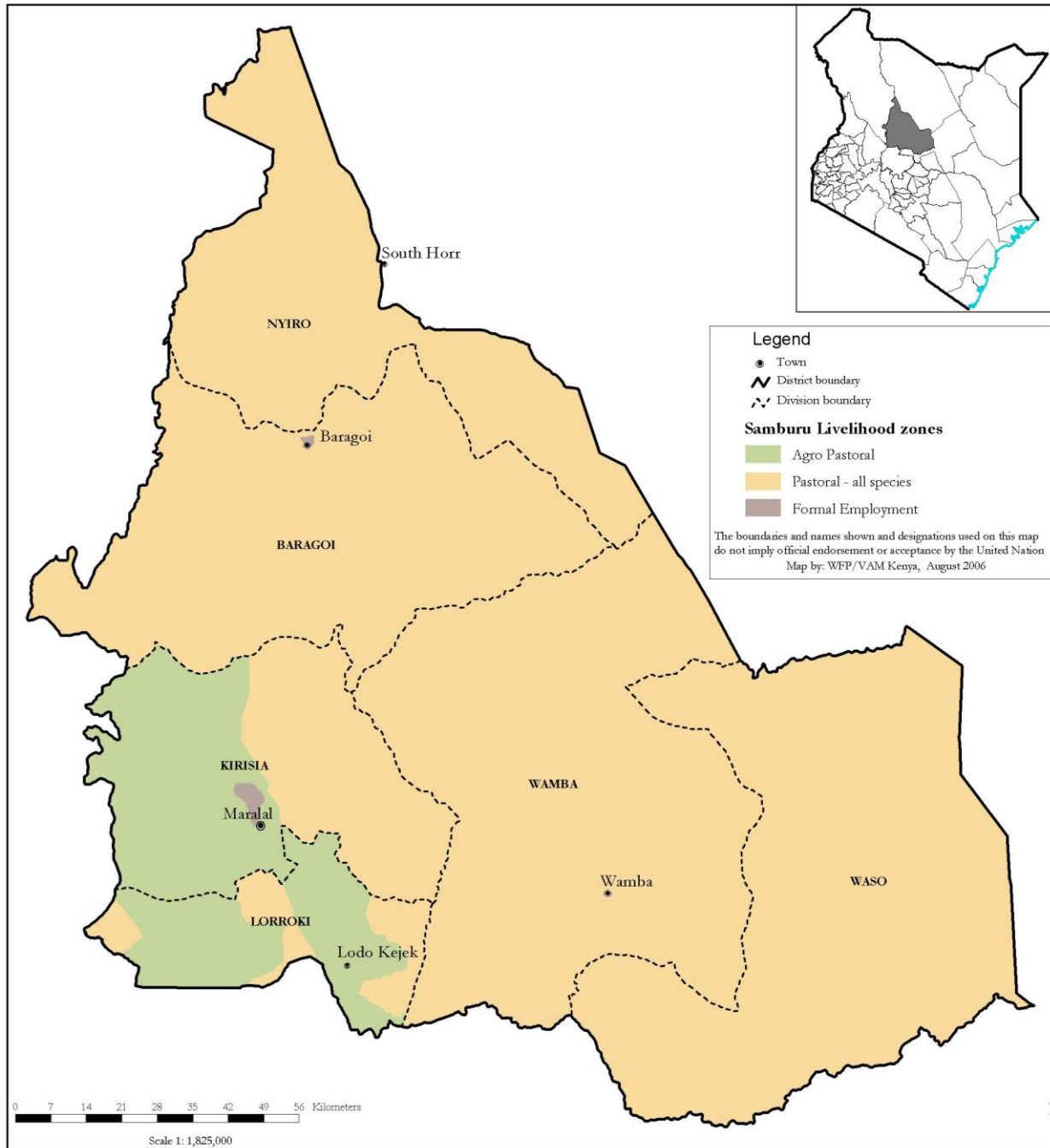


SAMBURU COUNTY 2018 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A Joint Report of the Kenya Food Security Steering Group (KFSSG¹) and
County Steering Group (CSG), Samburu County

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EXECUTIVE SUMMARY

The 2018 long rains food security assessment was conducted jointly by the Kenya Food Security Steering Group (KFSSG) and Samburu County steering group (CSG). The exercise covered all the livelihood zones in Samburu County. The assessment was conducted from 13th to 17th August 2018 using a multi-sectoral approach. Primary sources of data involved key informant interviews and focus group discussions. The main objective of the 2018 long rains assessment (LRA) was to develop an objective, evidence-based and transparent food security situation analysis in the County following the long rains season of 2018 taking into account the cumulative effects of previous seasons, and to provide recommendations for possible response options based on the situation analysis.

The main drivers of food and nutrition security in the county are mainly rainfall performance and livestock diseases. Floods and water logging affected crop production especially, beans in the agro pastoral livelihood zones. Water availability and accessibility for domestic and livestock has greatly improved in all livelihood zones. Majority of the population depends on rainfall either for crop production or for livestock rearing. Food availability has been enhanced by the above average maize harvests and increased milk availability at household level as well as well provisioned food stuffs in the markets. Access has been enhanced by the above average terms of trade as well as the good road network. Households in the pastoral zones are accessing food commodities from the markets while household stocks are presently available in the agro pastoral zones. The terms of trade are favorable to the livestock farmers since households are able to purchase 51 kilograms of maize with the sale of one medium-sized goat compared with 45 kilograms normally. According to the 2018 June SMART survey, sanitation and hygiene practices were poor across the livelihood zones in the county thus negatively affecting food utilization at household level. According to the World Food Programme food security outcome monitoring, the proportion of households with acceptable food consumption score (FCS) increased from 56.4 to 95 percent and 76.4 and 90.1 percent for pastoral and agro-pastoral respectively between February last year and February 2018. The coping strategy index has also improved by about 50 and 22 percent for the pastoral and agro pastoral households.

The county is currently classified in Non/Minimal (IPC phase 1) food insecurity phase. More than four in five households are able to meet essential food and non-food needs without engaging in atypical, unsustainable strategies to access food and income, including any reliance on humanitarian assistance.

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1.0: INTRODUCTION

1.1: County background

Samburu County borders Isiolo County to the South and South East, Laikipia County to the South, Baringo County to the South West, Turkana County to the West and North West, Lake Turkana to the North and Marsabit County to the East. It is divided into three administrative units namely Samburu East, Samburu West and Samburu North. The county has an estimated 283,730 persons and covers approximately 20,183 square kilometres. There are three main livelihood zones namely pastoral all species occupying 56.6 percent of the population followed by agro pastoral livelihood cluster occupying 37 percent and formal employment/ waged labour at 6.4 percent of the population (Figure 1).

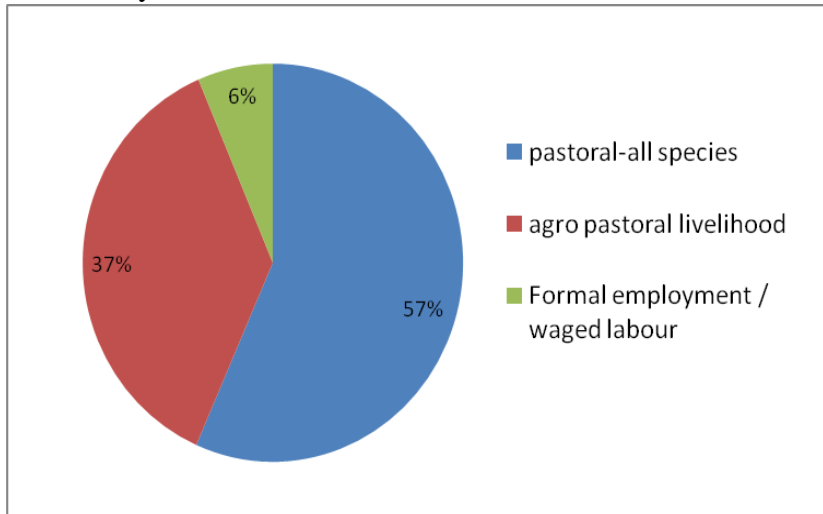


Figure 1: Population proportion by livelihood zone

Methodology and approach

The main objective of the long rains assessment was to develop an objective, evidence-based and transparent food security situation analysis following the long rains season of 2018 and taking into consideration the cumulative effects of previous three seasons, and to provide actionable recommendations for possible response options based on the situation analysis. The assessment was conducted from 13th to 17th August 2018 using a multi-sectoral approach, which involved checklist administration by county sector heads followed by initial briefings by the county food security group (CSG) and Kenya Food Security Steering group representatives. The field data was collated, reviewed and triangulated to produce a food security assessment report, which was presented before the CSG for validation and approval.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

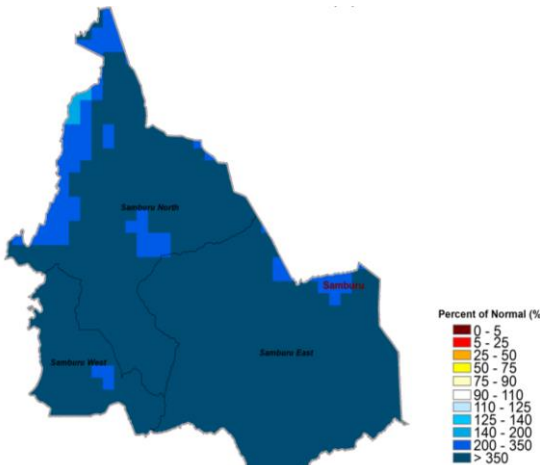


Figure 2: Rainfall performance

2.1 Rainfall Performance

The onset of the rains was timely in the first dekad of March. Most of the county received above 350 percent of normal rains while a portion in the north western side received 140-200 percent of normal rains (Figure 2). Spatial distribution was even while temporal distribution good. Cessation was late in the first dekad of June compared to last dekad of May normally. The rainfall performances was adequate for pasture and browse regeneration as well as crop production. Open water sources were adequately recharged, impacting positively

for both water for livestock as well as domestic use in terms of availability and distances to water.

2.2 Other shocks and hazards

Floods

Floods and water logging affected crop production especially, beans in the agro pastoral livelihood zones. About 20 percent of the crop was destroyed.

3.0: IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Crop production in the county was 89 percent of LTA for maize , 42 for beans of LTA for beans and 45 percent of LTA for cowpeas for rain-fed cropping while for the irrigated, production was 49 percent of STA for kales, 60 percent of LTA for spinach and 42 percent of STA for tomatoes . Livestock body condition is good translating into increased milk availability and consumption at household level. Pastoral households are accessing food stuffs from the markets while the agro pastoral households are currently having carry-over stocks from the previous season.

3.1.1 Crop Production

Samburu County is mostly long rains dependent for crop production and the main crops grown for both food and income include maize, beans and cow peas under rain fed agriculture and kales, spinach and tomatoes under irrigated agriculture. Maize production contributes 80 and 40 percent to food and cash income; while beans production contributes 10 and five percent to food and cash income respectively in the agro-pastoral livelihood zones.

Table 1: Rain-fed crop Production

Crop	Area planted during 2018 Long rains season (Ha)	Long Term Average (5 year) area planted during the Long rains season (Ha)	2018 Long rains season production (90 kg bags) Projected/Actual	Long Term Average (5 year) production during the Long rains season (90 kg bags)
Maize	7,520	8,400	37,600	42,400
Beans	3,750	4,280	1,825	4,300
Cowpeas	210	215	958	2,115

Area under maize reduced by 10 percent of the long term average (LTA), while that under beans reduced by 12 percent of the LTA (Table 1) . The reduction in acreage for both crops was attributed to fear of rainfall failure by farmers and unpreparedness by agro pastoralists to undertake early land preparation considering rainfall onset was earlier than normal. However, area under cowpeas remained within the LTA. Projected production of maize is expected to decline by 11 percent as compared to the LTA attributed to late planting, water logging and low adoption of organic fertilizer use by farmers. The wet environment was also unsuitable for use of machinery for weeding. Production of beans and cowpeas is also expected to decline by 58 and 55 percent of the LTA respectively attributed to lower acreage, late planting, damage by floods and water logging in the farms. Flooding affected Arsim and South Horr in Samburu North. The estimated percentage loss of crops was 20.

Table 2. Irrigated Cropping

Crop	Area planted during the 2018 Long rains season (ha)	Long Term Average (3 years) area planted during Long rains season (ha)	2018 Long rains season production (90 kg bags/MT) Projected	Long Term Average (3 years) production during 2018 Long rains season (90 kg bags/MT)
Kales	39.8	50	76	155
Spinach	15.2	18.5	75	134
Tomatoes	10.1	15	89	154

Under irrigated cropping, the acreage put under kales, and spinach and tomatoes was 80 percent, 82 percent and 67 percent of their respective LTA respectively (Table 2). The decline in area planted was attributed to lack of intensive labour required for weeding during the period. Correspondingly, production is projected to decline by 51, 40 and 42 percent for kales, spinach and tomatoes respectively. The projected decline has been attributed to increased cases of crop pests and disease incidences associated with wet and cold periods. The reduced acreage is also expected to result in lower production. Flooding and water logging has negatively affected production. Areas affected by the various hazards include Arsim and South Horr Samburu North (flooding), Poro and Loosuk Samburu Central (water logging) and Suguta, Loosuk and Poro wards in Samburu Central and Baawa Ward in Samburu North (Fall Army worm and stalk borer invasion). During 2016-17 drought periods there was destruction of irrigation infrastructure at Kurungu irrigation project by livestock that led to the reduction in acreage of the irrigated crop acreage.

3.1.2 Cereals stock

The key staple foods consumed in both livelihood zones are maize and rice. There was a remarkable increase of 114 percent above the LTA of maize stocks held by farmers attributed to carry over stocks owing to good harvest realized in 2017 long and short rains (Table 3). However, these stocks are in the agro pastoral zones (Samburu Central Sub County). In the pastoral livelihood zone, most farmers are dependent on stocks held by traders due to minimal harvest from small farm sizes. Traders are holding 19 percent of the LTA attributed to low demand due to the high household stocks. Most of the stocks held by traders and millers are in the pastoral livelihood zones. The current relief is in the form of 50 kilogramme (6810bags) of sorghum, which is mainly in the pastoral zone. The stocks held by households are expected to last for five months compared to three normally. No food safety issues have been reported during the period of review.

Table 3: Quantities held currently (90kg bags)

Commodity	Maize		Rice		Sorghum		Millet	
	Current	LTA	Current	LTA	Current	LTA	Current	LTA
Farmers	8350	3,900						
Traders	1050	5,500	1,100	1300			35	30
Millers	2550	3,500						
Food Aid					6810	20		
NCPB	3528	7500						
Total	15478	20,400	1121	1316	6810	20	35	30

3.1.3 Livestock Production

The main livestock species kept in the county are cattle, sheep, goats, camels and donkeys. Poultry farming is also gaining importance in the county. Livestock production contributes 85 and 60 percent to cash income in the pastoral and agro pastoral livelihood respectively. Chicken contribute to cash income especially in the agro pastoral zones while donkeys are found across the livelihood zones. The small stock such as sheep and goats are normally sold for basic household needs including food, while the large stocks are the main milk producers and are usually sold to cater for major investments. The long rains performance was adequate for pasture regeneration in the range lands.

Pasture and browse situation

Forage condition is good both in quantity and quality across the livelihood zones (Table 4). However, in parts of Samburu East and Central, pasture condition is fair compared to good normally attributed to extensive land degradation that prevented adequate regeneration of pasture followed by overgrazing. High sheep populations are overgrazing on the available pasture. Pasture in Samburu East and Central is likely to be depleted before the start of short rains. However, pasture and browse in the rest of the county is likely to remain good and last until the next season. Various communities have also embraced pasture conservation through setting aside pasture reserves to be accessed later when wet grazing areas are exhausted. There are various pasture farms in the county grown through the assistance of the county government. Currently, there are no factors limiting access to pasture. Harvesting has not taken place and therefore crop residue contribution to livestock feeds is minimal.

Table 4: Pasture and Browse condition

Livelihood zone	Pasture					Browse				
	Condition		How long to last (Months)		Factors Limiting access	Condition		How long to last (Months)		Factors Limiting access
	Current	Normal	Current	Normal		Current	Normal	Current	Normal	
Pastoral	Good	Good	3-4	3-4	None	Good	Good	4-5	4-5	None
Agro-pastoral	Good	Good	2	2	None	Good	Good	4	4	None

Livestock Productivity

Livestock body condition

The current livestock body condition is good for all species across the livelihood zones, which is normal at this time of the year. The good body condition has been attributed to the presence of the good and adequate pasture and browse as a result of the good performance of the rains. As a result, livestock prices have remained high enhancing the households' purchasing power and impacting positively on household's food security through access to cash and livestock products like milk.

Tropical livestock units (Tropical Livestock Units)

Tropical livestock units remain low in the pastoral livelihood zones attributed to the effects of the past seasons coupled with insecurity which greatly lowered the numbers (Table 5). However, there has been an improvement in the agro pastoral zones due to breeding favored by the long rains.

Table 5: Tropical Livestock Units (TLUs) by household income groups

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Pastoral	4	10	8-10	20
Agro-pastoral	6	4	15	10

Availability of pasture and browse owing to good rainfall performance has resulted in increased milk production from all species (Table 6). However, most of the milk available is from the small stocks as the large ones are in calving stage and are expected to give birth from September. Milk availability is normal at this time of the year in both livelihood zones. However, there was a noted increase in availability in the agro pastoral zone attributed to the increased tropical livestock units. In the pastoral zones, house hold milk consumption is currently 1-2 litres, which is normal while in the agro pastoral zone, consumption is two litres compared to 3-5 normally. The situation is normal at this time of the year. Milk prices are Ksh. 60 and 70 compared to Ksh 40 and 50 for the pastoral and agro pastoral zones respectively. These prices are currently high compared to normal at this time of the year. The demand for milk is high in both livelihood zones thus the higher prices. Nonetheless, increased milk availability and consumption has resulted in improved nutrition status as well as a source of cash income for the households thereby boosting their food security status.

Milk Production and consumption

Table 6: Milk production, Consumption and Cost

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral	1-2	1-2	1-2	1-2	60	40
Agro-Pastoral	4	2-5	2	2-5	70	50

Birth rates, Migration and Mortalities

Birth rates are currently normal for small stock as a result of pasture availability. Births for the small stocks are ongoing while for the large stocks, they are expected as from September 2018. However, most of the large stocks are in calving stage. Currently, there are no reported livestock migrations into or out of the county. However, initial intra county movements have been reported especially in Samburu East as livestock are driven to the dry period grazing areas. The situation is normal at this time of the year. There is slight increase in mortalities for cattle, goats and sheep (Table 7).

Table 7: Mortality Rates

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	1-3%	1-3%	1-3%	1-3%	1%	1%	1%	1%
Agro-Pastoral	4%	1-3%	5%	1-3%	8%	1-3%	1%	1%

The increase in cattle mortalities was associated with tick born diseases while that of goats was due to Peste des petits ruminants. Mortalities in sheep were due to Blue tongue disease. The increase was mostly due to mortalities for kids and lambs which were the most affected due to worms and low immunity.

Livestock Diseases

Suspected cases of livestock disease namely; foot and mouth disease (FMD), Blue tongue, contagious caprine pleuropneumonia (CCPP) and Peste des petits ruminants (PPR); east coast fever (ECF) were reported across the county. Among the measures taken to contain these diseases include vaccination against blue tongue and Peste des petits ruminants. The livestock department is in the process of procuring 50,000 doses for vaccinations against foot and mouth disease.

Water for Livestock, Trekking Distances and Watering Frequency

The main sources of water include water pans, bore holes, rivers and natural ponds which were normal sources at this time to the year. Water in the pans /dams expected to last up to October which is normal at this time. However, in areas where the levels are low, water is likely to last for one month which is not normal at this time of the year. The return distance to water for livestock remained stable which was attributed to above average long rains performance in the county (Table 8).

Table 8: Water for livestock

Livelihood zone	Return trekking distances (Kms)		Expected duration to last (Months)		Watering frequency	
	Current	Normal	Current	Normal	Current	Normal
Pastoral	3-5	3-5	Seasonal rivers, Rivers Springs Water pans	3-5	Daily for cattle and small stocks, thrice for camels	Daily for cattle and small stocks, thrice for camels
Agro pastoral	1-2	1-2	Pans, dams, seasonal streams and piped water for zero-grazed cows	3-5	Daily for cattle and small stocks, thrice for camels	5 Daily for cattle and small stocks, thrice for camels

3.1.4 Impact on availability

The current season has impacted positively in terms of food availability. Farmers are expecting 89 and 42 percent of LTA for maize and beans respectively. Household stocks for maize are 114

percent above the LTA. Good pasture regeneration has led to good livestock body condition. As a result, household milk availability and consumption has increased across the livelihood zones.

3.2 Access

3.2.1 Market operations

The main markets in the pastoral zones are Baragoi, Latakweny, Lolkuniani while in the agro pastoral areas, are Maralal, Suguta Mar Mar, Lpusand Lekuru. These serve as feeder markets for larger ones in Marsabit and other counties. Market operations were normal in the entire county except a slight effect in operations attributed to closure of markets in Marsabit due to outbreak of rift valley fever. The situation is likely to remain normal in the next six months. Commodity supplies for both livestock and foodstuffs in the markets are mostly from within the county. However, some traders are sourcing their supplies from Meru and Nyahururu. The traded volumes were high across the various markets and well provisioned, boosted by the prevailing peaceful conditions. This situation is normal at this time of the year. Cereals supplies from outside the county is likely to decrease as harvesting takes place and more of supplies from the agro pastoral zones replace the imports. There are no distress sales in the markets currently. Commodity demand for both livestock is declining occasioned by the period of closure of markets in Marsabit, while that of food stuffs is high especially in the pastoral zones. Due to the high supply of the small stocks into the market, their demand is currently low. The same case applies to maize and posho demand in the pastoral livelihood zones, since these households depend almost entirely on markets for supply of food stuffs. The situation is likely to remain stable in the next six months.

Market Prices

Maize price

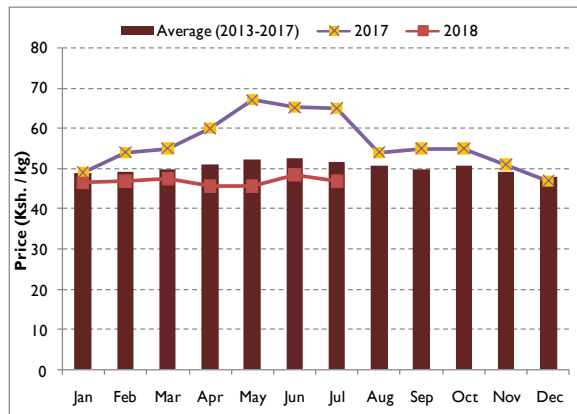


Figure 3: Trends in maize prices

The price of maize has been stable since the beginning of the year attributed to better harvest in 2017 that kept the prices in check. The current price of a kilo of maize is 10 percent below the LTA and also 28 percent below that of same period in 2017 (Figure3). The highest price was recorded in the pastoral livelihood zone while the lowest price of Ksh.42 was recorded in the agro pastoral livelihood zone. The prices in parts of pastoral zones are higher (Ksh 50) due to a higher demand as they rely almost entirely on markets for maize and posho supply as compared to the agro pastoral livelihood zone which

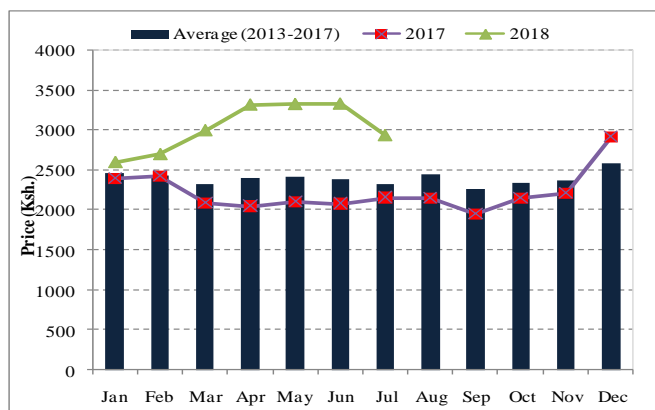


Figure 4: Trends in goat prices

produce the commodity.

Goat prices

The prices of goats have been unstable since the beginning of the year. The current price is Ksh.2938 which is a 30 percent drop from the price in June. The

sharp drop in the July prices was occasioned by closure of markets in Marsabit County, which absorbs a large section of the traded volume. The drop in demand versus the high supply led to the sharp decline. Currently, the price of an average goat is within the LTA but above that of same period in 2017 by 10 percent (Figure 4). The price is expected to improve in the next three months since the closed markets in Marsabit have since been reopened.

3.2.2 Terms of trade

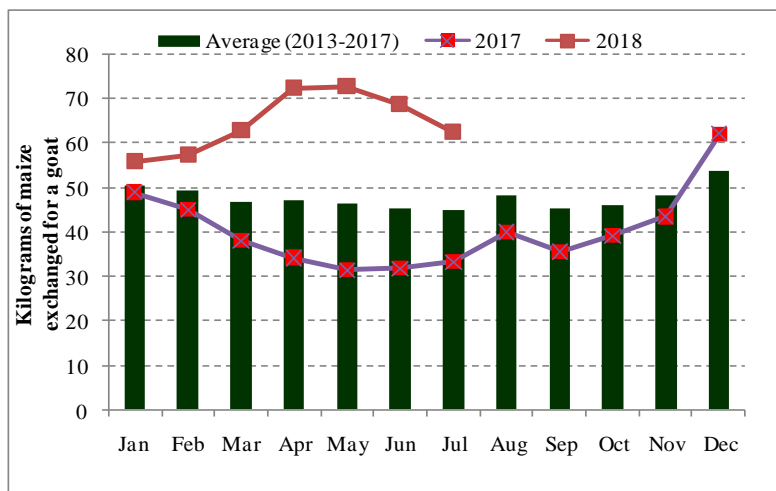


Figure 5: Trends in Terms of Trade

Terms of trade have been unstable since January attributed to the changing goat prices. The current average terms of trade are 39 percent above the LTA and also 89 percent above that of same period in 2017 (Figure 5). The highest terms of trade were 70kgs for the sale of one goat recorded in the Agro pastoral zone while the lowest terms of trade were 40 kgs recorded in the pastoral zone. The terms of trade are likely to improve with improving goat prices and declining maize prices in the next three months.

3.2.3 Income sources

There are various sources of income in the county. In the pastoral livelihood zone, sale of livestock and livestock products accounts for the majority of the household income. Other sources include small businesses as well as petty trade. Sale of crops, livestock and livestock products constitutes the bulk of the household income in the agro pastoral livelihood zone.

3.2.4 Water access and availability

Major water sources

The main water sources in the County are traditional river wells, boreholes, water pans/dams, rivers springs and shallow wells (Figure 6). Currently, there are few streams with flowing water due to the current intermittent rains in some areas. Small pans and dams water levels are decreasing in most parts of Samburu East and North. The central part of the county received fair rainfall distribution that had increased both the surface and ground water levels. The available water in the dams and pans is expected to last for 3 months in Samburu East and North and 6 months in Samburu Central.

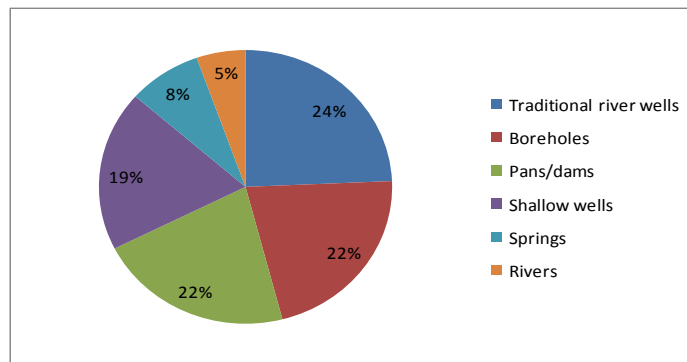


Figure 6: Sources of water

Almost all the open water sources were recharged to their capacity. However, seepage, breaching and siltation have affected their capacity to store water, especially for pans and dams. Currently, over 90 percent of pans/dams have water at varying capacities. Most of the three main sources (traditional river wells, boreholes and pans/dams) are operational with the exception of a few pans which have dried up and boreholes which have broken down. The numbers of normal operational boreholes are 155 compared to 108 which are currently operational due to breakdowns. Currently there are 60 operational water pans/dams compared to 79 normally operational (Table 9). Non-operational pans are as a result of breaching of walls, siltation and poor design. As a result of the latter, some pans are currently having dead volume (amount that cannot be used). Non-operational water sources include Kawop and Lekiji boreholes, Lesirikan water source due to destruction by floods, Nkrunit and Kilepoi borehole due to low yield, Lodungokwe due to breakdown of submersible pump and Raraiti borehole yet to be equipped. Lodungokwe and Ngorok water pans have also dried up while Ndongyo Wasin, Simale and Tuum gravity system were destroyed by floods. Water in the pans /dams expected to last upto October which is normal at this time. However, in areas where the levels are low due to reasons given above, water is likely to last for one month which is not normal at this time of the year.

Table 9: Water Availability

Livelihood zone/Subcounty	Water Source (Three (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
Wamba	1.Boreholes	25	15	12	12	-	Lempornai,Raraiti,Lodungokwe, Resim,Siratamurit,Ngilai, Lolkuniani,Malta, Jelmen 1, Jelmen 2,
	2.Dams Pans	10	4	2	3	70%	Sordo, Lowarak, Rariti, Ngorok, Nasunyai, and Sessia.
	3.Spring	6	6	3	6	60%	
Waso	1.borehole	13	9	12	12	-	Lerata B windmill, Lerata B handpump, Laresoro primary, Kalama,
	2.Dams/Pans	7	5	3	3	15	Ndongyowasin, Sirata
	3.Spring	2	1	3	6	25	Kimaani
Baragoi	1.Boreholes	27	8	12	12	50	Nkorika, Mabati, Sulubei,Charda,BaragoiBoys,Baragoi town, Ngilai
	2.Pans/Dams	8	1	3	3	20	Ngilai
	3.spring	1	1	6	3	35	
Nyiro	1.Borehole	8	5	12	12	45	Kawop, Arsim hand pump, Kilepoi
	2.Pans/Dams	3	2	3	3	20	Kawop
	3.Spring	11	9	6	4	30	Tuum,Simale
Kirisia	1.Dams/Pans	24	23	3	3	95	Lepargojine
	2.Boreholes	45	42	12	12	50	Lkiloto, Poro, Losuuk
	3. Wells	9	9	6	6	50	
Loroki	1. Dams/Pans	27	25	6	6	20	Ngare Narok, Longewan,
	2. Boreholes	37	29	12	12	-	Ngambo, Rangau, Lpetpet, LbaaLembarikon, Amayia, Garma
	3. Wells	8	8	6	6	50	

Distance to water sources

The current distance to water sources is about 1-2 kilometres in the agro pastoral livelihood zones, while in the pastoral livelihood zones, the distance ranges from 3-5 kilometres (Table 10). The distance is normal for both livelihood zones at this time of the year.

Waiting time at the source

The current average waiting time at the source is less than five minutes across the livelihood zones and 10-30 minutes (Table 10) in some boreholes and water schemes, which is normal at this time of the year. In areas adjacent to broken down water sources, the waiting time is slightly higher occasioned by the increased population being served. The prolonged waiting time in such areas is causing a negative effect in water usage due to the time spent in fetching.

Cost of water and consumption

The current cost of a 20 litre jerrican is 5-10 shillings across the livelihood zones which are normal at this time of the year. However, water from the open water sources is free. These include pans/ dams/ rivers, shallow wells, springs and river wells. The current water consumption in litres per person per day is 15-20 litres in the pastoral livelihood zone and 20-25 litres in the agropastoral zones, which is normal at this time of the year. Areas with low water consumption of 10-15 litres compared to the normal 15-20 include Poro, Suguta Marmar and Lodokejek (Table 10).

Table 10: Water Access

Ward / livelihood zone	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Ksh. Per 20litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current
Pastoral	3-5	3-5	Ksh 3-5	Ksh 3-5	Less than 5 mins	Less than 5 mins	15-20	15-20
Agropastoral	1-2	1-2	Ksh 3-5	Ksh 3-5	Less than 5 mins	Less than 5 mins	20-25	20-25

Sanitation and Hygiene

Water treatment at house hold level is not a common practice in most areas of the county and according to a SMART survey conducted in June 2018, about 16 percent of the households treat water while about 81percent of those who treat do so by boiling. There are reported cases of contamination of water sources especially the open sources but according to the survey, the main source of water for domestic use is open water sources at 52.4 percent. The proportion of households that use protected water sources is about 30 percent and according to field observations, some of the possible sources of water contamination include upstream contamination due to open defecation, wild animals, livestock waste as well as surface run-offs. Latrine coverage is 24 percent across the county implying that open defecation is rampant, hence the upstream water contamination of Ewaso Nyiro River, Poro Dam and Nontoto water pan.

3.2.5 Food Consumption

Milk consumption

The current milk consumption by households in the pastoral zone is 1-2 litres which is normal while in the agro pastoral zone, consumption is two litres compared to the normal 2.5 litres. Most of the milk being consumed is from the small stocks as the large stocks are in calving state. The majority of milk available for sale is currently from the agro pastoral zone attributed to increase in the number of TLUs. Milk consumption has boosted household food security through provision of rich source of proteins, which are vital for children and the elderly. The current price of milk is Ksh. 60 in the pastoral zones and Ksh. 70 in the agro pastoral zones compared to Ksh. 40 and 50 for pastoral and agro pastoral zones respectively normally. Cash received from the sale of milk in the households supplements other sources of income thus providing cash for other expenses related to food security.

The current improvement in crop and livestock conditions has led to an improvement in the households' overall food security situation. According to World Food Programme (WFP) food security outcome monitoring, about 95 percent of households in the pastoral zones are having acceptable food consumption score (FCS), while about four percent are having borderline food consumption scores. Equally, in the agro pastoral livelihood zone, about 91 percent of households are classified under acceptable

Food consumption score (FCS), with eight percent having borderline food consumption scores (Figure 8). Only one percent of the households in both livelihood zones is classified under poor food consumption score. The statistics point to an improved food security situation in comparison to the previous season when 58.6 percent of the households in the pastoral zone had acceptable food consumption scores followed by borderline at 22.8 percent and 18.5 percent poor. In the agro pastoral zone, 76.4 percent of the households had acceptable food consumption score while 18.2 had borderline food consumption score. The proportion that had poor food consumption score was 5.5 percent of the households. Currently adults are consuming three meals per day while children are consuming 3-4 meals which is normal.

3.2.6 Coping strategy

According to World Food Programme (WFP) food security outcome monitoring the coping strategy index (CSI) for non-beneficiaries has reduced from 22.32 in February 2018 to 11.36 in July 2018 for the pastoral livelihood zone and 18.69 in February 2018 to 14.13 in July 2018 for the agro pastoral livelihood zone (Table 11).The situation indicates great improvement. Households are employing the normal consumption coping mechanisms to bridge any food gaps. About 84 percent of households in the pastoral zones are employing coping strategies compared to 87 percent in the agro pastoral zones. The coping strategies being employed include reduced meal portions and skipping meals as well as borrowing food.

Table 11: Coping Strategy Index

Livelihood Zone	CSI (Feb 2018)	CSI(Aug 2018)
Pastoral	22.32	11.37
Agro pastoral	18.69	14.13

3.3 Utilization

3.3.1 Morbidity and mortality patterns

The under-five trends for top three diseases: upper respiratory tract infections (URTIs), diarrhoea and malaria were higher in May, June, July 2018 compared to similar period in 2017 and 2016. This was attributed to the effects of consistent heavy rains experienced during the period. Other diseases that featured prominently during the period were pneumonia, eye infection and skin infections. In the general population, the trends mirror those for under five with highest prevalence in June. Other diseases of significance that affected the general population were pneumonia and skin infections. The county department of health intervened by providing insecticide treated mosquito nets leading to the decline of malaria positive cases in the month of July 2018. The health facilities stocked enough medical commodities including malaria rapid diagnostic test kits. Crude mortality and under five mortality rates were within the normal thresholds of less than 1/100,000/day and 0.5/10,000/day respectively. The county did not register any unusual deaths during the period under review.

3.3.2 Immunization and Vitamin A supplementation

According to June 2018 Nutrition SMART survey, immunization is still below the national target of 80 percent. Vitamin A supplementation for 6-11 months was 54.7 percent while that of 12-59 months was 41.5 percent. Supplementation for 6-59 months was 43 percent. This can be attributed to long distances to health facilities and the heavy rains experienced in the County during the months of April and May which rendered some roads impassable and thus hindering community members from accessing health facilities. 59.3 percent of children aged 12-59 months were dewormed atleast once in the last one year.

According to DHIS, the percentage of fully immunized children increased from 29.6 percent for January to June 2017 to 37.4 percent for the same period in 2018 attributed to enhanced outreaches. Vitamin A supplementation coverage for children aged 6-59 months was above the national target of 80 percent, attributed to enhanced outreaches and massive investment and collaboration of partners during the *Malezi bora* month that ensured all the early childhood development centres were fully covered.

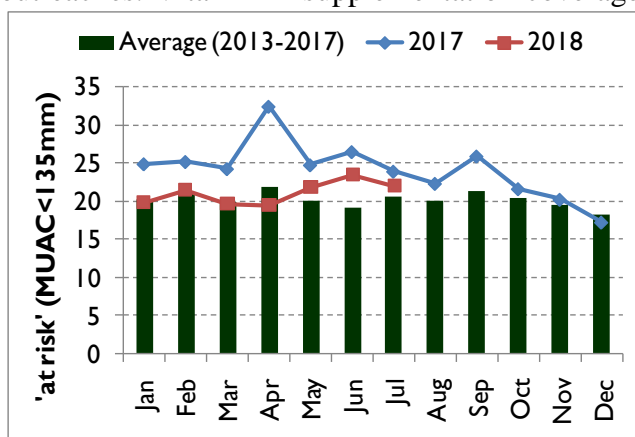


Figure 10: % of children at risk of malnutrition

national target of 80 percent, attributed to enhanced outreaches and massive investment and collaboration of partners during the *Malezi bora* month that ensured all the early childhood development centres were fully covered.

Nutrition Status and Dietary Diversity

A nutrition SMART survey conducted in June 2018 reported Global Acute Malnutrition of 15.7 percent classified as critical. The prevalence of underweight (<-2 z-score) was high at 31.6 percent in 2018 compared to 34.3 percent in 2017.

Prevalence of severe underweight (<-3 z-score) was 7.4 percent. MUAC by NDMA was 22 percent, which is slightly above the LTA but below that of same period in 2017 (Figure 10). The improvement from June is associated with reduced incidences of ailments associated with rainy season as well as increased access of milk at household level.

3.3.2 Sanitation and Hygiene

According to the 2018 June SMART survey, sanitation and hygiene practices were poor across the livelihood zones in the county. Open defecation continues to be practiced in the county. Seventy-four percent of the households are using bushes and fields to relieve themselves. Hand washing at four critical times has improved from 5 percent in 2017 to 26 percent in 2018. This can be attributed to improved health promotion at the health facilities and through use of local radio station. The proportion of households treating water before drinking was low at 16.5 percent. The proportion of households using chemicals for water treatment increased from 4 percent in 2017 to 46 percent in 2018 attributed to availability of water treatment chemicals which were distributed to households and in health facilities.

3.4 Trends of key food security indicators

The season has resulted to changes in the key food security indicator. Table 12 illustrates these changes in comparison to the food security situation in February 2018.

Table 12: Food security trends

Indicator	Short rains assessment, Feb 2017		Long rains assessment, Feb 2018	
% of maize stocks held by households (agro-pastoral)	25 % below LTA		114% above LTA	
Livestock body condition	Pastoral	Poor	Pastoral; Good	
	Agropastoral	fair	Agropastoral; Good	
Water consumption (litres per person per day)	Pastora;	2	Pastoral	15-20
	Agropastoral	4	Agropastoral	20-15
Price of maize (per kg)	47		47.5	
Distance to grazing	Pastoral	8-10	Pastoral	3-5
	Agropastoral	1-2	Agropastoral	1-2
Terms of trade (pastoral zone)	33		51	
Coping strategy index	Pastoral	22.32	Pastoral	11.36
	Agropastoral	18.6	Agropastoral	14.13
Food consumption score	Pastoral	Poor 18.5% Borderline 22.8% Acceptable 58.6%	Pastoral	Poor 1% Borderline 3.9% Acceptable 95.2%
	Agropastoral	Poor 5.5% Borderline 18.2% Acceptable 76.4%	Agropastoral	Poor 1.1% Borderline 8% Acceptable 90.9%

Cross – Cutting Issues

3.5 Education

Enrollment

The enrollment of ECD increased slightly from 37,930 in term I to 38,346 in term II. The increase is attributed to availability of food, minimal migration and improved peace and security especially in Samburu North Sub County. In both primary and secondary sections, the enrollment was stable at 57,689 and 9,403 respectively for both term I and term II. More boys enrolled compared to girls for ECDEs, primary and secondary schools.

Table13: Enrollment by gender

Level	Term I 2018			Term II 2018 (includes new students registered and drop-out since term I 20180			Total % change (increase)
	No. of Boys	No. of Girls	Total	No. of boys	No. of Girls	Total	
ECD	19966	17964	37930	20280	18086	38346	1.06
Primary	30827	26840	57689	30825	26840	57689	
Secondary	5591	3812	9403	5591	3812	9403	

Participation

The attendance rate increased from January to March but stabilized during the months of May, June and July. This can be explained by the availability of food and water in schools, minimal migration, and school fees support from the national government, and improved security atmosphere.

Retention

The retention rate was high in all levels though there were cases of drop outs at all levels associated to lack of school fees for boarding secondary schools, less appreciation for the value of education by some parents and lack of nearby school in some localities.

School meals program

In the primary section, 60,751 pupils benefit from Home Grown School Meals (33,320 boys and 27,431 girls) while ECDE feeding program is offered to children in early child development education alongside the respective primary schools. The children that benefited were 16,895 girls and 15,581 boys. The availability of food improved attendance of the pupils. The challenges that experienced were delays in transportation of food to schools due to lack of transportation and storage facilities in some schools. Other schools lack clean water for cooking due to inadequate water storage facilities.

Inter-sectoral links

284 schools lack latrine facilities and 301 schools do not have hand washing facilities as well as safe drinking water. This negatively affects the attendance of pupils. The *Malezi bora* was conducted in the month of May 2018 to all ECDEs. Growth monitoring was also undertaken that enhanced referrals to specific health facilities for management. There has been supplementation of vitamin A to all ECDEs. UNICEF conducted child simulation to ECDEs to identify deformities among ECDE children. Training and establishment of kitchen gardens of both primary and secondary school was conducted in some schools during the period. All these interventions boosted the retention of boys and girls.

4 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

- According to Famine Early Warning Systems Network (FEWSNET) the onset of the October-December rains will be timely with average to above average amounts.
- Market operations expected to remain normal
- Livestock prices are likely to remain on an upward trend.
- Below average crop production
- According to the Livestock department, the delayed purchase of ECF vaccines will result to livestock mortalities by mid September

4.2 Food security Outlook (August-October)

The food security situation is expected continue on an improving trend across the livelihood zones until October. Water availability and accessibility is expected to remain stable across the livelihood zones. Pasture is expected to last beyond October. Livestock production in the pastoral and agro pastoral zones is expected to improve further due to availability of forage. Market operations across all livelihood zones are expected to be normal. Livestock market provisions are expected to be low owing to farmers/pastoralists holding livestock for herd rebuilding. The nutritional status for under five children is expected to continue improving due to availability of food at household level as well as availability and consumption of milk. The crude death rate and crude mortality rates are expected to remain below the alert thresholds.

4.3 Food security outlook (November – January)

With the expected average to above average short rains season performance crop is expected to be above average Pasture regeneration will continue ensuring continued livestock production. Terms of trade are expected to be favourable and food commodities prices are expected to decline. Milk production, food stocks, number of meals taken per day and dietary diversity per households across livelihood zones is expected to increase. The nutrition status of children under-five years is expected to remain stable following the availability of adequate food and milk at household level.

5.0: CONCLUSION AND INTERVENTIONS

5.1 Conclusion

5.1.1 Phase classification

The current food security situation in the county is stable and is projected to remain so for the next three months. The indicative food security phase classification for all livelihood zones is None/ Minimal (IPC phase 1), an indication that more than four in five households are able to meet essential food and non food needs without engaging in atypical , unsustainable strategies to access food and income, including any reliance on humanitarian assistance.

5.1.2 Summary of Findings

The 2018 long rains onset was timely but the cessation was late. Rainfall distribution was even in terms of space and good in terms of time. The whole county received enhanced rainfall. Maize stocks held by household are above the LTA. The current terms of trade are favourable to livestock keepers, and enhanced the households' purchasing power. Forage condition is good across all the livelihood zones and is expected to last into the next season. Adequate water is available for both domestic as well as for livestock use. Most households are using water from

boreholes and open water sources. However, the water is not treated thereby predisposing the households to water borne diseases. According to the SMART Survey conducted in June 2018, the percentage of children under five years of age at risk of malnutrition is critical, though on an improving trend.

5.1.3 Sub-county ranking

The sub counties were ranked from the worst to the best according to various indicators. Table 13 below indicates the ranking

Table 14: Sub-County Ranking

Sub County	Rank	FACTORS
Samburu East	1	<ul style="list-style-type: none"> • Poor pasture and browse • Land degradation
Samburu North	2	<ul style="list-style-type: none"> • Adequate pasture • Reduced distances to water • Milk availability
Samburu Central	3	<ul style="list-style-type: none"> • Adequate water • Proximity to social amenities • Adequate stocks • Availability of hay

5.2 Ongoing Interventions

5.2.1 Food interventions

Various forms of food interventions have been ongoing including general food distribution/cash transfers, food aid as well as resilience building programme of food for assets (FFA). Currently 20-25 percent of the population in Samburu Central is in FFA resilience building programme as shown in Table 14 below.

Table 15: Ongoing food interventions

Sub County	Range of population(%)	Mode of Intervention
Samburu East	45-50	GFD/CASH TRANSFER
Samburu North	40-45	GFD/CASH TRANSFER
Samburu Central	20-25	FFA

A consignment of 6810 x50 kilogramme bags of food aid in form of sorghum was delivered by the government to the NCPB for distribution to the vulnerable households.

5.2.2: Ongoing non-food interventions (See annex 1)

5.3 Recommended Interventions

5.3.1 Recommended Food interventions

Table 16; Population in need of food assistance

Sub County	Range of population(%)	Mode of Intervention
Samburu East	25-30	GFD/FFA/CFA
Samburu North	20-25	GFD/FFA/CFA
Samburu Central	5-10	GFD (20-25 % of popn already under FFA)

5.3.2 Recommended Non-food interventions (See Annexe 2)

6.0: Annexes

6.1: Ongoing non food interventions

Table 17: Ongoing non-food interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture							
Extension services	Increased crop yields	County wide	Entire county	4,210 households	5 Million	Continuous	County Government and partners
Development of irrigation farming at Arsim	Expected improvement in food security, nutrition and income	Ndoto	Samburu	600 Households		3 years	Samburu county government
Greenhouse farming	Improved nutrition Increased income	County wide	County wide	150 Households	3.2 million	2 years	Samburu county government and partners
Livestock							
Pasture development	Increased livestock productivity	Samburu Central	Samburu	200 households	2,000,000	2017/2018	Department of Livestock Production
Pasture development	Increased livestock productivity	Samburu Central	Samburu	200 households	2,000,000	2017/2018	Department of Livestock Production
Water and Sanitation							
Construction of water supply	Reduced water stress for domestic	Samburu East	Areas with water stress	10,000 persons	Ksh 30 million	4 years	County and national government

	and livestock use						
Equipping of 50 boreholes	Reduced water stress for domestic and livestock use	50 boreholes in the entire county	Areas with water stress	Ksh 114 million	85,000 persons	70% complete	SCG DRSLP CARITAS Resilience Project and Livelywood
Construction of pan and dams	Availability and accessibility	7 county wide	Selected areas with water	Ks 450 million	31,000 persons	3 months	SGG NG
Procure and install replacement of break down boreholes	Reduced water stress for domestic and livestock use	8 boreholes	Selected areas with water	Ksh3.55 M	13,670 persons	2 WEEKS	SCG Resilience Project and Livelywood ACTION AGAINST HUNGER
Rehabilitation of water sources	Reduced water stress for domestic and livestock use	27 boreholes county wide	Selected areas with water	Ksh6.75 million	25,560 persons	1 month	SCG ACTED CARITAS
Drilling and equipping of boreholes	Improve availability and accessibility	22 county wide	Selected areas with water	Ksh 110m	13,000 persons	3 months	SCG

Health and Nutrition

Community led total sanitation	Improve health and nutrition status	All sub counties	Entire county	15,000 persons	Ksh 3million	6 months	Public health
Integrated diseases surveillance	Improve health and nutrition status	All sub counties	Entire county	96 facilities	Ksh 2million	Ongoing	Department of health
Upscale of water, sanitation and hygiene at the community level	Improve health and nutrition status	All sub counties	Entire county	15,000 persons	Ksh 3million	Ongoing	Department of health and partners

6.2: Recommended non food interventions

Table 18: Recommended Non food interventiona

Intervention	Objective	Specific Location	Activity target	Cost (Kshs)	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture							
Enhanced small scale irrigation farming	Improve food security	County wide	Farmers	Ksh15 Million	1000 households	Continuous	Department of Agriculture (County government) and Partners
Promotion of drought tolerant crops	Improve food security	County wide	Farmers	Ksh20 million	1000 households	Continuous	Department of Agriculture (County government) and Partners
Water harvesting for irrigation	Improve food security	County wide	Farmers	Ksh100million	1000 households	5 years	Departments of Water and Agriculture
Livestock							
Animal vaccination and disease control	Improve livestock production	All the Sub-Counties	Livestock keepers	Vaccines and DSA 6195050	Entire County	September 2018- Feb 2019	County government RPLRP, Red Cross, FAO and other partners
Hay harvesting	Improve livestock production	Samburu central	Livestock keepers	Machinery, fuel, baling twine, DSA	350	September 2018- Feb 2019	Department of Livestock production
Enhance traditional grazing systems for pasture/fodder conservation	Improve livestock production	All the Sub-Counties	Livestock keepers	32 trainings @85000 Kshs 2,720,000	8,549	September, October, November2018	County Government and Partners
Policy drafting for rangeland use management	Institutionalize range management	All the Sub-Counties	Policy makers, MCAs and other stakeholders	Finances	Entire County	2018-2019	County Government and Partners
Water and Sanitation							
Siting, strategic boreholes.	Improved access for human and livestock	Samburu Central 3 Samburu North 3 Samburu East 3	Various sites across the county	Ksh 300,000	15,000 15,000 15,000	12 Month	County government of Samburu Other Actors / Partners
Capacity building of Water users	Improved access for	County wide - 53	Various sites across	Ksh 2Million	150,000	6 months	County Govt

associations	human and livestock	WUAS	the county				Partners
Construction of Dams and pans 10	Improved access for human and livestock	County wide	Various sites across the county	70,000,000	25,000	6 months	County Partners
Roof water harvesting in schools in five schools	Improved access for human and livestock	County wide	Various sites across the county	Ksh 10,000,000	20,000	1 year	County Partners
Water trucking to vulnerable population and institution	Improved access for human and livestock	Raraiti, Mabati, Lkwasi, Leiroyia, Lpusi, Suyan, Loudokume	Various sites across the county	420,000 per month	10,000	3 months	County Partners

Health and Nutrition

Integrated medical outreaches	To improve health and nutrition outcomes	County wide	Entire county	Funds	15,000 persons	3 months	MOH partners and
Mass screening	To improve health and nutrition outcomes	County wide	Entire county	Funds	10519 persons	3 months	MOH partners and
CLTS	To improve health and nutrition outcomes	County wide	Entire county	Funds	7500 persons	3 months	MOH partners and
IDSR	To improve health and nutrition outcomes	All facilities	Entire county	Funds	96 facilities	3 months	MOH partners and
WASH	To improve health and nutrition outcomes	County wide	Entire county	Funds	15,000 persons	3 months	MOH partners and
CLTS	To improve health and nutrition outcomes	County wide	Entire county	Funds	7500 persons	3 months	MOH partners and
IDSR	To improve health and nutrition outcomes	All facilities	Entire county	Funds	96 facilities	3 months	MOH partners and
WASH	To improve health and nutrition outcomes	County wide	Entire county	Funds	15,000 persons	3 months	MOH partners and