

GENDER AND THE SOCIAL AND ECONOMIC IMPACT OF DROUGHT ON THE RESIDENTS OF TURKANA DISTRICT IN KENYA

Abstract: The study seeks to assess the adaptive strategies employed by men and women within their respective social and economic backgrounds to cope with challenges in the drought-stricken Turkana District.

The study utilizes qualitative research methods to exhaustively and effectively explore the famine situation in the district. Consequently, purposive sampling was used to select three locations with varying climatic and social conditions within the district. These are: the dry purely pastoralist Kapua area, the pastoralist agricultural area near Turkwell River and the Kalokol area near Lake Turkana, where fishing is done. Key informant interviews were used to obtain data from village elders, government officials and men and women living in the district. Focussed group discussions were used with officials working with the Catholic Christian Fund, a non-governmental organization working in the district to alleviate the effects of drought. Direct observations of the social environment and document analysis of related literature from various sources were also used. The data analysis tools included content analysis and simple statistical methods to complement the qualitative data.

Although both men and women play important roles in the pastoral economies, women's roles were found to be more taxing and crucial since women were responsible for cultural reproduction in addition to domestic chores and livestock production activities.

It was found that drought affected the performance of gender roles due to the scarcity of basic resources for both humans and animals. The greatest challenge faced by men was the reduction in their authority as household heads and breadwinners since women were in charge of the famine relief food. The challenges women faced constituted lack of time and energy to perform their gender roles under the strenuous drought conditions.

The adaptive strategies employed by both men and women were noted to be creative and practical, centring on the physical and social environment and on gender roles. They included pastoral supportive activities such as agriculture and fishing, migration, use of wild fruits and dried plants as human and animal food, herd splitting, food preservation and water conservation methods, assistance from charitable organizations, formation of youth/women groups, and other economic activities. The study has identified gender as the main determinant of how well the residents coped with drought. However, gender was complemented and affected by factors such as proximity to urban centres, the lake and the river; socio-economic status; and availability of social networks.

1. INTRODUCTION

1.1 Background

African countries, especially those south of the Sahara, are repeatedly affected by desertification resulting from severe droughts that cause loss of human life and large-scale displacement of populations (United Nations 1984). In Kenya, for example, drought has hit most parts of the country since the short rains failed in 1998. During this period, marginal agricultural lands lost at least 80% of their maize crop. The same trend continued through 1999 with the long rains, which were below average and poorly distributed in most parts of the country (*Daily Nation*, 2nd December 1999). At present, the drought has spread to most parts of the country except for a few areas in the western and coastal districts. Districts hit most by the drought include Marsabit, Tana River, Garissa, Samburu, Kajiado, Mwingi, Makueni, Kitui, Machakos, Mbere and Tharaka (*Daily Nation*, 9th February 2000). However, the worst hit is Turkana District, where food donations have continuously been made to save the people from starving to death (*Daily Nation*, 9th February 2000).

Turkana District is the largest in the country. However, despite its size, it is the least developed district in the country (GOK 1998). This can be partly explained by the harsh climatic conditions inherent in the area. Turkana, which is situated in the arid and semi-arid lands, experiences low rainfall and high temperatures that hinder any significant agricultural development. Livestock production is, therefore, the main economic activity that occurs under a pastoralistic culture. Within this culture, men and women perform different tasks to sustain the households. Men basically do the herding, while it is the responsibility of women to build the houses and fences; clean the animal sheds; and milk the cattle and goats, take care of their feeding and provide water for them. In addition, women also skin animals and sell the hides. All these tasks performed by women are in addition to their "normal" domestic chores that include fetching drinking water and firewood, cooking and child rearing (UNICEF/GOK 1998; Anderson and Brouch 1999).

Over the years, drought has had adverse effects on the lives of people living within Turkana District. It has led to widespread loss of livestock, pasture and browse. Therefore, since these people rely on their livestock for survival, starvation and even death have been reported because of the drought (*Daily Nation*, 2nd December 1999). Other effects of the drought include malnutrition especially among children, school dropout especially among girls and an increase in human and animal diseases (Gorham 1980; *Daily Nation*, 29th January 2000). The effects of drought and the resultant famine pose challenges to both men and women in Turkana District. However, as a result of the prolonged stay in this harsh environment, these people have devised coping strategies. The nature of the challenges faced and the coping strategies employed vary depending on the gender roles within the pastoralist setting. For example, men and women have to

walk long distances in search of pasture and water, respectively. However, women have to combine this with their domestic chores, compounding their situation. Women have, therefore, to look for ways of preserving food and purifying drinking water for human consumption.

Similarly, whether it is amongst men or women, there exist differences in terms of age, marital status, educational level, economic capacity and societal connections. These factors also affect the nature of the problems and challenges they face and the coping strategies they have adapted in the famine situation. Thus, the study sets out to examine the gender-differentiated problems and challenges faced by both men and women in the drought situation and the adaptive strategies they employ. The study also aims at determining the differentiated strategies designated by both men and women amongst the varying social and economic categories within each gender.

1.2 Statement of the Problem

Although drought normally affects only the semi-arid and arid lands in Kenya, it has over the years spread to almost all parts of the country. The rain patterns have been erratic and this has resulted in the failure of most crops. People in most parts of the country have had to go for long periods without food and water. However, Turkana District has been affected the most by this drought, leading to loss of animals and even human life. Yet, people living within this semi-arid district have had to survive these harsh climatic conditions for years. Both men and women have faced the problems and challenges of looking for water and pasture for their livestock – their only source of livelihood. But with the drought now affecting many other parts of the country, there is so much that can be learned from these pastoral people who have made adaptations to a difficult environment for years. For example, we can borrow from them the indigenous and improved systems of water delivery and discovery and use these in the present drought situation affecting other parts of the country.

Further, valuable additional knowledge can be obtained from pastoral women who have multiple gender roles to play within this harsh environment. For example, a lot can be learned in terms of the methods they employ to process and purify water. Also, with the loss of livestock, the pastoral people (both men and women) have had to take up other economic activities to survive (UNICEF/GOK 1998; Anderson and Brouch 1999). The study intends to explore these activities and their implications to the pastoral social structure.

Similarly, in view of the heterogeneity inherent in all societies, the study intends to examine other factors that interact with gender to influence the nature of adaptive strategies employed by both men and women in the district.

1.3 Study Objectives

The purpose of the study is to examine the gender-differentiated problems and challenges in the drought situation in Turkana District. In addition, the study

endeavours to find out the differentiated adaptive strategies employed by both men and women, depending on the socio-economic backgrounds.

Specifically, the study sets out to:

- Identify the nature of the problems facing men and women in the district;
- Examine the differences between the problems and challenges faced by men and women in the district;
- Determine how gender interacts with social and economic factors in influencing the problems and challenges faced by women in the district; and
- Determine the coping strategies employed by men and women within their respective socio-economic backgrounds in the district.

1.4 Significance of the Study

The results of the study will add to the pool of knowledge on the fairly under-researched area of the role of women in pastoral economies by highlighting the contributions made by both men and women in the district. Similarly, the results will serve as an empirical basis for future policy-making in Kenya in the area of food policy especially for Turkana District and other districts affected by drought.

Finally, the results will offer valuable insights to planners in NGOs and the government regarding the types of projects to initiate in pastoralist communities and other areas affected by drought.

1.5 Theoretical Framework

The study makes a gender analysis of the District based on a theoretical framework of the Marxist/socialist feminist theory. Marxist or socialist feminist theory advocated mainly in Britain asserts the co-existence of both class and gender oppression in explaining the subordination of women in society (Bulbeck 1998). This orientation was developed among others by Friedrich Engels through the article: "The origin of the family, private property and the state in 1884". Adopted from the Marxist concept of capitalist production which explains how capitalists appropriated the labour and power of the workers, it adopts notions such as "the domestic mode of production". It was used to explain how husbands appropriated the labour of housewives without paying its full worth. Similarly, women's unpaid domestic labour also benefits capitalists who can hire workers at lower wages than would otherwise be possible.

The Marxist/socialist feminism criticizes both liberal and radical feminism for neglecting the class dimension in women's oppression. The proponents discuss the fact that working class women are more exploited than middle class women and that middle class women sometimes exploit or benefit from the exploitation of the working class women (Bulbeck 1998). However, they share with radical feminists the commitment to politicize the private and public spheres of operation

by arguing that women are held in the trap of a patriarchal system of relations that hampers their autonomy. Patriarchy creates immutable sexual differences within the family and a sexual division of labour in the work place (Whelehan 1995). With respect to the present study, patriarchy undervalues the role played by women in pastoralist production especially during difficult periods like the drought season when their roles become more difficult to accomplish. Similarly, the Social/Marxist Orientation provides a background for the present study by arguing that “the roots of women’s oppression must be sought not only within the sphere of production but also in social and cultural structures, and that women’s loss of status in the course of economic development must be conceived in the context of an interweaving of class relations and gender relation” (Beneria 1981, 279).

Consequently, the present study analyses gender relations in the drought situation in the context of class, economic and other social factors inherent in the pastoralist society under study.

2. LITERATURE REVIEW

African countries south of the Sahara are affected by desertification resulting from severe drought that has caused loss of human life and large scale displacement of populations (United Nations 1984). In Kenya, for example, most of 1999 has been a difficult year for many residents because of the crop failure due to lack of rain. Turkana District has been the most affected.

Apart from starvation, the drought has had the following effects on the residents of Turkana District:

- Creation of a sense of social disruption including large-scale panics that have led people to march to where food is rumoured to be available. As a result, families are separated, leading to a breakdown of social order;
- Crowding in the food camps that leads to explosive spread of infectious diseases;
- Death of domestic animals and the destruction of seeds for future crops;
- Malnutrition among children and even adults; and
- School drop-out and low participation especially among girls (*Daily Nation*, 29th January 2000; 9th February 2000).

The other equally important effects of drought have to do with lack of water for livestock and human consumption (Marx 1975). People are forced to walk long distances in search of water. In fact, the majority of people rely on distant and unprotected wells, boreholes and ponds to survive. In Turkana District, 75% of the households travel between 2 and 3 km to sources of safe water (GOK 1998). Even when they eventually get to the water points, they have to queue up because these are few (GOK 1998). Consequently, the scarcity of water poses

environmental sanitation problems. In fact, 70% of the residents of Turkana District have no access to sanitation facilities of any kind. They tend to use the bush. This leads to contraction of water related diseases like typhoid, bilharzias and dysentery (GOK 1998).

The information available on rural Africa suggests that in food crises and famines, it is women who suffer the most. This is more so in pastoralist communities where women in addition to building houses, milking and watering livestock, have to perform their daily chores of child rearing and household tasks (cooking and fetching water and firewood) (Hay and Sticher 1981; IDRC 1981; Anderson and Brouch 1999). In addition, during the famine situation, women are less mobile because of their reproductive roles and are therefore unlikely to receive relief food or venture out to look for work in towns (IDRC 1981; Anderson and Brouch 1999).

Most of the literature available on the pastoralist communities in Kenya is found in government reports and daily newspapers. Very few empirical studies have been done on the subject. One such study related to the present study was conducted by Oxfam in 1991. This study looks at the involvement of agro-pastoralist women in livestock programmes in Africa. Using examples from pastoralist communities from different parts of Africa, the author observes that women play an important role in animal production; not only in dairying, but also in the marketing of dairy products, and in a whole range of animal husbandry activities, including the herding and watering of livestock and caring for sick and young animals (Wallace 1991).

A similar study was conducted by the same organization (Oxfam) but this time focusing on Turkana women and their contribution in a pastoralist society. Apart from stressing the importance of women's labour in pastoral work, it goes further to reiterate the critical role of women in controlling food supplies (Wallace 1991). This study provides vital information for the present study in pointing to the fact that in order to effectively manage the food supplies even during the drought season, women have to preserve and process the food well.

Another related study was done by UNICEF. This study noted that despite women's contributions to contemporary pastoral economy, the major decision-making power lies with the men. Men seem to control the economic resources by deciding which animals should be slaughtered, sold or even given for dowry (UNICEF/GOK 1998). Hogg (1989), however, gives perspective to the present study by highlighting the poverty inherent in pastoral communities and how this influences the capacity of individuals to deal with the drought situation. He postulates that the very wealthy people in the pastoralist communities survived the crisis for years relatively unscathed because they had already diversified their economic base so that although their herds and flocks suffered considerable losses, they had the support of non-pastoral incomes.

Odegi-Awuondo's (1990) study is closely related to the present study because it looks at the indigenous patterns of adjustment to drought and famine among the Turkana nomads of Kenya. However, the present study goes further to take a gender analysis of how both men and women cope with the drought. Another related study is that by Nyanchoga (1999), which is of historical nature. It looks at the impact of ecology and colonialism on the socio and economic activities of the Turkana people as well as how they responded to the varied situations confronting them. The study, which spans from 1850-1963, concludes that despite the destructive nature of the colonial state and capital structure through de-pastoralism programmes, anti-raiding policies and forced labour and taxation, the Turkana were able to evolve various adaptive strategies that linked agriculture, wage labour and pastoralism.

Frat-kin (1991), in his focus on Arical pastoralists of Northern Kenya, looks at other adaptive strategies such as fishing, hunting and gathering. The gender analysis angle of the present study is, however, captured by Joeke and Pointing's (1991) study that conducted a parallel analysis of women in pastoral society and investigated their points of vulnerability to changes in the political economy of pastoralism in East and West Africa. A further critical analysis of women's position in the pastoral society is given by Hodgson (2000). Here, she challenges aspects of the patriarchal pastoralist among the primarily pastoralist peoples in Sub-Saharan Africa. Using diverse analytical frames, the review of literature on pastoralism in Africa documents the dynamism, complexity and historicity of pastoral gender relations and ideologies as well as the centrality of gender to the production of culture and history in pastoral societies. The present study joins in this debate by documenting evidence to support the significance of gender to not only livestock production but other domains of pastoral life.

Therefore, unlike many other studies outlined above, the present study distinguishes the gender-differentiated impact of drought in view of the fact that gender dictates differences in societal experiences between men and women. In this respect, the study has employed a gender analysis in examining the problems and challenges faced by people living within the famine-stricken Turkana District as well as the adaptive strategies employed by them.

3. RESEARCH METHODOLOGY

3.1 Research Design

The study being exploratory and therefore descriptive in nature adopted the qualitative research paradigm as the main method to exhaustively and effectively explore the famine situation in Turkana District. Qualitative methods are participatory in nature and seek to understand the reality of the situation from the actors' point of view (Kane 1995). In addition, a qualitative study implies an in-depth study that utilizes a variety of data collection techniques, which envisage wholeness of data (Kane 1995). Qualitative methods were therefore utilized

to analyze the problems and challenges facing men and women in the drought stricken Turkana District of Kenya. To supplement the qualitative data, however, simple quantitative methods were also utilized.

3.2 Sampling Design

3.2.1 Study Location

Under the umbrella of the qualitative research paradigm, non-probability sampling was used to select the study areas. Consequently, purposive sampling was used to select Turkana District as the study site since it is the most affected area in Kenya by drought and famine. This, coupled with other characteristics such as refugees, bandits and cattle rustling activities makes Turkana District an interesting area of study (*Daily Nation*, 31st November 1999).

Turkana District occupies the north-western part of Kenya, being located on the western side of Lake Turkana. It is one of the largest districts in the Rift Valley province sharing international borders with Ethiopia, Sudan and Uganda. In Kenya, it borders Marsabit District to the east, Samburu District to the south-east and Baringo and West Pokot Districts to the south. Much of the eastern end of the District is on Lake Turkana which stretches north to south for more than 200 km. Two seasonal rivers, Turkwell and Kerio, run through the district. Generally, the district is semi-arid with erratic and unreliable rainfall patterns (GOK 1999). However, the climatic conditions of the district are not homogenous to all divisions. Some areas are drier than others. Based on this fact, the study purposively selected three Divisions of varying climatic and social environments to decipher the differing effect of drought on the residents.

Kapua: It is located approximately 50 km north of Lodwar Town, in the Central Division. This area was chosen because of its dryness. It experiences an average temperature of 37°C with no rainfall most of the year. When it rains, it falls in torrents washing away all the planted seeds and grass and hence has very little pasture for the animals. Consequently, Kapua is a purely pastoralist area. The residents have to walk long distances to access water in view of the low water table. Other infrastructures such as roads are of equally of bad condition. For example, the road from Kapua to Lodwar, which is the only access road, is impassable when it rains (GOK 1999).

Kalokol: It is situated on the shores of Lake Turkana, 68 km north of Lodear Town. It is one of the largest urban centres in the District after Lodwar, Kakuma and Lokichoggio. It has fairly good infrastructure in terms of a graded road that runs to Kalokol from Lodwar. Due to its close situation to the lake, fishing is one of the major economic activities in the area. Like Kapua, it experiences high temperatures of about 37°C (GOK 1999).

Turkwell: Turkwell Centre was opened as a food Camp during the severe drought that hit the district in the late 1970s. It is located west of Lodwar Town. Like other areas in the District, the road to Lodwar is not all season; the place is

dry with high temperatures. However, these conditions are counteracted by irrigation from Turkwell River that runs through the area. Agriculture is practised on a small-scale where maize, dates, beans, sorghum and vegetables are grown.

3.2.2 Selection of Informants

In view of the qualitative research design in use of the study that utilized non-probability sampling, purposive sampling was used to select the informants. The selection was based on recommendations from the village elders and District Officers. It targeted those who were knowledgeable enough to give reliable information on the drought situation. The informants were drawn from a total of 224,548 males and 226,313 females and 73,645 households inhabiting the district (GOK 2001). Table 1 gives a breakdown of the total number of informants and instruments used for each category in the three divisions chosen for the study.

Table 1. Number and category of informants and instruments

Persons	Number	Type of Instrument
District Officer	1	Key informant interview
CCF staff	6	Focused group discussions
Village elders	9	Key informant interviews
Residents (male)	75	Key informant interviews
Residents (female)	75	Key informant interviews
Total	166	

3.3 Research Instruments

In order to obtain a holistic picture of the famine situation in Turkana District, the study has employed a multi-technique approach for data collection. Thus, it has used direct observation and document analysis as additional instruments.

Observations of the occupants' social and economic activities, interaction patterns, etc., were made. An analysis of any available literature from daily newspapers, libraries and government records on the famine situation in the district was made to validate the data obtained from other sources.

3.4 Data Analysis

The study has mainly employed qualitative analytic tools. Content analysis was used to examine the interpretations and implications of the information from the documents, observation reports, and interview discussions. In addition, simple

statistical tools such as percentages and frequencies were utilized to analyze and interpret some of the data.

4. RESEARCH FINDINGS

4.1 Gender and the Division of Labour among the Turkana

The study has revealed that a broad division of labour exists along gender lines, dictating general social roles and distinct daily activities performed by members of the society. The roles are organized under four main sub-themes.

4.1.1 Home Management/Maintenance Roles

As with most societies in Kenya, women's roles among the Turkana continue to be centred on the house. It is the general responsibility of Turkana women to provide food and comfort for the household. The specific roles given include:

- Fetching water for household use;
- Preparing food and gathering wild fruits for domestic consumption;
- Fetching firewood; and
- Cleaning the house and compound, which involves the construction of the animal kraals (*anok*), residence structures including the main house (*akai*), resting shelter (*ekol*) and sleeping/cooking area (*atabo*). Each structure is constructed independently to form a homestead.

Turkana men view themselves and are viewed by the general society as the head of their households. Their specific roles include:

- Husband and father: They play the roles of husband to their wives and that of father to their children that demand the related roles outlined below;
- Decision-making: The men are expected to make decisions on almost all issues in the home including decisions on when and where to live or migrate, which animals to slaughter or sell, who does what tasks and so on;
- Supervisory roles: These involve delegating duties to women and children;
- Ensuring discipline in the home by advising and counselling family members (wives and children); and
- Providing for the family: It is the responsibility of men to provide food, clothing and school fees and security for their family members.

4.1.2 Roles in Livestock Production

Turkana women play an active role in the livestock production. Their specific responsibilities include:

- Watering the livestock other than cattle (goats, donkeys and camels) by scooping water from the wells into a big calabash for the animals to drink from;
- Preparation for migration to new locations;
- Milking the stock and portioning it out into different uses for the household. Milk has to be set aside for the calves, for household consumption and for sale (where possible);
- Herding small stock (goats) while men are out in the fields with the cattle. This role is mostly performed by young girls;
- Care for weak animals that are left around the homestead when the men move with the other stock. These include weak and sick cattle, goats and camels and pregnant livestock that cannot cover the long distance in search for pasture and water; and
- Processing of hides and skins after the animals are slaughtered.

The Turkana men have the following related roles:

- Ensuring that the livestock get pasture;
- Exploration of good grazing land and water when the drought sets in;
- Providing health facilities for the animals in the form of traditional herbs or modern veterinary medicines when available;
- Making decisions on the slaughter and sale of animals or when and where to migrate; and
- Providing security to the animals and household members. This is because the area is prone to cattle raiding and bandit attacks from neighbouring ethnic communities.

4.1.3 Roles in Cultural Reproduction

Turkana women play the following roles in the cultural reproduction:

- Socialization: Women play the initial and crucial role of bringing forth children and nurturing them as they grow. They feed, cloth and educate both the male and female children. They socialize the children into the Turkana way of life. As the children grow older, women concentrate on guiding and counselling girls into responsible adults who can function effectively in the Turkana society;

- Supervision of marriage ceremonies: Women supervise the young adults (girls) when dowry is being paid and later prepare them as brides on their wedding days;
- Provision of specialized skills: This is especially for women who have skills/talents in midwifery and basket weaving;
- Clothing for women: Older women and even younger ones make skin clothes for girls and married women; and
- Rituals: Women prepare food and sing during rituals such as child-naming and weddings; they prepare young women for married life.

Turkana men make the following contributions to the cultural reproduction of their society:

- Organizing family meetings to deliberate on matters relating to the clan and family;
- Consultation with older men on various issues;
- Socialization of young boys into adult roles in the Turkana society. They teach them skills in herding (how to locate and identify good pasture/water source, herbs to cure diseases infecting the herd), social adult skills of being a good husband and father and protecting the herd and family; and
- Custodianship of cultural values and morals: Men make all decisions related to animal slaughter, migration, marriage and dowry payment and rituals and their performance.

4.1.4 Pastoral Supportive Activities

Over the years, pastoralist communities have had to employ other supportive activities to supplement pastoralism which has proved to be ineffective in meeting all their economic and social needs. The study had identified the following supportive activities:

- Agriculture: For the Turkana living along Turkwell River, agriculture was adopted. While the men plough, women plant, weed, and harvest;
- Fishing: It is done by those living on the shores of Lake Turkana. It is mostly done by men, while women process and sell the fish;
- Weaving: Weaving of mats, baskets and hats for sale is a common activity among all the three sampled areas. It is mostly done by women although a few men also do it; and
- Business: Both men and women start small business activities such as charcoal selling, kiosk ownership, etc.

4.2 The Impact of Drought on Gender Roles

4.2.1 Home Management/Livestock Production

Drought affects the performance of women's tasks in the following ways:

- **Obtaining water:** The interviewees revealed that obtaining water for household use and for drinking purposes becomes very difficult during the drought period. Lack of rain means the rivers dry up. This creates competition for the available water sources that are usually so far that women and girls have to walk long distances to get to them. They walk up to 2-10 km in the Turkwell area and 30 km in the dry Kapua area. In order to beat the long queue at the water points, women have to start the trip before dawn. This poses security problems because they may be attacked by bandits or rapists on their way. To counteract this, women walk in groups. Transporting the water for long distances is also a problem because the women have to carry the water on their heads, making many trips. They have to carry the water in heavy traditional wooden troughs (*ng'ageterin*) that were originally meant to be carried by donkeys, before the drought killed them. The few people using boreholes/shallow wells face similar shortages because the wells dry up due to too many users. If they break down, they are not repaired because the majority cannot afford the maintenance costs.
- **Provision of fuel:** Women have to walk long distances to get firewood because the trees dry up during the dry season.
- **Construction of houses:** This task becomes tedious during the dry season. Women have to keep dismantling, loading and unloading and reconstructing new houses as the migrations become more frequent. The construction materials (twigs and leaves) are from a wild plant called *egol* (dumb palm).
- **Provision of food for the family:** Food becomes scarce during the drought period. Women have to rely on alternative sources of food since the usual foodstuffs (milk, meat and blood) are no longer easily available. Wild fruits are found in the fields while maize meal is bought at the markets or supplied by the famine relief agencies. Even those living near the river are not better off because it dries up. Farming activities are reduced to small plots along the river where water forms pools (*amokolol*). Alternatively, people use boreholes. Consequently, only vegetables are grown on a small-scale. Most women complained that cooking the "new" kinds of goods (maize and beans) is more time and fuel consuming compared to cooking milk, blood and meat.
- **Provision / decision-making:** Men felt that their role as heads of households is adversely affected during the drought period because of the

reduction in the family resources. There is no money to provide food, clothing and even school fees for the family members. There are therefore fewer chores to distribute and delegate. Most of the men interviewed felt the “women” status in the family was uplifted as a result of the fact that they receive famine relief food. Many men interviewed however felt threatened by this because their role as providers was undervalued by the relief food controlled by women. This has brought conflict in some families.

- Provision of water: Women are responsible for the provision of water for the livestock left at the homestead, which they have to obtain from boreholes. During the dry period, the water table of the wells lowers and thus women have to scoop these wells almost on a daily basis. The wells are as deep as 10 metres. This task is laborious and dangerous because the wells may collapse. Apart from providing water for the stock left behind, women are faced with additional roles because most of the time men migrate in search of livelihood. Women have to perform the role of household heads.
- Procurement of pasture and water: This is a role performed by men. Water and pasture become scarce during the dry season. This necessitates migration to new locations, walking for long distances. The men’s role as security providers is intensified during this period because insecurity mounts as the movements become frequent and long especially from the neighbouring Pokots. Even in the homes, security needs intensifying during drought.

4.2.2 Cultural Activities

The women said that during the drought, less time is spent on socializing children because much of the time is taken up by activities that relate to the search of food, water and fuel. Similarly, since most of the cultural activities such as weddings, dowry payments and harvest ceremonies depend on livestock (animals are slaughtered as part of the celebration or given in case of dowry), the lack of livestock reduces the number of ceremonies and the roles that come with them.

The men stated that drought gave them a chance to spend a lot of time with boys in the grazing fields teaching them about herbs that cure various diseases and many other herding skills. However, they complained that drought denies them the chance to be “men” because they cannot visit friends and discuss issues since most people are too busy trying to make ends meet. Family meetings are rarely held because most family members have migrated in search of greener pastures.

4.2.3 Pastoral Supportive Activities

In general, most supportive activities suffer during the dry season with the exception of casual jobs for men. Many lorries flood the area bringing food supplies and men are employed to load and unload sacks of foodstuffs. Those

living in the Turkwell area and who engage in fishing have to migrate and follow the fish that move during the dry season when there is no rain and thus no water in the lake.

Businesses for both men and women are also affected during the dry season because poverty increases among people, reducing the purchasing power. However, kiosk owners who concentrate on selling foodstuffs experience a boost in business because there is no other source of food. For women, drought makes balancing of activities extremely difficult since their working load increases during the dry season. For example, basket weaving which becomes an important source of livelihood during drought takes up most of the time, which was usually spent on performing household chores.

4.3 Adaptive Strategies

The various gender segregated adaptive strategies obtained from interviews and observations were as follows:

4.3.1 Obtaining Pasture/Livelihood

Migration is the most common way of dealing with lack of pasture and water and food for both humans and animals during the drought period. To escape the effects of drought and look for alternative livelihood, people move individually or as families to new locations. In the beginning, whole family units migrate, but as the draught continues to bite and people become weak, only younger men migrate. Older men, women and children are left behind near trading markets with a few goats that provide milk. The younger men are physically strong to withstand attacks from bandits, raiders and thieves, and stay long periods without food or water.

At the towns and major trading centres, men take up jobs as casual labourers on agricultural plantations mainly in Trans-Nzoia District by weeding maize or herding cattle. The few women who migrate to the towns work as housemaids. Young girls are also sent by their parents to do the same work to earn money for their families. The most common migration towns and centres mentioned were Kitale, Lodwar, Kakuma, Lokichogio, Turkwel and Kalokol. In addition to getting employment and medical facilities, movement to urban centres is done to obtain assistance from churches and humanitarian organizations. In relation to this, access to famine relief food centres was a major motive for migration.

Migration in search of water and pasture for the animals targets highlands, water points along river Turkwel and springs. The areas given during the interviews include Loima Hills, Lotere, Pelekech, Lapur and Moru Eris. For those who fish along the lake, migration follows the migration patterns of fish to Moru'-Aita, Nakwa'Kolia, Kotela and Moite Lakes.

Men employ herd splitting to cope with the diminishing resources for the livestock. It involves separating the herd into groups such that the younger stock

migrate with the men to new destinations to get pasture while the older and lactating are left behind in the homestead with the women.

Some residents are able to afford commercially manufactured animal feeds from Lodwar Town, with money obtained from the sale of charcoal or operation of small businesses. Alternatively, most people use preserved animal feeds from wild fruits and nuts. Usually, it is the skin that is dried and stored for this purpose. In Turkwell where agriculture is practised, maize and sorghum stalks are dried and stored as hay for use in the dry season.

4.3.2 Obtaining and Preserving Water

The most commonly used strategy to obtain water during the dry period is walking long distances (up to 7 km) to rivers and springs. Instead of walking long distances daily to fetch water, some people prefer to migrate to the water points.

To ease the burden of making many long visits to get water, some residents use bicycles and wheel carts. This strategy is commonly used among those who get water for sale, near the urban centres. Those who can afford to transport water buy it from the local trading centres where tap water is available. Also within the villages, some people get water from the water points and sell it.

During the dry season, the wells dry up and thus are dug deeper to get to the water in addition to digging new wells to compliment the existing ones. The digging of these wells is dangerous because of their depth. The task is labour intensive, requiring many people using the pulley method. The bore-hole construction is done with assistance from non-government organizations.

Due to the scarcity of water during the dry season, water is rationed to make it last. Water is thus limited to drinking and even for this the number of times is reduced. Reduction in usage is also observed by not washing utensils or taking/giving baths (baths are taken after 5-10 days or when one visits the lake or river); hands are not washed before eating (most people use traditional wooden spoons for eating) although some residents said they use some little water for washing their eyes to avoid eye diseases.

After collecting water, it is stored for later use in wooden containers called *ateere* or the plastic Jerry cans acquired from relief food distribution. The water is put on a raised table (*epem*) where children and animals cannot reach. Storage of water was noted to be a problem by many residents because they could not afford to buy large expensive storage tanks. Majority of the people's storage facility consisted of two twenty-litre Jerry cans. Very few well off residents (mostly in urban centres) own 100 litre tanks. In a few cases, they also have tap water in their homes.

Because water is scarce, it is bound to be dirty (muddy) and therefore needs to be purified before use especially for drinking purposes. Most residents interviewed said they only boil water when there is an alert of waterborne diseases. They,

however, use traditional water purification processes. Water is decanted using the part of the dorm palm plant (*egol*) called Akaburkunyait. It is prepared by beating it with a stone until it looks like sisal. Water is then stirred with it. Dirt collects at the bottom leaving the water clean. Traditional herbs (*etula*) are also used to disinfect water.

4.3.3. Alternative Ways of Obtaining Food

Various strategies to obtain and preserve food were cited by the interviewees. For instance, some of the residents belong to women/youth groups. Women from the Turkwell area belong to the Maendeleo ya Wanawake women's group through which they organize to weave mats and make wooden carving. The items are sold and the proceeds shared among members, which are used to supplement food supplies. Similarly, the youth have also organized themselves by cutting *makuti* (bamboo) reeds and firewood and selling it to the refugee camps located in the area.

Some parents send their children to schools where they can access free lunch from the school-feeding programmes especially for pre-school children. A similar benefit is obtained by taking children to children's homes where they obtain food in addition to other provisions.

The interviewees revealed that women heavily rely on wild fruits to supplement food sources. Seeds from acacia trees are pounded and the powder is chewed. Other edible wild fruits include: *edung*, *erut*, *egol* and *edapal*.

The social networks established over time come in handy during the dry season because they are utilized to obtain food. People borrow and beg from friends and neighbours.

Although animal blood forms part of the diet of the Turkana people, its use is more pronounced during the drought period because unlike milk production which relies on the availability of water and pasture, blood is always available.

During the drought period, many non-governmental organizations target famine-hit areas and Turkana is no exception. Organizations such as World Vision, Catholic Christian Fund (CCF) and OXFAM operate in this area. They give maize, beans and cooking fat to each family enlisted. Famine relief targets women except for single families because they are responsible for the family food preparation and provision. In addition, women are registered because they remain at campsites when migration takes place.

Before the food is distributed, word is sent out to the catchment area three days in advance for women to assemble to the distribution centres. Their names are called out by the food relief committees as each person picks their ration. In cases where one is not registered, they are forced to wait for remnants or beg from friends.

Women employ various preservation methods depending on the foods locally available. The presentation methods and periods for various foods are given in table 2.

Table 2. Food preservation methods used by Turkana women

Food item	Product	Preservation method	Storage duration
Milk	Dried milk (<i>edodo</i>)	The milk is poured in a wide surface container such as a big <i>sufuria</i> (pan) and then left to dry in the sun until it forms powder. The dried milk is stored in a leather sack. Alternatively, the milk is boiled until it evaporates and forms a solid mass. This is sun-dried and stored in leather sacks.	1 – 5 years
Milk	Fresh milk (<i>akikwaun</i>)	The milk is boiled to keep it fresh.	7 hours to 1 day
Milk	Butter/ghee	The milk is left in a gourd overnight or for up to four days. Water is added before it is shaken. It is then put in an open container. Butter forms at the top and ghee is left at the bottom. Butter is first scooped into a container.	2 months
Milk	Sour milk	The milk is covered and let to sour for three or more days	4 days to 1 week
Meat	Fried meat	Fatty and non-fatty meat is cut into small pieces and fried in its own oil for 20-30 minutes. The meat is then separated from the oil and put in locally made containers (made from wood and animal skin called <i>ebur</i>). The oil is then put in a separate container.	2 weeks
Meat	Dried meat	Meat from camels, cows and wild animals such as elephants and buffalos is stripped into strings and let to hang in shelves or low acacia bushes. It is dried by the sun, folded and stored in a container	10 days to 2 months
Fish	Dried fish	It is dried after harvest and cleaned and packed in sacks. They are dusted after every two months to keep them clean	1 year

Table 2. *Contd.*

Maize/ sorghum/ green grams (<i>dengu</i>)	Dried grains	The grains are dried after harvest and cleaned and packed in sacks. They are dusted after every two months to keep them clean	1 year
Dumb palm fruit (<i>egol</i>)	Powder	The skin is removed. The rest of the fruit is dried and crushed into powder	3-4 weeks

Economic activities: Generally, Turkana residents engage in economic activities that intensify in number and magnitude during the dry season as people struggle to survive. The study has revealed that the economic activities are gender segregated with women doing activities closely related to their roles as home managers and men doing activities related to herding.

Activities done by women include:

- Sale of food snacks at local market centres: *uji* (porridge), mandazi (buns), and wild fruit;
- Sale of woodcarvings especially in the Kalokol and Lodwar Towns;
- Preparation of fish for sale;
- Rendering services as housemaids for rich families;
- Fetching water for other people;
- Weaving of baskets, mats and hats from leaves of drought-resistant plant (called down palm);
- Selling firewood to urban dwellers;
- Buying and selling animals and animal skins; and
- Selling local brew.

Activities done by men include:

- Buying and selling of cows from rural to urban centres;
- Carpentry;
- Construction work;
- Long distance hawking: Men move to the mountainous areas to sell or exchange for food such items as salt, tobacco, blankets, bed sheets and veterinary medicines to people who have migrated there;

- Provide security to those migrating or when there is insecurity from other communities;
- Manual work in towns such as loading and unloading food from trucks;
- Working as security guards in towns such as Lodwar and Kalokol; and
- Fishing at the lake although it is hampered by lack of adequate facilities.

Activities done by both men and women include:

- Selling water where women carry it on their heads while men use wheel carts to get the water from sources for sale;
- Running kiosks; and
- Weaving mats, hats and baskets.

4.4 Factors Affecting How Residents Cope with Drought

4.4.1. Social Networks

Social networks assist people socially and economically to cope with the drought. The social networks are established in the following ways:

- In-laws and other relatives such as siblings, uncles and aunts provide food, clothes and even money to be used during the drought. However, the residents quickly pointed out that such support is only provided at the beginning of the drought period. As the effects of the drought persevere, such support diminishes as the resources reduce;
- Relatives residing and working in towns take care of children and old people, and provide money for use;
- Social networks are established with churches, schools and children's homes and with such connections, children and mothers can get food and other material assistance to cope with the drought;
- Relatives and friends assist to get employment on farms and plantations and as security guards in the urban centres;
- The age sets provide moral support as well as team support in catching fish by providing boats to its members. It is within the age sets that men discuss ideas on how to cope with drought;
- Women's associations: Women use milk and dairy products for exchange or marketing and thus building social networks by allowing other women the use of one of their own milking animals or by giving dairy products to other women to ensure the flow of food into the household during the drought; and

- Fishermen belong to groups where they cooperate to ensure security to one another in the hostile waters. Similarly, women belong to cooperatives that they use to make and sell woven items as well as firewood. Some young men also belong to youth groups for the same purposes.

4.4.2. Socio-economic Status

Socio-economic status among the Turkana is determined by the number of stock one owns. Since goats are the only surviving animals during the drought periods, the number of goats owned determines the availability of milk for family members and whether some can be sold to obtain cash. They also provide food when slaughtered. In addition, a family with many goats means, even when some die as a result of drought, that they have some left behind. This is a way of risk management. Thus, the number of goats was used to determine the status of individuals (table 3).

Table 3. Number of goats owned by sampled Turkana residents by location

No. of goats	Turkwell		Kapua		Kalokol		Total
	Male	Female	Male	Female	Male	Female	
None	9	-	20	3	3	20	55
1-5	-	7	15	6	5	2	35
6-10	-	-	-	10	11	3	24
11-15	7	10	-	6	6	-	29
16-20	5	-	-	-	-	-	5
20+	4	7	-	-	-	-	11
Total	25	24	35	25	25	25	159

From the table, thirty-five percent of the Turkana residents sampled owned no goats – an indicator of the poor socio-economic status negated by the drought situation. This position is confirmed by the low percentage (7%) observed of those owning twenty or more. The better status of these residents may be explained in terms of the agricultural activities that supplement pastoralism.

Apart from goats, families with businesses are able to provide food and other provisions from the proceeds of their businesses. Moreover, jobs provide additional income for families whether casual or permanent by supplementing food sources and basic need provision.

4.4.3. Proximity to Urban Centres

The study had two major towns, Lodwar and Kalokol, with many smaller market centres like Kakuma. The study has revealed that proximity to these urban centres was a major determinant of how well people coped with the effects of drought.

Kapua is a purely pastoralist area located 50 km from Lodwar town. Transport to Lodwar town is not reliable; thus, people have to walk to get supplies for their kiosks, timber for carpentry and veterinary medicine.

Proximity to an urban centre is beneficial to residents because they can easily access societal amenities like hospitals, water, electricity and schools that provide free lunch. Most charitable organizations are located in the urban centres and residents can benefit from their assistance especially food. Casual and permanent jobs are readily available at the urban centres. In addition, there is ready market to sell food stuffs and other things like charcoal and weaved items.

4.4.4. Proximity to Lake Turkwell

The pastoralists supplement resources by selling the fish. Many people who have settled around the lake provide ready market for small businesses like water, baskets, and kiosks. Weaving material is readily available from palm leaves that grow near the lake. Trees for firewood as well as the market are available near the lake.

4.4.5. Polygamy

Polygamy is a common practice among Turkana pastoralists. The drought has some effects on the practice. For instance, since polygamous families are labour-intensive, they enable members to cope with drought by dividing duties among themselves to lessen the workload. However, interviewees revealed that this cooperation only works at the beginning of the drought season. As the drought worsens, individual households become more independent.

Polygamous families are most affected by drought as food lessens. They depend in most cases on one breadwinner who cannot adequately provide for the many family members. Many of the interviewees reported that it is easier to manage monogamous families during the drought period. They said some families break up during this period with wives going back to their homes to survive the drought. Also, enmity between wives worsens during this season.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

5.1.1 Gender and the Division of Labour

The results of the study corroborate those of other studies on gender division of labour, namely, that women's roles revolve around the homestead while those of men feature outside the house. However, Turkana women's roles go beyond the

homestead to include roles in livestock production and cultural activities. A look at home management roles revealed that women's roles involved food preparation, collection of water and firewood, constructing and cleaning of the homestead, and giving birth and nurturing of children. Men on the other hand, being household heads, provide food, security and other resources for the household; make decisions; and perform supervisory roles. A quick observation here is the fact that women's roles are more energy and time consuming.

Gender roles in livestock production, which forms the backbone of the pastoralist economy, take a similar trend with women and men performing livestock production duties equally. It is the women's responsibility to water the livestock; prepare the family items for migration; milk; herd small stock; care for the weak, sick and pregnant animals; and process hides and skins. Men are involved in herding; providing health facilities; making decisions on where to migrate, which animals to slaughter, etc.; and providing security during migration. It is important to note that when left at the camp sites while men migrate, women perform all of the traditionally male tasks by controlling the herds and exercising certain levels of pastoral government.

Both men and women were noted to play important roles in cultural activities upon which the Turkana community depends for continuity by recreating those cultural conditions that maintain the social relations of production. Women in this respect give birth and nurture children by socializing young girls into mature adults. Some also provide specialized skills like midwifery. During rituals like marriages, deaths and naming ceremonies, women prepare food and sing to keep the occasions lively. In cultural production, in addition to being custodians of cultural values, men socialize young boys into adult roles as well as organize and attend family meetings.

The foregoing discussion yields important facts to dispute the old stereotype that men in patriarchal pastoralist communities carry out more significant roles (herding and migration) than women. The study has revealed that women, in addition to performing their household chores, play a significant role in livestock production. For example, women's role as milk managers is crucial in determining herd viability by balancing calf mortality. Furthermore, the controlling in the distribution of milk between animals and humans and the determination of the drop in milk production by animals which is an indicator of animal illness and thus animals' health contributes greatly to the pastoral enterprise.

5.1.2 The Impact of Drought on Gender Roles

As the drought continues to worsen, pasture is degraded and the water sources dry up; both men and women find it challenging to perform their roles because of the extra time and energy spent. The water collection process in the case of women is strenuous, tedious and dangerous in view of the long distances to the water point in the wee hours of the morning, the many trips they make to obtain enough water

for use and the process of scooping wells. The performance of tasks like collection of firewood and construction of houses takes a similar trend.

While men face similar challenges in the process of providing pasture and water for their animals, their greatest challenge in performing their gender roles is the continual reduction in their capacity as breadwinners because of lack of resources. This role is further affected by the fact that women control the relief food provided by the charitable organizations in the region. The increased role of women in food provision, gives them more autonomy in the family – a fact that threatens men’s authority within the household. Women’s autonomy in decision-making was further enhanced by their experience in running the households when left at camp sites during migration.

A look at men’s and women’s roles in cultural reproduction has revealed that women have less time left to socialize young children and girls into the ways of the community because most of their time is spent on the search for and preparation of food. Similarly, their role in participating in rituals and ceremonies which heavily depends on the slaughter of animals (that are no longer available) is reduced because these occasions rarely take place during the dry period. Unlike women, men have extra time to spend in socializing young boys into young adults by showing them roots and grazing. However, their participation in kinship-related roles is affected because most people are away or too busy trying to make ends meet to spare time for such social encounters.

5.1.3 Gender Desegregated Adaptive Strategies

The results of the study show that both men and women living in the drought-stricken Turkana District have over the years devised a number of adaptive strategies using their individual skills and opportunities to enhance their families’ well being during drought. The adaptive strategies identified by the study include:

- Pastoral supportive activities: These activities depend on the physical environment and individual skills. People living on the shores of Lake Turkana have taken on fishing while those near the Turkwell River plant maize and sorghum, *sukuma* with fruits such as oranges, mangoes and bananas. The study has revealed that adaptation to these new skills is quite challenging especially for fishing in view of the improper equipment used.
- Migration: This was the most common way of dealing with drought cited by the respondents. Migration takes different forms that include movement either as a whole family, part of a family or individuals as determined by the intensity of the drought. Whole families moved at the beginning of drought to new richer locations and later when the drought intensified, only the younger men moved to access greener pastures or formal employment in towns. Similarly, the specific purpose of migrating determined the migration locations, with those looking for casual and

permanent jobs moving to urban centres while those in search of pasture and water moving to highlands like Lotere and Pelekech. Migration is dominated by men since women remain in the homesteads to look after the households. Fishermen along Lake Turkana also migrate to follow the patterns of fish movement.

- Improvising by use of locally available materials: Animal feeds are obtained from the skin of wild fruits (dumb palm) and maize and sorghum stalks in the case of Turkwell residents. Similarly, traditional herbs are used in water purification and veterinary purposes. The improvisation process was observed to be the domain of women as was the case of the use of dumb palm leaves in weaving of mats, hats and baskets for sale.
- Herd/stock splitting: This is done by men to maximize the use of the limited animal pasture.
- Mechanisms to obtain and conserve water: Women used the following ways to obtain water: migrating to water points; using carts and bicycles to transport water; and buying and storing water. Conservation mechanisms mainly involved reduction in water usage even for drinking purposes by reducing the number of baths taken and times of washing utensils.
- Dependence on charitable organization/institutions: Both men and women depended on schools, NGOs, churches, and children's homes to obtain food in form of relief food and lunch, shelter and feeds for their families especially children.
- Relying on wild fruits and seeds to supplement food sources.
- Formation of women/youth groups to organize economic activities to generate cash for family use.
- Use of food preservation methods: Women preserve foods (that last up to one year) to prolong their usage by drying, frying and boiling.
- Economic activities: The kind of economic activity engaged in was influenced by social factors like gender and economic status of the family individuals that provided the income to buy provisions. Women dominated home-related activities like sale of food snacks, carvings, firewood, fetching water, weaving items and working as housemaids. Men do herd-related activities like buying and selling of cows, carpentry, construction work, long distance hawking of veterinary medicines and sheets, providing security during migration, fishing and selling tobacco, salt, and sugarcane. Both men and women engage in the sale of water, operation of kiosks and weaving.

5.1.4 Factors that Interact with Gender to Influence the Coping Strategies

The study has revealed that gender interacts with other socio-economic factors in determining how residents of Turkana District cope with drought. The following factors were identified:

Social networks: The social networks established previously or during the drought were more effective at the onset of drought and their effectiveness diminished as the drought worsened. Social networks took the form of relatives especially in-laws, peer friends and associations with non-governmental organisations and schools. Such networks provide food, care of children and old people, medical assistance, school fees, cash and connections to employment. Similarly, they provide moral support to those concerned and especially so to those belonging to women/youth organizations and age-sets in the case of men.

Socio-economic status: The socio-economic status among the Turkana is mainly determined by the number of stock owned. Normally, it is the cows that count; however, since these are killed by drought, the goats which survive drought better determine the socio-economic status because they can be slaughtered for food, for a visitor or for a ceremony or sold to obtain food. The larger the stock a family has the better the risk management during drought. Although women own animals among the Turkana, they have no rights over their slaughter or sale; thus, their ability to cope with drought is reduced. Consequently, they engage like men in small businesses and formal or casual employment. It was, however, noted that some women hire the services of other not well-to-do women to perform their daily chores, a fact that highlights the interaction of gender and socio-economic status.

Proximity to urban centres: Proximity to urban centres (Lodwar, Kalokol and Turkwell) has numerous benefits including access to social amenities such as water and medical services, food brought in from other more productive regions, assistance from charitable organisations, casual and permanent jobs and market for businesses. Proximity to urban centres also has gender implications because it was mostly men who migrated to these centres although a few women ventured into towns to work as housemaids.

Proximity to the lake: Proximity to Lake Turkana has various advantages including fishing which is a male domain, (women do the fish processing) market for businesses and materials for weaving and trees for firewood, which is of great importance to women activities.

Polygamy: Polygamy, which is a widely practiced family arrangement among the Turkana, is advantageous because it is a labour-intensive mechanism. However, this benefit is only felt at the on-set of drought. When the drought worsens, it becomes strenuous to provide for large families. This is quite challenging especially for women because each individual household (under the women) has

to operate independently. To cope with the tight situations, some women opt to go back to their homes until the drought dies down.

5.2 Conclusions

The study results reaffirm the crucial role played by pastoralist women in maintaining pastoral societies and dispute the old stereotype that men tend to play a more important role. This fact is supported by the gender division of labour analysis done to highlight the fact that, in addition to performing their gender roles of child nurturing, milking livestock, constructing houses, women play the crucial role of cultural reproduction in socializing children and especially girls and participating in rituals and cultural ceremonies. However, in view of the numerous and taxing roles played by women, the performance of these roles becomes even more challenging in the drought situation when basic resources are scarce.

The adaptive strategies employed by Turkana District residents to cope with the drought were based on gender knowledge and skills acquired over the years from living in the drought-stricken district. For example, great innovativeness was noted in the extensive usage of *egol* (dumb palm tree) during the drought season. This plant, in addition to its use as a protein source for humans, is also used as animal feed and for water purification.

The study has identified gender as the main determinant of how well the residents coped with drought. Gender was, however, complemented by factors such as proximity to urban centres and the lake, socio-economic status, polygamy and social networks.

5.3 Recommendations

In view of the fact that famine relief plays an important role in alleviating the effects of drought, this programme should be enhanced to cater for more people. In addition, the distribution centres should be moved closer to the residents.

Non-governmental organizations interested in assisting Turkana District improve its status should target pastoral support activity projects such as fishing by supplying modern fishing equipment and agriculture by enhancing irrigation for those living along Turkwell River. The focus should be on long-term projects that can help sustain food security among pastoralist communities

Since economic activities play a crucial role in alleviating the effects of drought, the government and non-governmental organizations should assist residents, especially women, access loans and improve roads that limit commercial activity within the region. Specifically, the following are recommended:

- i) The Ministry of Science and Technology and related non-governmental organizations should study and utilize the innovative food preservation and water purification methods used by women in the district to apply their usage to other famine-stricken districts in the country.

- ii) The National Food Policy should be re-visited so that the available food is equitably distributed to reach marginalized drought-affected regions like Turkana.
- iii) Due to lack of water in drought seasons, diseases related to poor hygiene practices can be very common especially among children. There is, therefore, need for adequate supply of medical facilities to the area.

Further research should be done on the various income-generating activities that pastoral men and women in Turkana District engage in to establish their advantages and disadvantages, and reasons for their success or failure to establish the kind of support residents require.

A study should be conducted to document information on the socialization roles played by both men and women in cultural reproduction among the Turkana community since socialization plays a crucial role in cultural transmission.

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