptive statistics

Arithmetic mean, range and standard deviation were generated for interval variables such as income, urban household size and number of livestock. This was useful in trying to find out where values tend to concentrate, to select the most representative value, e.g. the average income of the three different strata and to establish the amount of variation shown by the distribution.

Chi-square test

This was used to test for independence of relationships between variables at 95% level of significance based on contingency tables/crosstabulation due to its simplicity in demonstrating the presence or absence of relationships. It was useful for nominal data. For relationship between nominal and interval variables, the latter was collapsed into ordinal groupings to allow a contingency table and its associated chi-square value to be provided. This tool was particularly useful for specific objective one.

Correlation

This was used to provide information on the strength and direction of bivariate relationships. Pearson's correlation coefficient was used for interval variables while Kendel's tau was used for relationships between pairs of ordinal variables. This tool was employed particularly to specific objective two. A correlation matrix was generated to give the relationships between independent variables and how each relates with the dependent variable.

The one-way ANOVA.

This was applied to achieve specific objective number four aimed at determining if the means in variables of the three strata are different. The variables employed for comparison were total income, urban household size, number of livestock and how adequate the basic needs are met.

Regression Analysis

This was used to identify factors that significantly affect destitution, the latter being the dependent variable. This relates to research question (b), looking for the factors influencing destitution. Interval variable was used for this tool of analysis.

Pairwise Ranking Matrix

Problems, activities, events and solutions discussed in the focus group discussion were listed for the purpose of organizing the disintegrated data into manageable structure as shown in section two of the results of this thesis. Once the listing was done, the items were ranked using Pairwise Ranking Matrix in which the items are weighed in pairs with the item getting the largest number of votes/counts being recorded in the matrix as shown in Tables 57, 58 and 59.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents research findings, which are related to the objectives of the study and it is broadly divided into two sections. Section one presents findings of the sociological survey while section two presents detailed findings of the two focus group discussions.

4.1 SURVEY RESULTS AND DISCUSSION

This section presents research findings reflecting on the first four specific objectives of the study, and it is divided into two parts: part one describes the characteristics of the 260 sampled households using descriptive statistics; part two describes the results by research questions namely, factors leading to the migration of pastoralists in which crosstabulation and chi-square tests have been employed; the factors leading to destitution among the inhabitants of the study area, employing both crosstabulation, correlation and regression analysis; coping strategies employed by pastoralists to cope with the hardships and the socioeconomic differences between variables in the three residential camps, using one way ANOVA.

4.1.1 DESCRIPTION OF THE HOUSEHOLDS SAMPLED

Age of the household heads

Age distribution of the respondents (household heads) interviewed is shown in the Table below. The Majority (26%) of those interviewed were in the 30-39 age bracket with the mean age of the respondents being 39.9 years of age.

Table 4: Age distribution of household heads

Age	Frequency	%
Lowest through 19	7	2.7
20-29	61	23.6
30-39	68	26.3
40-49	56	21.6
50-59	32	12.4
60-69	24	9.3
70-79	11	4.2
Total	259	100.0

$\bar{x}$ = 39.9 σ = 14.27 minimum = 17.0 maximum = 79

Source: This study, 2002

Gender of the Household Head

Women head 33 % of the households in the study area while 66.8 % are headed by men. The high proportion of women headed households is attributed to single mothers whose husbands were either killed in the raids, left behind fighting or are in other towns for employment.

Table 5: Gender of the Household Heads

Gender	Frequency	%
Female	86	33.2
Male	173	66.8
Total	259	100.0

Household Size

The average number of people per household was found to be 5.56. The highest household size being 20 people. A majority (49.6 %) had between 5 and 9 members.

Table 6: Household Size

Range	Frequency	%
1 to 4	107	41.2
5 to 9	129	49.6
10 to 14	23	8.8
15 to 20	1	0.4
Total	260	100.0

$\bar{x}=5.56$ $\sigma =2.84$ minimum = 1 maximum = 20

Reasons for Migration

The reasons for migration are shown below. The majority of the households (45%) migrated after being faced with pastoral risks. Another important reason for migration is resettlement (21.9 %) i.e. relocation to the new acquired land.

Table 7: Reasons for Migrating

Reason	Frequency	%
Pastoral risks	117	45.0
Resettlement	57	21.9
Seek employment	31	11.9
Other reason	26	10.0
Never moved	29	11.2
Total	260	100.0

Level of Formal Education of the Household Head

The frequency distribution of the highest level of education attained by the household head is shown in the table below. The majority of the household heads (45.6 %) had reached the level of primary education while only 0.4 % reached University level. Thus, this community is not highly educated as 83 % of the heads of households have not gone beyond primary of level education.

Table 8: Education level of household head

Level of education	Frequency	%
Never went to school	90	34.7
Pre-primary	7	2.7
Primary	118	45.6
Secondary	33	12.7
Tertiary	10	3.9
University	1	0.4
Total	259	100.0

Occupation in the Previous Residence

The results in Table 9 show the occupation of sampled households in their previous residence. Pastoral households account for 46.9 % of the total households interviewed.

Table 9: Occupation in the previous residence

Occupation	Frequency	%
Pastoralism	122	46.9
Crop farmer	66	25.4
Mixed farmer	10	3.8
Business	7	2.7
Formal job	3	1.1
Informal job	16	6.2
No occupation	7	2.7
Not applicable	29	11.2
Total	260	100.0

Sources of Income

The research showed that the main sources of income are wage earning employment, water vending, farming, handcraft industry, local brewing, charcoal burning, business and ballast making as shown in Table 10.

Table 10: Sources of Income.

Source	Frequency	%
Casual job	162	62.3
Farming	104	40.0
Local brew	57	21.9
Business	25	9.6
Permanent job	22	8.5
Charcoal burning	16	6.2
Ballast making	13	5.0
Water vending	8	3.1
Handcraft	2	0.8

Total Income Per Year

The majority of the households (87.3 %) have their total annual income being less than Kshs. 85,200 while 3.8 % of the households have their total annual income being above Kshs. 170, 400. The mean total income of the households in the sampled households was Kshs. 40,836 with the lowest household earning nothing while the highest income earned being Kshs.426, 000. However, total income is highly variable with a standard deviation of Kshs. 54 963.75.

Table 11: Total Income Per Year (Kshs)

Range	Frequency	%
Lowest through 85,199	227	87.3
85200-170,399	23	8.8
170,400-255,599	8	3.1
255,600-340,799	1	0.4
350,800 through highest	1	0.4
Total	260	100.0

$\bar{x}$ =40, 360 σ =54963.75 Minimum = 0.00 Maximum = 426,000

Pastoral Risks

The results in Table 12 show that the majority of households interviewed (33.8%) reported to have experience cattle rustling while 30.4 % of the households experienced ethnic animosity and 22.7 % experienced drought and famine. Only 6.5% of the households experienced livestock diseases.

Table 12: Pastoral risks experienced in the previous residence

Pastoral risk	Frequency	%
Drought/famine	59	22.7
Cattle rustling	88	33.8
Ethnic animosity/clashes	79	30.4
Livestock diseases	17	6.5

Basic needs

Results on the number of meals per day showed that 45.8 % of the households interviewed normally have two meals per day as shown in Table 13. This is mostly breakfast and supper.

Table 13: Number of meals per day.

Rate	Frequency	%
Once	45	17.3
Twice	119	45.7
Thrice	94	36.2
More than thrice	2	0.8
Total	260	100.0

4.1.2 RESULTS AND DISCUSSION BY RESEARCH QUESTIONS

The following are discussions of the results generated by this thesis and are hereby discussed by the research questions under the following titles: (1) Factors leading to migration of pastoralists into Kampi Turkana (2) Factors leading to destitution (3) strategies employed by Kampi Turkana residents to cope with destitution (4) Socioeconomic differences between Kampi Turkana, Kampi Wakulima and Outside Kampi Turkana.

4.1.2.1 Factors Leading to Migration of Pastoralists into Kampi Turkana

Before addressing the question of why pastoralists migrate from their areas to Marigat, it is important to answer related questions such as where they came from, when and what their previous occupation was. A summary of the place of birth for interviewed households is provided in Table 15.

Table 15: Place of birth for household heads of Kampi Turkana residents

District	Number of households (n)	(%)
Turkana	77	72.4
Baringo	14	13.6
Samburu	4	4.0
Nakuru	2	2.0
Nyeri	1	1.0
Laikipia	1	1.0
Pokot	1	1.0
Keiyo	1	1.0
Others	4	4.0
Total	n=105	100.0

Most respondents were born in Turkana district (72.4%) and a high proportion (71.4%) are of pastoral households (Table 16). Table 16 shows that a substantial proportion

(14.3%) of households reported having had informal jobs in their previous residence. Note that while table 9 of this thesis presents data on the previous occupation for the combined residential camps, Table 16 is specific to Kampi Turkana.

Table 16: Previous occupation for Kampi Turkana households

Occupation	Frequency	%
Pastoralist	75	71.4
Crop farmer	2	1.9
Business	5	4.8
Formal job	3	2.8
Informal job	15	14.3
No occupation	2	1.9
N/A	3	2.9
Total	105	100.0

The period of 1980 -1984 recorded the highest immigrants to Kampi Turkana (26%). This was followed by 1990-1994 where 16% migrated and 15% between 1995-1999 as shown in Table 17.

Table 17: Year of Immigration for Kampi Turkana residents

Year	Number	%
1960-1964	2	2.0
1965-1969	3	2.9
1970-1974	9	8.7
1975-1979	10	9.6
1980-1984	27	25.8
1985-1989	9	8.7
1990-1994	17	16.2
1995-1999	16	15.3
2000 upwards	8	7.7
Total	101 (n=105)	96.2

The majority of households (79 %) migrated because of pastoral risks. When reasons for migration were cross-tabulated with various pastoral risks, the majority of households that experienced pastoral risks (95 %) said yes to cattle rustling, the relationship being significant at $P<0.05$, Table 18. The majority of those who experienced pastoral risks (89 %) said yes to ethnic animosity with the relationship being significant at $P<0.05$. On the other hand, the majority of those who experienced pastoral risks (84 %) said no to drought and to livestock diseases (93%) with high chi-square values significant at $P<0.05$.

Table 18: Crosstabulation for pastoral risks and reasons for migration to Kampi Turkana

Experience		Reason						total	Chi-square	Sig.
		Pastoral risk	Other reasons	Never moved	resettlement	Seek employment				
Drought	no	70	14	0	0	2	86	112.210	0.0001	
	yes	13	1	0	1	1	16			
	N/A	0	0	3	0	0	3			
		83	15	3	1	3	105			
Rustling	no	4	11	0	0	2	17	155.099	0.0001	
	Yes	79	4	0	1	1	85			
	N/A	0	0	3	0	0	3			
		83	15	3	1	3	105			
Ethnic animosity	no	9	13	0	0	3	25	155.713	0.0001	
	yes	74	2	0	1	0	77			
	N/A	0	0	3	0	0	3			
		83	15	3	1	3	105			
Livestock diseases	no	77	15	0	0	2	94	121.230	0.0001	
	yes	6	0	0	1	1	8			
	N/A	0	0	3	0	0	3			
		83	15	3	1	3	105			

Discussion

From the results shown in Table 18, it is noted that the major reasons why pastoralists move from their place of birth to Kampi Turkana, are pastoral risks (83 households). Within pastoral risks, cattle rustling and ethnic animosity play a very significant role. The lower number of households admitting to have experienced drought does not necessarily mean that it was not generally experienced. The implication is that it was not the driving force; otherwise drought is a common occurrence in pastoral areas.

Pastoral risks are common in the areas of origin. However, the case was more pronounced in the periods of 1980-1984, 1990-1994 and 1995-1999. Contrary to the expectations that all Kampi Turkana residents are from Turkana district (JICA, 2001),

people came from other districts such as Nyeri, Laikipia and Nakuru although their proportions are low.

It is reported that there were major droughts in 1961(Maybury-Lewis and Macdonald, 1998), 1979-1980 (Moris, 1999 and Scoones, 1995) and recently in 1999 (Daily Nation: 1/12/1999). The 1984 drought in Turkana district was reported as extreme (Reckers, 1994). Besides, there were intense cattle raids in Turkana area in 1974-1978, 1979/1980 and also 1999/1992 (Moris, 1999). In recent times, the Pokot are said to have acquired sophisticated weapons at the time when the Turkana had surrendered theirs to the government. This has left the latter more vulnerable to raids (personal communication). In the years when drought coincided with cattle rustling/ethnic animosity, greater proportions of immigrant households are recorded.

4.1.2.3 Factors leading to destitution

Factors leading to destitution in Kampi Wakulima and Outside Kampi Turkana and the factors for the combined residential quarter (study area) are here explored. Triangulation (using three tools of analysis, i.e. crosstabulation and chi-square; correlation analysis and multiple regression) has been employed in each part to exhaustively identify major factors contributing to destitution. An explanation on how indices were constructed for destitution, pastoral risks and sources of income have been given in Appendix I together with their internal reliability in terms of alpha values.

Factors leading to destitution among Kampi Turkana Residents.

An attempt was made to determine if destitution in Kampi Turkana dependent on pastoral risk experience, number of livestock, sources of income, age, gender, education, income and /or household size?

The chi-square test results below are aimed at determining if a relationship exists between independent variables used and destitution.

Relationship Between Pastoral Risks and Destitution.

Table 19 shows that the majority (77.9 %) of the destitute households experienced high risks. Consequently, the majority (63.2 %) of the not destitute households experienced high risks. This implies that there is no relationship between these two variables; destitute households are not likely to have experienced more pastoral risks than those not destitute households. Consequently, taking into consideration the many cells (6 cells) the chi-square (4.957) is not sufficiently large to be confident that the relationship could not have arisen by chance. Besides, the significance level of 0.084 suggests that there is unlikely to be a relationship between the two variables.

Table19: Contingency table for pastoral risks by destitution for Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Pastoral risks	No risks	31.6	11.6	15.2
	Low risks	5.3	10.5	9.5
	High risks	63.2	77.9	75.2
	Total	100.0	100.0	100.0

Chi-square= 4.957, df= 2, sig= 0.08

Relationship Between Level of Income and Destitution.

While none of the destitute households earn an average income, 5.3 % of those not destitute have an average income. This implies that there is a relationship between the two variables; destitute households earn lower incomes than those not destitute. The relationship is significant at $P<0.05$.

Table 20: Contingency table for level of income by destitution for Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Income	Low	94.7	100.0	99.0
	Average	5.3	0.0	1.0
	Total	100.0	100.0	100.0
Chi-square=4.57, df=1, significance=0.033				

Relation Between Level of Education and Destitution

Table 21 shows that the majority (64.0 %) of the destitute households are headed by people who never went to school, while the majority (36.8) of those not destitute had at least 1 to 4 years of formal education. Thus the relationship is that destitute households are more likely to be headed by household heads who never went to school than those who are not destitute. The chi-square value is relatively sufficient (8.534) for us to be confident that the relationship could not have arisen by chance. The relationship is significant at $P<0.05$.

Table 21: Contingency table for level of education by destitution for Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Education level	0	31.6	64.0	58.1
	1 to 4	36.8	12.8	17.1
	5 to 6	26.3	18.6	20.0
	9 and above	5.3	4.7	4.8
	Total	100.0	100.0	100.0

Chi-square=8.534, df=3,sig=0.0036

Relationship Between Household Size and Destitution

Table 22, shows that the majority (81.4 %) of the destitute households have few members. The majority (68.4 %) of those not destitute also have few members. This implies that there is no relationship between these two variables.

Table 22: Contingency table for household size by destitution for Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Household size	Few	68.4	81.4	79.0
	Average	31.6	18.6	21.0
	Total	100.0	100.0	100.0

Chi-square=1.582, df=1, sig=0.209

Correlation Analysis

Bivariate relationships between independent variables (pastoral risks, sources of income, gender, level of income, education, household size and number of livestock) and how each relates to destitution in Kampi Turkana are presented in the matrix in Table 23.

Most of the correlations in Table 23 are low, the largest being the correlation between source of income and number of livestock ($r = 0.372$), which is significant at $p < 0.01$. This implies a positive relationship between them; households with more sources of income are more likely to have higher numbers of livestock. The correlation coefficient between household size and number of livestock is also relatively high indicating a strong positive relationship ($r = 0.367$). The level of significance $p < 0.01$ implies that we can be confident that the relationship between these two factors exists. Gender has a fairly strong positive relationship with education ($r = 0.315$); men are more likely to be better educated than female. With a significance of $p < 0.01$, it is inferred that a relationship of this size is unlikely to have arisen out of chance. Other fairly strong and significant relationships are experienced between income and household size ($r = 0.246$).

Three variables have a significant relationship with destitution. The correlation coefficient between number of livestock and destitution is fairly large ($r = -0.296$) with a high level of significance ($p < 0.01$) implying that the relationship is unlikely to have occurred by chance. Households with more numbers of livestock are less likely to be destitute. Of equal importance is the relationship between household size and destitution ($r = -0.228$); households with more members are less likely to be destitute. At $P < 0.05$ we are confident the relationship is unlikely to have occurred by chance. Lastly, the correlation coefficient between education and destitution ($r = -0.220$) suggests a moderate but negative relationship; households headed by illiterate people are more likely to be destitute than otherwise.

Table23: Correlation matrix for independent variable and how each relates to destitution for Kampi Turkana

	Age	Income	Pastoral risks	Sources of income	Gender	Education	Household Size	Livestock Number
Age	1.000							
Income	0.047	1.000						
Pastoral risks	0.179	0.072	1.000					
Sources of income	0.114	0.112	0.017	1.000				
Gender	-0.095	0.067	0.066	-0.035	1.000			
Education	-0.288**	-0.079	-0.146	-0.102	0.315**	1.000		
Household size	0.046	0.246*	-0.008	0.188	0.041	-0.080	1.000	
Livestock number	0.192	-0.004	-0.078	0.372**	-0.039	-0.073	0.367**	
Destitution	0.056	-0.166	0.146	-0.131	0.043	-0.220*	-0.228*	-0.296**

*P<0.05, **P<0.01

Multiple Regression Analysis

A stepwise procedure was used to enter independent variables into the equation;

$$Y= a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

where Y = the dependent variable destitution

a = is the intercept

b₁, b₂, b₃, b₄ and b₅ are the regression coefficients for the five independent variables namely pastoral risks, level of education, number of livestock, household size and income which are denoted as X₁, X₂, X₃, X₄, X₅ respectively.

e= is an error term. The error term is ignored since it is not used for making predictions.

Only those variables that conform to the criteria for inclusion (probability to-enter ≤ 0.05) were entered into the equation. In this case only three variables were entered. They were number of livestock, level of education and total income (See Table 24). Since the value of destitution was not to be predicted, a value (y intercept) is not given in Table 24

The variables in the equation only explains 18.1 percent ($R\text{ square} = 0.181$) of destitution in Kampi Turkana. There is a fairly strong negative relationship between number of livestock and destitution ($\text{Beta} = -0.317$); with households having more numbers of livestock being more likely to be less destitute than those with few stock. This variable explains 8.9 percent ($R\text{ square} = 0.089$) of destitution. Level of education explains destitution by 5.8 percent ($R\text{ square} = 0.058$) while the total income explains destitution by 3.4 percent ($R\text{ Square} = 0.034$). Both relationships are equally significant at $p < 0.05$. This implies that we can confidently conclude that the relationships between these variables did not occur by chance and that destitution is dependent on them by up to 18 percent. The tolerance values in Table 24 are high indicating that multicollinearity does not exist between the independent variables and destitution.

Table 24: Summary of the Regression Model for Kampi Turkana

Variable	R Square	Beta	Tolerance
Number of livestock	0.089	-0.317**	0.995
Level of education	0.058	-0.255*	0.989
Total income	0.034	-0.186*	0.994

Dependent variable: destitution, $R\text{ square for the whole model} = 0.181$

Factors Leading To Destitution in Kampi Wakulima

Relationship Between Pastoral Risks and Destitution.

Of the destitute households, 50 % did not experience any pastoral risks. Also the majority of those households, which are not destitute (70.5 %), did not experience any risks. Thus a relationship is not implied; destitute households are not likely to have experienced pastoral risks than those not destitute. There is a 26.6 percent (sig=0.266) possibility that there is no relationship between the two variables.

Table 25: Pastoral risks and destitution in Kampi Wakulima

		Destitution		
		Not destitute	Destitute	Total
Pastoral risks	No risks	70.5	50.0	68.6
	Low risks	26.3	50.0	28.6
	High risks	3.2	0.0	2.9
	Total	100.0	100.0	100.0

Chi-square=2.648, df=2, sig=0.266

Relationship Between Number of Livestock and Destitution for Kampi Wakulima

From Table 26, the majority of the destitute households (60.0 %) have low numbers of livestock. The majority of those not destitute (63.2 %) have few livestock. Thus a relationship is not implied; destitute households do not necessarily have fewer numbers of livestock than those not destitute in Kampi Wakulima. The chi-square value is not significant at $P < 0.05$ implying that there is no confidence in concluding that a relationship has not arisen by chance.

Table 26: Number of livestock by destitution in Kampi Wakulima

Destitution					
			Not destitute	Destitute	Total
Number of livestock	No livestock		30.5	40.0	31.4
	Few		63.2	60.0	62.9
	Average		6.3	0.0	5.7
	Total		100.0	100.0	100.0

Chi-square=0.904, df=2, sig=0.636

Relationship Between Income and Destitution

All the destitute households have low income and the majority of those households that are not destitute (73.7 %) also have low income. The relationship is not significant at $P<0.05$.

Table 27: Income by destitution for Kampi Wakulima

Destitution					
			Not destitute	Destitute	Total
Income	Low		73.7	100.0	76.2
	Average		17.9	0.0	16.2
	High		8.4	0.0	7.6
	Total		100.0	100.0	100.0

Chi-square=3.454, df=2, sig=0.178

Relationship Between Level of Education and Destitution in Kampi Wakulima

The chi-square for the relationship between level of education and destitution is not significant at 5% level of significance. We therefore, conclude that the relationship does not exist between these variables in Kampi Wakulima.

Table 28: Level of education by destitution for Kampi Wakulima

		Destitution		
		Not destitute	Destitute	Total
Level of education	0	14.7	30.0	16.2
	1 to 4	3.2	0.0	2.9
	5 to 8	45.3	70.0	47.6
	9 and above	36.8	0.0	33.3
	Total	100.0	100.0	100.0

Chi-square=6.464, df=3, sig=0.091

Relationship between Household Size and Destitution in Kampi Wakulima

The majority of the destitute households (70.0 %) have few household members. Besides, the majority of those not destitute (51.6 %) also have few household members. This implies that a relationship does not exist between these variables in Kampi Wakulima. Furthermore the chi-square value is not significant at $P<0.05$ to establish a relationship.

Table 29: Household size by destitution for Kampi Wakulima

		Destitution		
		Not destitute	Destitute	Total
Household size	Few	51.6	70.0	53.3
	Average	44.2	30.0	42.9
	Many	4.2	0.0	3.8
	Total	100.0	100.0	100.0

Chi-square=1.423, df=2, sig=0.491

Correlation Analysis

Levels of income, sources of income, level of education and number of livestock have a fairly strong negative relationship with destitution ($r = -0.386, -0.328, -0.240$ and -0.310 respectively) all of which are significant at $p<0.05$. The latter figure implies that it is

very unlikely that the relationship would have occurred by chance. Households with higher levels of income, many sources of income, many number s of livestock and whose household heads had more years of formal education are likely to be less destitute.

Table 30: Correlation matrix for independent variables and destitution in Kampi Wakulima

	age	income	Pastoral risks	Sources of income	gender	Education	Household Size	Livestock Number
Age								
Income	-0.003							
Pastoral risks	0.202*	-0.041						
Sources of income	0.033	0.512***	-0.004					
Gender	-0.212*	0.144	-0.079	0.048				
Education	-0.153	0.233*	-0.179	0.317**	0.196			
Household size	0.014	0.200*	0.008	0.132	-0.021	-0.070		
Livestock number	0.064	0.199*	0.091	0.082	0.021	-0.150	0.254*	
destitution	0.053	-.386***	0.047	-0.328**	0.033	-0.240*	-0.099	-0.310**

*=P<0.05, **=P<0.01, ***=P<0.001

Multiple Regression

Variables whose level of significance fulfilled the criteria for entry in the equation (F-to-enter<=0.05) using the stepwise procedure in SPSS were income, number of livestock, and level of education in that order. Table 31 gives a summary of the regression output showing the R square values for Kampi Wakulima.

Table 31: Summary of the Regression Model for Kampi Wakulima

Variable	R Square	Beta	Tolerance
Total income	0.149	-0.278**	0.890
Number of livestock	0.056	-0.288**	0.920
Level of education	0.044	-0.219*	0.906

Dependent variable: destitution, R square for the whole model=0.249

*=P<0.05, **=P<0.01

The whole equation explains destitution by 24.9 % with income having the largest effect on destitution at 14.9 % followed by the number of livestock at 5.6 % (R Square = 0.149 and 0.056 respectively). The beta values for all the three variables are quite significant, P<0.05 to rule out the case of chance in the relationship. Besides, the tolerance value is quite high hence it is very unlikely that multicollinearity exists.

Factors Leading to Destitution Outside Kampi Turkana

Relationship Between Level of Education and Destitution

The majority of the destitute households (50 %) are headed by household heads who never went to school while the majority of those not destitute (47.2 %) are headed by household heads who had 5 to 8 years of formal education (see Table 32). This implies that there exists a relationship between the two variables. However, this relationship is not significant at the P<0.05.

Table 32: Level of education and destitution outside Kampi Turkana

			Destitution		
			Not destitute	Destitute	Total
Level of education	0		36.1	50.0	40.0
	1 to 4		5.6	7.1	6.0
	5 to 8		47.2	47.9	46.0
	9 and above		11.1	0.0	8.0
	Total		100.0	100.0	100.0

Chi-square=2.126, df=3, sig=0.547

Relationship Between Income and Destitution Outside Kampi Turkana

A higher proportion of destitute households (92.9 %) had low income and consequently the majority of those households that are not destitute (83.3 %) earn low income as given in Table 33. This does not imply a relationship such that destitute households are not likely to be getting lower incomes than those not destitute. There is no significant relationship ($P<0.05$) between income and destitution.

Table 33: Income and destitution outside Kampi Turkana

			Destitution		
			Not destitute	Destitute	Total
Income	low		83.3	92.9	86.0
	average		11.1	7.1	10.0
	high		15.6	0.0	4.0
	Total		100.0	100.0	100.0

Chi-square=1.04, df=2, sig=0.594

Relationship Between Pastoral Risks and Destitution Outside Kampi Turkana

The majority of the destitute households (64.3 %) did not experience any pastoral risks in their previous residence. Also the majority of those not destitute (69.4 %) did not experience pastoral risks (see Table 34). Thus no significant relationship is implied since $P>0.05$.

Table 34: Pastoral risks and destitution outside Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Pastoral risks	No risks	69.4	64.3	68.0
	Low risks	22.2	21.4	22.0
	High risks	8.3	14.3	10.0
	Total	100.0	100.0	100.0

Chi-square=0.399, df=2, sig=0.819

Relationship Between the Number of Livestock and Destitution Outside Kampi Turkana

The majority of the destitute households (64.3 %) have no livestock while the majority of those not destitute (80.6 %) have at least few livestock (see Table 35). The relationship implied is such that destitute households are more likely to be lacking livestock than those not destitute. A significant relationship ($P<0.05$) exists between the number of livestock and the level of destitution outside Kampi Turkana.

Table 35: Number of livestock and destitution outside Kampi Turkana

			Destitution		
			Not destitute	Destitute	Total
Number of livestock	No livestock		8.3	64.3	24.0
	Few		80.6	35.7	68.0
	Average		11.1	0.0	8.0
	Total		100.0	100.0	100.0

Chi-square=17.685, df=2, sig=0.0001

Relationship Between Household Size and Destitution Outside Kampi Turkana

The majority of the destitute households (92.9 %) have few members, while the majority of those not destitute (56.6 %) have few members (see Table 36). The chi-square value of 6.25 is significant at $P<0.05$ and thus the existence of a significant relationship; destitute households are more likely to have few members than those not destitute.

Table 36: Household size and destitution outside Kampi Turkana

		Destitution		
		Not destitute	Destitute	Total
Household size	Few	56.4	92.9	66.0
	Average	44.4	7.1	34.0
	Total	100.0	100.0	100.0

Chi-square=6.25, df=1, sig=0.012

Correlation Analysis

There is a strong but negative relationship between number of livestock and destitution outside Kampi Turkana ($r=-0.572$), which is highly significant thus ruling out any

possibility of a relationship by chance. The level of education and households' size are also strongly correlated with destitution ($r=-0.398$ and -0.402 respectively); households with many members and whose household heads had more years of formal education are more likely to be less destitute than those with fewer members and whose head had fewer years of formal education. Besides, there exists a strong but negative ($r=-0.561$) and significant ($P<0.05$) relationship between age and level of education for the household head; more educated household heads are more likely to be young rather than old.

Table 37: Correlation matrix between independent variables and how each relates to destitution outside Kampi Turkana.

	age	income	Pastoral risks	Sources of income	gender	Education	Household Size	Livestock Number
Age								
Income	-0.016							
Pastoral risks	-0.024	-0.135						
Sources of income	-0.066	0.065	-0.139					
Gender	-0.095	0.217	0.214	0.093				
Education	-.561***	0.389*	-0.217	0.059	0.345*			
Household size	0.027	0.293*	0.086	0.281*	0.111	0.056		
Livestock number	-0.009	0.704***	-0.040	0.042	0.173	0.468**	0.395*	
destitution	0.128	-.267	0.066	-0.258	-0.104	-0.398**	-0.402**	-0.572***

*= $P<0.05$, **= $P<0.01$, ***= $P<0.001$

Multiple Regression

Only one variable satisfied the criteria for inclusion into the equation, i.e. the number of livestock. This variable alone explains destitution by 32.7 percent ($R\text{ square}=0.327$). Beta value quite high implying a strong negative correlation ($r=-0.572$) which is significant at $p<0.001$ (Table 38).

Table 38: Summary of the Regression Model for Outside Kampi Turkana

Variable	R Square	Beta	Tolerance
Number of livestock	0.327	-0.572***	1.000

Dependent variable: destitution, R square for the whole model=0.249

*** P<0.001

Factors Leading to Destitution among Households in the Entire Study Area

Relationship Between Income and Destitution in the Whole Study Area

A very high majority of destitute households (99.1 %) earn low income. While the majority of those not destitute (78.7 %) earn low income. The chi-square value is substantial to establish a relationship (23.944) at a highly significant level of $p<0.001$.

Table39: Crosstabulation for income and destitution in the study area

		Destitution		
		Not destitute	Destitute	Total
Income	Low	78.7	99.1	87.3
	Average	14.7	0.9	8.8
	High	6.7	0.0	3.8
	Total	100.0	100.0	100.0

Chi-square=23.944, df=2, sig=0.0001

Relationship Between Level of Education and Destitution in The Study Area

The majority of the destitute households (59.1 %) are headed by illiterates, while the majority of households which are not destitute (43.3 %) are headed by household heads who had between 5 and 8 years of formal education (see Table 40). This implies that a relationship does exist; destitute households are more likely to be headed by illiterate people than those not destitute. The relationship is significant at $p<0.001$ which implies that the level of education is dependent on the destitution level.

Table 40: Level of education and destitution in the study area

			Destitution		
			Not destitute	Destitute	Total
Level of education	0		22.0	59.1	37.7
	1 to 4		8.0	10.9	9.2
	5 to 8		43.3	26.4	37.2
	9 and above		26.7	3.6	16.9
	Total		100.0	100.0	100.0

Chi-square=48.689, df=3, sig=0.0001

Relationship Between Household Size and Destitution in the Study Area

The majority of the destitute households (81.8 %) have few members; besides, the majority of the not destitute households (54.7 %) have few members (see Table 41). A relationship that exists between the two variables is significant at $p<0.01$ implying that the household sizes are dependent on the level of destitution.

Table 41: Household size and destitution in the study area

		Destitution		
		Not destitute	Destitute	Total
Household size	Few	54.7	81.8	66.2
	Average	42.7	18.2	32.3
	Many	2.7	0.0	1.5
	Total	100.0	100.0	100.0

Chi-square=21.781, df=2, sig=0.001

Relationship Between Number of Livestock and Destitution

No household with an average number of livestock was categorized as destitute. On the other hand, the majority of the households (70.9 %) categorized as destitute had no livestock. This implies that there is a relationship between these two variables. Destitute households are more likely to have few livestock than those not destitute. This relationship is significant at $P<0.001$ (see Table 42).

Table 42: Number of livestock and destitution in the study area

		Destitution		
		Not destitute	Destitute	Total
Number of livestock	No livestock	28.0	70.9	46.2
	Few	63.3	29.1	50.0
	Average	6.7	0.0	3.8
	Total	100.0	100.0	100.0

Chi-square=49.321, df=2, sig=0.0001

Relationship Between Pastoral Risks and Destitution in the Study Area

The majority of the destitute households (62.7 %) experienced very high pastoral risks, while the majority of households, which are not destitute (65.3 %), did not experience pastoral risks. This implies the existence of a relationship; destitute households are more likely to have experienced higher pastoral risks than those, which are not destitute. The relationship is significant at $P<0.001$ (see Table 43).

Table43: Pastoral risks and destitution in the study area

		Destitution		
		Not destitute	Destitute	Total
Pastoral risks	No risks	65.3	21.8	46.9
	Low risks	22.7	15.5	19.6
	High risks	12.0	62.7	33.5
	Total	100.0	100.0	100.0

Chi-square=76.096, df=2, sig=0.0001

Correlation Analysis for the Independent Variable and Destitution.

The correlation matrix for all independent variables and destitution is given in Table 44. There is a significantly ($P<0.01$) negative relationship between pastoral risks and education level ($r=-0.221$). This implies that the higher the pastoral risks the lower the education level of the household head. However, education has a significant ($P<0.01$) positive effect on total income of households($r=0.337$); more educated households in the study area realized better incomes. Of equal significance is the effect of age on education whereby the two are negatively correlated ($r=-0.238$). This implies that older household heads have higher illiteracy levels than the younger heads. The better educated the

household head is, the fewer the sources of household income. Gender positively correlates with education ($r= 0.323$) meaning that men headed households have better education than women headed households.

Education is highly correlated with destitution, $r= -0.496$, at a significant level of $p<0.01$. The more educated the household head, the less destitute the household is likely to be. Besides, income and destitution are significantly correlated ($r= -0.430$). If the income of the household is high, it is more likely that it will meet the basic requirement for the household members and hence will be less destitute. Pastoral risks have a significant positive relationship ($r= 0.338$) with destitution. Households that experienced high risks have low education and by extension destitute. Household size relates negatively with destitution ($r= -0.352$) meaning that less destitute households have higher household sizes. The number of livestock has an equally significant ($P<. 01$) negative correlation ($r=-0.461$) with destitution. This means that households with more numbers of livestock are less destitute (satisfactorily meet their basic needs).

Table 44: Correlation matrix for independent and dependent variable.

	age	income	Pastoral risks	Sources of income	Gender	Education	Household Size	Livestock Number
Age								
Income	0.004							
Pastoral risks	0.031	-0.143*						
Sources of income	0.059	0.131*	-0.029					
Gender	-0.127*	0.181**	-0.037	-0.037				
Education	-0.238**	0.337**	-0.221**	-0.088*	0.323**			
Household size	0.027	0.288**	-0.068	0.058	0.088	0.116		
Livestock number	0.058	0.369**	-0.152*	0.008	0.115	0.156*	0.342**	
destitution	0.032	-0.430**	0.338**	0.042	-0.147*	-0.496**	-0.352**	-0.461**

*= $P<0.05$, **= $P<0.01$, ***= $P<0.001$

Multiple Regression with Destitution as Dependent Variable

The variables that satisfied the criteria for entry into the equation (F-to-enter ≤ 0.05) were education, household size, pastoral risks, income and number of livestock. With other variables in play, education explains destitution by 24 percent (R square= 0.244, Beta= 0.344). Household size explains destitution by 3 percent (R square= 0.033, Beta= -0.170) while pastoral risks, income and number of livestock explains destitution by 4 percent, 1 percent and 15 percent (R square= 0.035, 0.014 and 0.151) respectively. All the beta values are significant at $P < 0.05$ implying that it is very unlikely for the relationships to have occurred by chance. The overall R square was 0.477, meaning that the regression model explains destitution by 47.7 percent.

Table 45: Summary of the Regression Model

Variable	R Square	Beta	Tolerance
Level of education	0.244	-0.344****	0.857
Number of livestock	0.151	-0.269***	0.794
Pastoral risks	0.035	0.188***	0.937
Household size	0.033	-0.170**	0.851
Total income	0.014	-0.139**	0.760

Dependent variable: destitution, R square for the whole model=0.477

Discussion

The link between poverty and education is a fairly universal characteristic of destitution (World Bank, 2001). The same author reports that because of their (pastoralists) lifestyle as well as official neglect in their native land, they are mostly uneducated or have the most rudimentary basic education. The pastoralists spend more time looking for pastures

or avoiding hostile neighbours to think of formal education. The schools are also poorly equipped both technically and physically due to insecurity or they are simply nonexistent. This is typical to Kampi Turkana where the majority of its residents are pastoralists and more so from areas (Turkana district) where cattle rustling and ethnic animosity are most common. Education correlates negatively with destitution ($\text{Beta} = -0.312$, $r = -0.220$). The very destitute households in Kampi Turkana are more likely to have had no basic education. In Table 21, 58.1 % never went to school. This is attributed to having spent most of their youthful years looking after cattle. Indeed age negatively correlates with education ($r = -0.228$, $P < 0.05$) in Kampi Turkana. Older household heads are most likely to have spent most of their lives in pastoral areas hence they are poorly educated. The younger household heads might have received some basic education in Marigat after migration.

In the entire study area, better-educated households have better paying jobs such as teaching and clerical. Lack of education restricts people to wage labour and other sources of income that are lowly paying. Poverty among the illiterates is aggravated by the fact that getting employment in the formal sector is a dream that never comes true. They are employed in the informal sector where such employment tends to require no skills and is thus not financially lucrative. In Kampi Turkana where the majority of the household heads never went to school, the common source of income is casual employment (88.6% of households) in Perkerra irrigation scheme earning wages of about Kshs. 40 to Kshs. 80 per day with no surety of working for five days in a week. Such an amount barely meets the subsistence needs of the households and hence their poverty.

On the other hand, in Kampi Wakulima where the level of education is relatively high, better sources of income, i.e. farming (65.7%), permanent job (16.3%) and business (13.3%) are exploited.

In Kampi Turkana, income correlates positively with the household size, i.e. households with many members have relatively higher incomes. This can be explained by the sources of income in the study area. For the farming households, more members will mean a large labour force for farm activity hence higher output. On the other hand, the non-farming households in Kampi Turkana diversify into other sources such as water vending and ballast making and casual labour. The more members a family has the more ballast that the family produces hence higher income and by extension better life.

Although pastoral risks do not explain destitution in the confines of Kampi Turkana, households that had experienced more pastoral risks are more destitute than those who did not in the entire study area where pastoral risk experience correlates positively with destitution. This is because those households that faced pastoral risks (mostly in Kampi Turkana) are now landless, own few livestock and are generally without well paying jobs.

In general, the most important factors explaining destitution in the study area are education, income, pastoral risk experience, household size, and number of livestock. Kampi Turkana households receive very low income (mean=17,251 annually), have very few livestock (mean=0.4), are mostly illiterate (58.1 %) and a relatively higher proportion of households are (47%) headed by women.

4.1.2.4 Strategies Employed by Kampi Turkana Residents to Cope with Destitution

The strategies employed by Kampi Turkana residents to cope with destitution include earning of income, using certain diet and keeping given type of livestock. Frequency distributions and descriptive statistics are used to describe these strategies.

Sources of Income

Nine sources of income were listed by the respondents. These sources are ranked in Table 46 based on the number of households that have adopted them. A very high proportion of households are in the casual job group (88.6%) followed by local brewing and ballast making in that order.

Table 46: Frequency distribution showing the proportion of households in various sources of income in Kampi Turkana

Source of income	Frequency	%
Casual job	93	88.6
Local brewing	51	48.6
Ballast making	13	12.4
Business	7	6.7
Charcoal	6	5.7
Water vending	5	4.8
Farming	5	4.8
Handcraft	2	1.9
Permanent job	1	1.0

Type of livestock

Households with livestock showed preference for goats. It is observed that most households own goats (28.6 %). Those who own cattle or sheep constitute 1 % and 2.9 % respectively (see Table 47).

Table 47: Type of livestock owned by households in Kampi Turkana

Livestock type	Livestock Number	Households owning	Percent	Mean	Range	Standard deviation
Cattle	0	104	99.0	0.02	0 to 3	0.29
	1 to 4	1	1.0			
	5 and above	0	0.0			
Goats	0	75	71.4	1.55	0 to 25	0.92
	1 to 4	15	14.3			
	5and above	15	14.3			
Sheep	0	102	97.1	0.15	0 to 7	3.46
	1 to 4	1	1.0			
	5 and above	2	1.9			

Diet

Number of meals

Most households (59 %) reported having two meals per day mostly breakfast and supper. However, a substantial proportion (29.5%) have only one meal per day and only 11.4% have the normal three meals per day in Kampi Turkana (see Table 48).

Table 48: Number of meals per day for households in Kampi Turkana

Rate	Frequency	Percent
Once	31	29.5
Twice	62	59.0
Thrice	12	11.4
Total	105	100.0

Type of Lunch and Breakfast

The majority of the households (85.7%) go without lunch. However, if any, then it is mostly *Ugali*⁶ (9.5percent) and *Githeri*⁷ (4.8%). This is contrary to their native diet that often has a high protein content (see Table 49) while tea dominates breakfast as shown in Table 50.

Table 49: Type of meal for lunch for Kampi Turkana households.

	Frequency	Percent
<i>Ugali</i>	10	9.5
Nothing	90	85.7
<i>Githeri</i>	5	4.8
Total	105	100.0

⁶ Meal prepared from maize flour

⁷ Meal of boiled maize grains and beans

Table 50: Type of breakfast for Kampi Turkana households

Type	Frequency	%
Tea and accompaniment	3	2.9
Tea only	60	57.1
Porridge and accompaniment	2	1.9
Porridge only	4	3.8
Nothing	34	32.4
Other	2	1.9
total	105	100.0

Type of Supper

Supper is regarded as the major meal of the day. Table 51 shows proportion of households using various types of meals. *Ugali* often with kale dominates supper in most (88.6%) of the Kampi Turkana households. *Githeri* takes only 11.4 % of the menu of these people. No household reported missing supper.

Table 51: Type of meal for supper in Kampi Turkana households.

Type	Frequency	%
<i>Ugali</i>	93	88.6
<i>Githeri</i>	12	11.4
Total	105	100.0

DISCUSSION

Casual employment with the highest proportion (88.6%) of households practising is by far the most important source of income for Kampi Turkana residents. Local brewing and ballast industries follow closely. The adoption of casual jobs by the majority of the

households can be explained in two broad ways. First, the job is readily available with the presence of a vast irrigation scheme (Perkerra Scheme) in the neighbourhood, which demands huge manual labour. Secondly, casual job does not demand any particular level of formal education. The most important thing is whether one has the energy to weed or harvest crops. With the education level of most Kampi Turkana households where most (59 %) heads are illiterate, this job is agreeable to them.

A poor man with no skills and tangible resources at his disposal often turns to exploit the immediate environment. According to the Institute of African Studies (1985), the Turkana have an ecological attachment to their environment, which therefore shape their life. Due to the harshness of their native land, their social and economic organization is fully adapted to extract the maximum potential from all the available resources. Indeed, people whose material culture is simple are highly dependent on their environment (Evans-Pritchard, 1967). The Marigat environment in which the Turkana are living is well endowed with pebbles and stones, which are valuable resources in the construction industry. It is no wonder therefore that, although with crude tools, the Kampi Turkana people can earn a living from the ballast industry.. A “debe” of ballast per day earns a household about Kshs. 15.00. Had it not been for the exploitation from constructors, ballast making could have been the leading source of income in this area.

The adoption of local brewing mostly by households headed by women can also be explained in two ways. First, looking at the traditional life of the Turkana, one cannot divorce drinking, singing and dancing from them. Local brew (busaa) therefore finds a

ready market. Secondly, the nature of casual work done (intensive manual work of making irrigation tunnels, weeding and harvesting) is so tiring that after work most people drink for relaxation. Local brewing therefore attracts customers from the Kampi Turkana itself and the wage earners from Marigat town. However, the spread of Christianity and Christian based NGOs such as World Vision, CCF and Catholic Mission are weakening this source of income.

Most of the households in Kampi Turkana (7 %) have not ventured into business. This could be because business, however petty, demands a substantial amount of capital beyond what most of Kampi Turkana households earn. A few households that run kiosks in the area are based on credit from the CCF. The NGO established a department of small enterprise development in 1994, in which loans of up to 10,000 were secured for business management (CCF Marigat office, personal communication). This project was however, closed down two years later due to a large number of defaulters. But there is hope that this source of income will improve. World Vision has started financing micro-enterprise whereby loans of up to Kshs. 15000 are given to a group of five people. The loan has to be repaid with a 20% interest (Christine, W.V. Marigat, personal communication). Its effectiveness in Kampi Turkana is however constrained by the vast area of coverage for WV Marigat office compared to its resources.

Though seasonal, water vending could have been one of the major sources of income. A twenty-litre container of water sells for ten Kenya shillings. The water is fetched from Endao boreholes, Marigat River or Ministry of Water Resources Marigat station. The

water gets ready market for the town dwellers where water shortage is prevalent and to the women headed households who brew busaa (busaa demand a lot of water in the preparation process). This source of income (water vending) is not well developed, as it demands muscular wellbeing to ride the bicycle. A bicycle is also expensive to buy.

One would perhaps expect charcoal burning to be prevalent, taking into account the abundance of the Acacia vegetation in parts of Kampi Turkana and its neighbourhood. Due to the strong environmental awareness in the study area, particularly among the Tugen community in the neighbourhood, this has not been the case (charcoal burning). A tree is burned for charcoal only after "falling from heavy winds or natural death" (Musa cheptoo, personal communication). A few however manage to burn regardless of the awareness.

Farming is restricted to very few households who can afford leasing land from the Perkerra scheme at a fee of six thousand Kenya shillings per acre. On the other hand, although there is abundance of resources to make handcraft, this industry is rarely exploited since there is barely any ready market. Most of the intended customers (tourists) are said to get the same artifacts cheaply at Kampi Samaki, which is close to Lake Baringo tourist destination.

A higher proportion of livestock kept in Kampi Turkana were goats. The environment around Kampi Turkana may be more ecologically conducive to rearing of these small ruminants. This is true since vegetation is mainly composed of acacias interspersed with *Prosopis chilensis*. It could also be an issue of income since most of the livestock is

bought. Goats are cheaper to stock than cattle. On the other hand, cattle demand more attention than goats. The latter can be left to wonder in bush and feed on their own.

While traditional Turkana eat food with high proteins as noted by Institute of African Studies (1985), here the cereal meals seem to dominate. Kampi residents switch from *Ugali* to *Githeri* as major meals. The adoption of this diet can be explained partly by relief influence where maize is mostly given. For instance, Daily Nation: 8/1/2000 reported that "the Turkana people are given two meals a day, while those who are stronger are given rations of maize, maize floor, cooking oil and in some cases rice. The Turkana have learned to like the new taste of food previously foreign to them". Another explanation could be that it is cheaper to buy cereal meals than proteinous animal products in the study area.

4.1.2.5 The Socioeconomic Differences Between Kampi Turkana, Kampi Wakulima and the Outside Camp

The results show the social economic differences namely, total income, household size, number of livestock and basic needs.

The analysis of variance (ANOVA) for level of education revealed a significant difference across the three residential quarters ($P < 1\%$). Kampi Wakulima has the highest mean number of years spent at school by the household heads (7 years) followed by Outside Kampi Turkana (4 years) and Kampi Turkana (2 year) in that order (Table 52).

There is also a significant difference ($P<1\%$) in the number of livestock owned between Kampi Turkana and the other two camps. The mean number of livestock owned by Kampi Turkana households is quite low (mean = 0.4). The household size is significantly different ($P<1\%$) between Kampi Wakulima and the other two camps. Kampi Turkana has the lowest household size of 4.6 people. The total income is quite significantly different ($P<0.01$) between Kampi Turkana and the other two residential quarters. The mean annual income for Kampi Wakulima of Kshs. 63,909 is three times that of Kampi Turkana, which has a mean of Kshs.17, 251(Table 52).

Table 52: Mean values for socioeconomic status

	Annual income	Household size	Number of livestock	Level of education
Kampi Wakulima	Kshs. 63,909a ⁸	6.6a	3.3a	7.333a
Outside	Kshs. 41,915a	5.4b	2.9a	3.980b
Kampi Turkana	Kshs. 17,251b	4.6b	0.4b	2.438c
p-value	0.0001	0.0001	0.0001	0.0001
C.V	10.9%	25.3%	22.6%	9.95%

Kampi Turkana households have lower annual incomes than other residential quarters. Table 53 shows that a higher proportion of households in Kampi Wakulima and Outside Kampi Turkana has farming, business and permanent jobs as their sources of income. These are known to be leading sources of income in the study area. A farmer contracted by Kenya Seed Company for example can get up to Kshs. 60,000 per acre per season. Conversely, higher proportions of Kampi Turkana households are engaged in wage

labour (mostly employed by farmers in Kampi Wakulima), local brewing and ballast making. These sources of income fetch little money and this explains the difference in total income.

Table 53: Proportion of households in various sources of income categories across the residential quarters

Source of income	Residential quarter		
	Kampi Turkana	Kampi Wakulima	Outside camp
Water vending	4.8	0.0	6.0
Farming	4.8	65.7	60.0
Handcraft	1.9	0.0	0.0
Local brewing	48.6	0.0	12.0
Charcoal burning	5.7	0.0	20.0
Business	6.7	13.3	8.0
Ballast making	12.4	0.0	0.0
Temporal job	88.6	33.3	68.0
Permanent job	1.0	16.2	8.0

There is no significant difference between Kampi Wakulima and outside Kampi Turkana in the number of livestock but the two are significantly different ($P<0.01$) from Kampi Turkana. This could be attributed to the fact that they have access to pasture and that their level of income is high enough for investment in livestock as compared to Kampi Turkana.

⁸ Means with the same letter are not significantly different at 5% level using Duncan Multiple Range Test(DMRT)

The one way ANOVA shows a three-way difference in level of education. Kampi Wakulima household heads are more educated than outside and in Kampi Turkana respectively. This can be attributed to the fact that most of the Kampi Wakulima household heads are not pastoralists since pastoralism is known to have a negative impact on education. Kampi Wakulima residents also have better incomes to afford education expenses than the other two camps.

Kampi Wakulima showed a significant difference ($P < 0.01$) in household size from the other two residential quarters. This could be because the households are well established, live with several relatives and even have workers.

4.2 FOCUS GROUP DISCUSSION FINDINGS

The following are findings of the focus group discussions with the aim of satisfying objective five and giving supportive information for survey results for the various other specific objectives. The section is divided into five parts: Part one describes the historical development of the camp; Part two addresses reasons for pastoralists coming to Kampi Turkana; Part three addresses the problems faced by the residents of Kampi Turkana; Part four employs the pairwise matrix to rank the most important sources of income in Kampi Turkana while part five looks at the impacts of Kampi Turkana on its neighbourhood and the possible solutions.

4.2.1 Historical Development of Kampi Turkana

When tracing the historical development of Kampi Turkana, the Perkerra irrigation scheme automatically emerges as the starting point. Started in 1956 by the colonial

government, labour from the Mau Mau prisoners of the time was widely used in the digging of trenches and other manual chores. Another important reference is the Abattoir at Marigat town, which was started in 1956. The abattoir was to exploit the donkey resources for their bones and hides, the former most probably for use in the glue industry. Manual labour was to be needed at the time. This could be secured easily and cheaply from the Turkana people. Table 54 shows the major events in the development of Kampi Turkana.

The first Turkana people to settle in Marigat were labourers in the abattoir and stayed in what was a prison in the colonial era of 1955-1958. The abattoir was closed in 1962 forcing the Turkana to seek for job opportunities elsewhere. With the Mau Mau freed and the prison closed down, jobs were readily available in Perkerra scheme.

In 1972, two Turkanas namely, Loriko and Lokwamegen arrived in Marigat town and humbly requested for a place to put up temporarily. The request, to the Tugen community, was kindly received and obligingly accepted and the two established a temporal habitat at what is the present Kampi Cotton village of Kampi Turkana. No sooner had the two been settled than Lokwarkwan, Lokwakaberi and Okaraboi, followed suit. They readily found casual jobs in Perkerra irrigation scheme. It is said (personal communication) that poverty among the Turkana in the north was high at the time.

In 1972 when the Tugen saw the number of immigrant Turkana increasing, they planned to end their hospitality forcibly, but the chief at the time convened a meeting and pleaded

with his people to allow the Turkana to stay a little longer. His point of argument was that their labour was highly needed at the scheme, which was meant to develop the Tugen community. By 1976 more than ten households had been established and organized into Kampi Cottton village. The name could have been adopted from cotton farming in Perkerra scheme at the time.

Tension was escalating between the two communities by 1980 as the households increased to over 100, with the establishment of Kampi Kapedo (also a village in Kampi Turkana). The influx was attributed to the 1979 drought and cattle rustling of 1981 in Turkana district. Another meeting convened by a chief and a councilor bore fruits as tempers cooled on the Tugen side. The two leaders asked the Turkana community to start making ballast in the hope of improving their level of income. This was probably a strategy to get cheap construction material from the community. With the additional source of income, the community started acquiring livestock (especially goats), engaged in illicit brewing and built better shelter. By 1984 the community had started business ventures. This was interpreted by the Tugen community as a sign of permanent settlement (see Table 54).

Table 54: Major events in the development of Kampi Turkana

Year	Event
1955	Perkerra irrigation scheme established. Mau Mau convicts used to dig trenches for irrigation purposes.
1956	Donkey abattoir starts processing.
1962	Donkey abattoir closed.
1972	Two Turkanas arrive at Marigat town from Turkana district. They put up at the present Kampi Turkana.
1976	There are about ten households in what is the present Kampi Cotton (a village in Kampi Turkana.
1980	Major meeting convened by chief Raimond Tomno and councillor Solomon Muge to cool tensions between the Tugen community and Kampi Tukana.
1984	Turkana community start to engage in business.
1990	The Turkana adopt the rite of passage of the Tugen (circumcision)-original Turkana do not circumcise.
2001	There are five villages namely; Cotton, Slaughter, Kapedo, Bura Chai and Ngo’r Kopir in the order of establishment.

The most recent village, *Ng’or Kopir*, is said to have been established at around 1991/92. This is attributed to the ethnic animosity and cattle rustling which affected Turkana district once again. By this time children born by the early immigrants had matured and even married. One interesting aspect was the adoption of the rites of passage practised by the Tugen community, i.e. circumcision. This is contrary to the Turkana traditions where the core of the ceremony is the spearing of a male animal by an initiate (Institute of African Studies, 1985). Incidences of crime especially livestock theft became significant at this time.

At present there are five villages namely: Cotton, Slaughter, Kapedo, Bura Chai And Ng'or Kopir in the order of establishment. The camp has an estimated 350 households with a total population estimated at 1600 people (calculated from the survey results).

4.2.2 Reasons for Coming to Marigat (Kampi Turkana)

In the pastoral setup, Turkana people often build a strong social network (Institute of African Studies, 1985). The relations are to assist a family in times of disaster. Since all the people were hard hit by drought, assistance was to be sought from outside relations. In this context, while drought and insecurity were the major pushing forces, relations who had earlier settled in Marigat became the main pulling force. For instance Daily Nation: 8/1/2000 reported that "in keeping with Turkana traditions, the residents of Kaaleng (In Turkana district) have started receiving and hosting their less fortunate counterparts from areas where relief food is not being distributed". Of the participants in the focus group discussion 67 % voted for this as the major reason, the other being job availability in Marigat town (Table 55).

Table 55:Focus Group Discussion reasons for coming to Marigat/Kampi Turkana

Reason	Vote	%
Seek assistance from relatives	4 out of 6	67
Look for wage employment	2 out of 6	33
Total	6 out of 6	100

4.2.3 Present Status (Problems and Existing Mitigation Measures)

Urban migration has a number of consequences on receiving areas and the urban migrants. According to Andreau (1977), there are often threats to housing, sanitation, health and recreational facilities. Increased population of the immigrants leads to open unemployment, urban poverty and crime and creates potential for social unrest.

Among the problems faced by inhabitants of Kampi Turkana were listed as lack of steady employment, fear of evacuation from their temporary settlement and child education, medical problems and lack of clean water. When asked to rank these problems according to their importance, the fear of evacuation from the temporal settlement was ranked first with a score of 4 on the pairwise ranking matrix (Table 57). The question of land is very sensitive. Efforts to secure land benefited only ten households, when land was being allocated to the needy by the government in the Mochongoi area of Baringo district.

Lack of basic education for their children is another important problem in this area. The destitute families cannot afford the levies demanded in primary school education. This has attracted Non Governmental Organizations such as the Child Christian Fund, World Vision International And The Catholic Mission which offer basic needs for the most needy households within the camp. For instance World Vision gives direct sponsorship to some children in terms of health and education. CCF has an education programme that sponsors 80 students and families to meet basic needs. The Catholic Mission runs a primary school in the area.

Lacking any other effective and reliable means of getting what they want, the people have organized themselves to compete for external resources. There is a women’s group which seeks to address the needs of women and their households. Self-help contributions of money and materials are also substantial in the overall context of mitigation measures. Table 56 shows current problems and existing solutions

Table 56: Present status of Kampi Turkana (problems and existing solutions)

Problem	Existing solution
Lack of job	Other sources of income such as ballast making, handcraft by women, water vending, local brew and charcoal burning.
Temporal settlement	Registered for Mochongoi land, which was to be allocated at a fee. Only ten people settled.
Child education	CCF, WV and CM sponsors child education. Also village organizes “harambee” for some bright students. In collaboration with CCF the community is establishing a bursary fund.
Medical care	CCF assists very poor households. Assist each other to offset hospital bills.
Water problem	Micro-roof catchment for those whose roofs are made of corrugated iron sheets.

A method of ranking problems, adopted from PRA programme Egerton University (2000) is applied to Kampi Turkana as given in Table 57. Members of the discussion group vote by show of hands and the item that gets the largest count is registered e.g. between temporal settlement and lack of job in Table 57, the former got the majority vote of 4. The process is repeated for each pair until the entire matrix is completed. The final

scoring is by counting the number of times the particular problem, solution of activity recurs on the chart.

Table 57: Pairwise ranking matrix for problems faced by Kampi Turkana residents.

Problem	LJ	TS	CE	WS	MP	Score	Rank
1. Lack of job (LJ)	■	TS	CE	WS	MP	0	5
2. Temporal settlement (TS)	■	■	TS	TS	TS	4	1
3. Child Education (CE)	■	■	■	CE	CE	3	2
4. Water Shortage (WS)	■	■	■	■	MP	1	4
5. Medical Problem (MP)	■	■	■	■	■	2	3

4.2.4 Sources of Income

There are three broad means by which pastoralists can mitigate or cope with risks and uncertainties. These are increased access to information; diversification of assets and income; and increased access to external resources. Most of the activities in Kampi Turkana are subsistence-oriented production, primarily intended to satisfy their food requirements. Lack of better sources of income pose conditions to which they must adopt through whatever sociocultural resources they control. This is enhanced by the ability of the Turkana to extract the maximum potential from all available resources (Institute of African Studies, 1985). Their livelihoods are derived from their environment.

Had it not been for the Perkerra irrigation scheme, the lives of these people would have been more miserable than they are now. Casual labour in the scheme is rated the leading

source of income among the inhabitants (see Table 58). Kampi Turkana inhabitants, to earn a living, have exploited shortage of clean water in Marigat town. Water vending is one of the major sources of income. It is possible that most water venders who are mostly youths do not remit money from this activity to the household kitty. The water is either collected from river Perkerra, a number of springs along this river or from the Ministry of Water Resources.

Perhaps the most interesting source of income is the brewing and selling of illicit brew. Although this is illegal business, the Kenya Police rarely visit this village with the intention of arrest. Most customers are drawn from, town residents. This source of income was also found significant in the survey. A baseline survey carried out by JICA completely overlooked this significant, though illegal source of income (see JICA, 2001). The oversight could have been as result of lack of probing since most of them hide such information, as the beer is illegal. Beer taking and singing occupies this people, as from noon, on a daily basis.

Table 58: Pairwise Ranking Matrix for Sources of Income

Source of Income	MW	BM	HC	WV	LB	KB	CB	Score	Rank
Scheme labour (MW)	■	MW	MW	MW	MW	MW	MW	6	1
Ballast (BM)	■	■	BM	WV	LB	BM	BM	3	4
Handicraft (HM)	■	■	■	WV	LB	KB	CB	0	7
Water Shortage (WV)	■	■	■	■	WV	WV	WV	5	2
Local Brew (LB)	■	■	■	■	■	LB	LB	4	3
Kiosk Business (KB)	■	■	■	■	■	■	KB	2	5
Charcoal Burning (CB)	■	■	■	■	■	■	■	1	6

4.2.5 Impact on the Neighbourhood

Problems caused by presence of Kampi Turkana include the following:

- Destruction of the environment, i.e. they cut trees for construction of their houses, charcoal burning and for use as firewood and cutting trees in ceremonial places, e.g. wedding places for the Tugen community in Kiwanja Ndege and Sirinya village.
- Pollute canal water, which is used both domestically, for irrigation purposes and watering livestock. Wash clothes etc in the canal and sometimes use it as a toilet. This causes waterborne diseases.
- They don't build toilets and since their area of settlement is devoid of trees they use bushes and ceremonial places in the neighbourhood as toilets.
- They steal neighbours' goats, sheep and chicken with impunity. Chicken are mostly stolen during an auction day at Marigat. They also steal clothes and other domestic items.

- Violent robbery especially in the late hours for people going home from the market
- Want to impose leadership to the native community.
- Their livestock destroy farmers' crops especially in L3 and Kampi Wakulima with impunity.
- Alcoholism is rampant. The youths attack and rape young girls from the neighbourhood.

Most of these negative impacts are attributes of deviance. According to Leslie et al (1973), people embark on deviant careers once their behaviour is publicly labeled so by the society. This happens to be the case with the pastoral Turkana of Kampi Turkana. From the view of the neighbourhood, anything wrong or any petty crime is always blamed on Turkana. This makes them seasoned deviants. On the other hand the present social system has failed to provide the individuals of Kampi Turkana with clear-cut guides to action. These are people who have a pastoral history where theft is considered an important source of wealth. The norms in the new society are therefore contradictory. This cultural contradiction makes it hard to have a society with homogeneous behaviours where norms are uniform.

Benefits of Kampi Turkana to its Neighbourhood

They are useful as manual labourers for farmers contracted to Kenya Seed Company in the Perkeria irrigation scheme. However, this does not benefit Sirinya and Kiwanja Ndege villages. They also provide cheap ballast to town dwellers for the construction of permanent homes. One "debe" of ballast goes for only Kshs. 15.00. The Kampi Turkana

residents also supply charcoal to town dwellers who uses it as a source of domestic energy.

What Neighbours Have Been Doing to Mitigate these Problems

They report cases to police for action and also organize meetings with them and government officials to reduce tensions. However, the efforts have been futile since the problems seem to be worsening. The police have also failed to control them. During the research period, one youth attacked a police officer who had tried to question him.

Suggested Lasting Solution

The results in table 59 show what the Turkana people wish to be done as an attempt to save them from destitute life.

Table 59: Pairwise matrix for suggested lasting solutions

Solution	FE	SM	CW	MF	Score	Rank
Free Education (FE)		SM	FE	MF	1	3
Permanent Settlement (SM)			SM	SM	3	1
Clean Water(CW)				MF	0	4
Micro-financing(MF)					2	2

Acquisition of land for permanent settlement was ranked as the most critical issue that has to be addressed by anybody or organization willing to help these people. The general feeling is that, without land ownership any other solution or development activity can not

be effectively implemented as people fear eviction at any time. This might also explain why they don't invest in long term projects including education and training .The principle is how to get quick money for survival.

The Turkana people have started to develop interest in business. Quite a number have already ventured into business and are doing quite well. However, most complain that they don't have access to finance/ loans to boost their businesses such that there can be fair competition with other businessmen. Micro-financing was ranked as priority intervention number two with a score of two (see Table 59).

However, the second focus group discussion, which drew participants from the outside community, believe that eviction is the only solution. If the government does not act on the community's request the native community might plan to evict them through a court of law. This is because the land is their property under the community title deed of which the Turkana are not recognized.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Contrary to reports that Kampi Turkana started in 1980 after the 1979/80 drought, its history is traced back to as early as 1950s during the colonial era. The main factors leading to migration of pastoralists into Kampi Turkana are cattle rustling and ethnic animosity. Low level of household income is one of the main factors influencing destitution in Kampi Turkana. Poverty is also attributed to lack of livestock. Households without livestock tend to lead a destitute life. Lack of formal education is also a major cause of poverty in Kampi Turkana. Without education, it is difficult to get better paying jobs besides casual jobs which are lowly paid and not reliable.

Strategies developed by Kampi Turkana residents to improve their sources of income are: wage labour, ballast making, charcoal burning, local brew making and selling, water vending and farming. The environment around Kampi Turkana may be more ecologically conducive to rearing of goats. This explains why a higher proportion of livestock kept are goats. The simplest and more important option is wage labour. In terms of diet, the Turkana have started to have grain /*Ugali* as the staple food. This could be the only option since protein diet is relatively expensive in the town setup.

Kampi Turkana is quite poor compared to other residential quarters. They have low levels of income, few livestock and do not satisfactorily meet the basic needs of food, clothing and shelter relative to the other communities in the neighbourhood. Although they

provide cheap labour and construction materials to the neighbourhood, vices accompanied by these are destruction of the environment, theft and other acts of felony.

5.2 RECOMMENDATIONS

The following recommendations are two-fold: those on what ought to be done in the sending areas to curb emigration and those that should be done to alleviate poverty in Kampi Turkana and reduce impacts on the surrounding community.

Recommendations for the sending areas:

Curb Insecurity.

Cattle rustling and ethnic animosity are constraints to pastoral economy as a whole. Security is a constraint to livestock management, cattle trade and even relief food distribution. It has to be addressed as an imperative issue, otherwise it is fast replacing famine as the main hazard in Turkana.

The government should work in conjunction with other countries such as Ethiopia, Sudan and Uganda to stop cross border influx of firearms in areas prone to cattle theft. Any initiative by the government to disarm one pastoral society should be done in hand with other pastoral areas both in Kenya and the neighbouring countries so that no advantage is taken by other societies.

Secondly, sorting out conflicts is important for risk management. Churches and other organizations should initiate peace and reconciliation meetings to stamp out ethnic animosity.

Drought Preparedness

This includes timely livestock sales before crises and saving revenue for alternative investment or to buy grain when prices are low. The revenue can be banked through developed community based cooperatives. Innovative risk taking such as development of slaughter slabs where meat can be dried and stored for use in bad months of the year should be undertaken. In other words livestock marketing systems must be functional.

Construction of abattoirs in strategic places of the district would ensure the Turkana do not lose their livestock during drought and that there is a ready market. Industries dealing in hide and glue production would introduce a dependable money economy in the district. Income from sale of hides can be put into useful community projects. It will also be important to institutionalize drought monitoring that should also be in charge of early warning systems to prepare residents for the challenges of the future.

Education and Awareness

Education should be enhanced to prepare residents for the challenges of the future. It has been observed that most of the emigrants are illiterate hence do not compete well for well-paying job opportunities. Efforts should be made to inject calls for informal education. It will be useful to communicate research findings to the affected communities. This is in view of the fact that a lot of research has so far been done and yet solutions are still at lacking. It's also important to transfer positive development experiences to these areas.

Investment in Non-Pastoral Economic Activities

Efforts should be made for these pastoral communities to promote investment in non-pastoral economic activities to widen the range of desirable employment.

Recommendations for Kampi Turkana

- Encourage self-help activities through participation needs assessment. To stimulate and strengthen peoples' participation in their own development activities in order to achieve substantial development.
- Since the major economic activity in the research area is irrigated farming, Kampi Turkana residents should be given equal opportunities in addition to loans for the acquisition of land in a scheme for agricultural activities.
- The government should rethink its resettlement policies since the problem of land is a critical issue. The government should give permanent residence to the immigrant pastoral community.
- Re-evaluating potential for sustainable financial systems for various market activities and income opportunities produced from the Kampi Turkana such as handcraft, and ballast. This should benefit from developed marketing infrastructure and institutions to reduce price volatility and transactions costs. The department of small enterprise development initiated in 1994 by C.C.F failed because it did not develop a sustainable channel of recovering loans. An attempt should be put in place such that the loaning department is also directly in charge of marketing small enterprise outputs such as handcraft and ballast or at least link with a developed marketing agency. This will ease loan recovery.

- Since lack of education has been identified as one of the leading factors contributing to destitution, more funds should be directed towards promoting the education level of the immigrant pastoral community beyond primary education. With better education, the immigrant community will be able to compete equally with other people for better paying employment.
- There is need for networking of NGOs which contribute to the care, development and education of needy families such that activities are not duplicated while success and failures in various initiatives are shared. For instance World Vision need to learn from the failure of CCF to offer sustained loans. The Department of Social Services, Marigat has been trying to play this role without much success. But some NGOs are not open (Chesang' DSS Marigat, personal communication) to share experiences.
- There is need for job creation activities in Marigat to accommodate the ever increasing number of unemployed.

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APPENDIX 1

MEASUREMENT OF VARIABLES

1. Gender range 1 to 2

*Female =1 *Male =2

2. Education level

This was measured in terms of years spent at school

Scale: 0 to 16

Assumption: that there was no repetition in classes for the respondents

3. Pastoral risk

An index was constructed using four indicator variables

Scale: four to eight

*Drought/famine experience yes=2 no=1

*Cattle rustling experience yes=2 no=1

*Ethnic animosity /clashes yes=2 no=1

*Livestock diseases yes=2 no=1

Table 60: Inter-Item Correlation matrix for variables making up pastoral risk index

	Drought	Cattle rustling	Ethnic animosity
Drought			
Cattle rustling	0.276**		
Ethnic animosity	0.245**	0.911**	
Livestock diseases	0.642**	0.499**	0.485**

**=P<. 01

Internal Reliability, Alpha = 0.901

The inter-item correlation matrix shows that there is a strong positive correlation (r=.911) significant at p<0.001 between cattle rustling and ethnic animosity.

The index was broken into three categories for analysis by crosstabulations

Range	Description	score
4	No risks	1
5	Low risks	2
6 to8	High risks	3

4. Level of Income

The variable range from 2,880 to 425,000 Kshs. per year with a mean of 40,903kshs. This was reduced to a scale of 1 to 9 for analysis

Range	scale
Lowest through50, 000	1
50,001 to 100, 000	2
100,001 to 150,000	3
150,001 to 200,000	4
200,001 to 250,000	5
250,001 to 300,000	6
300,001 to 350,000	7
350,001 to 400,000	8
400,001 through highest	9

5. Household Size

The variable ranged from 1 to 20. It was broken into five groupings for analysis by crosstabulation

Range	Description	Score
1 to 4	very few	1
5 to 8	few	2
9 to 12	average	3
13 to 16	many	4
17 to 20	very may	5

6. Number of livestock

This variable was computed by summing up the number of cattle and the standardized numbers of sheep and goats. To standardize the number of goats and sheep/ they were multiplied by 0.2 to get an equivalent of one head of cattle. The variable ranged from 0 to 39.

It was broken down into five groupings for analysis by crosstabulation

Range	Description	Score
Lowest through 8	very few	1
9 to 17	few	2
18 to 26	average	3
27 to 35	many	4
36 through highest	very may	5

7. Age

The variable ranged from 17 to 79

It was reduced to a scale of 1 to 7 for analysis

Range	Score
Lowest through19	1
20 to 29	2
30 to 39	3
40 to 49	4
50 to 59	5
60 to 69	6
70 to 79	7

8. Destitution index

This variable was measured in terms of basic needs. Seven indicators were employed to construct the index. The index ranged from a score of 7 to 34. The higher the score on destitution index indicate a greater degree of it. A household with a score of between 25 and 34 is regarded as destitute while that of 7 to 24 is regarded as not destitute.

* Number of meals scale : 1 to 5

Description	Score
More than three times	1
Thrice	2
Twice	3
Once	4
None	5

* Sources of Food

Own farm	1
Buy	2
Relief	3

* Rate of Cloth Acquisition

Every month	1
Every after two months	2
Twice a year	3
Once a year	4

* Source of Clothing

Family made	1
Buy	2
Relief	3

*Roof Construction Material

Concrete	1
Tiles	2
Asbestos	3

Iron sheets	4
Makuti	5
Tin	6
Grass	7

*** Floor Construction Material**

Tiles	1
Cement	2
Wood	3
Earth	4

*** Wall Construction Material**

Stone	1
Brick/block	2
Mud/cement	3
Ironsheets	4
Wood only	5
Tin	6
Mud/wood	7
Grass/reeds	8

Table 61: Inter-item correlation matrix for destitution indicator variables

	Floor	Wall	Roof	S. Cloth	Ac. Cloth	S. Food
Floor construction material						
Wall construction material	0.292**					
Roof construction material	0.330**	0.657**				
Source of clothing	0.088	0.145*	0.149*			
Rate of clothing acquisition	0.115	0.070	0.191**	0.122*		
Source of food	0.347**	0.262**	0.298**	0.166**	0.287**	
Number of meals	0.308**	0.353**	0.418**	0.224**	0.347**	0.442**

*=P<.05, ** = P<.01

Internal Reliability, Alpha = 0.746

There is a fairly strong correlation between wall construction material and roof construction material($r=0.654$). For instance many households that had iron sheets for roofing used the same material for the wall.

9. Sources of income

This variable was computed by summing up scores for permanent job, casual job, water vending, farming, handcraft, local brewing, charcoal burning, business, and ballast making each of which had a score of 1 for denial and 2 for accepting each as a household source of income. The variable ranged from 9 to 18.

APPENDIX II

QUESTIONNAIRE

1.Name of respondent _____

2.Age_____years.

3 Gender

1 female

2 male

4. Up to which level of formal education did you reach? _____

5.Residential quarter 1 Kampi Turkana

2 Kampi Wakulima

3 Outside Kampi Turkana

URBAN MIGRATION

6.Where were you born?_____

7.Where were you living before the present residence?_____

8.When did you move to the present residence?_____

PASTORAL RISKS

9.What was your occupation in your previous residence?.

1 Pastoralist

2 Crop farmer

3 Businessman [woman]

4 Other: Specify_____

10.Did you experience the following in your previous residence?

1 Drought/famine. Year_____

2 Cattle rustling. Year_____

3 Ethnic animosity/ clashes Year_____

4 Livestock diseases Year_____

11. Did you move to your present residence because of the above reasons?

1 Yes

2 No

12. If no in [8] above please specify the reason for your coming to the present residence?.

URBAN HOUSEHOLD

13. How many people including yourself live in this household? _____

14. What is the relationship between you and other members of the household?

1 Kinship

2 Spouse

3 Friendship

4 Employer- servant

15. How many were you in this household?

1 10 years ago _____

2 5 years ago _____

16. Please explain the difference/no difference in household size for the past 10 years

SOURCES OF INCOME

17. How many members of this household are permanently employed? _____ specify their job _____

18. How many members of this household are temporarily employed? _____ specify their job _____

19. How many members of this household are without job? _____

20. Apart from wage/salary income what are other sources of income for this household? _____

NUMBER OF LIVESTOCK

21. Does this household own any livestock?

1 No

2 Yes

22. IF yes how many?

Type Of Livestock	Number
Camel	
Cattle	
Donkey	
Sheep	
Goats	
Others	

23. How did this household acquire the mentioned livestock?

- 1 Bought 2 Inherited 3 Gift
4 Loaned 5 Other

BASIC NEEDS

Food

24. How many meals does this household normally have per day?

- 1 None 2 One 3 Two
4 Three 5 More than three

Which of the following forms the main diet of this household?

25. Breakfast

- 1 Tea/accompaniment 2 Tea only
3 Porridge/accompaniment 4 Porridge only
5 Nothing 6 Other: Specify_____

26. Lunch

- 1 Ugali/milk/meat/vegetables/ beans 2 Milk only
3 Porridge/Tea only 4 Potatoes /Cassava
5 Nothing 6 Other: Specify_____

27. Supper

- 1 Ugali/milk/meat/vegetables/ beans 2 Milk only
3 Porridge/Tea only 4 Meat only
5 Porridge/Tea with accompaniment 6 Potatoes /Cassava

7 Nothing

8

Other:

Specify _____

28. What is the main source of food for this household?

1 Buy

2 Own

3 Relief

4 Other: Specify _____

Clothing

29. How often does this household acquire clothes?

1 Every month

2 Every after two months

3 Twice a year

4 Once a year

5 Uncertain. Why? _____

30. How do you acquire the above

1 Buy

2 Relief

3 Family made

4 Other: Specify _____

Shelter

31. How many dwelling units does this household own? _____

32. How many habitable rooms does[do] these[this] dwelling unit[s] contain? _____

What is the dominant construction material of main dwelling unit?

33. Roof

1 Corrugated iron sheet

2 Tiles

3 Concrete

4 Makuti

5 Asbestos sheets

6 Grass

7 Tin

8 Other: Specify _____

34. Wall

1 Stone

2 Brick/block

3 Mud/wood

4 Mud/cement

5 Wood only

6 Corrugated iron sheet

7 Grass/reeds

8 Tin

9 Other: Specify _____

35. Floor

1 Cement

2 Tiles

3 Wood

4 Earth

5 Other: Specify _____

Water

36. What is your main source of water?

1 Pond

2 Dam

3 Stream/river

4 Spring

5 Well

6 Borehole

7 Piped 8 Tank 9 Other: specify_____

37. How adequate is your main source of water?

- 1 Very adequate 2 Adequate 3 Fairly adequate
4 Not adequate 5 Not adequate at all

LEVEL OF INCOME

38. How much income does this household receive from paid job per year?
Kshs_____

39. How much income does this household receive from other sources per year?
Kshs_____

40. What is the total income of the household per year? Kshs_____

DESTITUTION

41. Place the wealth status of this household

- 1 Very wealthy 2 Wealthy
3 Moderately well-off 4 Poor
5 Very poor.

42. In relation to Kampi Turkana , how can you grade this household?

- 1 Very wealthy. 2 Wealthy. 3 Moderately well-off
4 Poor 5 Very poor