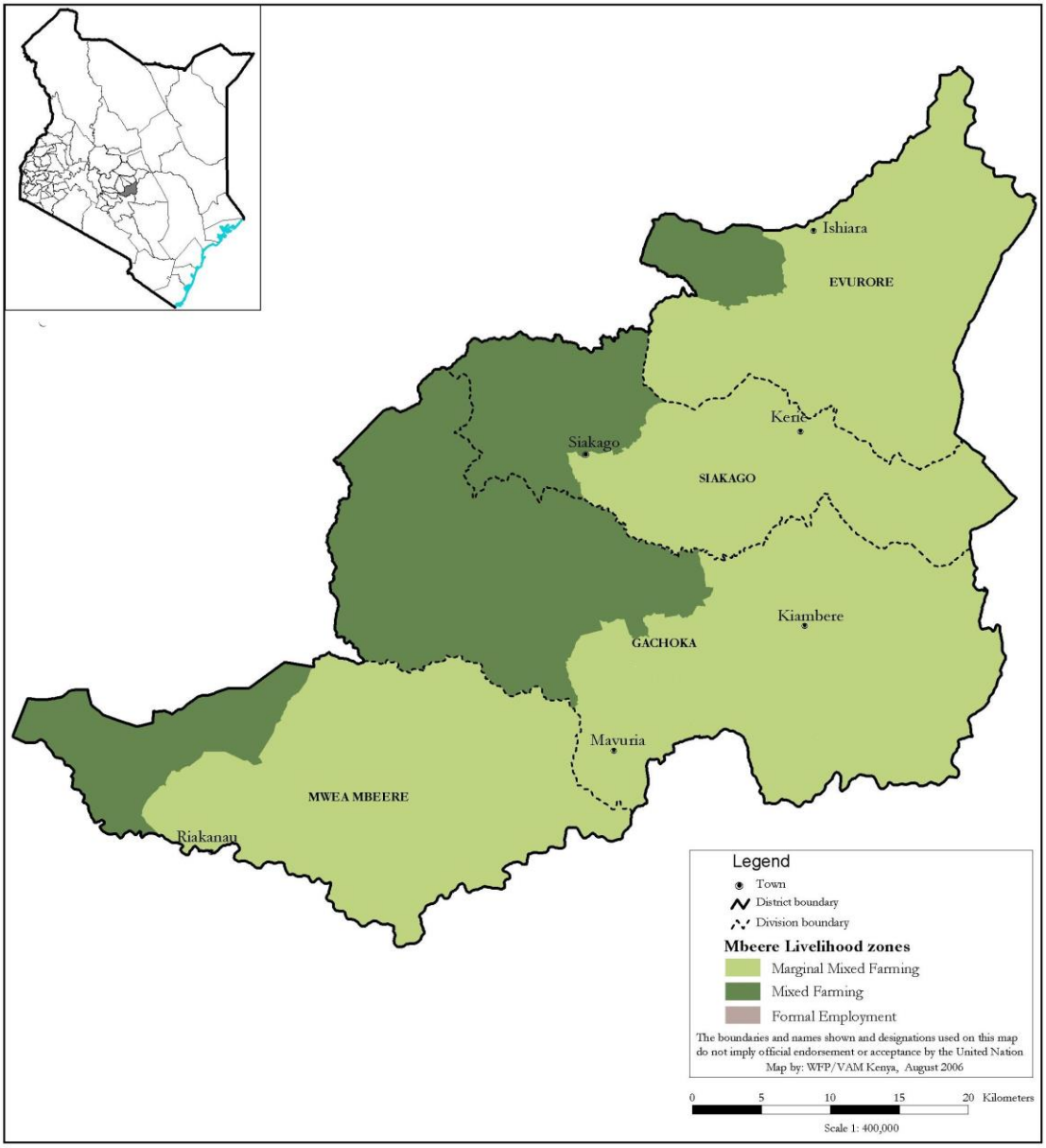
EMBU COUNTY (MBEERE)

2017 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



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

July, 2017

[1] Nelson Mutanda (NDMA) and Dorcas Mbaka (Ministry of Education)

Executive Summary

The Embu (Mbeere) is currently classified in the 'Stressed' (IPC Phase 2) food security phase. Mbeere sub counties are not dependent on the Long rains as the main season for crop production. In the month of July 2017, 93 percent of households in the Marginal mixed farming livelihood zone had adequate food consumption score while 98 percent of household in Mixed farming livelihood zone had acceptable food consumption score. The coping strategy index is currently 12 and five in marginal mixed and mixed farming livelihood zones respectively indicating that households are engaging more frequently in consumption based coping strategies to access basic commodities particularly in marginal mixed farming livelihood zone.

Currently, food availability is reduced as household and county maize stocks stand at 16 and seven percent of the long term average respectively due to two consecutive poor seasons experienced. Maize Crop production is 35 percent below average while green grams and cowpeas recorded an increase by 175 and 192 percent compared to short term average (STA).Most of the available household food stocks are being held in mixed farming livelihood zone. Cases of fall army worms were reported and field interviews carried out across the livelihood zones revealed that it contributed to reduced production.

Food access is generally constrained considering that food and cash crop production contribute to 50 percent of cash income in both livelihood zones and crop production is below average significantly reducing income from this source and consequently access to food. Maize prices in July were Ksh 60 per kilogram and 64 percent above the long term average (LTA) of Ksh 37 caused by reduced availability at household level reducing the household purchasing power. Milk prices were above average from Ksh 60 – 80 compared to the normal Ksh 60 with parts of marginal mixed farming livelihood zone recording the highest price of Kshs 80. Trekking distances to domestic water sources increased to an average of five kilometers as compared to three kilometers normally in the Marginal mixed farming livelihood zone with Kiambere and Makima Ward worst hit. Distances to water points were normal in Mixed farming livelihood zone.

Nutrition situation in the county is stable with proportion of children (6-59) months of age with MUAC <135 mm in July 2017 was 5.6 percent and 39 percent below LTA of 9.0 percent. This could be attributed to the ongoing harvesting of staple foods. The fully immunized child (FIC) coverage for 2017 was 76.6% which was below the national target of 80 percent.

The major contributing factors to food insecurity in the county include; poor performance of the long rains, poor crop performance, increasing food prices, drying up of water sources , Pests and diseases(Fall army worm).

Table of Contents

1.0 Introduction

1.1 County Background

Embu County comprises of five sub counties namely; Embu East, Embu West, Embu North, Mbeere North and Mbeere South. This assessment covered the sub counties of Mbeere (North and South) with a population of 219,220 persons (KNBS 2009) and covers an approximate area of 2,092.5 square kilometers. There are two main livelihood zones namely Mixed Farming and Marginal Mixed Farming with 51 and 49 percent of the total population respectively (Figure 1).

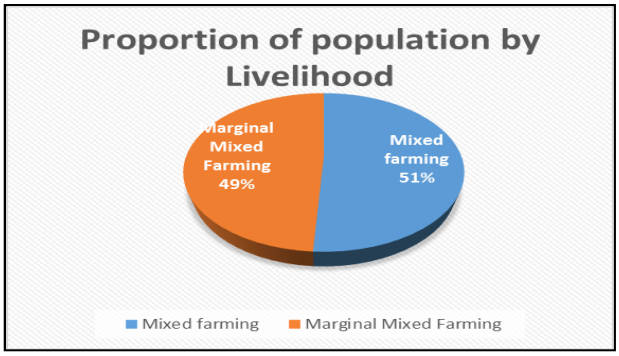


Figure 1.Propotion of population by Livelihood Zone

Objectives and approach

The main objective of this LRA was to develop an objective, evidence-based and transparent food security situation analysis following the March – May 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 methodology used was review of the existing data on the current situation as well as historical data from different sources. Review of checklists from line sectors and focus group discussions were also carried out. The team composed of Kenya Food Security Steering Group (KFSSG) members and County Steering Group (CSG) members made transect drives, carried out interviews and did market surveys in order to get a picture of the ongoing situation. The analysis took into consideration the different data and carried out evidence based analysis depending on convergence of the evidence from various sectors.

2.0 Drivers of Food and Nutrition Security in the County

2.1 Rainfall Performance

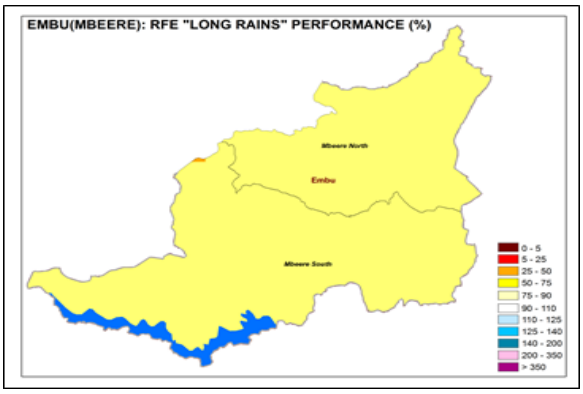


Figure 2.Rainfall performance

The rainfall onset was late in the first dekad of April as compared to second dekad of March normally. The County cumulatively received 50-75 percent of the normal rainfall. Spatial distribution was even with both livelihood zones receiving 50-75 percent of the normal rains while temporal distribution was poor (fig 2). Cessation was early in the second dekad of May compared to the third dekad of May normally.

3.0 Impacts of drivers on Food and Nutrition Security

3.1 Availability

Food availability is set to be below average as household maize stocks will last until mid-August and expected maize crop harvest is set to be 65 percent of long term average. Milk production has decreased by 50 percent and is likely decrease further as livestock body condition decline.

3.1.1 Crop Production

In the mixed farming zones, maize, beans and cowpeas are the major crops while in marginal mixed farming major crops are sorghum, green grams and cowpeas. The area under plantation decreased by 19 percent for maize while acreage for cowpeas decreased by 15 percent respectively as compared to LTA. This was attributed to farmer's anticipation that the long rains will not perform well as result of Kenya Metrological forecast. Area put under acreage for green grams increased as result of available market which motivated farmers. Projected crop yields for maize were lower compared to the LTA as the rains received were not enough to sustain the crop to physiological maturity consequently reducing the production. Maize crop yields are expected to be 65 percent of the LTA. Green grams and Cowpeas crop yields are expected to be 175 and 192 percent of the LTA respectively Cases of fall worms were reported and mainly attacked maize crop.

Table 1. Rain fed Crop Production

Crop	Area planted during 2017 Short rains season (Ha)	Short Term Average area planted during the short rains season (Ha)	2017 short rains season production (90 kg bags) Projected/ Actual	Short Term Average production during the short rains season (90 kg bags)
1.Maize	13920	17148	63450	97354
2.Green grams	5000	3892	43260	15708
3.Cowpeas	3990	4697	37075	12715

Irrigated Crop

The area under production for irrigated tomatoes, water melons and kales decreased by 10, 19 and 35 percent compared to the STA and can be attributed to a reaction to the rainfall forecast advisories from the meteorological department. The reduced dependence on rainfall and increased demand for vegetables and fruits both in the urban and rural areas encouraged farmers to produce more. The production increased substantially for tomatoes and water melon by 82 and 80 percent respectively while kales production decreased by nine percent compared to the STA (table 2). Improved production can be attributed to an improved distribution network of government subsidized fertilizer.

Table 2: Irrigation Production

Crop	Area planted during the 2016 short rains season (ha)	Short Term Average (3 years) area planted during Short rains season (ha)	2016 short rains season production (Tonnes) Projected/actual	Short Term Average (3 years) production during 2 Short rains season (Tonnes)
Tomatoes	601	726	37687	20733
Water melons	392	485	26587	14788
Kales	232	357	1417	1550

Maize Stocks

Maize stocks held by the households are 86 percent below the LTA attributed to crop failure experienced during the 2017 long rains season with over 80 percent of the available stock held in mixed farming livelihood zone. Stocks held by the traders are 96 percent below the LTA as result of unavailable maize stock in the country and high prices which have made households opted for other staple foods like Rice and Green grams (table 3). The stocks held by households are likely to last for about one week in Marginal mixed farming livelihood zone and one month in mixed farming livelihood zones respectively as compared to six months normally.

Table 3: Maize Stocks in the County

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	9520	69420
Traders	7420	172674
Millers	N/A	N/A
NCPB	N/A	N/A
Total	16940	242094

3.1.2 Livestock Production

The major livestock species kept in Mbeere are cattle, goats and sheep. In the mixed farming livelihood zone, livestock production contributes 18 percent of cash income while in the Marginal Mixed farming; livestock production contributes 23 percent of cash income.

Forage condition

Pasture and browse conditions were fair in both livelihood zones expected to last up to mid-August as compared to November normally. Crop residues are expected to supplement fodder

especially in the Mixed Farming zones and to a lesser extent in the Marginal Mixed Farming due to the poor crop performance (table 4)

Table 4: Forage Conditions by livelihood

Livelihood zone	Pasture condition			Browse condition		
	Current	Normally	Projected Duration to last (Months)	Current	Normally	Projected Duration to last (Months)
Mixed Farming	Fair	Good	2	Fair	Good	3
Marginal Mixed Farming	Fair	Good	1.5	Fair	Good	2

Livestock Productivity

Livestock body condition was generally good in all livestock species in Mixed Farming zone while cattle body condition is fair in Marginal Mixed Farming zone and sheep and goats exhibit good body condition. Inadequate and sporadic rains resulted in poor regeneration of pastures and fodder and the body conditions are expected to deteriorate seasonally. Milk production is below LTA across the livelihood zones affected by inadequate forage and water resources.

Table 5: Milk production, consumption and cost

Livelihood zone	Milk Production (Litres)/ Household		Milk Consumption (Litres)/ Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Mixed Farming	0.5 -1	2	0.5 -1.5	1-2	60 - 70	60
Marginal Mixed Farming	0.25 - 0.75	1	0.25 - 0.75	0.5-1	70 - 80	60

Milk prices in the mixed Farming zone remained stable stabilized by supplies from the neighboring Embu County. In the Marginal Mixed Farming zones, low production and higher transport cost increased the prices (Table 6). Reduced milk production and increasing prices have affected milk consumption and has resulted in above average malnutrition rates of the children below five years for second half of 2016.

Tropical livestock units (TLU), Birth rates, Migration, Livestock Diseases and Mortalities

The average TLUs in the mixed farming and Marginal Mixed Farming livelihood zone remained normal at two and 1.5 per household for poor and medium income households respectively. Birth rates are normal for all species, but expected to reduce as pasture and browse reduce. Normal intra-county migration and outmigration was reported in Mbeere North where about 20 percent of cattle was reported to have migrated from Marginal Mixed Farming area of Kamarandi to Kiambere in Mbeere South and an out migration to the riverine areas in Tharaka county due to poor forage conditions. The intra-county migration is expected to increase in the next three months as the forage conditions deteriorates further in these areas. There was no major livestock disease outbreaks reported and no livestock mortalities recorded.

Water for Livestock

The main water sources for livestock are permanent rivers, boreholes, dams, shallow wells. Major rivers like Thuchi, Thiba and Ena that traverse the livelihood zones are almost drying up. The distances to water points was normal at less than one Kilometre while above normal in marginal mixed farming between 4-6 Kilometres as compared to three Kilometres normally.

3.2 Access

3.2.1 Market operations

The main markets in Mbeere are Ishiara, Siakago and Makutano. All markets were functioning normally for both livestock and staple foods. Main food commodities traded were maize, beans, green grams, millet and sorghum while the major livestock traded were goats, sheep cattle and poultry. Traded volumes for livestock were relatively higher than normal in the Marginal mixed farming livelihood zones compared to the mixed marginal farming livelihood zone where volumes were normal.

3.2.2 Maize prices

Maize prices in June were Ksh 60 per kilogram and 64 percent above the LTA of Ksh 37 which is attributed to the diminishing stocks at the household level increasing demand in the markets. Transect drives conducted indicated high prices in Marginal mixed farming livelihood zones at Kshs 60 per Kilogram while Kshs 55 in Mixed farming Livelihood Zone (figure 3). The prices are likely to rise further with poor maize production across the livelihood zones.

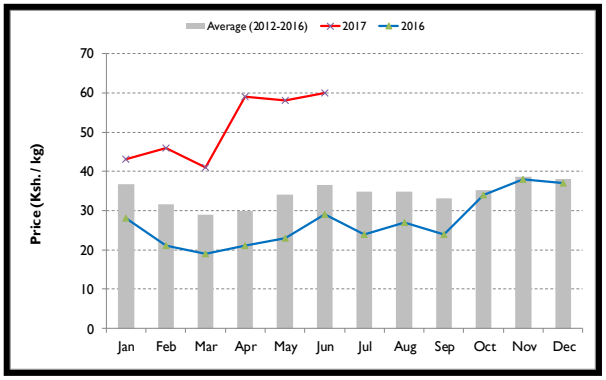


Figure 3.Maize Prices

3.2.3 Goat Prices

The current County price for goats are declining and currently at Ksh 3,200 which is slightly below the LTA.The declining prices can be attributed to distress sale of livestock due to lack of food. The transect drives conducted indicated high goat prices in Mixed farming at Kshs 5000 for an average goat as compared to Kshs 3000 in Marginal mixed farming Livelihood zones. The prices are likely to decrease further with projected poor harvest (Figure 4).

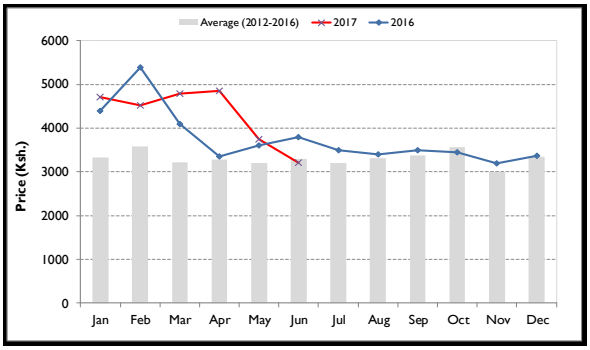


Figure 4.Goat Prices

3.2.4 Terms of Trade (TOT)

Currently the terms of trade are 53 Kilograms of maize in exchange for one goat as compared to 90 kilograms normally which is 41 percent below the LTA (Figure 5). The trend has been on a decline since March and can be attributed to the increasing maize prices in the county. Field interview conducted at Ishiara market in

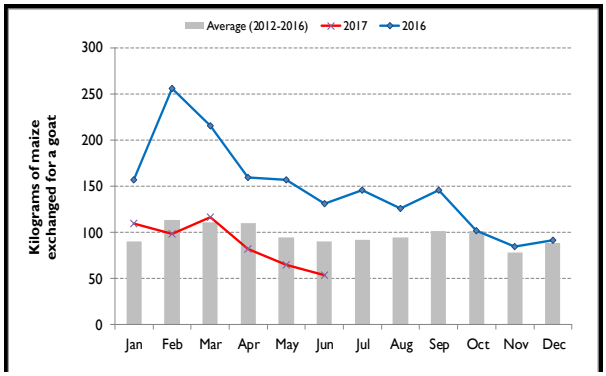


Figure 5.Terms of trade

marginal mixed farming livelihood zone confirmed low purchasing power of livestock farmers. The ToTs in 2017 are lower than those in 2016 and is expected to drop further with increasing commodity prices and decreasing livestock prices as result distress sales.

3.2.5. Income sources

Food and cash crop production contribute to 50 percent of cash income in both livelihood zones while 23 and 26 percent of cash income is derived from livestock production. Other sources of income include casual labor, petty trade, and firewood and charcoal sales. During the period under review, sources of income were affected by the poor rainfall performance.

Table 5 Income sources

Livelihood Zone	Source of Income	Percent of Income
Mixed farming	Food crop production	30%
	Cash crop production	20
	Livestock Production (including meat, milk, hides, skins, and by products)	18%
	Formal Waged Labour including public and private sector employees	10%
	Small Businesses/own business including crafts, non-farm production, beer etc.	14%
	Petty trading	5%
	Poultry production including meat and egg production	5%
	Casual Waged-labour Income	3%
	Firewood collection/charcoal burning	2%
	Remittance and gifts	2%
Marginal Mixed Farming	Food crop production	40%
	Livestock Production (including meat, milk, hides, skins, and by products) poultry and eggs	23%
	Cash crop production	10%
	Small Businesses/own business including crafts, non - farm production, beer etc.	5%
	Formal Waged Labour including public and private sector employees	5%
	Casual Waged-labour Income	4%
	Firewood collection/charcoal	15%
	Poultry Production including meat and egg production	3%
	Fishing (marine or inland)	2%
	Petty Trading 1%, Other Specify 1%, Hunting Gathering 1%, Remittance and Gifts 1%	4%

3.2.6 Water access and availability cost and consumption.

The main sources of water for domestic use include; rivers, boreholes, dams, shallow wells and piped water. The current water sources are below average compared to this time of the year and the below average rainfall affected their recharge which was below 50 percent leading to low water concentration points especially in marginal mixed farming areas. The major rivers serving the county and the lower sub counties are Thiba, Tana, Ena and Thuchi, Makima, Kiambeere, Mavuria, Evurore, Muminji and Mwea. By the end of , there were few reported cases of dried up

sources especially in marginal mixed farming livelihood zones. The water sources in the marginal mixed farming livelihood zones areas is expected to last for two weeks while that of (mixed farming is estimated to last for two months with rationings being implemented in areas supplied with piped water.

Distance to water sources, Waiting Time and Cost of Water Consumption of Water

The current distances to water sources for both livestock and domestic consumption is 5 km as compared to 3 km in the Marginal mixed farming zones of Makima and Kiambere and 0 - 2km in mixed farming as compared to 0 – 1km due to drying up of water sources like River Thiba. The trend is likely to worsen until the start of the long rains in October as the available water sources will have dried up. Current waiting time in the marginal mixed farming zone has increased from the normal 20 minutes to 60 minutes while in the mixed farming zone the waiting time from the normal 10 minutes to 30 minutes due to low pressure from piped water and increased number of users at water kiosks. The current cost of water in marginal mixed farming is Ksh 20 per 20 litre jerrican from vendors compared to the normal Ksh 5-10 while in the mixed farming, the current cost is normal at Ksh. 3-5 per 20 litre jerrican.Water consumption in litres per person per day (lpppd) decreased in both livelihood zones to 15 from 20 lpppd and 20 from 40 lpppd in the marginal mixed farming and mixed farming zones respectively. Increased cost, distances and waiting time is attributed to decreased water availability as the water sources dry up and others decrease in output.

3.2.5 Food Consumption and Dietary diversity

In June 2017 the food consumption score showed a worsening situation compared to February as the percentage of the of households with poor food consumption scores increased from 0 to 2 percent in the mixed farming while it remained the same at 6.7percent in the marginal mixed farming zones. In marginal mixed farming livelihood zones, more households moved from borderline to acceptable food consumptions as depicted in Table 8.

Table 6. Food Consumption Score

Period	Livelihood Zone	Poor	Borderline	Acceptable
February 2017	Mixed farming	0	49.2	50.8
	Marginal Mixed farming	10.8	56.9	32.3
June 2017	Mixed farming	2	63	35
	Marginal Mixed farming	7	23	70

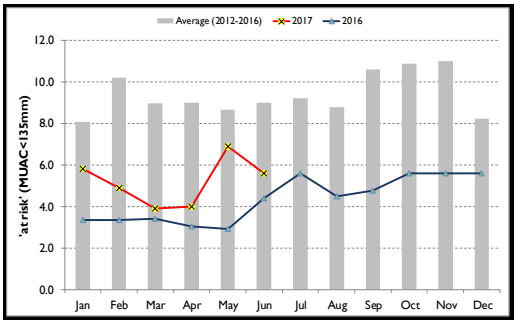
Currently most of the children are consuming between 2 - 3 meals per day, down from 4 - 3 meals while adult meals frequency is 1 - 2 meals a day, which is below normal. The composition of meals is mainly more of starch and legumes with less vegetables than usual due to their increased scarcity affected by the below average rains.

3.2.6 Coping strategy

The coping strategy index (CSI) is 5 and 12 in mixed and marginal mixed farming livelihood zone respectively. There has been an increase in coping strategies for households in mixed farming by 50 percent as compared to February 2017 when the coping strategy index was 3.Households in marginal mixed farming livelihood zones were coping more as compared to mixed farming livelihood zone. The most commonly employed strategy was reduction of number of meals, sacrifice by adults for children as well as offloading of livestock to meet the household needs.

3.3 Utilization

3.3.1 Nutritional status and Health



Proportion of children under five years of age with Mid Upper Arm Circumference (MUAC) of <135 mm in June 2017 is at 5.6 percent compared to LTA of nine percent. The current trend is below the LTA and above 2016 which can be attributed to the ongoing harvesting particularly green grams and cowpeas across the livelihood zones (figure 6).The trend is likely to detoriate as available stock gets depleted.

Figure 6.Children with MUAC <135mm

3.3.3 Immunization and Vitamin A Supplementation

The fully immunized child (FIC) coverage for 2017 was 85.7 percent, higher than national target of 80 percent and an increase from 72.4 percent reported in 2016. Children aged 6-59 months supplemented with Vitamin A dropped from 38 percent reported in the second semester of 2016 to 31 percent in 2017 which is below National target of 80 percent. This can be attributed to the health workers strike as there is reduction in the number of children being attended.

3.3.2. Sanitation and Hygiene

Latrine coverage slightly improved from 86 percent recorded in 2016 to 87 recorded this year. This is accredited to implementation of community total lead sanitation (CLTC) where all public health officers were trained and triggered in their own areas of work. Household Water treatment stands at 20 percent.

3.3.3 Morbidity Patterns.

In January to June 2017, morbidity cases for the top three diseases in the county in both the under-five and general population decreased as compared to same period in 2016(Table 10).The decrease can be attributed to nurses strike. During the period there were no unusual deaths reported as the reported cases were within acceptable threshold.

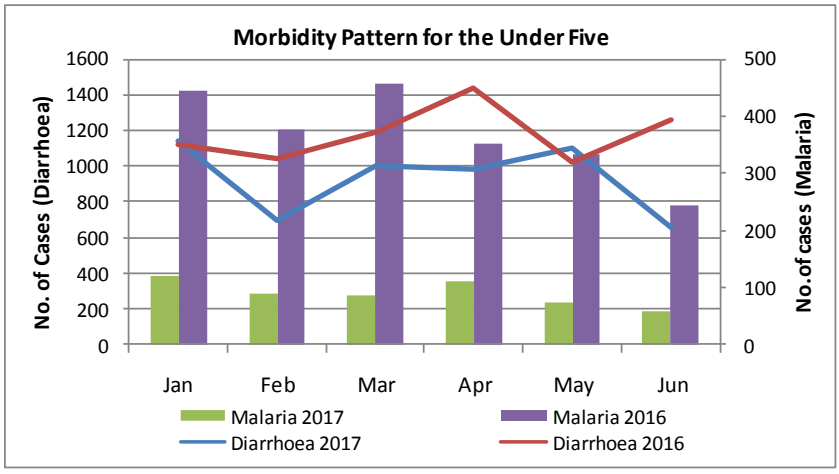


Figure 7: Morbidity trends (Diarrhoea and malaria)

Table 9. Morbidity cases for children under five and general population

Reported Morbidity for general population				Reported Morbidity for Children Under Five Years			
Disease /Condition	January - May 2016	January - May2017	% change	Disease /Condition	January - May 2016	January - May2017	% change
upper respiratory tract infections(URTI	32993	29836	11	upper respiratory tract infections(URTI)	28839	14980	48
skin conditions	12556	10518	19	skin	6001	3526	41
Arthritis	5611	6072	8	Diarrhea	2691	2461	9

3.4 Trends of key food security indicators

A comparison of key food security indicators shows a deteriorating situation compared to the Short rains assessment period

Table 10. Food security indicator trends

Indicator	Short rains assessment, Feb 2017	Long rains assessment, July 2017
% of maize stocks held by households (agro-pastoral)	83 % below LTA	84 % below LTA
Livestock body condition	Good for shoats, fair for cattle in both MMF and MF	Good for shoats, fair for cattle in both MMF and MF
Water consumption (litres per person per day) MF	20 lpppd	20 lpppd
Water consumption (litres per person per day) MMF	15 lpppd	15 lpppd
Price of maize (per kg)	Ksh 37	Kshs 60
Distance to grazing(MMF)	0-5Km	4-7km
Terms of trade (pastoral zone)	91 Kg	53Kg
Coping strategy index	3..2 (mixed farming) and 10.3 marginal mixed farming -	5 (mixed farming) and 12 (marginal mixed farming)
Food consumption score MF		2% poor, 35% borderline,63% acceptable
Food consumption score MMF	10.2 acceptable, borderline57.5, 32.3 poor	7% poor, 23% borderline, 70% acceptable
Children at Risk of Malnutrition by MUAC >135mm	5.6%	5.6%

3.5 Education

The county has a total of 240 primary schools and the Home Grown School Meals Programme (HGSMP) is being implemented in 46 percent of the primary schools. The HGSMP is currently benefiting 44 percent of the pupils comprising 14,345 boys and 13722 girls. Pupils in some primary schools miss meals due to delays in disbursement of funds and lack of water to prepare meals. HGSMP has reportedly improved participation, attendance and retention of pupils in schools. Rate of attendance in the year 2017 was 99 percent for both boys and girls in public primary schools. In early childhood development (ECD) centres, participation was 98 percent for both girls and boys attributed to construction of more centres closer to the households and employment of more teachers by county governments. Recently the County Govt. launched the school milk program which will go a long way in further improving the participation. Main reasons reported for absenteeism were ailments and lack of school fees.

4.0 Food Security Prognosis

4.1 Prognosis Assumptions

Over the next six months (August – January), food security outcomes will mainly be influenced by several drivers. This section summarizes the assumptions about the key food security drivers.

The October to December short rains are expected to start on time, have typical spatial and temporal distribution and have near average cumulative rainfall. Pasture and browse are expected to decorate faster than normal between August and October due to the low rainfall during the last season, the early end of those rains and the likely warmer than normal temperature during the dry season. Staple food prices are likely to increase and remain high until end of December when harvesting for short rains season is expected to start.

Households in marginal Mixed farming livelihood zones are likely to become more food insecure from September to December. Terms of trade are expected to further decrease thus affecting household purchasing powers. Water sources particularly in Marginal Mixed Farming Livelihood zones likely to dry from September to December due to poor recharge of open water sources.

Food Security Outcomes from August to October 2017

Household Food Security is expected to decline through October particularly in Marginal Mixed Farming Livelihood zones. Household food access and consumption expected to deteriorate as result of poor production and rising market prices. Households are expected to intensify their livelihood and consumption coping strategies with increased proportion using stress coping strategies to bridge the income and meet essential food needs. Water sources particularly in Marginal Mixed farming areas will dry through October as result of poor recharge during the long rains. The food security situation is likely to deteriorate with more households moving into the "Stressed" (IPC Phase 2) phase.

Food Security Outcomes from November to January 2018

The short rains will be ongoing resulting to substantial regeneration of pasture and water recharge which is likely to improve milk production. Improved livestock body conditions which will result in seasonal increase of prices. Early maturing crops will be ready by January thus improving food availability and low food prices. Distance to water sources to reduce across all livelihood zones.

5.0 Conclusion and Interventions

5.1 Conclusion

The current food security situation in the County is stressed IPC (IPC Phase 2). The factors to monitor are water availability, pasture and browse condition, market trends, crop value chain development, and health and nutrition status of the population and are expected to worsen as the long rain season did not perform well. In the next three to six months, there will be need to monitor water situation in the both Mixed and Marginal Mixed Farming livelihood zone, Livestock off load campaign endemic livestock diseases , nutrition and health status among the population.

5.1.2 Summary of findings

Long rains harvest will be in the range of 60-65 percent of LTA, as a result of poor rainfall coupled with limited household stocks which stands at 84 percent below the LTA, loss of income and food especially from own farm production and reduced on farm labor opportunities. This has led to majority of household to rely on markets for their food. Terms of trade are already unfavorable to the households and the trend is worsening due to high trade volumes and low demand. Water stress to bite across all the livelihood zones, the situation is likely to worsen until the onset of the Short rains. Majority of households in acceptable food consumption score likely to move to borderline in terms of food consumption score this will exacerbate further and the household food security will be compromised; most households will remain in Stressed (IPC Phase 2).

5.1.3 Ward Ranking

Table 7. Ward Ranking

WARD	Ranking	Rationale
Kiambere	1	Poor pasture and browse,-Increased distance to water sources, inadequate access to health facilities, Human, livestock and wildlife conflict – crocodiles, little rain
Makima	2	Crop failure , water stress and high prices
Evurore	3	Crop failure ,water stress and high prices
Muminji	4	Crop failure , water stress and high prices
Mwea	5	Crop failure , water stress and high prices
Mavuria	6	Water stress, high market prices and high prices
Nthawa	7	Water stress, high market prices, high prices
Mbeti South	8	Water stress, high market prices, high prices

5.2 Ongoing Interventions

5.2.1 Food interventions

The government subsidized maize flour has not reached households and therefore they were depending on markets.

5.2.2 Non - food interventions

Table 8. Non - food interventions

Sub County	Intervention	Location	No. of beneficiaries (000)	Implementers	Impacts in terms of food security	Cost (Ksh M)	Time Frame	Implementation Status (% of completion)
AGRICULTURE								
Mbeere North and South	Training on postharvest handling of grains	2 sub counties	30	County government and partners	Reduced postharvest losses	1m	May-Sep immediate	Ongoing
Mbeere North and South	Training on collective marketing of grains	2 sub counties	20	County government and partners	Improved farm incomes	1m	May-Sep immediate	Ongoing
Mbeere North and South	Training on value addition of grains	2 sub counties	20	County government and partners	Improved farm incomes	1m	May-Sep immediate	Ongoing
Mbeere North and South	Recruitment of farmers for e-voucher inputs for drought tolerant cereals and legumes	Sub Countywide	Target 6	National and County government	Increase in food availability at household, increased income	90m	SR 2017 medium	ongoing
LIVESTOCK								
Mbeere North	Provision of traditional crop seed	Sub Countywide	6	National and County government	Increase in food availability at household, increased income	6m	LR 2017 season (Seed reserved for SR 2017)	ongoing
Mbeere North, South	routine animal husbandry	Throughout the sub counties	3.5 HH	Livestock production departm	Increase in living standards Increased income	0.5M	Year around	Ongoing

				ent				
Mbeere North, South	Livestock disease surveillance	Sub Countywide	All routes	Veterinary services department	Prevent livestock mortality	5m	Year around	ongoing
WATER								
MMF-Mavuria,,KiambeereMakimaMwea,Evurori,Muminji	Repair of strategic boreholes	Mavuria,, KiambeereMakimaMwea,Evurori,MuminjiWards	2, H/h	Embu county government	increased water availability	3million	Work on going	Some works are on going
MFMbeti south ,Nthawa, kanyuambor awhich is part of Evurori ward	Repair of strategic boreholes	Mbeti south ,Nthawa, kanyuambora which is part of evurori ward	-	Embu county government	Increased water availability	-	2017	ongoing
HEALTH								
Mbeere south/North	Vitamin A Supplementation	Health facilities in all divisions	19626	MOH, NDMA	Improved nutrition status	125,110	Bi annual	Ongoing
ALL	Zinc Supplementation	in all health facilities for therapeutic purposes	19886	MOH	Improved health	-	Bi annual	Ongoing
ALL	Management of Acute Malnutrition (IMAM) Out patient In patient	All facilities implementing feeding programs	4941	GOK/ UNICEF/WHO	Improved Health	1.04 M	One year	Ongoing
ALL	IYCN Interventions (EBF and Timely Intro of	All facilities implementing feeding program	24700	MOH	Improved Health	6M	One year	Ongoing

	complementary Foods)							
ALL	Iron Folate Supplementation among Pregnant Women	Mbeere South and North	6706	MOH	Improved Health	31600	One year	Ongoing
ALL	Deworming	Mbeere South and North	23460	MOH, MOE, NDMA	Improved Health	241,00	One year	Ongoing
ALL	Food Fortification	Mbeere South and North	ALL	MOH	Improved Health	5M	One year	Ongoing
ALL	Blanket supplementary feeding	Mbeere South and North	ALL	MOH	Improved Health	5M	One year	Ongoing
ALL	Routine surveillance	Mbeere north and south	52851HH	MOH	Improved Health	-	One year	Ongoing
ALL	Aqua tabs provision	Mbeere north and south	52851HH	MOH	Improved Health	170000	One year	Ongoing
ALL	Aflatoxin sampling	Mbeere north and south	52851HH	MOH	Improved Health	1.7M	One year	Ongoing
EDUCATION								
Mbeere South and North	ESMP for all schools in the two sub-counties SM	71 schools in Mbeere south and 34 schools in Mbeere north	29005 Pupil	GOK, MOE	Improve access to school and enhance learners health	14,502,500	Short term covering the drought period	Ongoing
Mbeere South and North	Provision of school milk for ECDE pupils	All public ECDE centres in the two sub-counties	11576 pupils	GOK, County govt.	Improve access to school and enhance learners health	14,700,500	Long term throughout the entire school year	Ongoing

5.3 Recommended Interventions

5.3.1 Food interventions

Approximately 30 -35 percent of population in Mbeere are in need of food aid. Table 14 below illustrates the proportion of people by ward.

Table 9. Population in need of food assistance

Ward	Population	Percentage requiring intervention
Kiambere	15,059	50-55
Makima	21,291	40-45
Evurore	45,585	30-35
Muminji	16,728	30-35
Mwea	30117	30-35
Mavuria	34,139	20-25
Nthawa	26,725	20-25
Mbeti south	29,579	15-20

Table 10. Non- food interventions

Sub County	Intervention	Location	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (Ksh M)	Time Frame
AGRICULTURE							
Mbeere South/ Mbeere North	Trainings on post harvest management of grains	all	17,000 households	MOA	Reduce losses associated with aflatoxin and also pests infestation.	Human resource	2 months
Mbeere South/ Mbeere North	Provision of irrigation kits	all	10,000 households	County government and partners	Increased income and food security	5M	August-Oct
Mbeere South/ Mbeere North	Provision of traditional crop seed	Sub County wide	12,000	National and County government	Increase in food availability at household, increased income	3.9	On going
LIVESTOCK							
Mbeere South/ Mbeere North	Routine animal husbandry practices and upgrade	Mbeere north & south	2000 farmers	Livestock production department.	Improved Living standards Increased income	Normal extension work	On going

Mbeere north & south	Livestock Feed Supplementation and forage establishment and conservation	Mbeere north & south	3000 farmers	Livestock production department	Improved Living standards Increased income	6M	3 months
Mbeere north & south	Routine disease surveillance	Mbeere north & south	All routes	Veterinary department.	Improved animal productivity	Normal extension work	On going
WATER							
Makima, kiambere Mavuria Mwea (Marginal Mixed Farming)	Boreholes repairs, construction and desilting of earth dams	Makima, Kiambere, Mavuria	300 house holds.	county government and national government	-reduce walking distance -Reduced waiting time -Increase domestic water usage. -Reduce cost of water. - reduce water borne diseases	2.4	January March 2017
All wards	Water harvesting to schools and health institutions		150 Institutions	county government and national government	-reduce walking distance -Reduced waiting time -Increase domestic water usage. -Reduce cost of water. - reduce water borne diseases	15	January March 2017
HEALTH							
Embu County	Micro nutrient Supplementation Vitamin A deworming, Therapeutic ZINC, IFAs	Health facilities in all divisions All schools	31892 3600	MOH MOE NDMA APHIA PLUS	Improved immune system, Reduced diarrhoea incidence, boost Iron level, reduce MMR	0.32	Bi annual throughout year

Mbeere south and North	Management of Acute Malnutrition (IMAM) 1.Outpatient therapeutic program and Inpatient Management	All facilities implementing feeding programmes	2280 1368	GOK (MOH) UNICEF WHO	Reduce severity of malnutrition	0.7	Annual
Mbeere south and North	MIYCN Interventions (EBF and Timely Intro of complementary Foods)	Mbeere South and North	6-23 months	GOK UNICEF WHO A+K	Improve nutrition status	2	Throughout the year
EDUCATION							
Mbeere South and North	Expand HGSFP to cover all schools	All Locations	29247	GOK, MOE	Improve access to school	10M	6 months
Mbeere South and North	Tree planting and introduction of high valued crops in school farms	All Locations	29247	MOEST NDMA MoA Parents Teachers	Improve school environment and introduce drought tolerant crops	5M	6 months