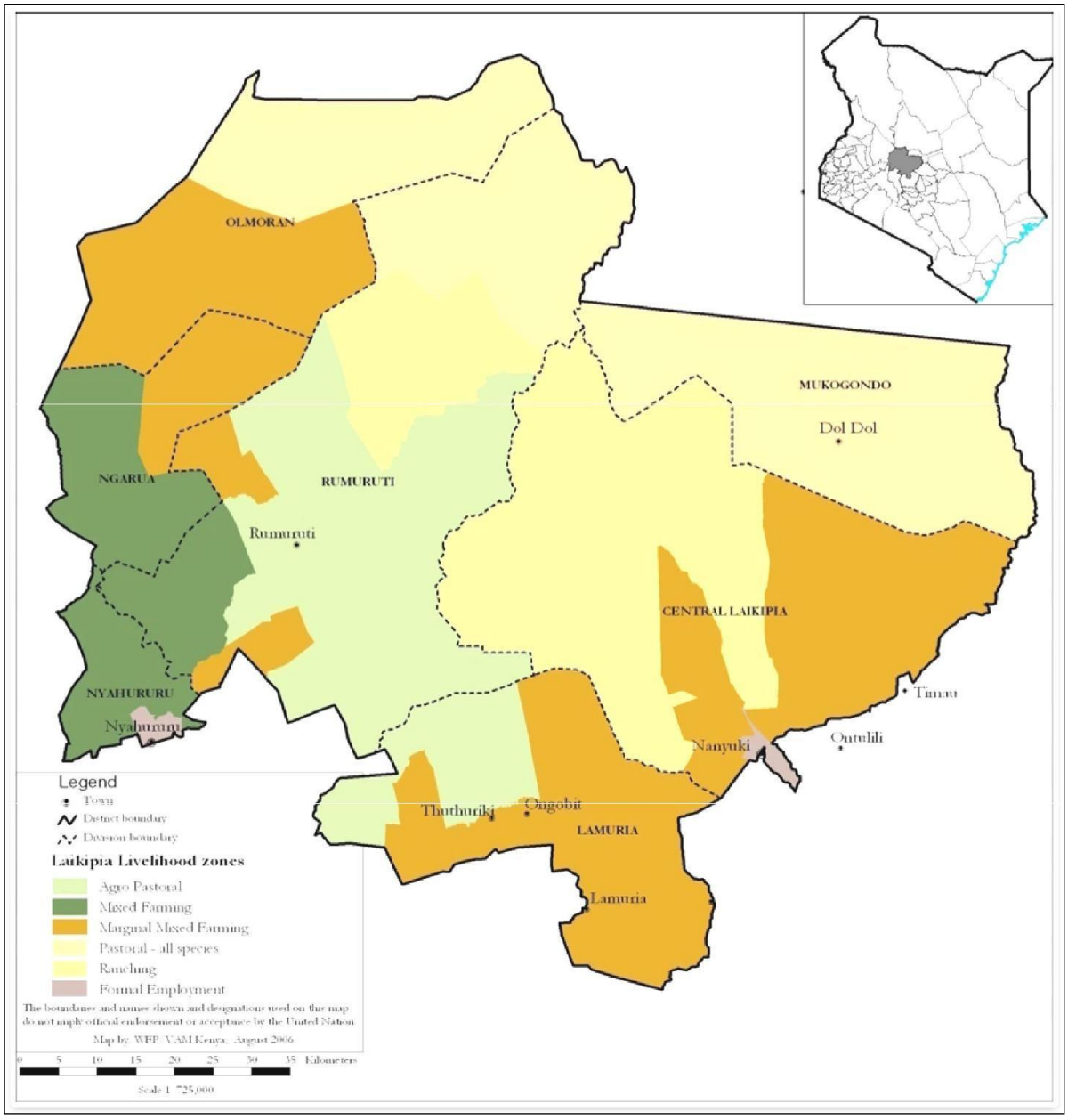
LAIKIPIA COUNTY

2018 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A Joint Report by the Kenya Food Security Steering Group (KFSSG)[1] and Laikipia County Steering Group (CSG)

August 2018

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EXECUTIVE SUMMARY

The main objective of the assessment was to develop an objective, evidence-based and transparent food security situation analysis. The assessment was carried out by a team, comprising of Kenya Food Security Steering Group (KFSSG) and the County Technical Working Group after the long and short rains. The main drivers of food insecurity in the county include the previous failed rainfall seasons with poor harvests. However, the above normal rains lead to an improvement in maize, beans and irish potatoes of between 19 - 27 percent above the long term average (LTA). Pasture and browse was good to fair across all livelihood zones. However, latrine coverage in the Pastoral livelihood zones remained at 46 percent as compared to 98 percent in Mixed Farming livelihood zone.

Food availability is stable across the county. The area under maize and beans increased by nine and 15 percent compared to the LTA. The projected production for irish potatoes, beans and maize increased by 19, 26 and 27 percent compared to LTA hence improving food availability at the household level. The maize stocks held by traders, millers and farmers was 10, 35 and 57 percent respectively of the LTA. Milk production increased by 25 to 33 percent while milk prices declined by 25 percent across all livelihood zones. Maize stocks held by traders, millers and farmers was 10, 35 and 57 percent of LTA respectively. Food access at both area and household level was favourable. Markets were functioning without disruptions and households were accessing food both at the area and household level. Terms of trade are favourable where the sale of one goat is exchanging for 108 kg of maize thus improving household food access in the Pastoral livelihood zones. Livestock body condition is due to good pastures and browse, which has lead to high and stabilizing goat prices. Households are consuming two to three meals per day. There are food commodity stocks at household level from last season harvest, thus ensuring food stability.

The mean coping strategy score (CSI) in the month of July was at 14. The mean food consumption score is 65 with 1.5 percent not adopting any coping strategies and 51 percent employing stress coping strategies. Data from the NDMA sentinel sites indicate that all the households in the Mixed Farming livelihood zone maintained an acceptable food consumption score. The CSI was 2.2, 3.8 and 4.7 for Mixed Farming, Marginal Mixed Farming and Pastoral livelihood zones respectively. The nutritional status is improving with the proportion of children with Mid Upper Arm Circumference (MUAC) less than 135mm standing at 1.8 percent in July 2018 compared to 2.1 percent in July 2017. Most morbidity for general population increased, indicating an increase of specific diseases associated with very wet conditions. However, cases of clinical malaria declined by 12 percent.

The main factor that negatively affected food security was Fall Army Worm infestation which led to reduced maize production in the Mixed Farming and Marginal Mixed Farming livelihood zones. The county is classified in the Minimal (IPC Phase 1) food security phase classification.

1. Introduction

1.1 County background

Laikipia County comprises five administrative sub-counties namely Laikipia East, Laikipia North, Laikipia Central, Laikipia West, and Nyahururu. It covers an area of 9,462 square kilometers and supports a population of 505,712 people (Projected KNBS, 2016). The county has four main, livelihood zones as indicated in Figure 1: Mixed Farming (43 percent), Marginal Mixed Farming (35 percent), Formal Employment (13 percent) and Pastoral (9 percent).

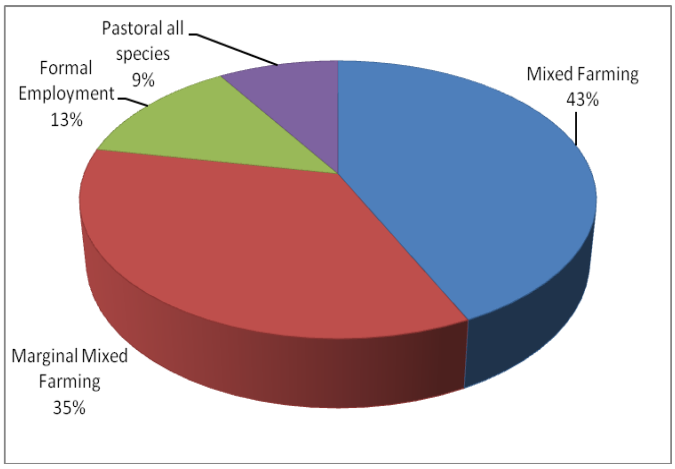

Figure 1: Population distribution per livelihood

1.2 Objectives and approach

The overall objective of the assessment was to develop an objective, evidence-based and transparent food security situation analysis following the long rains season of 2018 considering the cumulative effect of the previous seasons; as well as provide recommendations for possible response options based on the situation analysis. The specific objective was to review existing data on the current situation analysis as provided by the various sectors and determine the food security trends for previous seasons. The assessment methodology employed included an initial county status briefing which was conducted on Monday the 6th of August 2018, presentation of sectoral checklists from agriculture, livestock, and water, health and nutrition and education sectors. The team, comprising of Kenya Food Security Steering Group (KFSSG), and Laikipia County Technical Working Group, conducted transect drives across the various livelihood zones to carry out a rapid assessment of the field situation on the performance of the season for two days. The assessment team made a transect drive to conduct interviews in the following sites: Matanya, Male, Withare, Ndindika, Ndurumo, Rumuruti, Kimanju, Ar-jigo and Chumvi. These sites were selected based on various criteria including performance of the rain season, livelihood zones and availability of cereal and livestock markets. The assessment was conducted from 6th to 10th August 2018 in the field to validate the data collected at County level. The teams collected sector-wide food security data using community and household interviews, focus group discussions, key informant interviews and observation methods.

2. Drivers of Food and Nutrition Security in the County

2.1 Rainfall Performance

The onset of the long rains was timely in the first dekad of March. The rainfall amounts were significantly above normal at above 350 percent of normal across all livelihood zones. Spatial distribution was even across all livelihood zones (Figure 2) and the temporal distribution was good across the season. The rainfall cessation was late in second dekad of July compared to the normal first dekad of June.

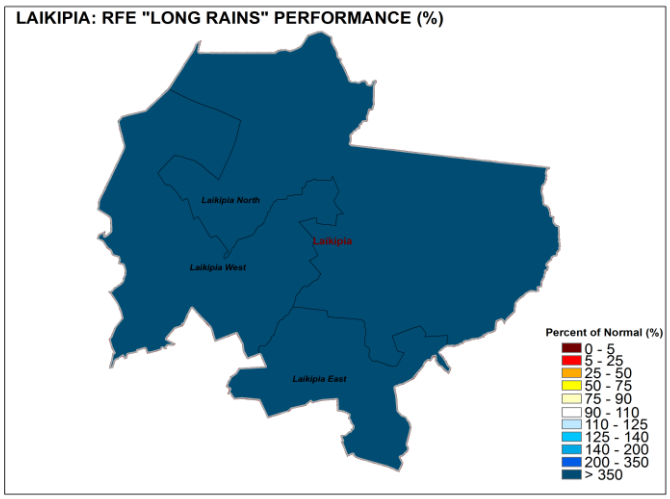

Figure 2: Rainfall performance as percent of normal

2.2 Fall Army Worm

Fall Army Worm (FAW) infestations negatively affected maize production in the Mixed Farming and Marginal Mixed Farming livelihood zones during the long rains. Cases of armyworm and other pests were reported in the Marginal Mixed Farming zones, in Olmoran, Sosian and Ngobit.

2.3 Flooding

The excessive rains resulted in leaching of farms in the crop growing areas of Mixed Farming and Marginal Mixed Farming livelihood zones in Ndurumo. There were reported cases of frost and hailstone damage in Matanya and Ng'arua. In addition, traders had challenges accessing nearby markets in Tigithi, Salama, Ngobit and Mukogodo wards due to poor roads in these zones because of heavy downpour observed during the period, however, with cessation of rainfall, the markets are now accessible.

2.4 Insecurity/Conflict

There were cases of sheep and goat theft reported in the Pastoral livelihood zone of Ilgwesi.

3. Impacts of drivers on Food and Nutrition Security

3.1 Availability

Food availability is above average with above average harvests from rain-fed and irrigated crop production. Food stocks remain above average as a result of the available harvests. Pasture and browse, livestock body condition milk production is all above average, but milk consumption remains within average.

3.1.1 Crops Production

The main crops planted in the county during the long rains are maize, beans, wheat and potatoes. The Marginal Mixed Farming and Pastoral livelihood zones are both short and long rains dependent while the Mixed Farming livelihood zone is long rains dependent. Different crops contribute to the households' food and cash income across the livelihoods (Table 1).

Table 1: Contribution to Cash Income and Food

Crop Type	Livelihood Zone					
	Mixed Farming		Marginal Mixed Farming		Formal Employment	
	Cash Income (%)	Food (%)	Cash Income (%)	Food (%)	Cash Income (%)	Food (%)
Maize	55	65	12	66	20	10
Beans	8	15	40	11	30	30
Irish potatoes	4	10	24	8	0	0
Local vegetables	5	5	0	0	50	60

The area under maize and beans increased by nine and 15 percent compared to the long-term averages. The increase in area planted was attributed to early onset, as well as evenly distributed rains across all livelihood zones and that farmers are taking up contract farming initiatives leading to opening new lands. Area under irish potato declined by 14 percent due to overly wet soils and reported flooding. The projected production for irish potatoes, beans and maize increased by 19, 26 and 27 percent compared to long term averages. The increase was attributed to sufficiency of rains and the depressed impact of fall armyworm because of sustained heavy downpours. Harvesting of maize is projected to be in November.

Table 2: Crop Production under Rain-fed Agriculture

Crop	Area planted during 2018 Long rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2018 Long rains season production (90 kg bags) Projected	Long Term Average production during the Long rains season (90 kg bags)
1.Maize	30,150	27,600	1,036,710	819,500
2.Beans	6,055	5,250	50,525	40,000
3.Irish potato	1,747	2,030	416,580	350,000

Irrigated crop production

The area under tomato, onion and French beans increased by 38, 77 and 88 percent respectively compared to the LTA due to high rainfall received. The projected production of French beans, tomato and onions will increase by 13, 20 and 40 percent respectively compared to the LTA, due to suppressed presence of pests because of the heavy rains (Table 3).

Table 3: Crop Production under Irrigated Agriculture

Crop	Area planted during 2018 Long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2018 Long rains season production Projected (Metric Tonnes)	Long Term Average production during the Long rains season (Metric Tonnes)
1.Tomato	345	250	12,000	10,000
2.Onion	212	120	5600	4,000
3.French beans	188	100	316	280

3.1.2 Cereal Stocks

The maize stocks held by traders, millers and farmers was 10, 35 and 57 percent of the LTA respectively, attributed to poor maize market prices due to imports from neighboring countries. There were high stocks in the households in the maize-producing areas (Table 4).

Table 4: Cereal Stocks in the County

Commodity	Maize		Wheat		Sorghum		Green gram	
	Current	LTA	Current	LTA	Current	LTA	Current	LTA
Farmers	125,821	80,000	1,507	15,000	22	20	4,384	3000
Traders	16,587	15,000	1,212	22,100?	118	100	2,018	1500
Millers	8,117	6,000	3,809	30,600?	78	100	-	-
Food Assistance/ NCPB	32,326	11,000	100	12,000	-	-	-	-

3.1.3 Livestock Production

Livestock production is the main economic activity in Laikipia County. The main livestock types found in the county are cattle, sheep, goats, camels and donkeys. The small stock (sheep and goats) are mainly reared for provision of basic household commodities like food and cash while the large stock (cattle and camels) are reared for the provision of food and income for major investments (Table 5) while donkeys are used as a means of transport.

Table 5: Livestock contribution to cash income

Livelihood Zone	Livestock average percent of cash income contribution
Mixed Farming	30
Marginal Mixed Farming	52
Pastoral - All species	90

Pasture and Browse

Pasture condition was good across all livelihood zones with a substantial improvement in both quantity and quality attributed to the positive effect of the above normal long rains (MAM). There was no major constraint to access pasture. The quantity of pasture available is expected to last for the next three months in the Pastoral and Marginal Mixed Farming zones. In the Mixed Farming livelihood zone, the pasture condition is expected to last for at least three to four months (Table 6).

Table 6: Pasture and Browse Condition

Livelihood zone	Pasture condition		How long to last (Months)		Browse condition		How long to last (Months)	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Pastoral	Fair-good	Fair	3	2	Good	Fair	3	3
Marginal Mixed	Fair - good	Fair	3	2	Good	Fair	3	3
Mixed Farming	Good	Good	3	3	Good	Good	4	4

The browse condition was split between 88 percent good and 12 percent fair attributed to the above normal long rains. No major constraint to browse access was recorded. The quantity of browse available is expected to last until November in the Pastoral and the Marginal Mixed Farming livelihood zones. In the Mixed Farming livelihood zone, the pasture is expected to last for four months.

Livestock Productivity

Livestock body condition

Across the livelihood zones, the livestock body condition was classified normal with good smooth appearance.

Table 7: Livestock body Condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Pastoral	Fair-good	Fair	Good	Good	Good	Good	Good	Good
Marginal Mixed Farming	Good	Fair	Good	Good	Good	Good	Good	Good
Mixed Farming	Good	Fair	Good	Good	Good	Good	Good	Good

The livestock body condition was good for cattle and goats. This is normal at this time of the year. Compared to same time last year, the body condition of livestock is much better attributed

to the low trekking distance in search of pasture and water coupled with the increase of both pasture and browse quantity and quality (Table 7).

Milk Production, Consumption and Prices

The average milk production is higher than normal across all livelihood zones attributed to improved availability and access to pasture and browse. Milk consumption is within normal in Pastoral and Mixed Farming livelihood zones, higher in Marginal Mixed Farming attributed to increased milk availability at household level. The prices are lower than the LTA due to increased milk volumes, thus reducing the prices (Table 8).

Table 8: Milk Availability and Consumption across Livelihood Zone

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral	2	1.5	1	1	40	60
Marginal mixed	4	3	1.5	1	30	40
Mixed Farming	5	4	2	2	30	40

Women and young girls are involved in milking, milk utilization and marketing at the household level while men and boys oversee the large stock in both Marginal Mixed and Pastoral livelihood zones. In the county, decision of the milk proceeds rests with the head of the household with most households being male headed. However, in the Pastoral livelihood zone, more women make decision on milk.

Tropical Livestock Units (TLU's)

Average livestock holding per household varies depending on the livelihood zone and the household status in terms of wealth (Table 9).

Table 9: Tropical Livestock Units across Livelihood Zones

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Pastoral	10	8	20	15
Marginal Mixed	4	3	12	10
Mixed Farming	5	4	10	8

The variation across the livelihood zones is due to the farming system as dictated by the land tenure system. In the Pastoral and Marginal Mixed livelihood zone, it's possible to keep more livestock as land is owned communally as compared to those of Mixed Farming livelihood zone. Generally, the tropical livestock units are above normal, and this is attributed to increased births driven by improved pasture and browse as the households start to rebuild their herd sizes.

Birth rate

The birth rate for all livestock species is normal. Cattle are expected to calf down in January - February while the small stock will be kidding/lambing in September-November across all livelihood zones, following the normal birth seasonal calendar as compared to last season when birth rates were below normal.

Livestock Migration

No livestock in nor out migration of the county was reported due to absence of extreme forms of conflict and availability of water, pasture and browse within the county.

Livestock Diseases and Mortalities

There were few reported cases of PPR and CCPP reported in the Pastoral livelihood zone of Mukogodo East and West and Marginal Mixed Farming zone of Sosian, Ngobit and Tigithi. Mortality rates for cattle, sheep, goats and camel were within the seasonal norm.

Water for Livestock

Water pans remained the major water sources across all livelihood zones. The trekking return distance and expected duration to last is normal across all livelihood zones (Table 10).

Table 10: Water Sources and Availability

Livelihood zone	Sources		Return distances (km)		Expected duration to last (months)	
	Current	Normal	Current	Normal	Current	Normal
Pastoral	Borehole, dams, water pans, river, springs, wells, piped water	Borehole, dams, water pans, river, springs, wells, piped water	5-10	5-10	2	2
Marginal Mixed Farming	Borehole, dams, water pans, river, springs, wells, piped water	Borehole, dams, water pans, river, springs, wells, piped water	3-6	3-6	2	2
Mixed Farming	Borehole, dams, water pans, river, springs, wells, piped water	Borehole, dams, water pans, river, springs, wells, piped water	2-3	2-3	3	3

The livestock are watered by both men and women. In the Mixed Farming livelihood zone, the households are settled and were using the usual sources of water, thus covering the same return distance. The watering frequency is once daily across all livelihood zones for all livestock species attributed to the increased water availability and access following the exceptionally high rainfall amounts received in the county. Watering of cattle, sheep and goats in the Pastoral and Marginal Mixed Farming livelihood zones is done by adult men who are occasionally relived during weekends and school holidays by the male youth. In Mixed Farming livelihood zones, it is done by either gender with a higher participation of women and youth (Table 11).

Table 11: Watering frequency in days per week

Livelihood zone	Cattle		Camels		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	7	7	7	3	7	7	7	7
Marginal Mixed Farming	7	7	7	5	7	7	7	7
Mixed Farming	7	7	-	-	7	7	7	7

3.1.4 Impact on Availability

Food availability is currently above average attributed to sufficiency of rains and the depressed impact of fall armyworm driving above average regeneration of forage and water resources, above average crop production and milk production. Food availability is above average with 19 – 27 percent above average harvests for rain-fed irish potatoes, beans, maize, while it is 13 – 40 percent above average for irrigated French beans, tomatoes and onions. Maize stocks with traders, millers and households remain 10 – 57 percent above average because of the on-going harvests. Pasture and browse, livestock body condition and milk production are all above average ensuring there is sufficient food available at the household level to last for the next three months.

3.2 Access

Food access has improved with below average maize prices and above average goat prices resulting in favorable terms of trade. Access to water for human beings and livestock has also increased with decreased trekking distances to water sources and reduced cost and waiting time. Food, water and milk consumption has increased. Application of coping strategies has also reduced.

3.2.1 Markets prices

The main markets in the county are Nyahururu and Sipili in the Mixed Farming zone, Rumuruti, Nanyuki and Olmoran in the Marginal Mixed Farming zone and Doldol, Kimanju and Chumvi in the Pastoral all species zone. Major markets across the livelihood zones were operational without any disruptions. The major livestock traded included goats, sheep, cattle and camels.

The food commodities available in the market were maize, maize flour, rice, sugar, milk, pulses, and wheat flour. Most of the households in the pastoral livelihood zone depend on the markets for food commodities. The main livestock markets are Doldol, Kimanju and Chumvi in the Pastoral all species zone. Main livestock in these markets were cattle, goats, sheep, camels and poultry. The highest average market price of maize was Ksh. 40 per kilogram (Kg) was recorded in Pastoral livelihood zone in Kimanju and Sirima Marginal Mixed Farming markets whereas the lowest at Ksh. 25 per Kg were recorded in Olmoran Marginal Mixed Farming market.

Maize prices

The average price of maize in July 2018 is Ksh. 35 per kilogram being 41 percent lower than the price in July 2017 which was Ksh. 59 per kilogram (Figure 3). The price of maize in July 2018 was 18 percent below the long-term average. The lower market price is attributed to access of maize at household level because of the ongoing piecemeal harvests, previous maize harvests and robust supply from other counties. Prices are projected to remain at depressed levels in Rumuruti, Nanyuki and Olmoran.

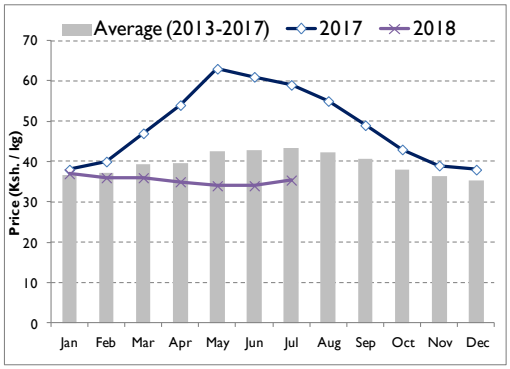

Figure 3: Maize prices Laikipia County

Goat prices

In July 2018, the price of a medium size goat was Ksh. 3,820 which was 36 percent above the July 2017 price and 17 percent above the long-term average following the seasonal trend (Figure 4). From March to July 2018, highest average goat price was recorded in the Mixed Farming zone whereas the lowest price was recorded in the Marginal Mixed Farming zone. The high goat prices were attributed to good body condition. The main livestock markets are Doldol, Chumvi, Sirima and Kimanju.

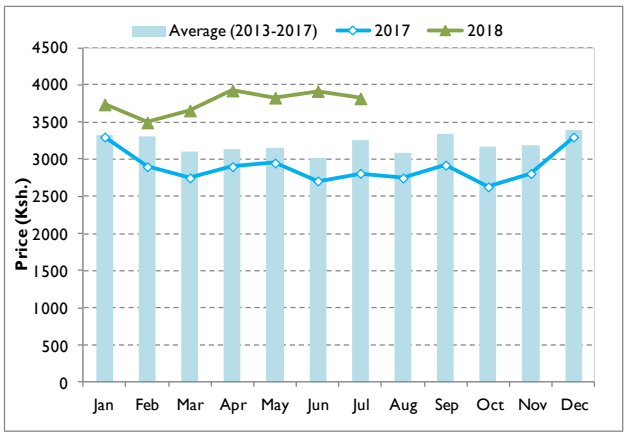

Figure 4: Goat prices in Laikipia County

3.2.2 Terms of trade

The terms of trade (ToT) were favourable in July 2018 with a household able to purchase 108 Kgs of maize with sale of a goat. This was 125 percent above the July 2017 and 44 percent above the LTA (Figure 5). The favourable ToT is attributed to the robust goat prices and

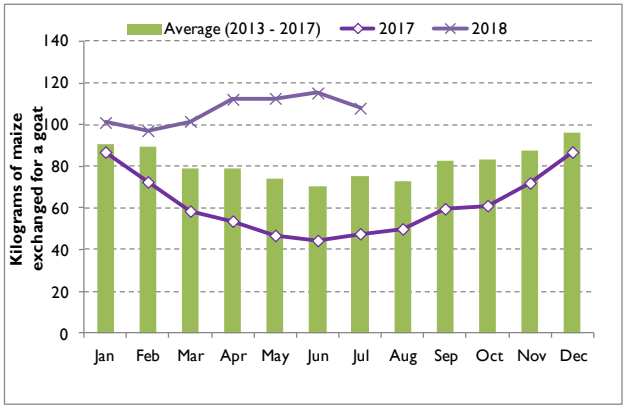

Figure 5: Terms of Trade in Laikipia County.

low maize prices across all livelihood zones. The ToT is above normal and favors livestock keepers as they are still able to purchase more maize for the price of a goat, further; there is little pressure to sell animals.

3.2.3 Income sources

In the formal employment/business trade livelihood zone, petty trade and formal waged labor contribute about 60 and 30 percent of income respectively. In the Mixed Farming zone, livestock, food crop and poultry production contribute 52, 20 and 10 percent of income respectively. In the Marginal Mixed Farming zone, food crop, livestock and cash crop production contribute 40, 30 and 10 percent of income respectively. Livestock production and remittance/gifts contributes 90 and 5 percent of income respectively in the Pastoral all species zone.

3.2.4 Water access and availability

Major Water Sources

The main sources of water for domestic and livestock use in the county are pan and dams, boreholes, shallow wells, rivers, traditional river wells and lakes (Figure 6). The recharge level for open water sources was between 40 and 95 percent. There were no incidences of conflicts reported because of shared water points since there were alternative sources of water.

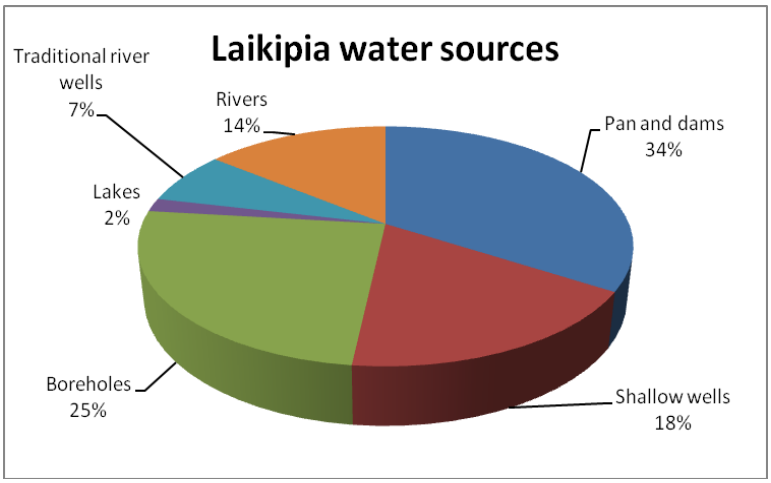

Figure 6: Water sources, Laikipia County

Distances to Water Sources

The main source of water for domestic use is dams, springs and boreholes. Generally, most households are accessing water at normal water sources. The distances to water sources are normal across all livelihood zones due to the high recharge levels for all water sources.

Water consumption and cost

The average current cost of water in the county average six shillings per 20 litres jerrican, which is below normal across all livelihood zones attributed to good recharge of water sources as a result of above normal long rains. The average water consumption per person in a day is within normal as there is no water scarcity. In the Mixed Marginal Farming livelihood zone, more shallow wells had water, thus reducing the cost of water marginally. Most households do not practice water treatment methods but a few in Mixed Farming livelihood zone boil drinking water or use water treatment chemicals (Table 12).

Table 12: Water for Domestic Use

Livelihood Zone	Distance to water for domestic use (Km)		Cost of water (Ksh per 20Litres)		Waiting time at water source (Minutes)		Average Water Consumption (Litre/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current
Mixed Farming	1.0	1.0	20	5	30	20	20	20
Mixed Marginal farming	2.25	2.25	9	7	18	18	19	16
Pastoral	2.7	1.7	4	4	2.5	2.5	26	26

3.2.5 Food Consumption

According to the NDMA sentinel site data, all the households in the Mixed Farming livelihood zone had an acceptable food score (FCS). The Pastoral livelihood zone followed with an acceptable food score of 88 percent, a borderline FCS of 10 percent and a poor food score of 1.7 percent. In the Marginal Mixed Farming zone 72 percent of the households had an acceptable score whereas 28 had a borderline score. In general, there was a slight increase in dietary diversity in all the livelihood zones. Acceptable FCS improved from 62 percent in July 2017 as compared to 88 percent in July 2018 in the Marginal Mixed livelihood zone while households with acceptable score were 56 percent in July 2017 as compared to 72 percent in July 2018 in the Pastoral livelihood zone. The improved food consumption scores are due to increased availability and access to food across all livelihood zones as indicated in Figure 7. Meal frequency was two to three times a day with an improved dietary diversity at household level.

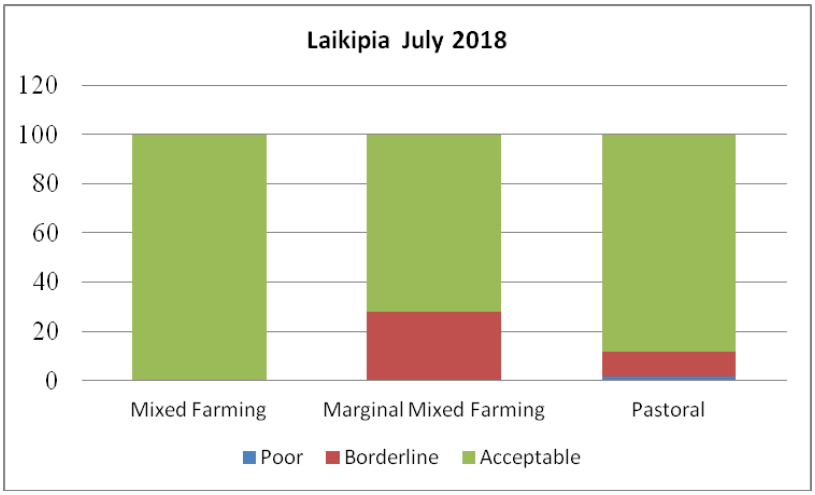

Figure 7: Food Consumption Score, Laikipia County

Based on food security outcome monitoring (FSOM) data, the proportion of households with poor, borderline and acceptable food consumption scores was 1.1, 8.0 and 90.9 percent respectively as at July 2018. Female headed households had 9.5 and 86.9 percent in borderline and acceptable FCS respectively as compared to male headed households with 7.3 and 92.7 percent borderline and acceptable FCS respectively. The female headed households had a mean

dietary diversity score of 4.89 as compared to 5.07 for male headed households. The female headed households had a mean number of days of 6.2, 3.4, 5.1 and 5.5 eaten cereals, pulses, vegetables and oil respectively as compared to 6.1, 3.0, 5.3 and 5.6 for male headed households. This is attributed to the male headed households having more income as the labor pay for males is higher and also male headed households have more diversified sources of income compared to female headed households.

3.2.6 Coping strategy

The mean coping strategies index (CSI) for the county in July 2018 was 14 as compared to 18.7 during last season, with that of females being at 17.5 and males being at 12.6. Female headed household used more varied coping strategies than male headed household. Compared to a similar period last year, CSI reduced across all livelihood zones (Table 13) implying that households are using less consumption strategies. The consumption coping strategies employed include relying on less preferred and/or less expensive food.

Table 13: Coping Strategy Index

Livelihood zone	July 2017	July 2018
Mixed Farming	4.9	2.2
Marginal mixed	8.5	3.8
Pastoral	13.1	4.7

In terms of livelihood coping strategies, the proportion of households not adopting coping strategies was at 1.5 percent with 51 percent employing stress coping strategies of which, female headed households are at 52.4 percent while male headed household are at 50.3 percent.

3.3 Utilization

Household food utilization is a mainly influenced by morbidity prevalence of under-fives and general population, levels of completion of immunization and vitamin A coverage, nutritional status among households and level of sanitation and hygiene practices among households. Dietary diversity by most households was influenced by the availability and access of food items in the markets.

3.3.1 Nutritional status

The proportion of children under five years at risk of malnutrition, based on mid upper arm circumference (MUAC) of <135 mm, was 1.8 indicating 42 percent below the LTA. That was a decreased of 14 percent compared to July 2017 (Figure 8). The improvement in nutritional status is attributed to increased household milk production and consumption and cereal stocks and therefore better health status of children, improved household access to

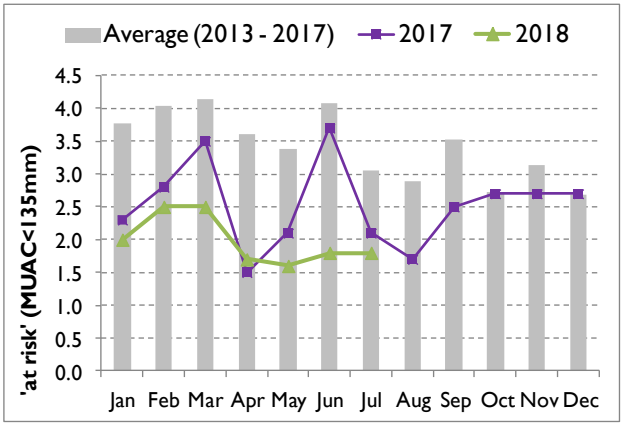

Figure 8: Proportion of children at risk of malnutrition (MUAC)

food and increased outreach programs leading to better health care. The trend is likely to remain stable. There were no reported cases of children falling under SAM and MAM for the current month. However, it was reported that SAM and GAM rates for males were 3.0 and 12.7 percent for males and 1.6 and 10.2 percent for females for survey carried out in 2017.

Morbidity and Mortality Patterns

The most common diseases reported in Laikipia were Upper Respiratory Tract Infections (URTI), diarrhea and malaria. Notably URTI cases almost doubled for the period January to June 2018 as compared to January to June 2017 attributed to the wet conditions. Overall, a general increase in water borne diseases due to contamination of surface water sources (water pans and shallow wells) was noted especially in areas with low latrine coverage in the pastoral areas. No disease outbreak was reported in the County. Crude mortality rate was 0.24/10,000/day, while under five death rate was 0.48/10,000/day.

Immunization and Vitamin A supplementation

Analysis of routine vitamin A supplementation and immunization coverage data based on DHIS show that coverage is about 80 percent between January to July 2018 as compared to January to June 2017. Vitamin A supplementation for children aged 6 - 11 months increased from 60 percent (January to June 2017) to 101 percent between January to June 2018 attributed to increased outreaches and *Malezi Bora* campaigns with Vitamin A being supplemented in the Early Childhood Development (ECD) centres in May 2018 and funding by County Government of Laikipia as compared to other years where funds are unavailable. Proportion of children 12 - 59 months who received Vitamin A supplementation increased from 55 percent in January - June 2017 to 93 percent in January - June 2018.

3.3.2 Sanitation and Hygiene

Latrine coverage in the county was 46 percent in the Pastoral livelihood zone and 98 percent in the Mixed Farming livelihood zone. Coverage and usage are low in the pastoral areas due to nomadic lifestyle and cultural beliefs and practices. According to a SMART survey carried out in 2017, only 26 percent of the households treat water, of which 22 percent boil while three percent use treatment chemicals. Only two percent of the population practice hand washing at four critical times. The low latrine coverage is attributed to nomadic lifestyle of the pastoral population leading to contamination of water sources and increased prevalence of diarrhea. According to the SMART survey done in the county in July, open defecation was still practiced in pastoral livelihood zone in Laikipia North with 46 percent of the households lacking latrines.

3.4 Trends of key food security indicators

The food security phase classification for the county during SRA 2017 was Stressed (IPC Phase 2) in the Pastoral and some parts of the Marginal Mixed livelihood zones and Minimal (IPC Phase 1) in the Mixed Farming livelihood zone. The situation has improved during the LRA 2018 to None or Minimal (IPC Phase 1) across all livelihood zones. The performance of food security indicators comparing the short rains and long rains seasons are shown in (Table 14).

Table 14: Food Security Trends in Laikipia County

Indicator	Short rains assessment, Feb 2018		Long rains assessment, Aug 2018	
Percent of maize stocks held by households	43		69	
Livestock body condition	Goat	Good	Goat	Good
	Sheep	Fair	Sheep	Good
	Cattle	Fair	Cattle	Good
Water consumption (Litres per person per day)	Pastoral	10	Pastoral	26
	Marginal Mixed Farming	15	Marginal Mixed Farming	16
	Mixed Farming	20	Mixed Farming	26
Price of goats (Ksh)	Pastoral	3000	Pastoral	3820
	Marginal Mixed Farming	3000	Marginal Mixed Farming	3820
	Mixed Farming	4000	Mixed Farming	6000
Price of maize (Ksh per kg)	37		35	
Terms of trade (Pastoral zone)	60		108	
Coping Strategy Index	18.7		14	
Food Consumption Score (%)	Poor	5.5	Poor	1.1
	Borderline	8.2	Borderline	8.0
	Acceptable	76.4	Acceptable	90.9
Proportion of children at risk of malnutrition (MUAC<135mm)	1.9		1.8	
GAM	11.4		Male = 12.7, Female = 10.2	

3.5 Education

Education Access

Schools gross enrolment as an indicator of education access stand at 93.4 and 61.5 percent for primary and secondary schools respectively. This means that the county is yet to attain the 100 percent transition rate provided by the government policy. Other than inadequate admission places in the county, there is also the issues of user levies in schools despite the free day secondary school policy. There was marginal increase from Term I to Term II at both primary and secondary levels in the county with a significant increase of 44 percent observed in Early Leaning Classes. One of the attributing factors for the observed increase was said to be inflow of new households settling in the County as residents during term II that were not present during term I. There were no reported conflicts between communities which is a common occurrence, particularly in the northern part of the county. The comparative figures for Term I and Term II for basic education in the county are illustrated in the Table 15 below:

Table 15: Gross Enrolment for Early Learning and Basic Education in the County

Level/ Cycle	2018 Term I		2018 Term II		
	Boys	**Girls**	**Boys**	**Girls**	**Overall Change Percent**
ECDE	8,460	7,636	12,179	10,993	44.0
Primary	47,937	44,784	51,568	48,838	8.3
Secondary	16,472	18,057	17,797	18,036	3.8

Noticeably, there is a near gender parity in access to education in the county across all levels, though slightly skewed in favor of the boy child. The skewedness is attributed to cultural practices in some communities within the county such as early marriages.

Participation

Children attendances in schools have been on an upward trend beginning January at all levels across the county. In July when schools were closing, it had peaked to 87 percent for primary schools. However, there were areas where floods impacted negatively on attendance. For example, Kisiriri primary school in Laikipia West Sub-county was non-operational for two weeks as it was used as campsite for communities displaced by floods.

Retention

Generally dropout rates decreased in Term II for both primary and secondary schools relative to Term I. The apparent high drop - out rate in Laikipia North Sub-county is due to negative cultural beliefs and practices such as early marriages.

Table 16: Drop outs

Sub County	**Primary Schools**				**Secondary Schools**			
	Boys		Girls		Boys		Girls	
	Term I	Term II	Term I	Term II	Term I	Term II	Term I	Term II
Laikipia North	11	20	18	33	3	2	5	4
Laikipia West	0	3	0	3	80	0	96	0
Laikipia East	9	5	12	3	16	7	12	5
Total	**20**	**28**	**30**	**39**	**99**	**9**	**113**	**9**

School Meals Programme

The National Government has been implementing Home Grown School Meals (HGSM) programme in the county. Other than this, there is no any other school meals programme in the county. Out of the 283 public primary schools in the county, a total of 136 are beneficiaries with a consolidated enrolment of 43,401 children. This translates to 43.2 percent coverage. Generally, the meals programme is not properly targeted. For instance, in Laikipia East particularly in Matanya area where households are most vulnerable to food insecurity, most schools are not covered. Other challenges bedeviling the implementation of the meals programme include late

disbursement of capitation vote by the government, lack of firewood in some parts of the county as well lack of water. Schools usually run out of food due to sharing of food ration with Early Learning children who are not part of the national government capitation.

4. Food Security Prognosis

4.1 Prognosis Assumptions

The following assumptions were made for Laikipia County:

- According to FEWS NET/USGS preliminary forecast, cumulative rainfall during the short rains in eastern and western areas of Kenya is forecast to be above average between October and December 2018, based on El Niño and IOD neutral conditions.
- Because of the above average maize crop long rains harvests, average maize prices across the County are expected to remain 10 – 20 percent below average through January.
- With the likelihood of persistent good livestock body conditions, goat prices are anticipated to remain 5 – 10 percent above average.

- From field observations of current forage conditions across the livelihood zones, all livestock species are expected to remain in the wet season grazing areas within the County and close to homesteads through the entire scenario period.
- According to estimates by the County Department of Agriculture, the long rains harvest is likely to be above average in November especially for the maize crop.

4.2 Outlook for 3 and 6 months

Food Security Outcomes (August – October)

The overall food security situation across the county is expected to remain stable over the next three months. Water and forage resources are expected to remain available at above average levels across all livelihood zones through November when the forecasted above average short rains are expected. Livestock body condition is expected to remain good through to October fetching high market prices and improving household income as they continue providing milk for consumption and sale improving the nutrition status for children under five years of age. With onset of the short rains in October, pasture and browse will improve further and there will be improved livestock body condition resulting to high livestock prices at the markets and therefore increasing household food security and purchasing power. Food and milk consumption is expected to improve further across all livelihood zones which are expected to remain in the None food security phase (IPC Phase 1).

Food Security Outcomes (November – January)

With the projected above average performance of the short rains from October, the body condition of livestock is expected to improve further and remain above average as the rains support forage regeneration resulting in above-average goat prices. Food availability and consumption will increase as harvesting begins in October for early maturing crop varieties, leading to lower market prices and increased dietary diversity reducing acute malnutrition. Terms of trade are most likely to remain favorable to the livestock keepers due to the good body conditions and low maize prices. Households are expected to reduce application of coping strategies across all livelihood zones and all livelihood zones will remain in the None or Minimal food security phase (IPC Phase 1).

5. Conclusion and Interventions

5.1 Conclusion

The county is classified in the Minimal (IPC Phase 1) food security phase classification. Key factors that need close monitoring in the next six months, especially in the Pastoral and Marginal Mixed areas are stocks of staples, pasture and browse situation, livestock body condition, human and livestock diseases, livestock and food commodity prices, under-five nutritional status, distances to water sources, availability and access to forage and water, resource-based conflicts, inter-community conflicts and insecurity along the border with pastoral communities, livestock disease outbreaks and morbidity.

5.1.1 Phase classification

The County is in Minimal (IPC Phase 1) food security phase classification attributed to most households with acceptable food consumption score with a few in borderline. In the Mixed Farming livelihood zone, all the population had acceptable FCS, while in Marginal Mixed Farming, those in acceptable FCS were 56 while 42 percent were in borderline. In the Pastoral livelihood zone, those with acceptable FCS were 62 while 30 were in borderline. Most households were having maize stocks from previous harvests. Presence of pasture and browse ensured good body condition for livestock resulting in stable market prices and availability of milk at household level. Households had adequate water availability and access and most households were having two to three meals a day, resulting in improved health care with MUAC levels stabilizing below the LTA at 1.8. There are lower dropout rates in schools attributed to non-migration of the pastoral communities and availability of food items for the school meal program.

5.1.2 Summary of key findings

The performance of rainfall during the long rains was above normal across the county resulting to an improved food security situation. Food is currently available, above the normal long-term averages. The maize stocks held by traders, millers and farmers were 10, 35 and 57 percent above the LTA respectively. Livestock productivity was above normal across the livelihood zones. Markets were normal with minimal disruptions. Earning opportunities has enabled households to continue having access to food. In terms of utilization, there are poor hygiene practices especially in the pastoral livelihood zone. The proportion of households engaging in food consumption related coping mechanisms is likely to remain stable. Malnutrition levels are likely to decline further across all livelihood zones due to improved access to food and increased milk production as a result of increased quantity of pasture and browse. More households will continue having acceptable food consumption score and less households will be relying on stress copping strategies.

5.1.3 Sub-county ranking - Laikipia County

Table 2: Ranking of Sub County in order of food insecurity severity (worst to best)

Sub County	Food Security Rank (1 – 3)	Justification
Laikipia East	1	• Presence of vulnerable populations, Frost affecting crops and forage • Lack of maize stocks at household level. • Inadequate access to water. • Long distance to the medical facilities.
Laikipia North	2	• Less diversification of incomes • Insecurity from neighbouring counties
Laikipia West	3	• Good harvests expected - (milk, meat, maize, horticulture crops), • Above normal rains • Employment opportunities • Food storage facilities present • High income levels • Food budgeting

52 Ongoing Interventions

6.2.1 Food interventions

Commodity	Unit	Quantity
Maize	50 kilogramme bag	11,000
Rice	50 kilogramme bag	4,000
Beans	90 kilogramme bag	3,800
Cooking Oil	3 litres	1,100
Fortified Flour	25 kilogramme bag	800

6.2.2 Non-food interventions

Intervention	Objectives	Specific Location	Cost	No. of beneficiaries	Implementation Stakeholders	Implementation Time Frame
Agriculture Sector						
Identification of 100 vulnerable persons per Ward	Initiate Food Security Subsidies Programme	Across the County	0.14M	1,400 FF	County Government of Laikipia	July – Sept 2018
Procurement and distribution certified inputs	To increase area under major food crops	Across the County	5.7 M	1,400 FF	County Government of Laikipia	September-October 2018
Up-scaling adoption of climate smart production technologies such as CA	To improve crop productivity and total production	Across the County	2.5M	1,000 FF	County Government of Laikipia FAO	July 2018 to June 2019
Water harvesting for crop production (construction of 15 water pans)	To increase area under horticultural crops	Across the County	30M	1,500 FF	County Government of Laikipia	July 2018 to June 2019
Promotion of high-value fruit trees (purchase and distribution of seedlings)	To improve diversification of income sources	Across the County	5.2M	4,000 FF	County Government of Laikipia	July 2018 to June 2019
Provision of extension services	To build farmer capacity to improve land and crop productivity	Across the County	5.5M	20,000 FF	County Government of Laikipia	July 2018 to June 2019
Livestock Sector						
Pasture seeds distribution (540 Kg. *cenchrus spp*. 840 Kg. *enterepogon spp.* 840 Kg. *chrolis spp.* 540 Kg *eragrostis spp*.	Increase pasture / fodder availability and economic empowerment	All Sub Counties	2.8M	570	County Government of Laikipia	May-July 2018
Livestock relief of 828 (50 Kg.)	Improve livestock	All Sub	3.2M	3,000	CGL and National	May-July

range cubes and 3,465 (2 Kg. UMMB)	body condition and meat quality.	Counties			Government	2018
Aggressive Feedlot enterprise engagement campaign	For production of Regular quality meat for specific a market & employment creation	Laikipia West	80M	3000	County Government of Laikipia	2018 – 2022.
Health and Nutrition						
Vitamin A Supplementation	To reduce vitamin A deficiency hence preventing morbidity and mortality among children 6-59 months	All three sub counties	1.6M	69,000	CGL (County Health Department), NI & UNICEF	Jan-Dec. 2018
Zinc Supplementation	To reduce severity and short time during diarrhea episodes	All three sub counties	2.2M	24,000	CGL (County Health Department)	Jan- Dec 2018
Management of Acute Malnutrition (IMAM)	To prevent more deterioration and mortality due to acute malnutrition	All three sub counties	48.8M	9,000	CGL (County Health Department) and UNICEF	Jan-Dec 2018
IYCN Interventions (EBF and Timely Intro of complementary Foods)	To improve health and nutritional status of children thus promoting child survival	All three sub counties	1.9M	20,600	CGL (County Health Department) NI and UNICEF	Jan-Dec 2018
Iron Folate Supplementation among Pregnant Women	To prevent iron deficiency anaemia among pregnant women and	All three sub counties	11M	20,600	CGL (County Health Department) NI and UNICEF	Jan-Dec 2018

	neural tube defects among infants					
Deworming	To prevent diseases caused by worms	All three sub counties	0.1M	60,000	CGL (County Health Department	Jan-Dec 2018
Food Fortification (conduct consumer Education sessions per sub county on food quality and safety	To prevent micronutrient deficiencies (vitamins and minerals)	All three sub counties	0.5M		CGL (County Health Department	Jan-Dec 2018
Water Sector						
Equipping of bokish and Katonga boreholes	Increase water availability and reliability	Ilgwesi	6M	700	County Government of Laikipia	FY 2017-2018
Muramati water supply	Increase water availability and reliability	Segera	2.2M	2.000	County Government of Laikipia	FY 2017 - 2018
Gathanje, Milango. Mowarak	Increase water availability and reliability	Kirima Sosian	9.6M	3.500	County Government of Laikipia	FY 2017-2018
Rehabilitation of Kinamba water project Naituria water project Tetu w/s	Increase water availability and reliability	Githiga Marmanet	3M	15,000	County Government of Laikipia	FY 2017 - 2018
Extension of Kiamariga Rehabilitation of Marura and Aiyam dams	Increase water availability and reliability	Salama, Rumuruti Olmoran	2. 5M	1800	CGL (Laikipia county government)	FY 2017-2018
Drilling and equipping of Nkando borehole rehabilitation of shalom w/s munyahk w/s	Increase water availability and reliability	Ngobit Umande	7.5M	3.000	CGL	FY 2017-2018

pipeline extension						
Excavation of 4 no large dams of 1m cubic metres	Increase water availability and reliability	Rumuruti Robere Gatirima Ngobit	400M	40,000	CGL/GOK	FY 2017 - 2018
Drilling of boreholes in strategic area	Increase water availability and reliability	Kurum, Ilmotiok Luoniek Kinamba	30M	15,000	CGL/NDMA/GOK	FY 2017 - 2018
Rehabilitation of existing dam	Increase water availability and reliability	Across the county	40M	35,000	CGL/GOK/NDMA	FY 2017 - 2018
Education Sector						
Homegrown school meals programme	To enhance access, participation and retention in primary schools	All Sub counties	27.5M	45,897	MOE	February to May
Provision of plastic tanks to schools (1,000 learners)	To enhance rain water harvesting and water storage	Tigithi, Segera, Solio, Mukogodo West	2.5M	1000	NDMA	May
Water trucking	To provide water for cooking, drinking and cleaning	Mukogodo	5M	6,880	CGL	May – July
Relief food	To mitigate food insecurity	Laikipia North	10M	14,710	CGL	Feb - July

5.3 Recommended Interventions

5.3.1 Food interventions

Sub County	Population	Population in need % range (Min – Max)	Mode of Intervention	Remarks
Laikipia East	108,267	5-10	FFA	Tigithi, Ngobit
Laikipia North	78,777	5-10	FFA	Mukogodo, Segera
Laikipia West	198,338	0	-	-

5.3.2 Non-food interventions

Intervention	Objectives	Specific Location	Cost	No. of beneficiaries	Implementation Stakeholders	Implementation Time Frame
Agriculture Sector						
Construction of 3 warehouses for grain storage	To increase grain storage capacity by 30,000 bags of 90 kg	Across the County	120M	2,000 FF	EU CGL National Government	Sept 2018 – Dec 2019
Establishment of County Government supported strategic reserves	To provide market for surplus grains produced in the County	Across the County	300M	50,000	National Government CGL	2 years
construction of dams and water pans to irrigate 10,000 Ha	To provide enough water to irrigate 10,000 hectares	Across the County	10M	10,000 FF	National Government CGL	1 year
Construction of 60 pans and dams	To provide enough water to irrigate 10,000 hectares	Across the County	600M	10,000 FF	National Government CGL	2 years
Livestock Sector						
Range rehabilitation	Increase livestock feeds availability	Across the County	4M	10,000	CGL	2018-2019 F/Y
Conservation of pasture and fodder	Increased feeds availability during dry season	Across the County	2M	10,000	Farmers	2018-2019 F/Y

Establish strategic feed reserve	Reduced impact of drought	Across the County	3M	10,000	CGL, Farmers, pastoralists and stake holders	2018-2019 F/Y
Health and Nutrition						
Procurement and provision of Water treatment Chemicals	To prevent water borne diseases	All three sub counties	0.35M	27,000 HH	CGL, UNICEF & NDMA	Jan-Dec .2018
Conduct active case finding on disease and malnutrition surveillance at community	To identify and treat acute malnutrition and other diseases as early as possible	All three sub counties	0.6M	110,000 U5	CGL, KRC, UNICEF & NDMA	Jan-Dec, 2018
Intensify health education on WASH indicators at community	To prevented diseases related to WASH indicants	At county level	600,000	180,356	CGL	Jan- Dec, 2018
Establish 550 community units	To improve access to UNIVERSAL HEALTH at community level	Across the county	20M	541,985	CGL	Jan- Dec. 2018
Train ECD teachers on VAS	To enhance VAS coverage	Across the county	0.5M	600	CGL	Jan- Dec. 2018
Integrated outreaches to the hard to reach areas	To improve health and nutritional services among populations in hard to reach areas	Across the County	5M	All population in hard to reach areas	CGL /KRC / NDMA	Jan-Dec. 2018
Water Sector						
Repair of Makurian and tool bore hole	Increase water availability and reliability	Makurian Momonyot	5M	1,500 1,200	CGL/NDMA GOK	1month
Chlorination of shallow wells	Increase water availability and reliability	Across the county	5M	3,000	CGL/NDMA	2months
Pipeline extension	Increase water availability and reliability	Igwamiti Chumvi	5M	5,000	CGL/NDMA	3months

Servicing of hand pumps Provide fast moving parts Fuel subsidy	Increase water availability and reliability	All sub counties	5M	20,000	CGL /NDMA/GOK	Month
Training of operators committee members	Improve Governance	All sub counties	5M	250	CGL/NDMA /GOK	1month
Education sector						
Expand HGSM programme	To enhance access, participation and retention in schools	Laikipia North, East, Central, West and Nyahururu	20M	42,181	MOE, NDMA other actors	Sept to December 2018
Water storage facilities and gutters	Help in rain water harvesting and water availability.	Laikipia North, Central, East and West	2M	99,597	MOH, CGL, MOE, NDMA and other actors	Sept to December 2018
Establishment of boarding schools in ASAL areas.	Create availability of learning institution in the ASAL areas.	Laikipia North, East, Central and West	30M	1,500	MOE, NDMA and other actors	Sept to December 2018
Improved Sanitation facilities	Creates a health leaning environment for learners.	Laikipia North, East, Central and West	4M	99,597	MOE, MOH, CGL, NDMA, other actors	Sept to December 2018
Mid day fortified porridge	Increases nutrients value of the porridge	Across the County	20M	16,096		Sept to December 2018
Food for fees (secondary)	Help to prevent school dropouts due to lack of school fees.	Across the County	20M	2,000		Sept to December 2018