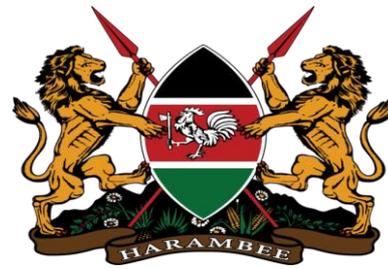




AFRICAN DEVELOPMENT BANK



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**

FINAL GENDER REPORT FOR SEIYA IRRIGATION SCHEME

IN

SAMBURU COUNTY

AUGUST, 2015

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ABBREVIATIONS

DRSLP	Drought Resilience and Sustainable Livelihoods Project
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussions
FGM	Female Genital Mutilation
IFAD	International Fund for Agricultural Development
ITDG	Intermediate Technology Development Group
MOH	Ministry of Health
PCU	Project Co-ordinating Unit
WISP	World Initiative for Sustainable Pastoralism

1.0 INTRODUCTION

This is a gender report for Seiya Irrigation Scheme in Samburu County. It is one of the twenty (20) reports that constitute the Anthropological and Gender Study Report. 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 December, 2014 through to May, 2015.

1.1 Background to Samburu County

Samburu County borders Marsabit County to the northeast, Isiolo County to the east, Laikipia County to the south, Baringo County to the southwest and Turkana County to the northwest. The county covers an area of approximately 21,126 km² with an estimated population of 223,947 according to the Kenya National Bureau of Statistics (2009 Census). Samburu County is among the poorest in the country with 73% of its population living below the poverty line according to Kenya Integrated Household Budget Survey. Three-quarters of the county is arid and semi-arid range land which receives between 250-600mm of rainfall annually. The rainfall is quite erratic in the lowlands making the area not quite suitable for arable farming. Only about 7% (140,900 hectares) is medium to high potential land which receives 600-900mm of rainfall annually.

The area is mainly inhabited by the Samburu. Other groups are Turkana, Somali and Rendille ethnic groups whose main economic activity is keeping livestock. They practise a seasonal migratory lifestyle in continuous search of pasture and water for their livestock, which provide them with milk, meat and blood for food as well as serving other socio-economic functions such as paying bride wealth.

The county consists of three livelihood zones: pastoral-all species at 56.5%, agro-pastoral at 36.9% and formal employment/business/petty trade at 6.4% of the county population. In areas where dryland agriculture is practised, the persistent and severe droughts/famines cause crop failure as well as livestock deaths. The county has been under food support programme since 2004. During the long rains of 2013, a total of 32,900 persons were supported under the general food distribution down from 46,151 before the short rains assessment of 2013. Other food aid interventions included: supplementary feeding programme targeting 2,906 beneficiaries across all health facilities, implemented by the Ministry of Health (MoH) in partnership with United Nations Children's Fund, World Vision and International Medical Corps. Protective food rations programme also by MoH and World Food Programme targets 1,872 recipients across the county. The regular school feeding programme which targets 148 public primary schools and early childhood centres is also on-going. Non-food relief operations include relief seeds for farmers and pasture production in some parts of the county.

The DRSLP area of focus in Samburu County is Samburu Central Sub-county.

1.2 Background of the Scheme

Sieya Irrigation Scheme is located on River Seiya, one of the perennial rivers in Samburu County. The scheme was started by the Catholic Church but with technical support from the Government. With time, other development partners have contributed towards the building of the intake, a bridge and some water piping to households within the area.

The Samburu is the dominant community in the scheme. Other minority residents are the Somali, Borana, Turkana, Meru, Nandi, Somali, Kikuyu and Pokot. There are also the Dorobo or members of the hunter gatherer communities who harness their livelihood solely from the natural environment. There are nine clans of the Samburu in the area.

1.3 Objectives of the Study

1. To identify the roles of men, women and youth with respect to crop and livestock production, reproductive and community activities.
2. To provide information on the household composition and how division of labour affects men's, women's and youth's contribution to productive work.
3. To investigate and provide information on how resources are accessed and controlled with respect to ownership, decision making on the use and distribution of benefits among men and women at household level.
4. To identify the sources of incomes and livelihoods for the different gender groups and the challenges faced.
5. To identify the various gender differentials, including women's access to land, livestock, labour, education, market, credit and information and provide benchmarks from where to measure the changes in differentials (give guidelines for forming gender sensitive marketing and credit organisations).
6. To identify and document all the female headed households and challenges they face in accessing the productive resources (for irrigated agriculture and livestock production).
7. Based on the findings, to give conclusions, recommendations and interventions that can be used to address the gender issues that will allow men, women, and other gender groups participate, contribute and benefit from the project equally.
8. To enhance the capacity of staff in the relevant gender issues and data collection (both PCU and field staff), identify the training needs for staff and farmers in Gender.

1.3 Scope of the Study

This is a gender study report for Seiya Irrigation Scheme in Samburu County. It looks at gender division of labour, household composition, resources and benefits, sources of income and livelihoods, female headed households and potential for credit and marketing organisations. The study makes recommendations on interventions that can be put in place to ensure that all gender groups participate in, contribute to and benefit from the project.

2.0 STUDY FINDINGS

The study used both qualitative and quantitative data gathering tools. The targeted households were beneficiaries of the scheme. A total of 91 members of households were interviewed (85% male, 15% female). All targeted were beneficiaries of the scheme and 89.3% of the respondents came from male headed and 10.7% from female headed households. Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) were also conducted for triangulation with the household survey data. Photo 1 depicts a women FGD session in Seiya. The community had lived in the scheme for last 25 years.



Photo 1: Women FGD in Seiya

2.1 Gender Division of Labour

Samburu was found to be the dominant community in the scheme. Other minority residents in the scheme were Borana, Somali, Turkana, Meru, Nandi, Somalis, Kikuyus and Pokots. There were also the Dorobo or members of the hunter gatherer communities who harnessed their livelihood solely from the natural environment. It was established that there were nine clans of the Samburu who inhabited the area.

The findings of gender division of labour with regard to the productive (crop and livestock production), reproductive and community management activities have been discussed in this section. The following were typical activity profiles for crop and livestock production, reproductive activities and community management in the scheme area.

2.1.1 Productive Activity Profile

a) Crop Production

In Seiya community farm maize, beans, potatoes and kale vegetables basically for subsistence but any surplus was sold in the local markets. **Figure 1** shows how crop labour was shared in a household.

Household data indicate that the decision on what to plant and land preparation was done by both men and women in 65.7% of households and women only in 1.4% cases making it a shared activity. Planting was done by men only in 69.7% households and by both women and men in 24.2% cases making this mainly a male activity. Weeding

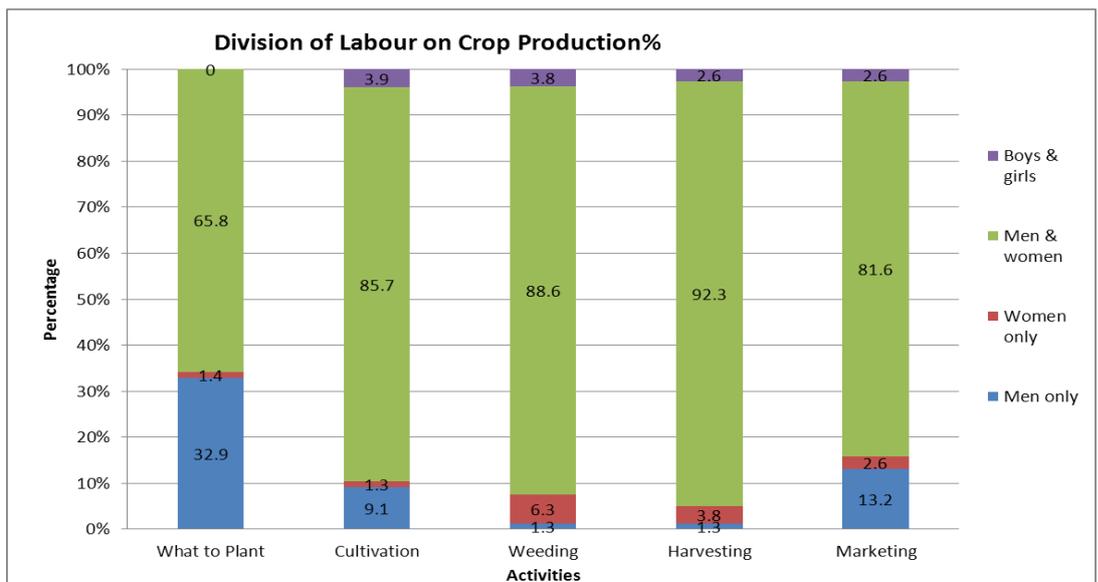


Figure 1 : Division of Labour- Livestock Production

was done by both women and men in 88.6% of households, by men alone in 1.3% households and by women alone in 6.3% cases making it a fairly shared activity. Harvesting was done by both men and

women in 92.3%, a shared activity. In 81.6% of households, men and women marketed crop produce while men did so in 13.2% making it also a shared activity. **Table 1** is an activity profile for crop farming.

Table 1: Crop production Activity Profile

Activity	Who	When	Where	How
Crop Farming				
Land preparation (clearing and tilling)	Men & women jointly as family labour.	7.00 am – 1:00 pm.	Farm plots nearby.	Manually or using tractors provided by the county government at a subsidized fee.
Weeding	Men & women jointly as family labour.	7.00 am – 1:00 pm.	Farm plots nearby.	Manual.
Harvesting	All family members.	7.00 am – 1:00 pm.	Farm plots nearby.	Manual.
Processing	Women	Seasonal.	Home.	Manual.
Storage	Women	Seasonal.	Home.	Manual.
Transport to markets	Men assisted by women	Occasional.	Local shopping Centre.	Manual.
Selling	Men & women jointly as family labour.	Occasional	Local shopping centre.	Manual.

The profile shows that crop farming activities were all shared between men and women with the exclusive activities for women being processing and storage. In all the above activities, boys and girls assisted on weekends or during school holidays. The scheme was active in the morning with women and men undertaking their respective activities.

b) Livestock Production

The main source of livelihood for the community was livestock (cattle, goats, sheep, camels, donkeys and chicken). **Figure 2** summarises the distribution labour for livestock based activities were: ownership (men

97.4%, women 25%); acquisition (men 97.4%, women 2.6%); herding (men only 5.2%, women only 1.3%, men and women 29.9%, boys and girls 32.5%, women and girls 28.6%, boys only 1.3% and hired labourers (1.3%); watering (women and men 54.5%, men only 11.7%, women and girls 24.7%, women (5.2%, boys and girls 2.6%, boys only 1.3%); milking (woman and girls 74.3%, women 24.5%, boys 1.3%); and selling (men only 17.6%, men and women 60.8%, women only 5.4% and women and girls 16.2%).

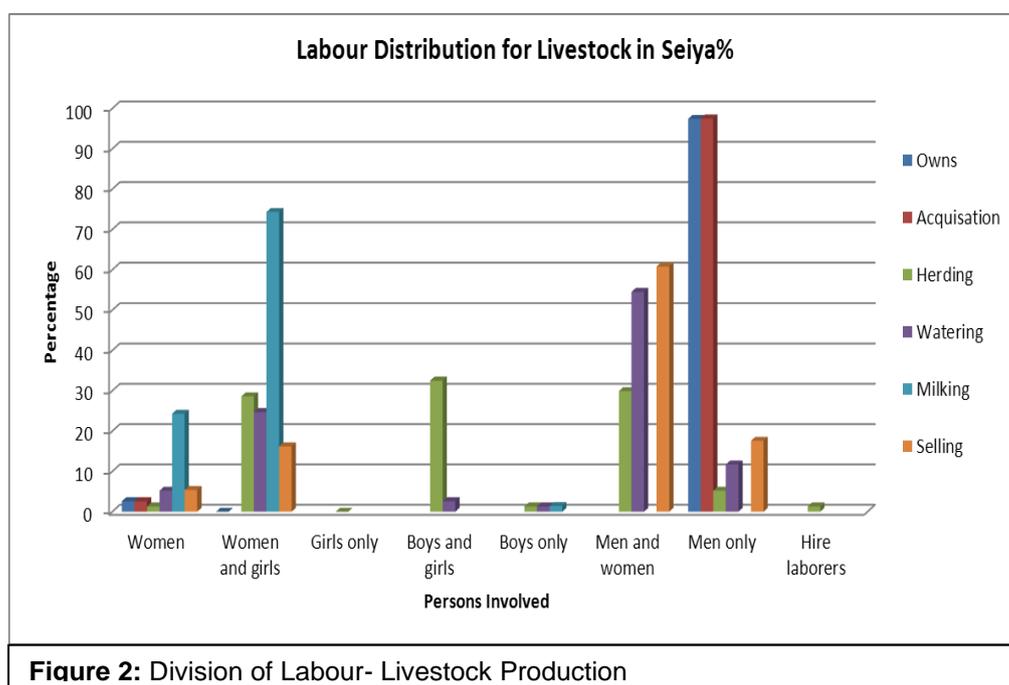


Figure 2: Division of Labour- Livestock Production

The livestock profile activities, showed a generally even sharing of roles. But milking and sale of milk were done only by women while slaughtering, transporting and sale of livestock to markets were done by men. In the Samburu culture, women were not traditionally allowed to sell animals unless they were delegated the responsibility by the husband, a male relative or neighbour was assigned to assist her in the market. In this community, women were often involved in buying and sale of livestock as part of a womens group's income generating activities. **Table 2** shows a livestock production activity profile.

Table 2: Livestock Production Activity Profile

Activity	Who	When	Where	How
Herding	Theoretically men but in reality all (men, women, boys & girls)	Daily.	Nearby grazing fields. But during drought, far away fields.	Free range.
Watering	Theoretically men but in reality all (men, women, boys & girls)	Daily.	Nearby points. But during drought, far away fields.	Trekking.
Health care	Men. In men's absence, women could treat shoats Modern medicine used	On needs basis.	Home.	Manual.
Milking	Women assisted by girls	Daily.	Home.	Manual.
Slaughtering	Men	Occasional.	Home.	Manual.
Transport to markets	Men	Occasional.	To local chopping centre.	Manual.
Sale of milk	Women	Occasional.	Locally.	Manual.
Sale of livestock	Men	Occasional.	In local shopping centre.	Trekking to markets.
Sale of meat	Men	Occasional.	In local shopping centre.	Manual.
Counting of livestock after grazing in the evening	Boys	Daily.	Home.	Manual.

2.1.2 Reproductive Activity Profile

The reproductive activities included cooking, fencing, family security, laundry, fetching fire wood, washing utensils, child care etc. **Table 3** shows an almost exclusive involvement of women and girls in reproductive activities. This implied that their daily schedules were crammed since these activities were routine. For project purposes, this means that their availability for additional activities would be limited, meaning they could easily miss out on opportunities by default unless measures were taken to reduce their workload and redeem some time for them. Men's and boys' key roles here were related to security for the family and livestock - high risk activities but not routinely labour demanding.

Table 3: Reproductive Activities

Activity	Who	When	Where	How
Cooking	Women assisted by girls	Daily.	Home.	Manual.
Child care	Women assisted by girls	Daily.	Home.	Manual.
Care for the sick and the elderly	Women for women and men for men	On need arises.	Home.	Manual.
Fetching water	Women assisted by girls	Daily.	Seiya River, pans, boreholes, water pans and shallow wells in lager beds. 10 kms walk during droughts.	Manual.
Fetching firewood	Women assisted by girls	Daily.	Nearby bushes	Manual.
Cleaning compound and house	Women assisted by girls	Daily.	Home.	Manual.
Laundry	Women assisted by girls	Weekly.	Local streams but about 10 kms walk during droughts	Manual.
Washing utensils	Women assisted by girls	Daily.	Home.	Manual.

Constructing family shelter	Women	Seasonal.	Home but after collecting materials from bushes.	Manual.
Security for family and livestock	Men and male youth	Daily.	Home and in grazing fields.	Manual.

2.1.3 Community Management Activity Profile

Community management activities included gathering intelligence about community security, welfare, dispute resolution, and organising rites of passage for male youth. The profile in **Table 4** shows that men were the main actors when it came to community management activities. Thus they would be the main entry points for allocation of resources, mobilisation and decision making in community forums. It was noticed that men and women sat separately in public spheres with women virtually turning their backs to the meeting. This implies that holding joint forums may not be viable in getting women's ideas as they basically would not contribute. The domination of men in leadership roles also meant that unless deliberate efforts were made to include women, their perspectives would almost always be missing in decisions making.

Table 4: Community Management Activity Profile

Activity	Who	When	Where	How
Traditional leadership	Men (elders)	Continuous.	Community.	Elder's consultation forums.
Contemporary administration e.g. chief	Men	Continuous.	Community.	Using government regulations.
Religious leadership	Men	Continuous.	Community.	Based on faith. Weekly prayers and pastoral support.
Political leadership	MCA – male; MP – male; Women rep – female	Continuous.	Community.	Consultation and community forums.
Labour at communal functions	Shared e.g. men made decisions and organized; women cooked and served	Continuous.	Community.	Manual.

2.2 Household Composition

The typical household in the community had two parents (father and mother) and their children, male and female. The average number of children per mother in the scheme was 9-12.

2.2.1 Marital Patterns

Polygamy was prevalent (44%) and was motivated by: demand for women's labour for domestic chores, farming and herding; and the desire to expand the clan and community demographically. Polygamous men had a higher social status. The household data showed 82.1% of the respondents were married, 11.5% widowed, 5.1% single and 1.3% separated/divorced.

2.2.2 Gender and Status in the Family

Household Headship: By tradition, husbands headed the household. The idea of a female headed household was not accepted by Samburu community, as widows were mandatorily assigned to men by the elders to "help" (read sire children). When a man died, the widow was also required to shift from the homestead where he was buried to a new home. But the man who was assigned to her only had the responsibility of siring children but the children belonged to and were named after the deceased.

Figure 3 shows majority of the respondents (46%) were in male-headed monogamous marriages, followed by male-headed polygamous marriages (44%), female-headed (9.4%) and male headed but female managed (1.3%).

Sons and Daughters: The son was preferred because girls were regarded as sojourners who would get married and leave with their assets. At birth, every child (male or female), was allocated a share of livestock as their inheritance which they got in adulthood. Girls took this away when they got married. Girls' value lay in bride wealth. Boys stayed to continue providing for the family, sustain the fathers' lineage and defend the family and community. The first senior son (first son of first wife) inherited the father's property. The last born son inherited the mother's property. However; more and more parents had started appreciating girls as economic benefactors after going through formal education and gaining employment.

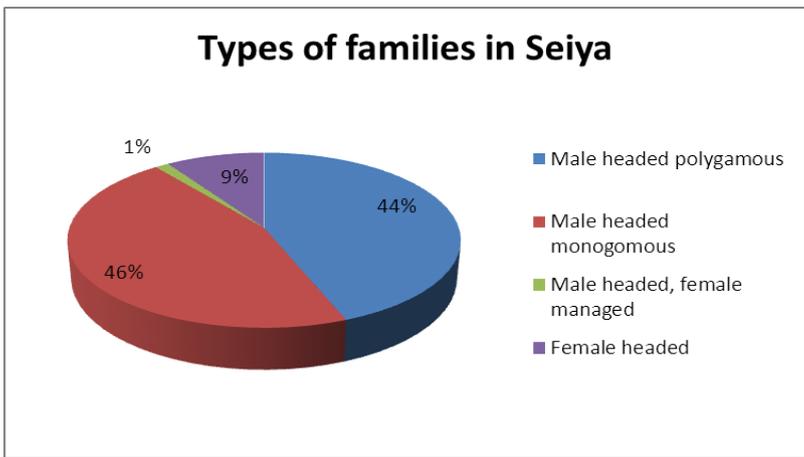


Figure 3: Types of Families in Seiya

Rites of Passage: Boys underwent circumcision at around 18 years of age to transit from childhood to Moran-hood, the intermediate stage before becoming elders. Once he became a Moran, the boy would vacate the father's homestead and start an independent life of fending for him. He also provided security for the family and the community. Two career streams were open for him: a life of herding cattle or pursuing formal education. In many places, the former prevails.

Girls were taken through female genital mutilation (FGM) at around 15 years of age. This operation entitled them to get married and start families for those going to school; this more or less terminated education, as they were married off immediately after the operation.

The Samburu conducted marriage by paying bride wealth in the form of livestock (on average nine head of cattle, two sheep and Ksh, 10,000 in cash) followed by a wedding ceremony. The livestock were shared among family members: the bride's father got three cattle, the mother a cow and its calf and other members got the rest. In some clans, the bride was also given a small goat. A married woman wore a metallic lace on the right ear lobe and silver wrist bangle. She would remove the ear lace when widowed.

Education: Figure 4 shows the education status in Seiya. Modern education was still lowly placed in community priorities. However, there was increasing awareness of the need to send both boys and girls to school and most parents in the scheme area were endeavouring enough to do so. From the respondents, 77.2% of people in Seiya had no formal education. Only 17.7% had reached primary school level. Post-secondary training registered 2.5% while university level and secondary level both stood at 1.3%.

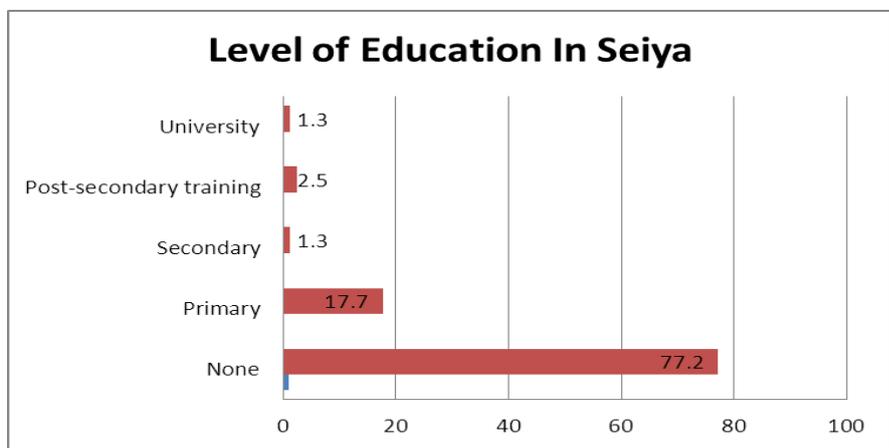


Figure 4: Level of Education in Seiya

Food Habits: In the Samburu culture when an animal was slaughtered, specific parts were reserved for specific groups as follows: men (head, one hind leg, one rib cage, goat liver, blood); very old men (tongue); women (neck for the elderly, stomach, intestines, one front leg, sheep liver); uncircumcised boys (heart and spleen); morans (chest and one hind leg); girls (back); small children of both sexes (kidneys). Blood would be collected on the hide/skin and drunk directly in raw form. Both men and women ate chicken but it was not a delicacy. Fish was not eaten due to its smell.

A mother who had just delivered was fed on fresh blood mixed with some herbs for a week, and goat meat and porridge for a month. These foods were meant to strengthen her and generate milk for the baby. But they were prohibited to drink milk and eat fatty meat. Pregnant women did not eat honey because of the belief that they would miscarry. Nectar from Morijo tree was believed to cause miscarriage.

2.3 Resources and Benefits Analysis

The main resources for the community were human labour, livestock, land, pasture and water. The livestock kept were cattle, camels, goats, sheep, donkeys and chicken. Below is an access and control profile on resources and benefits.

2.3.1 Access and Control Profile

Land was communally owned and was allocated by community elders. Livestock was individually owned with overall ownership and control in the hands of men except for chicken which were controlled by women and donkeys which were mainly used by women to fetch water. Water resources included the Seiya River, pans, boreholes, water pans and shallow wells in laga beds. As a community resource, water was controlled by men who regulated when to fetch it for domestic use and when animals would be taken for watering. This meant that women had to adhere to the set times or wait until the livestock were watered, several hours later.

According to household data, male adults controlled means of production (labour, land, livestock and equipment) in 92% of households, male youths 4%, female adults 3% and elders 1% as shown in **Figure 3**.

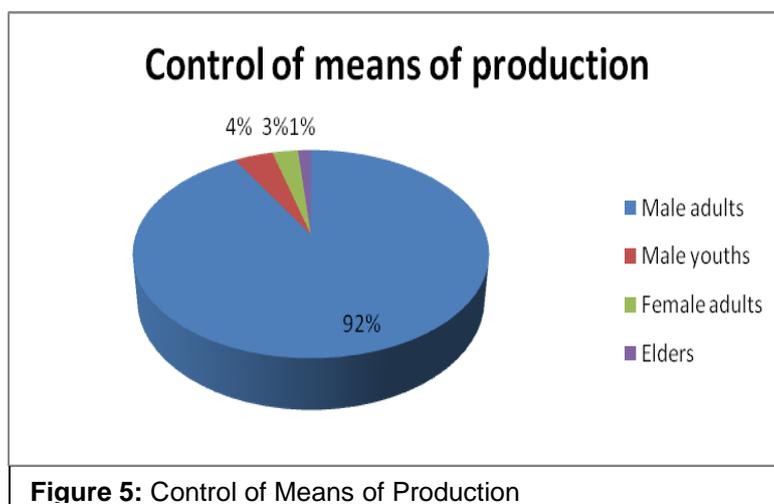


Figure 5: Control of Means of Production

Table 5 depicts resources access and control profile in Seiya at the time of the study. The profile indicates that resources were accessed by all but controlled by men. But women had control over a number of benefits namely milk, hides and skin, fat and donkey transport. On the other hand, men controlled income from livestock sales and bride wealth. Control was shared for subsistence crops and meat although women only controlled meat under group enterprises

Table 5: Resources Access and Control Profile

Resources	Who Has Access				Who Controls			
	women	men	Female youth	Male youth	women	men	Female youth	Male youth
Chicken	√√		√		√√		√	
Land.	√	√√	√	√		√√		
Water e.g. rivers, boreholes etc.	√	√√	√	√		√√		
Agricultural tools and equipment e.g. tractors from county government and own jembes	√	√√	√	√		√√		
Hired labour	√	√√				√√		
Family labour	√√	√√	√√	√√		√√		
Livestock	√	√√	√	√		√√		
Benefits	Who Has Access				Who Controls			
	women	men	Female youth	Male youth	women	men	Female youth	Male youth
Animal traction	√√	√√	√√	√√		√√		
Crops for subsistence	√√	√√	√√	√√	√√	√√		
Milk	√√	√√	√√	√√	√√			
Meat	√√	√√	√√	√√	√√	√√		

Income from livestock sales	√√	√√				√√		
Hides and skins	√√					√√		
Fat	√√	√				√√		√
Donkey transport	√√	√	√	√		√√		√
Bride wealth	√	√√					√√	

Key: √√- Full control/Access: √- Limited control/Access

2.4 Livelihoods and Sources of Income

Household data established that majority respondents were engaged in livestock farming followed by crop production as shown in **Table 6**.

Table 6: Sources of Livelihoods for Seiya Residents

	Male headed%	Female headed%
Crop farming	14.3	28.6
Livestock farming	38.1	28.6
Regular Employee	3.2	0
Casual labour on-farm	3.2	0
Casual labour off-farm	14.3	14.3
Non paid domestic worker	19.0	0
Business	3.2	14.3
Not working	4.8	14.3
Total	100.0	100.0

Table 6 shows that livestock farming was the main source of livelihood for respondents from both male headed and female headed households at 38.1% and 28.6%, respectively. This was followed by crop farming at 14.3% and 28.6% for male headed and female headed households, respectively. Female headed households also relied on business (14.3%) and casual labour (14.3%) while male headed households also relied on off farm casual labour (14.3%), on-farm casual labour (3.2%), business (3.2%) and regular employment (3.2%). The trend showed a wider spread of sources of livelihood for male headed than female headed households. It also showed more respondents from female headed households were not engaged in gainful work.

For women, the main sources of income were group based business activities (small restaurants, buying and selling of goats in the local market, rearing and selling of poultry, sale of hides and skins, sale of meat in local butcheries) and remittances from children in employment. Crop farming was nascent and a minor source of income for women. They produced maize, beans, potatoes and kale vegetables basically for subsistence. The little surplus was sold in local markets.

The women faced a couple of constraints including:

- Women had inadequate capital hence the businesses were small scale and rudimentary. Turnover was low and volumes of sales were insignificant.
- Women who engaged in selling of meat in the local markets lacked necessary facilities including either slaughter houses or butcheries and carried out their business under tree shades in the local market. Also those who were doing crop farming were unable to access extension services.

For men, formal employment, sale of livestock and remittances from children in employment were the main sources of income. The key constraints were; inadequate access to markets, livestock diseases, and insecurity from raids, low prices in markets and infiltration of the livestock market by brokers.

2.4.1 Livestock Production

The main source of livelihood and wealth for the community was found to be pastoralism at 87.7%. The livestock kept varied from place to place. In the plains where there were no shrubs, sheep were dominant and almost the exclusive livestock. Goats and camels were to be found more in shrub-land. Camels had a higher value because of their hardiness and ability to survive during harsh droughts environment. Being

browsers, they could still access tree leaves when everything else was finished. But cattle were the preferred livestock because they yielded more milk and meat; and fetched good prices in the market. Among the pastoralist 82.6% practised nomadic pastoralism while 17.4% practiced agro-pastoralism. The most preferred type of livestock kept was the shoats (sheep and goats), cattle, camels, donkeys and chicken. On average, livestock size owned by each family was estimated at 8 cattle; 7 camels, 13 sheep, 12 goats, 5 donkeys and chicken.

Agro-pastoralism was on the rise, as grazing land shrunk and the number of livestock kept also went down. The residents also used Government forests, public utilities (schools, marketing centres), conservancies, game reserves (but not in group ranch areas), mines and quarries to graze their livestock. For the residents of Seiya, River Seiya was used to water animals. Other sources of water were water pans and boreholes established by colonialists and de-silted by NGOs such as World Vision, ACTED, the county government and Catholic Church mostly using the food for asset model. **Table 7** depicts livestock population in Samburu.

Table 7: Livestock population in Samburu County

Livestock species	Population
Cattle	208,000
Sheep	648,866
Goats	644,693
Camels	35,711
Donkeys	18,728
Poultry	9,523 (indigenous); 1350 (exotic)

Source: Department of Livestock Production, Samburu County

Livestock production challenges in the Seiya in Samburu County included;

1. *Land tenure*: most of the land was communal hence individuals had little incentive to take care of it. Migration was getting constrained by changing land tenure systems with individuals fencing off certain areas and conflicts over grazing land were being experienced. **Photo 2** shows limited pasture in Seiya. Thus, drought effects would continue to be devastating unless there was policy change to have people grow and manage pastures. There was also need to plan for drought in terms of commercial off-take and hay procurement. Hay was normally imported from other counties, yet the county had potential for self-sufficiency.
2. *Habit*: the community preferred local breeds which took long to mature and were small in size (150-200kg/cow). The Sahiwal breed which had been introduced had not been taken up well. Weighing scales procured for sales at livestock market centres had been vandalised.
3. *Conflicts*: the rules set by community on grazing patterns (dry, wet and drought) were not known by external herders who invaded reserved pastures and this would lead to conflict.
4. *Diseases*. Access to animal health services was inadequate. Livestock owners bought conventional veterinary drugs (usually antibiotics) from agro-vet shops in Maralal and treated their own animals. Zoonotic diseases were observed to be common. The Samburu County had a large number of conservancies and large herds of wildlife that spread diseases to livestock.
5. *Disaster unpreparedness*: community members were usually ill prepared for drought and believed in divine providence.



Photo 2: Shoats grazing in Seiya; note the limited pasture

2.4.2 Crop Production

Crop production was found to be the second main source of livelihood (12.3%) for the people of Seiya. All households involved in crop production reported being engaged in rain-fed agriculture during the long rains seasons. But this was contradicted by the fact that the same residents reported that the main source of irrigation water was river (57.1%), dam/water pan (22.4%), borehole (16.3%), and spring (2%) and well (2%).

The average land owned by the families involved in crop production was two acres while the land under cultivation was one acre. When residents were probed on what prevents them from increasing the size of land for crop production, they indicated lack of farming tools and equipment (28.6%) as the leading cause. Others indicated lack of land for expansion (21.4%), no manpower (19.6%), animal threat (12.5%), lack of fertile land (3.6%), and insecurity (2.7%). The remaining 11.6 % of the respondents reported to be satisfied with the current land size.

Activities involved in crop production included land preparation, planting, weeding, harvesting and marketing of the farm produce. The common crops grown were maize (96%), sorghum (1.3%), cassava (1.3%) and beans (1.3%). Major farm inputs included use of organic manure (46.6%), use of drought resistant crops (35%) seeds, use of fertilizers (10.7%) and use of high yield seeds (7.8%). Farm implements used by the residents were oxen, hoes, rakes, slashers, spades, wheelbarrows, axes and *pangas*. These implements were either owned or hired.

Other than crop farming in Seiya, the study found there were greenhouses used for production of tomatoes that had been promoted in the county since 2009. The Kenya Red Cross, World Vision, Farm Africa, Ministry of Agriculture and the Catholic Diocese of Maralal were some of the Institutions funding greenhouses for production of tomatoes. Yields per greenhouse (8 m x 15 m) were estimated at 0.8 to 1.6 tonnes, translating to 75 and 150 tonnes/ha (Njeru 2015, unpublished thesis work). Major constraints to greenhouse production included water shortage, pests and diseases, lack of market and insecurity associated with cattle rustling. The major pests and diseases of tomato included early blight, powdery mildew, blossom end rot, red spider mite, white flies and cut worms. Drought tolerant crops like sorghum green grams, finger millet and pigeon pea would need to be promoted. Lorroki Division would be suitable for mango and avocado if irrigation water was available under limited irrigation. Maize value chain was being promoted by the ASDSP to ensure food security in the county.

Constraints reported in crop production in the Seiya were; prolonged drought spells (52.9%); pest and diseases (20.7%); lack of farming skills (10.7%); lack of quality farming seeds (5%); lack of farming tools (5%); poor soils (2.5%); lack of market for produce (1.7%) and lack of labour (1.7%). The constraints encountered are expounded below;

- *Prolonged drought spells.* Droughts were found to be frequent and often caused crop failures. The situation was exacerbated by the fact there was limited adoption of drought tolerant crops such as sorghum, millet, green grams, cowpea and pigeon pea high value crops,
- *Low soil fertility* was a major challenge in the county. Although Seiya residents reported to use fertilizers and farmyard manure, it was reported during FGDs that farmers rarely used fertilizers in crop production. They did not even use farmyard manure to improve soil fertility, as they believed that their soils were fertile. Instead, farmyard was just burnt. The farmers could be trained on how to use fertilizers/farmyard manure and their benefits.
- *There was limited use of certified seeds.* Some farmers used poor quality seed and varieties leading to low yields and transmission of diseases and pests via seed
- *Crops pests and diseases:* squirrels and birds destroyed crops in the region. Maize stalk borers, aphids in beans and vegetables and leaf miner in tomatoes were some of the major pests.
- *Insecurity* due to cattle rustling between communities within the county and also with those from neighbouring counties of Baringo, Marsabit, Turkana and Isiolo had resulted to abandonment of large tracks of high agricultural potential land after people migrated to safer areas.

- *Poor road network*: Roads particularly in the rainy seasons were impassable, making it difficult for agricultural produce to reach the market. **Photo 3** highlights poor road network.
- *Limited mechanisation* was a major constraint. Oxen and donkeys were not used to plough land. Using oxen was considered sacrilege. The County government had just procured tractors for use by the farmers
- *Inappropriate farming practices*: Farmers lacked the technical skills to engage in crop farming, particularly coming from a pastoralist culture. This was because there were only few agricultural extension personnel in the county. Weak extension service delivery meant that most farmers were unable to adopt crop production; and enhance modern practices that could deal with climate variability and change
- *High post-harvest losses* due to lack of improved storage facilities, value addition and marketing
- *Environmental degradation* caused mainly by soil erosion and loss of forest cover due to exploitation of trees for charcoal, firewood and building materials. There was low adoption of soil and water conservation technologies
- *Human wildlife conflicts*, particularly zebras that were a major menace to crops along Seiya River.



Photo 3: Poor road network, consultancy team stuck in Samburu

2.4.3 Alternative Sources of Livelihood

Other sources of income included employment (3.2%), casual labour (27.7%), small scale business off-farm (22.3%), charcoal trading (7.4%), livestock and their products (25.5%), bee keeping/honey trade (12.8%) and pole harvesting/selling (1.1%). **Table 8** depicts other sources of income.

Table 8: Other Sources of Income

Alternative Source of livelihoods	Beneficiary	Percentage (%)
Employment	Men and women	3.2
Casual labour	Men and women	27.7
Small scale business (off-farm)	Men and women	22.3
Charcoal trading	Men and women	7.4
Livestock and their products	Men and women	25.5
Bee keeping/ honey trade	Men	12.8
Pole harvesting/ selling	Men	1.1
Total		100.0

2.4.4 Coping Mechanisms

There were several coping strategies adopted by the community as depicted in **Table 9**. The strategies for coping could be categorised into two: a) Human and b) livestock survival. Several strategies were adopted in each:

Table 9: Coping mechanisms during times of shortage of pasture and food.

Human Survival	Livestock Survival
<ol style="list-style-type: none"> 1. Reliance on relief food from the government. But this was not enough. 2. Loaning of animals to clan members for re-stocking. 3. Slaughtering of animals for food. 4. Drinking raw camel blood. 5. Skipping of meals especially among migrating groups most of whom were men. 6. Women swapping domestic roles with husbands or 	<ol style="list-style-type: none"> 1. Water trucking by the county government to livestock concentration areas near Huri Hills. 2. Hay relief distribution by the government and the NDMA. This was done in 2014 where 50 bales were supplied but had not been repeated. 3. Limited de-stocking through middlemen who ferried the animals to Wajir for sale. This applied especially to camels.

<p>neighbours to create time to earn income.</p> <p>7. Consumption of “Kone” palm kernel fruits for feeding. But wild animals competed for the kernels. This weakened women’s ability to feed children during shortages.</p> <p>8. Consumption of preserved meat (sun drying and soaking in oil) and sour milk. The preservation was done by women.</p>	
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2.4.5 Conflicts and Conflicts Management

Land conflicts were minimal at the time of the study with (82.2%) of households interviewed indicating that they did not have differences with other communities on land ownership while the remaining 17.8% indicated to have some differences with other communities in regard to land use. The disputes that emanated from ownership of grazing areas in dry seasons could be the major trigger of conflicts in case the irrigation scheme was rehabilitated. The reported causes of land related conflicts were brought about by land boundaries, land ownership, ownership of grazing areas in dry seasons and conflicts over other natural resources. The Seiya people were affected by frequent droughts; they admitted to going to the Somali areas to look for pasture as well as to Borana land and they would also ‘bring back stock’ by raiding other communities.

In Samburu county water was available from piped sources, borehole/protected well, spring/river/lake/pond. On major issues arising in the use of water, 32.8 % of the residents reported lack of water for domestic use as the biggest challenge in water accessibility, especially during the dry season. Other challenges were water management conflicts (26.7%); low water allocation (19.1%), conflicts associated with water sources (13.7%), and water ownership (3.8%) and price increase (3.8%). During the dry season, disputes and conflicts arose out of access and control of water resources. The scarcity of water resources and the need to water livestock and people resulted in conflicts. In Seiya, it was reported that water was the major trigger of conflicts during the dry season. Also when water levels reduced people were forced to migrate in and search for water and pasture.

Some common results of conflicts included loss of lives, injuries, and disability or maiming; property loss; and migration because of displacement/search of pasture and water.

The community solved disputes through various mechanisms, including using the council of elders. During the FGDs, it was learnt that the institution of council of elders was significant in resolving land related disputes. The community members trusted and had confidence in the elders whom they approached in case of such disputes. The elders from the two groups in a dispute would come together and provide their wise counsel on either border dispute or grazing rights. In resolving the cases, the offenders were held liable and a penalty or fine imposed. Depending on the magnitude of the matter, a goat or two could be demanded from the offender in order to compensate the aggrieved party. The goat meat was shared so that ill feelings were buried and disputants could then live in harmony. Thus, in Seiya elders from both sides sat and discussed the modalities of peace. Other ways in which disputes were settled were through migration of one community, expulsion of offenders, holding public barazas and sharing meals and seeking assistance from police and local administration.

2.5 Institutional Analysis

There were no significant credit and marketing organisations in the area. For this section, a review was done on Nenkerpus Women’s Group which had 10 members. It was registered with the Department of Social Services and had a constitution. For membership, one had to have a source of livelihood, be of good character, be married and have a guarantor (usually the husband). The registration fee depended on the number of members. The membership fee was used to register the group and the group was expected to raise at least Ksh. 1,000. Members paid a weekly deposit of Ksh. 100 towards the requisite registration fee.

The group engaged in diverse business activities such as small restaurants, buying and selling of goats in the local market, rearing and selling poultry, selling hides and skins and selling of meat. The livestock-based businesses were small-scale in nature. For instance, the group would purchase goats and put them

in a pool over a period of time before selling them; when they were at least ten. The group took at least a month or two to build the minimum number of livestock. In the market, there were no slaughter houses; and livestock were slaughtered under trees. However, a public health technician inspected the meat before it was sold.

The members benefits were: access to government loan facilities such as Uwezo Fund (the group had received Kshs. 50,000 at the beginning of 2015); collaborative ventures that individuals would not do on their own; sense of unity; and peer pressure. The profit from the enterprises was banked in the group account at Kenya Commercial Bank in Maralal. The money was not advanced to members but kept to accumulate for expansion of group business.

2.6 Female Headed Households

By tradition, husbands were the heads of the household and marriage was the norm so there was hardly anyone who was single by choice. The idea of a female headed household was, therefore, alien although 9.4% of respondents indicated that they came from female headed households. A widow was assigned a man by elders to sire children with. But the children out of this union got the name of the deceased husband. When a man died, the widow was also required to shift from the homestead where he was buried to a new space.

Comparatively, male headed households were better off because of the services provided by the husband such as protection of family property and company for the wife.

3.1 Conclusions

3.1.1 Gender Division of Labour

- 1 Workload appeared evenly distributed. However, the difference came in when considered that men and boys often had to migrate with livestock (cattle specifically) to go and search for pasture and water during the dry season. This role took them away from the community and made their labour unavailable. It also exposed them to cattle raids that could result in injury or even death. When they were away, women, girls, young boys and elders depended on few livestock left behind for nutrition. The livestock were taken care of by the girls and the women. This basically meant that migration increased workload for both sexes – the men and boys in migration, and the women and girls remaining at home.
- 2 Men were the main actors in community management activities. In the scheme community, it was noticed that men and women sat separately in public spheres with women virtually turning their backs to the meeting. The exclusive domination of men in leadership roles also meant that unless deliberate efforts were made to include women in decision making roles at community level, their perspectives would almost always be missing.

3.1.2 Household Composition

- 1 The high parity of women has implications on their availability and physical energy levels for involvement in activities. Women routinely combined child care activities with their other activities making the workload overwhelming. The large family sizes also implied that there was quite a bit of labour available but also that levels of dependency were quite high, stretching family resources.
- 2 The widow inheritance arrangement seemed to imply that women had no choice on marital matters after widowhood. That the sole role of the inheritor was to sire children means that parity was likely to be high but also chances of infection with sexually transmitted diseases were heightened. It also implied an added responsibility of taking care of the inheritor and the resulting children. This has implications on the economic standing of the female headed households.

3.1.3 Resources and Benefits Analysis

There was a male dominion on control of resources. This would mean that any decisions on the use of community resources for the project would rely on the acceptance and decisions of men. But since the decisions would obviously have an impact on women, it would be important that consultative avenues for getting women's inputs be created. This could be facilitated by the local administration, which from the field study experience, was quite ready to mobilise both men and women and advice on the best ways to get their perspectives on board. Both the area chief and the assistant were men at the time of the study. This however could not be a liability since both were well versed with contemporary development issues, had reasonable levels of formal education (secondary school) and appear quite accommodative.

3.1.4 Livelihoods and Sources of Income

The main sources of income for women were group based business activities (small restaurants, buying and selling of goats in the local market, rearing and selling poultry, selling hides and skins and sale of meat in local butcheries) and remittances from children in employment. Crop farming was a minor income source. The constraints faced were: inadequate capital to expand livestock trade; lack of slaughter houses; and lack of diversity in the sources of income.

For men, formal employment, sale of livestock and remittances from children were the main sources of income. The key constraints were inadequate access to markets, livestock diseases, and insecurity from raids, low prices in markets and infiltration of the livestock market by brokers.

3.1.5 Institutional Analysis

The activities the women's group was involved in were still limited and with few benefits. The institutions lacked capital and basic facilities for slaughter business. However, that they had received an advance from Uwezo Fund was promising and had a potential that can be built on.

3.1.6 Female Headed Households

Purely female headed households were virtually non-existent due to compulsory leviratic unions in the community. There was no mention of any other type of female headed household apart from those resulting from widowhood. The compulsory nature of inheritance meant that women had no choice on their marital status after widowhood.

Comparatively, male headed households were better off because of the services of the husband such as protection of family property and company for the wife.

3.2 Recommendations

3.2.1 Gender Division of Labour

- 1 For project purposes, both men and women should be targeted for livestock management activities. However, it should be borne in mind that boys and men would be away during migratory seasons and so their inputs will not be directly accessible. This means that women should always be involved in project activities on livestock because they are always available in the community.
- 2 The crop production profile suggests that both sexes should be targeted in all activities but women specifically for harvesting and post-harvest management roles in which they are the exclusive players. Since crop farming is a nascent economic activity, the sharing of roles can be influenced by targeting both.
- 3 Men are the main actors when it comes to community management activities and will thus be the main entry points for allocation of resources, mobilisation and decision making in community forums. But since the decisions will obviously have an impact on women, it is important that consultative avenues for getting women's inputs be created. This should be facilitated by the local administration, which from the field study experience, is quite ready to mobilise both men and women and advice on the best ways to get their perspectives on board. Currently, both the area chief and the assistant are men. But this is not a liability since they are well versed with contemporary development issues, have reasonable levels of formal education (secondary school) and appear quite accommodative.
- 4 Considering the tradition of women occupying separate spaces with men in the public, holding joint forums may not be viable in getting women's ideas as they basically will not contribute. The project should, therefore, consider use of separate forums for men and women.
- 5 The domination of men in leadership roles also means that unless deliberate efforts are made to include women in decision making roles at community level, their perspectives will almost always be missing.

3.2.2 Household Composition

- 1 Girls' education is constrained by: low parental priority on education; domestic workload; FGM which is immediately followed by marriage; and beading of girls hence focus on marriage rather than education. Beading refers to placement of a bead lace on a girl by a suitor to show that she is booked. Boy's education is mainly constrained by moranism, the career of becoming the community's army which involves traversing the landscape and migrating with livestock in search of pasture and water.
- 2 As social campaign issues, the project needs to prioritise eradication of FGM and early marriage and adoption of livestock husbandry practices that allow boys to go to school. Moranism is a deeply rooted culture that will take time to change as long as migration with livestock is still practised and insecurity

remains a challenge. But it is one challenge to boys' education that needs to be addressed. Levels of maternal parity should also be a concern for campaigns from a health perspective. These issues should be tackled in collaboration with governmental and non-governmental organisations in the different sectors such as health, education and culture.

3.2.3 Resources and Benefits Analysis

- 1 The control of hides and skin and milk by women is an opportunity for their economic empowerment, especially if value addition can be increased based on such materials. This could be one of the areas to be considered for the envisaged income generating activities. Of course the investments would only have major impact if the volumes were high enough for commercial ventures. This means transforming the local production systems from being subsistence-based to commercial based e.g. having frequent turnover of animals slaughtered to generate hides and skin and investing in dairy production.
- 2 The low use of donkeys and oxen for ploughing is an opportunity to encourage the same. But this has to contend with traditions barring use of oxen to plough. But it is worth trying now that crop farming is being introduced. If communities are ready to adopt crop farming, they should also be ready to adopt related production methods.

3.2.4 Livelihoods and Sources of Income

Since crop farming is a new and still undeveloped enterprise, the project should consider it an opportunity to diversify the livelihoods of the community for the benefit of both men and women. This will require capacity building on farming techniques, how to do irrigated crop farming, sources of inputs, disease and pest control, use of farmyard manure, use of oxen in ploughing, post-harvest management and sources of agricultural credit. Both men and women should be targeted for this capacity building and be encouraged to apply their skills so that the enterprise is collaborative and not a drudgery on one group. Apart from production of staple food, there should also be emphasis on cash crop farming.

3.2.5 Institutional Analysis

The activities of the women's group are primary entry points for enhancing women's economic status. Existing groups can be strengthened by the project and used to mobilise more women into the envisaged income generating activities to be started. That the group is already involved in livestock business can be used to expand the business given that livestock is the main resource in the community. But the group will require capacity building on entrepreneurship, access to credit, business planning and management and marketing. For infrastructure, the project should consider establishing a slaughter house in the area. To build a viable marketing institution, it recommended the following proposed Guidelines for Formation of Marketing and Credit Organisations be used:

1. Specify strategies to achieve gender balance in membership of the organisations.
2. Diversify types of membership beyond individuals to enable women's groups to be members.
3. Expand conditions of membership beyond ownership of assets so women are not excluded by lack of traditional collateral such as land. Also consider other forms of guarantee beyond fixed assets.
4. Make the conditions of membership accommodative for both men and women e.g. by ensuring that registration fees and share prices are affordable.
5. Encourage household alongside individual membership to enhance spousal collaboration in activities.
6. Insist on gender disaggregation of all organisational information and data to establish a basis for monitoring the gender specific progress of members e.g. of widows relative to others.
7. Deliberately target often excluded groups such as single parents.
8. Make it mandatory for all organisations to adhere to the one-third gender principle in leadership, staffing, representation and activities. This should be monitored to ensure that it is not cosmetically used only during formation but not sustained.
9. Carry out capacity building of both men and women in leadership to perform adequately in the roles to which they are elected.
10. To avoid women being merely included for tokenistic purposes, head-hunt for women with capacity to perform and conduct capacity building to enable more acquires the necessary leadership skills.

11. Eradicate stereotyping of leadership roles e.g. always making women treasurers. This can best be achieved by having a condition that where the main official (e.g. chair) is male, the deputy must be female and the next senior most position (e.g. secretary) is female.
12. Conduct training targeting both men and women on how to manage the organisations, basic technical skills related to the value chain and entrepreneurship to enable both participate equally.
13. Conduct gender training for all staff and leadership of the organisations for understanding of the rationale for gender mainstreaming and practical strategies on doing it in their organisation.
14. Insist on each organisation having a gender policy that stipulates its commitments to and strategies for gender mainstreaming. Such a policy, at the minimum, should have provisions on: gender analysis and mainstreaming in the project cycle; membership, leadership and participation; human resources; technology and innovation; capacity building; access to extension and other technical services; allocation of resources and benefits; marketing; information and communication; and networking and collaboration.

3.2.6 Female Headed Households

- 1 The issue of compulsory widow inheritance and its attendant implication should be addressed in the context of women's rights to choice.
- 2 Widows should be primary targets for the envisaged income generating activities. The existing women groups should be used as avenues of identifying and mobilising them.

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Annex 1: List of People Interviewed

1. Key Informants

	Name	Sex	Designation/Department
1	Boniface Nekarisia	Male	Clerical Officer, National Land Commission
2	Daniel Konye	Male	Project Manager, Livelihoods, World Vision
3	Chris Leleruk	Male	Headmaster Murungai Primary School
4	Joseph Lelegue	Male	Secretary, Maralal LMA
5	Julia Lenitoti	Female	Treasurer, Maralal LMA
6	Moses Letuiya	Male	Chairman, Maralal LMA
7	Daudi Lenolkulal	Male	Vice Chairman, Maralal LMA
8	Moses Leorso	Male	Member, Maralal LMA
9	Lucas Lenagusae	Male	Member, Maralal LMA
10	Lekusolush Naagira	Male	Member, Maralal LMA
11	Sabato Lodepe	Male	County Revenue Collector
12	Joseph M. Kilonzo	Male	Ag. CDLP-Samburu
13	Charles Nderitu	Male	Value Chain Development Officer
14	Mr. Rop	Male	ASDSP M&E Officer
15	Francis Nganga	Male	Livestock
16	Engasia Stephen	Male	Livestock
17	David Kinyoi	Male	Agriculture
18	Dr Macharia	Male	DC-Veterinary
19	Kirui SK	Male	Agriculture
20	JW Ndungu	Male	Agriculture
21	David Macharia	Male	ACTED

2. FGD with Women at Lekuru Market

	Name
1	Lisan Lekarsente
2	Marumbe Leronkoi
3	Jane Lesarge
4	Antonel Latarkush
5	Penina Latarkush
6	Agnes Lokushula
7	Aloice Luwabere
8	Antonel Luwabere

3. Men's FGD, Locho Village

	Name
1	Lendemi Lelelukumani
2	Leilacho Lombuko
3	Lesaman Lolkipaengi
4	Lesakaiteu Lewarani

Annex 2: List of List of Trained Staff

No.	Name	Designation	Gender
1	Mary Lemaletian	SAAO	F
2	Risper A. Ochieng	JAA	F
3	Mary Bett	SAAO	F
4	Kitur Bernard	AAO	M
5	John N. Kamau	CAA	M
6	Charles Lentaaya	SALPO	M
7	James G. Njenga	CAA	M
8	Jeremiah W. Ndung'u	AAO	M
9	Nelson G. Ndong'i	CAA	M
10	Johana Yatich	CLDO	M
11	James M. Kandie	SAAO	M
12	Joseph M. Kilonzo	SLPO	M
13	Francis K Ng'ang'a	LPO	M