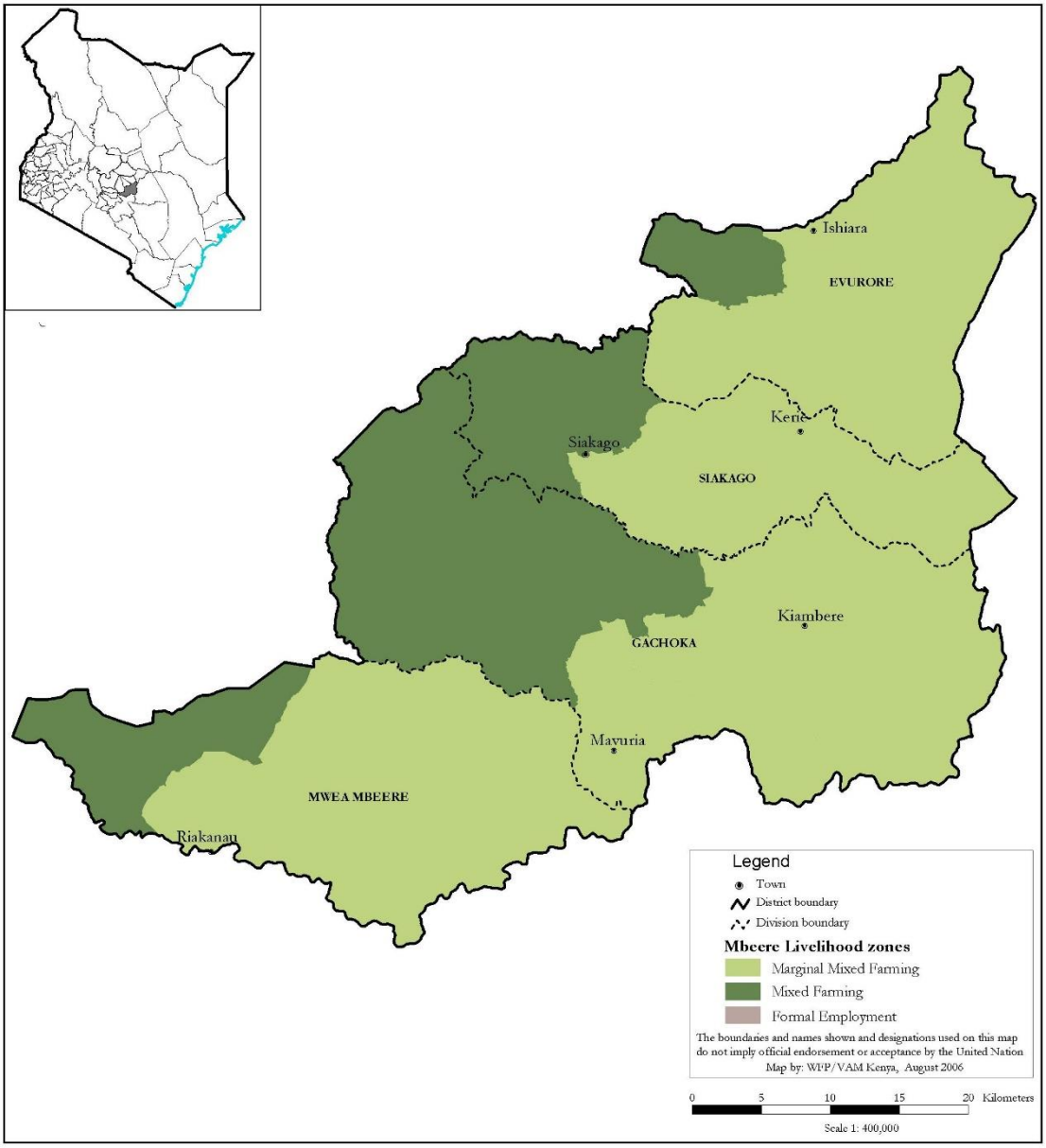
EMBU COUNTY (MBEERE)

2017 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



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

February, 2018

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Executive Summary

Embu (Mbeere) is classified under IPC Phase 2 category. (87.5%) and (12.5%) of the population in the county had acceptable and borderline food consumption score respectively. However, the diet diversity was poor in mixed farming and marginal mixed farming zones. Most children are consuming two to three food groups per day which is lower than the recommended minimum of four food groups per day. The coping strategy index as of January 2018 was 21 in the mixed marginal farming zone and 3.6 in the mixed farming zone indicating that households are still engaging frequently in consumption based coping strategies to access food.

The price of food commodities was higher than the Long-Term Average (LTA) during the period under review and stabilized during the month of January 2018. Food availability is reduced due to poor crop production attributed to by poor rainfall performance coupled with fall army worm attach. The average maize prices in January, 2018 was Ksh 37.6 per kilogram which was slightly higher than the LTA of Ksh37. However, transect drives conducted indicated high prices in in some pockets of Marginal mixed farming livelihood zones at Kshs 60 per kilogram and kshs 55 in mixed farming livelihood zone. The high maize price is attributed to the diminishing stocks at the household level thus increasing demand for the commodity in the markets.

Crop production for rain fed agriculture decreased by 64 percent compared to the LTA due moisture stress attributed to poor performance of the short rains, increased cost of production and attack by fall army worm. Production for irrigated crops increased by 35 percent due to efforts by the county government to promote irrigation and also the high demand for fruits and vegetables. Milk production is below the LTA due to inadequate forage and increased distance to watering points and is likely to decrease further as livestock body condition deteriorates. The Tropical Livestock Units (TLU) were below normal across the livelihood zones consequently reducing the household purchasing power.

Poor rainfall performance resulted to reduced or lack of pasture thus adversely affecting the livestock body condition. Goat prices was lower than the LTA in October but picked up December 2017 and in January 2018 increasing household purchasing power.

The current water consumption in the mixed farming zone has reduced to 20 litres per person per day compared to the normal of 60 litres per person per day; while in the marginal mixed farming zone it has gone down to 15 litres per person per day compared to the normal of 30 litres per person per day. The reason for the reduction is due to rationing hence controlling normal usage of water as well as long distances to water points.

The March to May long rains are expected to start on time however are likely to be below average tending to average. Pasture and browse are expected to deteriorate faster than normal between February and mid-March. Generally, the food insecurity situation is projected to decline in the next three months up to April when the onset of the long rains is expected to trigger recharge of water facilities and regeneration of pasture and browse

1.0 Introduction

1.1 County Background

Embu County comprises of five sub counties namely; Embu East, Mbeere North, Mbeere South, Embu North and Embu West. The 2017 short rains 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 kilometres. There are two main livelihood zones namely mixed farming (MF) and marginal mixed farming (MMF) with 51 and 49 percent of the total population respectively (Figure 1).

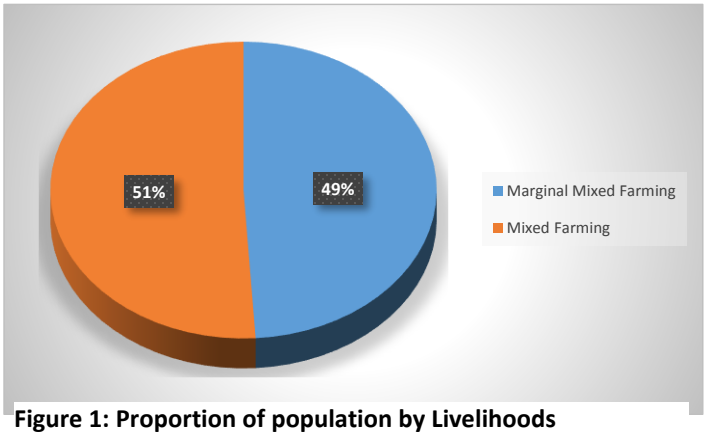

Figure 1: Proportion of population by Livelihoods

1.2 Objectives and approach

The main aim of the short rains assessment is to develop an objective, evidence based and transparent food and nutrition security situation analysis following the short rains seasons of 2017 considering the cumulative effect of previous seasons and to provide recommendations for possible response options based on the situation analysis. An initial county status briefing was conducted on Monday 5th of February 2018 and presentation of sectoral checklists from agriculture, livestock, water, education, health and nutrition departments made. The members also reviewed the existing historical data from numerous sources.

A team was later constituted that composed of the Kenya Food Security Steering Group (KFSSG) members and County Steering Group (CSG) members. The team carried out field visits for two days to triangulate the information provided. The review and analysis of primary and secondary data was done and a final de-briefing conducted in a County steering group (CSG) meeting held on Friday 9th February 2018. Deliberations during the final CSG informed the development of the County Food Security Report for Short Rains of 2017.

2.0 Drivers of Food and Nutrition Security in the County

2.1 Rainfall Performance

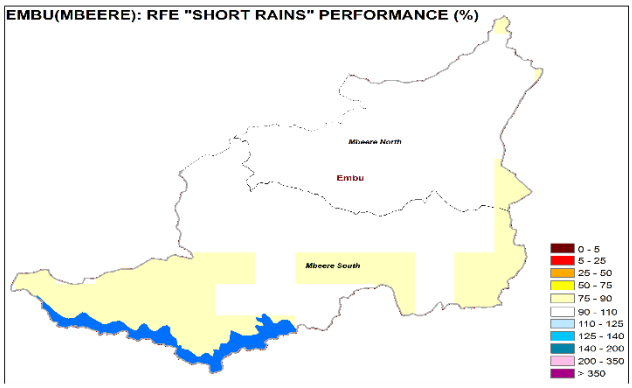

Figure 2. Rainfall performance

The short rains season started timely on the second dekad of October and ceased early in the third dekad of November. A normal cessation is of the third dekad of December. The dekad distribution of the rainfall recorded in the season was good upto to the second dekad of November. The region received an average amount of 43.2 mm of rainfall compared to long term average amount of 46.3 mm for the entire season. Mixed farming livelihood zone received normal to above normal rainfall while the Marginal mixed Farming zone (Mwea, Makima, Mavuria and Kiambere wards) received below normal rainfall during the season. The early cessation of rains resulted to some crops maize, beans and green grams not attaining their physiological maturity.

2.2 Pests and Disease Infestation

The fall army worm attacked mostly cereals in the county resulting to reduction of the quantity and quality of the harvest. Farmers lost more than a quarter of the maize during the vegetative stage. The incidence of pests and diseases led to the reduction in the quality of the yields and resulted in huge losses which threatened the food and nutrition security; and livelihoods of vulnerable farmers.

3.0 Impacts of drivers on Food and Nutrition Security

3.1 Availability

Food availability is below average as household maize stocks will last until March 2018. Milk production is below the LTA and is likely to decrease further as livestock body condition deteriorates.

3.1.1 Crops Production

The rain fed crops mainly grown in Kieni are maize, beans and green grams while the irrigated crops are tomatoes, water melons and kales. The crops are grown for both consumption and income generation.

Rain Fed Crop Production

The acreage under maize decreased by 24 percent as many farmers opted to increase acreage under sorghum due to its ready market, comparatively low cost of production, its promotion by many stakeholders and availability of seeds. Maize production decreased by 78 percent due to decrease in acreage achieved, drought and the Fall Army Worm attack. The acreage under beans increased compared to LTA and this was occasioned by availability of beans seeds, an

intervention of the county and national government. Beans production was lower compared to LTA due to early cessation of rains. Green grams acreage increased by 101 percent as compared to LTA and this is attributable provision of seeds by partners, county and national governments. Green grams and cowpeas production decreased by 50 percent and 15 percent respectively in comparison to the LTA because the rains received was not enough and the distribution in both time and space was not good.

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	12,970	17,145	32,425	150,554
2.Green grams	7,940	3,942	19,850	39,420
3.Cowpeas	7,180	6,497	27,750	32,715

Irrigated Crop Production

The acreage achieved under irrigated agriculture for tomatoes, water melons and kales increased by 18, 56 and (9%) respectively due to the efforts by the county government to promote irrigation and also the high demand for fruits and vegetables. Production of tomatoes, water melons and kales also increased by 35, 88 and 12 percent respectively due to available water especially from boreholes.

Table 2: Irrigation Crop Production

Crop	**Area planted during the 2017 short rains season (Ha)**	**Short Term Average (3 years) area planted during Short rains season (ha)**	**2017 short rains season production (Tonnes)**	**Short Term Average (3 years) production during 2 Short rains season (Tonnes)**
Tomatoes	670	566	1,254,563	931,933
Water melons	350	225	26,287	13,968
Kales	280	257	1,733	1,550

Maize Stocks

Maize stocks held by farmers are 43 percent less than the long-term average because of the poor production realized in the short rains. Traders stocks are (2.5%) of the long term average because few households are relying on the market for food. Traders stock is expected to increase as farmers sell their produce for cash income.

Table 3: Maize Stocks in the County

Stocks held by	Food crop	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	Maize	26,874	62,000
	Rice	0	0
	Sorghum	38,980	52,000
	Millet	760	1,100
Traders	Maize	2,475	98,554
	Rice	1,200	1,600
	Sorghum	25,000	8,200
	Millet	500	800
Millers	Maize	N/A	N/A
	Rice	N/A	N/A
	Sorghum	N/A	N/A
	Millet	N/A	N/A
NCPB		N/A	N/A
Total		**95,789**	**224,254**

3.1.2 Livestock Production

The major livestock species kept in Mbeere are cattle, goats, sheep and local poultry. Livestock production contributes to 20 and 30 percent of income in the mixed farming and marginal mixed farming livelihood zones respectively.

Forage condition

Pasture & browse condition is poor and fair in marginal mixed farming and mixed farming zones respectively which is not normal. Poor pasture and brown is attributed to the early cessation of the short rains resulting to poor pasture regeneration. The available pasture is expected to last for 1.5 and 0.5 months in the mixed farming and marginal mixed farming zones respectively.

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	1.5	Fair	Good	1.5
MMF	Poor	Good	0.5	Poor	Good	1

Livestock Productivity

Livestock body condition was generally good for goats in both livelihood zones, while cattle body condition was fair to poor and fair in the marginal mixed farming and mixed farming zones respectively.

Table 5: Livestock Body Condition by livelihood

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
MMF	Poor/Fair	Good	Fair	Good	Good	Good	n/a	n/a
MF	fair	Good	Good	Good	Good	Good	n/a	n/a

Milk production, consumption and prices.

Milk production from both cattle and goats was below LTA across the livelihood zones due to inadequate forage and increased distance to watering points. Low production and increased milk prices have affected milk consumption at the household level.

Table 6: Milk Production, Consumption and Cost

Livelihood zone	Milk Production Litres/HH		Milk consumption Litres/HH		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
MMF	1	1.5	1	1.5	70	50
MF	3	5	2	3.5	60	50

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

Generally, the TLU's were below normal across the livelihood zones thus reducing the household purchasing power as shown in the table below. Birth rates are normal across all species and livelihood zones.

Table 7: Tropical Livestock Unit

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
MMF	1.5	2	2	5
MF	1	2	1	2

Water for Livestock

The main water sources for livestock are rivers, earth dams, water pans and boreholes. The sources of water were not fully charged due to early cessation of the short rains. The current distances to domestic water sources is three to five and five to ten kilometres compared to the normal of zero to three and one to five kilometers in the mixed farming and marginal mixed zones respectively.

3.2 Access

3.2.1 Market operations

The main markets in Mbeere include Makutano and Siakago in the mixed farming zone and Kiritiri, Mutuobare, Ishiara and Ngiire in the marginal mixed farming zone. The main livestock sources for the markets were Masinga, Tharaka and Mwingi with animals from within Mbeere North & south contributing to 60 percent of total stock in the market. There is low demand for livestock by traders and middlemen across the livelihood zones.

Traded volumes for maize and beans in the markets slightly reduced between December and January due to anticipated or actual short rains harvests realized. The volumes of goats were high due to the festive season and cash income for households.

3.2.2 Maize prices

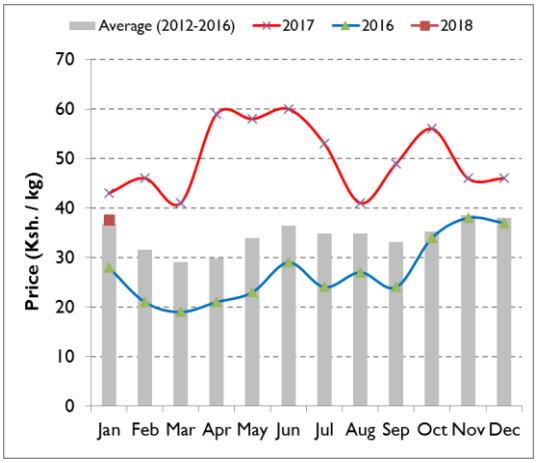

Figure 3. Maize price trends

Maize prices in January, 2018 were Ksh 37.6 per kilogram and is equivalent to the LTA of Ksh 37. The average market price for maize decreased by 19 percent compared to kshs. 46.3 recorded in December, 2017 which is attributed to the diminishing stocks at the household level and increasing demand for the commodity 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. The prices are likely to rise further with poor maize production across the livelihood zones.

3.2.3 Goat Prices

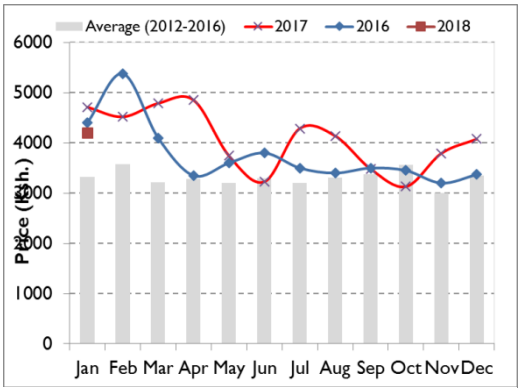

Figure 4 Goat Prices

Goat prices were higher in December 2017 compared to the LTA due to relatively better browse and high demand during the festivities. Prices declined in January 2018 due to more supply of goats in the market for households' cash income. The prices are expected to go down if browse conditions deteriorates further and increased sale of goats by livestock farmers.

3.2.4 Terms of Trade (TOT)

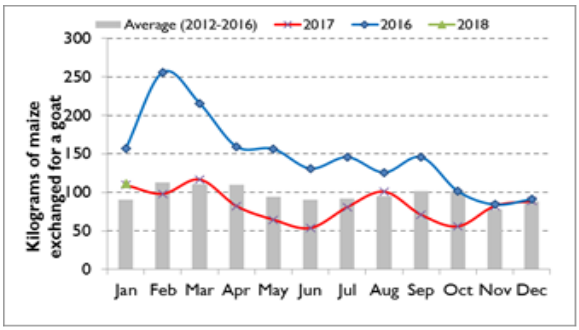

Figure 5: Terms of Trade

The terms of trade was favourable since October, 2017 and are above the LTA but have declined compared to same period last year. The current TOT has increased by 22 percent compared to December 2017; one sale of a goat is currently exchanging for 114kg of maize compared to 88kg in December, 2017. The increase of terms of trade was due to the increase of average goat price while the average maize price remained relatively stable during the season. The increasing trend was normal and within the expected range in the area at this particular time of the year. The terms of trade (goat versus maize) increased further across the two livelihood zones by six percent from 83 kilograms of maize for sale of one goat in the month of November to 88 kilograms of maize for sale of one goat in the month of December. During the short rain season, the sale of one mature goat would purchase 113 kilograms of maize compared to the long term average of 101 kilograms.

3.2.5. Income Sources

Households in the region continued to draw income from casual labour (77.5%), formal employment (12.5%), trade (5%), sale of livestock and livestock products (5%). The proportion of households that depended on casual labour slightly increased during December 2017 due to increased agricultural activities thus improving households' purchasing power for food.

3.2.6 Water access and availability, cost and consumption.

The current water sources include rivers, earth dams, water pans and boreholes. Early cessation of the short rains led to poor recharge of rivers, earth dams, water pans and boreholes. Some rivers and earth dams had already dried up by February 2018. Areas with low water points concentrations include Muminji, parts of Evurori, Kiambeere, Makima, parts of Mavuria, Mwea

and parts of Mbeere south Kiambeere (450 people), Makima (300 people), Mwea (300 people) and Muminji (450) (actual population of people and livestock can be verified from ground).

In the MMF zone, some water sources have already dried up for example water pans in Makima, Ndune, Mariari, Mutuovare and Gachungulia in Mbeere South, Karimari, Kirii and Kalia in Mbeere North. The available water sources from rivers has gone down below 50 percent while the dams / pans are expected to last for about one month. In the MF zone, water sources have reduced in their storage capacity due to reduced rainfall amounts, heavy siltation of pans and earth dams and illegal abstraction from rivers for irrigation purposes.

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

The current distances for domestic water in the mixed farming zones is three to five compared to the normal of zero to three kilometres. The differences have been brought about by poor recharge of water sources due to poor rainfall during the period under review. In the marginal mixed farming zones, the current distances for domestic water is five to ten kilometres compared to the normal of one to five kilometres and this is attributed to poor rainfall performance which has led to poor recharge of water sources. The water situation across the livelihood zones has brought congestion in watering points, over abstraction and human to human related conflicts.

The current waiting time for domestic water in the mixed farming zone is zero to 30 minutes compared to the normal of zero to ten minutes and 30 minutes to two hours compared to normal of 0-30 minutes in the marginal mixed farming zone. The increased waiting time has been brought about diminishing water resource hence spending more time fetching water to the disadvantage of engaging in other productive activities.

The cost of water in the mixed farming zone is between two to five shillings compared to a normal of two shillings per 20 litre jerrican. The increase in the cost has been brought about by rationing of water and long distances covered to fetch water. Under the marginal mixed farming zone, the current water cost is five to thirty shillings compared to a normal of five to ten shillings. The main reason for the increase reduced water resources

The current water consumption in the mixed farming zone has reduced to 20 liters per person per day compared to the normal of 60 litres per person per day; while in the marginal mixed farming zone it has gone down to 15 litres per person per day compared to the normal of 30 litres per person per day. The reason for the reduction is due to rationing hence controlling normal usage of water as well as long distances to water points.

3.2.5 Food Consumption and Dietary diversity

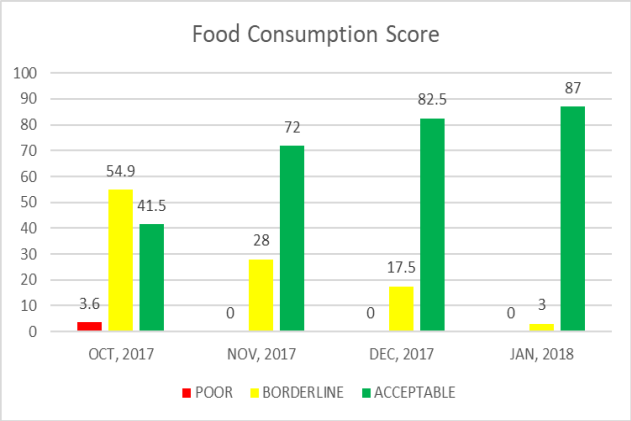

Figure 6. Food consumption score

The food consumption improved in November through January 2018 as compared to October, 2017. Currently the adults are consuming three meals per day in the mixed farming, while in marginal mixed farming the consumption is two meals and a snack which is normal. The diet diversity is poor in both mixed farming and marginal mixed farming based. Most children are consuming two to three food groups per day which is lower than the recommended minimum of four food groups per day.

3.2.6 Coping Strategy Index

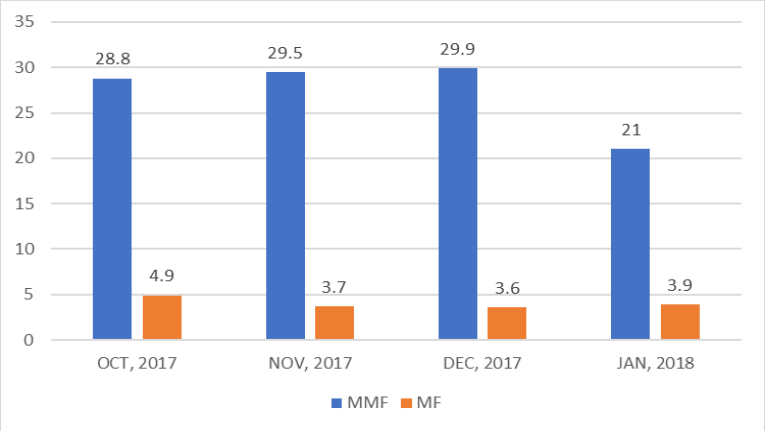

Figure 7. Coping strategy index

The coping strategies for households in marginal mixed farming remained higher compared to mixed farming. The most commonly employed strategy was reduction of number of meals, restricting consumption of meals by adults for small children and limiting portion size at meal times.

3.3 Utilization

3.3.1 Nutritional status and Health

Proportion of children under five years of age at risk of malnutrition with mid upper arm circumference (MUAC) of <135 mm in January, 2017 was at 6.41 percent compared to LTA of 9.4 percent. The proportion has increased compared to the same time last year attributed lack of nutritious foods and diseases such as diarrhea.

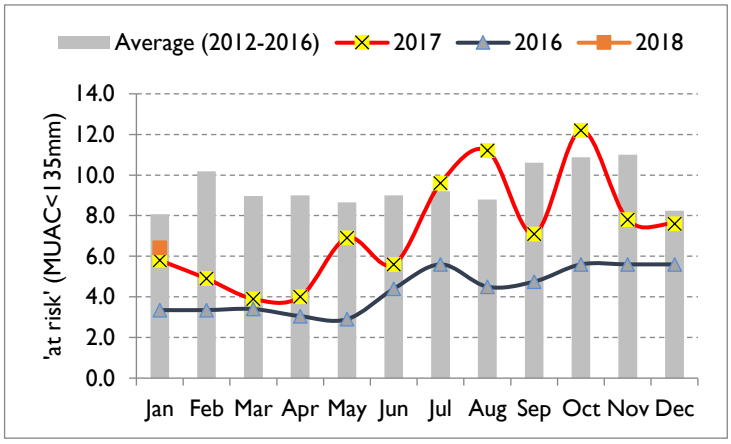

Figure 8. Trends of children at risk of malnutrition (MUAC<135mm)

The FIC coverage is lower compared to the national target of 80 percent in both sub counties and this is partly attributed to the health workers strike of 2017. The vitamin A supplementation coverage is lower than the national target of 80 percent for both age cohorts in the county due to the health workers strike in 2017 where data was not captured. However, the coverage for 12-59 months improved by six percent on average, which could be associated with the vitamin A supplementation in the ECD centres especially during the Malezi Bora campaigns.

3.3.4. Sanitation and Hygiene

There was an outbreak of cholera in both sub-counties. Thiba river, Makima and Kamurugu in Mbeere South well samples confirmed contamination with *E-coli*, while Gatiruri spring and Ena River in Mbeere North were tested and were found to contain *E-coli* and *Coliforms*. The communities in both sub counties were supplied with Aqua tabs for household water treatment alongside health education. However, during the Focused Group Discussions, community members complained that the water treatment tabs were being provided only to the households who had diarrhea instead of all households in the area. Latrine coverage was above 79 percent (what is the national average?) due to the effort of the public health department and this has helped curb some water borne diseases in the sub counties.

3.3.5 Morbidity Pattern

The top three diseases amongst under five children were Upper Respiratory Tract Infections, (URTI), diarrhea and skin conditions. The trend is the same compared to the same period last year with a decrease in all conditions. There were no variations observed within the sub counties. The common diseases amongst adults included URTI, skin conditions and Arthritis/joint pains. The ranking is the same in the period under review as compared to 2016. There was a reduction in number of cases registered for all conditions in 2017 compared to 2016 which is associated with the health workers strike for the better part of 2017.

Table 8. Morbidity cases for children under five and general population

Reported Morbidity for General Population				Reported Morbidity for Children Under Five Years			
Disease /Condition	June - Dec 2016	June - Dec 2017	% change	Disease /Condition	June - Dec 2016	June - Dec 2017	% change
Upper Respiratory Tract Infections(URTI)	12,676	8,483	33%	URTI)	12,229	15,428	26%
Diarrhoea	4,203	2,762	34%	Diarrhoea	8,365	6,156	26%
Skin infections	3,011	2,184	27%	Arthritis, joint pains	6,626	5,273	20%

3.4 Trends of key food security indicators

The comparative trend of key food security indicators shows a deteriorating situation as illustrated in table 9.

Table 9: Trends of key food security indicators

Table 7. Food security indicator trendsIndicator	**Long rains assessment, July 2017**	**Short rains assessment, Feb 2018**
% of maize stocks held by households (agro-pastoral)	83 % below LTA	43% below the LTA
Livestock body condition	Good for sheep and goats, fair for cattle in both MMF and MF	Good for sheep and goat Cattle body condition was fair/poor in Marginal Mixed Farming zone and Fair in MF
Water consumption (litres per person per day) MF	20litres/person/Day	Current consumption 20lts/person/day. Normal is 60lts/person/day.
Water consumption (litres per person per day) MMF	15/litres/person/Day	Current consumption 15 liters/person/day. Normal is 30lts/person/day.
Price of maize (per kg)	Ksh 37	Ksh 51
Distance to grazing	**0-5km**	1-5km
Terms of trade (pastoral zone)	**91kg**	88kg
Coping strategy index	3.2 (mixed farming) and 10.3 marginal mixed farming	3.9 (mixed farming) and 21 marginal mixed farming
Food consumption score	10.2 acceptable, borderline 57.5, 32.3 poor	Acceptable 98.3 Borderline 1.7 Poor 0

3.5 Education

Enrolment

Enrollment for both public ECD and primary schools slightly increased in the current term compared to the previous term due to provision of meals and milk (for ECD) and government supply of textbooks coupled with the efforts by the county commissioner's office to ensure all

children of school going age attend school. The enrolment for girls in ECD centres went up by 3.7 percent in 2018 as compared to 2017(last term) while that of Boys went up by 2.6 percent in the current year as compared to last year. The enrolment for both girls and boys in public primary schools remained constant at 2.2 percent increase in 2018 as compared to 2017. Enrolment for Mbeere south was generally higher compared to Mbeere North.

Dropout

There was minimal drop out of ECD pupils in both sub counties. This was as a result of milk provision by the county government and the efforts by the parents to provide porridge for their children in learning centres. The drop out for boys in primary school was 39 in 2017 as compared to 23 in 2018 while that for girls was 33 in 2017 compared to 17 in the current year. Few parents relocated to other places and moved with their ECD children while others opted to transfer to private ECD centres. The drop out for boys in primary schools was due to engagement in '*boda boda'* and '*miraa*' business, betting and sand harvesting (Mbeere South Sub County).

Transition

Transition from ECD in both the current and previous years was stable at 98 percent for both girls and boys while transition for primary class 8 improved in 2017 as compared to 2016 due to government incentives such as free textbooks and fees.

School meals programme

110 schools in both sub counties are under expanded school meals programme supported by the Ministry of Education benefitting 13,243 boys and 13,347 girls. 130 schools are not covered under the expanded school meals program in both sub counties. Children either carry packed lunch or go home for lunch meals. Pupils in SMP miss meals due to delayed disbursement of MOE funds. The feeding program enhances attendance and enrolment for both girls and boys in primary schools

4.0 Food Security Prognosis

4.1 Prognosis Assumptions

Over the next six months (February – July), food security outcomes will mainly be influenced by several drivers. The March to May long rains are expected to start on time however are likely to be below average tending to average. Pasture and browse are expected to deteriorate faster than normal between February and April due to the poor rainfall during the last season. Staple food prices are likely to increase and remain high in the next few months especially if the Long rains will not perform well. Water sources are expected to be dry due to poor recharge of surface water sources. Terms of trade are expected to be stable if the situation does not worsen.

4.2 Food Security Outcomes from February to April 2018

Household Food Security is expected to decline through April particularly in Marginal Mixed Farming Livelihood zones. Household food access and consumption expected to deteriorate as a result of poor production, poor rains and rising foodstuff 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 April as a result of poor recharge during the short rains. The food security situation is likely to deteriorate with more households moving into the "Stressed" (IPC Phase 2) phase.

4.3 Food Security Outcomes from May to July 2018

The long 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 thus improving food availability and contributing to reduction of food prices. Distances to water sources are likely to reduce across all livelihood zones.

5.0 Conclusion and Interventions

5.1 Conclusion

The current food security situation in the County is at 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 due to poor short rains and also long rains. In the next three to six months, there will be need to monitor water situation, livestock and livestock diseases, agriculture production, nutrition and health status among the population in the both mixed farming and marginal mixed farming zones.

In conclusion, the two sub counties are in a stressed situation and the situation is bound to escalate if the prevailing conditions do not change. There is increase in trekking distances and the body condition for both cattle and goat will worsen if pasture and browse do not improve. There is an increase in Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM) cases and the situation is expected to worsen due to water borne diseases and lack of commodities to treat clients. There is an urgent need to carry out a SMART survey focussed primarily on Mbeere North and South to clearly present finding on the health and nutrition status of children under five years and pregnant and lactating women.

5.1.2 Summary of findings

The short rains performed poorly with an early cessation hence livestock, human beings and crops. Spatial distribution was even up to mid-season while temporal distribution was good up-to mid-season. Current stocks both at farmer and trader level is below the LTA and this has led to higher prices for most commodities. Most households rely on markets for their food, some commodities coming as far as Machakos and Garissa. Terms of trade have remained favourable since October, 2017 and are above the LTA but have declined compared to same period last year. The increase of terms of trade was due to the increase of average goat price while the average maize price remained relatively stable during the season. The increasing trend was normal and within the expected range in the area at this particular time of the year.

Water stress is evident in all the livelihood zones and is expected to worsen within the lean season. Majority of households in acceptable food consumption score likely to move to borderline food consumption score and this will exacerbate further thus compromising the

household food and nutrition security. This means that most households will remain in Stressed (IPC Phase 2).

5.1.3 Ward Ranking

Table 80. Ward Ranking

Ward	Ranking	Total population (Census 2009)	% Population in need of food aid	RATIONALE
Kiambere	**1**	15,059	60-65	Early cessation of rains, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse condition and fall army worm infestation.
Makima	**2**	21,291	55-60	Early cessation of rains, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse and fall army worm infestation.
Muminji	**3**	16,728	50-55	Early cessation of rains resulting poor crop production, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse and fall army worm infestation.
Evurore	**4**	45,582	40-50	Early cessation of rains resulting to poor crop production, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse and fall army worm infestation.
Mavuria	**5**	34,139	40-45	Early cessation of rains resulting poor crop production, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse and fall army worm infestation.
Mwea	**6**	30,117	35-40	Early cessation of rains resulting to poor crop production, over dependence on maize, long distance to water sources, poorly distributed water sources, poor pasture and browse and fall army worm infestation.
Nthawa	**7**	26,725	25-35	Relatively higher rainfall distribution thus some crop harvest realized, miraa is an alternative livelihood, piped water available, pasture condition is fair to good, income on mangoes and small-scale irrigation along river Rupingazi.
Mbeti South	**8**	29,579	15-25	Relatively higher rainfall distribution thus some crop harvest realized, miraa is an alternative livelihood, piped water available and pasture condition is fair to good

5.2 Ongoing Interventions

5.2.1 Food interventions

Households were mainly depending on markets as the government subsidized maize flour was not available.

5.2.2 Non - food interventions

Table 11: Non - food interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
AGRICULTURE SECTOR							
Provision of farmers with e-voucher inputs for drought tolerant cereals and legumes	Increase in food availability at household, increased income	All areas in Mbeere North and South	Farmers	55M	3,669	3 months	National and County government
Development of irrigation infrastructure Kangai Skylimit Green paradise	Improved food supply and farm income	Evurore (Mbeere North)	Households	70M	1,200 HHs	2012-2018	Troicaire Upper Tana
HEALTH AND NUTRITION SECTOR							
Vitamin A supplementation,	Improved immune system	Health facilities in both sub counties and in schools	Health facilities		12,683 male and 11,250 female	Bi-annual	MoH County Government
Zin supplementation	Improved immune system	Health facilities in both sub counties and in schools	Health facilities		11,442 male and 8,484 female	Bi-annual	MoH County Government
Iron folate supplementation	Boost iron and folate lever and reduce MMR	Health facilities in both sub counties	Pregnant and WRA		6,706 Female	Throughout the year	County government
Deworming	Improve immune system	Health facilities in both sub counties	All children under one		14,327 Male and 13,764 female	Throughout the year	County government

			year and adults				
Routine/ active case search surveillance	Improved health	Mbeere South	All villages	1.6 M	56,032 HH and 54 health facilities	Throughout the year	County government MoH NDMA
Aqua tabs provision	Improved sanitation and hygiene and prevent water borne diseases	Mbeere South	All villages	200,000	56,032 HH	Throughout the year	County government
LIVESTOCK SECTOR							
Embu	Routine animal husbandry	Mbeere south and north	3000 H/holds	Livestock production department	Improved Living standards	Normal extension work	Year round
Embu	Pasture and conservation	Mbeere south and north	1000 H/holds	Livestock production department	Improved Living standards Increased income	UTaNRMP	3 - 4 months
Embu	Supplementation of stock	Mbeere north	700 h/holds	Livestock production department	Improved Living standards Increased income	National govt	3 months
Embu	Breed improvement through	Mbeere south and north	400 households	Livestock production department	Improved Living standards Increased income	UTaNRMP	1 Year
WATER SECTOR							
MMF-Mavuria,,Kiambeere Makima Mwea,Evurori, Muminji	Repair of strategic boreholes	Mavuria,Kiambeere Makima Mwea,Evurori, Muminji WARDS	2,000H/h	Embu county government	3million	Work on going	Some works are on going
	Supply of rain water harvesting $10M^3$plastic tanks to 28 public	Mavuria, Kiambeere Makima ,Mwea, Evurori,	28 institutions	National drought management authority	Estimated costs 2.8 m	Work on going	Some institutions supplied with tanks

	institutions			through tana water services board			
MF Mbeti south ,Nthawa, kanyuambora which is part of Evurori ward	Repair of strategic boreholes	Mbeti south ,Nthawa, kanyuambora which is part of evurori ward	2,000H/H	National drought management authority through tana water services board	3 millions	Work on going	Some works are on going
EDUCATION SECTOR							
All	ESMP for all schools in the two sub-counties	141 schools in Mbeere south and 98 schools in Mbeere north	33780 Pupils	GOK, MOE	Improve access to school and enhance learners health	Long term throughout the entire school year	All
All	Provision of school milk for ECDE pupils	All public ECDE centres in the two sub-counties	7614 Pupils	GOK, County govt.	Improve access to school and enhance learners health	Long term throughout the entire school year	All

Table 12: Immediate on going interventions

Immediate On-going Interventions							
Sub County/ Ward	**Intervention**	**Location/ward**	**No. of beneficiaries**	**Implementers**	**Cost**	**Time Frame**	**Implementation Status (% of completion)**
MMF-Mavuria,,Kiambeere Makima Mwea,Evurori,Muminji	Repair of strategic boreholes	Mavuria,Kiambeere Makima Mwea,Evurori,Muminji WARDS	2,000H/h	Embu county government	3million	Work on going	Some works are on going
	Supply of rain water harvesting $10M^3$plastic tanks to 28 public institutions	Mavuria, Kiambeere Makima ,Mwea, Evurori, Muminji	28 institutions	National drought management authority through tana water services board	Estimated costs 2.8 m	Work on going	Some institutions supplied with tanks
MF Mbeti south ,Nthawa, kanyuambora which is part of Evurori ward	Repair of strategic boreholes	Mbeti south ,Nthawa, kanyuambora which is part of evurori ward	2,000H/H	National drought management authority through tana water services board	3MILLIONS	Work on going	Some works are on going

5.3 Recommended Interventions

5.3.1 Food interventions

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

5.3.2 Non - food interventions

Recommended Interventions

Table 13: Recommendations and Interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
AGRICULTURE							
Provision of drought tolerant crop seed	Increase in food availability at household, increased income	Entire sub county	Farmers	10M	4,000 HHs	Mar-18	County Government
Provision of sub soiling services	Improved agriculture techniques and methods	All wards	Farmers	100M	8,000	2018-2023	County Government
Capacity building- Demos on conservation agriculture	Improved agriculture techniques and methods	All wards	Farmers	10 M Per annum	12,000	2018	County Government
HEALTH AND NUTRITION							
Carry out SMART nutrition survey	To check on the nutrition statues of children <5years and PLW and also inform on programming	All locations in Mbeere South	Children and PLW	3M	242,663	September, 2018	County government,NDMA, WFP, UNICEF
Conduct integrated health and nutrition out reaches	Mulukus	Entire community within targeted area.	All community members	3M (Funds	Entire community within targeted area	Every month	MOH (Embu County)
Food fortification at house hold level	Increase capacity of health workers on food nutrition and security	Entire sub counties	All HHs	1M	30,000	Dec, 2018	MOH, NDMA, Red Cross, UNICEF, WFP, WHO
Intensify vit. A supplementation and Deworming coverage of	Improved health and nutrition status	All HHs and ECD centres	All HHs	4 M	60,000	Dec, 2018	MOH, NDMA, Red cross, UNICEF, WHO

under five							
Intensify MIYCN activities	Improved health and nutrition status	Mbeere North and South	Health workers	5M	240 health workers	Dec, 2018	MOH and partners
Upscale HINI activities and Training on nutrition indicators	Improved health and nutrition status	Mbeere North and South	Health workers	6M	180 health workers	Dec, 2018	MOH & partners
Routine surveillance	Improved capacity for health workers	Mbeere North and South	Field monitors NDMA officers CSG Members	2.5M	60	Dec, 2018	MOH, NDMA, Red cross, UNICEF, WHO
LIVESTOCK SECTOR							
Forage establishment and conservation	Improve pasture and browse	Mbeere south	Livestock production department	1,000,000	2000 h/holds	Technical staff	March –April
Supplementation of stock	Improve livestock body condition	Mbeere south and north	Livestock production department, OPP, NDMA	6,000,000	3000 h/holds	Technical staff	March –April
Destocking campaigns	Reducing pressure on available pasture and browse and generate income	Mbeere south and north	Livestock production department, OPP, NDMA	1,000,000	3000 h/holds	Technical staff	March –April
WATER SECTOR							
Rehabilitate and fence all 32No strategic boreholes	Improve water access	Mavuria, Kiambere Makima Mwea, Evurori, Muminji Mbeti south ,Nthawa, kanyuambora which is part of evurori ward	Boreholes	16 million	4,000 HHs	April and September 2018	Embu county government, NDMA through tana water services board and national government
Supply of rain water harvesting	Improve water access	All public schools and all public	Plastic tanks	18 million	20,000 HHs	April and September 2018	Embu county government, NDMA

12m^{3}plastic tanks to 40 no public institutions and 10m3 plastic tanks to 20 no public institutions		health institutions					through tana water services board and national government
Desilt and fence 15 No strategic water pans	Improve water access	Mavuria, Kiambeere Makima Mwea, Muminji, Nthawa,, Kanyuambora	Water pans	34 millions Technical support	20,000h/h	April and December	Embu county government, NDMA through tana water services board and national government
EDUCATION SECTOR							
Expand HGSFP to cover all schools.	Improve retention and enrollment (access)	All schools	Human resource	Adequate Funds	33780 Pupils	Dec, 2018	GOK, MOE
Improved Sanitation	Improve health of the school	All schools	Teachers and BOM	Adequate Funds	33780 Pupils	Dec, 2018	MOE, CDF, County govt.
De-worming & vitamin A supplement	Improve nutrition status	All schools	Human resource	Adequate Funds	33780 Pupils	Dec, 2018	Ministry of health
Tree growing	Improve the environment	All schools	Pupils, Teachers, Parents	Adequate Funds	33780 Pupils	Dec, 2018	Pupils, teachers, Parents, BOM