FACTORS CONTRIBUTING TO CHANGES IN MODES OF SUBSISTENCE AMONG PASTORAL SOMALI COMMUNITY OF TARBAJ DIVISION IN WAJIR DISTRICT, KENYA

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A Research Project Submitted to the Department of Peace, Security and Social Studies in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Arts in Community Development and Project Management of Egerton University

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DECLARATION AND RECOMMENDATION

Declaration

This research project is my original work and has not been presented, either in part or full for examination for an award of any certificate or degree in this or any other University.

Signature..... Date 12/10/2012

Alinur Adan Mohamed

AM17/1851/07

Recommendation

This research project has been submitted for examination with my recommendation as the University Supervisor.

Signature..... Date 15/10/2012

Dr. Kibet A. Ngetich

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DEDICATION

The research project is dedicated to my parents Adan Mohamed and Hajira Yusuf, whose love, care and guidance made me what I am today.

ACKNOWLEDGEMENTS

I would like to acknowledge the contribution of my supervisor Dr. Kibet A.Ngetich for his wise and instrumental guidance in this study to successful completion. Special thanks go to my parents, for investing in my education. It would be ungrateful of me if I did not acknowledge the great contribution, moral support and prayers of my lovely wife, Mrs. Shamsa Hillow and my two sons.

I owe much gratitude to my brother, Bishar Adan for his constant support and encouragement throughout my study at Egerton University. I want to express special thanks and appreciation to my employer Ministry of State for Defense, for having granted me permission to pursue my studies through Armed Forces Continuing Education Program (AFCEP).

ABSTRACT

The Somali community in Tarbaj division are pastoralist whose subsistence has been centred on livestock. This community is however, diversifying to non-pastoral sources of subsistence. The shift to other sources of subsistence has led to changes in their pastoral way of life. The purpose of this research project was to establish factors that have contributed to the changes in the mode of subsistence among the Somali community in Tarbaj division. The target population for this project was sub-clan family elders, chiefs and councilors from six locations. Tarbaj division has 87 Sub-clan family elders, 6 chiefs and 6 councilors. The researcher used purposive sampling to select Sub-clan family elders, chiefs and councilors. Simple random sampling was used to select 26 Sub-clan family elders, 2 chiefs and 2 councillors. This project used both primary and secondary data. Secondary data was obtained from Wajir District Development Plan 2002-2008 while primary data was collected from Tarbaj division by the use of questionnaire, interview guides and focused group discussions. The project was both quantitative and qualitative in nature. This implies that both descriptive statistics and content analysis were employed. Data Analysis was done with the Statistical Package for Social Sciences (SPSS version 17). The findings showed that there has been an observed change in the trend of mode of subsistence among the families of Tarbaj division. The changes included reduced herds due to diminishing land and pastures, enhanced business and formal employment due formal education and micro enterprise initiatives. The project found out that the socio-cultural factors influencing the mode of subsistence included: education, employment, security, population, cultural traditions and religion. The study also revealed that the economic factors that were influencing the mode of subsistence in Tarbaj Division included; restriction of animal movement, supply of relief food, revival of Kenya meat commission, availability of veterinary services, control of market prices, closure of borders, marginalization of regions, demarcation of regions into low and high potential areas. The study also found that environmental factors influencing the mode of subsistence of the people of Tarbaj included land condition i.e. rainfall and vegetation and water accessibility and availability, deforestation due to settlement leading to desertification prompting emergence of alternative forms of subsistence. This project concludes that the main form of subsistence for the people of Tarbaj was livestock farming. The project also concludes that socio-cultural and economic factors were influencing the mode of subsistence in Tarbaj. These changes have had devastating consequences on pastoralists whose mode of production make them particularly dependent on common pool resources.

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LIST OF ABBREVIATIONS

ASAL	Arid and Semi-arid Lands
CBS	Central Bureau of Statistics
DFID	Department for International Development
GoK	Government of Kenya
NGO	Non-Governmental Organizations
PAO	Provincial Agricultural Officer
RoK	Republic of Kenya
MDG	Millennium Development Goals

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The Arid and Semi-Arid Lands (ASAL) represent 80% of Kenya's land mass and account for 50% of the country's livestock but only 20% of its population (GoK, 2005). ASAL are characterized by low and unreliable rainfall and therefore low levels of agricultural productivity. The ASAL are inhabited mainly by pastoralist community who derive their income or sustenance from keeping domestic animals in conditions where most of the feed that their livestock receive is natural forage (Nunow, 2000). Pastoralism is also used in a broader term to include those who grow some crops for food to supplement livestock products. There are two types of pastoralists, the nomadic and transhumant. The nomads are always on the move with their livestock looking for pasture and water. The transhumant pastoralists however have a permanent base from which they move livestock back and forth depending on the season of the years (Roger, 1999). Two major pastoral groups are found in Kenya; the Cushites and the Nilotes. The Cushitic groups include the Borana, Orma, Gabbra, Rendille and Somalis while Nilotic groups comprise the Maasai, Pokot, Samburu and Turkana (Aboud, Fatuma and Milena, 1996).

The Somalis are found in both Kenya and Somalia and are the largest pastoral group in North Eastern Kenya. They are found in nearly all parts of Kenya but are the majority in Wajir, Mandera and Garissa Districts (GoK, 2002). Like other pastoralists, the subsistence of the Somalis particularly those in the rural areas have traditionally revolved around livestock. They mostly rear camels and goats and because of this their diet is mostly made up of products from these animals. Livestock based resources not only dominate the subsistence of Somalis but the household labour allocation, their customs and values. The traditional Somali governance system was based on the clan setup. The community had to adhere to specific set of rules, duties and rights set up by clan elders (Mtuku, 2001). These institutions of elders were responsible for the wealth of the community, resolving conflicts and keeping peace in society.

The pastoral mode of subsistence is today faced with a lot of challenges which are forcing the pastoral community to look beyond pastoral way of life for survival. The challenges facing the pastoral community include but is not limited to; diminishing range land (pasture),

insecurity, poor livestock policies and markets, drought and a degraded environment (Abdulrahman, 2006). Added to these is an ever increasing population and pressure on land due to agricultural activities. Pastoralism is therefore currently undergoing a crisis due to pressure exerted on it from various sources. Consequently the pastoral Somali is increasingly diversifying his source of subsistence into non-pastoral activities like crop farming, cottage industries (mat making and wood carving) formal employment and small scale business (Nunow, 2000). In the process of diversification the pastoral system of subsistence and values is disrupted. A number of issues have cropped up as a result of the shift to other sources of subsistence by this pastoral community. The change in the subsistence is not simply a matter of shifting economic forms and retaining the same societies. It is a fundamental change, not just the means of subsistence but of ideology as well since it requires adjustment in related social and cultural aspects of the lives of the pastoralists.

This project was carried out in Tarbaj division which is one of the thirteen divisions of Wajir district. The division has six administrative locations namely; Mansa, Elben, Sarban, Danbas, Dunto and Tarbaj. The division lies within the Sahelian climatic region which is characterised by dry spells and short rains. The annual rainfall is between 200 – 600 mm and show a bimodal distribution with peaks in April and November (GoK, 2002). The division is inhabited by the Degodia and Ajuran Somali clans. The population distribution is not even, human settlement is higher in Tarbaj and Elben locations. A significant number of communities in the division practice pastoralism, hence their subsistence revolves around livestock (Mtuku, 2001).

1.2 Statement of the Problem

The recent years have seen the reversal of the fortunes of the pastoral community in Kenya. While the Somali remain largely pastoralist the future may not be so bright. Several factors are exerting negative pressure on pastoral way of life. In a study conducted in regions inhabited by the Somalis identified some of the major challenges facing this community. They were of the view that insecurity, drought, scarce water resources and pasture are threats to the pastoral mode of subsistence. Added to these are unreliable markets for livestock products, poor government policies, an ever increasing population and encroachment of pastureland by crop cultivation. These challenges have lead to decreased herd sizes and increasing food insecurity forcing the Somali community to diversify to other source of subsistence into non-pastoral activities.

The Somali community in Tarbaj division are pastoralist whose subsistence in the past was totally dependent on livestock which took care of nearly all their needs. The demands of modern life have forced this community to diversify to non-pastoral sources of subsistence such as crop farming, cottage industries, formal employment and small scale business enterprises. In the process, the economic, socio-cultural set-up of the community as well as their environment has been disrupted. The shift in the source of subsistence has led to changes in their pastoral way of life and because of this; most of them are not able to meet their day to day needs. There are no known studies on factors contributing to changes in mode of subsistence in Somali community in Kenya, a research gap. This study was therefore motivated to determine the factors that contribute to the changes in the mode of subsistence of the pastoral community in Tarbaj division.

1.3 Research Objectives

1.3.1 General Objective

The general objective of the study was to determine the factors contributing to changes in mode of subsistence among Somali community in Tarbaj division of Wajir district.

1.3.2 Specific objectives

The specific objectives of the study were:

a. To assess the changes in mode of subsistence among the Somali community in Tarbaj division.
b. To establish the socio-cultural factors that contribute to changes in the mode of subsistence among the pastoral community in Tarbaj division
c. To identify the economic factors that contribute to changes in the mode of subsistence among the community.
d. To determine the environmental factors that contribute to changes in the mode of subsistence among the Somali community of Tarbaj division.

1.4 Research Questions

The study provided answers to the following questions:

a. Have there been changes in mode of subsistence among the Somali community in Tarbaj division?

b. How have socio-cultural factors contributed to changes among the Somali community of Tarbaj division?
c. How have economic factors contributed to changes in mode of subsistence among community of Tarbaj division?
d. How have the environmental factors contributed to the changes in mode of subsistence among the community of Tarbaj division?

1.5 Justification of the Study

This project was expected to provide information on pastoralism as practiced among the Somali community in Tarbaj division. The project highlights pastoralism as the major traditional mode of subsistence among others like business enterprises, crop farming and formal employment, development in ICT and government relief aid. The findings also show that pastoralism as a mode of subsistence is currently diminishing due several economic, socio-cultural and environmental factors.

This project was also expected to identify and discuss emerging (economic, socio-cultural and environmental) factors that continue to influence the pastoral way of life. They include, improved farming, enhanced business, available information from the ministry of trade during ASK shows, improved communication network, constituency youth enterprise funds (CYES), availability of constituency development fund (CDF) among others.

The study was expected to be of great importance to the pastoral community, the government, non-governmental organizations NGOs and other stakeholders to come up with policies that will help in improving the welfare of the pastoralist and cope with emerging economic, socio-cultural and environmental challenges. For instance, the government and environmental conservation agencies may want to regulate the stocking rates or encourage intensive farming to protect vegetation cover due to pastoralism. This also may require that the government and other stake holders put in place mechanisms to enhance alternative modes of subsistence.

This study can also be used as baseline data by researchers interested in conducting further studies in this area of pastoralism and pastoral community. For instance, there are emerging alternative economic activities like crop farming and formal education. Therefore, there is need for a study to be conducted to establish the viability of these options so that any policies developed for implementation are informed by research. A full study can be done to establish

the impact of local radio station on all other aspects of life of Tarbaj division and neighbouring areas.

1.6 Scope and Limitations of the Study

The research focused on pastoralism and factors that contribute to its changes in that way of life. The study also was limited to Tarbaj division hence the results may not be generalised to other areas with different economic patterns and socio-cultural backgrounds. The interview guides were in English and the interviews had to be conducted in Somali language. This translation process had limitations where the Somali language lacked the equivalent terminology as those in the interview schedule which was in English. Words with a closer meaning in the Somali language were used to interpret the interview schedule.

1.7 Definition of Terms

Change: To replace with another, to undergo transformation, transition or substitution.

Contribute: To help bring about results; act as a factor.

Economic factors: The influence of all that is associated with starting and running a business/commercial enterprise.

Environmental factors: They are the natural determinants of the atmosphere in which people operate.

Factors: Things to consider which might influence or change the results of an activity or event i.e. socio-cultural factors, environmental factors and economic factors.

Mode of subsistence: Refers to the means by which one maintains life.

Pastoralism: People or community which derive their income or sustenance from keeping domestic animals in conditions where most of the feed that their livestock eat is natural forage. In this study pastoralism refers to a nomadic pastoral way of life.

Socio-cultural factors: All that relates to the traditions, beliefs, religion and education of a society.

System: A collection of integrated and related entities that have arbitrarily been designated as being of central interest.

Supra-system: Is the total environment in which the system operates.

Subsystem: A smaller collection of entities that comprise a section or portion of the system that is of central interest.

Elder: An older, influential member of a family, tribe, or community aged above 46 years.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter gives a review of literature relevant to the study. It gives an overview of pastoralism in Kenya followed by pastoralists and nomadic herders. It also presents pastoralism among the Somali community in Kenya, causes and consequences of pastoralist marginalisation, changing fortunes of pastoralism, management and common pool resources, emerging problems in the use and management of CPRs, specific analysis of marginalisation of pastoralists, socio-cultural factors that contribute to changes in mode of subsistence, economic factors that contribute to changes in the mode of subsistence, environmental factors that contribute to mode of subsistence, the drought problem and coping strategies, overcoming issues of mobility and remoteness, theoretical framework and conceptual framework.

2.2 Pastoralism in Kenya

According to Osman (2009) Kenya has recorded twenty eight major droughts, four of which occurred in the last ten years. These droughts have had a devastating impact on people's lives and livelihoods. For the three million pastoralists of northern Kenya, climate change is today's reality. The way of life that has supported them for thousands of years is falling prey to the impact of climate change. It is estimated that close to one million pastoralists have already been forced to abandon pastoralism. The shift from one lifestyle to another among the pastoral community is the basis of this research as it seeks to establish the factors that contribute to changes in modes of subsistence.

Bollig and Osterle (2008) indicate that there are several factors that alter the traditional symbiotic relationship between herdsmen and the ecology of dry lands. The pastoralist community has over a thousand years developed pastoral activities to address the challenge of climate change. However, these methods require investment in appropriate development projects to make pastoralism sustainable. Such projects also rest on changes in national policies as well as enhanced regional cooperation to grant the pastoralists rights over the range lands which cover lands across the national borders of East Africa (Bollig and Osterle, 2008).

Over the last 25 years, there has been a four-fold increase in the incidence of drought, punctuated by unseasonal and intense rains. The Kenyan population is 39 million people and an estimated one million people are pastoralists, herding their livestock in the arid and semi-arid lands that constitute about 75 percent of the country. It is these people who have been hardest hit by the dramatic changes in the weather. Pastoralists have long been adept at surviving in dry conditions, but they rely on freedom of movement to manage the range lands. The pastoralists risk losing their livelihood overnight due to drought, disease and other disasters. They employ different strategies to minimize these risks, which include mobility, herd maximization, diversification, and social strategies. Social strategies are considered critical because they provide not only a safety net during disasters but also contribute to the resilience of pastoral societies by allowing pastoralists to rebuild herds after disasters (PAO, 2004).

Along an 800-kilometre stretch of road to Mandera in northern Kenya, a number of new villages have sprung up. These villages are now hosting the very first 'environmental refugees' in northern Kenya whom, in our language, we call 'pastoralist dropouts'. In this region livelihoods today are almost entirely dependent on emergency food aid (Behnke, 1986). This has resulted from change of mode of subsistence (Abdulrahman, 2006).

Mtuku (2001) posits that pastoralists traditionally move from one area to another in search of pasture and water for their livestock. They move with their livestock in response to drought, so every time there is climatic stress – which manifests itself in failure of the rains – pastoralists will traditionally migrate, following the rains. With the increasing frequency and severity of the droughts, pastoralists' land can no longer sustain them and people have been forced to migrate. Migration comes now in two forms. Firstly, some completely drop out of the pastoralist lifestyle and system, moving to urban centers to seek casual work or to depend on gifts from relatives – the first line of defence against climate stress. Secondly, many move near urban centers to seek emergency food aid. These are people who would traditionally have migrated in search of better opportunities – water and pasture – elsewhere in East and Horn of Africa, particularly to neighboring Somalia and Ethiopia (Mtuku (2001).

But these cross-border avenues are now closed because of the geopolitical situation. People can no longer move where they need to for better opportunities. Their only option is to live on the periphery of urban centers as internally displaced people. Waiting for emergency aid is now their main system of livelihood. There are certainly many other factors that bring about

poverty in the region, that make people vulnerable to these climatic conditions, but the one that is now tipping things over, that is bringing the people's livelihoods to their knees, is climate change (Bollig *et al.*, 2003).

Pastoralism is the branch of agriculture concerned with the raising of livestock. It is animal husbandry: the care, tending and use of animals such as camels, goats, cattle, yaks, llamas, and sheep. "Pastoralism" generally has a mobile aspect, moving the herds in search of fresh pasture and water (in contrast to pastoral farming, in which non-nomadic farmers grow crops and improve pastures for their livestock). The term pastoralism can be used in a more strict form to include only those whose subsistence depend totally on livestock (pure pastoralism) or it may be broadened to all those who depend on livestock and other economic activities in various proportion (Nunow, 2000). The existence of pure pastoralism is doubtful since pastoralists are increasingly involved in activities that generate additional food and income for themselves. The pastoralists are generally nomadic, they move with their animals as dictated by availability of water and pasture for their animals.

Pastoralists are the predominant inhabitants of arid and semi-arid lands of Kenya and are mostly found in the Rift valley and North Eastern Kenya. The pastoralists in these regions fall under two ethnic groups; the Cushitic and the Nilotic groups. The Cushitic groups include the Borana, Orma, Gabbra, Rendille and Somalis while Nilotic groups comprise the Maasai, Pokot, Samburu and Turkana (Aboud, Fatuma and Milena, 1996). The Cushitic groups mainly keep goats, cattle and camels while the Nilotic groups mainly keep cattle and sheep (Moran, 2006).

The Maasais occupy Kajiado, Narok, Trans Mara and part of Baringo district (Roger, 1999). For a long time they have maintained a lifestyle as pure pastoralists (Mugambi, 1991). Their main source of subsistence has been livestock products. The Maasai occupy ASAL areas that experience periodical serious drought and this leads to regular loss of livestock. Drought, decreased pasture and an increase in their population has affected their mode of subsistence from pure pastoralism to agro-pastoralism (Migot-Adhola and Litle; 1981).

The Samburu another pastoral community is found in the area between Lake Turkana and Ewaso Ngiro River. They live in small settlement which typically contain between four to ten stockholders with their families and herds. Irregular and inadequate rainfall in the region results in migration of the population in search of pasture and water. The Samburu mainly

rely on the products of their herds and occasionally supplement their diet with grains (Spencer, 2004).

Several studies have been done focusing on pastoralism; Spencer (2004): did a study that covered two major causes of change in pastoral systems. First is fragmentation, the dissection of a natural system into spatially isolated parts, which is caused by a number of socioeconomic factors such as changes in land tenure, agriculture, sedentarization, and institutions. Second is climate change and climate variability, which are expected to alter dry and semiarid grasslands now and into the future. Migot-Adhola and Litle (1981) did a study on evolution of Policy towards the Development of pastoral areas in Kenya; Mugambi (1991) did a study on the riverside Maasai: Cattle Economy, Draught and Settlement Patterns in Pangani river Valley. None of these studies specifically focused on factors contributing to changes in modes of subsistence among pastoral somali community of Tarbaj Division which this study was motivated to address. The study also addressed other socio-cultural practices affecting the mode of subsistence that is not covered in the above studies.

2.3 Pastoralists and nomadic herders

Pastoralists and nomadic herders number several tens of millions of people worldwide. Located mainly in the dry lands of Africa, South and Central Asia, and the Middle East, they include some of the most vulnerable peoples in the world, though they frequently make an important contribution to national food production. In several countries of the Horn of Africa, a significant proportion of the population – at least 10 per cent – are considered to be nomads or pastoralists. Other countries, such as Nigeria and Tanzania, now refer to new types of nomads, including not only fishing community but also small-scale mining groups, tea harvesters and sugar cane cutters. The mobility of these groups and the remote, often harsh environments in which they live are persistent obstacles to the provision of formal education, and millions of nomadic children remain outside the education system (Oba, 1994). The Somali community in Wajir district is nomadic. It is critical to establish the factors contributing to changes in modes of subsistence among pastoral Somali community. This would help to come up with intervention strategies to help them cope with the harsh environments in which they live in and offer solutions to their persistent obstacles to the provision key opportunities like education and health.

One of the biggest risks for these children is that, with the Millennium Development Goals (MDGs) being based on national averages, such inequalities within countries can be obscured. Absence of reliable data and the resulting invisibility of pastoralist groups within national education statistics render them unseen, uncountable and uncounted. The disconnect probably derives from assumptions that the nomads fit poorly in the imperatives of Education for All and of the MDGs for multiple reasons, which mainly include the scattered and low-density distribution of pastoral populations, their varying degrees of mobility being seen as negative indicators of social development rather than viable livelihood and natural resource management strategies (McCabe, 1990). With a study being done to establish the modes of subsistence among pastoral Somali community, this study wishes to address such misconceptions and prove that nomadic life is viable livelihood.

Declaration is both visionary and pragmatic. As the UNICEF *State of the World's Children* report proposed in 2006, its vision is a world of peace, equity, tolerance, security, freedom, solidarity, respect for the environment and shared responsibility in which special care and attention is given to the vulnerable, especially children. Its pragmatism lies in its central premise: human development and poverty reduction are prerequisites for such a world (Litle, 1997).

Pastoral nomads follow a seasonal migratory pattern that can vary from year to year. The timing and destinations of migrations are determined primarily by the needs of the herd animals for water and fodder. These nomadic societies do not create permanent settlements, but rather they live in tents or other relatively easily constructed dwellings the year round. Pastoralist nomads are usually self-sufficient in terms of food and most other necessities. On the other hand, transhumance pastoralists follow a cyclical pattern of migrations that usually take them to cool highland valleys in the summer and warmer lowland valleys in the winter. Transhumance pastoralists usually depend somewhat less on their animals for food than do nomadic ones. They often do small-scale vegetable farming at their summer encampments. They also are more likely to trade their animals in town markets for grain and other things that they do not produce themselves. It should, however, be understood that not all pastoralist societies can be accurately described as following a nomadic or transhumance way of life. As conditions change, pastoralists usually adjust. This can result in a traditionally nomadic society or some families within in it becoming more or less transhumance in their migratory patterns if the opportunity arises. Likewise, a society that prefers a transhumance way of life

may be forced by circumstances to change to a nomadic pattern for some or all of its livestock (Markakis, 1995).

Again, pastoralism is most often an adaptation to semi-arid open country in which farming cannot be easily sustained without importing irrigation water from great distances. This means that Pastoralism is the most efficient way of using resources in dry land and marginal areas. Pastoralists are often better off than settled farmers during normal times. They can move their animals to follow the rains or take them to established seasonal grazing areas. Nevertheless, they are often the first victims of prolonged environmental stress, such as drought (Homewood, 1993). By understanding the factors contributing to change in modes of subsistence would help to invent alternative viable modes of subsistence among the pastoralist. This would mitigate against the adverse effects of environmental stress, such as drought. In addition, this would also make the nomadic lifestyle sustainable as the nomads would be cushioned against the environment calamities. This is the basis of this study.

Consequently, pastoralism is usually the optimal subsistence pattern in arid and semi-arid areas because it allows considerable independence from any particular local environment. When there is a drought, pastoralists disperse their herds or move them to new areas. Farmers rarely have these options. They suffer crop failure and starvation in the same situation. A pastoral subsistence pattern reduces the risk when there is an irregular climatic pattern. This is especially true of nomadic pastoralism. The animals herded by pastoralists are rarely killed for family use alone. Fresh meat is distributed throughout the community. This is the most efficient use of their animals because they usually do not have the capability of adequately preserving meat. Not only does it ensure that no spoilage takes place, but it also sets up numerous obligations to reciprocate within the community. It promotes cooperation and solidarity (Kerven, 1992). Often the slaughter of an animal is for a ritual occasion so that its death serves multiple purposes. It feeds both the gods and the people. Most pastoralists also get food from their animals without killing them. Horses, goats, sheep, cattle, and camels are milked. In East Africa, cattle herding societies also bleed their animals. The blood is mixed with fresh milk to make a protein rich drink.

Pastoralist societies most often have patriarchy descent patterns and are male dominated. Men usually make the important decisions and own the animals, while women primarily care for children and perform domestic chores. Compared to pedestrian foraging societies, the economic and political power of most pastoralist women is very low. However, the division

of labour is based primarily on gender and age in both foraging and pastoralist societies (Unruh, 1995). By establishing such socio-cultural factors it would be easy link their contribution to changes in the mode of subsistence among the pastoral community which is a key role of this study.

It should be noted, however, that pastoralists often have the same distinct qualities of personality regardless of the region of the world in which they live. Men in a local group tend to be cooperative with each other and aggressive towards outsiders. They usually have the ability to make important economic decisions quickly and to act on them independently. They have a profound emotional attachment to their animals. These typical pastoralist personality traits are related to subsistence success (Kerven, 1992). A pastoralist leader needs to be a man who can direct the movements of his herds and decide on an optimum strategy for using scarce resources without having to first consult others. He needs to make decisions easily and to act on them without hesitation. He needs to be able to take the initiative and to be a leader in aggressively defending his herd by expanding territory at the expense of others. He must always be realistic in his appraisal of the world. To do these things, he needs to have an attitude of self-containment, personal control, and bravery.

Men in pastoralist societies usually acquire prestige and power by being brave and successful in predatory raids as well as by accumulating large herds of animals. Teenagers and young men often are the community's bachelor warriors. This is especially the case among the Maasai, Pokot, and other cattle herders of East Africa. They usually do not begin to acquire their own herds until they become warriors. As a result, there are often great status differences between young and old men. It is the older men who usually marry the young women. Polygamy is a common pastoralist marriage pattern. This was practiced majorly in both pre-colonial and colonial periods (Kerven, 1992).

However, it should be noted that pastoralists today face opposition by most national governments trying to force them to stop their migrations and to reduce the size of their herds in order to prevent over-grazing. These efforts at controlling them have been consistently resisted by pastoralists. They usually see large herds as symbols of wealth and as security against unpredictable climates and periodic epidemics among their animals. Conservation has not been traditionally important since pastoralists migrated over vast areas and could easily move on when grasses and water were depleted. It is likely that pastoralists do not have the same fate as foraging societies. Pastoralism could continue for the near future in poor nations,

especially in Central Asia, because it is generally an efficient, low energy requiring subsistence base for semi-arid regions (Roth, 1996).

2.4 Pastoralism among the Somali community in Kenya

The Somali is one of the multi-state communities in Eastern Africa. Somalia is their main state but they also occupy Djibouti, Southern Ethiopia and Northern Kenya (Abdulrahman, 2006). The regions inhabited by the Somali community are rangelands usually referred to as arid and semi-arid lands (ASAL). These rangelands are characterised by unpredictable rainfall, long periods of drought, limited water and environmental degradation. The Somali are pastoralist and their subsistence is centred on livestock (Spencer, 2004). They mostly keep camels and goats and are known to have the largest population of camels in the world.

The Somalis like other pastoralist have adopted spatial mobility as a way of coping with the harsh environment. Spatial mobility is an essential strategy built into the pastoral mode of production. Mobility caters for a high feasibility on space management, which allows pastoralists to survive exceptionally difficult environmental conditions. One of the survival techniques used by pastoralists is to follow un-established pattern of seasonal movement to find pasture and water. Mobility is an essential component of these strategies because it enables the use of sparse and widely distributed resources whose availability and quality vary in time and space (Aboud *et al.*, 1996). Other pastoral community that have also adopted spatial mobility include the Borana in Kenya, the Karamojong in Uganda and the Fulani of Nigeria (Oba, 1994).

In Kenya, the Somali community are predominant in the North Eastern part of the country. They are the majority in Wajir, Mandera and Garrissa districts; a few are found in others parts of Kenya especially in the major urban centres (CBS, 2001). Like their kinsmen in the neighbouring countries the Somali community in Kenya are mainly pastoralists keeping a combination of camels, goats, cattle and sheep. Pastoralism is dominant in dry low rainfall areas such as most parts of Mandera and Wajir. Limited agro-pastoralism is practiced in high rainfall areas around Garissa, sorghum, maize, sesame and millet are some of the crops cultivated (PAO, 2004). The community also engage in other economic activities such as small scale business, formal employment and cottage industries such as mat making.

The socio-cultural system of the Somali community in Kenya has various levels of relationships. The social structure of Somali revolves around a kinship set up. Usually it operates at three main levels; clan, sub-clan, sub-clan family lineage, and *diya* paying group (Nunow, 2000). At household level, decisions are made by the head. Although land is communally used, right of use is usually obtained through occupation by one group. Water, an important resource for pastoralists, may belong to a sub-clan, clan or individual but its usage can be shared with others wishing to use it through various means of returns or obligation which are already in place. Common pool resource management (CPR) is a feature that is common among pastoral community. Emsinger (1992) in a study carried out among the Orma pastoralists found out that they had well established regulations set by elder of access to grazing from the village level to the whole community level. Bollig *et al.*, (2003) in study done on Institutional and Socio-economic Transformation among the Pokots of North West Kenya, found out the community had clan based land ownership and kinship based wealth ownership and management. Bollig and Osterle work showed that there are changes in the Pokot's way of life due to the demands of modern cash economy couple with an ever increasing population. This has forced the Pokot to shift to individual property ownership and agro-pastoralism.

The above studies by Spencer (2004) Emsinger (1992), PAO (2004), Nunow (2000), Osterle (2008), CBS (2001), and Aboud et al (1996) discussed the economic activities of the pastoral community but they did not indicate the trend as shown in this study.

2.5 Causes and consequences of pastoralist marginalization

The bulk of the land in the Horn of Africa, the pastoralist habitat, lies in the semi-arid and arid zone, home to the largest aggregation of traditional livestock producers in the world, estimated at 15 million people. While there is some non-pastoralist production, the pastoralist contribution is more important economically, providing significant employment and income opportunities seldom shown in official statistics (Roger, 1999).

Traditional livestock production is becoming non-viable through the gradual erosion of access to land and water, as they are turned over to cultivation. This loss has been facilitated by the unwillingness of states to acknowledge and respect pastoralists' rights to land. Loss of mobility of people and animals has disrupted the process of adjustment that maintains the balance between people, land and livestock. Pastoralist society has been adversely affected by

state borders dividing ethnic groups, separating people from their kin, traditional leaders, places of worship, markets, pastures and watering places (Spencer, 2004).

Colonial and postcolonial arrangements violated the social and political integrity of pastoralist society, and material hardship intensified competition for resources, further undermining social cohesion and traditional authority. The result was conflict both within the pastoralist society and with state authority. Pastoralists thus became known as 'unruly' and 'rebellious'. State policy throughout the region aims to develop livestock production, not to improve the life of pastoralists. It is based on the desire to turn their land over to commercial cultivation through irrigation, or to meat production through ranching schemes, leaving pastoralists, whose terrain has remained state domain and can be alienated at whim, as the only sector without any rights of land tenure. All attempts to secure ownership rights for the pastoralists have failed.

2.6 Changing fortunes of Pastoralism

The crisis in the socio-economic status of pastoral community in East Africa was summed up by the Van and King (1975) as a culmination of a dramatic reversal of fortunes. The recent years have seen the reversal of the fortunes of the pastoral community in Kenya. While the Somali remain largely pastoralist the future may not be so bright. Several factors are exerting negative pressure on pastoral way of life. In a study conducted in regions inhabited by the Somalis, some of the major challenges identified facing this community were insecurity, drought, scarce water resources and pasture as threats to the pastoral mode of subsistence. Added to these are unreliable markets for livestock products, poor government policies, an ever increasing population and encroachment of pastureland by crop cultivation. These challenges have led to decreased herd sizes and increasing food insecurity forcing the Somali community to diversify to other sources of subsistence into non-pastoral activities. In the process of diversification the pastoral mode of subsistence and values is disrupted.

In a study conducted among pastoralists in the horn of African, Mtuku (2001) concluded that conflicts are the major factor influencing changes in the subsistence of pastoral community. He was of the view that cattle rustling, insecurity, weak governance systems inappropriate development policies, inadequate land tenure and marginalization of pastoralists as factors that promote such conflicts. The purpose of this study was to identify and examine factors that contribute to these conflicts and discuss conflict prevention and peace building. This study

sought to find out whether what affect pastoral community highlighted in Mtuku's study has a bearing in the mode of subsistence of community in Tarbaj.

Other pastoral groups are also faced with constrains similar to the ones facing the Somalis. Rigby (1981) reported that the Iparakuyo of Tanzania had long been faced with diminishing resources of suitable grazing and water facilities. This has led to decreased herds and increased dependence on crop based products. Rigby's work focused on challenges of adoption of agro-pastoralism among the Iparakuyos. This study aims at establishing the factors that contribute to changes in modes of subsistence among pastoral Somali community of Tarbaj division.

In a study conducted in East Pokot, Osterle (2008) observed that population of pastoralists in East Pokot has almost doubled by the late 1980s but the size of the livestock herds have not grown at that pace. Pastoralism was no longer a viable mode of subsistence for majority of households and they have to implement other economic strategies to sustain their subsistence. The focus of the study was on the transformation of the economy of the East Pokots not on establishing factors that contribute to changes in their mode of subsistence.

2.7 Management of common pool resources

Common pool resources provide food, fuel, fodder, herbs, construction materials and income to rural and urban dwellers across the region. In this dry zone where annual rainfall is low and its distribution erratic, the products obtained from CPRs have been critical elements in the livelihood and survival of many rural communities, particularly in times of drought. The collection of leaves, fruits and twigs from forests has long been a method of assuring household subsistence during droughts and in resolving imbalances in the diets of rural households. In Niger, in dry years when the millet (Pennisetum glaucum) crop fails, fruits of trees e.g. Boscia senegalensis and Ziziphus mauritiana are collected and pounded into flour that is used to prepare different kinds of food. Similarly, the leaves of Maerua crassifolia, a tree that remains green all year round, are often eaten to relieve hunger. The sale of products - stimulant leaves, fruits, fodder, and firewood - collected from CPRs provide an important contribution to household income (Unruh, 1995).

CPRs are the main sources of fodder and water for livestock in semi-arid areas. The spatial dispersion of common pool grazing resources and the temporal fluctuations in their availability make them an important resource for livestock production in the region. During the rainy season, pastoralists move animals away from the cultivated zone into the drier areas

of the semi-arid and arid zones to take advantage of the flush of high quality forage produced by annual grasses on rangelands and to prevent damage to food crops. At this time, animals make use of water available from surface ponds. During the dry season, animals are moved back to the cultivated zone to graze crop residues on harvested fields. As the dry season progresses further, the vegetation on fallow fields is used as temporary pasture. This seasonal and alternating use of CPRs by pastoralists is not an isolated example. The flood plains of the inner delta of the Niger River in central Mali are traditionally used by fishing community during the flood season and by pastoralists and rice farmers in the dry season. These and other cases clearly demonstrate the ability of a set of users to appropriately time their use of a CPR to a period when others are not exploiting it (Behnke, 1986).

The seasonal use of CPRs also creates opportunities for mutually beneficial exchange relationships between various user groups. The exchanges of grain, crop residue and water owned by farmers for the manure produced by pastoralists' livestock have linked crop and livestock production for many years in the Sahel and served to increase land productivity (Lawry, 1989).

With respect to access, control and use rights, CPRs are held under a variety of property-rights regimes, including state property, communal property, private property and open-access (non-property) regimes. A few CPRs can easily be classified under a property-rights regime. For example, forests, lakes and river banks are often considered as state property and are administered through specialized government agencies. For this category of CPRs, various codes and legislative edicts prescribe in considerable detail usufruct rights for different users and penalties for infractions (Roth, 1996). For many other CPRs, a neat classification is not possible. Furthermore, a given resource may produce flows that are subject to two different property regimes seasonally or over the long term. For example, in areas of low population pressure, fields that are cultivated by individual households often revert to communal use after grain harvest or when they are left in fallow so that crop residues and natural vegetation on these fields can be freely grazed by the entire village herd or collected by those households who need them. This serves to mitigate inequality in land ownership and access to feeds in many villages (Oba, 1994).

Concerning inter-group relations in the utilization of CPRs, community that possess primary use rights often allocate rights of access to subsidiary groups. Groups holding secondary or tertiary rights may be women, other ethnic groups engaged in a different occupation or the

poorest members of the community. For example, sedentary farmers may give concurrent or sequential rights for Arabic gum collection or livestock grazing to migratory gum collectors and pastoralists (McCabe, 1990). These rights may shift over time or from one resource to another leading to conflicts or renegotiation of access rights. Nonetheless, the heterogeneity of users and the multiple functions of CPRs in semi-arid West Africa suggest that at low population pressure, existing methods of utilizing these resources permit an intensive use of land and complementary interactions that increase land productivity. Communal use of forests and rangelands allows the varied phenology and production dynamics of natural vegetation to be fully exploited and serves to minimize production risk, especially for transhumant livestock producers whose production methods depend on having access to pastures in diverse locations (Litle, 1997).

2.7.1 Emerging problems in the use and management of CPRs

Climatic, demographic and economic changes are beginning to threaten the existence and long-term sustainability of CPRs in the region. Although the Sahel has always experienced wide variations in annual rainfall, available evidence indicates that rainfall has been consistently below the long-term average every year from 1969-1990. At the same time, the region has experienced a rapid population growth of about three per cent per annum. The combination of increasing aridity, drought and population pressure has resulted in substantial shifts in land use and put stress on CPRs. In the absence of sufficiently rapid and widespread technological change, population growth and declining rainfall have led to the expansion of area under cultivation. Since 1961, the area farmed in Chad, Burkina Faso, Mali, and Niger has increased by over four million hectares. This expansion has involved mainly the conversion of large areas of CPRs such as forests, wetlands and rangelands into cropland, with farmers overriding and ignoring the traditional use rights of other groups to these resources (Markakis, 1995).

These changes have had devastating consequences on pastoralists whose mode of production make them particularly dependent on common pool resources. The long periods of low rainfall and severe droughts have accelerated the deterioration of rangelands. At the same time, arable land expansion has resulted in a reduction of natural rangeland and seasonal inaccessibility to remaining pastures due to fragmentation caused by cropping low-lying areas previously used for dry-season grazing. The net effect has been a restriction in the mobility of pastoralists' herds and the concentration of increasing numbers of livestock on smaller areas which destroys

pasture vegetation and contributes to range degradation. The loss of rangeland through alienation and encroachment of farming has heightened conflicts between farmers and pastoralists (Homewood, 1993).

2.8 Specific analysis on change of subsistence

2.8.1 Government policies

The range of policies pursued by successive post-colonial governments has led to the marginalization of pastoralists from mainstream national development in most countries in the Horn of Africa. Over the years, there has been a tendency to neglect the needs of pastoralists and even to envisage the gradual eradication of pastoralism. In addition, there has been a tendency by governments to focus on the interests of agriculture and urban dwellers, thus marginalizing other stakeholders. Most states in the Horn have pursued policies based on containment, pacification and sedenterisation of pastoralists (Roger, 1999). The pastoral livelihood has always been exposed to the vagaries of climate and harsh environmental conditions.

However, in recent years, pastoralists have faced a myriad of new problems, including competition for water and pasture in the context of decreased access to land; more explicit political and economical marginalization; lack of appropriate responses to the deteriorating security situation; and the proliferation of weapons across the region (Kerven, 1992).

2.8.2 Socio-economic and political policies

Governance in the Horn is dominated by manipulation of ethnicity, patronage and a political culture of exclusion. This has continued, in large part, from the period before independence. Although the governments of the Horn have made some efforts to include pastoralists in the civil service, cabinet ministries, and the army, they are still not adequately represented in political life. Pastoralists are not represented according to their numbers in parliament or in high-level civil service posts, nor do they have education rates in line with the majority of the population. In many of the semi-arid and arid areas of the Horn, pastoralists have very little formal education. For Kenya, this is borne out by the 1999 population-housing census. The situation is generally similar in nomadic areas of Ethiopia, Somalia, Djibouti, Eritrea, Sudan and Northern Uganda (Galaty and Johnson, 1990).

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2.8.3 Inadequate land tenure policies

The majority of pastoral land resources are held under a controlled access system that is communal in form. 'Communal' land tenure relates to that system of tenure in which the tribe or clan or a group has access to land. Tenure is thus a social institution: a relationship between individuals and groups or tribes consisting of a series of rights and duties with respect to the use of land. Pastoralists in the Horn of Africa have become among the most marginalized and disadvantaged of minority groups. This is due to their wide dispersal, climatic and ecological conditions, state neglect, development plans that have excluded them, seizure of their land, land tenure laws, national borders that restrict their freedom of movement, internal strife and national conflicts. The corollary has been the neglect of gender issues in the pastoralist community, where custom and religious teachings defining women's role have been overtaken by rapid modern development (Emsinger, 1992).

Consequently, the bulk of the land in the Horn of Africa, the pastoralist habitat, lies in the semi-arid and arid zone, home to the largest aggregation of traditional livestock producers in the world, estimated at 15 million people. While there is some non pastoralist production, the pastoralist contribution is more important economically, providing significant employment and income opportunities seldom shown in official statistics. Traditional livestock production is becoming non-viable through the gradual erosion of access to land and water, as they are turned over to cultivation (Eldis, 2000). This loss has been facilitated by the unwillingness of states to acknowledge and respect pastoralists' rights to land. Loss of mobility of people and animals has disrupted the process of adjustment that maintains the balance between people, land and livestock. State borders dividing ethnic groups, separating people from their kin, traditional leaders, places of worship, markets, pasture and watering places, have adversely affected pastoralist society. Colonial and postcolonial arrangements violated the social and political integrity of pastoralist society, and material hardship intensified competition for resources, further undermining social cohesion and traditional authority. The result was conflict both within the pastoralist society and with state authority. Pastoralists thus became known as 'unruly' and 'rebellious'. State policy throughout the region aims to develop livestock production, not to improve the life of pastoralists. It is based on the desire to turn their land over to commercial cultivation through irrigation, or to meat production through ranching schemes, leaving pastoralists, whose terrain has remained state domain and can be alienated at whim, as the only sector without any rights of land tenure. All attempts to secure ownership rights for the pastoralists have failed (Bollig *et al.*, 2003).

2.8.4 Good governance, pastoralism and gender

The political marginalization of pastoralist community was preceded by forcible eviction from their land and/or restriction of their movements. Currently, the trend towards globalization of the market, with pastoral lands increasingly being commercialized and/or turned into national parks, has resulted in environmental and ecological disaster. Poverty has increased, with women in particular being severely affected. Pastoralists are faced with a double marginalization – as one of the dominated ethnic groups, and as pastoralists. The marginalization they face as pastoralists is more severe than the oppression faced by other dominating ethnic groups. Traditionally, in pastoralist society, land 'belongs' to a group or family that is linked by descent or cultural affiliation. Land is not owned but is held in trust for future generations. Because of the political marginalization of pastoralists, unfavorable land tenure reforms and the alienation of pastoralists from their lands, traditional mechanisms and customary methods of negotiation, arbitration and adjudication over land issues are breaking down (Bollig and Osterle, 2008).

Pastoralists do not respect the state, which is seen as repressive rather than democratic, coercive rather than persuasive, as tax collector and embezzler rather than assisting development, nor do they respect state boundaries. East African states discuss land issues in terms of agrarian societies and peasants, since cultivation is the only rural economic activity recognized as productive and thus contributing to the national economy and capital accumulation. However, the issue of land is equally pivotal to pastoralists for whom pastoralist land tenure and land use is the most sustainable (Applelbaum, 1970). African states do not consider pastoralism a viable way of life. Pastoralists are not considered when it comes to formulating macroeconomic policies, or discussing state–society relationships, questions of democracy and the role of state in development – i.e. good governance. The role of civil society (i.e. representative institutions independent of the state) in good governance has been neglected. The African states' neglect of the indispensable role of civil society in political, social and economic development, as well as of gender issues, has cost them dear in terms of the resulting poverty and conflict. The state must assume the role of regulator rather than dictator, and recognize the rightful role of civil society. In good governance, the relationship between state and society is dynamic, involving the state in encouraging civil and community institutions to cooperate with state organs in development undertakings. Popular participation does not just mean taking part in elections, but includes social organization within civil society independent of the state, recognizing the separate role of civil society in

development and the political process, and encouraging a rapport between state and civil society through transparency and dialogue (Aboud, 1996).

The marginalization of pastoralists as community has overshadowed the degraded position of pastoralist women. In recent years, the social awakening of the women's movement has led to the development of a gender perspective (Mundlak and Singer, 1975).

According to UN declarations and resolutions, and global fora of women, the position of women has not yet substantially changed in Africa (Osirim, 1992). For most African women, conditions have in fact worsened. Development must start with improvement in the conditions of women who are the most neglected – yet crucial – element of civil society and human civilization. Development and democracy must be defined and measured by positive changes in the position of women, and in the attitude towards men and women alike. The Horn of Africa is prone to drought, civil conflicts and wars which pose major threats to their way of life. In Somalia, pastoralists also face scarcity of resources, environmental degradation, ill-conceived governmental policies, such as forced sedentarisation, and marginalization as agriculture, private investors, tourism and mineral exploration have encroached on pastoral lands, and while no alternative arrangements have been made for displaced pastoralists (Abdulrahman, 2006). The failure of government to take into account traditional land tenure systems, conflicts and disputes along national borders, have restricted pastoralists' freedom of movement and their ability to manage their livestock effectively. This has undermined the survival mechanisms of pastoral economies, in which livestock plays an important role in food security, pushing pastoralists, especially women and children, into poverty.

While regions adjacent to former Somalia went through upheavals, conflict, wars and repression, women in Somalia before the 1979 war enjoyed relative peace and freedom. Contemporary Somali women are not subservient, but live with men in a relationship of interdependence. They are considered the most resourceful persons in the pastoral economy. They market milk products, farm produce and their pastoral crafts, as well as producing them for their own use and that of their families, or giving them away, as they choose. This pattern has changed as urbanization encourages migration of young people to towns in search of work, depriving the pastoral family of their input (Bollig *et al.*, 2003). Restrictions on male movement because of conflict has led to a further loss of labor power, leaving women to cope with the management of the family, taking on roles vacated by men. Women play multiple

roles in Somali society: in the family, as contributors to the pastoral economy, and bringing resources into the family through girl bride-price. Traditionally, women were dependent on men for their needs, for only men took livestock to markets. When women began to participate in animal marketing, the income generated reinforced their power and reduced their dependence on men. This benefited women but increased their workload, and men felt threatened and marginalized. Somalis adhere to Islamic law when it comes to marriage, inheritance and the family. Women cannot inherit camels, land and cattle. In marriage, the girl's consent is crucial, since without it the marriage is void, yet fathers or brothers will offer girls to anyone they choose without seeking their consent with education for girls, women increasingly join the work force, which in urban areas has reversed their dependence on men. Many well off women participate in family decision-making. Acceptance of such participation by society is tilting the balance in their favor and they are increasingly breadwinners for the family while still managing the domestic scene (Eldis, 2000).

2.8.5 Education and pastoral community

As pastoralists, the main tribe inhabiting eastern Eritrea, Kassala and eastern Sudan, move freely over a vast area during the wet and dry seasons, across the border between the two countries, in search of better grazing, watering places and markets. Political or socioeconomic change in either country therefore affects, directly or indirectly, the life of pastoralists on both sides of the border. Eritrea is divided into three geographical zones: the eastern coastal zone; the western lowland zone, where the majority of the population is agro-pastoralist; and the central highland zone, populated mainly by non-agro pastoralists. Sudan is one of the largest countries in Africa with vast reserves of cultivable land and the largest area of irrigated agriculture in sub-Saharan Africa. Any attempt to improve the quality of life of pastoralists usually increases the influx of the dominant cultivators, pushing pastoralists to the margins of areas of high potential thus changing their mode of subsistence (Emsinger, 1992).

2.9 Factors contributing to Changes in Mode of Subsistence

The challenges facing the Somali community and are the causes of change in mode of subsistence can be put in three categories; social, economical and environmental.

2.9.1 Socio-cultural factors that contribute to Changes in Mode of Subsistence

The social system that has guided the Somali since their entry into Northern Kenya is based on culture and traditions (Abdulrahman, 2006). The system revolves around the kinship set-up that operated at sub-clan and clan level with slight variations from clan to clan. The dominant clans in North Eastern Kenya are the Ajuran, Degodia and Ogaden in Wajir district. In Garissa, the majority clans are the Ogaden while in Mandera the Gareh and Murule are dominant. At household level, decisions are made by the head who in turn is bound by the decision of his immediate "reer" the basic family unit consisting of related households. Civil affairs relating to control of grazing, water resources, marriage are traditionally managed by a group of elders at various levels at sub-clan and clan structures (Nunow, 2000). Disputes are settled by informal courts or Islamic courts which is the main religion. The traditional pastoral way of live has served the Somali community fairly well in the past. It had its unique way of providing education (through the madarassa, schools), traditional medical facilities, communal land and security systems. The challenges of modern life demand restructuring of such systems which leads to further changes in modes of subsistence.

The social set up of Somali community resemble those of other pastoral community. Bollig and Osterle (2008) found that the Pokots of North West Kenya had communal land tenure systems, family and clan based ways of resolving conflicts. The focus of their work was on changing land tenure systems among the Pokots in Northern Kenya. The study found out a shift from communal pool resource management to individual ownership and agro-pastoralism. It was of interest for this study to find out if the same changes are happening among community in Tarbaj and its impact in their subsistence.

2.9.2 Economic factors that contribute to changes in Mode of Subsistence

Livestock based products dominate the economy of Somali community in North Eastern Kenya. Trade and exchange is not only limited to livestock but also its by-products such as milk, hides, skins and butter. Pastoralist who have never had much demand for supplementary food also engage in the buying and selling of goods they cannot produce e.g. cloths, veterinary drugs, tea and other consumer goods (Markakis, 1993). Proximity to the market is a factor in the economy of the pastoralist. However it should be noted that proximity of the trading centres (markets) is often inversely related to pasture available to the pastoralists. Credit, a major requirement for the success of commerce is neither available nor accessible to the pastoralists (Mtuku, 2001). Traditionally, among the Somali community,

credit facilities are usually restricted to those who are related and or those who have mutual obligations to each other developed over time.

According to GoK (2002) in the whole of North Eastern province financial institutions are only found in Garissa, Wajir and Mandera urban centres. Because of this restricted access promotion of the economic activities of the Somali community is limited. The success of the pastoralists also depends on an available, trusted, and accessible market. Community also need information on market conditions, government policies and interventions that can promote pastoralism. Support for the community to engage in pastoral commerce, especially from the government has not been good. Roth (1996) was of the view that the region has been marginalized since no policies having been put in place to deal with pastoral issues. This study will try to find out the effect of lack of policies pointed out by Roth on the mode of subsistence of community in Tarbaj.

Mtuku (2001) pointed out that very few economic policies that promote pastoral way of life have been put in place in the horn of Africa since independence. However, lack of support from governments in the region coupled with insecurity forced the pastoralist to change their mode of subsistence. Mtuku study concentrated on pastoralism and conflicts in the horn of Africa. However his study did not deal with issues pertaining to changes in the mode of subsistence of the Somali of Tarbaj division. It is important to examine the impact of issues raised by Mtuku on the mode of subsistence of pastoral community.

Dairy products form an important component of the diet and mostly so in the spring. In the spring season, after the parturition of the sheep and goats, milk production starts. The lactation period lasts some 3-4 months for sheep and goats, goats somewhat longer than sheep. The length of the lactation period and the level of production depend on feed availability and health status of the animals. Milk can be consumed as fresh milk, or processed into ghee, Bur'ad (buttermilk), yoghurt and Bur'ad. Bur'ad is made through processing the milk into yoghurt, which is churned to separate the ghee and either eaten directly or heated until it becomes dry, and can be stored, when it serves as a source of animal protein in the months when there is no milk production (Bernus, 1988). All the pastoralists interviewed stated that at this time of the year, the milk production of their sheep and goats had almost or entirely dried up, due to the natural end to the lactation period, pushed forward by the lack of adequate pasture. In a good year, in the spring-time there is an abundance of milk and more than 30% of the milk gets processed into bur'ad. When livestock numbers, as

a consequence the milk production decreases, less milk is being processed into bur'ad. The relative wealth of the household is a determining factor in how much of the milk gets consumed directly or kept for storage. This has its impact on the intake of animal protein in the winter months.

In times of scarcity of milk products, it is the children who receive first priority in milk consumption. The case study given above shows that milk production only covers part of the annual requirements for a household. In times of relative abundance, a proportion of the processed milk products will be sold in the market, and not all consumed by the family members themselves. It is important to note that the protein requirements met by the dairy products are even more important than the caloric contributions (Bollig and Osterle, 2008). These pastoralists do generally only slaughter animals for the purpose of consumption. The meat is either shared with the neighbors, on the basis of mutual reciprocity, or dried for prolonged use. One sheep will last from 20 – 30 days, depending on the size of the animal and the number of household members. An exception is made for animals that are weakened by drought or disease. Instead of allowing them to die, the animals are slaughtered in the halal way before spontaneous death occurs. When the quantity of meat is not sufficient for all, it is generally stated that the men have first priority in the consumption of meat. Purchased food constitutes the largest component of the diet. Purchased food consists mostly of wheat, rice, tea and sugar. Purchased food is a larger component of the diet in winter and autumn than in spring and summer, when milk is readily available (Bollig and Osterle, 2008). With decreasing livestock numbers, the reliance on purchased food decreases, leading to a lower proportion of animal protein in the diet. The income earned from the sale of livestock is the major source of income for a pastoralist, increasingly complemented with additional income sources, as livestock numbers drop (Bollig and Osterle, 2008).

The off-spring of the animals is generally sold in April or August. A pastoralist will prefer to sell the male animals only, in an attempt to increase the core herd of female productive animals. Several factors determine the extent to which he can achieve this goal, like availability of pasture, the need for cash, access to credit and the amount of active labor available in the household. The latter largely determines the maximum size of a herd. Sources of income for pastoralists in south Afghanistan are largely dependent on the number of livestock owned. Pastoralists with sufficient number of livestock depend mostly on: sale of animals, sale of wool, skins, manure, and dairy products (mostly ghee and bur'ad) (Kerven,

1992). Even in good years, there is certain wealth stratification, and those at the lower end of the scale depend on additional sources of income, like: agricultural work, small-scale livestock trade between the pastoralist community and the market centre based on mutual trust (credit), wool trade on credit basis, shepherding for other pastoralists, villagers or livestock traders, firewood collection and sale, sheep dung collection and sale, in times of stress, when livestock numbers fall and dependence on income sources, other than livestock sales increases, the urban centers gain in importance in the search for income: labor in the livestock market, shepherding animals for livestock traders, trekking animals, daily wage labor, construction of simple houses (transporting stones, wood, mixing sand and mud), making bricks, loading and off-loading of trucks, digging wells, any other daily wage labor.

2.9.3 Environmental factors that contribute to changes in mode of subsistence

Images of drought and famine in ASAL regions of Kenya have been with us for some time. Drought and famine are closely related to unreliable and inadequate rainfall and the environment of a given region (PAO, 2004). Land in ASAL areas which is inhabited by the pastoral community and others are prone to degradation. It is has been assumed that land degradation in these areas has been primarily due to local community adherence to traditional production strategies. However there are other factors such as deforestation, soil erosion and global warming which occur with increasing regularity in ASAL regions (Migot-Adhola and Litle, 1981). A degraded environment cannot support a large herd, thus the pastoral community are forced to reduce the sizes of their herds. Reduction in herd size naturally leads to loss in income of the pastoralist, and as a result they are forced to seek alternative income.

The Somali community are still firmly attached to the old traditional livestock rearing. During the dry seasons they move with their livestock to places where there is water and pasture often crossing into the territory of neighbouring community and districts (Mtuku, 2001).During dry spells, Somali community in Tarbaj migrate to neighbouring districts like Marsabit, Moyale, Mandera and sometimes even cross into Ethiopia.

A degraded environment is a challenge that is not faced by the Somalis alone but also other pastoral community in the region. Bollig and Osterle (2008) in a study carried out among Pokots of Northwest Kenya noted that they are also experiencing a degraded environment, inadequate water, changes from palatable to unpalatable grass and bushes in their pasture. They found out that the Pokots practice nomadism, herd diversification and dispersal of livestock property and widespread exchange networks to deal with environmental challenges.

However, the study mostly examined the changes in violence among pastoral community of Northern Kenya without linking it to diminishing land for pasture, degraded environment and inadequate water.

Unfavorable climatic conditions play a critical role and often precipitate the need for pastoralists to migrate in search of pasturelands and water. During the dry season, sources of water become desiccated and lands turn arid. This forces young pastoralists to leave villages with their livestock in search of water and grazing lands. It is during these times that pastoralists engage in conflict over herding territory and replenishment of lost cattle. When conditions are made worse by extended periods of drought, conflicts become more intensified and frequent ((Bollig and Osterle, 2008).

In the past few decades, drought-related emergencies have risen sharply. Ostrerle (2008), for instance, reports that from 1975 to 2006 the number of people affected by drought rose from 16,000 to an estimated three million. This calculation does not take into account that the population has also grown significantly, but not nearly as exponentially as those impacted by the recurrent droughts. The Turkana have been faced with a persistent drought problem since 1999. They call this event "Kichutanak," which means "it has swept away everything, even animals." In some areas of Turkana District, 70 percent of people's livestock were lost. In financial terms, this is equivalent to losing 70 percent of one's savings. Not surprisingly, prolonged drought and the cattle deaths associated with it brought escalating levels of violence in the region.

In March 2006, over 600 Turkana families from Oropoi village, Kenya, left their homes and crossed the border into Uganda with their livestock in search of water. This became their only option when the sole water pump within a radius of 50 km dried up (Leff, 2009). Inevitably, the neighboring Dodoth pastoralists in northern Uganda attacked the fleeing Turkana.

In the past, pastoralists had strategies for coping with the impacts of drought. However, more severe weather patterns resulting from climate change, coupled with colonial and post-colonial policies that constrain the movement of pastoralists, makes inter- and intra-tribal rivalries more common place. The Somali devised herding systems to cope with problems of disuse, scarce water, varying types of vegetations and soils. Camel owners for example, resorted to a division of labour. They separated their herds into two basic units; the camel and the nomadic hamlet. Young boys usually took the majority of camels into the bush; women

and young girls remained behind at camp with the sheep and goats. The women also kept a few milk camels in the bush the nomads often divided the herds further into groups of milk animals and the dry animals. Those herding the latter were more mobile. As the wet season ended, these different groups tended to unite and the nomads moved towards the permanent supplies of water.

2.10 The drought problem and coping strategies

The majority of the Samburu people in Kenya are pastoralists, deriving their livelihoods from livestock. Their accumulated experience enables them to cope with difficult climatic conditions such as drought. The Samburu understand drought; they can predict it and make preparations to alleviate its effects. Strategies of risk limitation, such as moving herds to better pasture and dividing the herd, or herd-size maximization – itself a major cause of environmental degradation – and species diversification to match the ecological condition of the area, are implemented before the drought begins, strategies aimed at ensuring the survival of the herds and limiting the damage to the pastoral production system (Mugambi, 1991). Those which come into operation after the onset of a drought focus on herd modifications by diversification of species, dispersion, distribution and expansion to protect against heavy losses and ensure the survival of people and animals through the drought period. These strategies, used by the Samburu for many years, are no longer helping to the degree they did in the past, making them vulnerable during periods of climatic stress. NGOs and the government have been involved in plans to promote development in pastoral areas but the development agencies compete among themselves and team work is lacking. Most policies are inadequate as they fail to address the social processes within pastoralist society, dealing only with technical problems such as water resource improvement, health care and range management (Mugambi, 1991).

The most direct impact of a shortage in rainfall on pastoralists' livelihoods is the drying up of water sources and declining forage resources for livestock. Water and Forage are the most important resources for pastoralism and changes in their availability greatly influence pastoralists' livelihood security. Livestock is the most important asset for pastoralists and livestock productivity is directly dependent on access to forage and water resources. Access to forage and water resources tends to decrease during a large scale drought with the result that pastoralists lose assets (Mtuku, 2001).

The value of pastoralists' disposable assets determines pastoralists' power to purchase goods. If the value drops to the extent that they can no longer purchase the food they need to sustain themselves, then pastoralists lose their food entitlement and drought turns into famine. 'Entitlement' refers to goods, services and resources over which people have effective command in using them to benefit their livelihood. Famine can be defined as prolonged decrease in the food intake of large numbers of people to levels below what they need to maintain reasonable nutritional condition has shown that lack of purchasing power is the cause of famine rather than declining food supply (Mtuku, 2001). Sen said that starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there not being enough food to eat. This understanding underlines the fact that poor people are most vulnerable to the impact of drought, because they have less purchasing power, which means less food entitlements. Famine is not the only danger of drought; another major danger in the long term is destitution. Bush argues that famine is a first and immediate risk, but the long term risk is destitution of pastoralists. Once pastoralists become destitute, food insecurity becomes a chronic - rather than temporary - problem, because economic opportunities in pastoralist areas outside the pastoralist sector are generally poor (Nuwow, 2000). This leads to change in their mode of subsistence as they fight food insecurity. Majority of the pastoralists adopt farming as their mode of subsistence.

The impact of meteorological drought causes several changes in the pastoralist economy. Several case studies indicate that pattern of changes are similar in different sequences of drought. Toulmin's model of the 'drought cycle' is based on these similarities in different sequences. She divides the drought period into three phases derived from pasture production, livestock numbers, grain and livestock prices. In the first phase, the failure of rainfall causes a great decline in forage production. It is assumed that drought conditions are sufficiently harsh and widespread for extensive movement to be unable to compensate for falling fodder availability hence, results into famine causing loss of lives and property (Osterle, 2008).

There results an imbalance between livestock numbers and available forage. Livestock numbers start to fall, through sales and deaths among the most vulnerable. As drought hits harder, the condition of animals becomes worse and cereal harvests fail. As a consequence, grain prices rise and livestock prices decline. Toulmin points out that these relative price movements provide an increasingly tight squeeze on herders' ability to raise cash to buy the food needed by their families. Thus, herders may be forced to sell animals far in excess of

those required to bring animal numbers into balance with fodder availability. This may compromise their ability to reconstitute a viable pastoral existence in the post-drought period (PAO, 2004). Due to this reason pastoralists begin to adopt farming and bee keeping.

In the second phase the bottom of the drought cycle is reached. Herd numbers continue to fall, as sales and deaths continue, despite the leveling off and gradual improvement in fodder availability due to the onset of rainfall. Shortages of grain continue to keep food prices high. If food aid is delivered, these levels will be somewhat moderated. There is still pressure on herders to sell further stock in order to purchase food. In the end of the second phase, forage starts to recover due to the start of rainfall (Power, Cheney and Crow 1990).

In the third phase, rainfall, grain harvests and pasture conditions have recovered from the previous drought conditions. By contrast, livestock numbers remain well below the level which could make effective use of the available grazing as in the pre-drought period. Poorer households still may be under pressure to sell stock, due to food shortages. Richer ones may be able to reconstitute herds. Some pastoral households become totally destitute and must receive food relief. Toulmin states that as pasture conditions improve and post-drought harvests start coming in, a rapid inversion of relative grain prices to livestock prices takes place Cereal prices fall, while the price of animals starts to rise rapidly, due to the shortage of animals and the intention of herders to reconstitute their herd. Most notably the demand for young breeding stock is very high (Rigby, 1981).

2.10.1 Overcoming issues of mobility and remoteness

If nomadic peoples' continuous mobility is perceived as a lack of social evolution, it legitimizes any political push for sedentarisation, and educational provision may well serve as a direct or indirect instrument in promoting a hidden agenda of changing the attitudes and beliefs of nomads, when there is no alternative provision that adequately responds to their needs and respects their right to education and learning.

Nomads and pastoralists may be turning to education as a means to assure their children's future, but when the outcomes of such provision remain uncertain, they turn away. Consequently, these nomadic pastoralist communities have very low enrolment figures and high drop-out rates in the formal system. Estimates of numbers of nomadic and pastoralist children out of school worldwide are difficult to make because of the invisibility of pastoralist groups within national aggregated education statistics. A study by Oxfam in 2003

puts the estimated number of nomadic and pastoralist children out of school between 15 and 25 million (Osman, 2009).

As defined by the 5th World Parks Congress Recommendation 27, pastoralism, as a livelihoods and resource-management strategy, is also deeply interrelated with identity. Saverio Kratli, researcher at the Institute of Development Studies at Sussex University, points out in a study for the World Bank that, when addressing the education of pastoralists: it is all too often forgotten that to be "pastoralist" means being Turkana (Kenya), Rabari (India), Qashqa'i (Iran), or from some other community. It is an identity these people take pride in, a complex and sophisticated way of life which, with all its harshness, they profoundly love (Van and King, 1975). Arguing that education has mainly been intended as an instrument to transform the pastoralists into something else, however, he explains that: The history of mass education programmes for nomads has been that of an encounter between people seeking new ways of adapting to an evolving context – monetarisation of the economy, commodification of labor and privatization of land – and a broad set of actors, from policy-makers and project officers to teachers and local officials, who widely believe that nomads have to be "saved" from their way of life. It is upon this cultural clash that the "problem" of delivering mass education to nomads has been framed and policy solutions devised. Problems are defined according to the line that the mobility of the nomadic pastoralists makes any effective use of conventional schools difficult.

Low population sparsely distributed over an extended area requires a large catchment area to provide enough children for a school, leading to long walking distance to school each day. At the same time, the rigid education system does not allow children of nomadic pastoralists to attend school as they are required to provide labour in herding animals (Unruh, 1995). This also leads to the question of national centrally mandated curricula, which are meant to realize national objectives and foster national unity through a uniform system. When the centrally planned and controlled curriculum stresses formal academic achievements rather than knowledge and practical skills relevant to pastoralists, it is invariably perceived as inappropriate and irrelevant, alienating children from their community and lifestyles, and contributing to poor attendance and participation in education. Central curricula tend then to create disparities between pastoralist community and the rest of the population.

Inequity also comes from education of poor quality delivered through poor infrastructure and inadequate facilities. Furthermore, the use of permanent and immovable structures for

conventional classrooms and schools is unsuitable for nomads, who are continually on the move, migrating from one settlement to another in response to seasonal and occupational demands. With the best intentions, these constant migrations disrupt their children's schooling as they do not stay long enough in a settlement for learners to complete an academic session or school year. For instance, due to a lifestyle of constant search for pasture for their animals, very few Wodaabe children of Niger go to school. It has not been part of their tradition and they are constantly prone to periods of hunger, especially when there is a drought and they do not have access to millet or to water. Often the Wodaabe would be forced to sell their cattle (Behnke, 1986).

In Ethiopia, pastoralists often do not send their children to school as they cannot afford to pay for their food and lodging in the towns where the schools are located. However, economic challenges are not the only barrier to education for nomadic boys and girls. Even when fees are not charged and indirect costs are low, or when parents could in principle afford to send their children to school, there are other interrelated problems. There is a wide range of tasks that both boys and girls in rural areas are expected to carry out, such as tending livestock, collecting water, cooking. Sending children to school imposes a significant additional non-cash burden on the families. This is particularly important where tasks, and other obligations, fall disproportionately on girls (Osman, 2009).

2.11 Theoretical Framework

The theoretical framework of the study is a structure that can hold or support a theory of a research work. It presents the theory which explains why the problem under study exists. Thus, the theoretical framework is but a theory that serves as a basis for conducting research. This study was guided by the Bossel's systems theory and equilibrium theory.

2.11.1 Bossel's systems theory

The systems theory is an interdisciplinary field that is used to study complex systems in nature, society and science (Powers, Cheney and Crow, 1990). The systems theory was developed within sociology through the works of Bossel's and others in 1976. The theory is based on several fundamental ideas; First, all phenomena can be viewed as a web of relationship between elements or systems. Second, all systems whether electrical, biological or social have common patterns, behaviour and properties that can be understood and used to develop a greater insight of the phenomena (Nunow, 2000).

A couple of decades ago, Somali community in Tarbaj division was pastoral and depended entirely on livestock for their subsistence. These community and others in North Eastern Kenya are now faced with many difficulties in survival. They had to contend with drought, periodic famine, regular livestock loses and poor livestock infrastructure. These problems combined with increasing population pressure and decreased pastures due to agricultural activities have seriously affected pastoralism. The pastoral way of life among community can be viewed as the system. The elements that affect this way of life (pastoralism) are the social, economic and environmental conditions in the division. The elements or conditions in the system are closely interdependent and action or condition that affects one element affects all the others in the system.

2.11.2 Equilibrium theory

Structural-functionalism has been the major heuristic model or paradigm of social anthropology since the late 1930's. The concept of equilibrium lies at the heart of the structural functional argument. Equilibrium means that societies invent mechanisms whose function is to redirect conflict and reinforce the status quo. Self-regulating social equilibrium models focus on the processes that produce stability and continuity in society rather than on what produces change and disruption. Marxian conflict models, on the other hand, rest on the assumption that societies are always in flux, and that coercion, in its various forms, imposes a minimal change in the social formation (Nunow, 2000).

While equilibrium theory may be the child of Plato, its modern use can be traced back to Auguste Comte (1798-1857) and Herbert Spencer (1820-1903). The two major categories of equilibrium theory may be stipulated as static or dynamic. Comte's equilibrium was provisional, always changing and never settling down to a permanent position of rest (Emsinger, 1992). While Spencer realized that all societies were not in total equilibrium, he was too enamored with the status quo to stress any aspect other than the stable culmination of progress. Emsinger (1992) wrote that social statics may be aptly divided (as political economy has been) into statics and dynamics; the first treating of the equilibrium of a perfect society, the second of the forces by which it is advanced toward perfection (Emsinger, 1992). Where Comte spoke of order and progress, Durkheim (1958-1917) emphasized social solidarity. Durkheim's major contribution to equilibrium theory was the hypothesis that the "function" of many social phenomena was to preserve the unity and harmony of the society.

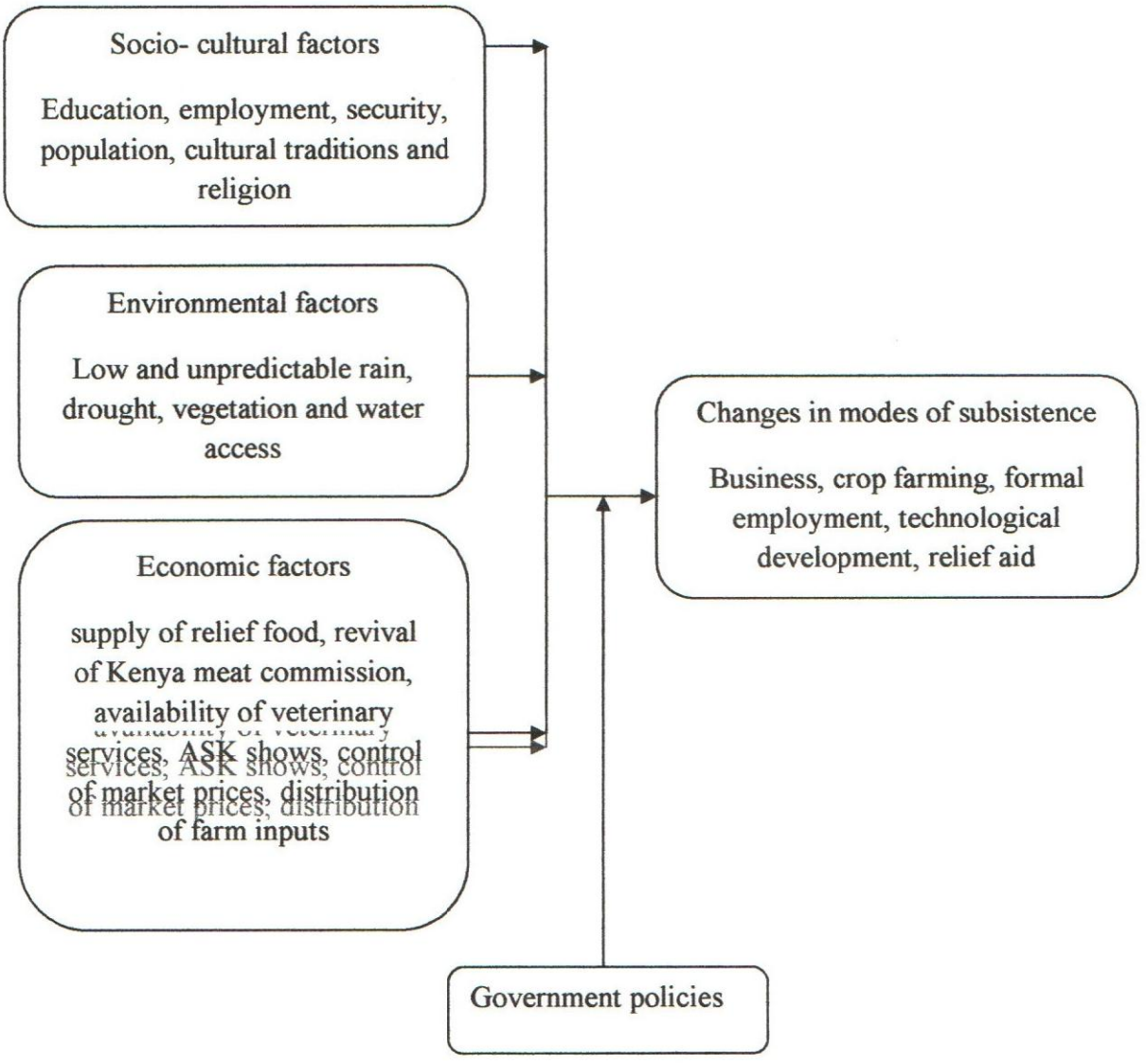
While Pareto, Malinowski and Henderson certainly made great contributions to equilibrium theory, it was under the direction of Radcliffe-Brown (1924), Homans (1941), and Parsons (1975) that it assumed its present form. Radcliffe-Brown stressed the dichotomy between his structural functionalism and the purely "welding torch" functionalism of Malinowski. According to Radcliffe- Brown, functional unity can be defined as a condition in which all parts of a social system work together with sufficient degree of harmony of internal consistency, i.e., without producing persistent conflicts which can neither be resolved nor regulated.

Homans (1941) describes equilibrium as the state of the elements that enter the system and of the mutual relationships between them is such that any small change in one of the elements will be followed by changes in the other elements tending to reduce the amount of that change. Talcott Parsons has constructed a grand theory of functionalism that presumes to deal with social change: The theory of change in the structure of social systems must, therefore, be a theory of particular sub processes of change within such systems, not of the overall processes of change of the systems as systems.

The social, economic and environmental factors in Tarbaj division have been changing over time. The factors have been changing due to insecurity in the region (cattle rustling), population increase, new religions, low and unpredictable rain, drought, vegetation and water access, restriction of animal movement, availability of veterinary services and control of market prices. To maintain the equilibrium the Somali community in Tarbaj division has resolved to change their modes of subsistence. This has helped them to improve their survival tactics. The members of this community have therefore resorted to seeking for formal employment, farming and business.

2.12 Conceptual framework

The conceptual framework draws heavily from the sustainable livelihood approach. Sustainable livelihood approach is based on the premise that subsistence assets determine subsistence outcomes. Pastoralism is considered as the subsistence asset of Somali community in Tarbaj from which they get their day to day needs (outcomes).



Independent variables **Intervening variable** **Dependent variable**

Figure 2. 1 : Conceptual framework

The framework can be hypothesized and modelled with pastoralism being the dependent variable, the economic, socio-cultural and environmental factors as the independent variables while government policies as the intervening variables. The interplay of independent and intervening variables has led to change outcomes in the subsistence of the people living in the region of Tarbaj. The changes manifest in alternative forms of subsistence as shown in figure 2.1. The relationships in figure 2.1 above show socio-cultural factors like religion encourages

its followers to work hard. This has a direct effect on production which in turn enhances subsistence. Economic effects of land use on subsistence like digging of boreholes will provide water for animals and intensive farming. This serves as an alternative to the diminishing pastoralism due to lack of pasture to sustain large herds. Growth of urban centres will enhance business especially from farming and other commercial activities. Environmental factors like land degradation due to overstocking has led to other forms of subsistence. The interplay of pastoralism (herd size, pasture and water), government policies on land use, education and livestock market dictates the outcome in terms of food and clothing among other basic needs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the activities and procedures that were followed to achieve the objectives that are stated in chapter one. Presented are the descriptions of the research design, population, sampling size and sampling procedures. The data sources as well as procedures for data collection and analysis are also explained.

3.2 Research Design

The study used a descriptive survey design. Shuttleworth, (2009) supports the use of descriptive surveys in situations where no treatment is given. The researcher conducted the study without manipulating the conditions on the ground. A sample was drawn from the population and the findings were generalized to the whole population. The study has two sets of variables the independent and the dependent variables. The independent variables are social, economic and environmental factors and the dependent variable is changes in mode of subsistence.

3.3 Study Area

Tarbaj division is one of the thirteen divisions of Wajir district and is made up of six administrative locations. The six locations are; Tarbaj, Danbas, Sarban, Dunto, Mansa, and Elben. In addition, Tarbaj division has 5, 382 KM^2 with a population of 22,758. This shows that Tarbaj division had 4 individuals KM^2. On comparing the accessibility of all the six locations, Tarbaj division was the most accessible for this study. This is because it is just next to Wajir District and hence roads leading to the division are in good condition. The target population of this study is all sub-clan family elders of Somali community in the division, chiefs and councilors. The map below (Figure 3:1) shows the location of Tarbaj Division in Wajir District.

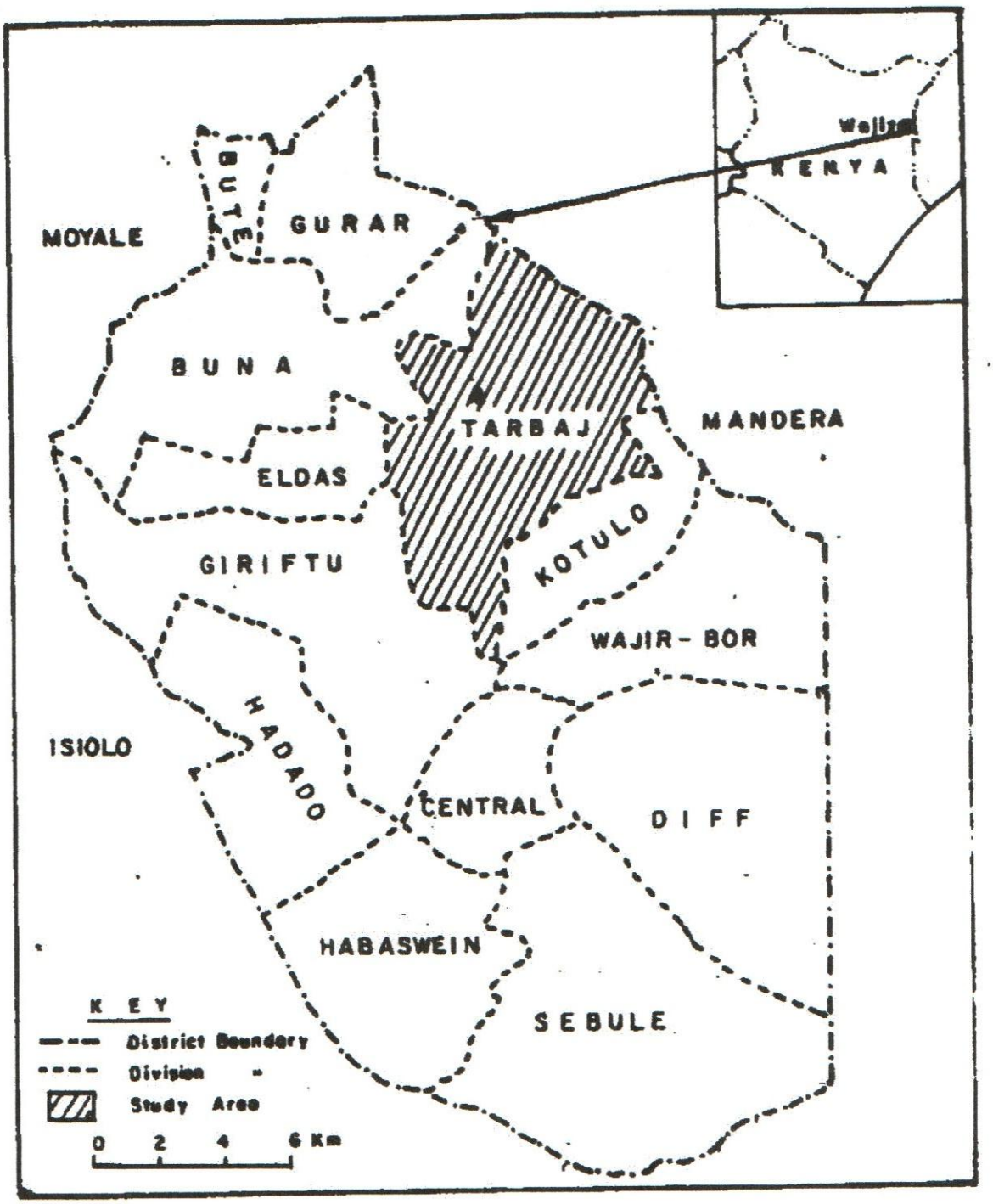


Figure 3. 1: Map of Wajir District showing Tarbaj Division

Source: GoK, (2002)

3.4 Sample size and sampling procedures

The target population for this study was sub-clan family elders, chiefs and councilors from six locations. Tarbaj division has 87 Sub-clan family elders, 6 chiefs and 6 councilors. The researcher used purposive sampling to select Sub-clan family elders, chiefs and councilors. The researcher believes that the Sub-clan family elders, chiefs and councilors had the required information on factors contributing to changes in mode of subsistence among Somali community in Tarbaj division of Wajir district. In the study 30% of the target population was selected to be the sample size. A sample size of between 10 and 30% is a good representative of the target population. Simple random sampling was used to select 26 Sub-clan family elders, 2 chiefs and 2 councillors.

Table 3. 1: Sample size

	Target population	Sampling percentage	Sample size
Sub-clan family elders	87	30%	26
Chiefs	6	30%	2
Councilors	6	30%	2
Total	99	30%	30

3.5 Research Instrument

This research study used both primary and secondary data. Secondary data was obtained from Wajir District Development Plan 2002-2008 while primary data was collected from Tarbaj division. Three data collection tools were used to collect primary data, namely: questionnaire, interview guides and focused group discussions. A questionnaire is a qualitative data collection tool. This deprives the respondents an opportunity to express their feelings, behavior or opinion. Interviews and focus group discussions were therefore used since they give the respondents a chance to express their feelings, behavior and opinions in relation to the objectives of the study. The questionnaires were administered to the 26 Sub-clan family elders. The 26 Sub-clan family elders were further divided into five groups comprising of 5 members for focused group discussions. Focus Group Discussion (FGDs) as noted by Creswell (1994) are unstructured interviews with small groups of people who interact with each other and a focus group leader facilitates the discussions. Interview guides were also used to collect data from chiefs and councilors.

The interview guides and focused group discussions had two sections. The first section was for eliciting information on the modes of subsistence. Pastoralism was measured using proxy indicators like herd size, pasture, income from livestock among others. The last section of the guide had items for establishing the socio-cultural, economic and environmental factors that contribute to changes in the pastoral way of life of the community. The leaders' interview schedule provided information on changes in pastoralism and the factors that contribute to these changes. This information was used to counter check the results gathered during the interviews with the sub-clan family elders. Information from relevant government and non-governmental organizations' records were also used to enrich the collected data.

3.6 Data Collection Procedures

Permission was sought to conduct the study from the Ministry of Education through Egerton University, as required by the law before proceeding to the field. Once permission was granted the provincial administration personnel and other local leaders in the division were contacted. The purpose of the study was explained to them and they were requested to corporate and assist in the project. The targeted Somali community Sub-clan family elders were then contacted with the assistance of the local leaders. During the contacts, the purpose of the study was explained to them and their corporation sought. The Sub-clan family elders were given the questionnaires to fill and return them once they were through. Once the corporation of the focus groups and leaders was assured, the modalities of conducting the interviews and hold group discussions were laid out. Thereafter, interviews were conducted. For the purpose of recording and controlling the discussions a research assistant was used. The group discussion guide and interview schedule were both written in English but were translated into Somali language during the deliberations and the responses recorded in English. Once the focus group discussions and the interviews have been conducted, the collected data was organized for analysis.

3.7 Data Analysis

The study was both quantitative and qualitative in nature. Quantitative data was obtained from the questionnaires while qualitative data was obtained from interviews and focused group discussions. This implies that both descriptive statistics and content analysis were employed. After collection, the data was checked for completeness ready for analysis. The data from the field was first coded according to the objectives researched on the study. Analysis was then done with aid of the statistical package for social sciences (SPSS version

17). Descriptive statistics such as percentages, mean scores and frequencies was used for analysis. The results of quantitative data were presented in charts and tables. Data from open ended questions, interview guides and focused group discussions was analysed using content analysis method. Qualitative information was grouped into objectives and trends established based on data collected. The results of content analysis were presented in prose.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Results

4.1.1 Introduction

This chapter discusses the presentation and interpretation of the findings. The purpose of the study was to investigate the factors contributing to changes in mode of subsistence among Somali community to assess the changes in mode of subsistence among the Somali community in Tarbaj division, to establish the socio-cultural factors that contribute to changes in the mode of subsistence among the pastoral community in Tarbaj division, to identify the economic factors that contributes to changes in the mode of subsistence among the community and to determine the environmental factors that contributes to changes in the mode of subsistence among the Somali community of Tarbaj division.This chapter focused on data, presentation, analysis and interpretation. The study made use of frequency tables and percentages to present descriptive data and prose form to present qualitative data.

Response rate

The study targeted a sample of 30 respondents who were sub-clan family elders, chiefs and councillors out of which 29 respondents filled the questionnaire correctly. One of the questionnaires was not completely filled and hence it was not used in this study. This represented a 96.67% response rate. According to Babbie (2002) any response of 50% and above of the sample size is adequate for analysis thus 96.67% was even better.

Demographic information

On their demographic information the researcher requested the respondents to indicate their gender, age bracket and their highest level of education.

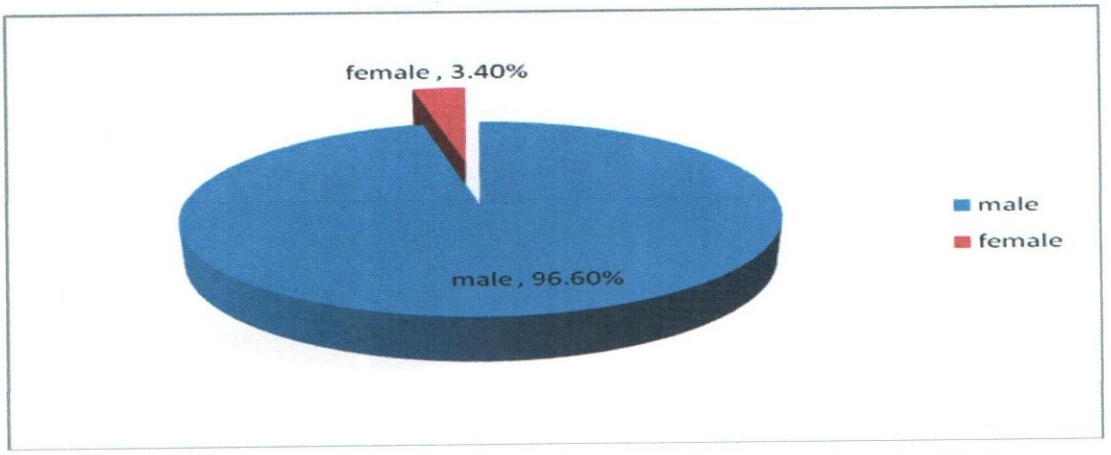


Figure 4. 1: Gender of the respondents

From the findings as shown by figure 4.1 above, the study found that majority of the respondents (96.6) were male while 3.40% indicated that they were female. This clearly shows that women have very little influence on the leadership of the Tarbaj community.

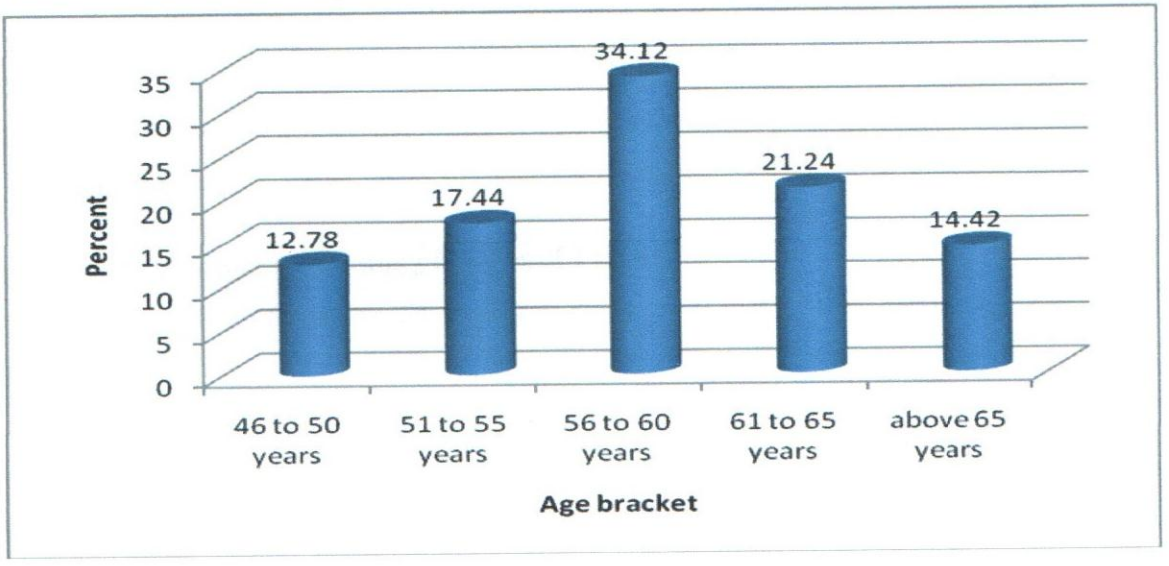


Figure 4. 2: Age bracket of the respondents

According to figure 4.2 above, 34.12% of the respondents were aged between 56 and 60 years. Further, 21.24% were aged between 61 and 65 years, 17.44% were aged between 51 and 55 years, 14.42% were above 65 years in age and 12.78% were aged between 46 and 50 years. From these findings we can deduce that majority of the respondents were aged between 56 and 60 years.

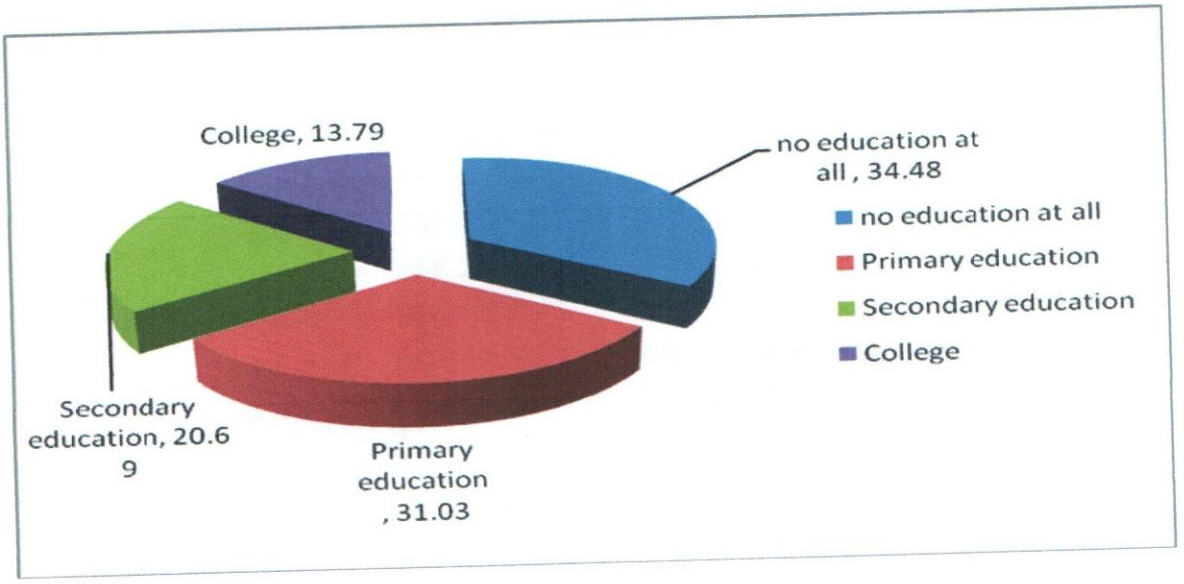


Figure 4. 3: Level of education

On their highest level of education, the study found that majoriy of the respondents (34.48%) had no education at all. This was followed by 31.03% who had primary school education, 20.69% who had secondary school education and 13.79% who had college education. From these findings we can deduce that majority of the respodents had formal education. Further, these findings show that majority of the Trabaj division community had formal education.

4.1.2 Mode of subsistence among families of Tarbaj Division

The study sought to determine the modes of subsistence practiced in Tarbaj division. This information has been summarized in figure 4.4.

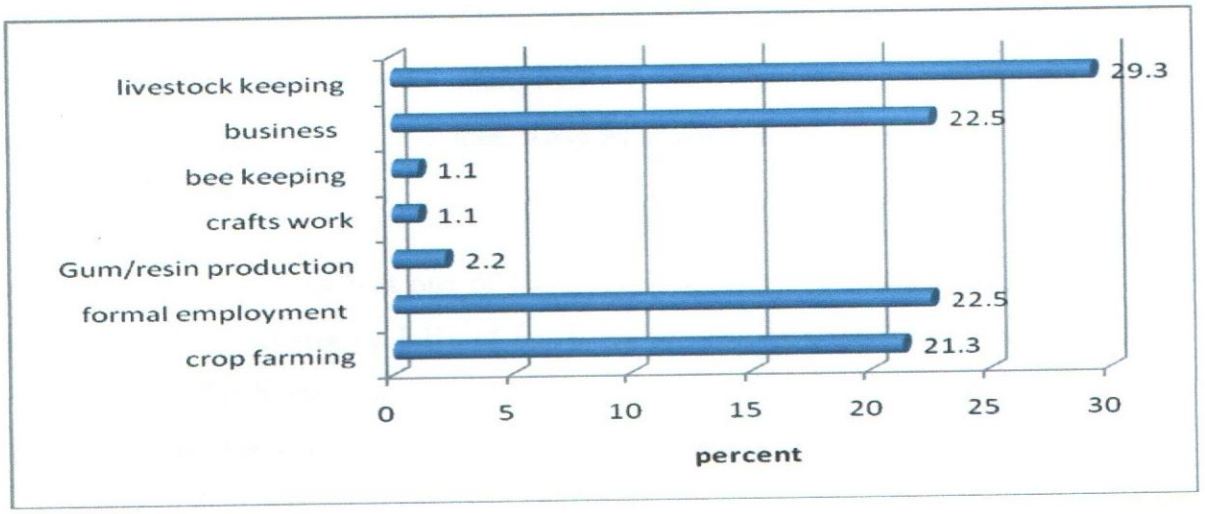


Figure 4. 4: Modes of subsistence

This study found that the main mode of subsistence in Tarbaj division was livestock keeping as shown by 29.3%. This was followed by business and formal employment as shown by 22.5%. Further, the study found that 21.3%of the respondents were using crop farming as their modes of subsistence, 2.2% were using gum/resin production, 1.1% were using bee keeping and 1.1% were using crafts work as their mode of subsistence. The study found that the members of the community were changing to crop farming especially mixed farming on the reduced land sizes by use of irrigation from boreholes.. More crops have been introduced in addition to the traditional drought resistant crops. They include tomatoes, pawpaws, cabbages, kales and capsicums. This has seen introduction of use of fertilizers and certified seeds from agricultural offices.

According to the results as shown in Figure 4.4, the main form of subsistence for the people of Tarbaj division was pastoralism which is on decline due to reducing land for pasture and population explosion. Apart from population explosion, land degradation continually reduces its potential carrying capacity for livestock herding. Views of the family elders on the mode of subsistence for the people of Tarbaj were collected and show that 29.3% of the family elders agreed that pastrolism is one of the sources of subsistence.

According to the respondents small scale barter trade was practiced among the people of Tarbaj. 22.5% of the family elders supported business as a source of subsistence. The

respondents further indicated that they traded with other members of the district, neighboring community and across the borders of Kenya and Somali. The trade products included livestock like camels, cattle, goats, donkeys and sheep. Other products included livestock products like milk hides, butter and ghee. They exchanged these products with cereals like maize, millet sorghum and beans.

From figure 4.4 be keeping was one of the traditional modes of subsistence practiced on small scale. This was shown by 1.1% of family elders. The respondents also indicated that this was usually for home consumption but also excess was sold especially during the harvest. The hives (Gagur) are made of dug out logs smeared with sugar paste to attract the bees. The hive is sited near water source to facilitate honey making.

The study also found that 1.1% of the family heads supported crafts work as a source of subsistence. Wood carvings, woven chairs, stools, mats, guards, calabashes, traditional beds and baskets were made. They were made for home use and also for sale to the neighboring community.

Figure 4.4 shows that 2.2% of the family elders agreed that gum resin production were also a source of subsistence. The gum is obtained from Hagar and Habagh trees. It is locally used as traditional medicine where it is melted and diluted to be applied on livestock to prevent ticks. It is also produced for sale.

Apart from self-employment, formal employment was supported by 22.5% of the family elders. Formal employment opportunities included local Qur'anic schools (Duksi) teachers where only the Qur'an is taught and Madrassa where several subjects are taught including (Islamic theology, Arabic language, philosophy of Islam, history of Islam, hadith (teachings of the prophet Muhammad) and Ulmul Qur'an (science of Qur'an and Tafsir) interpretation. Others were employed as herders.

Trends in Modes of subsistence

The study also sought to determine the trends in the modes of subsistence in Tarbaj division. The results are shown in figure 4.5.

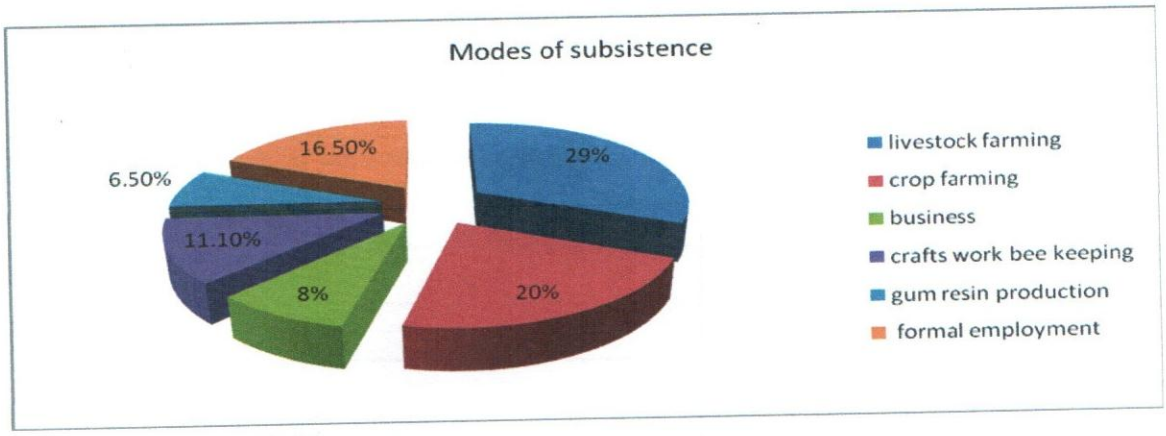


Figure 4. 5: Trends in Modes of subsistence

Figure 4.5 above shows that the fractions of each of the modes of subsistence practiced in Tarbaj. Livestock farming had the highest dominance with 29%. Crop farming had 20%, formal employment had 16.5%, crafts work had 11.1%, bee keeping had 8.9%, business had 8% and gum resin production had 6.5%. These results show that majority of the respondents practiced livestock farming.

Alternative to traditional modes of subsistence

The researcher requested the respondents to indicate alternative modes of subsistence to traditional modes of subsistence. The results are shown in table 4.1

Table 4. 1: Alternative to traditional modes of subsistence

Alternative to traditional modes of subsistence	**Family elders Responses (%)**
Business	24
Crop farming	16
Formal employment	24
Technological development	20
Relief aid	16
Total	**100**

The responses showed that 24% of the family elders indicated formal employment as an alternative form of income. Technological development was supported by 20% of the family elders. Traditionally when the pastoral community was fully depended on livestock there was no need of food aid or relief. Provision of relief food became necessary when drought, diseases persisted reducing dependence on livestock. From the views collected showed that none of the leaders supported relief aid as a form of subsistence while 16% of the family elders agreed that relief aid was an alternative form of subsistence. This information has been represented in the table 4.1.

The respondents further agreed that other members of the community are engaged in commercial business (entrepreneurship) activities replacing barter trade. Involving transportation of livestock to slaughter houses at Athi River, Miraa (khat) business from Meru and sold to the local people. Bee keeping, crafts work, and gum resin production. Although this is practiced at a minor level it is supplementing pastoralism whose main role of subsistence is on decline.

The respondents also indicated that labour requirements for Livestock farming was a hindrance to school attendance for the school age going children. With the decline in livestock pastures and some people resorting to other modes of subsistence like business, the children are now able to attend school alongside Madrassa. This has enhanced the opportunities in employment (formal and informal) in many other sectors other than the traditional Madrassa teachers. The alternative Formal employment opportunities to Duksi and Madrassa teaching include several government institutions like department of defense,

police force, prison service, teachers' service commission, ministry of health and nursing council. There are also non-governmental organizations like Oxfam, Care International and community based organization.

Changes in Technology and developments in formal employment have shown major improvements in the last 5 – 10 years. They include mechanized transport in moving livestock to far markets and using road transport as opposed to use of camels for long distance travelling. There is improved communication especially use of mobile phones and Star fm in dissemination of information using local vernacular language. Medicare has improved by construction of Tarbaj health centre where women can access safe delivery services than previously when they relied on traditional birth attendants (midwives).

4.1.3 Socio-cultural factors influencing mode of subsistence

The study also sought to determine whether socio-cultural factors influence mode of subsistence. The results are shown in figure 4.6 below.

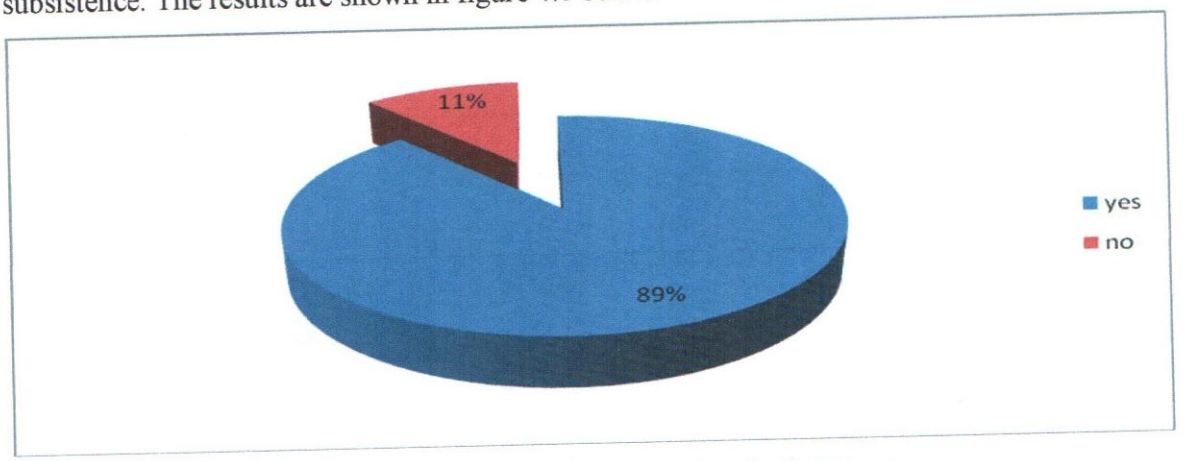


Figure 4. 6: Whether socio-cultural factors influence mode of subsistence

Figure 4.6 above shows the response on whether socio-cultural factors were influencing the mode of subsistence. From the findings 89% of the respondents agreed that socio-cultural factors were influencing mode of subsistence while 11% disagreed. This clearly shows that socio-cultural factors were influencing the mode of subsistence.

The respondents also agreed that the socio-cultural factors that were influencing the mode of subsistence of Tarbaj people were: Education, Employment, Security, Population, Cultural traditions and Religion.

Education

The findings of this study show that traditionally pastoralism was a practice undertaken by youth. With increased enrollment in formal schools there is reduced labour for looking after cattle. Primary school going age group (6-13 years) showed that there were 89960 in1999 to 128546 in 2008 which is 27 % of the total population while secondary going age group (14-17 years) showed that we had 36445 children in 1999 to 43851 in 2004 and 50846 in 2008 which is 11.4% of the total education. This is shown in table 4.2.

Table 4. 2: Enrollment in primary and secondary schools (1999 -2008)

Year	Gender	6-13 years	14-17 years	Total
1999	Boys	49130	20714	69844
	Girls	37868	15731	53599
2002	Boys	54898	23146	78044
	Girls	42314	17578	59892
2004	Boys	59114	24923	84037
	Girls	45563	18928	64491
2006	Boys	63654	26838	90492
	Girls	49063	20382	69445
2008	Boys	68544	28899	97443
	Girls	52831	21947	74778

Source: Wajir District Development Plan 2002-2008

Employment

The increased enrollment as shown in table 4.2 translated into increased opportunities for formal employment. Employment is mainly provided by the public sector, which absorbs less than 2% of the labor force. Otherwise livestock herding where the majority of the labor force is considered as unemployment by many of the local residents provides the bulk of employment. For instance projected labour force (15- 64 years) shows 156162 people in 1999 to 187897 in 2004 and 217869 in 2008 which is 47% of the total population.

Table 4. 3 Labor force (1999 -2008)

Year	Gender	Labour Force (15 -64 years)
1999	Men	82913
	Women	73249
2002	Men	92647
	Women	81848
2004	Men	99762
	Women	88135
2006	Men	107425
	Women	94904
2008	Men	115676
	Women	102193

Source: Wajir District Development Plan 2002-2008

Security

The respondents agreed that police also believe that arms used by thugs in Kenyan urban centres are coming from Somalia through North Eastern province. They also indicated that arms proliferation has made cattle rustling and other conflicts (shifta banditry) more deadly and heinous. Arms played a leading role in all the major conflicts that have rocked the district in the recent past. A number of lives and property have been lost and many people displaced as a result of illicit arms backed conflicts. Nevertheless, the people of Wajir district have come up with a home-grown model for peace building. This initiative, which has transformed itself into the model Wajir peace and development committee, has played a vital role not only in mitigating conflicts but also in combating proliferation of illicit arms. Men, women, youth, religious leaders and local civil servants are the active members of the committee, which has networks at the sub-location level. Most of the conflicts have their root causes to natural resources, namely pasture, water and land.

Cultural traditions

Traditional practice of marriage involved girls of ages as early as 13years. This was motivated by payment of Yarad (bride-wealth) which varied according to the particular

situation, the standing of the parties involved. The quality of the bride and the aims of the groups concerned with establishing links between villages. The Somali exchanged both a yarad and dibaad (dowry). This was paid with livestock, camels and cattle being most prestigious animals, and in some areas horses, firearms and cloths. Marriage is legalized by holding a proper Muslim ceremony. This practice is now diminishing with introduction of formal schools where girls attend. This empowers them economically unlike before where they could only be house wives.

The historical customary rites of female circumcision is a complex psychological process that entail physical cutting and alteration of the female gentalia of infants, girls and adolescents has been referred to as female genital mutilation. (F.G.M). It is deeply rooted traditional practice which has transgressed all barriers including religion, education, race, tribe and language. Despite aggressive campaign on the elimination of FGM by western culture and Christianity, the elimination of FGM has become a difficult task especially among the Somali community where FGM is highly prevalent and almost universal. With continued campaigns the practice is on decline. The campaigns discourage the practice based on pain, and risk of HIV transmission through use contaminated surgical knives. The traditional practice of overstocking contributed to environmental degradation where pasture and water diminished. This has led to reduced stocking to cope with the limited water and pasture. This has also led to adopting alternative modes of subsistence.

Religion

The respondents also indicated that religion has influenced Somali organization. Islam provided a satisfying link in Somali society. Most nomads were adherents of some sect; the two supports of Somali race society were the Waranleh (spear bears) and the Wadaad (sheikhs). Islam has been at the fore front in Promotion of unity and brotherhood. The establishment of Madrassa schools and mosques has created employment of Madrassa teachers and imam. Islam Encourages hard work and assistance of the poor by payment of alms. This is especially during the month of Ramadhan when Muslims are obliged to pay Zakat-ul –fitr. This is in addition to Zakat- ul Maal. The Madrassa syllabus has now been integrated into schools to meet both spiritual and education needs in formal schools.

According to Abdulrahman, (2006) the social system that has guided the Somali since their entry into Northern Kenya is based on culture and traditions. The system revolves around the

kinship set-up that operated at sub-clan and clan level with slight variations from clan to clan. The dominant clans in North Eastern Kenya are the Ajuran, Degodia and Ogaden in Wajir district. In Garissa, the majority clans are the Ogaden while in Mandera the Gareh and Murule are dominant. At household level, decisions are made by the head who in turn is bound by the decision of his immediate "reer" the basic family unit consisting of related households. Disputes are settled by informal courts or Islamic courts which is the main religion. The traditional pastoral way of live has served the Somali community fairly well in the past. It had its unique way of providing education (through the Madrassa, schools), traditional medical facilities, communal land and security systems. The challenges of modern life demands restructuring of such systems this leads to a further change in pastoralism.

The social set up of Somali community resemble those of other pastoral community. Bollig and Osterle (2008) found that the Pokots of North West Kenya had communal land tenure systems, family and clan based ways of resolving conflicts. The focus of their work was on changing land tenure systems among the Pokots in Northern Kenya. The study found out a shift from communal pool resource management to individual ownership and agro-pastoralism. It was of interest for this study to find out if the same changes are happening among community in Tarbaj and its impact in their subsistence.

4.1.4 Economic factors influencing mode of subsistence

The researcher requested the respondents to indicate whether economic factors were influencing change of mode of subsistence in their community. The results are shown in figure 4.7.

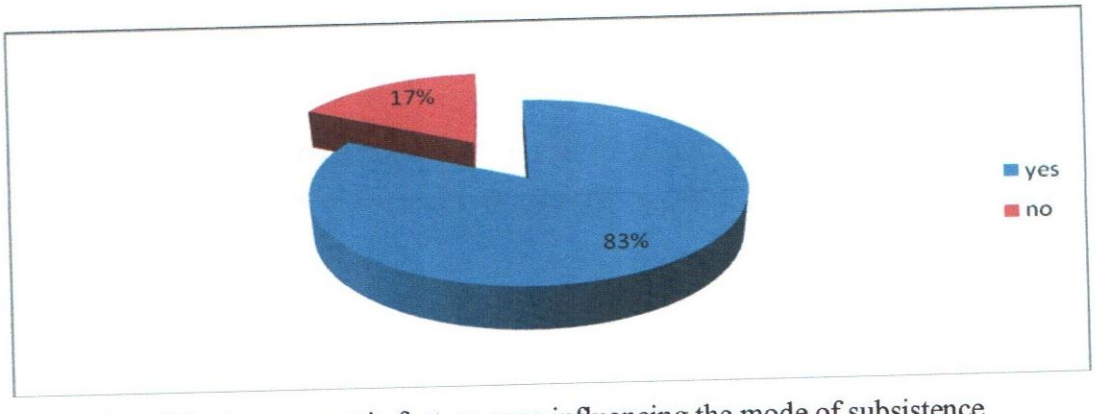


Figure 4.7 : Whether economic factors were influencing the mode of subsistence

The response on whether economic factors were influencing the mode of subsistence as shown by figure 4.7 was as follows; 83% of the respondents agreed that economic factors were influencing the mode of subsistence. The economic factors that were influencing the mode of subsistence included; restriction of animal movement, supply on relief food, revival of Kenya meat commission, availability of veterinary services, control of market prices, closure of borders, marginalization of regions, demarcation of regions into low and high potential areas.

This is because majority of these factors are closely related to government's role in promoting pastoralism. There are very few economic policies that promote pastoral way of life which have been put in place in this region. Consequently, the lack of support from governments in the region coupled with insecurity force the pastoralist to change their mode of subsistence.

a) The governments influence in change of modes of subsistence

The findings of this study show that the government has influenced changes in the subsistence of the people of Tarbaj in both positive and negative ways. The government's areas of influence include distribution of farm inputs, restriction of animal movements, supply of relief food, revival of Kenya meat commission, availability of veterinary services and demarcating the region into low and high potential areas.

The results on the effect of the government on the subsistence of the people of Tarbaj division show that 13.79% of the residents agreed that the distribution of farm inputs, that is fertilizers and seeds has affected their subsistence. Further, the respondents agreed that the restriction of animal movement (10.34%), supply of relief food (13.79%), revival of the Kenya meat commission (10.34%), availability of veterinary services (13.79%), ASK shows (6.89%), control of market prices (6.89%), lack of government financial support for business (6.89%), closure of borders stopping cross boarder business (6.89%) and demarcating the region into low and high potential areas affected their form of subsistence (10.34%). This information is represented in the table 4.4 below:

Table 4. 4: Influence of government in change of modes of subsistence

Influence of the Government on the subsistence	**F**	**%**
Policy of distribution of farm inputs (fertilizer and seeds)	4	13.79
Restriction of animal movement	3	10.34
Supply on relief food	4	13.79
Revival of Kenya Meat Commission	3	10.34
Availability of veterinary services	4	13.79
ASK shows	2	6.89
Control of market prices	2	6.89
Lack of government financial support for business	2	6.89
Closure of borders (stopping cross border business)	2	6.89
Demarcating the region into low and high potential areas	3	10.34
Total	**29**	**100**

Distribution of farm inputs and seeds has enabled the people of Tarbaj to get genuine inputs and seeds while being protected from scrupulous middlemen who take advantage of free market arrangements to exploit farmers. This has seen growth of crop farming as an alternative source of subsistence to the declining pastoralism. As much as restriction on animal movement is meant to protect communicable animal diseases from spreading, it also prevents the farmers from accessing animal markets for sale or simply moving to new pastures and water. This leads to either loss of income by not accessing animal markets or simply loosing the animals for lack of water and pasture. Revival of Kenya meat commission was a blessing to the community after the long closure. Many farmers could sell their animals to spend on other household needs. This has further been enhanced by improved provision of veterinary services especially to those shifting from pastoralism to dairy farming by the government. ASK shows have been of great use in providing information to farmers in both animal and crop husbandry. Control of market prices was very useful in terms of protecting the people from free market exploitation but the closure of borders limited cross border business hence greatly affecting the subsistence of those depending on such trade. Lack of

mobile schools affected the families who move in search of pasture and water because their children in and out of school hence affecting their performance if they happen to finish school. With this poor performance or failing to finish school makes it difficult for them to compete with other citizens on the job market. The division of the area into high and low potential areas had a bearing on allocation of resources.

b) Availability of local products and Information on market & credit facilities

Responses from leaders and family elders showed that, 12.5% agreed that it has improved farming, 15.3% agreed that it has enhanced business activities, 13.8% agreed that introduction of vernacular radio station[star fm] has improved market, 5.6% agreed that information from the ministry of trade has also improved market, 18.1% agreed that improved communication network has also improved market and information on credit facilities, 4.2% agreed constituency youth enterprise funds[CYES] which have made it easier for people to access local products and offer credit facilities, 12.5% agreed that the incompliance of the only bank to Shariah laws makes it hard to access credit facilities,11.1% agreed that availability of Constituency Development Fund[CDF] and 6.9% agreed availability of NGO's and Kenya Agricultural Productivity Project(KAPP). See table 4.5 below:

Table 4. 5 : Availability of local products and Information on market & credit facilities

Responses	**F**	**%**
Improved farming	4	12.5
Enhanced business activities	4	15.3
Introduction of vernacular radio station (Star fm)	4	13.8
Information from the ministry of trade	2	5.6
Improved communication network	5	18.1
Constituency youth enterprise funds (CYES)	1	4.2
Incompliance of the only bank to Shariah law	4	12.5
Availability Constituency development fund (CDF)	3	11.1
NGOs and Kenya Agricultural Productivity Project(KAPP)	2	6.9
Total	29	**100**

The availability of local products, information on market and credit facilities as an economic factor has influenced the subsistence of the people of Tarbaj. Improved farming and business are noted as emerging alternatives to traditionally practiced pastoralism. These improvements can be attributed to availability of information from ministry of trade, improved communication network and local vernacular radio station (star fm) on local products and credit facilities available. Availability of funds from Constituency youth enterprise funds [CYES], Constituency Development Fund [CDF] and Kenya Agricultural Productivity Project (KAPP) have enabled many people get capital to start projects that would give them income.

Mtuku (2001) pointed out that very few economic policies that promote pastoral way of life have been put in place in the horn of Africa since independence. However, lack of support from governments in the region coupled with insecurity forced the pastoralist to change their mode of subsistence. Mtuku study concentrated on pastoralism and conflicts in the horn of Africa. However his study did not deal with issues pertaining to changes in the mode of subsistence of the Somali of Tarbaj division. It is important to examine the impact of issues raised by Mtuku on the mode of subsistence of pastoral community.

c) Economic effects of land use on the subsistence

Land as an economic factor has affected the subsistence of the people of Tarbaj in various ways. For instance, 5% of the people agreed that land gives income from game reserves and national parks, 5% agreed that availability of land has led to growth of urban centres hence enhancing business and other related activities, 15% agreed that there is controlled grazing since land is communally owned, 30% agreed there has been proliferation of boreholes which has provided water for the animals, 25% agreed there is unreliability and insecurity of land tenure, while 20% agreed that there is land degradation due to new settlements. These results are shown in the figure below:

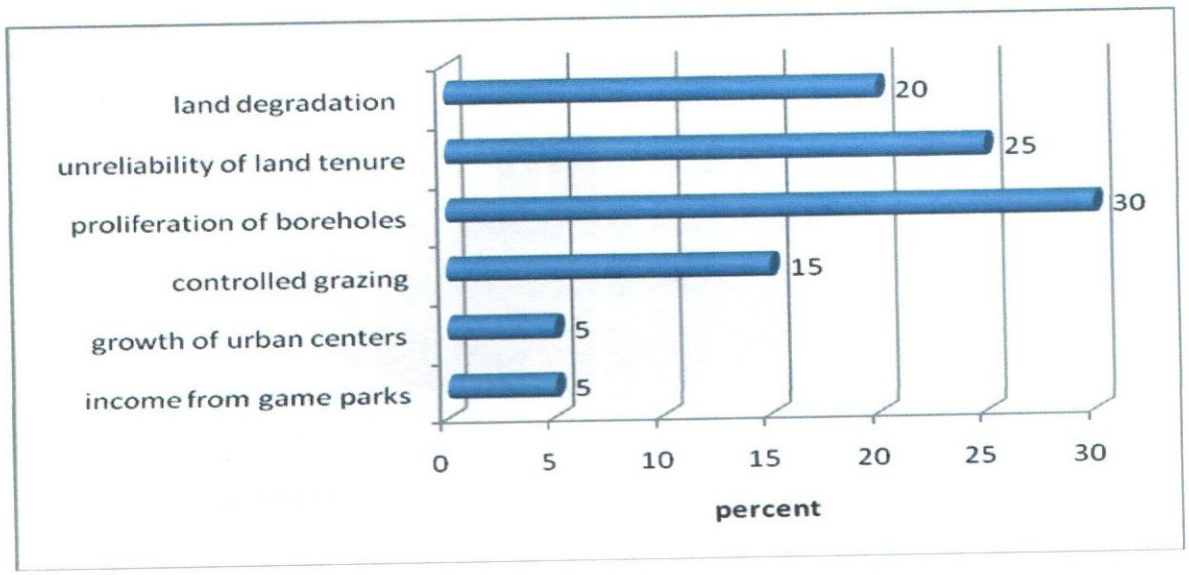


Figure 4.8: Economic effects of land use on the subsistence

The way land is used in Tarbaj division has had several economic effects on the people. This is because although income generated from people visiting the parks and game reserves may not benefit the people directly, the visits coupled with business activities have led to emergence of urban centres. These new settlements have resulted in land degradation despite hosting business activities that have changed people's lives. Digging of boreholes has made water available for both agriculture (animals and plants) and humans. Controlled grazing on Communal owned land has made the herding practice sustainable. However communal land ownership has been a hindrance on use of the land as a security in accessing credit facilities.

4.1.5 Environmental factors influencing on the subsistence

The researcher requested the respondents to indicate whether environmental factors were influencing the mode of subsistence.

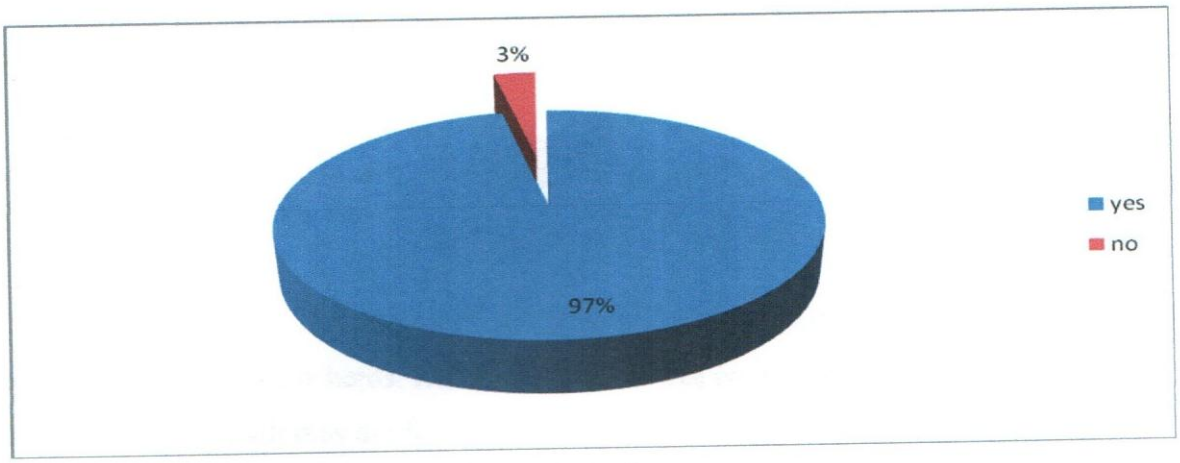


Figure 4.9: Factors were influencing the mode of subsistence

Figure 4.9 above shows the response on whether environmental factors were influencing the mode of subsistence.97% of the respondents agreed to it that environmental factors were affecting the mode of subsistence while 3% of the respondents disagreed.

Environmental factors (Land condition i.e. rainfall and vegetation and water access and availability) have influenced the subsistence of the people of Tarbaj. For instance, deforestation due to settlement leads to desertification prompting emergence of alternative forms of subsistence. Low and unpredictable rain continues to reduce vegetation cover. It also makes crop farming difficult unless supplemented by irrigation. Drought has led to loss of livestock due to lack of pasture and water but instead has created dependency on relief aid.

The respondents indicated that drought and famine are closely related to unreliable and inadequate rainfall and the environment of a given region. Land in ASAL areas which is inhabited by the Environmental factors (Land condition i.e. rainfall and vegetation and water access and availability) have influenced the subsistence of the people of Tarbaj. Deforestation due to settlement leads to desertification prompting emergence of alternative forms of subsistence. Low and unpredictable rain continues to reduce vegetation cover. It also makes crop farming difficult unless supplemented by irrigation. Drought has led to loss of livestock due to lack of pasture and water but instead has created dependency on relief aid.

Unfavorable climatic conditions play a critical role and often precipitate the need for pastoralists to migrate in search of pasturelands and water. During the dry season, sources of water become desiccated and lands turn arid. This forces young pastoralists to leave villages

with their livestock in search of water and grazing lands. It is during these times that pastoralists engage in conflict over herding territory and replenishment of lost cattle. When conditions are made worse by extended periods of drought, conflicts become more intensified and frequent.

A degraded environment cannot support a large herd, thus the pastoral community are forced to reduce the sizes of their herds. Reduction in herd size naturally leads to loss in income of the pastoralist as a result they are forced to seek alternative income.

The study realised that somali community are still firmly attached to the old traditional livestock rearing. During the dry seasons they move with their livestock to places where there is water and pasture often crossing into the territory of neighbouring community and districts. During dry spells, Somali community in Tarbaj migrate to neighbouring districts Like Marsabit, Moyale, Mandera and sometimes even cross into Ethiopia.

The study found out that a degraded environment is a challenge that is not faced by the Somalis alone but also other pastoral community in the region. Bolling and Osterle (2008) in a study carried out among Pokots of Northwest Kenya noted that they are also experiencing a degraded environment, inadequate water, changes from palatable to unpalatable grass and bushes in their pasture. They found out that the Pokots practice nomadism, herd diversification and dispersal of livestock property and widespread exchange networks to deal with environmental challenges. However, the study mostly examined the changes in violence among pastoral community of Northern Kenya without linking it to diminishing land for pasture, degraded environment and inadequate water.

In the past few decades, drought-related emergencies have risen sharply. Oxfam (2006), for instance, reports that from 1975 to 2006 the number of people affected by drought rose from 16,000 to an estimated three million. This calculation does not take into account that the population has also grown significantly, but not nearly as exponentially as those impacted by the recurrent droughts. The Turkana have been faced with a persistent drought problem since 1999. They call this event "Kichutanak," which means "it has swept away everything, even animals." In some areas of Turkana District, 70 percent of people's livestock were lost. In financial terms, this is equivalent to losing 70 percent of one's savings. Not surprisingly, prolonged drought and the cattle deaths associated with it brought escalating levels of violence in the region.

In the past, pastoralists had strategies for coping with the impacts of drought. However, more severe weather patterns resulting from climate change, coupled with colonial and post-colonial policies that constrain the movement of pastoralists, makes inter- and intra-tribal rivalries more commonplace.

The majority of the people in Kenya are pastoralists, deriving their livelihoods from livestock. Their accumulated experience enables them to cope with difficult climatic conditions such as drought. The Samburu understand drought; they can predict it and make preparations to alleviate its effects. Strategies of risk limitation, such as moving herds to better pasture and dividing the herd, or herd-size maximization – itself a major cause of environmental degradation – and species diversification to match the ecological condition of the area, are implemented before the drought begins, strategies aimed at ensuring the survival of the herds and limiting the damage to the pastoral production system. Those which come into operation after the onset of a drought focus on herd modifications by diversification of species, dispersion, distribution and expansion to protect against heavy losses and ensure the survival of people and animals through the drought period. These strategies, used by the Samburu for many years, are no longer helping to the degree they did in the past, making them vulnerable during periods of climatic stress. NGOs and the government have been involved in plans to promote development in pastoral areas but the development agencies compete among themselves and team work is lacking. Most policies are inadequate as they fail to address the social processes within pastoralist society, dealing only with technical problems such as water resource improvement, health care and range management.

4.2 Discussion

4.2.1 Changes in mode of subsistence

From the findings of the study the main form of subsistence for the people of Tarbaj division was pastoralism. In past years pastoralism has been on the decline due to reduced land. Apart from population explosion, land degradation continually reduces its potential carrying capacity for livestock herding. Livestock farming is another form of subsistence practiced by the people of Tarbaj. Alternative modes of livelihood have emerged including crop farming especially mixed farming on the reduced land sizes. Spencer (2004) indicated that the Somali are pastoralist and their subsistence is centred on livestock.

The people of Tarbaj were also practicing small scale Barter trade. They traded with other members of the district, neighboring community and across the borders of Kenya and Somali. The trade items included livestock like camels, cattle, goats, donkeys and sheep, livestock products like milk, hides, butter and ghee. They exchanged these items with cereals like maize, millet, sorghum and beans. Other pastoral groups are also faced with constrains similar to the ones facing the Somalis. Rigby (1981) reported that the Iparakuyo of Tanzania had long been faced with diminishing resources of suitable grazing and water facilities. This has led to decreased herds and increased dependence on crop based products. Bollig and Osterle work showed that there are changes in the Pokot's way of life due to the demands of modern cash economy couple with an ever increasing population. This has forced the Pokot to shift to individual property ownership and agro-pastoralism. This study realized that the community of Tarbaj has shifted to cash economy and agro/ pastoralism.

Another mode of subsistence practiced by the people of Tarbaj was craft. Wood carvings, woven chairs, stools, mats, guards, calabashes, traditional beds and baskets were made. These were made for sale to the neighboring community as well as for home use. The study also realized that gum resin production were also a source of subsistence. The gum is obtained from Hagar and Habagh trees that are locally found. It is locally used as traditional medicine where it is melted and diluted to be applied on livestock to prevent ticks. This has changed to new modes of subsistence such as entrepreneurship, crop farming and formal employment.

The study also realized that Tarbaj community was also practicing small scale farming. The crops grown include millet sorghum beans and maize this is grown during the long and short rain seasons usually for home consumption.

Trend in the mode of subsistence Tarbaj Division has been changing in the last 5 to 10 years. However alternative to traditional mode of subsistence (pastoralism) are emerging. These include changing crop farming especially mixed farming on the reduced land sizes by use of irrigation. More crops have been introduced in addition to the traditional drought resistant crops. They include tomatoes, pawpaws, cabbages, kales and capsicums. This has seen introduction of use of fertilizers and certified seeds from agricultural offices.

Other members of the community are engaged in commercial business (entrepreneurship) activities replacing barter trade. Involving transportation of livestock to slaughter houses at Athi River, Miraa (khat) business from Meru and sold to the local people. Bee keeping, crafts

work, and gum resin production. Although this is practiced at a minor level it is supplementing pastoralism whose main role of subsistence is on decline. Business also emerged as an emerging alternative form of subsistence.

The study revealed that the labor requirements for Livestock farming were a hindrance to school attendance for the school age going children. With the declining in livestock pastures and some people resorting to other modes of subsistence like business, the children could only attend school alongside Madrassa. This has enhanced the opportunities in employment (formal and informal) in many other sectors other than the traditional Madrassa teachers. The alternative formal employment opportunities to Duksi and Madrassa teaching include several government institutions like department of defense, police force, prison service, teachers' service commission, ministry of health and nursing council. There are also non-governmental organizations like Oxfam, Care International and community based organization. Traditionally when the pastoral community was fully depended on livestock there was no need of food aid or relief. Provision of relief food became necessary when drought, diseases persisted reducing dependence on livestock. From the views collected showed that none of the leaders supported relief aid as a form of subsistence while some of the family elders agreed that relief aid was an alternative form of subsistence.

Changes in Technology and developments in formal employment have shown major improvements in the last 5 – 10 years. They include mechanized transport in moving livestock to far markets and using road transport as opposed to use of camels for long distance travelling. There is improved communication especially use of mobile phones and Star fm in dissemination of information using local vernacular language. Medicare has improved by construction of Tarbaj health centre where women can access safe delivery services than previously when they relied on traditional birth attendants (midwives). With integrated system of education the enrolment is increasing because the system can cater for both educational and spiritual needs. This translates in increased formal employment. For instance, according to Wajir District plan (2000-2008) by the year 1999 it was estimated that 8996 were undergoing primary education and by the year 2008. It was estimate that 128546 which is 27 percent of the total population would attend school. Based on the protected primary school population there is need to improve existing education facilities and also establish new primary schools to cope with the growing demand for primary education. In addition there is also a need to establish more youth polytechnics and other skill training

centers to abhor the demand of primary school level. Small scale crop farming was practiced. The crops grown include millet sorghum beans and maize this is grown during the long and short rain seasons usually for home consumption.

According to Roger, (1999) climatic, demographic and economic changes are beginning to threaten the existence and long-term sustainability of CPRs in the region. Although the region has always experienced wide variations in annual rainfall, available evidence indicates that rainfall has been consistently below the long-term average every year from 1969-1990. At the same time, the region has experienced a rapid population growth of about three per cent per annum. The combination of increasing aridity, drought and population pressure has resulted in substantial shifts in land use and put stress on CPRs. In the absence of sufficiently rapid and widespread technological change, population growth and declining rainfall have led to the expansion of area under cultivation. This expansion has involved mainly the conversion of large areas of CPRs such as forests, wetlands and rangelands into cropland, with farmers overriding and ignoring the traditional rights of other groups to these resources.

These changes have had devastating consequences on Tarbaj pastoralists whose mode of production make them particularly dependent on common pool resources. The long periods of low rainfall and severe droughts have accelerated the deterioration of rangelands. At the same time, arable land expansion has resulted in a reduction of natural rangeland and seasonal inaccessibility to remaining pastures due to fragmentation caused by cropping low-lying areas previously used for dry-season grazing. The net effect has been a restriction in the mobility of pastoralists' herds and the concentration of increasing numbers of livestock on smaller areas which destroys pasture vegetation and contributes to range degradation. The loss of rangeland through alienation and encroachment of farming has heightened conflicts between farmers and pastoralists.

4.2.2 Socio-cultural factors influencing mode of subsistence

The social structure of Somali operates at three main levels; clan, sub-clan, sub-clan family lineage, and *diya* paying group (Nunow, 2000). At household level, decisions are made by the head. The right of use of community land is obtained through occupation by one group. Water source may belong to a sub-clan, clan or individual but use can be reached with others wishing to use it through various means of returns or obligation which are already in place. Common pool resource management (CPR) is a feature that is common among pastoral

community. Emsinger (1992) in a study carried out among the Orma pastoralists found out that they had well established regulations set by elder of access to grazing from the village level to the whole community level. Bollig *et al.*, (2003) in study done on Institutional and Socio-economic Transformation among the Pokots of North West Kenya, found out the community had clan based land ownership and kinship based wealth ownership and management. Bollig and Osterle work showed that there are changes in the Pokot's way of life due to the demands of modern cash economy couple with an ever increasing population. This has forced the Pokot to shift to individual property ownership and agro-pastoralism.

The study realized that socio-cultural factors such as education, security, employment, population, cultural traditions and religion have influenced the lives of people of Tarbaj division. For instance, improvements in formal education reduced the available labour for pastoralism. This is because the school going age children who were useful in the herding duties shifted to go to school. However, this enhanced the opportunities in competing for formal jobs in addition to Madrassa teaching.

The increased enrollment translated into increased opportunities for formal employment. Employment is mainly provided by the public sector, which absorbs less than 2% of the labour force. Otherwise livestock herding where the majority of the labour force is considered as unemployment by many of the local residents provides the bulk the employment. For instance projected labour force (15- 64 years) shows 156162 people in 1999 to 187897 in 2004 and 217869 in 2008 which is 47% of the total population.

Tarbaj is in Wajir district which is considered to harbor a large consignment of illicit arms than the other districts. The district's proximity to Somalia has made acquisition and trafficking of small arms and light weapons lucrative and an alternative pre-occupation of the unemployed youths and other belligerent groups in the district. There are widespread allegations from conflict actors in the other pastoralists' districts in Kenya that apart from South Sudan and Eastern Uganda, Somalia, through Wajir and other North Eastern districts is a big source and conduct of small arms proliferation. Police also believe that arms used by thugs in Kenyan urban centers are coming from Somalia through North Eastern province. Arms proliferation has made cattle rustling and other conflicts (shifta banditry) more deadly and heinous. Arms played a leading role in all the major conflicts that have rocked the district in the recent past. A number of lives and property have been lost and many people displaced as a result of illicit arms backed conflicts. Nevertheless, the people of Wajir district have

come up with a home-grown model for peace building. This initiative, which has transformed itself into the model Wajir peace and development committee, has played a vital role not only in mitigating conflicts but also in combating proliferation of illicit arms. Men, women, youth, religious leaders and local civil servants are the active members of the committee, which has networks at the sub-location level. Most of the conflicts have their root causes to natural resources, namely pasture, water and land.

Increased population has reduced land for pastoralism leading to environmental degradation. This has increased the poverty index making it necessary to be on relief food programme.

Traditional practice of marriage involved girls of ages as early as 13years. This was motivated by payment of Yarad (bride-wealth) which varied according to the particular situation, the standing of the parties involved. The quality of the bride and the aims of the groups concerned with establishing links between villages. The Somali exchanged both a yarad and dibaad (dowry). This was paid with livestock, camels and cattle being most prestigious animals, and in some areas horses, firearms and cloths. Marriage is legalized by holding a proper Muslim ceremony. This practice is now diminishing with introduction of formal schools where girls attend. This empowers them economically unlike before where they could only be house wives.

The traditional practice of overstocking contributed to environmental degradation where pasture and water diminished. This has led to reduced stocking to cope with the limited water and pasture. This has also led to adopting alternative modes of subsistence.

Religion has also influenced the Somali organization. Islam provided a satisfying link in Somali society. Most nomads were adherents of some sect; the two supports of Somali race society were the Waranleh (spear bears) and the Wadaad (sheikhs). Islam has been at the fore front in promotion of unity and brotherhood. The establishment of Madrassa schools and mosques has created employment of Madrassa teachers and imam. Islam Encourages hard work and assistance of the poor by payment of alms. This is especially during the month of Ramadhan when Muslims are obliged to pay Zakat-ul –fitr. This is in addition to Zakat- ul Maal. The Madrassa syllabus has now been integrated into schools to meet both spiritual and education needs in formal schools. The study revealed that the labor requirements for Livestock farming were a hindrance to school attendance for the school age going children. With the declining in livestock pastures and some people resorting to other modes of

subsistence like business, the children could only attend school alongside Madrassa. This has enhanced the opportunities in employment (formal and informal) in many other sectors other than the traditional Madrassa teachers.

Security characterized by cattle rustling and conflicts over limited sources of water and diminishing pastures has greatly affected the lives of people in Tarbaj division. This is because the wider Wajir district is considered to harbour a large consignment of illicit arms than the other districts. The district's proximity to Somalia has made acquisition and trafficking of small arms and light weapons lucrative and an alternative pre-occupation of the unemployed youths and other belligerent groups in the district (Ruto *et al.*, 2003).

Arms played a leading role in all the major conflicts that have rocked the district in the recent past. A number of lives and property have been lost and many people displaced as a result of illicit arms backed conflicts. Nevertheless, the people of Wajir district have come up with a home-grown model for peace building. This initiative, which has transformed itself into the model Wajir peace and development committee, has played a vital role not only in mitigating conflicts but also in combating proliferation of illicit arms. Men, women, Youth, religious leaders and local civil servants are the active members of the committee, which has networks at the sub-location level. This is why roads in Wajir district and the entire North Eastern province are relatively safe in comparison to Kapenguria-Lokichogio, and Rumuruti-Maralal roads.

Establishment of new settlements involves clearing of available vegetation, reducing land available for either pastoralism or the emerging crop farming. The population growth in the district is rapid due to socio-cultural practices which are common to pastoralists' society for example there is a high rate of polygamy in the district which possibly explains the prevailing 3.7 percent population growth rate. The ability for the district to house, feed, educate and provide health and security for its people is severely constrained since most of the social infrastructure facilities were planned for a smaller number of people. The majority of the population is found below the age of 25years.

4.2.3 Economic factors contributing to changes in mode of subsistence

Government policies have influenced the changes of mode of subsistence of the people of Tarbaj both positively and negatively. The government`s policy areas of influence include distribution of farm inputs, restriction of animal movements, supply of relief food, revival of

Kenya meat commission, availability of veterinary services and demarcating the region into low and high potential areas. According to Markakis (1993) argued that livestock based products dominate the economy of Somali community in North Eastern Kenya. Trade and exchange is not only limited to livestock but also its by-products such as milk, hides, skins, and butter. Pastoralist who have never had much demand for supplementary food also engage in the buying and selling of goods they cannot produce e.g. cloths, veterinary drugs, tea and other consumer goods.

The study also realized that policy on distribution of farm inputs that is fertilizers and seeds has affected their subsistence. Other policies affecting the mode of subsistence include; restriction of animal movement, supply of relief food, revival of the Kenya meat commission, availability of veterinary services, ASK shows, control of market prices, lack of government financial support for business, closure of borders (stopping cross boarder business), lack of mobile school since Tarbaj is a pastoralists region, demarcating the region into low and high potential areas and marginalization of the region also affected their form of subsistence.

The policy on distribution of farm inputs and seeds has enabled the people of Tarbaj to get genuine inputs and seeds while being protected from scrupulous middlemen who take advantage of free market arrangements to exploit farmers. This has seen growth of crop farming as an alternative source of subsistence to the declining pastoralism. As much as restriction on animal movement is meant to protect communicable animal diseases from spreading, it also prevents the farmers from accessing animal markets for sale or simply moving to new pastures and water. This leads to either loss of income by not accessing animal markets or simply loosing the animals for lack of water and pasture. Revival of Kenya meat commission was of great benefit to the people of Tarbaj. Many farmers could sell their animals to spend on other household needs. This has further been enhanced by improved by provision of veterinary services especially to those shifting from pastoralism to dairy farming by the government. ASK shows have been of great use in providing information to farmers in both animal and crop husbandry. Government policy on control of market prices was very useful in terms of protecting the people from free market exploitation but the closure of borders limited cross border business hence greatly affecting the subsistence of those depending on such trade. Lack of mobile schools affected the families who move in search of pasture and water because their children in and out of school hence affecting their performance if they happen to finish school. With this poor performance or failing to finish

school makes it difficult for them to compete with other citizens on the job market. The division of the area into high and low potential areas had a bearing on allocation of resources. When the government policy puts the high potential area in preference over the low potential area, it disadvantages the people residing in the low potential area.

The respondents agreed that government policies had improved farming and enhanced business activities. Introduction of vernacular radio station [star fm] has improved market. information from the ministry of trade has also improved market, improved communication network has also improved market and information on credit facilities, constituency youth enterprise funds[CYES] which have made it easier for people to access local products and offer credit facilities, incompliance of the only bank to Shariah laws makes it hard to access credit facilities, availability of Constituency Development Fund[CDF] and availability of NGO's and Kenya Agricultural Productivity Project(KAPP).

Land as an economic factor has affected the subsistence of the people of Tarbaj in various ways. For instance, the land gives income from game reserves and national parks, availability of land has led to growth of urban centers hence enhancing business and other related activities, there is controlled grazing since land is communally owned, there has been proliferation of boreholes which has provided water for the animals, there is unreliability and insecurity of land tenure, and there is land degradation due to new settlements.

The availability of local products, information on the market and credit facilities as economic factors has influenced the livelihood of the people of Tarbaj. Improved farming and business are noted as emerging alternatives to traditionally practiced pastoralism. These improvements can be attributed to availability of information from the ministry of trade, improved communication network and local vernacular radio station (star fm) on local products and credit facilities available. Availability of funds from constituency youth enterprise funds (CYES), constituency development fund (CDF) and Kenya Agricultural Productivity Project (KAPP) have enabled many people get capital to start projects that would give them income.

4.2.4 Environmental factors contributing to changes in mode of subsistence

Environmental factors (Land condition i.e. rainfall and vegetation and water access and availability) have influenced the subsistence of the people of Tarbaj. For instance, deforestation due to settlement leads to desertification prompting emergence of alternative forms of subsistence. Low and unpredictable rain continues to reduce vegetation cover.

Sparse and erratic rains exacerbated the situation. Rain fell only during two seasons. The gu or long rains came during the months of march through may whereas the dir or short rains occurred from late October through mid-December. The volume of rainfall in a given month however was highly unpredictable. Other types of soil affecting the nomadic way of life ranged from dusty, grey, soft or adabla which provided good grazing for cattle, to the black moist boji which could be cultivated, little cultivation occurred. Agriculture suffered more from lack of water than any other factor, since the land held insufficient minerals for farming. It also makes crop farming difficult unless supplemented by irrigation. Drought has led to loss of livestock due to lack of pasture and water but instead has created dependency on relief aid.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter presented the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the objectives of the study which were to assess the changes in mode of subsistence among the Somali community, to establish the socio-cultural factors that contribute to changes in the mode of subsistence among the pastoral community, to identify the economic factors that contributes to changes in the mode of subsistence among the community and to determine the environmental factors that contributes to changes in the mode of subsistence among the Somali community of Tarbaj division.

5.1 Summary

5.1.1 Mode of subsistence among families of Tarbaj Division

This study found that the main form of subsistence for the people of Tarbaj division was pastoralism. Land degradation continually reduces its potential carrying capacity for livestock herding. Views of the leaders and the family elders on the mode of subsistence for the people of Tarbaj were collected.

The study also realized that small scale barter trade was practiced among the people of Tarbaj. The respondents indicated that they traded with other members of the district, neighboring community and across the borders of Kenya and Somali.

From the results, bee keeping was one of the traditional modes of subsistence practiced on small scale. The respondents also indicated that this was usually for home consumption but also excess was sold especially during the harvest the hives (Gagur) are made of dug out logs smeared with sugar paste to attract the bees.

Wood carvings, woven chairs, stools, mats, guards, calabashes, traditional beds and baskets were also used as another mode of subsistence. They were made for home use and also for sale to the neighboring community. The study also revealed that gum resin productions were also a source of subsistence. The gum is obtained from Hagar and Habagh trees are locally

found. It is locally used as traditional medicine where it is melted and diluted to be applied on livestock to prevent ticks. It is also produced for sale.

Formal employment opportunities in Tarbaj included local Qur'anic schools (Duksi) teachers where only the Qur'an is taught and Madrassa where several subjects are taught including (Islamic theology, Arabic language, philosophy of Islam, history of Islam, hadith (teachings of the prophet Muhammad) and Ulmul Qur'an (science of Qur'an and Tafsir (interpretation. Others were employed as herders.

The study found out that other members of the community are engaged in commercial business (entrepreneurship) activities replacing barter trade. Involving transportation of livestock to slaughter houses at Athi River, Miraa (khat) business from Meru and sold to the local people. Bee keeping, crafts work, and gum resin production. Although this is practiced at a minor level it is supplementing pastoralism whose main role of subsistence is on decline.

It was also revealed that labor requirements for Livestock farming was a hindrance to school attendance for the school age going children. With the declining in livestock pastures and some people resorting to other modes of subsistence like business, the children are now able to attend school alongside Madrassa. This has enhanced the opportunities in employment (formal and informal) in many other sectors other than the traditional Madrassa teachers. The alternative Formal employment opportunities to Duksi and Madrassa teaching include several government institutions like department of defense, police force, prison service, teachers' service commission, ministry of health and nursing council. There are also non-governmental organizations like Oxfam, Care International and community based organization.

5.1.2 Socio-cultural factors influencing mode of subsistence

The study found out that socio-cultural factors were influencing the mode of subsistence. The socio-cultural factors that were influencing the mode of subsistence of Tarbaj people were: Education, Employment, Security, Population, Cultural traditions and Religion.

The findings of this study show that traditionally pastoralism was a practice undertaken by youth. With increased enrollment in formal schools reduced labor for looking after cattle. Primary school going age group (6-13 years) showed that there were 89960 in 1999 to 128546 in 2008 which is 27 % of the total population while secondary going age group (14-17 years) showed that we had 36445 children in 1999 to 43851 in 2004 and 50846 in 2008

which is 11.4% of the total education. The increased enrollment as shown by the study translated into increased opportunities for formal employment. Employment is mainly provided by the public sector, which absorbs less than 2% of the labor force.

Traditional practice of marriage involved girls of ages as early as 13years. This was motivated by payment of Yarad (bride-wealth) which varied according to the particular situation, the standing of the parties involved. The quality of the bride and the aims of the groups concerned with establishing links between villages. The Somali exchanged both a yarad and dibaad (dowry). This was paid with livestock, camels and cattle being most prestigious animals, and in some areas horses, firearms and cloths. Marriage is legalized by holding a proper Muslim ceremony. This practice is now diminishing with introduction of formal schools where girls attend. This empowers them economically unlike before where they could only be house wives. The traditional practice of overstocking contributed to environmental degradation where pasture and water diminished. This has led to reduced stocking to cope with the limited water and pasture. This has also led to adopting alternative modes of subsistence.

5.1.3 Economic factors influencing mode of subsistence

Economic factors influence the modes of subsistence of the people of Tarbaj. The effect of government on the subsistence of the people of Tarbaj division are; policy on distribution of farm inputs, that is fertilizers and seeds has affected their subsistence, the restriction of animal movement, the supply of relief food, the revival of the Kenya meat commission, the availability of veterinary services, the ASK shows, control of market prices, lack of government financial support for business, closure of borders[stopping cross boarder business], lack of mobile school since Tarbaj is a pastoralists region, demarcating the region into low and high potential areas and marginalization of the region also affected their form of subsistence.

Land as an economic factor has affected the subsistence of the people of Tarbaj in various ways. For instance, 5% of the people agreed that land gives income from game reserves and national parks, 5% agreed that availability of land has led to growth of urban centers hence enhancing business and other related activities, 15% agreed that there is controlled grazing since land is communally owned, 30% agreed there has been proliferation of boreholes which has provided water for the animals, 25% agreed there is unreliability and insecurity of land tenure, while 20% agreed that there is land degradation due to new settlements.

5.1.4 Environmental factors influencing on the subsistence

The study also realized that environmental factors were influencing the mode of subsistence of the people of Tarbaj. Environmental factors (Land condition i.e. rainfall and vegetation and water access and availability) have influenced the subsistence of the people of Tarbaj. For instance, deforestation due to settlement leads to desertification prompting emergence of alternative forms of subsistence. Low and unpredictable rain continues to reduce vegetation cover. It also makes crop farming difficult unless supplemented by irrigation. Drought has led to loss of livestock due to lack of pasture and water but instead has created dependency on relief aid.

5.2 Conclusions

5.2.1 Empirical conclusion

This study concludes that the main form of subsistence for the people of Tarbaj was livestock farming. Other modes of subsistence were found to be; bee keeping, craft work, gum/ resin production, self employment and crop farming. The study also found out that labor requirement for livestock farming was a hindrance to school attendance for the school age going children. With the declining in livestock pastures and some people resorting to other modes of subsistence like business, the children are now able to attend school alongside Madrassa.

The study also revealed that socio-cultural factors were influencing the mode of subsistence in Tarbaj division. These socio-cultural factors include; education, employment, security, population, cultural traditions and religion. Traditionally, pastoralism was a practice undertaken by youth. The increased enrollment translates into increased opportunities for formal employment. Religion has influenced the Somali organization where most nomads are adherent of sects like Waranleh (spear bears) and the Wadaad (sheikhs).

The study also realized that economic factors were influencing the mode of subsistence in the Somali community. The effect of government policy on the subsistence of the people of Tarbaj division were; distribution of farm inputs, restriction of animal movement, revival of the Kenya meat commission, availability of veterinary services, ASK, control of market prices, lack of government financial support for business and closure of the Kenyan boarders. Land as an economic factor has affected the subsistence of the people by giving income from game reserves and national parks to proliferation of boreholes which provided water for the animals.

Environmental factors (Land condition i.e. rainfall and vegetation and water access and availability) have influenced the subsistence of the people of Tarbaj. Deforestation due to settlement leads to desertification prompting emergence of alternative forms of subsistence. Low and unpredictable rain continues to reduce vegetation cover. It also makes crop farming difficult unless supplemented by irrigation. Drought has led to loss of livestock due to lack of pasture and water but instead has created dependency on relief aid.

These changes have had devastating consequences on pastoralists whose mode of production make them particularly dependent on common pool resources. The long periods of low rainfall and severe droughts have accelerated the deterioration of rangelands. At the same time, arable land expansion has resulted in a reduction of natural rangeland and seasonal inaccessibility to remaining pastures due to fragmentation caused by cropping low-lying areas previously used for dry-season grazing. The net effect has been a restriction in the mobility of pastoralists' herds and the concentration of increasing numbers of livestock on smaller areas which destroys pasture vegetation and contributes to range degradation. The loss of rangeland through alienation and encroachment of farming has heightened conflicts between farmers and pastoralists.

5.2.2 Theoretical conclusion

The systems theory was developed within sociology through the works of Bossel's and others. The theory is based on several fundamental ideas; First, all phenomena can be viewed as a web of relationship between elements or systems, subsystems and subrasystems and their characteristics and interrelations with one another, for various purposes or activities and their goals. Systems theory has been used in various disciplines, such as social, economic and human studies, to help solve problems in an orderly and systematic fashion. Systems theory is not restricted to one discipline, but takes into account the relationships between various specialized disciplines and their contributions to one another. The concept of a system therefore relates to the structure, operation or functions of an entity as a whole, as it is composed of united and integrated parts. All the elements of a system work towards achieving a common goal.

A couple of decades ago Somali community in Tarbaj division were pastoral who depend entirely on livestock for their subsistence. These community and others in North Eastern Kenya are now faced with many difficulties in survival. They have to contend with drought,

periodic famine, regular livestock loses and poor livestock infrastructure. These problems combined with increasing population pressure and decreased pasture due to agricultural activities has seriously affected pastoralism. The pastoral way of life among community can be viewed as the system. The elements that affect this way of life (pastoralism) are the social, economic and environmental conditions as subsystems in the division. The elements or conditions in the system are closely interdependent and action or condition that affects one element affects all the others in the system. Thus the study found out87 that the Somali community which in the past depended wholly on pastoralism as their only mode of subsistence have today adapted an alternative mode of subsistence which is an increasing diversification of economic activities besides the pastoral domain of livestock keeping. Bee-keeping, weaving, resin and gum production, farming and business are the most important activities outside the bigger settlements and quite a number of households implement more than one additional activity besides livestock husbandry. The implication of the general systems approach is to be as certain as possible that the change in mode of subsistence among pastoral Somali community is inevitable because it is in consistent with the total demands of the environment. This approach enables the pastoralists to become decision-makers which gives them the power to improve on their mode of subsistence.

5.3 Recommendations

5.3.1 Recommendations for policy

This study recommends that;

Somali community in Tarbaj division should adopt new modes of subsistence such as formal employment opportunities, crop farming and commercial business. This study revealed that effects of drought on livestock had reduced dependence on livestock in the region.

The government should form policies to safeguard common pool resources like water catchment areas and pastoral land. Misuse of resources from common pool such as water catchment areas and land can lead to conflicts between communities.

The government should ensure establishment of more formal schools within the region. This will enable the people of Tarbaj to get formal employments and lead to the curbing of unprofitable cultural activities and illicit arms trade.

To ensure security in the region the government should increase the number of police posts in the region. This will assure the residents of protection against cattle rustling and raids from the neighboring community.

5.3.2 Recommendations for further research

From the study, the researcher recommends a further research in the area of effects of changes in mode of subsistence among Somali community. This study focused on determining the factors contributing to changes in modes of subsistence among pastoral Somali community. This shows that there is an unfilled gap on the effects of changes in mode of subsistence among Somali community.

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APPENDICES

Appendix A: Interview schedule for Sub-clan family elders

General information

1. Please indicate your gender

   Male [ ] Female [ ]

2. What is your age bracket?

   Below 25 years [ ]

   25 to 35 years [ ]

   35 to 45 years [ ]

   45 to 55 years [ ]

   Above 55 years [ ]

3. What is your highest level?

   Primary education [ ]

   Secondary education [ ]

   College [ ]

   Graduate [ ]

   Post graduate [ ]

Modes of subsistence

4. Which are the most common modes of subsistence used in Tarbaj Division?

   Crop farming [ ]

   Formal employment [ ]

   Gum/resin [ ]

   Crafts work [ ]

   Bee keeping [ ]

   Business [ ]

   Livestock farming [ ]

5. Please select the mode of subsistence you use

   Livestock farming [ ]

   Crop farming [ ]

   Formal employment [ ]

   Gum/resin [ ]

   Crafts work [ ]

   Bee keeping [ ]

   Business [ ]

6. Do socio cultural factors influence mode of subsistence in Tarbaj division?

   Yes [ ] No [ ]

7. Do economic factors influence mode of subsistence in Tarbaj division?

   Yes [ ] No [ ]

8. Does the government have any influence on the following modes of subsistence?

Influence of the Government on the subsistence	**Responses**
Policy of distribution of farm inputs (fertilizer and seeds)	[ ]
Restriction of animal movement	[ ]
Supply on relief food	[ ]
Revival of Kenya Meat Commission	[ ]
Availability of veterinary services	[ ]
ASK shows	[ ]
Control of market prices	[ ]
Lack of government financial support for business	[ ]
Closure of borders (stopping cross border business)	[ ]
Demarcating the region into low and high potential areas	[ ]

9. In your own opinion, does the community have information on local products, market and credit facilities?

	Responses
Improved farming	[ ]
Enhanced business activities	[ ]
Introduction of vernacular radio station (Star fm)	[ ]
Information from the ministry of trade	[ ]
Improved communication network	[ ]
Constituency youth enterprise funds (CYES)	[ ]
Incompliance of the only bank to Shariah law	[ ]
Availability of Constituency development fund (CDF)	[ ]
NGOs and Kenya Agricultural Productivity Project(KAPP)	[ ]

10. Do environmental factors influence modes of subsistence in Tarbaj division?

    Yes [ ] No [ ]

Appendix B: Sub-Clan Family Elders' Group Discussion Guide

Section I: Mode and trends in ways of subsistence

1. Discuss the following source of subsistence in relation to Tarbaj division

Livestock	[ ]
Employment	[ ]
Farming	[ ]
Business	[ ]

2. Changes in mode of subsistence areas to focus on during discussions:
   - Are there changes?
   - What are the changes
   - What have been the change trends in the last 5 – 10 years?

Section II: Factors contributing to changes in mode of subsistence.

Economic factors

2. Do economic factors influence changes in mode of subsistence?
3. Discuss how local products, government policies, information on markets, credit, and land influence change in subsistence

Socio-cultural factors

4. Do socio-cultural factors influence changes in mode of subsistence?
5. Examine how education, security, employment, population, traditions, culture and religion affects subsistence of community

Environmental factors

6. Do environmental factors influence changes in mode of subsistence?
7. Discuss the role of land condition (rainfall and vegetation), water (access and availability) in changing the mode of subsistence of community.

Appendix C: Leaders' Interview Guide

Section I: Mode of subsistence and trends

1. Which are the modes of subsistence of families in your ward/location?
2. Are there changes in mode of subsistence?
   - Which areas have changes been observed?
   - What have been the change trends in the last 5 – 10 years?

Section II: Factors contributing to changes in mode of subsistence.

Economic factors

3. Do economic factors influence changes in mode of subsistence?
4. How do local products, government policies, information on markets, credit, and land influence change in subsistence

Socio-cultural factors

5. Do socio-cultural factors influence changes in mode of subsistence?
6. Examine how education, security, employment, population, traditions, culture and religion affects subsistence of community

Environmental factors

7. Do environmental factors influence changes in mode of subsistence?
8. What is the role of land condition (rainfall and vegetation), water (access and availability) in changing the mode of subsistence of community.

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