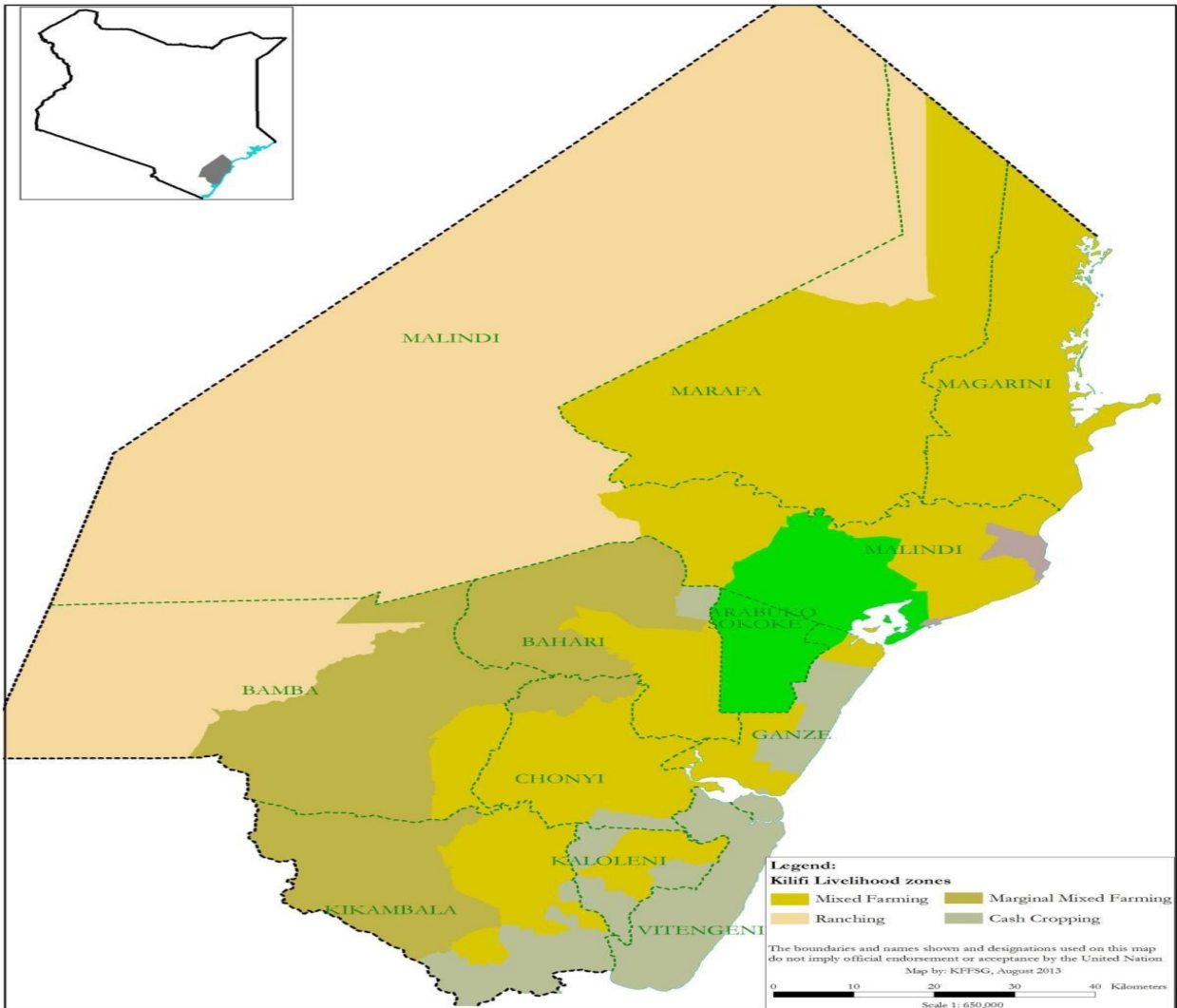


KILIFI COUNTY
2017 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



**A Joint Report by the Kenya Food Security Steering Group¹ and
Kilifi County Steering Group (CSG)**

February, 2018

¹ Patrick Muiruri - Ministry of Agriculture, Livestock and Fisheries
Ibrahim Guliye - World Food Programme
Mary Njenga- Food Agriculture Organization

Table of Contents

1.0 Introduction.....	4
1.1 County background.....	4
1.2 Objectives and approach.....	4
2. Drivers of Food and Nutrition Security.....	5
2.1 Rainfall Performance	5
2.2 Insecurity/Conflict	5
2.3 Other shocks and hazards.....	5
3. Impacts of drivers on Food and Nutrition Security.....	6
3.1 Availability	6
3.1.1 Crops Production	6
3.1.2 Livestock Production	8
3.2 Access	12
3.2.1 Markets prices	12
3.2.2 Terms of trade	13
3.2.3 Income sources.....	13
3.2.4 Water access and availability.....	13
3.2.5 Food Consumption.....	15
3.2.6 Coping strategy	15
3.3 Utilization	16
3.3.1 Nutritional status.....	16
3.3.2 Sanitation and Hygiene	16
3.4 Trends of key food security indicators.....	16
3.5 Education	17
4. Food Security Prognosis.....	20
4.1 Prognosis Assumptions.....	20
4.2 Outlook for 3 and 6 months	20
5. Conclusion and Interventions	20
5.1 Conclusion	20
5.1.1 Phase classification	21
5.1.2 Summary of key findings.....	21
5.1.3 Sub-county ranking - Kilifi County	21
5.2 Ongoing Interventions	22
5.2.1 Food interventions.....	22
5.2.2 Non-food interventions	22
5.3 Recommended interventions.....	26
5.3.1 Food interventions.....	26
5.3.2 Non - food interventions	26

Executive Summary

Kilifi County is classified in the minimal phase (IPC Phase 1) apart from few areas in the ranching and marginal mixed livelihood zones, which are in stressed phase (IPC phase 2). The mean coping strategy score is at three the current season, implying that households are employing acceptable coping strategies and engaging less in consumption-related coping strategies.

The nutritional status is improving with the proportion of children with Mid Upper Arm Circumference (MUAC) less than 135mm standing at 5.8 percent in January 2018 compared to 13 percent in January 2017. The prevalence of the three most common diseases from July – December 2017 shows a decrease for both children aged below five years and the general population compared to same period in 2016. For the under-fives children, the decline for upper respiratory and tract infections (URTI), diarrhoea and malaria was 61, 49 and 58 percent respectively. For general population, the decline was by 69, 56 and 72 percent for URTI, diarrhoea and malaria respectively, indicating an improvement in health care. Vitamin A supplementation for the period July - December 2017 compared to July - December 2016 was 78 percent for 6 -11 months and 56 percent for 12-59 months. Fully immunized children in July – December 2017 was at 53 percent as compared to the same period the previous year, which was 79 percent. The decline was explained by the health workers strike. Water consumption per person per day is below the normal 10-15 litres/person/day as compared to the normal range of 15-20 litres/person/day.

Area under maize, cow peas and green grams declined by 15, 52 and 42 percent as compared to the Long Term Average (LTA), reducing availability at the household level. The maize stocks held by farmers, traders and millers was above the LTA by 19 percent. The stocks held by the farmers were from the previous harvests, as there was little harvest as a result of early cessation of rainfall and fall army worm infestation. Milk production declined by 20 to 30 percent and milk prices remained stable across all livelihood zones. Households and traders were holding 63 and 40 percent of the LTA of the maize stocks.

The terms of trade (ToT) are favourable where the sale of one goat is exchanging for 82kg of maize thus improving household food access in the pastoral areas. (ToT) remains above the LTA. Maize prices are rising as farmers are relying on markets for household supplies. Livestock body condition is fair to good leading to price of goat being above the LTA. The current factors affecting food security include: late onset and early cessation of rainfall which negatively affected crop production.

1.0 Introduction

1.1 County background

Kilifi County is located in the coastal region of Kenya. It borders Kwale County to the South West, Taita Taveta to the West, Kilifi to the North, Mombasa to the South and the Indian Ocean to the East. Kilifi covers an area of approximately 12,609.7 square kilometres and has a population of 1,399,975 (KNBS 2016 Projection). It comprises of seven sub-counties namely; Malindi, Magarini, Ganze, Rabai, Kaloleni, Kilifi South and Kilifi North. The county has four main livelihood zones including Marginal Mixed Farming (MMF) comprising 44 percent of the population, cash cropping/dairy 22 percent, Mixed Farming 11 percent and ranching two percent (Figure 1). Other livelihood zones include fishing and mangrove three percent, formal employment (14 percent) and forest/tourism and casual labour two percent each.

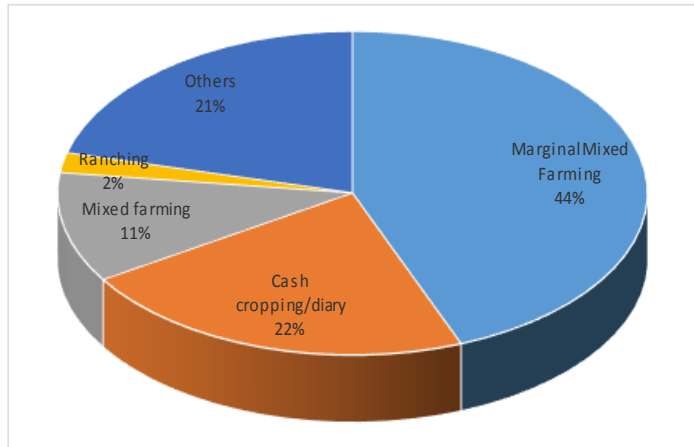


Figure 1: Population proportion by Livelihood zones

1.2 Objectives and approach

The overall objective of the assessment was to develop an objective, evidence-based and transparent food security situation analysis following the short rains season of 2017 taking into account the cumulative effect of the previous seasons; as well as provide recommendations for possible response options based on the situation analysis. The specific objective was to review existing data on the current situation analysis as provided by the various sectors and determine the food security trends for previous seasons. The assessment methodology employed included an initial county status briefing which was conducted on Monday the twelfth of February 2018, presentation of sectoral checklists from agriculture, livestock, and water, health and nutrition and education sectors. The team, comprising of Kenya Food Security Steering Group (KFSSG), and Kilifi County Technical Working Group, conducted transect drives across the various livelihood zones.

The assessment team made a transect drive to conduct interviews in the following sites: Malindi, Gongoni, Kanagoni, Muluguni, Garashi, Kakuyuni, Langobaya, Chama, Bofu, Mtepeni, Rabai Kaloleni, Kauma, Chonyi, Ganze, Bamba, Ndigiria, Tsangatsini and Vitengeni. These sites were selected based on various criteria including performance of the rain season, Livelihood zones and availability of markets.

The assessment was conducted from 12th to 16th February, 2018 in the field to validate the data collected at county level. The teams collected sector-wide food security data using community and household interviews, focus group discussions, key informant interviews and observation methods.

2. Drivers of Food and Nutrition Security in the County

2.1 Rainfall Performance

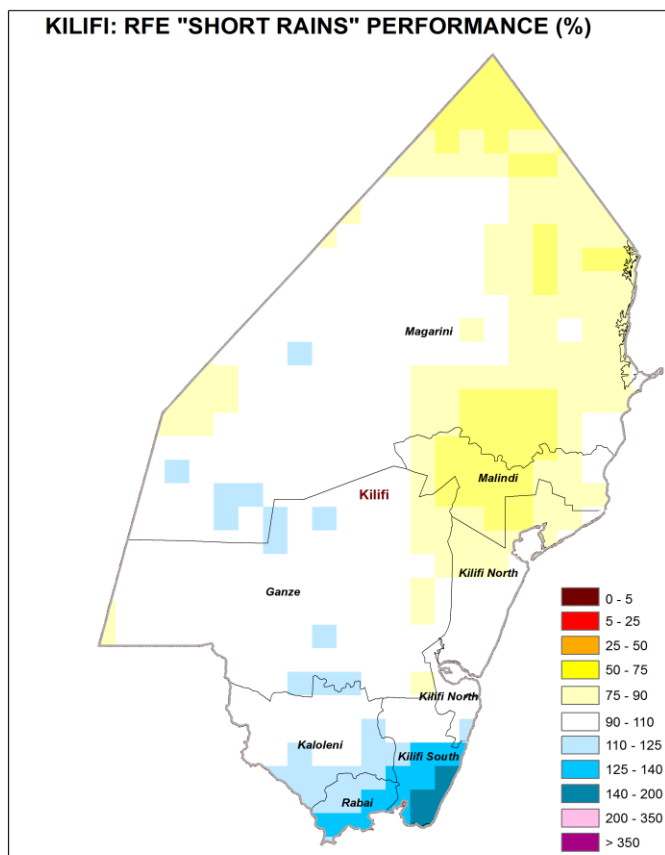


Figure 2: Rainfall performance

The onset of the short rain season was late in the third dekad of October 2017 compared with the first dekad of October normally. Most parts of Mixed farming, Lower Marginal Mixed Farming and Ranching livelihood zones received 90- 110 percent of normal rainfall, while the upper marginal mixed farming livelihood zone received 50-90 percent of normal (Figure 2). However, Cash Cropping livelihood zone received 110-200 percent of normal. The temporal distribution was uneven and the spatial distribution was poor. The cessation was early in the second dekad of December compared with the normal third dekad of December.

2.2 Insecurity/Conflict

There was no conflict reported between communities that was natural resource related.

2.3 Other shocks and hazards

Fall Army Worm infestation negatively affected maize production in the mixed farming and marginal mixed farming livelihood zones during the short rains.

3. Impacts of drivers on Food and Nutrition Security

3.1 Availability

Food availability is one of the food and nutrition security pillars. It's affected by livestock and crop production as well as food stocks at household level and market supplies. In this section, the presence of pastures and browse, stocks, harvests and commodities in the market are discussed. The markets remained stable with little disruptions during the short rains.

3.1.1 Crops Production

The short rains season contributes about 40 percent of the total yearly production. In the cash crop/dairy livelihood zone, coconuts, cashew nuts and cassava are the main sources of income contributing 30, 25 and 15 percent of cash income respectively while maize and cassava contribute 40 and 20 percent to food. In the food cropping livelihood zone, maize contributes 25 percent to cash in come and 40 percent to food while cassava contributes 18 percent of cash income and 20 percent to food. In the marginal mixed farming zone, cashew nuts and cassava are the main sources of income and contributes 50 and 30 percent to cash respectively. In ranching, maize contributes 20 percent of food while cassava and cowpeas contribute 10 percent each. Maize and cassava contributes 70 percent and 30 percent to food respectively.

Table 1: Crop Production under Rain-fed Agriculture

Crop	Area planted during 2017 Short rains season (Ha)	Long Term Average (5 year) area planted during the short rains season (Ha)	2017 Short rains season production (90 kg bags) Projected/Actual	Long Term Average (5 year) production during the Short rains season (90 kg bags)
Maize	10,893	12,752	21,763	159,468
Cowpeas	1,641	3,349	2,903	10,047
Green grams	1029	1755	1108	3,510

The area under maize, cowpeas and green grams decreased by 15, 52 and 42 percent compared to the long term averages. The decline in area was attributed to depressed rainfall for three consecutive seasons between 2015 and 2016 hence farmers planting less, fear of fall army worm attacking their crop and lack of planting materials. The projected production for maize, cowpeas and green grams declined by 87, 72 and 69 percent compared to long term averages. The decline is attributed to early cessation of rains leading to most of the crop drying before maturity especially in the Marginal mixed farming zone. Maize crop in food cropping areas dried at knee height stage and there was poor formation of pod in cowpeas.

Irrigated crop production

The area under water melon increased by 20 percent compared to the LTA due to high value attached to the crop, investment by the County along the River Sabaki and promotion of the crop by Kenya Youth Empowerment Project (KYEEP) by World Vision and Kilifi county government department of Agriculture. Area under tomato and Amaranthus declined by 20 and 37 percent respectively compared to the LTA, this was attributed to pests and diseases attacking tomatoes and poor price for the two crops. The production of water melon increased by 14 percent compared to the LTA, due to more land being opened up along the River Sabaki. The production of tomatoes, and Amaranthus declined by 30 and 13 percent respectively compared to the LTA attributed to decline in the area under production.

Table 2: Crop Production under Irrigated Agriculture

Crop	Area planted during the 2017 Short rains season (ha)	Short Term Average (3 years) area planted during Short rains season (ha)	2017 Short rains season production (90 kg bags/T) Projected/actual	Short Term Average (3 years) production during 2017 Short rains season (90 kg bags/T)
Water melon	120	100	40,000	35,000
Tomato	66	82	960	1357
Amaranthus	57	90	950	1090

Cereal Stocks in the County

Table 3: Quantities held currently (90-kg bags)

Commodity	Farmers	Traders	Millers	TOTAL
Maize	166,731	46,212	9112	222,055
Rice	20	33,425	0	33,425
Sorghum	20	1,719	0	1,739
Millet	0	1,267	0	1,267

Table 4: Long term average quantities held (90-kg bags) at similar time of the previous year

Commodity	Farmers	Traders	Millers	Food Aid	TOTAL
Maize	1,662	162,182	20,800	0	186,644
Rice	0	90,000	0	0	90,000
Sorghum	0	9,500	0	0	9,500
Millet	0	1,500	0	0	1,500

The maize stocks held by all actors is 19 percent above the LTA, while that of sorghum, rice and millet is 18, 37 and 84 percent respectively of the LTA. There are slightly higher stocks by farmers compared to a similar period last year. Traders and Millers have started increasing their stocks as farmers' stock is declining due to the fact that prices are likely to favour them. The stocks will last about 1.5 months as compared to a normal of two months.

3.1.2 Livestock Production

The main livestock species in Kilifi County are poultry, goat, sheep and cattle. Livestock production contributes 75 percent to cash income in the ranching livelihood zone. In the marginal mixed farming and mixed farming, livestock production, contributes 30 percent to cash income, while in the cash cropping/dairy livelihood zone, livestock production contributes 15 percent to cash income. In the ranching areas, cattle, goat and poultry contributes 15, 20 and 50 percent respectively to food while in the marginal mixed farming areas they contribute 10, 82 and three percent respectively.

Pasture and Browse

Table 5: Pasture and Browse Condition

Livelihood zone	Pasture condition		How long to last (Months)		Browse condition		How long to last (Months)	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Ranching	Fair	Fair	1	1-2	Fair to good	Good	2	3
Marginal Mixed	Fair	Good	1-2	2	Good	Good	2	3
Mixed farming	Fair to good	Good	1-2	3	Good	Good	2	3
Cash crop/Dairy	Fair to good	Good	2	3	Good	Good	3	4

Pasture conditions were fair in ranching and marginal mixed livelihood zone while fairly good in mixed farming and dairy livelihood zones (Table 4). The available pasture is expected to last for one to two months across all livelihood zones. Browse in the ranching, marginal mixed and mixed farming livelihood zone will last for two months and three months in the cash crop/dairy livelihood zone. Along the cash crop/dairy livelihood zone there was offseason rains that sustained pastures and browse, improving availability and access. In the ranching livelihood zone, mainly the men take animals for grazing. Additionally, in mixed farming and cash crop/dairy livelihood zones, either gender take the responsibility and boys take over during weekends and school holidays.

Livestock Productivity

Livestock body condition

Table 6: Livestock body Condition

Livelihood zone	Cattle		Sheep		Goat	
	Current	Normally	Current	Normally	Current	Normally
Ranching	Fair to good	Good	Good	Good	Good	Good
Marginal mixed farming	Good	Good	Good	Good	Good	Good
Mixed farming	Fair to Good	Good	Good	Good	Good	Good
Dairy/cash crop	Good	Good	Good	Good	Good	Good

The livestock body condition is fair to good for cattle, sheep and goats across all livelihood zones except for the northern part of the county in Jilore ward in Malindi and Adu wards of Magarini whose livestock body condition is good tending to fair. In the mentioned areas, the animals are trekking longer distances in search of water and pasture (Table 6).

Milk Production, consumption and prices

The average milk production in the ranching zone was lower compared to normal, due to declining pastures and increase of distance to watering points. Milk consumption in the ranching livelihood zone remained low as a result of reduced herd size following the previous drought. The consumption remained fairly stable in the cash crop/dairy livelihood zone with amounts being similar to the long term average. Table 7: Milk Availability and Consumption across livelihood zone

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Ranching	0.5-2	2-3	0.5-1	1-2	40	40
Marginal mixed	2	2	1	2	40	40
Mixed farming	4.5-7	7-8	1.5-2	2	60-70	60
Cash crop/dairy	5	7	1	2	50-70	40-70

Women including dropout girls are more involved in milk marketing in the ranching livelihood zone. Within the mixed farming and dairying livelihood zones, more young men are doing milk hawking. There is very little milk delivered to the dairy cooperatives or large processors collecting milk in the County.

In the county, decision of the milk proceeds rests with the head of the house hold with most households being male headed however, in Rabai, more women are making decision on milk proceeds this could be as a result of the intensified dairy cattle project being implemented through women groups in the area.

Tropical Livestock Units (TLU's)

Average livestock holding per household varies depending on the livelihood zone and the household status in terms of wealth (Table 8). The variation across the livelihood zones is due to the farming system as dictated by the land tenure system. In the ranching livelihood zone, it's possible to keep more animals as land is owned communally while those of dairying and mixed farming most of the land is adjudicated thus most farmers are keeping dairy crosses which require specialized management practices. Generally, the tropical livestock unit is slightly below normal and this is attributed to declining pasture and browse and the cumulative effects of dry conditions in the last three seasons.

Table 8: Tropical Livestock Units across Livelihood Zones

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Ranching	1-3	4-5	7-10	11-30
Marginal Mixed	2-3	5-6	5	8-10
Mixed farming	1-2	1-3	3-4	3-5
Cash crop/dairy	1	2	2-3	3-4

Birth rate

The birth rate for cattle in the cash crop/dairy and mixed farming livelihood zones remained normal at above 60 percent while in the ranching and marginal mixed livelihood zone was between 30 – 45 percent especially in the north where cattle were recovering from the drought of 2016/17. The effect on sheep and goats is minimal at 60 - 75 percent. In the mixed farming livelihood zone of Malindi the birth rates remained depressed at 40-60 percent.

Livestock Migration

In the Ranching and Marginal mixed farming livestock migration trends are expected to increase as animals move towards the watering points and where there will be adequate pastures and failed maize crops. There will be none or minimal migration in the dairying and mixed farming in the next two to three months. The current in migration route animals from Tana River enter the County through Kanagoni in Adu ward in Magarini and move towards River Galana heading to Langobaya and Chakama area and settling in Bofu. This is normal at this time of the year. Livestock is moved by old and young men during the migration

Livestock Diseases and Mortalities

No outbreak of modifiable livestock disease except for New Castle Disease (NCD) that continued to be a threat to the local poultry across all livelihood zones. The NCD is common

during the drought season when most of the birds are malnourished because of inadequate feeds. Farmers continued to experience ecto - and endo - parasites attacking their livestock across all the livelihood zones with the ranching zone being hit more due to non-functional cattle dips and lack of alternative methods of pest control, as compared to the dairying and mixed farming where farmers use hand sprays and pour-on. Trypanomiasis cases were common along the Arabuko forest and other Kaya forest reserves of Ribe among others thus negatively affecting reproduction and production. Mortality rates are taken to be normal for cattle, sheep, goats and camel and are all rated below one percent.

Water for Livestock

Water Sources and Availability

Water pans remained the major water source available in the ranching and the marginal mixed farming. Mixed farming and cash crops/dairy livelihood zones were characterized by water pans and bore holes. The trekking return distance within the ranching zone rose from normal of about 1-5 km to 2-10km. This distance increased as you moved towards the north which received less rains resulting in drying up of natural ponds. For marginal mixed livelihood zone, there was a slight increase of return trekking distance from 0-6 km to 0-7 km, as opposed to mixed farming and dairy livelihood zones which reduced from 0-5 to 0-4 and from 1-2 to 0-2 respectively (Table 9).

Some ranching zones in Kaloleni and marginal mixed farming experienced low livestock density and therefore the water is still available within short distances. In the mixed and cash crops/dairy livelihood zones, there was adequate rain and there was a higher reliance on piped water resulting to animals trekking for shorter distances. Trekking distances are expected to increase as a result of the dry conditions, drying of water pans and high concentration of livestock at water points was evident.

Water availability is projected to last for one to two months in ranching and marginal mixed livelihood zones, two to three months in mixed farming and one to two months in dairy livelihood zone.

Table 9: Water for Livestock

Livelihood zone	Return trekking distances		Expected duration to last (Months)		Watering frequency	
	Current	Normal	Current	Normal	Current	Normal
Ranching	2-10	1-5	1-2	2-3	5 - 7	7
Marginal Mixed farming	0-7	0-6	1-2	1-3	5 - 7	7
Mixed farming	0-4	0-5	2-3	3	7	7
Dairying	0-2	1-2	3	3	7	7

In the mixed farming and dairying livelihood zones, there was adequate rains and there is a higher reliance on piped water thus animals trekked shorter distances. Watering of cattle, sheep and goats in the ranching and marginal mixed farming are done by adult men who are occasionally relived during weekends and school holidays by the male youth. In mixed farming and dairying livelihood zones is done by either gender with a higher participation of women and youth.

3.2 Access

Market operations were normal and food items are potentially available in the markets despite marginal increase in prices. Limited sales of livestock and crops potentially affected the household purchasing power.

3.2.1 Markets prices

The main commodity markets are Mtwapa, Bamba, Mariakani, Malindi, Mazeras and Oloiptip in Kilifi North. Other markets are Gongoni and Marereni. For livestock, the markets include Bamba, Vitengeni, Tsangatsini, Mariakani, Gotani Malindi, Mkapuni, Bondora, Kaloleni, Langobaya and Mazeras. All markets were functioning normally without any disruptions. The food commodities available in the market were maize, green grams, cowpeas, vegetables and rice. Livestock available in the markets were sheep, goats and cattle. Improved road access to some markets such as Bamba led to improved access of food items. The market prices for food crops and livestock have risen as a result of low supply attributed by poor harvests and existing dry conditions.

Maize prices

The average price of maize in January 2018 is Ksh. 48 per Kilogramme being 19 percent higher than price in December 2017 which was Ksh. 40.3 per Kilogramme (Figure 3). The price of maize was also 21 percent above the long term average. The price is rising compared to the same time last year. Prices are projected to remain high as farmers have little stocks left.

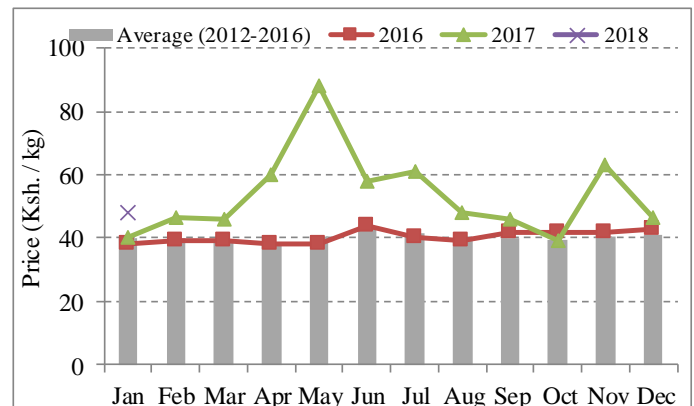


Figure 3: Maize price trends in Kilifi

Goat prices

In January 2018, the price of a goat was 26 percent above the December 2017 price and 71 percent below the long term average (Figure 4). From October, goat prices slightly declined but increased in December due to high demand during the festive season. The rising goat prices were further attributed to good body condition.

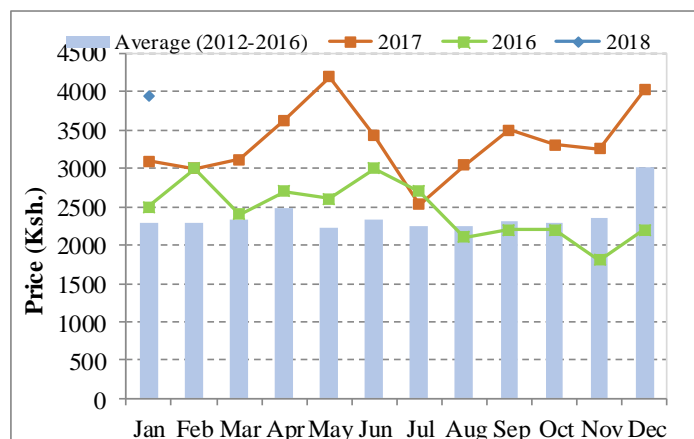


Figure 4: Goat prices in Kilifi

3.2.2 Terms of trade

The term of trade (ToT) in January 2018 was 82 which was six percent above the January 2017 and 58 percent above the LTA (Figure 5). That means that the sale of a goat could purchase 82 kg of maize. The increase of ToT was due to improved goat prices which was due to improved body condition.

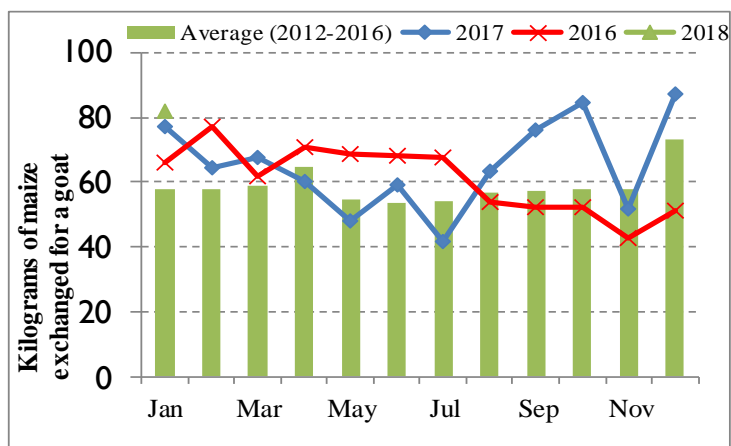


Figure 5: Terms of Trade

3.2.3 Income sources

The main source of income in the mixed farming and cash crop/dairy livelihood zones is crop production contributing 60 and 35 percent respectively. The sale of livestock is the main source of income at 75 and 30 percent in the ranching and marginal mixed farming livelihood zones respectively. Crop production was negatively affected by early cessation leading to poor harvests. The livestock was not affected as there was adequate pasture and browse. Furthermore, the ToT favored the livestock keepers as goat prices increased.

3.2.4 Water access and availability

Major Water Sources

The main sources of water for domestic and livestock use in the county are boreholes with extended pipelines, Mzima spring pipeline and water pans. Sabaki River and shallow wells are an alternative source of water in the urban and semi urban areas. The recharge level averaged a 100 percent for boreholes with extended pipes and Mzima springs pipeline in all livelihood zones. Furthermore, the recharge level for water pans is averaged 60 percent in cash cropping livelihood zone, 45 percent in mixed livelihood zone and 70 percent in marginal mixed farming livelihood zone. The shallow wells recharge levels were at 80 percent in cash cropping livelihood zone and while that of Sabaki River averaged at 65 percent. The recharge levels dictate water availability for households and livestock. All the water sources last one year except the water pans that last for four months in cash cropping livelihood zone and six months in ranching livelihood zone. Although the number of water pans has fallen below normal, the number of shallow wells was well above normal operational and there was constant supply of water from boreholes with extended pipelines and Mzima spring pipeline. There were no incidences of conflicts reported as a result of shared water points due to the fact that there were alternative sources of water.

Distances to Water Sources

The main source of water for domestic use is water pans and boreholes with extended pipes. Generally, most households are accessing water at normal water points apart from in cash

cropping and mixed farming livelihood zones whose return distance slightly increased from two to five and six to ten respectively. The distances to water sources are likely to increase as a of current dry conditions, which have not only led to decrease in the quantity of water in most water pans and boreholes, but also has led to complete drying up of few water pans and rivers. This means the households are likely to spend more time accessing water.

Water consumption and cost

The average current cost of water in Kilifi is Ksh.11 per 20 litres which is above normal cost of Ksh. 5 for the same number of litres. These areas with above normal prices for water include cash cropping and ranching livelihood zones whose prices rose from Ksh.15 to Ksh 20 and Ksh.5 to Ksh.15-20 respectively per 20 litres. Few areas experienced normal cost for water, which is Ksh. 5 per 20 litres. That is marginal mixed livelihood zone. The higher than normal costs are attributed to frequent closures of the pipelines in the October November December period. The average water consumption per person in a day has decreased from normal 20 litres to about 10 litres as a result of water access challenges that include increased distances to water points and high cost of water in some areas.

Most households do not practice water treatment methods but a few in mixed farming livelihood zone boil drinking water or use water treatment chemicals. There was no water borne diseases cases that have been reported.

Table 10: Water for Domestic Use

Livelihood Zone	Distance to water for domestic use (Km)		Cost of water (Ksh per 20L)		Waiting time at water source (Minutes)		Average HH Consumption (Litre/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current
Cash cropping & dairy	3-4	4-6	10	15-20	25	30-35	40-60	20-30
Food cropping	2	5	5	15-20	5	10-20	13-15	10-12
Marginal mixed farming	2-6	2-6	5	5-20	5-20	5-20	15-20	10-20
Mixed farming	6	10-15	5	10-20	5	5	18-20	5-10
Ranching	1-2	2-5	3-5	5-20	10-15	10-20	20	40

3. 2.5 Food Consumption

Generally, there are minimal food consumption gap in the county with majority of households under acceptable food consumption score. At least no households were recorded under poor food consumption during the month of January 2018 compared to January 2107 where there is household food consumption gap with 69.2 percent of the households having either borderline or poor food consumption in the county. The minimal food consumption gap is due to food availability at household level from the previous harvest, food availability at the market and

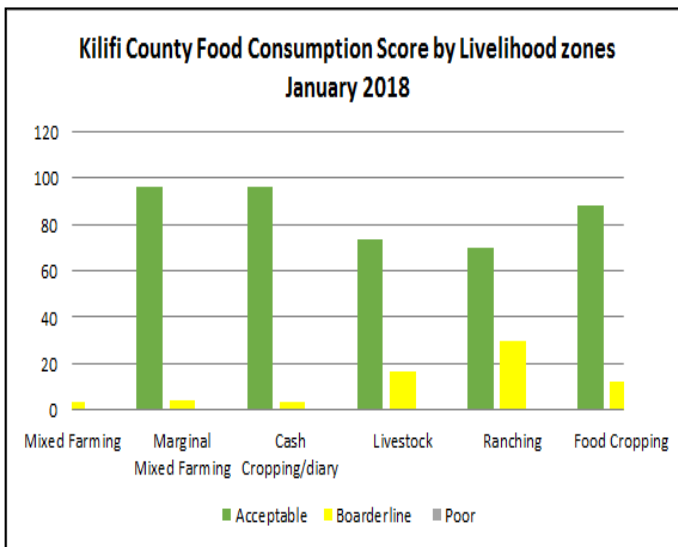


Figure 6: Food consumption score

interventions in the area that have increased water availability and eased water access. The month of January recorded majority of households under acceptable food consumption score. During the assessment month no households recorded in the poor food consumption score category. The mixed farming, cash cropping and marginal mixed zones recorded the highest number of households with acceptable food consumption. During the month under review only 24 percent of households recorded under borderline food consumption with highest number of households in Magarini (Figure 6).

3.2.6 Coping strategy

The mean coping strategy index for the county has declined from 5.65 in October 2017 to 3 in January 2018 across all livelihood zones (Table 12). The decline indicates reduced stress across all livelihood zones. This means that the food stocks available at the household level have risen following the harvest from the current season to add to the harvests obtained from the previous season.

Table 11: Coping Strategy Index

Livelihood Zones	October 2017	November 2017	December 2017	January 2018
Mixed Farming	0.2	0.8	0.2	1
Livestock (Ranching)	7.4	6.8	6.9	5.2
Cash Cropping/dairy	4.5	3.7	2.8	3.8
Food Cropping	10.5	5.1	4.9	2
Mean CSI	5.65	4.1	3.7	3

3.3 Utilization

Household food utilization is a function of morbidity prevalence of under-fives and general population, levels of completion of immunization and vitamin A coverage, nutritional status among households and level of sanitation and hygiene practices among households. Dietary diversity by most households was influenced by the availability and access of food items in the markets. The food handling hygiene practices were poor in most households but majority of households had access to water

3.3.1 Nutritional status

The proportion of children under five years at risk of malnutrition, based on mid upper arm circumference (MUAC) of <135 mm, was 5.8 which was 12 percent above the LTA but had decreased by 45 percent compared to January 2017 (Figure 6). The improved nutritional status by MUAC is attributed to increased household cereal stocks and increased coverage of integrated outreach programs leading to better health care. The trend is likely

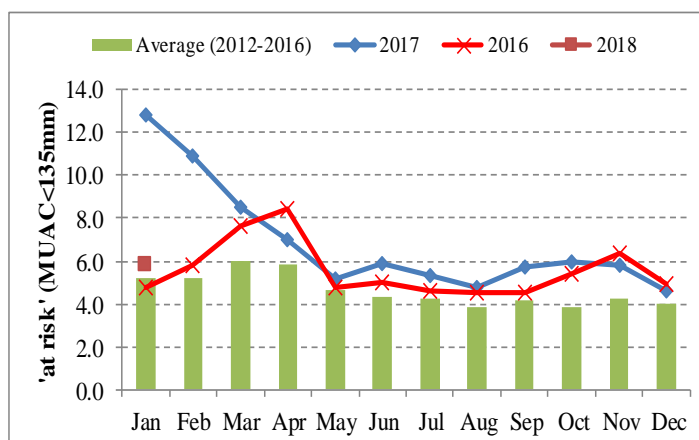


Figure 7: MUAC trends in Kilifi

to deteriorate due to ongoing dry conditions that will soon lead to depletion of food stocks. Crude mortality stood at 1289 and under-fives mortality was 354 between January and December 2017.

3.3.2 Sanitation and Hygiene

The average latrine coverage in the county was 67 percent as a result of increased health promotion through community units. Coverage and utilization is low in the pastoral areas due to low sensitization, nomadic lifestyle and cultural beliefs. Some boreholes water sources are contaminated through septic tanks in urban areas and pit latrines in rural areas as a result of underground leakage between latrines and boreholes.

3.4 Trends of key food security indicators

The county was classified in the stressed phase (Phase 2) of the Integrated Food Security Phase Classification (IPC) during the long rains assessment of July 2017 but has moved to the minimal phase (IPC Phase 2) in the current assessment. The performance of food security indicators comparing the long rains and short rains seasons are shown in Table 11.

Table 10: Food Security Trends in Kilifi County

Indicator	Long rains assessment, July 2017	Short rains assessment, February 2018
Percent of maize stocks held all actors	63	19
Livestock body condition	Fair - poor	Good

Indicator	Long rains assessment, July 2017	Short rains assessment, February 2018
Water consumption (litres per person per day)	15-20	10 - 30
Price of maize (per kg)	45 - 80	53 - 55
Return trekking distances (Km)	3 - 8	0-6
Terms of trade (pastoral zone)	50	82
Coping strategy index	6.1	3
Food consumption score (Poor, Borderline, Acceptable)	17: 36:47	

3.5 Education Enrolment

Gross enrolment for Early Childhood Development and Education (ECDE) stood at 135,573 as of 2018 term I in the county. There is a net increase of 40,750 persons from the previous figure for 2017 term III (94,823) due to establishment of new ECDE centers by the County government, thus bringing the facilities closer to households. The breakdown by Sub County is as follows;

Table 11: Gross Enrolment for Early Childhood Development Education

Name of sub-county	No. of ECD centres	2017 Term III			2018 Term I		
		Boys	Girls	G/Total	Boys	Girls	G/Total
KILIFI North	290	5650	5602	11252	11224	10861	16739
KILIFI South	171	7991	7804	15795	10456	9513	19969
KALOLENI	259	2349	2165	4514	11481	11139	22625
GANZE	241	11107	10926	22033	11012	11541	22553
MAGARINI	229	11021	10110	21131	10730	10425	21225
RABAI	138	3050	3345	6395	4977	4743	9720
MALINDI	191	8200	5503	13703	8533	8856	17389
TOTAL	1519	49368	45455	94823	68413	67078	135573

As of Term I 2018 the enrolment for Primary schools in the county increased by 59 319 pupils when compared to previous figure for the year 2017. The increase in enrolment can be attributed Home grown school meal Programme, Community sensitization by government, establishments of classrooms through CDF, FPE funds and County initiatives.

Table 12: Gross Enrolment for Primary School level

SUB COUNTY	No. of Schools	2017 Term III			2018 Term I			Increase/Decrease
		Boys	Girls	Total	Boys	Girls	Total	
Malindi	76	23235	11039	34274	22865	22864	45729	11455
Rabai	43	11127	1728	12855	11655	19337	30992	18137
Kaloleni	68	19708	19154	38862	19850	22607	42457	3595
Ganze	124	22040	12972	35012	22354	23189	45543	10531
K/North	46	12694	12278	24972	12708	21593	34301	9329
Magarini	114	22419	20143	42562	24941	24468	49409	6847
k/South	72	22215	21176	43391	21120	21696	42816	-575
		133438	98490	231928	135493	155754	291247	59319

Table 13: Gross Enrolment for Secondary School level

Sub-County	Term III 2017			2018 Term I			Increase/Decrease
	Boys	Girls	Total	Boys	Girls	Total	
MALINDI	4762	3842	8604	4400	4202	8602	-2
RABAI	3617	3787	7404	3750	3692	7442	38
GANZE	3650	4090	7740	4150	4090	8240	500
KALOLENI	3500	2678	6178	8759	8967	17726	11548
KILIFI NORTH	2548	2035	4583	3015	2426	5441	858
KILIFI SOUTH	3856	3985	7841	4218	4287	8505	664
MAGARINI	4620	1932	6552	4732	2078	6810	258
Total	26553	22349	48902	33024	29742	62766	13864

Dropout

Generally low dropout rates were observed in both ECDE and Primary school levels across the sub-counties. Girls lower dropout rates of 22 percent, 34 percent and 1 percent in 2017 Term I, II

and 2018 I respectively, compared to boys with drop out of 21 percent, 34 percent and 1.2 percent respectively within the same period. Conversely, girls registered consistently higher dropouts in the three terms of compared to boys in both ECDE and primary level. The dropout rates observed can be attributed to early marriage/pregnancy, family labor responsibilities/household chores or no food in the school or home. The dropout rates have decreased mainly because of school feeding programs established in schools that motivate the pupils to attend schools in order to access food.

Transition

Transition from ECDE to primary was more or less the same as the one for the previous year of 65 percent. Transition from primary to secondary schools has consistently been low at 45 percent which is below the national average of 75 percent. The transition rate is attributed to poor academic performance, parents' negative attitude towards education and lack of fees.

School meals Programme

A total of 109 out of 543 primary schools in the County are under Home Grown School Meals Program. The total County case load is 71,157 students of which 22,947 and 48,210 are boys and girls respectively. The beneficiaries represent a small percentage of the total enrolment. Implementation of school feeding program is faced with a number of challenges which include lack of adequate clean water to prepare the meals, lack of capacity of school's management committees to remunerate the cooks, delay in disbursement of the school meals program funds and in delivery of food rations as most food supplies are not sourced from schools' localities

SUB	NO OF SCHOOLS	HGSM			OTHER TYPES			Total No. of beneficiaries		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	TOTAL
MALINDI	20	3809	3850	7659	0			3809	3850	7659
RABAI	0	0	0	0	0			0	0	0
KILIFI SOUTH	1		0	0	300	307	607	300	307	607
GANZE	48	6765	7229	13994	0	0	0	6765	7229	13994
KALOLENI	19	9267	9237	18504	0	0	0	9267	9237	18504
KILIFI NORTH	0	0	0	0	0	0	0	0	0	0
MAGARINI	21	4946	4946	4801	0	0	0	2806	27587	30393
Total	109				300	307	607	22947	48210	71157

4. Food Security Prognosis

4.1 Prognosis Assumptions

Prognosis assumptions are based on the following:

- The performance of the long rains will be normal.
- Resource-based conflicts are likely to arise along Kilifi-Tana River boundary if the onset of long rains is delayed.
- Market prices for food commodities and goat prices are likely to increase following extended long dry conditions
- Agricultural farm inputs are likely to be unavailable in required quantities.

4.2 Outlook for 3 and 6 months

Food Security Outcomes (February – April)

The overall food security situation across the county is expected to decline over the next three months. Although the maize harvest is low, maize stocks at household level from previous season are expected to decline further. Forage is expected to deteriorate due to inadequate soil moisture content and pressure from grazing by livestock especially on the border with Tana River County, however after the onset of long rains, pasture availability will increase and the livestock body condition is expected to decline slightly and then improve in mixed farming and marginal mixed livelihood zones. Terms of trade are expected to be in favor of livestock keepers as goat prices are expected to rise. The nutrition status of children under five is expected to deteriorate due to inadequate milk across all livelihood zones, however with onset of rains, milk availability will improve. Food consumption patterns are also expected to decline especially in the ranching areas where milk availability is expected to decline due to dry conditions that will deplete fodder and pasture for livestock, however, with the onset of long rains, the situation will improve. Mortality rates for both children under five and the general population are expected to remain below the alert cut off points due to increased health care and interventions that include health outreaches.

Food Security Outcomes (May – July)

With the projected normal performance of the long rains, the body condition of livestock is expected to improve. Maize stock supply in the markets will increase leading to lower market prices of food commodities and livestock. The goat prices will decrease slightly until end of August as farmers slowly release their stocks in the market to buy cereals. Therefore, the terms of trade are most likely to be unfavorable to the livestock keepers when the goat prices drop.

5. Conclusion and Interventions

5.1 Conclusion

The county is classified in the minimal food security phase classification (IPC Phase I) with few areas in IPC phase II. Key factors that need close monitoring in the next six months, especially in the ranching and marginal mixed areas are stocks of staples, pasture and browse situation, livestock body condition, human and livestock diseases, livestock and food commodity prices,

under-five nutritional status, distances to water sources, availability and access to forage and water, resource-based conflicts, inter-community conflicts and insecurity along the border with Tana River county, migrations, fall army worm, livestock disease outbreaks and morbidity.

5.1.1 Phase classification

The county is in minimal food security phase classification (IPC Phase I) and few areas in IPC Phase II. This is attributed to most households falling under acceptable food consumption score with a few in borderline, most holding maize stocks from previous harvests, presence of pasture and browse, good body condition of livestock, water availability and access, most households having two to three meals a day, improved health care and lower dropout rates in schools.

5.1.2 Summary of key findings

Short rains harvest will be in the range of 70 percent of LTA, as a result of inadequate rainfall, and fall army worm. These shocks have led to little or no stocks at the household level, making majority of households to rely on markets for food access. Terms of trade are already favorable to the livestock keepers as the goat prices are high. There is water stress in marginal mixed and ranching livelihood zones, as most water pans and rivers are drying up and some households lack safe water for drinking and this in turn have to trek long distances to access water. The situation is likely to worsen until the onset of the long rains. Majority of households in the acceptable food consumption score category are likely to move to borderline food consumption score bracket and household food stability will be compromised. Most households will remain in the minimal food security phase (IPC Phase 1).

5.1.3 Sub-county ranking - Kilifi County

Table 14: Ranking of Sub County in order of food insecurity severity (worst to best)

Sub County	Food Security (1 – 6)	Justification
Magarini (Adu, Gongoni, Marafa)	1	Poor rains distribution No livelihood alternative Higher malnutrition cases Minimal harvests In migration- Livestock Pastures Water pans
Ganze (Bamba, Sokoke)	2	Poor harvests
Kaloleni (Kayafungo, Mwanamwinga)	3	Crop failure, water borne diseases
Malindi (Jilore)	4	Crop failure
Kilifi North	5	Alternative livelihoods available
Rabai	6	Good harvests, Employment opportunities
Kilifi South	7	Good harvests in long and short rains

	Employment opportunities
--	--------------------------

5.2 Ongoing Interventions

5.2.1 Food interventions

County	Intervention	Location	Number of Beneficiaries	Implementers	Impact in terms of food security	Cost (KES)	Time frame
County Wide	Chakula Kwa Jamii	All wards	87,803 HH	GOK/WFP/ KRC	Increasing purchasing power of the households as well as dietary diversity of the household	201,946,900	July/Dec
Kilifi	Distribution of meat goats	Magarini, Malindi, Ganze, Rabai	1038	ADS Pwani, Plan Kenya (Partners)	To improve on incomes, nutrition	4.67M	1 year
Malindi/Kilifi North	Cash for Assets	Malindi & Kilif N Sub-county	11,900 HH	KRC/WFP	Protect of the losses of assets	2,500 per month	Oct/Dec

5.2.2 Non-food interventions

County	Intervention	Location	Number of Beneficiaries	Implementers	Impact in terms of food security	Cost (KES)	Time frame
Agriculture							
County wide	Farm in put provision (Maize and cowpeas seeds to irrigation schemes) and seedlings for fruit trees.	County wide	19,750 farm families	Department of agriculture, WVK	Improve maize and cowpeas yield	28M.	Jan-April 2018
Magarini/Ganze	Establishment of Dagamra ,Burangi,Mdachi & Magudho irrigation scheme irrigation schemes, Lukole, Kwandezi	Lango baya Magarini Ganze	1900HH	Department of agriculture, KRCS	Crop production and domestic use	27,000,000	Jan-July 2018
County wide	FAO Conservation Agriculture	County wide	560 groups	FAO/ Dept of Agriculture	Crop production and domestic use and agribusiness	25M	Jan 2016-June 2018
Kilifi North	Establishment of cassava	Tezo Ward	3,000	Department	Land	6,000	Jan-

	processing plant at Tezo			of agriculture		,000	July 2076
Kilifi County	Rehabilitation of Irrigation projects (Degudegu and Sukulamkani)	Ganze Sub County-Sokoke and Ganze ward respectively	310 people	Plan International-Kilifi PU	Increase food and income to 310 households in Ganze. Improve transition of pupils to secondary and college	3,700,000/=	Jan-June 2018
County wide	Provision of farm inputs using voucher system	Kaloleni, Kilifi South, Kilifi North, Malindi, Rabai	3800 Farmers 4000 Farmers-CRS	Department of agriculture KCEP CRAL/CARITUS/CRS	Increase acreage under production	20M (KCEP) 18.4 M(CRS/C aratus)	Jan-June 2018
Malindi/Kilifi South	Crop insurance	Malindi Kilifi South	2000 farmers	MOALF-National Government	Drought Risk reduction	10M	March - August 2018

Education

	Construction of 6 farm ponds and installation of ¼ acre drip kits in schools and farmer groups	Mwarakaya Ganze, Sokoke Tezo	2500 children and 56 households with (est 336 people)	Plan international	1. Improved food and IG to support nutrition program in school and payment of school levies.	Ksh 1,000,000	Oct-2017 to June 2018
	Construction of Girls disability friendly toilets, Rain Water Harvesting Sytems, Latrine construction	Matolani primary Ziani primary Mbonga, Ndingiria, Masemo, Bahero, Midodoni, Kirimani, Muungano,	563	Plan International, KRCS	Improve sanitation in school	1.4M	Jan-June 2018

		Shaka, Jeshi, Mabathani.					
Water							
Magarini, Malindi, Kaloleni, Ganze	CFA water harvesting structures	Magarini, Malindi, Kaloleni, Ganze	100,000	WFP, KRCS, WORLD VISION, KCG, GoK	Reduce water loss & improve accesses to clean water	300 M	
Malindi/Ganze/Kilif North	Pipeline extensions	Kakuyuni, Jilore, Malindi town, Ganda wards,Junju ,Shimo la Tewa, Ganze, Bamba, Tsangalaweni	163,000 +84000	CG,KRC,CA RAUS/CRS/ KCG, KRCS	Improves accesses clean & quality water	270M	2 MON THS
RABAI	Pipeline extensions, water pan, storage tanks	Ruruma, Mwawesa, Rabai, Kambe Ribe ward	20,000	KCG	Improves accesses clean & quality water	74 million	4 MON THS
KALOLENI	Boreholes, installation of tanks, pipeline extensions, water pans and dams	Mwanamwini, Kayafungo, Kaloleni, Mariakani wards	65,000	KCG	Improves accesses clean & quality water	111 M	6 MON THS
Livestock							
Kilifi	Livestock restocking with 250 Heads	Ganze, Kaloleni	450	County Government and NDMA	Building up stock for future income	3.75 M	6 months
Kilifi	Upgrading of local chicken	Ganze, Kilifi North, South, Rabai, Kaloleni, Malindi	8697	CGoK, Plan Kenya (partners), FAO, CRS/Caritas	Increase HH Incomes	17.99 M	1 year
Kilifi	Training on pasture and	County	1095	CGoK,	To ensure	0.2M	Feb-

	fodder establishment, management and conservation	wide		NDMA, WV	feed availability/ all year round feeding		Oct, 2018
Kilifi	Distribution of relief feeds for cattle _ Range cubes, vaccination, disease surveillance and training	Magarini , Malindi, Ganze, Kaloleni	1480	CGoK, National Government, CRS/Caritas	Increased production expected	6.7M	Complete
Health and Nutrition							
Kilifi county	Vitamin A Supplementation	Kilifi county	113,249 –M 104,957-F	UNICEF/MOH, KRCS	Improve health & nutrition status of <5 yrs	785,539	On going
Kilifi county	Management of Acute Malnutrition (IMAM)/Outreach activities	Kilifi county	5,788-M 5364-F	UNICEF/MOH/WFP, World Vision, KRCS	Reduce mal-nutrition death related cases	14,887,212	On going
Kilifi county	IYCN Interventions (EBF and Timely Intro of complementary Foods)	Kilifi county	125,832-M 116,619-F	MOH/UNICEF	Improve under nutrition status in the area	15M	On going
Kilifi county	Iron Folate Supplementation among Pregnant Women	Kilifi county	324,873	MOH/UNICEF, World Vision	Improve under nutrition status in the area	.17,039,059	On going
Kilifi county	Deworming	Kilifi county	100,665-M 93,295-F	MOH, World Vision	Reduce worm infections	3,598,000	On going

5.3 Recommended interventions

5.3.1 Food interventions

Proposed population in need of assistance

Sub County	Population in the Sub County	Pop in need (percent range min – max	Proposed Mode of interventions
Magarini		25-30%	Cash relief /CFA/FFA/CFE
Ganze		20-25%	Cash relief/CFA/FFA/CFE
Kaloleni		20%	CFA/FFA/CFE
Malindi		20%	CFA/FFA/CFE

5.3.2 Non - food interventions

County	Intervention	Location	Number of Beneficiaries	Implement ers	Impact in terms of food security	Cost (KES)	Time frame
Agriculture							
County	Provision of agro chemicals to control Fall army worm and training of farmers on management of FAW & good agricultural practices	County wide	20,000 HH	County NGOs and private partners	Improve agricultural productivity	112M	March 2018 to March 2019
County	Dissemination of weather advisory messages to all farmers in advance	County wide	50,000HH	MET County NGOs and private partners	Improve agricultural productivity	10M	March-June 2018
County	Provision of certified seeds and fertilizer	County wide	10,000 HH	County NGOs and private	Improve agricultural productivity	30M	March-June 2018

				partners			
County	Crop insurance	Kilifi North, Ganze, Kaloleni, Rabai, Magarini	5000 farmers	County NGOs and private partners	Reduce drought risk	20M	March-Aug 2018
Water							
County wide	Storage tanks for schools	All wards	30,000	GoK, KCG,WVI, KRC,USAI D	Improve accesses to clean water & sanitation	5 million	1 year
County wide	Purchase of water bowser	KILIFI HQ	200,000	GoK,KCG & Partners	Improve accesses to clean water & sanitation	20 M	1 year
Ganze, Kaloleni, Magarini	Expansion of water pans	Ganze, Kaloleni, Magarini	100,000	GoK, KCG,WVI, KRC,USAI D	Improve accesses to clean water & sanitation	50 million	2 years
GANZE	Rare Multipurpose Dam		100,000	GoK, KCG & World bank	Improve accesses to clean water & sanitation	2B	2018/2022
Livestock							
Kilifi	Pasture/fodder establishment & conservation	All	140HH	CGoK, Partners	Increase livestock productivity	2.5M	1-2yrs
Kilifi	Water for livestock	Ganze, Kaloleni, Malindi, Magarini	1600HH	CGoK, Partners	Increase livestock survival	70M	1yr
Kilifi	Supply of roughage and feed concentrate	Ganze, Kaloleni, Malindi, Magarini	1200HH	CGoK, Partners	Reduce livestock under nutrition rate	6M	1 yr

Kilifi	Training, upgrading, Community animal health workers, resource use	All	2100HH	CGoK, Partners	Enhances KPA of farmers	3.5M	1 yr
Kilifi	Livestock Restocking	Ganze, Kaloleni. Magarini	600HH	CGoK, Partners	Increase livestock productivity	8.5M	10months
Kilifi	Diseases control / Vaccination, pests and vector control	All	1200HH	CGoK, Partners	Reduce risk of disease outbreak	5.76M	1 yr
Kilifi	Improved fish catch and value addition	Kilifi South & North, Malindi, Magarini	4BMU	CGoK, BMU, Partners	Increase food production in the area	3.5M	1yr

Health and Nutrition

Magaraini, Kaloleni, Ganze sub counties	Twice a month Integrated health and nutrition outreaches, mass screening and follow up visits	Tsangatsini, Mwanamwingu, Kayafungu Bamba, Adu, Marafa & Gongoni wards.	Children < 5 years, Pregnant and Lactating women	MoH with support from partners - UNICEF, KRSC, WVK	Increase under nutrition coverage	2,128,500	4 months
All sub counties of Kilifi county	Vitamin A supp. & deworming through ECDs, outreaches and health facilities	All sub counties of Kilifi county	218,207	MoH, UNICEF, Afya Pwani, Map International	Increase child survival	1,500,000	12 months

All sub counties of Kilifi county	Scale up integrated management of acute malnutrition	All the 81 health facilities implementing IMAM in the seven sub counties	23,463	MoH, UNICEF, WVK	reduce all-cause mortality in children aged 6–59 months	250M	12 months
Magarini and Ganze Sub counties	Sensitize community health workers on screening and referral of malnutrition.	7 community health units in Magarini 5 Community units in Bamba	150CHVs	MoH, PSK, UNICEF, KRSC	Decentralize nutrition messaging	250,000	4 months
EDUCATION							
County wide	Home grown school meal Programme	48 primary schools	18000	GOK & International Partners	Increase enrolment of pupils	240M	2018/2019 FY
County wide	Water, Sanitation & Health activities for schools	30 Schools	1500 learners	GOK & International Partners	Increase enrolment & retention rate	0.5B	2018/2019 FY
County wide	Expansion of OVC bursary coverage for needy students	All wards	5000 students	GK, CDF ,devp't partners & NGOs	Reduce inequality gap	500M	2018/2019 FY