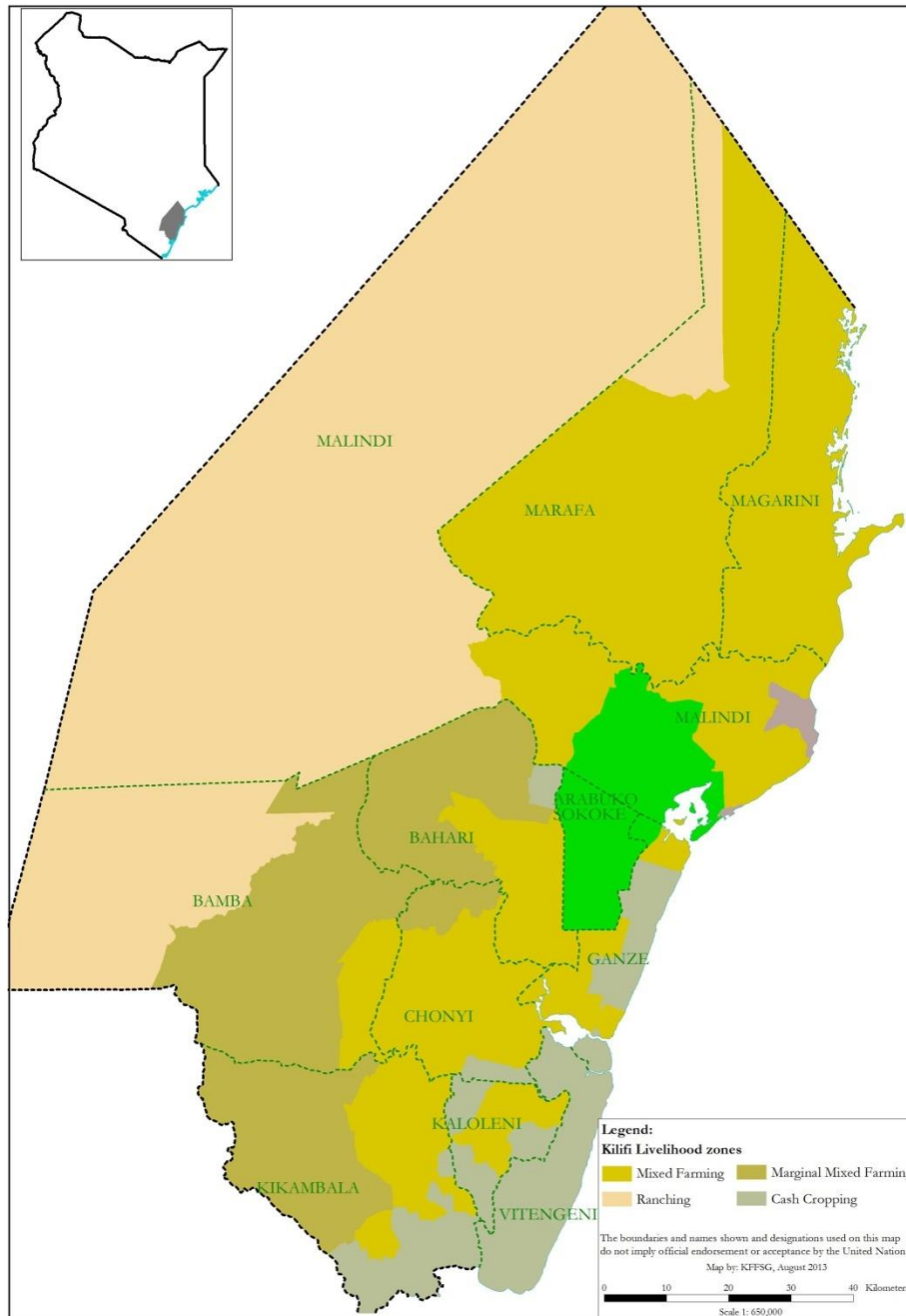


KILIFI COUNTY 2017 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A joint report by the Kenya Food Security Steering Group (KFSSG)¹ and the Kilifi County Steering Group

July, 2016

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EXECUTIVE SUMMARY

The County is classified as stressed (Integrated Food Security Phase Classification (IPC Phase 2)) with households in pastoral/ranching livelihood zone (Bamba, Ganze and Adu areas) in crisis (IPC Phase 3). The drivers of current food insecurity include poor performance of the long rains, low purchasing power, high food prices and cumulative effect of failed previous two seasons.

There are no maize stocks at the household level while trader's stocks are less than half of their long term averages (LTA), a shortage that is driving food prices up. About 55 to 60 percent of the populations have food intake gaps. The proportion of children with a mid-upper arm circumference (MUAC) less than 135mm is on increase indicating a worsening nutrition situation.

The forage condition is good apart from the ranching zone which is fair to poor. Livestock body condition is generally good for all the species across the livelihood zones although this is yet to translate into improved milk production particularly in pastoral livelihood zone. Water situation has generally improved compared to the previous season and the trekking distances, waiting time and consumption rates are generally below the LTA.

The morbidity pattern of the county is within normal and no outbreak has been reported. The average County latrine coverage is 60 percent, with the Pastoral/Livestock zone accounting for the bulk of the households without latrines.

Though some of the welfare indicators shows improvement, like expected crop, water situation and livestock forage, there is minimal net improvement in ease of access to food by the population in ranching and in affected areas in marginal mixed farming livelihoods zones. The proportion of population affected by September during peak of lean season will be similar to population in need in previous season, hence county remaining in the stressed (IPC Phase2) with hunger hot spots (Bamba, Ganze and Adu) remaining in crisis (IPC Phase 3).

1.0 INTRODUCTION

1.1 County Background

Kilifi County borders Kwale County to the south-west, Taita Taveta to the west, Tana River to the north, Mombasa to the south and the Indian Ocean to the east. The County covers an area of approximately 12,609.7 square kilometers (km) and has a population of 1,399,975 (KNBS 2016). It has seven sub-counties namely; Malindi, Magarini, Ganze, Rabai, Kaloleni, Kilifi South and Kilifi North. The county has four main livelihoods zones (Figure 1) including marginal mixed farming comprising 44 percent of the population, cash cropping/dairy (22%), mixed farming (11 percent) and ranching (two percent). Other livelihoods include fishing and mangrove (three percent), formal employment (14 %) and forest/tourism and casual labour (two percent each).

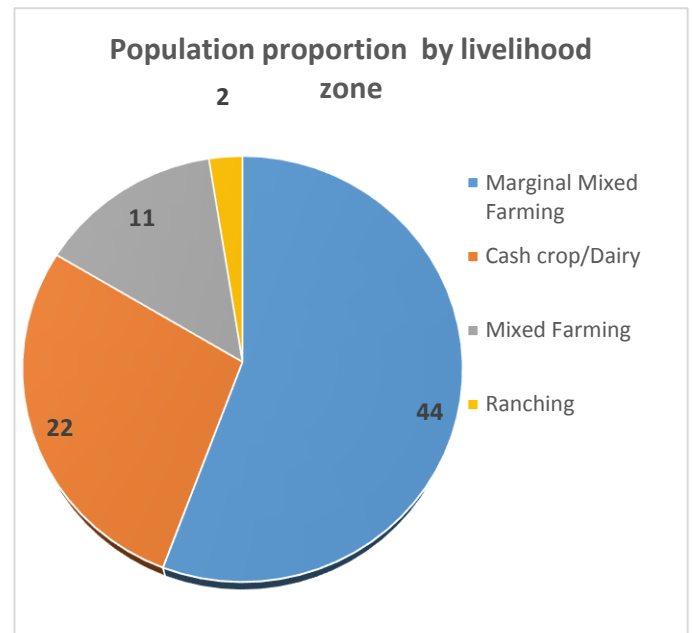


Figure 1: Livelihood zones

1.2 Objectives and Approach

The main objective of the long rains assessment was to develop an objective, evidence-based and transparent food security situation analysis after the long rains season of 2017 taking into account the cumulative effect of previous seasons, and to provide recommendations for possible response options based on the situation analysis. The assessment in the County comprised a multi-sectoral and multi-agency team comprising of Kenya Food Security Steering Group (KFSSG), the National Drought Management Authority (NDMA), Tana River County Technical line ministries and partners through the County Steering Committee (CSG). The sectors represented were agriculture, livestock, health and nutrition, water and sanitation, and humanitarian assistance sectors.

The assessment team used various methodologies in gathering data and information for the assessment. Secondary data was collected from different sectors in the county using sectoral checklists, nutrition survey reports and the monthly drought early warning bulletins. To triangulate the information from the secondary sources, the assessment team collected primary data from the community through key informant interviews, focus group discussions and observation during the transect drive. The team conducted at least two focus group discussions with communities, two key informants and market interviews in the key markets across the livelihood zones. The areas visited during the transect drive were: Ruruma Ward in Rabai sub-county, Mwanamwinga Ward in Kaloleni sub-county, Chakama market, Bofu, and Adu in Magarini sub-county, and Bamba market, Chonyi area and Jilla water pan in Ganze sub-county. These sites were selected based on various criteria such as below-average performance of the short rains, non-performing of irrigation activities, livelihood zones, and the presence of markets. The assessment period in the county was from 10th to 14th July 2017.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

The onset of long rain was late in the 2nd Dekad of April in comparison to the 3rd Dekad of March, normally. The County in general received above 100 percent of expected total amounts of rain, which was contributed by rain storms experienced in the first Dekad of May (Figure 2). The temporal rainfall distribution was poor, while the spatial distribution was uneven. The southern parts of the county along the coastal strip in the cash crop/dairy livelihood zone received between 110 – 140 percent. The mixed farming zone in the southern part of the county and the marginal mixed livelihood zones received 90-110 percent of normal rainfall. The ranching zone and the northern parts of the County in the mixed farming livelihood (in Adu, Fungisa and Marereni areas) received 75 – 90 percent of the normal amounts. Rainfall cessation was generally early in the first Dekad of June in comparison to 3rd Dekad of June in a normal season. However, cessation was earlier than normal in the ranching zone in second Dekad of May. The coastal strip continued receiving the off season coastal monsoon rains in the coastal strip continued receiving the off season coastal monsoon rains.

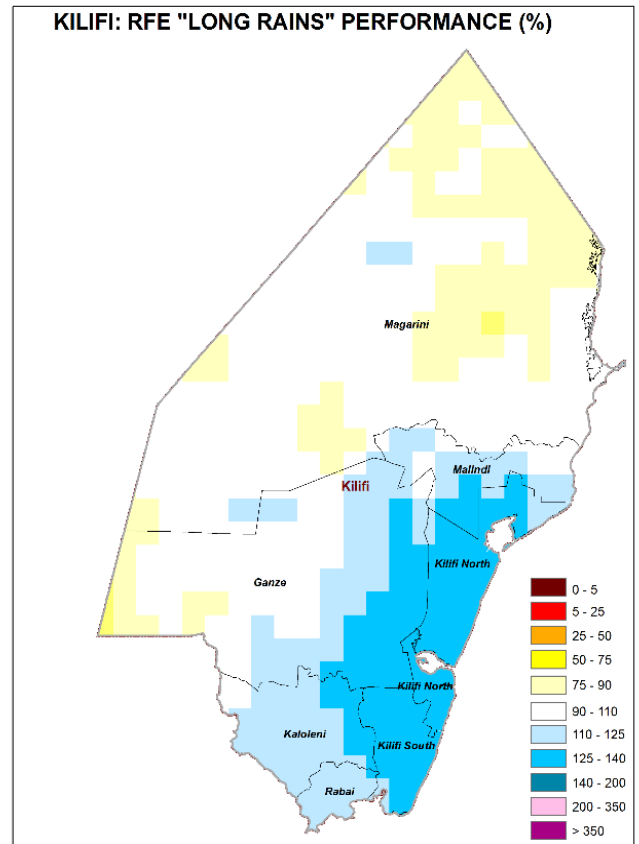


Figure 2: Rainfall performance

2.2 Other Shocks and Hazards

Fall army worm infestation was wide spread in the county and destroyed significant maize crop, affecting expected crop production, besides increasing cost of production. Moreover, the rain storm experienced in the month of May led to water logging and leaching which contributed to stunted maize crop further lowering production prospects. High food prices also limited household access to sufficient food.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Food availability in the county was below normal due to cumulative effect of the two previous failed seasons which affected local and national output. In addition, closure of imports of maize from Tanzania and delay in government subsidized grain also contributed to low stocks in the County. However, other staples such as rice and wheat products were available. Milk availability was very low due to poor forage regeneration in successive seasons in the ranching, marginal mixed farming and mixed farming livelihood zones. Water situation was impacted positively by the storm that recharged most of the surface water sources.

3.1.1 Crops Production

Main food crops planted include: maize, cow peas, and cassava. Other crops of major economic value planted include mangoes, green grams, coconut, tomatoes, bananas, brinjals, kales, okra and vegetable amaranth.

Rain-fed Crop Production

The area under maize, cowpeas and cassava during the long rains season decreased by two, 24 and 64 percent respectively compared to the LTA (Table 1). Most of the maize crop is at milking stage while some were at tussling stage attributed to late onset and the fear of losses due to the depressed rainfall in the previous two seasons and lack of planting materials for cassava. The projected production for all the three main crops is expected to decline by 40, 49, and 80 percent respectively compared to LTA which is attributed to late onset, rain storms, and depressed rains. In Magarini and Ganze subcounties, there is expected total crop failure. Fall army worm invasion on maize crop will also contribute to reduction maize yields. The rain storm received in early May led to leaching and water logging which stunted maize crop hence reducing expected production.

The mixed farming livelihood zone in the southern part of the County and the cash cropping livelihood zone received good rains as compared to the marginal and ranching livelihood zones and are expected to have fair crop yields. Green grams production was gaining prominence due to their capacity to tolerate drought and also the continued sensitization by the actors in the County.

Table 1: Rain fed crop production

Crop	Area planted during 2017 Long rains season (Ha)	LTA area planted during the Long rains season (Ha)	2017 Long rains season production (90 kg bags) Projected/Actual	LTA production during the Long rains season (90 kg bags)
1. Maize	62,500	63,700	405,000	675,000
2. Cowpeas	5,500	7200	27,500	53,340
3. Cassava	2,800	7,800	35,100 tonnes	167,800 tonnes

Irrigated Crop Production

Table 2: Irrigated crop production

Crop	Area planted during the 2017 Long rains season (ha)	LTA (3 years) area planted during Long rains season (ha)	2017 Long rains season production kg Projected/actual	LTA (3 years) production during 2017 Long rains season kg
1. Tomato	105	146	1,040,870	1,200,000
2. Amaranthus	84	125	360,000	480,000
3. Brinjals	30	60	350,000	525,000

Area under irrigation reduced by 28, 33 and 50 percent for tomatoes, vegetable amaranth and brinjals respectively compared to LTA over three years (Table 2). Reduced acreage was attributed to depressed rainfall forecast which discouraged farmers as well as the shifting of the River Sabaki affecting farming along the river course. Other reasons for reduced acreage include low market prices for tomatoes and shift from vegetable irrigation to having some part of on the irrigated maize crop to meet food needs. Maize crop production under irrigation is gaining prominence in the County due to high food prices. County Government of Kilifi has established a number of irrigation schemes in Magarini and Malindi where River Sabaki passes.

Table 3: Cereal stocks (90-kg bags) held by various actors in the County

Commodity		Farmers	Traders	Millers	TOTAL
Maize	Current	0	35,346	0	35,346
	LTA	40,280	61,700	700	102,680
Rice	Current	0	30,916	0	30,916
	LTA	0	18,230	0	18,230
Sorghum	Current	0	1,992	0	1,992
	LTA	0	743	0	743
Millet	Current	0	1,345	0	1,345
	LTA	0	494	0	494

The County had lower maize stocks only held by traders (Table 3) compared to the LTA where other actors held more maize stocks. Households and millers did not have maize stocks. The stocks of major cereals in the County are predominantly with the traders and are higher than the LTA for rice, sorghum and millet.

3.1.2 Livestock Production

Livestock production contributes 30 percent and 75 percent of total income sources in marginal mixed farming and ranching livelihoods respectively. The main livestock species kept are cattle, goats and sheep.

Pasture and Fodder Situation

Pasture condition was good in marginal mixed farming and mixed farming livelihood zones. In pastoral livelihood zone, pasture condition is fair to poor. The pastures are expected to last for two to three months. Browse condition was good across all the livelihood zones and expected to last for at least three months (Table 4).

The most affected areas were in pastoral/ranching livelihood zone especially in Bamba ward of Ganze sub-county, Jilore ward in Malindi sub-county and Adu ward in Magarini sub-county. The

County was experiencing some livestock in-migration from Tana River County mostly along River Galana where cases of resource-based conflicts are being reported.

Table 4: Forage condition

Livelihood zone	Pastures					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 / Ranching	Fair to Poor	Good	2-3	3	Bush encroachment, Water	Good	Good	3	3	Lack of water,
Mixed farming	Good	Good	2-3	3	Crop farming,	Good	Good	3	3	Crop farming,
Food crop/ Dairy	Good	Good	3	3	Land demarcation	Good	Good	3-4	4	Land demarcation

Livestock Productivity

Livestock Body Condition

The livestock body condition for cattle is fair to good in pastoral/ranching, mixed farming and dairying/cash crop livelihood zones (Table 5). In pastoral livelihood zone, the body condition is fair compared to the normal. For sheep and goats, the livestock body condition was good across all the livelihood zones. However, cattle body condition is likely to deteriorate in pastoral zone due to worsening water and pasture situations.

Table 5: Livestock body condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral / Ranching	Fair	Good	Good	Good	Good	Good	-	-
Mixed farming	Good	Good	Good	Good	Good	Good	-	-
Dairying / Cash cropping	Good	Good	Good	Good	Good	Good	-	-

Milk Production, Consumption and Cost

Milk production has dropped by half in pastoral/ranching livelihood zone, and 30 – 40 percent in the mixed farming livelihood zones, while the cropping/dairy livelihood recorded minimal drop (Table 6). Low milk production has been attributed by the fact that livestock animals were yet to fully recover from the effects of the drought that was experienced from the year 2016. More so, some of the productive stock was lost during that period in the ranching zone. Lastly, the herd-sizes consist mainly of weaners/heifers.

Due to low milk production, household milk consumption has declined by almost half from a normal of two to one litre per household per day. On the other hand, milk prices have gone up to an average of Ksh. 40 to Ksh. 60 per litre in pastoral and mixed farming livelihood zones

respectively compared to a normal of Ksh. 40 to Ksh. 50. In dairying/cash cropping livelihood zone, milk prices are normal at Ksh. 60-80/litre

Table 6: Milk production, consumption and cost

Livelihood zones	Milk production (Litres)/Household		Milk consumption (Litres)/Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral / Ranching	1-2	2-3	1	2	40-60	40
Mixed farming	2-5	3-7	1	1-2	40-60	40-50
Dairying / cash cropping	6	7	1-2	2	60-80	60-80

Birth Rates and Tropical Livestock Units (TLU)

In pastoral livelihood zone, tropical livestock units (TLU) were less than half of normal in both poor income and medium income households attributed to livestock deaths due to recurrent droughts. In dairying/cash cropping livelihood zone, tropical livestock units are normal (Table 7). In the pastoral zone the birth rate for large stock – cattle is below normal following the prolonged drought in October – December 2016. However in parts of the mixed farming and the dairying / cash cropping livelihood zones, the birth rates are normal.

Table 7: Tropical livestock unit

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Pastoral / Ranching	0.5 – 3	5	5-10	10-30
Mixed farming	2-3	5	5-10	10-15
Dairying / Cash cropping	1-3	1-3	3-5	3-5

Livestock Migration

There are cases of in migration in Magarini, Malindi and Kaloleni sub-counties where the latter involves animals returning back home due to pasture regeneration. In Magarini and Malindi sub-counties, migration of livestock from Tana River County where rainfall was relatively poor is reported. The migration has caused resource-based conflicts in these regions.

Livestock Disease and Mortality

Livestock mortality rate was normal across all the livelihood zones except in pastoral/ranching zone (Magarini sub-county) where mortality rates are slightly high. There were no outbreaks of notifiable diseases on cattle, sheep and goats reported over the season. Approximately 300 heads of cattle in Magarini sub-county were reported to have died of bloat associated with lush pastures after the long rains. Newcastle disease remained a challenge to most farmers keeping indigenous chicken.

Water for Livestock

The main sources of water for livestock currently include water pans, boreholes, shallow wells, rivers and brooks in all the livelihood zones (Table 8). In pastoral livelihood zone, average return

distance from water source to grazing fields is higher at 5-10km compared to normal 3-7km. Some of the affected areas are Jilla in Bamba ward and Sokoke ward in Ganze sub-county, and Adu ward in Magarini sub-county. In mixed farming livelihood zone, average return distance is 2-3km against a normal of 1-3km. The water is expected to last for two to three months. Watering frequencies in all the livelihood zones is normal for all the livestock species which is three to seven in pastoral zones and seven in mixed farming and dairying livelihood zones (Table 10).

Table 8: Water for livestock

Livelihood zone	Sources		Return average distances (km)		Expected duration to last (months)	
	Normal	Current	Normal	Current	Normal	Current
Pastoral / Ranching	Water pans, boreholes, well, rivers, brooks,	Water pans, boreholes, well, rivers, brooks,	3-7	5-10	1-2	2-3
Mixed farming	Water pans, boreholes, rivers, wells, tap, brooks	Water pans, boreholes, brooks, rivers, wells, tap	1.5 - 3	2-3	1-3	2-3
Dairying / food cropping	Rivers, dams, boreholes, wells, tap	Rivers, dams, boreholes, wells, tap	1-2	1-2	2-3	2-4

Table 9: Livestock watering frequency (no. of days per week)

Livelihood zone	Cattle		Camels		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral / livestock	3-7	3-7	N/a	N/a	3-7	3-7	3-7	3-7
Mixed farming	7	7	N/a	N/a	7	7	7	7
Dairying / cropping	7	7	N/a	N/a	7	7	7	7

3.2 Access

All markets were operational and communities had physical access to the market. However reduced purchasing power due to poverty and high food prices were the key limiting factors. In addition, even the households that normally have food stocks from own productions were relying on markets.

3.2.1 Markets prices

All markets in the County are functioning normally. The main commodity markets are Mtwapa, Bamba, Mariakani, Malindi, Mazeras and Oloitiptip in Kilifi North. Other markets are Gongoni and Marereni. For livestock, the markets include Bamba, Vitengeni, Tsangatsini, Mariakani, Gotani, Malindi, Mkapuni, Bondora, Kaloleni, Lango Mbaya and Mazeras. Maize was the only cereal in short supply in the markets while other food commodities were readily available. Prices of all food commodities were above LTA. Livestock available in the markets were sheep, goats

and cattle, but low volumes traded during market days. Interior markets had higher food prices which are due to poor road condition and distances.

Maize Prices

Maize prices were generally above the LTA in the first half of the year due to the national maize deficit, crop failure in the last season and closure of maize imports from Tanzania (Table 3). Availability of the maize stocks was low, such that in some markets there were no stocks. Maize grain prices were as high as Ksh. 75 in the remote markets in the pastoral livelihood zone and 50 – 60 in other livelihood zones. A two-kilogram packet of maize meal was trading at Ksh. 160 – 180 in ranching livelihood zone and at Ksh 130 – 140 in the urban areas.

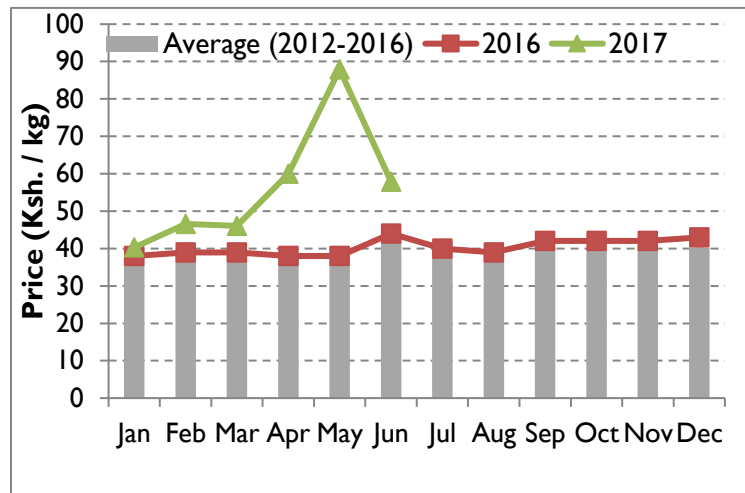


Figure 3: Maize prices

Maize prices are expected to reduce in the month of August after harvest and government efforts to bridge grain deficit through subsidies and import.

Goat Prices

Goat prices were generally high due to low supply in the market while demand was still stable (Figure 4). Availability of pasture and water and good body condition maintained goat prices above LTA. As at June 2017, goat price was 47 percent above LTA, and 14 percent above similar period in 2016. The prices were following the seasonal trend, where prices reduce towards September

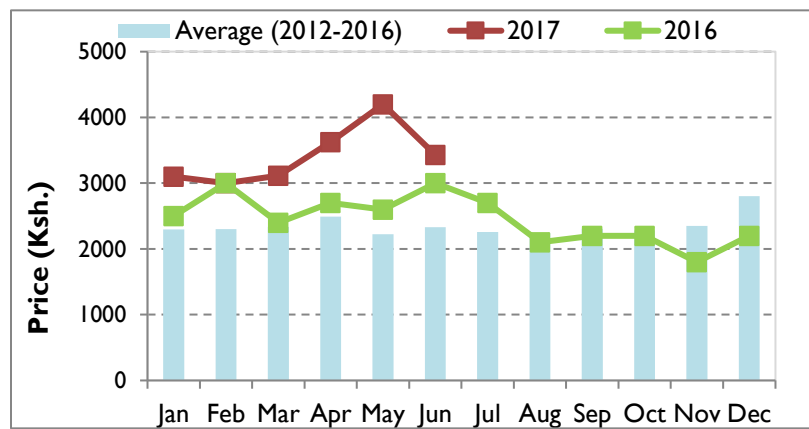
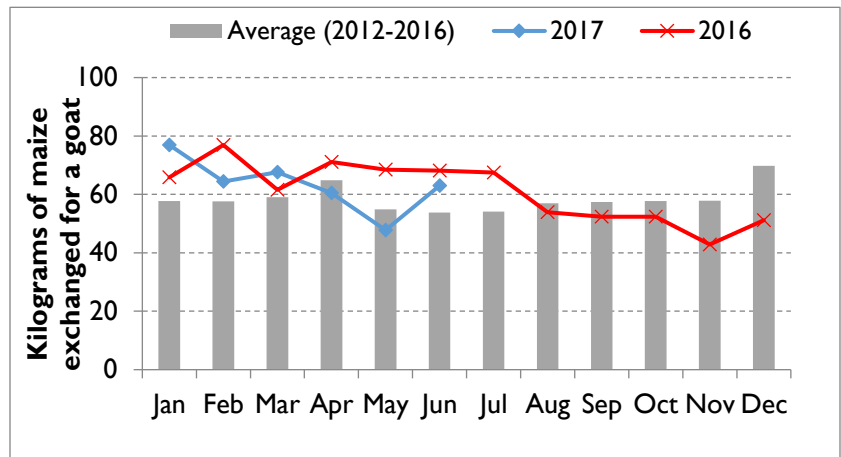


Figure 4: Goat prices

3.2.2 Terms of Trade

Terms of Trade (ToT) were on general downward trend from January 2017 (Figure 5), due to the rise in food prices over the same period of time. In June 2017 decrease in maize prices enabled households to purchase more amount of food by 17 percent compared to LTA. The ToT is expected to stabilize as harvests of maize start.



3.2.3 Income Sources

In marginal mixed farming livelihood zone, the top three sources of income are livestock and livestock product, crop production and charcoal/firewood contributing 30 percent, 20 percent and 15 percent of household income respectively. In the mixed farming livelihood zone, crop production, livestock production and petty trade contribute 60 percent, 10 percent and 10 percent of the household income respectively. In the ranching livelihood zone, three key sources of income are livestock sales, charcoal/firewood sale and petty trade contributing 75 percent, 10 percent and five percent of income respectively. In the cash/crop/dairy top three sources of income are crop production, casual labour and livestock production contributing 35 percent, 30 percent and 15 percent of income respectively.

Due to the effects of successive failed seasons in the pastoral/ranching livelihood zone and parts of marginal mixed and mixed farming livelihood zones, charcoal burning has increased as an alternative livelihood, impacting negatively on environment. During the focus group discussions in ranching zone, charcoal burning was rated as the key source of income during the season. Charcoal prices in this region was lower than average due to proportion of households in business, hence households had to cut more charcoal than in previous times to buy food. Other important sources of income in the County include gifts and remittances from relatives, formal employment and petty trade.

3.2.4 Water Access and Availability

Main Water Sources

The main sources of water in the County are water pans, shallow wells, boreholes and pipelines. The number of operational water pans are less than normal as some have already dried up mostly in pastoral/ranching livelihood due to low recharge. Boreholes and pipelines are operating normally. Some of the water stressed areas are in Bamba and Sokoke wards in Ganze sub-county and Adu ward in Magarini sub-county.

Distance to Water Sources

The average return distance in marginal mixed farming was 6km compared to a normal of 4km. The cost of water in the same zone is Ksh. 13 compared to a normal of Ksh. 5. In mixed farming livelihood zone, average return distance is 3km compared to a normal of 2km. In pastoral/ranching zone, average return distance is 4km against a normal of 3km.

In marginal mixed farming livelihood zone, the waiting time is 16 minutes against a normal of 11 minutes while in mixed farming zone, waiting time is 16 minutes against a normal of 10. In pastoral/livestock zone, average waiting time is 21 minutes against a normal of five minutes.

The cost of water in marginal mixed farming livelihood zone is Ksh 13 against a normal of five while in mixed farming livelihood zone the cost is Ksh 11 against a normal of five. The cost of water in pastoral/ranching livelihood zone is Ksh 21 against a normal of 13.

In marginal mixed farming livelihood zone, average current water consumption per person per day is less than normal at 13 litres against a normal of 17. In mixed farming livelihood zone, current water consumption is 16 litres against a normal of 20. In pastoral/ranching livelihood zone, water consumption is 11 litres against a normal of 17 litres.

Table 10: Household 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
Marginal Mixed farming	4	6	5	13	11	16	17	13
Mixed farming	2	3	4	11	10	16	20	16
Pastoral/ranching	3	4	5	21	15	23	17	11

3.2.5 Food Consumption

On average between 55 – 60 percent of the population across the livelihoods had food consumption gaps (Figure 6). The food consumption gaps were more pronounced in the Ranching zone (livestock zone) compared to other livelihoods and remained stable between January and May, with an improvement recorded in the month of June, except in the pastoral/ranching livelihood zone

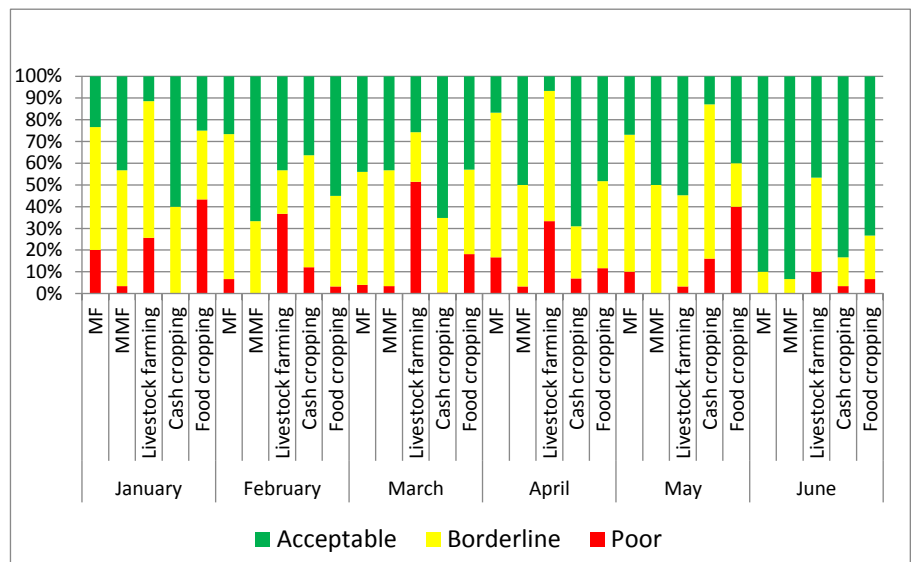


Figure 6: FCS by livelihoods

3.2.6 Coping Strategies

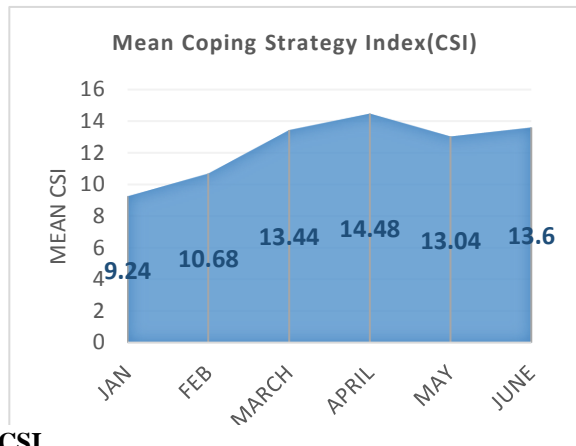


Figure 7: Mean CSI

The coping strategies index (CSI) was on general upward trend from January to June (Figure 7), an indication of worsening household food security. Access to food across the livelihoods continued to be a challenge even after the long rains, with marginal improvement in the month of May. The increase in CSI indicates limited access to food due to failed seasons and increasing food prices. There was increase in the CSI across the livelihood zones. Some of the coping strategies included skipping meals, reducing meal portions, eating cereals only to reduce cost and charcoal burning for income; with most household applying stress coping

strategies to meet food gaps

3.3 Utilization

Food utilization is affected by availability of food and households capacity to access the food, dietary and care practices and health status at individual level. Low availability of maize which is the staple food coupled with high prices reduced consumption of maize, with households adopting other cereals like wheat products and rice. Economic limitations in majority of the poor households in the County especially the pastoral/ranching livelihood zone resulted to households having very poor dietary diversity and meal frequency. Most of the households in the pastoral/ranching livelihood zone reported consuming one meal on average, from cereal food group only. Children took 2-3 meals which were cereal based with very limited access to vegetables, pulses and animal products including milk. Food insecurity affected general population and was also reported to influence length of breastfeeding in the community according to mothers in focus group discussions.

3.3.1 Health and Nutritional Status

Morbidity and Mortality

Disease pattern in both children under the age of five and the general was within normal in the County. Upper respiratory tract infection cases were on the decline between January and May 2017. The trend of incidences of Malaria was stable between January and May 2017 while diarrhea cases were on gradual upward trend the cases for both Malaria and Diarrhea were lower in 2017 compared to similar period in 2016.

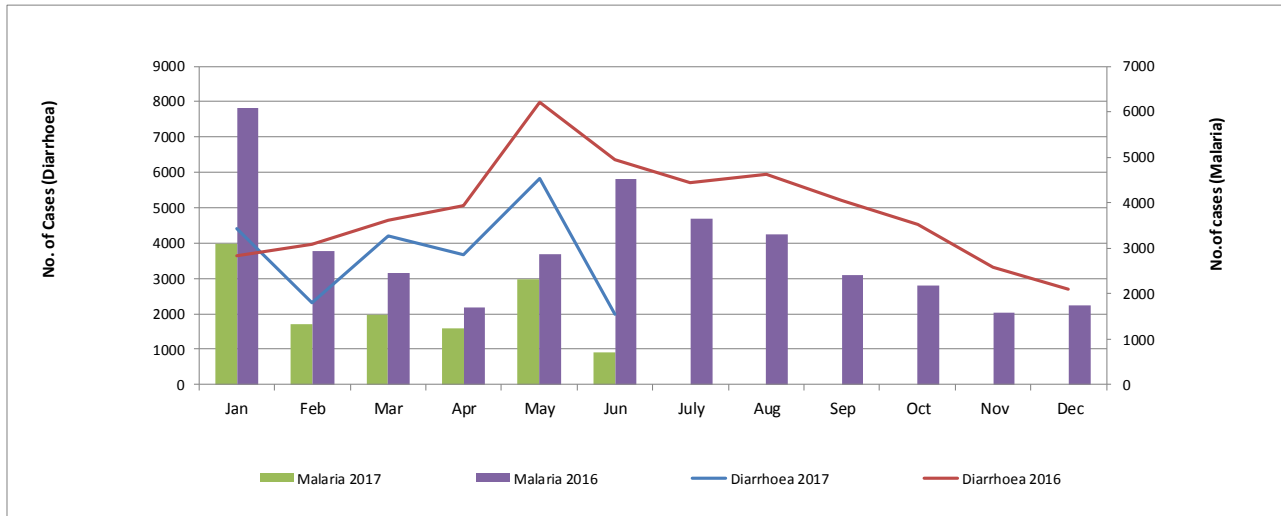


Figure 8: Morbidity patterns

The trend of incidences of malaria was stable between January and May 2017 while diarrhea cases were on gradual upward trend (figure 8). The cases for both malaria and diarrhea were lower in 2017 compared to similar period in 2016. In February 2017 and June 2017, the drop in the cases reported was attributed mainly to low utilization of the health facilities due to health workers strike in the respective months.

No disease outbreak was reported over the long rain season and mortality was within acceptable level with children under five-year mortality and crude mortality rate were 0.04 and 0.06 deaths/10000 people per day and was lower than similar period in 2016, as per the data from registrar of deaths and births.

Immunization and Vitamin A Coverage

Immunization coverage (fully immunized children) for period January to June 2017 was 86 percent as per the health information system (HIS), while vitamin A coverage was 56 percent for the children aged 12 – 59 months and 33 percent for the children aged 6 – 12 months.

Nutrition Status

Nutrition status of children under age of five years is a proxy indicator of changing household food security situation. It is affected by food intake, care practices and environmental health. Poor dietary diversity and inadequate food access was reported across the livelihoods.

The trend on proportion of children with MUAC below 135mm showed downward trend from January to May and upward trend in June.

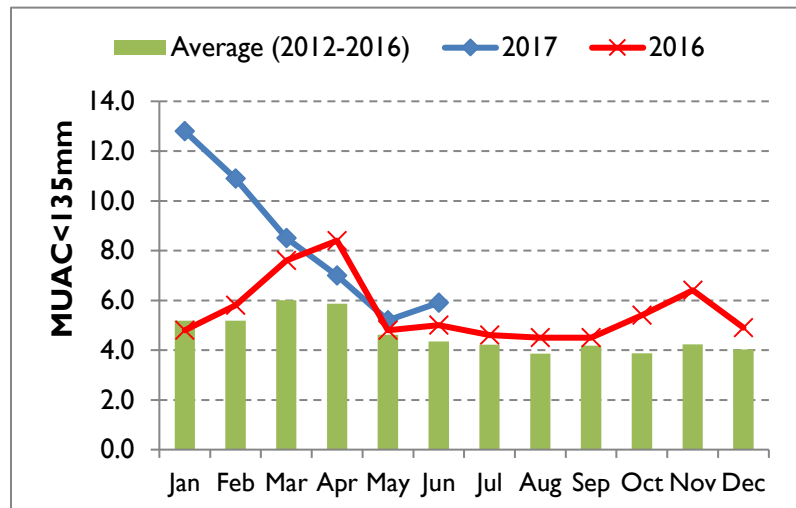


Figure 9: MUAC

3.3.2 Sanitation and Hygiene

Sanitation and hygiene situation contribute to health status of individuals in the community, by influencing the morbidity patterns. Latrine coverage in the County was at 60 percent with marginal mixed farming and the pastoral/ranching livelihood zone having coverage of 43 percent as per nutrition survey of November 2016. Open defecation was practiced by 50 percent of population in both marginal mixed farming and pastoral/ranching livelihood zones. From community focus group discussions during the transect drive, only one in every 10 households owned a latrine in ranching livelihood zone. Majority of the households in ranching livelihood zone use open water sources, and do not treat water. Only nine percent of the population in the County treated drinking water. Low water treatment levels were attributed to cultural practices and lack of treatment chemicals.

3.4 Trends of key Food Security Indicators

Table 81: Trends in food security indicators

INDICATOR	Short rains assessment, Feb 2017	Long rains assessment, July 2017
Household food stocks (maize)	1% of LTA. Traders stocks are about 16 percent above the LTA. Most household depend on the market supplies.	There are no maize stocks at the households. Traders have 43% of LTA stocks.
Crop Production	Near total crop failure. Expected harvest for maize, cowpeas and cassava was 0%, 1% and 7% of the LTA respectively.	Expected harvest of three main crops is 60%, 51% and 65% of LTA for maize, cowpeas and cassava crops respectively.
Livestock body condition	Fair to poor	
Ranching Livelihood zone	Poor for cattle, Goat and sheep good (parts of Mwanamwinga, Kayafungo wards in Kaloleni Sub County and Bamba and Sokoke wards in Ganze Sub County)	Fair for both cattle, goats and sheep
Mixed Farming Livelihood zone	Cattle-good to fair, Goats and Sheep are good	Cattle- Good, goats and sheep-good
Marginal mixed farming livelihood zone	Fair to poor	Cattle- Good, goats and sheep-good
Cash Cropping/Dairy Livelihood zone	Cattle-good to fair, Goats and Sheep are good	Body condition is good for both cattle, goats and sheep
Return distance to grazing		
Ranching	5 to 15 Km	5 to 10km
Marginal mixed farming	5 to 15 Km	5 to 10km
Mixed farming livelihood zone	2-6 km	2 to 3km

INDICATOR	Short rains assessment, Feb 2017	Long rains assessment, July 2017
Cash cropping/dairy	2-4 Km	1 to 2km
Price of maize (per kg)	Ksh.40.3	Ksh 58
Terms of trade	79 kilogram	63 kilograms
Water consumption (litres per person per day)		
Marginal mixed farming zone	6 litres per person per day	13 litres per person per day
Ranching zone	6 litres per person per day	11 litres
Mixed Farming zone	8 litres per person per	16 litres
Cash cropping and dairy zone	10 litres/person/day	40 litres
Food consumption score		
Mixed Farming	82% Acceptable, 13% poor and 5% borderline	90% Acceptable, 0% poor and 10% borderline
Marginal mixed farming	53.3% Acceptable, 46.7% borderline	93% Acceptable, 0% poor and 7% Borderline
Livestock Farming	46.7% Acceptable, 33.3% borderline, 20% poor	
Cash Cropping	93.3% acceptable and 6.7% borderline	83% Acceptable, 4% Poor and 13% Borderline
Food cropping	60% acceptable, 26.7 borderline and 13.3% poor	73% Acceptable, 7% Poor and 20% Borderline
Coping Strategy Index	Mean 9.24	Mean 13.6

3.5 Education

The primary school enrolment for the County in term II is 50,247 compared to term one of 50,147, indicating stability in enrolment. The enrolment for boys is higher for boys at 55 percent compared to girls at 45 percent. However, there was a slight decline in girl's enrolment in term two by one percent compared to term one while boy's enrolment rose marginally by 1 percent over the same period. Some of the factors behind decline in girl's enrolment include pregnancy and early marriage. There was no school feeding program going on due to delay in disbursement of funds to the schools that are under home grown school feeding program by the government and WFP. The County Government of Kilifi has rolled out milk feeding program in all the ECD centers.

4.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

The following are the key assumptions guiding prognosis of the long rains season;

- Off season rains will continue to be received to sustain the late planted crops to maturity. The late crop was at milking stage and forming stages and was showing signs of moisture stress.
- Livestock productivity will not improve until after short rains, hence milk availability shall continue to be depressed.
- Short rains season shall be normal.
- The August general elections will be peaceful and that it will not affect market operations

4.2 Outlook for the next six months

Food Security Outcomes (August-October)

Food security situation is expected to improve slightly from the month of August – October as households start harvesting maize and pulses in August thereby contributing to household stocks and reducing market prices. Households in pastoral/ranching livelihood zone (Bamba, Ganze and Adu) and some areas in mixed farming (Gurashi and Marafa) shall continue to rely on market for food commodities due to failed crop while households in the mixed farming and cash crop/dairy livelihood zones shall be using own crop.

Maize prices are expected to decrease though marginally as maize harvests commence and government increase imports. Income sources from labour and food sales in harvest activities shall support consumption deficits in the mixed farming, marginal mixed farming and crop/dairy livelihood zones.

Livestock prices are expected to remain stable owing to fair and good body condition across the livelihood zones. Pasture is expected to last till end of September in ranching zone while pasture in other zones shall last until onset of short rains. Distances and waiting time at the water sources are expected to increase in the pastoral/ranching and marginal mixed farming livelihood zones from the month of October.

Livestock in-migration and intra-county migration is expected to increase towards September, as range land resources in the ranching livelihood zone and Tana River County deteriorate. Conflicts over forage and water expected to rise due to livestock influx.

The County is likely to remain in stressed (IPC Phase 2) between August and September 2017. Household in the ranching livelihood zone and the affected areas in the mixed and marginal mixed farming livelihood zones will continue to have food consumption gaps since their economic access to food will not improve. Livestock production will decline in the ranching and marginal mixed farming hence access to milk shall remain poor.

Food Security Outcomes (November - January 2018)

The County shall continue to face stressed (IPC Phase 2) food insecurity with areas in ranching and marginal mixed farming facing crisis (IPC Phase 3) food insecurity due to cumulative effect of drought limiting their food production, livestock productivity and hence reduced purchasing power, unless food related interventions are carried out. Water consumption will improve across the livelihood in November after the short rains, with reduction in distances and waiting time. Pasture and browse are expected to regenerate after the onset of the 2017 short rains season. With

pasture regeneration from November, livestock body condition will improve and hence milk availability shall increase gradually. Terms of trade are expected to improve especially in pastoral/ranching livelihood zone, as livestock fetch better prices due to improved livestock body condition. Household food stocks are expected to improve after crop harvest in early February 2018. On-farm labour income shall increase households' access to food, while improvement in milk production shall contribute to dietary diversity hence nutrition status of the children below five years will improve from January 2018. Migration patterns will revert to normal, as livestock return to their traditional wet season grazing areas.

The county shall be in Minimal (IPC phase 1) food insecurity situation from February 2018, as short rains shall improve the crop production, water situation, labour income and livestock productivity.

5.0 CONCLUSION AND INTERVENTIONS

5.1 Conclusion

Kilifi County shall, remain in stressed (IPC Phase 2) between August 2017 and January 2018 due to poor performance of the long rains and cumulative effect of the previous seasons which have reduced household food production and economic access to food. The households in the pastoral/ranching zone (Adu, Ganze and Bamba) and shall still be facing crisis(IPC Phase 3) food insecurity due to poor performance of the current season and erosion of purchasing power due to successive failed seasons. Without assistance, vulnerability of the households in the pastoral/ranching livelihood zone and the affected areas in the mixed farming and marginal mixed farming will increase leading to negative coping strategies like increase in sale of productive assets and charcoal burning leading to asset stripping and environmental degradation which will eventually increase their future vulnerability.

5.1.1 Phase Classification

The County is classified as stressed (IPC Phase 2) with households in pastoral/ranching livelihood zone (Bamba, Ganze and Adu) in crisis (IPC Phase 3). The drivers of current food insecurity include poor performance of the long rains on crop and livestock productivity, low purchasing power due to cumulative effect of drought and high food prices.

5.1.2 Summary of the Findings

The performance of the long rains was below average, poor in spatial and uneven temporal distribution and ceased early. Rain storm received in the month of May reduced crop prospects due to leaching and water logging, which stunted the maize crop reducing the expected produce. In addition, fall army worms invasion destroyed substantial maize crop planted. The net effect of the above factors contributed to over 40 percent drop in expected crop production. In addition the maize crop needed more rain to mature hence the crop production could be lower if off season rains were not received. Secondly cumulative effects of the drought has reduced households economic access to food especially the households in the pastoral/ranching and marginal mixed livelihood zones.

The poor performance of the long rains season and the previous seasons led to range land resources deterioration resulting in deterioration of the livestock body condition and milk productivity, reducing the household's capacity to access adequate food.

5.1.3 Sub-county ranking

Table 92: Sub-county ranking

Sub county	Rank	Sub County Ranking (Worst to Best)
Ganze	1	Poor water access(water trucking ongoing) Poor forage situation Limited livelihood opportunities, total crop failure Bamba and Ganze wards most affected
Magarini	2	Very Poor crop performance. Fall army worms infestation, some crops in irrigated areas, employment opportunities. Marafa, Garashi and Adu wards most affected
Kaloleni	3	Poor crop performance in Mwanaminga and Kayafungo wards ; Fall army worms Access to major market, employment opportunities
Malindi	4	Poor crop performance in Jilore ward; Fall army worms infestation

Rabai	5	Fall army worms infestation
Kilifi North	6	Fall army worms infestation
Kilifi South	7	High employment opportunities,

5.2 Ongoing Interventions

5.2.1 Food interventions

Table 13: On-going food interventions

County	Sub County	Intervention	No. of beneficiaries	Implementers	Impacts on food security	Cost (Ksh.)	Time Frame
Agriculture and Food Sector							
Immediate Interventions							
Kilifi	All sub-counties	Cash transfers through the asset creation program	12,200 Households (HH)	WFP, World Vision	Access to food commodities in the markets		July- Dec 2017

5.2.2 Non-food Interventions

Table 14: On-going non-food interventions

County	Sub County	Intervention	No. of beneficiaries	Implementers	Impacts on food security	Cost (Ksh.)	Time Frame
Water Sector							
Immediate Interventions							
Kilifi	Kilifi South, Kilifi North, Magarini, Ganze, Kaloleni, Rabai	Pipeline extensions	118,000	CGK (Water)	To increase access to water	560 M	July –Dec 2017
Kilifi	Kilifi South	Construction of Earth Dam	2000	CGK (Water)	Reduce distance to water	10 M	July –Dec 2017
Kilifi	Ganze, Magarini, Kaloleni, Rabai	Drilling and installing 10 Strategic boreholes	20,000	CGK (Water)	To increase access to water	90 M	July –Oct 2017

Kilifi	Ganze	Construction of Ganze Bamba Pipeline	30,000	KRCS, CGK	To increase access to water	150 M	Aug 2017
Kilifi	Kilifi North	Construction of Kakuyuni- Gede-Kilifi Town Bulk Mains	100,000	World Bank (WB), Coast Water Services Board (CWSB)	To increase access to water	600 M	June 2017 to Dec 2018
Livestock Sector							
Immediate Interventions							
Kilifi	County wide	Distribution of relief feeds (3000 X50kg bags Range cubes and 6000x2kg UMMB blocks)	2000HH	State department of livestock (SDL), CGK, Partners	Increased production expected	10.5M	June/Sept 2017
Kilifi	County wide	Farmers capacity building	4500 farmers	CGK, Partners	Improved skills	6M	April/Aug 2017
Kilifi	Kilifi south	Establishment of pastures	200HH	CGK Partners	Availability of forage during dry period	0.25M	March – Dec 2017
Medium and Long Term Interventions							
Kilifi	Magarini	Advise farmers to establish and conservation of fodder and pastures	200 farmers	CGK Partners	Increased production expected	1.5M	
Kilifi	Ganze	Construction of milk collection & cooling centre	Dairy farmers in Ganze and Bamba ward	Kilifi county government	Milk value addition expansion of market	5.5M	By 30 th June 2018
Kilifi	Ganze	Local poultry production 2000 one month chicks with feeds	Farming groups/ 200HH	FAO	Money & food	1.5M	By 30 June 2018
Kilifi	Rabai	Distribution of dairy cows to the farmers	25 farmer groups	CGK	Improved food security due to improved milk production	4.5M	June 2018

Kilifi	Kaloleni and Ganze	Support with 30 Galla Bucks for breeding	240 HHs	World Vision	Improved food security due to improved milk production	330,000	April 17
Kilifi	Malindi, Magarini. Kilifi North. Ganze	Support with 320 Galla goats breeding bucks	4 community groups	KCDP	Improved food security due to improved milk production	4.8M	
Agriculture Sector							
Immediate Interventions							
County	Sub County	Intervention	No. of beneficiaries	Implementers	Impacts on food security	Cost (Ksh.)	Time Frame
Kilifi	County Wide	Maize and cowpeas seeds	10,000 farm families	Department of agriculture and partners	Improve maize and cowpeas yield	27.2M.	March-July 2017
Kilifi	County Wide	3225 bags of Fertilizer	1000 farm families	Department of agriculture and partners	Improve crop yield	10m	March-June 2017
Medium and Long-term Interventions							
Kilifi	County Wide	Cashew nut/ coconut and mangoes trees revival program	1000 farm families	Department of agriculture and partners	Increase acreage under production	7m	March-July 2017
Kilifi	County Wide	10 Tractors		Department of agriculture and partners	Increase acreage under production	50m	March-July 2017
Kilifi	Magarini	Burangi irrigation scheme	600 HHs	Department of agriculture and partners	Crop production and domestic use	20m	March-July 2017
Kilifi	County wide	Purchase of FAW Chemicals	1000HHs	Department of agriculture and partners	Improve maize and cowpeas yield	7M	May-June 2017
Health and Nutrition Sector							

Immediate On-going Interventions							
Kilifi	County wide	Vitamin A Supplementation	218,206	CGK (Health) and Partners	Improving immunity	785,539	July –Dec 2017
Kilifi	County wide	Zinc Supplementation		CGK (Health) and Partners	Improving immunity		July –Dec 2017
Kilifi	County wide	Management of Acute Malnutrition (IMAM)	11,150	CGK (Health) and Partners	To save live and prevent deterioration	14,887,212	July –Dec 2017
Kilifi	County wide	IYCN Interventions (EBF and Timely Intro of complementary Foods)	242,421	CGK (Health) and Partners	Prevention under nutrition		July –Dec 2017
Kilifi	County wide	Iron Folate Supplementation among Pregnant Women	324,873	CGK (Health) and Partners	Prevent micronutrient deficiencies	17,039,059	July –Dec 2017
Kilifi	County wide	Deworming	193,295	CGK (Health) and Partners	Improving immunity	3,598,000	July –Dec 2017
Education Sector							
Immediate Intervention							
Kilifi	Kaloleni and Ganze	Provision of school feeding program, water relief and water treatment chemicals in 94 primary schools	12,683	Plan International	stabilizing school enrolment		April –Aug 2017
Kilifi	Kaloleni and Ganze	HGSFP in 108 schools	72,889	National Government	Assisted in stabilizing school enrolment		April –Aug 2017

5.3 Recommended Interventions

5.3.1 Food Interventions

Table 15: Recommended food interventions

County	Sub County	Intervention	No. of beneficiaries	Implementers	Required Resources	Available Resources	Time Frame
Agriculture Sector							
Kilifi	All sub-counties	Upscale Cash transfer/ food for asset (FFA) program	25,000 HH	WFP, World Vision	437.5M	Nil	July- Dec 2017
Kilifi	All sub-counties	Relief food distribution	133,000	Government of Kenya (GoK), CGK, WFP	68M	Nil	Aug –Dec 2017
Kilifi	All sub-counties	School feeding programs	51,000	GoK, CGK, WFP	66M	Nil	Sept – Dec 2017

5.3.2 Non- Food interventions

Table 106: Recommended non-food interventions

County	Sub County	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Livestock Sector							
Kilifi	Magarini, Malindi Ganze, Kaloleni Kilifi N/S, Rabai	Establishment and conservation of fodder and pastures	200 farmers	CGK Partners	3.5M	Professionals, motor bike, farmers	June 2018
Kilifi	Ganze Kaloleni Malindi Magarini	Beef production production(Bull camp)	30 community groups	CGK Partners	2.9M	Technical	By 30th june 2018
Kilifi	Ganze Kilifi S Kaloleni	Bee keeping	15 Bee Keeping groups	CGK Partners	6.0M	Technical staff	By 30th june 2018
Kilifi	Kaloleni Ganze	Construction of water harvesting structures	4 communities	CGK Partners	56.0M	Land from the community	Immediately

County	Sub County	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Kilifi	Kaloleni, Ganze, Magarini, Malindi, Kilifi South	Asset building Poultry keeping	50 Community groups	CGK Partners	4.0M	Technical	Immediately
Kilifi	Kaloleni	Rehabilitate Mariakani sale yard	3000 livestock keepers & traders	CGK Partners	4.5M	Land	immediately
Kilifi	Rabai, Kilifi North	Purchase and distribution of Dairy cows	111HH	CGK Partners	22.0M	Land & technical staff	Dec 2017
Kilifi	Kilifi South /N, Rabai	Dairy Goats	150 HH	CGK Partners	2.8M	Technical staff	By the end of 2017/2018 F/Y
Kilifi	Kilifi South / North	Rabbits	200 HH	CGK Partners	0.7M	Technical staff	By the end of 2017/2018 F/Y
Kilifi	Magarini, Ganze, Kaloleni, Malindi	Meat Goats	800 HH	CGK Partners	12.0M	Technical staff	By the end of 2017/2018 F/Y

Health and Nutrition Sector

Kilifi	Magaraini Kaloleni Ganze	Twice a month Integrated health and nutrition outreaches , mass screening and follow up visits	123,100	CGK (Health) - UNICEF, KRCS	2.2M	Nil	Aug-Dec 2017
	All sub counties of Kilifi county	Vitamin A supplementation and deworming through ECDs, outreaches and health facilities	123,100	CGK (Health) , IMC, UNICEF, Afya Pwani	1.5M	Nil	Aug-Dec 2017
	All sub counties of Kilifi county	Scale up integrated management of acute malnutrition	123,100	CGK (Health) , IMC, UNICEF,	3.5M	Nil	On going
	Magarini and Ganze Sub counties	Sensitize community health workers on screening and	20,000	CGK (Health) PSK, IMC, UNICEF, KRCS	250,000	Nil	Aug –Dec 2017

County	Sub County	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
		referral of malnutrition.					
Kilifi	County	Establish and conduct quarterly County Food and Nutrition Security multi-stakeholder platform meetings	100	Members of FNS MSP	400,000	Nil	On going
Kilifi	County wide	Link malnourished clients to the GoK/WFP funded Cash Transfer Program	11,627	CGK (Health) WVK, KRCS, WFP	3.6M	Nil	Aug-Dec 2017
Kilifi	Entire County	Conduct an MIYCN KAP survey	-	UNICEF, CGK (Health)	2,400,000	Nil	Sep 2017
Kilifi	Entire county	Train CHVs and HCWs on baby friendly community initiative and roll out of BFCI in 79 CHUs	79CUs	PSK, UNICEF, KRSC, CGK (Health)	1,500,000	0	Aug – Dec 2017
Kilifi	Entire county	Scale up of HiNI services to all the health facilities	124HFs	CGK (Health), IMC, UNICEF,	1M	Nil	Aug – Dec 2017
Kilifi	Entire county	Capacity building of frontline health workers and sub county managers on MIYCN	100 HCWs	CGK (Health), IMC, UNICEF, Afya Pwani	600,000	Nil	Aug – Dec 2017
Kilifi	Entire county	Sensitize frontline Health Care Workers on IFAS	100 HCWs	CGK (Health), IMC, UNICEF, Afya Pwani	440,000	Nil	Aug – Dec 2017
Kilifi	Entire county	Institutionalize Vitamin A supplementation and deworming through ECD	218,207	CGK (Health), IMC, UNICEF, Afya Pwani	1,500,000	Nil	Aug – Dec 2017

County	Sub County	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Kilifi	Entire county	Strengthen the nutrition commodity management systems through LIMS integration	All the 81 health facilities	CGK (Health), IMC, UNICEF, Afya Pwani	2.4	-	Aug – Dec 2017
Agriculture Sector							
Kilifi	All sub-counties	Establishment of Agribusiness Development Centre	3,000	Department of agriculture	14M	Land	2017/2018
Kilifi	All sub-counties	Post-harvest handling of maize- Purchase of hematic bags and maize shellers	1000HHs	Department of Agriculture And partners	10M	Maize produce	2017-18
Kilifi	All sub-counties	Training on post-harvest handling of maize	1000Hs	Department of Agriculture and partners	5M	Maize produce	2017-2018
Kilifi	All sub-counties	Provision of fertilizers for short rains	1000 HHs	Department of agriculture and partners	5.7m	Land	2017/2018
Kilifi	All sub-counties	Provision of certified seeds for short rains	1000 HHs	Department of agriculture and partners	4.7m	Land	2017/2018
Kilifi	All sub-counties	Rehabilitation of tree crops orchards- Purchase of seedlings	1000 HHs	Department of agriculture	3.5m	Land	2017/2018