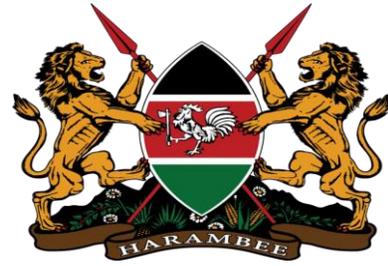




AFRICAN DEVELOPMENT BANK



GOVERNMENT OF KENYA

**MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES
(STATE DEPARTMENT OF AGRICULTURE)**

**DROUGHT RESILIENCE AND SUSTAINABLE LIVELIHOODS PROGRAMME IN THE
HORN OF AFRICA (DRSLP) KENYA PROJECT**

GAFARSA IRRIGATION SCHEME IN ISIOLO

FINAL ANTHROPOLOGY REPORT

AUGUST, 2015

TABLE OF CONTENTS

TABLE OF CONTENTS	2
LIST OF TABLES	3
LIST OF FIGURES	3
LIST OF PHOTOS	3
ACRONYMS	4
1.0 INTRODUCTION	5
1.1 BACKGROUND OF ISIOLO COUNTY.....	5
1.1 BACKGROUND OF THE SCHEME.....	6
1.2 OBJECTIVES OF THE STUDY	6
1.3 PURPOSE AND SCOPE OF THE STUDY	7
2.0 STUDY FINDINGS	8
2.1 SOCIAL CULTURAL DYNAMICS	8
2.1.1 <i>Household Headship</i>	8
2.1.2 <i>Religious Practices</i>	9
2.1.3 <i>Key rites of passage</i>	9
2.1.4 <i>Interaction with other Communities</i>	10
2.2 ECONOMIC ORGANISATION	10
2.2.1 <i>Type of Livelihoods in Gafarsa Scheme</i>	10
2.2.2 <i>Land as source of livelihood</i>	11
2.2.3 <i>Livestock production</i>	12
2.2.4 <i>Crop production</i>	13
2.2.5 <i>Water Distribution</i>	14
2.2.6 <i>Average Incomes</i>	14
2.2.7 <i>Labour</i>	15
2.3 THE POLITICAL ECONOMY OF THE SCHEME	16
2.4 SENSITIVE LAND/ WATER ISSUES AND CONFLICT RESOLUTION MECHANISMS	17
2.4.1 <i>Land Related Conflicts</i>	17
2.4.2 <i>Water Related Conflicts</i>	17
2.4.3 <i>Conflict Management Mechanisms</i>	18
2.5 MORBIDITY AND CULINARY HABITS OF THE PEOPLE	18
2.5.1 <i>Nutrition and Eating Habits</i>	18
2.5.2 <i>Sanitation and Hygiene</i>	19
2.5.3 <i>Morbidity and Causes of Morbidity</i>	19
2.5.4 <i>Health Facilities</i>	20
2.6 OWNERSHIP OF RESOURCES	21
2.6.1 <i>Land Ownership</i>	21
2.6.2 <i>Livestock Ownership</i>	21
2.6.3 <i>Issues arising from Ownership of Resources</i>	21
2.7 CAPACITY BUILDING FOR COUNTY STAFF AND FARMERS	21
2.7.1 <i>Training needs of Staff in Relevant Anthropological Issues</i>	21
2.7.2 <i>Training Needs of Farmers in Anthropological Issues</i>	21
<i>The Community members should be trained on the following:</i>	21
3.0 CONCLUSIONS AND RECOMMENDATIONS	22
3.1 CONCLUSIONS.....	22
3.1.1 <i>Socio-cultural and social economic dynamics</i>	22

3.1.2	<i>Sources of livelihoods</i>	22
3.1.3	<i>Economic organisation</i>	22
3.1.4	<i>Political organisation</i>	22
3.1.5	<i>Sensitive issues and Conflict</i>	22
3.1.6	<i>Morbidity and Culinary Habits of the People</i>	22
3.1.7	<i>Ownership of resources</i>	23
3.1.8	<i>Capacity building for County Staff and community members</i>	23
3.2	RECOMMENDATIONS.....	23
3.2.1	<i>Socio-cultural and social economic dynamics</i>	23
3.2.2	<i>Sources of livelihoods</i>	23
3.2.3	<i>Economic organisation</i>	23
3.2.4	<i>Political organization</i>	23
3.2.5	<i>Sensitive issues and Conflict</i>	23
3.2.6	<i>Morbidity and Culinary Habits of the People</i>	23
3.2.7	<i>Ownership of resources</i>	24
3.2.8	<i>Capacity building of county staff and Community Capacity building</i>	24
b)	<i>The Community members should be training on the following:</i>	24
4.0	REFERENCES	25
5.0	ANNEXES	26
	ANNEX 1: LIST OF RESPONDENTS AND TRAINED STAFF.....	26
	ANNEX 2: LIST OF TRAINED STAFF.....	27

List of tables

TABLE 1: CATTLE PRICES IN MERTI LIVESTOCK MARKET (2009). SOURCE: YAM/ACACIA, 2009	12
---	----

List of Figures

FIGURE 1 : HOUSEHOLD HEADSHIP IN GAFARSA	8
FIGURE 2: KEY RITES OF PASSAGE IN GAFARSA.....	9
FIGURE 3: COMMUNITY INTERACTION IN GAFARSA COMMUNITIES.....	10
FIGURE 4 : ALTERNATIVE SOURCES OF INCOME IN GARFASA	10
FIGURE 5: LAND TENURE IN GARFASA	11
FIGURE 6: REASONS FOR DECLINE OF LAND UNDER CULTIVATION IN %.....	11
FIGURE 7: CHALLENGES IN CROP FARMING.....	13
FIGURE 8: MAIN SOURCES OF WATER IN GARFASA	14
FIGURE 9: DIVISION OF LABOUR UNDER LIVESTOCK FARMING	15
FIGURE 10: DIVISION OF LABOUR IN CROP FARMING.....	16
FIGURE 11: HOW DOMINANT ETHNIC GROUP EXERCISED THEIR INFLUENCE.....	16
FIGURE 12: MAIN CAUSES OF LAND DISPUTES IN GARFASA	17
FIGURE 13: CHALLENGES EXPERIENCED IN ACCESSING WATER DURING THE DRY SEASON.....	17
FIGURE 14: COMMON DISEASES IN GARFASA	19
FIGURE 15: WAYS BY WHICH HIV/AIDS IS TRANSMITTED	20

List of Photos

PHOTO 1: MALE FGD IN GARFASA	12
PHOTO 2: HAY STORAGE ON ROOFTOP.....	13
PHOTO 3: DONKEYS USED TO TRANSPORT WATER DURING THE DRY SEASON	14

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CMDDR	Community Management Disaster And Drought Response.
DRSLP	Drought Resilience and Sustainable Livelihoods Project
FGD	Focus Group Discussions
FGM	Female Genital Mutilation
FMD	Food and Mouth Disease
HH	Household
HIV	Human Immuno-deficiency Virus
IGA	Income Generating Activities
KDHS	Kenya Demographic and Health Survey
KII	Key Informant Interviews
MCA	Member of County Assembly
MP	Member of Parliament
LSD	Lumpy Skin Disease
ORS	Oral Rehydration Solution
PCU	Project Co-ordinating Unit
TBAS	Traditional Birth Attendants

1.0 INTRODUCTION

1.1 Background of Isiolo County

This is an anthropology report for Gafarsa irrigation scheme in Garbatulla Sub-County in Isiolo County. It is one of the twenty (20) reports that constitute the Anthropological and Gender Study. The study was undertaken in six counties, namely: Baringo, Marsabit, Turkana, Isiolo, West Pokot and Samburu and is supported by the State Department of Agriculture; Ministry of Agriculture, Livestock and Fisheries through the Drought Resilience and Sustainable Livelihoods in the Horn of Africa Project (DRSLP) – Kenya Project. The project implementation period is 2013-2017 and is funded by the African Development Bank. Acacia Consultants Ltd was contracted to undertake the study from December, 2014 through to August, 2015.

Isiolo County is located in the Upper Eastern region covering approximately 25,700 square kilometres. The County borders Marsabit County to the north, Wajir and Garissa counties to the east, Tana River and Meru counties to the south, Samburu and Laikipia counties to the west. The County comprises of three sub-counties, namely: Isiolo, Merti and Garbatulla. It is further sub-divided into 10 administrative wards, namely: Ol donyiro, Ngaremara, Isiolo East, Bulapesa, Burat, Kinna, Garbatulla, Sericho, Chari and Cherab. Isiolo's poverty rate stands at 72.6 per cent while the literacy level stands at 59.8 per cent. The county's population stood at 143,294 as per the 2009 Population Census comprising of 73,694 males and 69,600 females. The population was projected to rise to 159,797 by the end of 2012 and 191,627 by 2017. The population consists largely of Cushitic communities (Borana-speaking Boran and Sakuye) and Turkana, Samburu, Meru, Somali and other immigrant communities from other parts of the country.

The county is classified into three ecological zones, namely: semi-arid, arid and the very arid. Semi-arid zone covers part of Wabera Ward, Bulla Pesa Ward and some parts of Burat Ward in Isiolo North Constituency. It also covers some Southern part of Kinna Ward in Isiolo South Constituency. This zone covers five per cent of the total area of the county and receives rainfall ranging between 400mm and 650mm annually. The relatively high rainfall is due to influence of Mount Kenya and Nyambene Hills in the neighbouring Meru County. The vegetation in this zone is mainly thorny bush with short grass. Arid zone covers Oldonyiro, Ngare Mara and some parts of Burat Wards in Isiolo North Constituency and whole of Garbatulla Ward and northern part of Kinna Ward in Isiolo South Constituency. The zone covers 30 per cent of the total area of the county. Rainfall received here ranges between 300 mm and 350 mm annually and supports grassland and few shrubs. Severe arid zone covers Chari, Cherab, parts of Ol donyiro Ward in Isiolo North Constituency and Sericho Ward in Isiolo South Constituency. These areas account for 65 per cent of total area of the county. Rainfall received here ranges between 150mm and 250 mm annually. The area is barren and very hot and dry most of the year.

The county is hot and dry in most months in the year with two rainy seasons. The short rains season occurs in October and November while the long rain occurs between March and May. The rainfall received in the County is usually scarce and unreliable posting an annual average of 580.2mm. The wettest months are November with an average of 143mm of rainfall and April with an average of 149 mm of rainfall. The erratic and unreliable rainfall cannot support crop farming which partly explains the high food insecurity and food poverty levels recorded in the county. Rain fed crops are grown in Bulla Pesa, Wabera and Kinna wards where the black cotton soil retains moisture long enough to make crops mature. High temperatures are recorded in the county throughout the year, with variations in some places due to differences in altitude. The mean annual temperature in the county is 29 degrees centigrade. The county records more than nine hours of sunshine per day and hence has a huge potential for harvesting and utilisation of solar energy. Strong winds blow across the county throughout the year peaking in the months of July and August. The strong winds provide a huge potential for wind generated energy¹.

There are six perennial rivers in the county, namely: Ewaso Ngiro North, Isiolo, Kinna, Bisanadi, Likiundu and Liliaba rivers. Ewaso Ngiro North River has its catchments area in the Aberdare Ranges and Mount

¹County government of Isiolo, First County Integrated Development Plan 2013

Kenya. It also serves as a boundary mark between Isiolo North and Isiolo South constituencies. Isiolo River originates from Mount Kenya and drains into Ewaso Ngiro River. Kinna and Bisanadi rivers are found in the Southern part of the county and drains into the Tana River. Likiundu and Liliaba originate from Nyambene Hills and drains into Ewaso Ngiro North River. The county has a combination of metamorphic rocks and other superficial rock deposits. Tertiary rocks (Olive Basalt) are found in the northern parts of the county, where oil exploration has been going on. The areas covered with tertiary marine sediments that have a high potential for ground water harvesting.

Much of the land (80%) is communally owned and is under the trusteeship of the county government. Government land constitutes 10 % of total land and includes land for schools, administration, army barracks, and health facilities. The remaining 10% of the land is under private ownership and was alienated for private investment in housing, industrial and commercial purposes. Over 80 percent of the land cannot support crop farming and is used as grazing land by the pastoralists. In some wards areas such Kinna, agro-pastoralism is practised with the inhabitants engaging in both livestock and crop farming.

The backbone of the county's economy is Livestock production (nomadic pastoralism and intensive dairy production) with over 80 percent of the inhabitants relying on livestock for their livelihoods. Nomadic pastoralism is the more prominent in the county and defines the lifestyle of most of the county's inhabitants. It has had a negative impact on the environment due to the tendency of overgrazing caused by overstocking. Intensive dairy production is a less prominent economic activity in the county but lately gaining importance as a business in the county. Instead of grazing, cows are locked up and fed in stalls.

The DRSLP area of focus in Isiolo County is in Isiolo Central (OI donyiro, Ngaremara), and Garbatulla (Garbatulla, Kinna and Burat) sub-counties. Gafarsa Irrigation scheme is in Garbatulla Sub-county and is one of two schemes selected for this study.

1.1 Background of the Scheme

Gafarsa Irrigation Scheme was started in 1973 after a return of the migrants nomads mainly Sakuyes, where they had learnt crop farming skills. Seven returnees started the scheme by growing crops and others followed. In 1976, the Food and Agriculture Organisation (FAO) started minor irrigation schemes and built an intake point on Ewaso Nyiro River. It supplied seeds, farm equipment and fertilizers until 1985. In 1986, a main canal intake was expanded with the support by the European Union (EU) in collaboration with the French Embassy. The area covered was about 400 acres by earth canals. In 1997, the area experienced a major flood which destroyed the river banks and the canal structures. That marked the end of the scheme. But this did not dampen the spirits of the farmers who used generators to pump the water from the river to their plots. This has continued to date. When the river is dry, they still scoop the river bed to establish shallow wells. The crops grown are used for subsistence and sale in local in Maua, Merti and Modogashe.

The Isiolo County Government had proposed to establish an irrigation scheme in Gafarsa but from a different intake downstream. The scheme was proposed by a youth group and would benefit a different set of beneficiaries from the proposed DRSLP scheme.

The Gafarsa community were a semi-urban community living around Gafarsa Township.

1.2 Objectives of the Study

1. To carry out a detailed study of socio-cultural and socio-economic dynamics of all the communities in the project area including:
 - Detailed information about communities, their way of life and relations;
 - Capture the cultural variations and stratifications;
 - Capture the different religious practices and the impact on the other religious groups;
2. To capture in detail the types and sources of livelihoods and average income of households and disaggregate the information gender-wise, capturing male and female and child headed households;

3. To study and document the various social, economic and political organisations and the power relations among them;
4. To study in detail the most sensitive issues of the different communities' types of conflicts and ethnic differences, their sources, local solving mechanisms of resolving conflicts and communities' coping strategies and their effects on men and women;
5. To identify the common foods and eating habits, common diseases, including HIV/AIDS and nutritional related, their possible causes and any gender differentials;
6. To give in detail the land and livestock ownership systems, sizes, and any related sensitive issues concerning the said resources;
7. To enhance the capacity of staff (both PCU and field) in relevant anthropological issues and data collection. Identify training needs for both staffs and farmers in the areas of anthropology; and
8. To capture historical relationships of the communities' participation with development partners in the context of empowerment and support in addressing food security issues.

1.3 Purpose and Scope of the Study

This report captures information from Gafarsa Irrigation Scheme in Isiolo County. Going by the objectives of the study, it presents findings on the social cultural dynamics in the scheme (ethnic composition, cultural interactions and resultant behaviour, and rites of passage); economic organisation (land as source of livelihood, agricultural activities- livestock and crop production, water distribution, average incomes, and labour); political economy of the scheme; sensitive land/ water issues and conflict resolution mechanisms; morbidity and culinary habits of the people- nutrition, WASH, morbidity and causes of morbidity, and health facilities. Finally, it provides conclusions and recommendations to enable all groups to participate, contribute and benefit from the project equally.

2.0 STUDY FINDINGS

The study findings are presented in the following section: 1) social cultural dynamics, 2) economic organisation, 3) the political economy of the scheme, 4) sensitive land, water conflict and conflict management systems, 5) morbidity and culinary habits of the people, 6) ownership of resources, and 7) capacity and the training needs of the farmers and staff in the scheme.

A total of 89 household questionnaires were administered of which 84.1% were men and 15.9% were women respondents. Among the 89 respondents, 92% were married, 1.1% were divorced/separated, 3.4% were single and 3.4% were widowed. Focused group discussions (FGDs) were used to explain some of the statistical data from the survey and triangulated with data from the key informants interviews (KIs). On average, the households' interviews indicated that scheme inhabitants had lived in the scheme for a period of 21 years. They were, therefore, well informed about the social dynamics, economic potential and threats of the scheme.

2.1 Social Cultural Dynamics

The scheme was mainly inhabited predominately by the Sakuye community. Others are Somali, Borana, Turkana and Meru. The Somali are second and herd camels while Borana herd shoats. The relationship between the Borana and the Somali was noted worsen during the dry season due to competition for water and grazing.

2.1.1 Household Headship

In Borana household, the husband was the head by religion and culture. Female headed households arose from three main factors: widowhood, divorce and choice, the last from those who became pregnant out of wedlock and were considered outcasts and therefore not attractive for marriage. By virtue of household headship, men were the principal decision makers on how family labour was deployed. Due to traditional gender division of labour, roles were clearly understood and undertaken by different members of the household.

The majority of the households were in male headed monogamous households (72%), followed by male headed polygamous households (21%). The remaining households were female headed (7%). The **Figure 1** represents the distribution of types of households head in Gafarsa

Based on FGDs, it was noted the Borana culture and Islam (the only religion in the community) allowed polygamy under the belief that God provides for whatever size of a family one has. Men tended to marry more wives as they became economically more endowed.

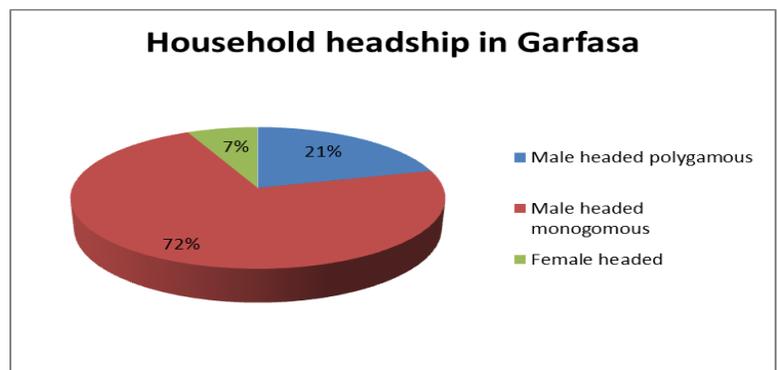


Figure 1 : Household headship in Gafarsa

The marital patterns and sizes of family were such that the main source of labour for productive work was the family. The parents were especially occupied in productive work since children went to school and were only available for labour during holidays. Learning in boarding schools away from Gafarsa and attraction to urban lives were also responsible for shortage of youth's labour in the community.

Traditionally, boys were preferred because they continued the family lineage. But this did not lead to discrimination against girls in access to education. In Gafarsa, the local chief enforced the government's universal primary education policy and ensured that all children of school-going age were enrolled in school regardless of gender. Although, communities were shy to spell out the challenges of education for

either girls or boys, it was notable there were constraints to education, especially due to cultural habits of boys being sent to herd livestock. The Isiolo County was among the ten bottom counties in primary education enrolment, and this was a big pointer that there were real challenges to both boy and girl child education.

2.1.2 Religious Practices

Almost all residents in Gafarsa Scheme were Muslim and were the majority of the population. Christianity was also practiced but by a minority group. The two however co-existed in harmony. The Borana traditional religion was monotheistic with communication through intermediary priests or "Qalla." The traditional name for God was reported to be *Waq* (or *Wak*). However, Islam had become the main religion for Borana society.

2.1.3 Key rites of passage

The Borana community had an elaborate traditional leadership system consisting of a hierarchy of leaders. The *Hayu* (male) was the supreme clan elder akin to a president. He presided over critical ceremonies such as funerals, foreign relations and intercommunity forums. He looked into the welfare of all community members e.g. tracing lost members and mobilising support for the vulnerable. The *Jalab Boku guracha*(male) deputised the *Hayu* while the *Makal* (male), who was a member of *Jalab's* committee, performed duties delegated by the *Jalab*. There was no equivalent leadership structure in which women featured.

The key rites of passages among the Borana included birth, initiation and marriage and are depicted in **Figure 2**. While the significance of birth rites were almost the same for females and males, the initiation was more significant for male than female; and marriage was more significant for females than males.

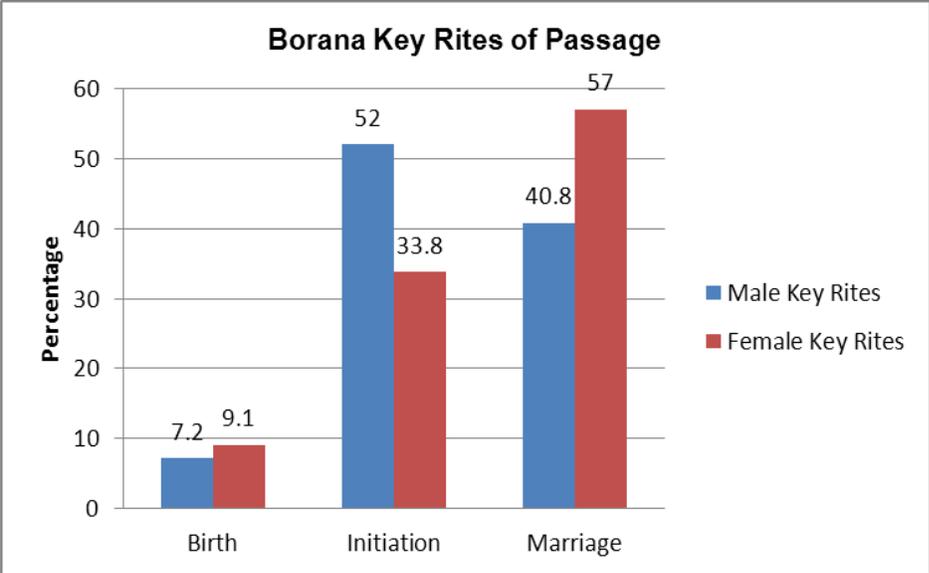


Figure 2: Key rites of passage in Gafarsa

Boys are circumcised at age ten privately without ceremony as Islamic dicta have overtaken cultural practices. The boys then get into adolescence and are either in school or herding livestock. At the age of 20, they are expected to marry and become adults. Girls are also taken through female genital mutilation (FGM) using the same pattern. Once married, the sons and daughters are no longer available as household labour since they have to run their own families.

The FGDs showed that both the Borana culture and Islam (the only religion in the community) allowed polygamy. The average number of children per mother was eight. Divorce was not encouraged but it occurred when the partners were incompatible. Leviratic unions occurred but were not compulsory as they used to be. If she had children, the widow had all the rights to own the property left behind by the deceased husband. However if the widow had no children, she could be inherited by the brother of the deceased if she was in agreement. Respondents also indicated that Islam apportioned all members of the family, male and female, part of the family inheritance.

2.1.4 Interaction with other Communities

The anthropological study included community interactions and interrelations through marriages. It was established that the Borana and the Somali communities intermarried with each as confirmed by 68% and 49% of the households respectively. The intermarriage was associated to having a common religion, Islam. In addition, the intermarriage between the two communities suggested some level of mutual consensus regarding how each community felt towards the other which was a good sign in as far as cohesion and co-existence was concerned. **Figure 3** shows areas of interaction by communities in Gafarsa.

In addition to inter-marriages, issues on participation in other community cultural rituals and rites were inquired. The Borana and Somali communities freely interacted as confirmed by 62% and 43% of the households respectively.

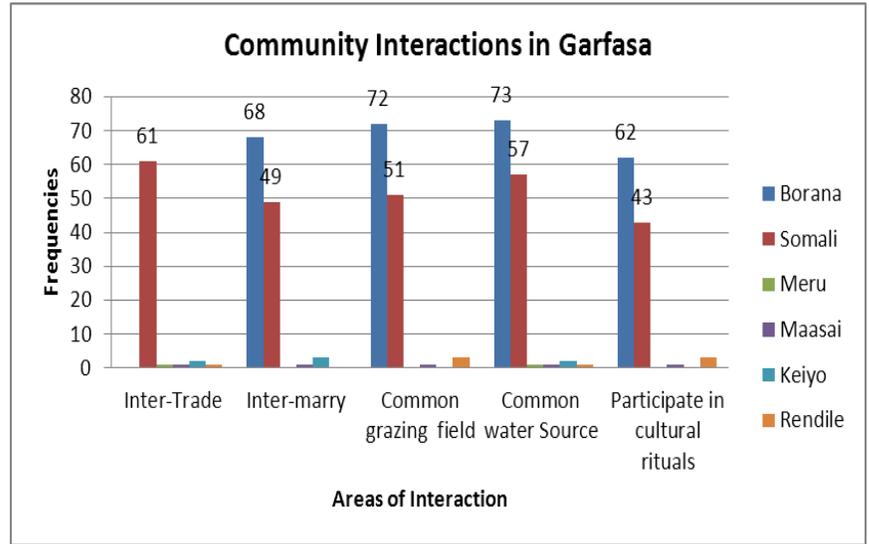


Figure 3: Community interaction in Gafarsa Communities

On trade, the Somali traded more between themselves as opposed to with other communities as reported by 61% of the respondents. This is due to fact that Somalis practiced barter trade on many occasions. Other areas of interaction were sharing common grazing fields and water points between the Borana and the Somali as compared to with other communities.

2.2 Economic Organisation

This section looks at sources of livelihoods including land, crops grown, livestock, water distribution and income as well as labour distribution.

2.2.1 Type of Livelihoods in Gafarsa Scheme

Main source of livelihood was nomadic pastoralism (54.9%). This was followed by crop farming which accounted for 45.1%. Other alternative sources of income are highlighted in **figure 3**. The alternative sources of income included casual labour (32.7%), employment (19.4%), small-scale business (16.3%), livestock and their products (16.3%), charcoal trade (12.2%) and pole harvesting and selling (3.1%).

Coping mechanisms used during drought were; first, divine intervention through prayers led by the male religious leaders. Second, were relief food supplies by the government which were distributed by the local administration which stratified the households and ensured a fair distribution taking into contribution household sizes and that female headed household were also targeted. Third, migration by men and male youth to look for employment in urban centres e.g. Garba Tulla Town (50km away) and Isiolo town (about

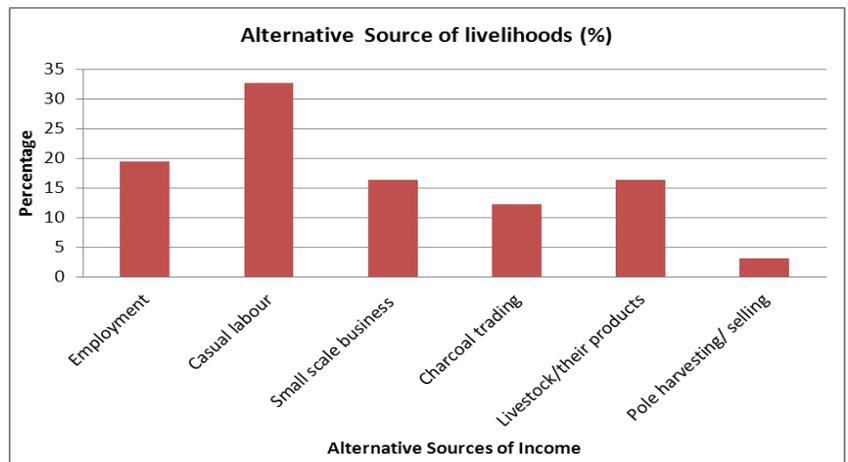


Figure 4 : Alternative sources of income in Garfasa

170km away). Fourth was preservation of meat, carried out by women from bulls allocated and slaughtered by male household heads or relatives. The meat was chunked into small pieces (*nyiri nyiri*) which were fried, doused in oil/fat and kept in tins for eating in small portions to quell hunger and not for indulgence. The role of managing this resource lay with women. Fifth was consumption of hides that were otherwise used as sleeping mats. Finally was migration with livestock to look for water and pasture in adjoining areas occupied by other communities such as the Samburu, Kamba and Meru. Essentially, this took away men and male youth for considerable periods and transferred their responsibilities to women and girls. It also exposed them to risks related to cattle raids and left the women, girls and elders back in the community vulnerable to attacks.

2.2.2 Land as source of livelihood

Land was a major resource on whose communities livelihoods were dependent. The issue of land ownership and acquisition remain key to any intervention aimed at building resilience. Ownership was either individually or communally owned. Much of the land in Isiolo County (80%) was communally owned and was under the trusteeship of the county government.

However while carrying out the household survey in Gafarsa; the study team confirmed that 59% of households within the scheme owned their pieces of land, although they had no titles to verify ownership. **Figure 5** shows land ownership in Gafarsa. Other forms of land ownership were; owned by

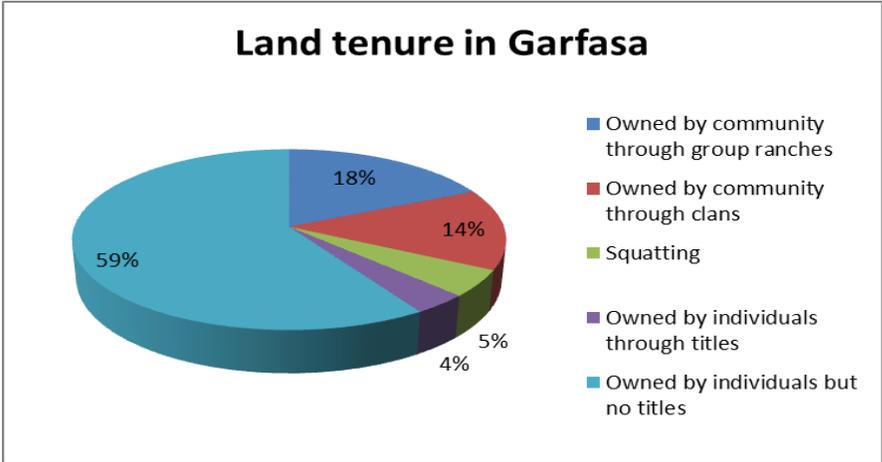


Figure 5: Land tenure in Garfasa

by community through group ranches (18%), owned by community through the clans (14%) and individually owned and freehold (4%). Only 5% of respondents indicated they were squatting on land they lived on. A visit to the Lands Office confirmed that issuance of title deeds in Isiolo County had not taken place.

Noted in this study was that 3.3% of the households increased the land under cultivation, 73.4% of the households reported that the land size remained the same, and 23.3% of the households reported a decline in the size of land used for cultivation. **Figure 6** depicts the reasons given for decline in land under cultivation. There were drought (27.2%); insufficient man power (16.7%), lack of farm tools and inputs (8.3%) and animal threat (5.6%).

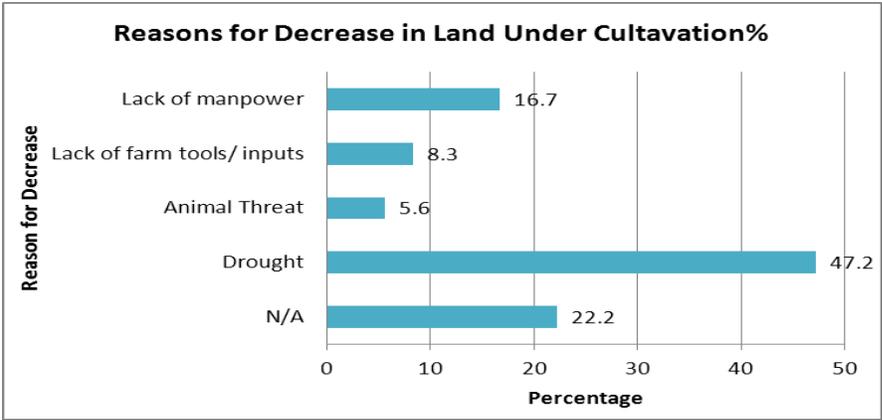


Figure 6: Reasons for Decline of Land under Cultivation in %

Majority of the respondents (72.4%) reported indicated some differences in regards to land use while a 27.6 % indicated no differences in land use.

2.2.3 Livestock production

Livestock production formed the backbone of Isiolo County's economy with over 93.2 per cent of the inhabitants relying on livestock production (nomadic pastoralism-91.8% and agro-pastoralism-8.2%) for their livelihood. The remaining 6.8% of the Isiolo County residents practiced crop production.

Household data confirmed that 55% of respondents within Gafarsa Irrigation Scheme were undertaking livestock production as the main source of livelihood compared to crop production which was being undertaken by 45% of households. Those households which confirmed livestock production as their main source of livelihood had 80.4% practising pure nomadic pastoralism and 16.1% practiced agro-pastoralism. Only 1.8% indicated to have zero-grazing units while an additional 1.8% was involved in poultry farming. FGDs (**Photo 1**-Male FGD in Gafarsa) with community members confirmed that a few households were heavily reliant on crop production with majority being agro-pastoralists.



Photo 1: Male FGD in Garfasa

The main livestock kept were goats, sheep, cattle, camels and donkeys. Poultry was a minor stock. All stocks were owned by men except chicken and donkeys which were exclusively under women's control. Husbands who wished to use the donkey had to get permission from their wives. The main animals sold were goats, sheep and donkeys. Table 2 shows the prices of various categories of cattle in Merti market.

Table 1: Cattle prices in Merti livestock market (2009). Source: YAM/ACACIA, 2009

Cattle Type	Price
Bull	Ksh.12,000
Castrate	Ksh.15,000
Cow	Ksh.12,000
Immature	Ksh.8,000
Average	Ksh.11,750

Challenges in Livestock Production: There were various challenges faced in livestock production. They mainly affected men by virtue of being the owners and managers of the livestock. In this capacity, they had to look for remedies to the problems e.g. traditional remedies for animal's diseases, financing treatment of affected animals, organising and paying for transportation of livestock too far away markets and providing security for livestock against external raiders. The challenges were as follows.

1. **Diseases/condition:** Goats suffered from diarrhoea, oral and anal blisters and joint swellings leading to staggering (PPR - the so-called "Tomongiri" disease based on its origin from stock brought to the area by a person of that name). Cattle suffered from FMD, pimples, skin diseases (Lumpy Skin Disease-LSA) and coughing (pneumonia). Fifteen (15) trained male community based animal health workers provided volunteer animal health support. Otherwise the community relied on vaccination services from a government veterinary officer in Garba Tulla. Traditional treatment for animals (tobacco, heating the bones for pneumonia and application of herbs on wounds) had been replaced by modern practice. Ago-vet inputs were available from Sidai shops in the township.
2. **Shortage of water and pasture:** Drought led to loss of body condition and occasioned migration of men and male youth with livestock to look for pasture and water. A group called Bidii Farmers Group tried to grow pasture but did not realise encouraging results. It would store hay for sale during dry spells and was still willing to continue if there was support. Hay storage is highlighted on **Photo 2**.

3. **Marketing:** The main cattle markets were in Isiolo, 180km away, and Belgesh, 20km away. There was a proliferation of brokers (men) who dominated the market and denied farmers the benefit of maximum profits.
4. **Lack of awareness regarding animal-human disease/health interactions:** People sometimes consumed meat from animals that had died from unknown causes while some do not follow instructions on how long to wait after vaccination before consuming milk from the vaccinated animals. These habits caused illnesses among people.
5. **Insecurity:** The community in Gafarsa often came into conflict with Somali herders from Garissa County who invaded the pasture and water sources, de-barked trees and burnt vegetation. The men and male youth came to the defence of the community and often lost their lives or got injured. Other effects were loss of livestock, environmental degradation and reduction in the community's coping capacity because resources were depleted by the invaders.



Photo 2: Hay storage on rooftop

2.2.4 Crop production

Limited crop farming was done along the banks of Uaso Ngiro River where there were plots allocated by the Irrigation Scheme Committee on the land earmarked for rehabilitation by DRSLP. The farmers reported using irrigation were 61.8%; while 32.7% used river bed agriculture and 5.5% reported to practise rain fed agriculture. Generally land was communally owned and the residents preferred it that way because of the egalitarian and pastoralist way of life. Individual men and women could apply for and be allocated farming plots as long as they are residents of the area. The choice of crops grown lay with the individual farmer and maize was the most popular crop in both male headed (93.2%) and female headed (100%) households. Male headed households also cultivated cow peas (1.7%) and beans (5.1%). The soil was fertile and the main constraint to farming was lack of water.

Respondents from male headed households indicated that the area under crop production had either remained the same or reduced. Reasons cited for this were drought (48.6%), lack of labour (17.1%), lack of farming tools and inputs (8.6%) and threat by animals (5.7%). 20% did not respond. Respondents from female headed households did not cite any reason.

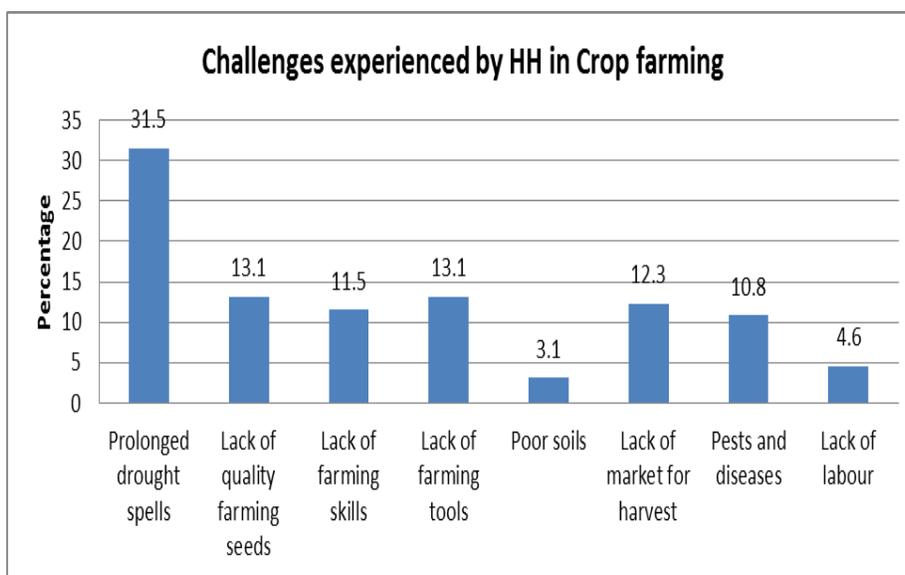


Figure 7: Challenges in Crop farming

Key challenges experienced by both men and women in crop farming included prolonged dry spells, lack of farming tools, lack of certified seeds and lack of market for produce as shown in **Figure 7**. The areas

did not have agriculture extension coverage and support came from NGOs. The farm input provided included seeds but without technical advice. Farmers also purchased seeds randomly from commercial shops without technical information on which ones were appropriate for the area. They experienced poor results including poor germination and disappointing yields. In the case of tomatoes, the number of tones harvested reduced from three tons to one. On marketing, there was no adequate market for the produce and often farmers were unable to sell due to glut. This often resulted in losses and discouraged the farmers from growing tomatoes in the following season. The poor road network and unreliable means of transport did not also help the farmers to reach the markets. Overall, crop farming profitability was either marginal or farmers made losses from farming enterprise.

The female headed households were more affected by the crop farming challenges due to lower levels of formal education, lower levels of income and high levels of dependency (the women are sole breadwinners) hence thinner spread of financial resources. Such households were also worse off in terms of access to agricultural information, services and tools.

2.2.5 Water Distribution

Water was an important resource for both crop and livestock production. In Gafarsa it was available from boreholes/protected well, piped water, and from spring/river/lake/pond. These sources are highlighted in the **Figure 8**. The boreholes and protected wells remained key water sources in both wet and dry seasons as they provided water throughout the year. Piped water was also noted to be common in the irrigation scheme and demand was slightly higher in the dry season as a result of increased demand for domestic use as well as watering livestock.

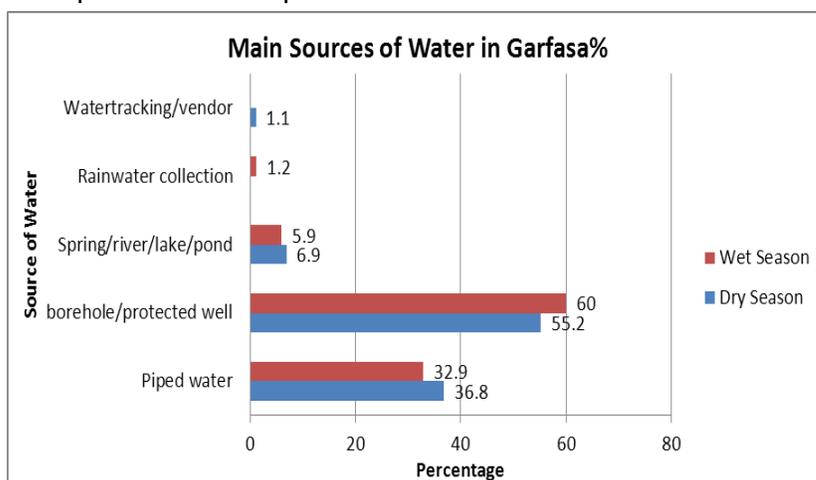


Figure 8: Main Sources of Water in Garfasa

Communities used about 61 minutes to access water point during the dry season compared to 56 minutes during the wet season. The challenges experienced in accessing water were: low water allocation as reported by 25% of the households respondents, Conflicts associated with water sources (24.5%), power wrangles (21.7%) and lack of clean water for domestic use (17.9%) and long distances (0.5%) **Photo 3** shows donkeys being used to transport water. The donkeys were used to fetch water in during the dry season as often the community travelled long distance to water sources.



Photo 3: Donkeys used to transport water during the dry season

2.2.6 Average Incomes

Livestock production was the major source of livelihood for Gafarsa residents, followed by crop production. Other alternative sources of income included casual labour (32.7%), employment (19.4%), small-scale business (16.3%), livestock and their products (16.3%), charcoal trade (12.2%) and pole harvesting and selling (3.1%).

Sale of livestock formed the main source of income, as household earned Ksh. 4,848 from sale of livestock products (e.g. milk & manure) on average in February and March. Other sources of income were sale of crop produce, income from casual labour, sale of charcoal, small scale business, sale of eggs and income from hired bull. The average income per household stood at KShs 7,613/=. The estimated monthly expenditure stood at Ksh. 6,730. Key areas of expenditure were noted to be on school fees and school items, animal husbandry inputs, health care, clothing, food items such as (cooking oil, sugar and cooking oil) and transport.

The sources of income indicated that opportunities for women's economic empowerment largely depended on maximisation of trade in small livestock through women's groups, while for men it was in trade in big livestock and wood products (charcoal and timber).

Trade existed between the Boran, Sakuyes and the Somali. This, however, was noted to be on a smaller scale since the communities had a similar asset base and trade activities. Much of the trade between the communities was on fresh produce, mainly milk and clothing attire. The two communities shared clothing attire and habits. Trading with other communities, for example the Meru, were mainly in crop produce and *miraa*. Traders from Meru took this produce to Garbatulla Sub-county and its environs.

2.2.7 Labour

Ownership and control of household means of production was a male adult's domain. It was confirmed that male adults controlled 92% of the labour. This was not out of the exception, as during the FGD and KII discussions, respondents treated the question as a rhetorical one with the responses sounding obvious. Only 8% of female households controlled labour, and in incidences of single, female headed households which, was a rare phenomenon.

The routine physical work was done by women and girls while men did the managerial and financial work. Fetching firewood was a main time consuming activity for women as it was done about five kilometres away. Fetching water was less laborious as there were water kiosks nearby from where women purchased water at Ksh. 2 per 20-

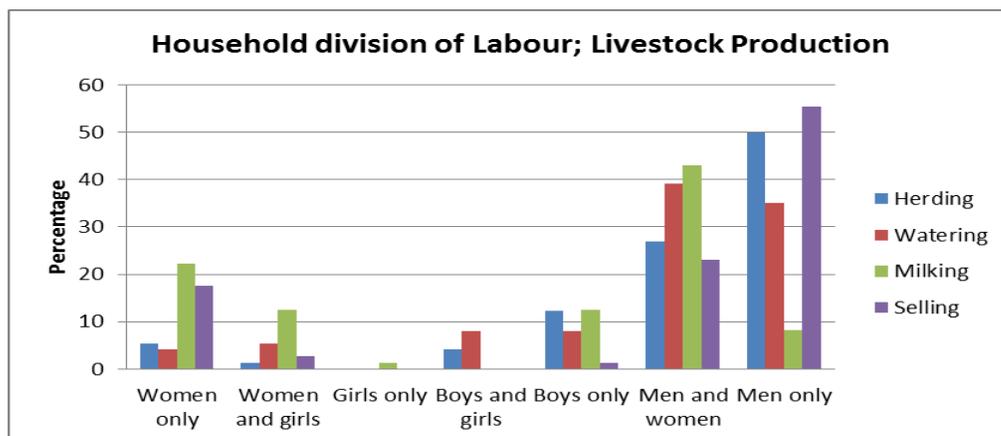


Figure 9: Division of Labour under Livestock Farming

litre jerry can. This water was pumped from Muchuro Borehole and ferried manually on the head or using the donkey. Fetching of water for domestic use, for example, was undertaken by women only in 32.6% of the households and women and girls in 29% of the cases. In 19% of households, it was done jointly by men and women and in 14.6%, it was by men only.

Despite men controlling key sources of production, there were activities undertaken by each gender. From the FGD discussions, women undertook herding of small stock i.e. shoats and chicken and milking while men were in charge of watering (youth) and selling (elderly men who owned the livestock). Women were

allowed to sell poultry and when need arose and were forced to sell shoats, they were expected to consult their male spouses and the eldest son in the household. **Figure 9** shows how key activities under livestock farming and how they were shared. Men carried most of the livestock based activities; such as daily herding of all animals except for the donkey which was completely under the care of the woman. Men also dominated household livestock sales, although women featured when it was done as a women’s group enterprise

The crop farming activity profile confirms that both men and women were main source of labour for crop farming in all activities. Both men and women participated in land preparation, planting, weeding, harvesting and marketing. Men only labour was pronounced in land preparation, planting and marketing as illustrated by **Figure 9**.

The migration of men and male youth affected labour for crop farming. They often migrated to look for employment in urban centres e.g. Garba Tulla Town (50km away) and Isiolo town (about 170km away). While this created an avenue for households to generate income, it also left women in charge of responsibilities that were traditionally carried out by men such as household headship and livestock management. The net effect was an increase in women’s workload. Female headed households were worse off especially if they did not have sons.

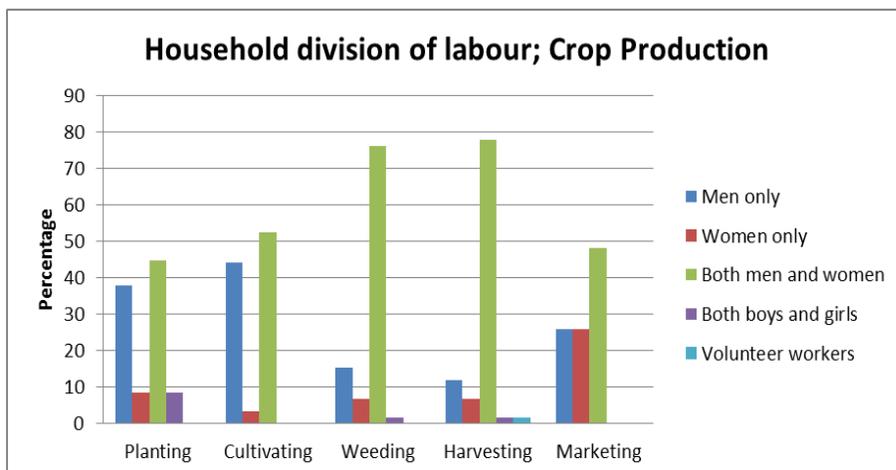


Figure 10: Division of Labour in Crop Farming

2.3 The Political Economy of the Scheme

The Borana had a complex social and political system known as ‘Gaada.’ The ‘Gaada system defined the relationship between people natural resources (water, land, fauna and flora, etc.) and nature (God). The Gada system was governed by a council of elders comprising six men. The anthropology study established that the dominant ethnic group exercise influence over others through political positions, becoming chiefs and driving the economy within Garbatulla Sub-county as confirmed in **Figure 11**.

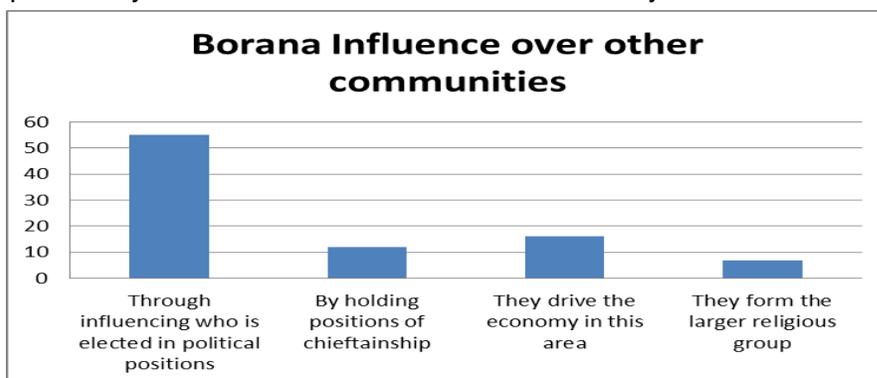


Figure 11: How dominant ethnic group exercised their influence

2.4 Sensitive Land/ Water issues and Conflict Resolution Mechanisms

2.4.1 Land Related Conflicts

Land in Isiolo County was communally owned through group trustees hence treated as a sensitive issue.

However while carrying out the household survey in Gafarsa; the study team confirmed that 59% of households within the scheme owned their pieces of land, although they had no titles to verify ownership. Other forms of land ownership were; owned by community through group ranches (18%), owned by community through the clans (14%) and individually owned through titles (4%). Only 5% of respondents indicated they were squatting on land they lived on. A visit to the Lands Office confirmed that issuance of title deeds in Isiolo County had not taken place. The study confirmed that of the respondents

(72.4%) reported indicated some differences in regards to land use while a 27.6 % indicated no differences in land use. Major causes of land disputes revolved around land boundaries (46.2%), ownership (22.7%), boundaries, ownership of grazing areas in dry season (22.7%), sources of water (4.5%) administrative units (2.3%) and ownership of other natural resources (1.5%) as given in **Figure 11**.

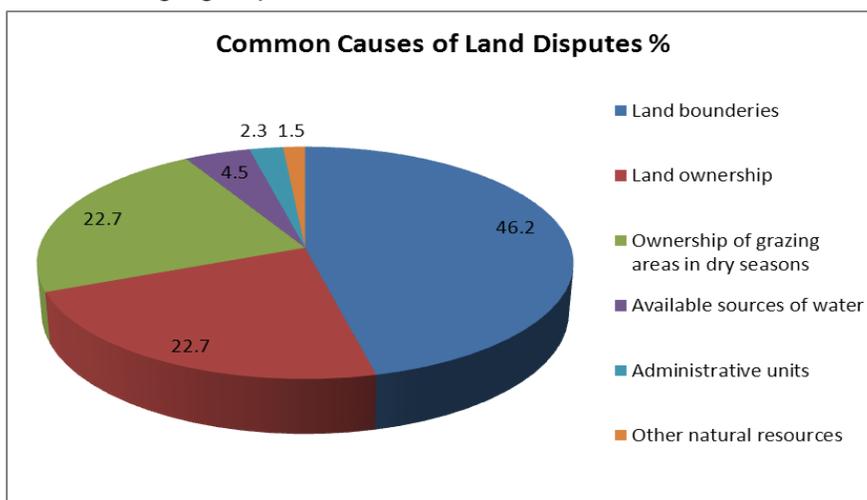


Figure 12: Main Causes of Land Disputes in Garfasa.

2.4.2 Water Related Conflicts

In Gafarsa, conflicts assumed a clan angle. The clan conflicts and clashes were common in the Garissa-Isiolo border, particularly around Garbatulla, Kinna - Rapsu and sometimes in the Ewaso Nyiro plains around Merti, Gafarsa; Malkadaka and Sericho areas.

The key sources of conflicts were: water resources and low allocation of water shared 25% of the respondents each; poor management of water resources (22%), lack of clean water for domestic use (18%) etc. As depicted by **Figure 13**, water was the main source of conflict. The water points also happened to be in the key dry season grazing areas. The cause of conflicts was usually the invasion by Somali neighbours and who in many occasions used the same water points (borehole) and grazing fields as a fall back area during the dry season. The Somali community were said to invade the areas with camels' hence depleted pasture faster for the indigenous community before the rainy periods.

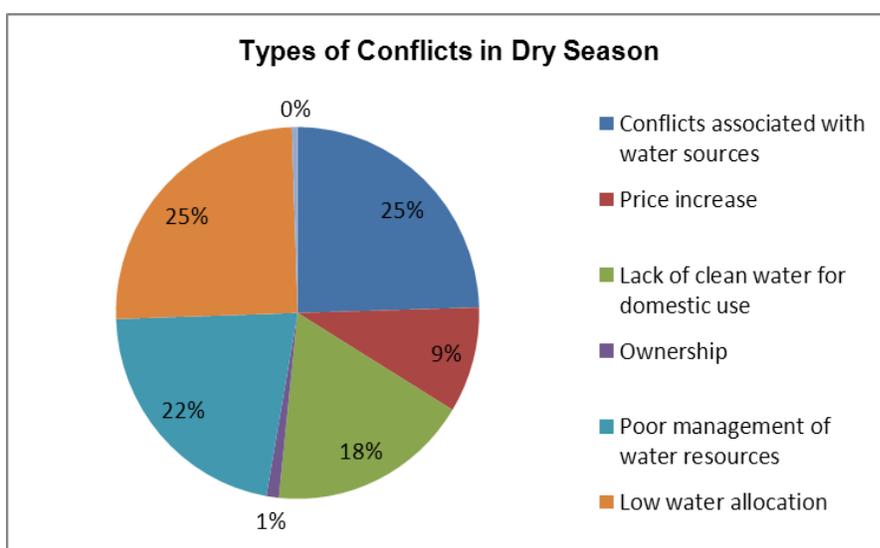


Figure 13: Challenges Experienced in Accessing Water during the Dry Season

The Somali community were said to invade the areas with camels' hence depleted pasture faster for the indigenous community before the rainy periods.

Other forms of conflict and clashes were due to competition for irrigation water. Farmers lamented that output from the scheme had been on a downward trend due to encroachment of water sources by pastoralist thereby reducing water available for irrigation. Due to lack of water, farmers reported the parcels of land under cultivation have been reducing in size.

2.4.3 Conflict Management Mechanisms

The study investigated the mechanism used to resolve conflicts. Differences over land issues and disputes were resolved by constituting an elders' resolution committee as confirmed by 36.4% of respondents. This mechanism seemed to work, as it was applauded by all those interviewed. The community respected the authority of the elders in Gafarsa. A high percentage of households further resulted to migrating from the areas with conflict as confirmed by 35.7% of respondents'. As mentioned earlier, the Somalia had reportedly been requested or forced to move away from the disputed grazing area during the dry season. It appeared migration was an acceptable way of resolving land disputes in this area. This mainly affected the minority communities which include the Somali, the Gabra and the Rendille. Other avenues for solving land disputes included seeking assistance from the police/ administration (24%), holding a public baraza and sharing a meal (3%) and disciplining of offenders through expulsion (1.3%).

2.5 Morbidity and Culinary Habits of the People

2.5.1 Nutrition and Eating Habits

The major foods eaten were rice, meat, beans, night shade vegetables and other traditional delicacies. Common foods given to expectant and lactating mothers included ugali, porridge, meat, milk, vegetables, beans, githeri, potatoes, animal blood, wild fruits and rice. Low intake of vegetables was common among the communities. The communities believed that there is no need to eat vegetables when their grandparents ate meat and milk alone and lived to see over 100 years. Milk consumption was averaged 2.24 litres per day per household

It was reported that children in Gafarsa were weaned at an average age of 6 months. The Common foods given to both male and female infants included porridge, milk, fruits, ugali, honey, soup, githeri (maize and beans), potatoes, Weetabix, vegetables and sorghum. Porridge, milk and potatoes were preferred infant foods. Peculiarly meat was missing from list of foods fed to infant. Malnutrition placed children at increased risk of morbidity and mortality and was shown to be related to impaired mental development. About one-quarter (26 percent) of Kenyan children are stunted, while 8 percent are severely stunted (2014 KDHS)². In Isiolo, 19% of the children were stunted, that is an indication of prolonged period of poor nutrition. As shown in **Figure 14**, Marasmus' affected about 0.8% of the population. The children were most affected due poor nutrition. In this regard, 67.9% of the households reported to give children supplementary feeding, while 30.4% reported not giving supplementary feeding. The reasons given for supplementary feeding include improving their general growth (68.6%), and prevent disease (15%).

The residents considered themselves food secure but the study team noted that almost all households covered in the survey had to adjust their food intake in the previous year to ensure that the stocks of food they had lasted them until the next harvest. At the household level, 75.3% of Gafarsa residents reported average food security, 12.9% reported the food security to be poor, while 11.8% reported good food security. The main causes of food insecurity were: drought (40.1%), human disease (17.4%), livestock diseases (17.4%), floods (17.4%) and conflicts/insecurity (7.6%). The coping mechanisms reported

² Anthropometry provides one of the most important indicators of children's nutritional status. The height and weight data were used to compute three summary indices of nutritional status: height-for-age, weight-for-height, and weight-for-age. These three indices were expressed as standardised scores (z-scores) or standard deviation units from the median for the child growth standards recommended by the World Health Organisation. Children who fall more than two standard deviations below the reference median are regarded as undernourished, while those who fall more than three standard deviations below the reference median are considered severely undernourished. Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered stunted or short for their age. Stunting is the result of failure to receive adequate nutrition over an extended period and may also be affected by recurrent or chronic illness

adopted at the household level to deal with food insecurity were: to ask relatives for money, borrow food from relatives, rely on relief food distribution, sell livestock, consume food on credit from local kiosks, reduce number of meals, reduce size of meals and reduce food varieties/ eat cheap food.

2.5.2 Sanitation and Hygiene

In the survey, households were asked if they had a latrine and 52.3% of those interviewed in Gafarsa answered in the affirmative. However, observations in the field noted that there were no toilets facilities in most of the compounds. In the household data 47.7% reported not to have toilets. When asked how they dispose of their human waste, majority of the respondents, 56.8% disposed their waste on the bushes. An additional 13.6% of respondents confirmed that they defecated in the open fields while 9% did so near their houses. Only 20% of households used latrines which were owned by neighbours. The practice of defecating in open fields and bushes was communally accepted and the norm though discussions in the FGD confirmed a desire to change. The behaviour posed a major challenge to the health of residents in Gafarsa.

Borana believed men could not use same toilet with their wives, daughters, sons and children. The men in these communities also believed that using the toilet exposed them and their families to danger in case an enemy struck when they were in the toilet. Therefore, toilets were mainly used by women and children, with most men practicing open defecation (exposing the community to water borne/food borne diseases such as typhoid, amoebiasis and cholera outbreaks).

2.5.3 Morbidity and Causes of Morbidity

The Gafarsa community reported many common illnesses. The respondents who reported cases of coughs were 18.8%, headaches (17.3%), fever (17.3%) malaria (13.7%), diarrhoea (12.9%) and typhoid/amoeba (10.6%). Other illnesses reported were abdominal pains, trachoma, jigger infestation, worms' infestations and marasmus. **Figure 14** shows common diseases in Gafarsa. Cancer was an emerging concern.

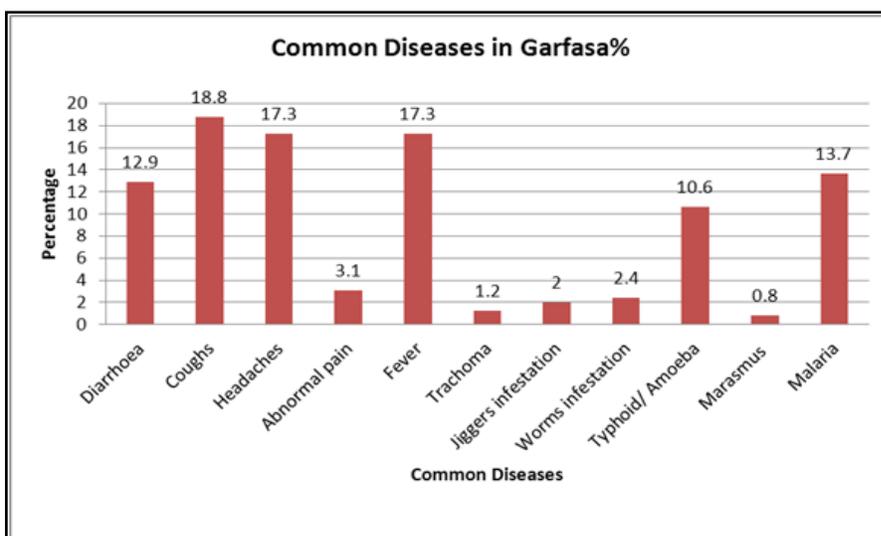


Figure 14: Common Diseases in Garfasa

Diarrheal diseases were not commonly reported for the children below five years of age, this could be attributed to the fact that it was during the dry season. For example of all the boy infants, 74.2% had not suffered from diarrhoea two weeks before the study. Among The girl infants 84% did not suffer any diarrhoea two weeks before the study. Treatment for diarrhoea diseases among the households in Gafarsa was either through pill/syrup (59.1%); Oral Rehydration Solution (ORS) fluid (31.8%), injection (4.5%) and nothing was given (4.5%).

Diarrhoea was confirmed to be caused by contaminated water due to poor human waste disposal where a good percentage of people defecated in the bushes and also open fields.

Malaria was confirmed to be among the common diseases in Gafarsa. At the scheme 68.2% of households reported that their children below five years had suffered from the disease two weeks before the study. This was against a high percentage of households, 81% having mosquito nets in their premises. An inquiry made during FGD discussion confirmed that there was a preference in sleeping outside the homestead by children even below 5 years of age due to the high night temperatures in the huts. This was

despite the fear of being attacked by wildlife especially the hyenas as well as being attacked by mosquitoes. In addition, households confirmed that their nets were torn hence mosquitoes found their way in. Sick children were confirmed to have been taken to hospital as indicated by 98% of respondents. Expectant mothers benefited from mosquito nets distributed free of charge from Merti Health Centre. The nets were used during the wet season when mosquitoes were rampant but not during the dry and hot season when people slept outside and there were no mosquitoes.

Issues on HIV/AIDS were treated with sensitivity at both qualitative and quantitative stages of data collection. A question on awareness was floated to respondents at the household level where majority of respondents (96%) confirmed that they were aware of HIV/AIDS. A follow-up question, still on awareness, was asked on ways through which the virus was transmitted. Majority of respondents confirmed that it was transmitted through engaging in unprotected sex. However some still held on to some untruths on how HIV/AIDS was spread such as through contact of any type with infected person. This is shown in **Figure 9**.

Both the Borana culture and Islam (the only religion in the community) allowed polygamy. Everyone in Gafarsa and in general Garbatulla Sub-county adhered to the Islamic beliefs. On average, men in the community married two wives. Discussion at the FGD confirmed that

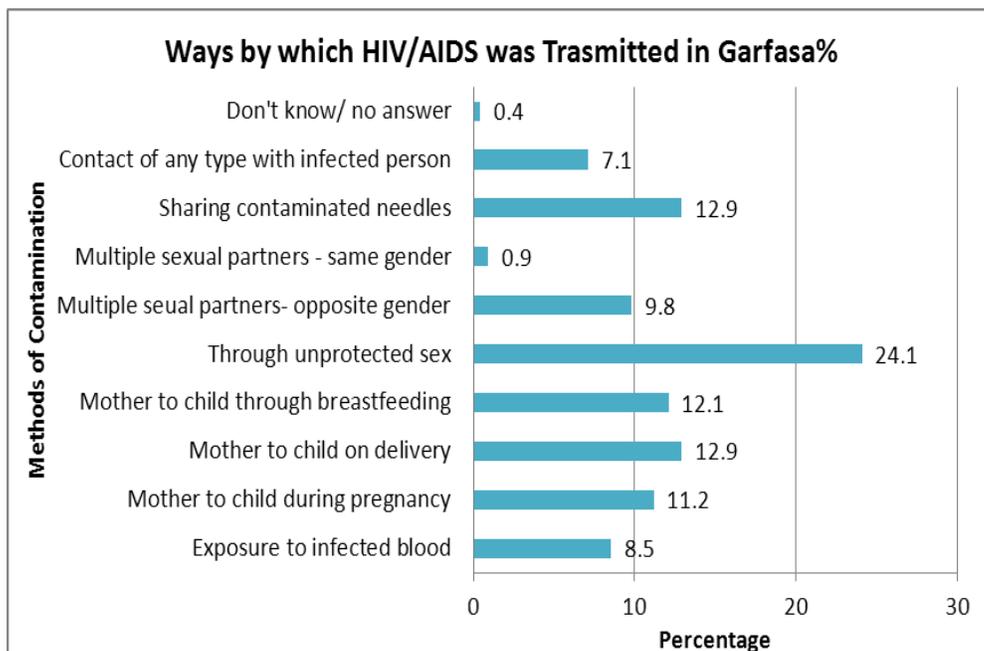


Figure 15: Ways by which HIV/AIDS is transmitted

initially and for a long time, care was not taken while engaging multiple sexual partners, as HIV/AIDS was believed to be a disease for the urban population. However, the community acknowledged that there were reported cases of people who had contracted the virus from having multiple sexual partners. HIV+ persons experienced stigmatisation and were hidden and not allowed to participate in community activities e.g. attend rites of passage. In addition, cases of promiscuity were also common which despite them being against the Islam teachings and cultural norms.

2.5.4 Health Facilities

The residents reported to have two heath centres that serve the community. These were the Merti Health Centre about 10km away and local Gafarsa Health Centre. At the hospital, key services rendered were disbursement of drugs (45%), prescription and consultation (34%) and immunization injections (15%). Only 5% of households confirmed to have received laboratory services. At the hospital, most of the patients were attended by a trained nurse as confirmed by 72% of respondents. Other practitioners who attended to patients included clinical officers (20%), medical doctors (7%) and community health workers (1%). In addition, respondents were asked on time taken to the nearest health facility. Majority of respondents (77%) took less than 30 minutes' walk with an additional 20% taking between 30-60 minutes to the health facilities. Only 3% took more than an hour.

The local Gafarsa Health Centre offered free medical and child delivery services. The administration, working with the medical personnel, discouraged home births, although there were trained traditional birth attendants (TBAs) in the area with home delivery kits. The TBAs have been advised to refer all birth

complications to the health personnel. There are home visits by the health personnel to monitor expectant mothers.

2.6 Ownership of Resources

2.6.1 Land Ownership

Much of the land in Isiolo County (80%) was communally owned and was under the trusteeship of the county government. The remaining 10% of the land was under private ownership and was alienated for private investment in housing, industrial and commercial purposes. Over 80 percent of the land could not support crop farming and was used as grazing land by the pastoralists. At Gafarsa, the residents (men and women) were allocated plots to farm.

2.6.2 Livestock Ownership

Most of the livestock in Isiolo was owned by men. They also controlled the means of production for the livestock. The Somali were known to herd camels while Borana herd mostly the shoats.

2.6.3 Issues arising from Ownership of Resources

During the dry spell conflicts over the control of pasture and water points were reported.

2.7 Capacity Building for County staff and Farmers

2.7.1 Training needs of Staff in Relevant Anthropological Issues

Training of various cadres of MoALF staff was undertaken during the fieldwork phase. A total of 10 members of staff were trained from the entire Isiolo County. The identified training needs were:

- ✚ Societal values and norms
- ✚ Group dynamics
- ✚ Anthropology for development
- ✚ Social cultural organisations
- ✚ Peace and conflict
- ✚ Interpersonal and ethnic relations
- ✚ organic and inorganic farming,
- ✚ conflict management,
- ✚ Gender and social relations
- ✚ Project management committee,
- ✚ CMDDR-community management disaster and drought Response.

2.7.2 Training Needs of Farmers in Anthropological Issues

The Community members should be trained on the following:

- ✚ Societal values and norms
- ✚ Group dynamics
- ✚ Anthropology for development
- ✚ Social cultural organisations
- ✚ Peace and conflict
- ✚ Interpersonal and ethnic relations

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

3.1.1 *Socio-cultural and social economic dynamics*

Borana and Sakuyes were the dominant communities at the scheme, there were also a Somalis. The Borana, Sakuye and the Somalis interacted in all areas such as trade, marriages, sharing of natural resources and attending cultural rituals. The Borana and Somali relations were notably threatened by the ever increasing population of Somali camels which continued to deplete grazing areas and water sources. The relationship was noted to worsen during the dry season when pastoralist move to other areas in search of pasture.

3.1.2 *Sources of livelihoods*

Livestock production was the major source of livelihood for Gafarsa residents, followed by crop production. Other alternative sources of income included casual labour (32.7%), employment (19.4%), small-scale business (16.3%), livestock and their products (16.3%), charcoal trade (12.2%) and pole harvesting and selling (3.1%).

3.1.3 *Economic organisation*

As discussed, land was communally owned and the residents preferred it that way because of the egalitarian and pastoralist way of life. Individuals could apply for and be allocated farming plots as long as they were residents of the area and were able to carry out farming. Limited crop farming was done along the banks of Uaso Ngiro River. Maize was the most popular crop alongside cow peas and beans.

3.1.4 *Political organisation*

The 'Gada system defined the relationship between people natural resources (water, land, fauna and flora, etc.) and nature (God). The Gada system was governed by a council of elders comprising six men. The anthropology study established that the dominant ethnic group exercises influence over others through political positions, becoming chiefs and driving the economy within Garbatulla Sub-county where the scheme is located.

3.1.5 *Sensitive issues and Conflict*

Animal raiding and perpetual conflicts over resources within and across with the neighbours was a major source of tension and instability in Gafarsa. Grazing fields were also a major cause of conflict in the area especially between the Somali and the Borana. Also, land ownership and that of grazing fields, boundaries, and water points were contentious issues that triggered conflicts in the scheme.

3.1.6 *Morbidity and Culinary Habits of the People*

Only 52.3% of those interviewed in Gafarsa reported to have toilets, while 47.7% reported not to have toilets. For those who did not have latrines they disposed their human waste through; 56.8% disposed their waste on the bushes, 13.6% of respondents confirmed to defecate in the open fields while 9% were defecating near their houses. Only 20% of households used latrines which were owned by neighbours. The practice of defecating in open fields and bushes posed a major challenge to the health of residents in Gafarsa.

Low intake of vegetables was common among the Borana. The Borana believed that there is no need to eat vegetables when their grandparents ate meat and milk alone and lived to see over 100 years. Milk consumption was averaged at 2.24 litres per day per household.

3.1.7 Ownership of resources

In regard to ownership and control of resources, it was noted that this is a male dominated society. Thus men were the custodians of the major means of production, land and livestock. Women at best were caretakers who had limited user rights. Also the communal ownership of land and to some extent pasture and water had an implication on individual initiative and drive.

3.1.8 Capacity building for County Staff and community members

The county staff need capacity building on anthropological issues while the community training needs were mainly on project cycle. The capacity building will enhance implementation of the project.

3.2 Recommendations

3.2.1 Socio-cultural and social economic dynamics

The traditional practice of FGM is repugnant and retrogressive. Cattle raiding were impacting negatively on livestock as livelihood. Communities ought to be sensitized about the harmful effects of these age old customs which gradually ought to be discarded. Inter-ethnic relations ought to be enhanced through seminars on the importance of co-existence so that communities can exist in peace. The project is recommended to partners with development partners and NGOs advocating for eradication of these retrogressive cultural activities.

3.2.2 Sources of livelihoods

Livelihoods were dependent on the weather conditions and as such droughts and dry spells that led to food shortages which should be addressed. Promotion crop production under irrigated agriculture is recommended. Supporting of IGAs (particularly livestock based IGAs) would also go a long way to complement crop based livelihoods.

3.2.3 Economic organisation

The river Ewaso Ngiro broke its banks and caused floods. Strong dykes should be built on strong foundations to avoid the losses that farmers have incurred in the past. Farmers lacked modern equipment and hybrid seeds that could improve their yields.

3.2.4 Political organization

The Gada system can be integrated with the modern system of governance to enhance control and regulation of the scheme. Also, before implementing an intervention, dialogue should be done between the county government and community leaders to obtain approval as the land is communally owned.

3.2.5 Sensitive issues and Conflict

A permanent solution to curbing conflicts is urgent if the communities are to be self-reliant and sustainable. The project can support conflict resolution activities including advocating for alternative activities for cattle raiding. Promotion and supporting IGAs that would that engages youth is highly recommended.

3.2.6 Morbidity and Culinary Habits of the People

Low latrine coverage could be corrected by enabling the local people construct simple pit latrines and gradually transforming them into hygiene conscious societies. People expressed willingness to adopt use of latrines, an avenue that can be explored. Once the project commences, there should be a program

sensitizing the people on balanced diet and kitchen gardening. There could even be demonstration gardens.

3.2.7 *Ownership of resources*

59% of households within the scheme owned their pieces of land, although they had no titles to verify ownership. Other forms of land ownership were; owned by community through group ranches, owned by community through the clans, and individually owned through titles while squatting was also noted. We would encourage the County Government to issue title deeds to the farmers for over a period of time.

3.2.8 *Capacity building of county staff and Community Capacity building*

It is recommended the following modules be used for county staff and community members' capacity building.

a) The County Staff should be trained on the following:

- ✚ Societal values and norms
- ✚ Group dynamics
- ✚ Anthropology for development
- ✚ Social cultural organisations
- ✚ Peace and conflict
- ✚ Interpersonal and ethnic relations

b) *The Community members should be training on the following:*

- ✚ Societal values and norms
- ✚ Group dynamics
- ✚ Anthropology for development
- ✚ Social cultural organisations
- ✚ Peace and conflict
- ✚ Interpersonal and ethnic relations

4.0 REFERENCES

1. Anderson, D.M. & Broch-Due, V. (Eds). 1999. *The poor are not us: poverty and pastoralism in Eastern Africa*. Oxford, UK, James Currey; Nairobi, EAEP; Athens, Ohio, USA, Ohio University Press.
2. Baxter, Paul T.W. and Uri Almagor (eds.): *Age, Generation and Time. Some Features of East African Age Organizations*.
3. Baxter, P.T.W. & Hogg, R. (Eds) (1990) *Property, poverty and people: changing rights in property and the problems of pastoral development*. Manchester, UK, Department of Social Anthropology and ICD, University of Manchester.
4. Dahl, G. & Hjort, A. (1976) *Having herds: pastoral herd growth and household economy*. Stockholm Studies in Social Anthropology No. 2. Stockholm, University of Stockholm.
5. Dietz, T. (1987) *Pastoralists in dire strait; Survival strategies and external interventions in a semi-arid region at the Kenya/Uganda border*. Western Pokot, 1900 – 1986. University of Amsterdam
6. Galaty JG and P. Bonte (1999). *Herders, Warriors and Traders*, Boulder Colorado: Westview Press.
7. Spencer Paul (1973) *Nomads in Alliance: Symbolism and Growth among the Rendille and Samburu of Kenya*. London: Oxford.
8. Whittaker, H. (2012). "The socioeconomic dynamics of the Shifta conflict in Kenya. Nairobi: Cambridge University Press.
9. Kenya Demographic and Health Survey, 2014.

5.0 ANNEXES

Annex 1: List of Respondents and Trained Staff

(i) Key Informant Interviews

	Name	Designation
1	Ndege Nyaga	Sub-County Youth and Gender Officer, Isiolo North
2	Mohamed Diba	Livestock Production Officer & Principal Mobile Pastoral Training Unit
3	Mary Wanjiku	County Resilience Officer, National Drought Management Authority, Isiolo
4	Stephen Machan	Coordinator ASDSP
5	Francis Kiruja	Programmes Supervisor, FH-Kenya, Isiolo
6	Lilian Mwikali	Nutrition Officer, Action Against Hunger, Garba Tulla
7	Dr. J.S. Muriira	Veterinary Officer, Isiolo Central Sub-County
8	Daniel N. Muggi	County Animal Production Officer in-charge of Isiolo Holding Ground
9	Francis Muruthi Warutere	Ward Agricultural extension Officer, OI Donyiro
10	Banticha Jaldesa	Sub County Agriculture Officer, Garba Tulla
11	Halkano H. Hache	Sub-county Livestock Production Officer, Garba Tulla
12	Mohamed A. Kanchoro	Senior Livestock Health Officer, Garba Tulla
13	Daud Gonjobe Jarso	Livestock Production Clerk, Garba Tulla
14	Said Abdi Ali	Support Staff, Garba Tulla
15	Mr. Adan Ali (Others in the meeting were: Yusuf Ibrahim; Adan Hugman; Ahmed Adow; Amina Dabaso (Female); Jarso Salesa; and Abdullahi Yusuf.	Chairman, Rapsu Commercial Pasture Plot
16	Salad Dida Wario	Livestock Production Officer, Kinna
17	Muthomi Kaburu	Land Administration Officer
18	Jack Obuo	Sub County Commissioner, Garbatulla
19	Ann Nyangweta	Livestock

(ii) FGD with Gafarsa Community Members 23.3.15

SN	Name	Sex
1	Nyabure Guyo	Female
2	Abdia Soka	Female
3	Bisharo Ali	Female
4	Eblay Osman	Female
5	Habiba Male	Female
6	Mohamed Digaji	Male
7	Adan Gine	Male
8	Abdi Sora	Male
9	Mw Daud Glichu	Male
10	Hajj Bonaya Racha	Male
11	Abdi Jirma	Male
12	Adan Game	Male
13	Jarso Abado	Male
14	Happi Guyo	Male
15	Hassan Abdi	Male
16	Ali Guyo	Male
17	Haro Galgalo	Male
18	Chief Adan Abgudo	Male

(iii) FGD with Kombola Borehole Committee, 22.3.15

SN	Name	Sex
1	Ali Galana	Male
2	Abdi Katelo	Male
3	Ware Boru (Chair)	Male
4	Abdi Bule	Male
5	Ali Roba	Male
6	Abdi Digaji	Male
7	Halima Abdi	Female
8	Kurfa Wario	Female
9	Safia Osman	Female

Annex 2: List of Trained Staff

No.	Name	Designation	Gender
1	Francis Muruthi	D/AEO - Oldonyiro	M
2	Everlyn W. Gathogo	D/AEO – Central	F
3	Florence Njege	SCADO – Isiolo	F
4	Josephat Anjiri	SCIO - Garbatulla	M
5	Mohamed A. Kauchow	SCIO - Garbatulla	M
6	Halkawo H. Hache	SCLPO - Garbatulla	M
7	Bartiche A. Jadesa	SCAO - Garbatulla	M
8	Mohammed Noor Ahmed	ALPO - Garbatulla	M
9	David M. Mwangi	SALPO - Central	M
10	Salah G. Abdi	SLHA - Merti	M