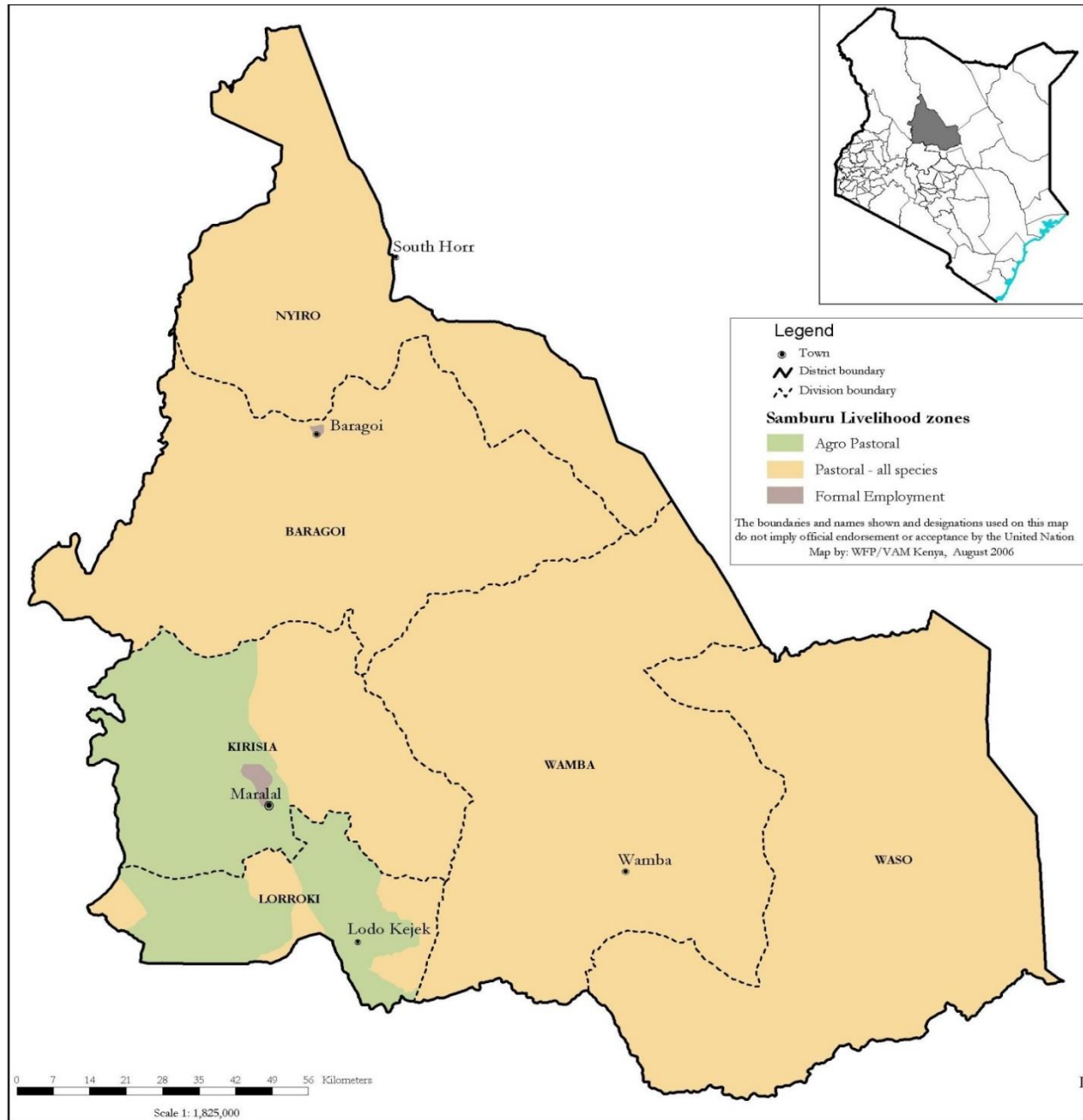


SAMBURU COUNTY
2017 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



**A Joint Report by the Kenya Food Security Steering Group (KFSSG) and
 Samburu County Steering Group (CSG)**

February 2018

Table of Contents

1.0 INTRODUCTION	3
1.1 County Background	3
1.2 Objectives and Approach	3
2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY	3
2.1 Rainfall Performance	3
2.2 Insecurity/Conflict	4
3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY	4
3.1 Availability	4
3.1.1 Crops Production	4
3.1.2 Cereals Stock	5
3.1.3 Livestock Production	5
3.2.1 Markets Prices.....	9
3.2.2 Maize Price	9
3.2.3 Goat Price.....	10
3.2.4 Terms of Trade.....	10
3.2.3 Income Sources	10
3.2.5 Food Consumption.....	12
3.2.6 Coping Strategy	12
3.3 Utilization	13
3.3.1 Morbidity and mortality patterns	13
3.3.2 Immunization and vitamin A supplementation	13
3.3.3 Nutrition status and dietary diversity	14
3.3.4 Sanitation and Hygiene	14
3.4 Trends of Key Food Security Indicators	15
4.0 CROSS CUTTING ISSUES	15
4.1 Education	15
5.0 FOOD SECURITY PROGNOSIS	16
6.0 CONCLUSION AND INTERVENTIONS	17
6.2 Ongoing Interventions	18
6.2.1 Food Interventions	18

EXECUTIVE SUMMARY

Samburu County is majorly classified as Stressed (IPC Phase 2) in pastoral livelihood and Minimal (IPC Phase 1) in Agro pastoral livelihood with exception of pockets of the Agro pastoral areas of Suguta and Lodokejek wards which are classified to be in Stressed (IPC Phase 2). The main drivers of food insecurity are poor rainfall performance in some areas, resource-based conflicts that aggravated inter community conflicts resulting into loss of livelihoods and even deaths.

Maize stocks held at household level particularly in the agro pastoral livelihood zones are 25 percent below the long term average (LTA) attributed to low production yields realized during the 2017 long rains. Main crops grown include maize and beans with production yields decreasing by 93 percent and 96 percent respectively. Milk production at the household ranged from 0.5 - 1.5 litres per household per day in both pastoral and agro pastoral livelihood zones compared to normally 1.5 – 3 litres per household per day. Pasture is fair to poor in pastoral areas and fair in agro pastoral with good browse across the livelihood zones. Earlier than normal intra migrations for mainly cattle to dry grazing zones was observed across the livelihood zones. Trekking distances were stable in agro pastoral and increased in pastoral areas.

All markets within the county are operational and well stocked with food commodities although intra migration has led to low volumes of cattle in some markets such as Lpus, Tangar and Latakweny. Maize flour and goat market prices were above the LTA by six percent and 10 percent respectively. Terms of trade were 15 percent above the LTA although decreased by 11 percent compared to 62 kilograms in December exchanged for income from sale of one goat. The cost of water per 20 litre jerrican was stable in agro pastoral due to close proximity of water sources except in urban Centre's where vendors are charging around Ksh 10-20 per 20 litre jerrican including transport charges. In pastoral areas, cost of water doubled attributed to dry up of open water sources, high turbidity and non-functional water points.

The proportion of household in pastoral livelihood with poor and borderline food consumption score reduced by nine percent compared to the same period last year. The mean reduced coping strategy in (rCSI) was 12.35 compared 20.17 in January 2017. Majority of the households approximately 78.9 percent were relying on food consumption related strategies (FSOM, December 2017). Households are consuming two to three meals per day in agro pastoral while one to two meals per day in pastoral comprising Maize flour (Posho), beans, milk and milk products. The prevalence of sampled children under-five years at risk of malnutrition as measured by Mid Upper Arm Circumference (MUAC) was 19.9 percent compared to the LTA of 19 percent and 24.88 percent same period last year.

1.0 INTRODUCTION

1.1 County Background

Samburu County shares its borders with five counties; Turkana County to the Northwest, Baringo County to the Southwest, Marsabit County to the Northeast, Isiolo County to the East and Laikipia County to the South. The county covers an area of approximately 21,022.2 square kilometres with an estimated projected population of 294,007 (KNBS, December 2017). It has three sub-counties namely Samburu North, Samburu East and Samburu Central

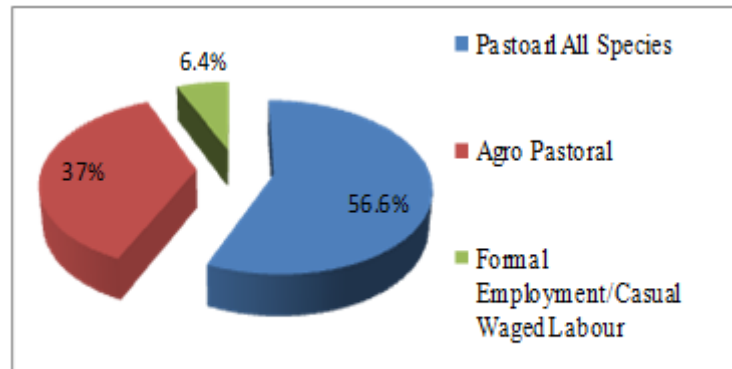


Figure 1: Population proportion by Livelihood zone

and three main livelihood zones: pastoral all species, agro-pastoral and formal employment/casual waged labour (Figure 1). The assessment did not take into consideration analysis based on the formal employment/casual waged labour due to its negligible proportion in the county.

1.2 Objectives and Approach

The broad objective of the assessment was to develop an objective, evidence-based and transparent food and nutrition security situation analysis, taking into account the cumulative effect of previous seasons and other shocks and hazards and suggest possible food and non-food intervention recommendations.

The approach was multi sectorial agency whereby County Steering Group (CSG) briefing was done, sectors secondary data was reviewed, focus group discussions, households and community interviews conducted. Analysis of the data was done and based on convergence of evidence a county report was produced whose preliminary findings were disseminated to CSG during debriefing meeting.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

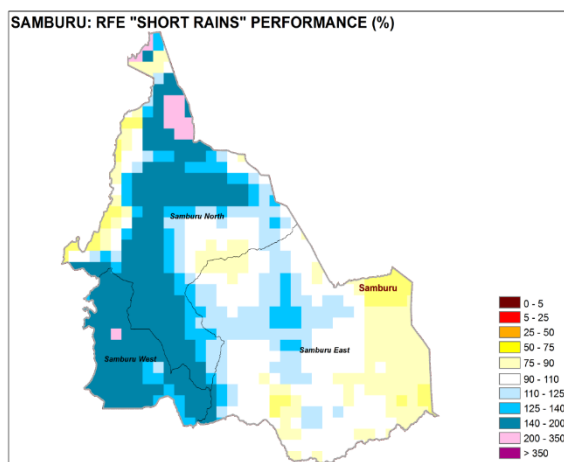


Figure 1: Rainfall Performance

The rainfall season in the county is bimodal with short rains more reliable in pastoral while agro pastoral depends on long rains season. The season onset was one dekad (10-day period) late in Lodokejek, Wamba, Waso, Elbarta and Latakweny while in parts of Baragoi rains were experienced four dekads late. In Nyiro and Kom onset was timely. Normally the short rains onset starts on the third dekad of October. Major parts of Samburu central (agro pastoral) and parts of pastoral areas of Samburu north received 140 – 200 percent of the normal. In the pastoral areas of Samburu east, the amount received was 75 – 90 percent of the normal.

Marginal pockets in Samburu east had depressed rains of 25 – 50 percent of the normal. Temporal distribution was good for the first four dekads of the season followed by dry spell for the whole month of December. The rainfall coverage in terms of space was fair and even respectively across the livelihood zones at least recorded substantial amount of rains. Cessation was earlier than normal as it occurred in the first dekad of December as opposed to the usual third dekad of December.

2.2 Insecurity/Conflict

Recurring incidences of inter-community conflicts continued to be noted particularly in Samburu north with intense cattle rustling recently reported in Suiyan within Samburu north leading to loss of livelihoods assets, death of two persons and serious injuries to three persons. This has led to limited access to forage and migration to areas with fair forage impacting negatively on milk availability at household level. Community interviews indicated high tension in the areas and its environs escalated by possibility of retaliatory attacks. The rest of the other sub counties remained relatively calm through the season.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

The main food staples consumed in the county include maize flour, beans and livestock products. Food availability is low and currently farmers have below average maize stocks standing at 25 percent below the LTA with millers holding 40 percent of the County’s maize stock.

3.1.1 Crops Production

Maize and beans production is the main staple food crops grown in the agro pastoral livelihood with maize contributing 80 percent to food and 40 percent to income while beans contribute 10 and 5 percent to food and income respectively.

Rain-fed Crop production

Notably acreage under rain fed crop production increased by 32 percent and 14 percent of the LTA for maize and beans respectively. The increase is attributed to weather forecast that indicated October-November-December (OND) rains will be enhanced and subsidized ploughing rates courtesy of county government. However, despite the increase in acreage production yields for the season dropped by 93 percent and 96 percent for maize and beans respectively caused by a dry spell during critical stage of germination and flowering stage in the months of December and January that led to water stress.

Table 1: Rain Fed Crop Production

Crop	Area planted during 2017 Short rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2017 Short rains season production (90 kg bags) Actual	Long Term Average production during the Short rains season (90 kg bags)
Maize	500	380	100	1400
Beans	400	350	80	2000

Area planted for irrigated crops increased attributed to adoption of greenhouse technology that minimizes losses from moisture stress, crop pests and even diseases. Despite the increased area planted, production for the irrigated crops kales, tomatoes and spinach decreased by 29, 15 and 33 percent respectively of the short-term average attributed to poor management practices of the greenhouse by farmers due to inadequate skills for greenhouse technology management. Additionally, farmers in Kurugu irrigation were demoralized by forceful grazing of their crop produce by livestock herders from Marsabit particularly South Horr and Laisamis sub-counties.

Table 2: Irrigated Crop Production

Crop	Area planted during the 2017 Short rains season (ha)	Short Term Average (3 years) area planted during Short rains season (ha)	2017 Short rains season production (90 kg bags) Actual	Short Term Average (3years) production during 2017 Short rains season (90 kg bags)
Sukuma wiki (Kales)	20	10	25	35
Tomatoes	10	5	55	65
Spinach	10	4	10	15

3.1.2 Cereals Stock

Maize stocks held at household level are 25 percent below the LTA attributed to low production yields realized during the 2017 long rains. The low yields were as result of poor temporal distribution of rainfall in parts of Suguta and Loosuk wards. Stocks available at household are expected to last for less than one month. Millers were stocking 40 percent of the LTA attributed to supply from Busia and Meru Counties. The millers were also hoarding the maize stocks in anticipation for commodity price increase as household stocks diminish. Households in pastoral areas have been entirely depending on markets for staple food commodities.

Table 3: Maize Stocks Held in the County

Commodity		Farmers	Traders	Millers	Food Aid	TOTAL
Maize	Current	8000	4500	3500	0	16000
	LTA	10000	6000	2500	0	18500

3.1.3 Livestock Production

The main livestock species reared in the county include cattle, goats, sheep and Camels. Few farmers are also practicing beekeeping and poultry as minor income generating activity. Notably livestock plays a greater contribution to cash than food as shown in the table below.

Table 4: Livestock percentage Contribution to Cash Income and Food

Livelihood Zone	Average % to Cash Income
Pastoral All Species	85
Agro Pastoral	60

Pasture and Browse

Pasture condition in the pastoral livelihood zone is fair to poor despite the November rains, which is normal at this time of the year. In Samburu North pastures have been exhausted in the wet

grazing areas except in the conflict hotspots areas such as Suiyan, Marti and Kawop, however with restricted access due to inter community resource-based conflicts.

Table 5: Pasture and Browse Condition

Livelihood Zone	Pasture Condition		How Long to last (Months)		Browse Condition		How Long to Last (Months)		Factors Limiting Access
	Current	Normal	Current	Normal	Current	Normal	Current	Normal	
Pastoral	Fair - Poor	Fair	Less than a month	1	Fair	Good	3	3	Lack of Water, Conflicts
Agro pastoral	Fair	Good	1	3	Good	Good	3	4	

In the Agro-pastoral livelihood zone, the condition is fair owing to individual enclosures in Lorroki plateau and conservation of forage within Kirisia hills during wet season. Fair to poor pastures in the Pastoral livelihood zone can be attributed to high temperatures resulting into high transpiration coupled with early cessation of the short rains. Additionally, land degradation as a result of overgrazing and the recent prolonged drought resulted into slower regeneration of vegetation cover.

The pasture situation is below normal and is projected to last for the next one month until end of March 2018. Browse condition in pastoral livelihood zone is fair and projected to last through April whereas usually anticipated last up to June. Browse in this zone is also being displaced by invader species (*Raraiti*) due to poor land use.

In the agro-pastoral livelihood zone, pasture is fair in open grazing lands and fair to good in the Kirisia hills and also in conserved individual enclosures. Farmers who conserved small plots, harvested hay especially in Loosuk, Poro and Baawa areas to the tune of 17,500 bales of hay and 1,400 bales of wheat straw. Grazing of cattle and camels is mainly done by adult men (*morans*) while sheep and goats were grazed by young girls and boys assisted by women.

Water Availability and Access for Livestock

Current major water sources for livestock were water pans, boreholes and shallow wells across the livelihood zones. The short rains season recharged the open surface water sources to approximately 70 – 80 percent of their capacity. However dry and windy weather conditions coupled with high daytime temperatures experienced from January caused high evaporation thus water in water pans is diminishing faster and is likely to dry up earlier than expected. Consequently, return trekking distances for livestock from grazing fields to water points doubled in pastoral livelihood and remained stable in agro pastoral. The predation of livestock by hyenas and lions in grazing zones has resulted in inaccessibility of pasture and water points in some areas.

Table 6: Water for Livestock

Livelihood zone	Sources		Return distances (km)		Expected duration to last (months)		Factors Limiting access
	Current	Normal	Current	Normal	Current	Normal	
Agro Pastoral	Water pans, Boreholes	Water pans, boreholes, shallow wells	1-2	1 - 2	Less than 2 month	4-5 months	None
Pastoral	Water pans, Boreholes, Dams, River Waso, Shallow wells	Water pans, Boreholes, Dams, River Waso, Shallow wells	8 - 10	2 - 3	1 month	3-4 months	Human - wildlife conflicts

Livestock Body Condition

Livestock body condition for grazers in the pastoral zone was fair compared to good due to diminishing pastures. Browsers (goats and camels) body conditions are good owing to availability of browse and in some areas *Acacia* pods (*Sagaram*) that are more nutritious. The trend is projected to be fair to poor for grazers and fair for browsers as forage and water sources diminish. In the agro-pastoral zone, the livestock body conditions are good to fair for all the livestock species attributed to availability of pastures in enclosures and good browse in the highlands.

Table 7: Livestock Body Condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Agro pastoral	Fair	Good	Fair	Good	Fair – Good	Good	Good	Good
Pastoral	Fair	Good	Fair	Good	Good	Good	Good	Good

Birth Rate

Birth rates for cattle were low as a result of the previous severe drought that affected the breeding cycle for cattle while kidding and lambing improved in both agro pastoral and pastoral livelihoods due to improved forage condition during the short rains season.

Milk Availability

Milk production at household level ranges from 0.5 - 1.5 litres per household per day in both the Pastoral and Agro pastoral livelihood zone. Milk availability in the Pastoral livelihood zone is

majorly from goats and camels while in Agro pastoral livelihood zones few farmers have dairy cattle and goats. Camel milk is retailed at Ksh. 90 - 120 per litre due to high demand for camel milk from Isiolo and Nairobi counties. Cow and goat milk selling prices ranges between Ksh. 60 – 70 per litre. The little available milk is mainly from small stock and camels that are still in wet season grazing areas. Following the on-going intra migrations of livestock especially cattle to dry grazing areas, milk availability is likely to decrease further at the household level resulting probably into high malnutrition for under-fives. Milk is usually hawked by women and young girls in urban centres and subsequent incomes from sale of milk solely used by women for household basic needs.

Table 8: Milk Production and Consumption

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Agro pastoral	1 – 1.5	1.5 -2	1	1.5	60 - 70	60
Pastoral	0.5 -1	2 - 3	0.5 -1	2 - 3	60	40

Tropical Livestock Units

Current average livestock holding per household decreased across the livelihood zone in both poor and medium income households (Table 9). The decrease can be linked to previous drought and Laikipia operation that caused livestock mortalities, diversification of livelihoods in Agro pastoral as a result of reduction in land size and inter community conflicts (cattle rustling) resulting into loss of source of livelihood.

Table 9: Tropical Livestock Units

Livelihood zone	Poor Income Households		Medium Income Households	
	Current	Normal	Current	Normal
Pastoral	5	12	10	15
Agro pastoral	4	8	8	10

Livestock Diseases and Mortalities

Cases of Foot and Mouth Disease (FMD) were reported in Suguta ward and Lumpy Skin Disease (LSD) was reported in Lekamoru area in Angata Nanyukie ward. Endemic cases of Contagious Caprine Pleuropneumonia (CCPP) continued to be reported across the livelihood zone. There were rumors of Peste des Petits Ruminants (PPR) for goats and sheep. Incidences of Rabies affecting camels in pastoral areas were also observed.

Migration

Internal movement of livestock was observed across the livelihoods to normal dry areas grazing zones with pastoral areas reporting earlier than normal migrations of approximately 80 – 90 percent of cattle as a result of early cessation. In Samburu east cattle migrated to Matthew Ranges,

Naisunyai, Loijuk and conservancies which include Kalama, Meibae, Ngutuk Engiron and Namunyak. Larger proportions of livestock from Samburu north are concentrated in Marti, Kilepoi and Ndoto hills. In Samburu central cattle are grazing within the enclosures and others have moved to Pura, Ndonyo Sirai and NYS Kirimun plains in Laikipia County. Communities in Samburu north reported small proportion of cattle from Marsabit County into the dry season grazing areas.

Table 10: Current Migration Routes

Livestock Species	From	To	Nature
Cattle, Goats and Sheep	Lesirikan	Kilepoi, Uaso Rongai	Normal
Cattle	Lodung'okwe, Nkaroni	Ndikir, Nasunyai, Loijuk, Mathew ranges	Normal
Cattle	Raraiti,	Mbukoi	Normal
Cattle (Out migration)	Lolmolok, Longwen, Lodokejek	Kirimun plains in Laikipia, Kirisia Hills	Normal
Cattle (In-migration)	Marsabit County	Ndoto hills	Normal

3.2.1 Markets Prices

Markets within the county are operational and well stationed with food commodities and livestock except Baragoi livestock market with low volumes due to insecurity. However, prices remained stable due to accessibility to neighbouring markets. Main markets include Maralal town centre, Lekuru, Lolkuniani and Tangar. The main sources for staple food commodities in some households within agro pastoral areas are from own production whereas Pastoral households are entirely depending on markets for food commodities. Community interviews indicated that during market days, women were largely involved in trading of food commodities particularly crop produce while men were mainly involved in livestock trade.

3.2.2 Maize Price

Maize flour prices have gradually been on a declining trend since October. Current maize flour market average price is six percent below the LTA but stable compared to the same season last year (Figure 3). The decrease in market prices can be linked to long rains season (March-April-May 2017) harvest that replenished household stocks in agro pastoral. Additionally, injections of maize by traders into the county from Meru and Busia counties also contributed to maize availability in the markets that resulting to low commodity prices.

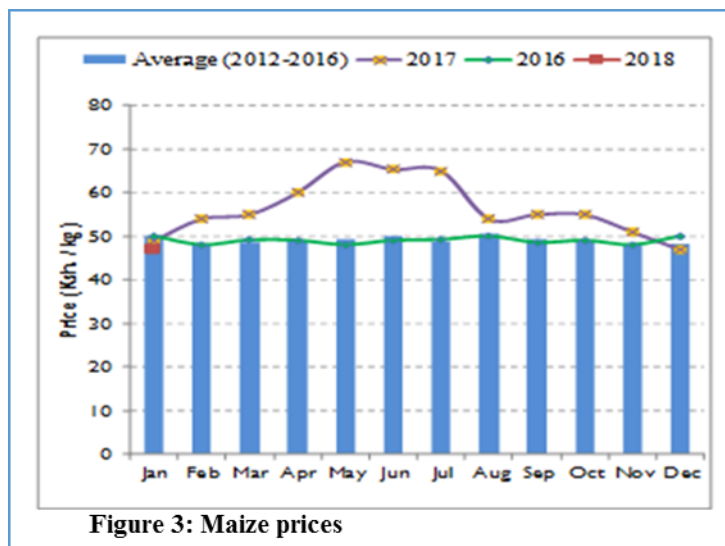


Figure 3: Maize prices

3.2.3 Goat Price

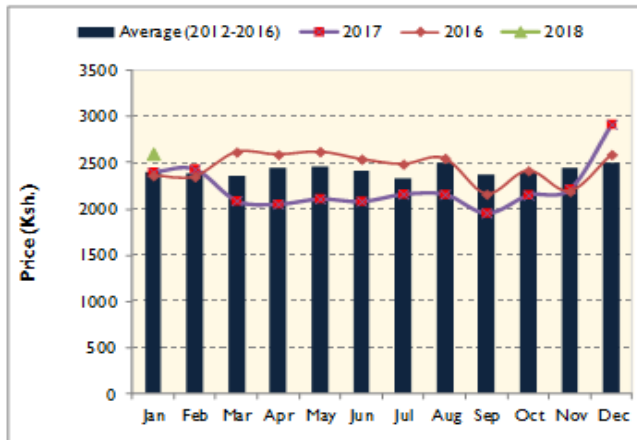


Figure 4: Goat Market Price

Average market goats’ price was Ksh 2,600 which was 10 percent above the LTA (Figure 4). Goat prices were highest in December attributed to good body condition and high demand during the festive season. In January, goats’ prices considerably decreased occasioned by influx of livestock in the markets as parents sought to raise fees for term one. The price trend is likely to continue deteriorating as water sources dry up and increased livestock trekking distances hence likelihood of deteriorating goats’ body condition.

3.2.4 Terms of Trade

The current terms of trade (ToT) deteriorated by 11 percent from last month but remained above the LTA by 15 percent. The deterioration in ToT in January was attributed to slight decline in goats’ prices. In December, the ToT was highest at 61 which was occasioned by better goats’ prices. Significant improvement was witnessed from October through December due to improved goat body conditions that resulted into increased goat prices and normal maize prices. The current ToT have dropped from December but remains favourable to pastoralist households. However, the ToT is likely to continue declining due to probable reduction in goats’ market prices.

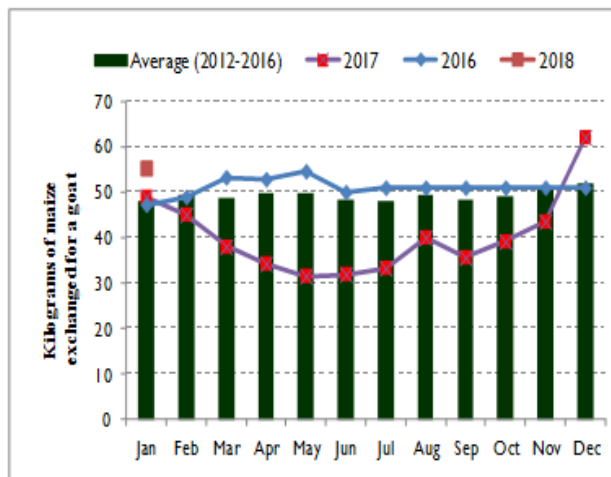


Figure 5: Terms of Trade

3.2.3 Income Sources

Sale of livestock and livestock products was the main source of income across the two livelihood zones. Other sources include casual labour, petty trade and employment/salary. In urban areas, some households are burning charcoal as an income generating activity which has resulted into deforestation especially around Kirisia forest. Women have control over proceeds from sale of poultry while men take lead in decision making for the sales from cattle, goat, sheep and camels.

3.2.4 Water access and availability

The main water sources current in use for domestic use include boreholes, water pans and shallow wells. Water pans in pastoral livelihood were recharged approximately up 60 percent of their capacity. Boreholes recharged were around 20 – 30 percent of their capacity due high runoff

resulting from degraded land as a result of prolonged drought and overgrazing by livestock. Provision of water for domestic use at the household is primarily the task of women and young girls.

Table 11: Water Sources

Ward/ Livelihood zone	Water Source (3) major sources)	No. of Normal Operational	No. of Current Operational Sources	Projected Duration (Operational Sources)	Normal Duration that water last in months	% of full Capacity Recharged by the Rains	Locality of Non- operational Water Sources
Pastoral	Boreholes	74	52	12 months	12	20	Lempurnai
	Water pans	54	33	3 months	3	60	Sordo, Lengarde, Lolkuniani
	Wells	20	19	6 months	6	90	
Agro pastoral	Boreholes	51	42	12 months	12	50	Lolkuniani and Raraiti
	Water pans	42	35	2 months	3	40	Lowarak and Raraiti
	Wells	42	42				

Distance to Water Sources and Waiting Time

Return trekking distance to water sources for domestic uses increased from an average of 2.8 km to 9 km in pastoral areas. Long trekking distances are as a result of decline in water levels in open water sources due to high daytime temperatures experienced and also probably silting up of open water sources resulting into high water turbidity thus forcing households to seek alternative water sources. Additionally, breakdown of some boreholes and lack of genset fuel has led to increase in household trekking distance thus piling pressure on functional water sources resulting to long queuing in some water points hence more waiting time.

Cost of Water and Consumption

The cost of water per 20 litre jerrican was stable in agro pastoral due to close proximity of water sources except in the urban centres where vendors are charging around Ksh. 10 - 20 per 20 litre jerrican. In pastoral areas, cost of water doubled attributed to dry up of open water sources, high turbidity and non-functionality of some water points. In some incidence in Wamba and Baragoi vendors charged Ksh. 20 per 20 litre Jerrican. In Marti individuals are fuelling the community genset and pumping water into their storage tanks, selling to households at Ksh. 10 instead of the normal Kshs. 5 charged when community is supported with fuel subsidy.

Table 12: Distances to Water Sources

livelihood zone	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Ksh. Per 20 litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current

Pastoral	0.5-5	8-10	5-10	10-20	15	20	10	5
Agro pastoral	1.5-2	2-5	2-5	5	5-10	15	15	10

3.2.5 Food Consumption

According to National Drought Management Authority (NDMA) sentinel site data, the proportion of household in pastoral livelihood with poor and borderline food consumption score reduced by nine percent compared to the same period last year (Table 13). The shift can be attributed to improved dietary diversity and food frequency resulting from increased household production specifically from agro pastoral, availability and accessibility of food commodities in the markets.

Table 13: Food Consumption Score – January 2017 vs January 2018

Livelihood zone	January 2017		January 2018	
	Threshold	FCS	Threshold	FCS
Pastoral	Poor	27.5	Poor	18.9
	Borderline	34.1	Borderline	37.1
	Acceptable	38.4	Acceptable	44.1
Agro pastoral				
	Poor	3.6	Poor	0
	Borderline	42.9	Borderline	6.7
	Acceptable	53.6	Acceptable	93.3

Notable improvement of proportion of households within borderline food consumption score within pastoral livelihood was observed for last three months (November 2017 – January 2018) and remained stable in Agro pastoral livelihood zone (Table 14). Community field interviews showed that households are consuming two to three meals per day in Agro pastoral while one to two meals per day in the Pastoral livelihood zone which is normal at this time of the year. Main commodities being consumed by most of the households include Posho, beans, milk and milk products.

Table 14: Food Consumption Score November 2017 – January 2018

Livelihood zone	Threshold	November 2017	December 2017	January 2018
Pastoral	Poor	23.3	23.3	18.9
	Borderline	21.3	21.3	37.1
	Acceptable	55.3	55.3	44.1
Agro pastoral	Poor	0	0	0
	Borderline	3.4	3.4	6.7
	Acceptable	96.6	96.6	93.3

3.2.6 Coping Strategy

The mean reduced Coping Strategy Index (rCSI) as obtained from the NDMA sentinel sites reduced by 39 percent compared to the same period in 2017. In November, December and January, rCSI was 13.02, 12.55 and 12.35 respectively indicating a stable trend. According to FSOM

(December 2017), 78.9 percent of the households were relying on food consumption related strategies. More frequent coping was employed by households in the Pastoral livelihood zone than households in Agro-pastoral livelihood to enable them meet their food needs. The variation areas a result of long rains crop harvest than replenished household stock in agro pastoral livelihood. The most frequently used strategies were food consumption related which includes relied on less preferred and/or less expensive food, reduced non-food items and reduced the number of meals eaten by day.

3.3 Utilization

3.3.1 Morbidity and mortality patterns

Common diseases for under-five years and general population include Upper Respiratory Tract Infection (URTI), Diarrhea, Pneumonia, eye infection and skin disease. Cases of Malaria were confirmed for the general population. The county experienced a prolonged health workers' industrial strike that affected outpatient service provision as the number of cases viewed dropped drastically during the period under review. The trends are relatively stable across the two years under the same period under review apart from a significant decline in number of cases in 2017 as a result of the health workers strike which lasted for five months. Although the numbers were lower compared to 2016, a sharp increase was noted for all the diseases in the month of November which could be attributed to the short rains that started in October. The county did not experience any disease outbreak during the period under review. There were no deaths attributed to epidemic and water borne diseases. Under five years' mortality rate and crude mortality rates are at 0.0185/10,000/day and 0.037/10,000/day respectively and were below alert threshold of 1/10,000/day and 0.5/10,000/day respectively (County Births and Death Office).

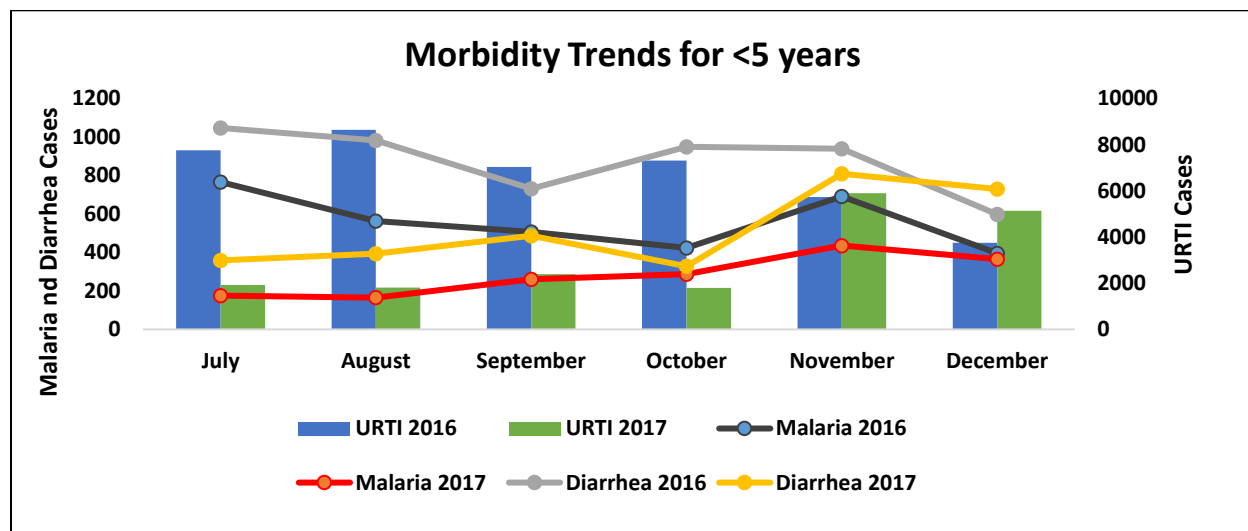


Figure 6: Morbidity Trends

The percentage of fully immunized children reduced from 67.5 percent in June- December 2016 to 46.6 percent in June- December 2017. This was attributed to the industrial strike experienced in the county that halted critical health care services namely vaccination and micronutrient supplementation programs for about six months. There was an increase in vitamin A

supplementation from 71 percent in 2016 to 80.4 percent in 2017. This was attributed to enhanced Malezi bora activities and support from partners in the county.

3.3.3 Nutrition status and dietary diversity

The proportion of children at risk of malnutrition by MUAC according to the National Drought Management Authority (NDMA) sentinel site data was 19.9 percent in January 2018 and is comparable to 17.2 percent recorded in December 2017. In comparison to LTA, the current proportion of children at risk of malnutrition is stable although slightly higher than LTA (Figure 7). The Global Acute Malnutrition (GAM) for Samburu was at 18.3 percent which is critical (SMART survey, June 2017). This was attributed to reduction in milk production and consumption at household level in the county and poor Maternal, Infant and Young

Figure 7: MUAC Trends for Under Five years

Child Nutritional (MIYCN) practices with minimum dietary diversity for women being only 21.3 percent. According to the community interviews conducted during the assessment, majority of households are taking one to two meals per day in pastoral and two to three in agro pastoral livelihood zones.

3.3.4 Sanitation and Hygiene

Latrine coverage in the county was at 32.7 percent which is a slight improvement from the previous season which was at 28 percent, but far below the national target of 100 percent (DHIS2) which is associated with negative cultural practices and movement of pastoral communities. Open defecation is still widely practiced in the county more so in Samburu North and East sub counties at 71 percent indication of poor sanitation conditions which pose a great health risk during rainy season. Hand washing at four critical times is hardly practiced in the county. According to the 2017 SMART nutrition survey, only 5 percent of the population reported washing hands at four critical times.

No cases of water borne diseases were reported in the county during the period under review. The SMART nutrition survey (2017) indicated that 83.2 percent of the households are getting household water from unprotected dug wells and unprotected shallow wells. Only 16.8 percent of the population is getting household water from protected sources. A mere 9.2 percent of the households are treating water at the household level by boiling, use of water treatment chemicals, traditional herbs and pot filters.

3.4 Trends of Key Food Security Indicators

Table 15: Food Security Trends in Samburu County

Indicator	Long rains assessment, July 2017	Short rains assessment, Feb 2018
% of maize stocks held by households (agro-pastoral)	9 percent of LTA	25 percent below LTA
Livestock body condition	Grazers	Poor in pastoral and fair in agro pastoral
	Browsers	Poor in pastoral and fair in agro pastoral
Water consumption (litres per person per day)	Pastoral :2 Agro Pastoral: 4	Pastoral :5 Agro Pastoral: 10
Price of maize (per kg) in Ksh	65	47
Distance to grazing (km)	15 - 25	Pastoral: 8 – 10 Agro Pastoral: 1 - 2
Terms of trade (pastoral zone)	32.9	55
Coping strategy index	26 (SMART Survey 2017)	
Food consumption score (%)	Poor :40.7 Borderline :35.7 Acceptable :23.6 (FSOM May 2017)	Pastoral Poor 18.9 Borderline 37.1 Acceptable 44.1 Agro pastoral Poor 0 Borderline 6.7 Acceptable 93.3
MUAC (%)	26.48	19.9
Latrine Coverage (%)	29	32.7

4.0 CROSS CUTTING ISSUES

4.1 Education

The county has a total number of 165 primary public schools with a population of 49,491 pupils comprising of 26,281 boys and 23,210 girls. The number of secondary schools within the county is 37 with a student population of 8,014 comprising 4,740 boys and 3,274 girls. Early childhood centres across the county are 545 with a population of 38,216 pupils (boys- 20,149 and girls-18,067).

Table 16: Samburu County School Enrolment 2017

Sub-county	ECDE		Primary		Secondary	
	Boys	Girls	Boys	Girls	Boys	Girls
Samburu Central	7730	7143	15,448	13,649	2754	2030
Samburu East	4580	3915	6290	5067	1216	800
Samburu North	7839	7009	4543	4494	770	444
Total	20,149	18067	26,281	23,210	4,740	3,274

There has been an increase in enrolment at ECDE and primary schools in 2018 compared to 2017. Low enrolment witnessed in term III of 2017 was attributed to the drought which led to pupils migrating with their parents in search of pasture and water. However, the short rains of 2017 brought about much needed relief in terms of pasture and water which led to return of livestock to wet season grazing areas resulting into high enrolment in 2018. In addition, the county and national government invested in building more ECDEs and classrooms coupled with school feeding program contributed to increase in enrolment. Increased awareness campaign on importance of taking children to schools by local administration such as chiefs and education stakeholders such as CIBT has also contributed to increased enrolment.

According to community interviews, about 20 percent of school going age children do not attend school as a result of long distances to schools while other parents don't see the value of sending children to school while others gamble by selecting a few to attend school leaving others to look after animals.

School Feeding Program

All public primary schools and ECDEs with a population of 88,707 pupils are under Regular School Meals Program (RGSM) with public primary schools supported by National government and ECDEs by County government. Some ECDs reported food distribution delay due logistical challenges resulting to primary schools sharing food to ECDS section as they wait for the ECDE food distribution. Main food supplied to primary schools include maize and bean while ECDs received Rice and beans with ECDs in Waso ward getting Corn Soy Blend (CSB) courtesy of non-governmental stakeholder Feed the Children.

5.0 FOOD SECURITY PROGNOSIS

5.1 Assumptions

In the next six months' food security outcomes are likely to be determined by the following assumptions:

- FEWSNET preliminary forecast indicates that March – April - May (MAM) 2018 long rains are likely to be below normal to near-normal.
- Main season (February to August 2018 rainfall in uni-modal (Western) Kenya likely to have delayed start and an early season deficit but cumulative rainfall through is expected to be above average.
- There is likelihood for hotter than normal temperatures in March and also later in June through August 2018.
- Livestock prices are likely to decrease until April as rangeland conditions deteriorate resulting to poor livestock body conditions.

- Food commodity prices are likely to increase in the next three months as food stocks deplete at household level.
- Resource based conflicts and human wildlife conflicts are likely to arise as livestock compete for forage and water.

5.2 Outlook for 3 months (February – April 2018)

Following the below average long rains harvest and early cessation of short rains which has occasioned reduced crop yields although imports stabilized the food security. The county is most likely to continue experiencing a stable food security through end of March when the long rains season is projected to start. However, improvement is likely to be observed as the long rains onset sets in that is likely to trigger availability of traditional green vegetables and milk availability. Depletion of forage and water sources is expected to continue most probably resulting into more migrations and poor body conditions and inadequate milk for consumption through end of March when the long rains are anticipated to start. Additionally, trekking distance both for livestock and households in pastoral especially in Samburu east that depends more on short rains is likely to increase however for agro pastoral, the anticipated long rains in end of March is expected to result in improved water points recharge and reduction in trekking distances both for domestic and livestock. There is high likelihood of market prices decreasing most likely for crop food commodity prices as stocks deplete occasioning unfavorable terms of trade to pastoralists. The county is likely to remain in Stressed (IPC Phase 2) with a majority of households only able to afford minimum food requirements. In the pastoral livelihood zones in Samburu East however at least one in five households will have significant food gaps and high malnutrition and will be in Crisis (IPC Phase 3).

5.3 Outlook for 6 months (May – July 2018)

According to preliminary forecast, parts of the county are prediction to receive below to near normal long rains. Forage condition and open water sources are expected to improve as the onset sets in which is likely to lead to improved livestock body condition and availability of livestock products. In the month of June and July, agro pastoral households in Samburu central are likely to realize harvest of legumes thus possibility of improvement in food security and nutritional status. Maize stocks are likely to be replenished in the month August as farmers in agro pastoral are expected to harvest and even expected harvest in Western Kenya where some traders import cereals for the market. During this period, improvements will be felt but not enough to change the phase and the county will remain in Stressed (IPC Phase 2) with Samburu East remaining in Crisis (IPC Phase 3).

6.0 CONCLUSION AND INTERVENTIONS

6.1 Conclusion

6.1.1 Phase classification

Samburu County is majorly classified as Stressed (IPC Phase 2) in pastoral livelihood and Minimal (IPC Phase 1) in Agro pastoral livelihood with exception of pockets of the Agro pastoral areas of Suguta and Lodokejek wards which are classified to be in Stressed (IPC Phase 2). The county phase classification shifted from Crisis (IPC Phase 3) to Stressed following enhanced short rains in most parts of the county that led to an improvement in environmental and productions indicators. Good to fair body condition prompted increase in livestock markets price. Cereals markets price low thus fair terms of trade. Under five years' mortality rate and crude mortality rates were below

alert threshold. Most of the households across the livelihood zones were employing food consumption related coping strategies to cope with lack of food and/or lack of money to buy food.

6.1.2 Summary of the Findings

Major parts of agro pastoral livelihood zones in Samburu central and pastoral livelihood zones of Samburu north received enhanced rains of about 140 – 200 percent of the normal. In the pastoral areas of Samburu east, the amount received was 75 – 90 percent of the normal. Marginal pockets of Samburu east had depressed rains of 25 – 50 percent of the normal. Production yields for both rain-fed and irrigated crops decreased with households holding approximately stocks from last season harvest which are 25 percent below the LTA. Early cessation caused early depletion of pastures and water sources thus early intra migration in some areas. Livestock body condition ranged between good to fair across the livelihoods. Terms of trade improved from previous season value of 32.9 kilograms to 55 kilograms. MUAC and latrine coverage also improved from 26.48 percent to 19.9 percent and 29 percent to 32.7 percent compared to LRA 2017 respectively. Majority of the households approximately 78.9 percent were relying on food consumption related strategies (FSOM, December 2017).

6.1.3 Sub-county Ranking

Table 14: Sub-county Ranking

Sub Counties	Ranking (Worst to best)	Reasons
Samburu East	1	Poor pasture and fair browse Water scarcity Low livestock volumes in the markets Cattle intra migrations Depressed rainfall
Samburu North	2	Insecurity Inadequate markets/buyers Fair pastures and good-fair browse Earlier intra cattle migrations
Samburu Central	3	Maize stocks available although below LTA Crop residue for cattle feed available Fair pastures and good browse Water is available Livestock feeds for sale Good market operations

6.2 Ongoing Interventions

6.2.1 Food Interventions

Asset Creation Program (ACP) distributed sorghum and rice to 20,000 beneficiaries in Samburu central sub county each receiving 7.5 kg of cereals, 1.5 kg pulses and 0.45 kg cooking oil

implemented by RAMATI D.I and World Food Program. Regular School Meals Program (RGSM) is implemented in all public primary including ECDs with a total population of 88,707 pupils with public primary schools supported by National government and ECDEs by County Government. CARITAS Maralal supported 291 households with food vouchers valued at Ksh 3,000 per household per month for three months and ACTED is planning to support 4,000 vulnerable households with cash amount of Ksh 3,000 for the month of February, March and April 2018. National government through department of social services is also supported 7,141 orphaned and vulnerable children (OVC), 5,286 older persons (OP) and 805 people with severe disability (PWSD) with monthly stipend of Ksh 2,000.

6.2.2 Non-food interventions

County	Intervention	Sub County	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (KSH)	Time Frame
LIVESTOCK							
Samburu	Provision of breeding camels	Samburu east	170	SCG	Increased milk at household level	13.6M	Immediately
WATER							
Samburu	Construction of Yiamo dam	Samburu central	40,000	GOK	Reduce water shortage in Maralal town	1 B	2017/2019
EDUCATION							
Samburu	Water trucking	North & East	3,000	CSG			Ongoing
HEALTH AND NUTRITION							
Samburu	Vitamin A Supplementation	All	46,696	MOH and partners		5M	3 months
	Zinc Supplementation	All	53,617	MOH and partners		15M	3 months
	Management of Acute Malnutrition (IMAM)	All	53617	MOH and partners		20M	3 months
	IYCN Interventions (EBF and Timely Intro of complementary Foods)	All	4934	MOH and partners		15M	3 months
	Iron Folate Supplementation	All	12278	MOH and partners		5M	3 months

	among Pregnant Women						
	Deworming	All	41508	MOH and partners		0.5M	3 months
	Food Fortification	All	274079	MOH and partners		0.5M	3 months

6.3 Recommended Interventions

6.3.1 Food interventions

Sub County	Population in need (% range min – max)	Proposed mode of intervention
Samburu East	45 - 50%	GFD/CASH TRANSFER
Samburu North	40 - 45%	GFD/CASH TRANSFER
Samburu Central	20-25%	FFA

6.3.2 Non Food Interventions

Intervention	Objective	Specific Location	Activity Target	Cost (KSH)	No. of Beneficiaries	Implementation Time Frame	Implementation Stakeholders
LIVESTOCK							
Support accelerated commercial Off-take by targeting good condition livestock for sale	To avoid losses during drought period	County wide	1000 head of cattle	20M	1000 HHs	March – June 2018	NDMA, County Government, RPLRP, KRCS, CARITAS
Procure and distribute 1,000 Kg of pasture seed (Rhodes grass and Cenchrus seed)	To assist farmers produce fodder and reseed denuded land	Loosuk, Longewan, Lolmolok, Poro	1000 Kg	2M	40 HHs	March – April 2018	County Government
Provision and stockpiling of livestock concentrates for 1,000 livestock stock	To maintain the productive herd	Samburu east	1000 cattle	9M	500 HHs	March - May 2018	NDMA, County Government, Stakeholders
WATER							

Roof rain water harvesting structure in schools	To harvest rain water for use and reduce cost of water trucking	Maralal DEB Pry, Lolmolok Mix Sec, Lorukoti Pry, Muslim Pry, Ng'ari pry, Loikas Pry	3 schools	8M	4,000 pupils/students	March – April 2018	County Government, Partners
Water Trucking	To reduce water stress and trekking distances	Maralal DEB Pry, Lolmolok Mix Sec, Lorukoti Pry, Wamba girls Wamba boys Lengarde Kirich	3 schools	0.54M	4,000 pupils/students	March 2018	County Government, Partners
Equipping of drilled boreholes	To reduce trekking distances	27 boreholes	27 drilled boreholes	11.2M	2,000 HHs	3 months	County Government, Partners
AGRICULTURE							
Provision of certified seed	To ensure increased farm productivity	County wide	1000 HH	22M		March-April	County Government
Tractor fuel subsidy	Increase acreage under crop	County wide	1450 Acres	1.5M		March- April 2018	County Government
Post-harvest training	Reduce post-harvest losses	Samburu central	500HH	2M		Feb-April 2018	County Government and partners
promote water harvesting at farm level for crop production	To ensure green vegetables availability at household level	Samburu central	100 water holes	5M		February-April 2018	County Government and Partners
EDUCATION							
Hand washing facilities to	To promote good	County wide	All schools without	3.4M	747 schools	March 2018	MOE, County Government, Stakeholders

be installed in schools and ECDs	hygiene and reduce disease infections		hand washing kits				
Training pupil junior farmer field schools (JFFS)	To enhance exposure to agricultural activities	County wide	Schools closer to water points	4.1M	100 schools	March 2018	MOE, County Government, Stakeholders
HEALTH AND NUTRITION							
Conduct Mass Screening and active case finding	Ascertain root cause of high malnutrition rates	County wide	under 5yrs, lactating and pregnant women	5M	53,617 (under five and pregnant and lactating women)	March- May 2018	County Government, Stakeholders
Support Integrated Medical Outreach	Improved access to healthcare services	Countywide (39 hotspots)	Under five and general population	9M	15,000 People	March- May 2018	County Government, Stakeholders
Community led total sanitation	Increase latrine coverage	County wide	General population	4M	30,000 people	March- May 2018	County Government, Stakeholders