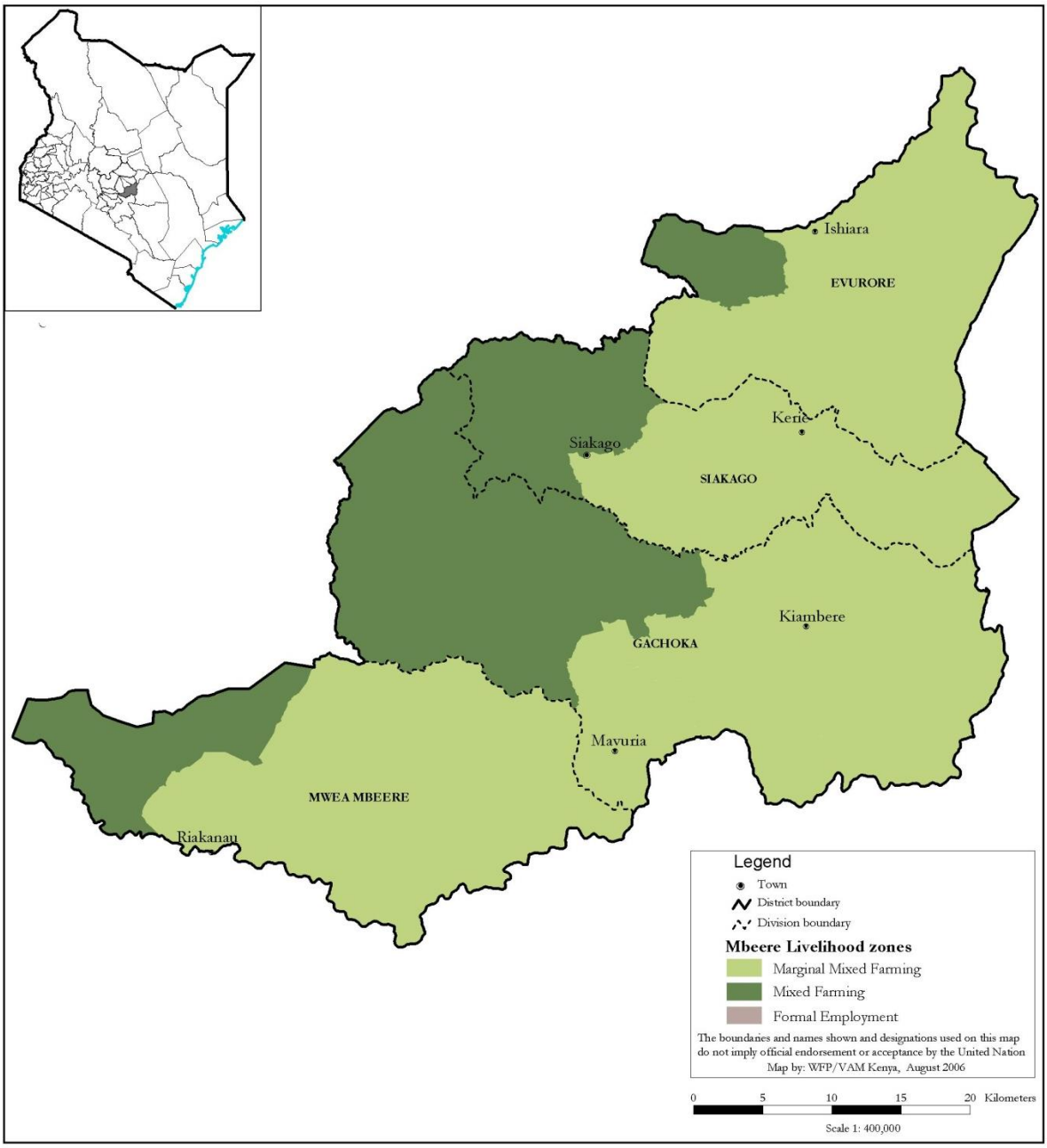
EMBU (MBEERE) COUNTY
2018 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



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

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EXECUTIVE SUMMARY

The Kenya food security and nutrition assessment for Embu County (Mbeere) was undertaken from 13th – 17th August 2018 by the Kenya Food Security Steering Group (KFFSG) and the Technical County Steering Group (CSG) members. The assessment covered two sub-counties namely Mbeere North and Mbeere South. The broad objective of the assessment was to develop an objective, evidence-based and transparent food and nutrition security situation analysis, taking into account the cumulative effect of previous season impacts, other shocks and hazards and suggest possible food and non-food intervention recommendations.

Mbeere North and South received over 350 percent of normal rainfall that led to flooding in Mwea, Makima and Kiambere resulting to death of three people and displacement of 130 people. Land ownership conflict in Mwea ward affected maximum utilization of available land for crop and livestock production. Human/livestock-wildlife conflicts were experienced whereby crocodile's hindered access to the available water sourced from river Tana in Kiambere ward. Minimal infestation of fall armyworm affected maize in both mixed farming and marginal mixed farming livelihood zones resulting in reduced production. Area planted for rain-fed crops decreased by 35 and 28 percent for maize and green grams respectively due to forecast indicating March-April-May rains would be below normal. However acreage for irrigated crops increased by 43, 23 and 33 percent for watermelon, tomatoes and kales respectively which was attributed to adequate water for irrigation. Livestock body condition for all species was good as a result of good to fair forage condition. All main markets were operational well provisioned of food commodities and livestock with normal traded volumes.

Majority of households had acceptable food consumption with a proportion of 98.4 and 71.1 percent in mixed farming and marginal mixed farming respectively. According to Food security outlook and monitoring data, 50.5 percent of households are engaging in stressed livelihood coping strategies. The current prevalence of children at risk of malnutrition was 6.5 percent which was 10 percent above the long term average. The crude mortality and under five years' mortality rate at 0.0747/10,000/day and 0.128/10,000/day respectively and were within the normal threshold of <0.5/10,000/day. HGSMP is the only school meal feeding programme in Mbeere North and South sub-counties currently benefiting 132 schools in the marginal mixed farming livelihood zone.

Mbeere North and South is classified in None/Minimal (IPC Phase 1) based on integrated food security phase classification which is an improvement from Stressed phase in previous assessment undertaken in February 2018.

Table of Contents

1.0 INTRODUCTION

1.1 County Background

Mbeere is in the lower region of Embu County covering two sub counties, which include Mbeere North and Mbeere South. It borders Kitui and Machakos Counties to the south, Tharaka Nithi County to the east and Kirinyaga County to the southwest. Mbeere covers an area of approximately 2,099.5 square kilometres with a population of 219,220 (KNBS 2009). The two main livelihood zones in Mbeere North and south include Mixed Farming (MF) and Marginal Mixed Farming (MMF) with a population proportion of 49 and 51 respectively. In MMF food crop, livestock and cash crop production contributes averagely 40, 23, and 10 percent to household cash income respectively. Cash crop production contributes majorly to cash income by 30 in MF and food crop and livestock production each contributes 20 and 10 percent to cash income respectively. The rainfall pattern for Mbeere is bimodal with October – November – December season rains being reliant than March – April- May season.

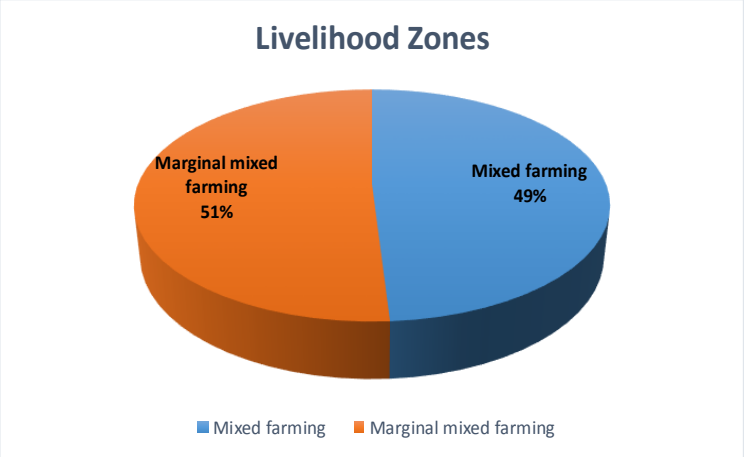

Figure 1: Livelihood zones proportion

1.2 Methodology and Approach

Secondary data collected through quantitative and qualitative was availed during the pre-assessment training which includes previous assessment reports, DHIS data, market prices, MUAC trends. Detailed desk review carried out on sectors checklists and other available secondary data, semi structured data collection was also conducted which included focus group discussions, observation through transect drive, markets interviews, households and community interviews.

The approach was multi-agency and multi sectorial whereby County Steering Group (CSG) briefing was done on 13th August 2018. The KFSSG and technical CSG members analyzed both quantitative and qualitative data collected and based on convergence of evidence a current snapshot county report was produced with possible recommendations and projected scenario development based on prevailing most likely assumptions whose preliminary findings were disseminated to CSG during debriefing meeting held on 17th August 2018 at Deputy County commissioner's boardroom. The Kenya food and nutrition rapid assessment covered only Mbeere North and Mbeere South sub-counties within Embu County.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

Embu County experienced long rains season onset two dekads early than normal occurring in the first dekad of March. The county received enhanced rainfall of approximately above 350 percent of normal across all the livelihood zones. Spatial distribution was good and temporal distribution was evenly particularly for the first three consecutive months of the season. According to Kenya Metrological Office in Embu, rainfall stations in Mbeere recorded above normal rainfall such as Gachoka, which recorded 155 percent of normal, Siakago 180 percent, Makima 210 percent, Kiritire 190 percent, Mutuobare 190 percent, Kanyuambora 170 percent. Siakago rainfall station received heavy rainfall on 25th March amounting to 182.6 mm. The rains ceased late on the third dekad of June compared to normally first dekad of June.

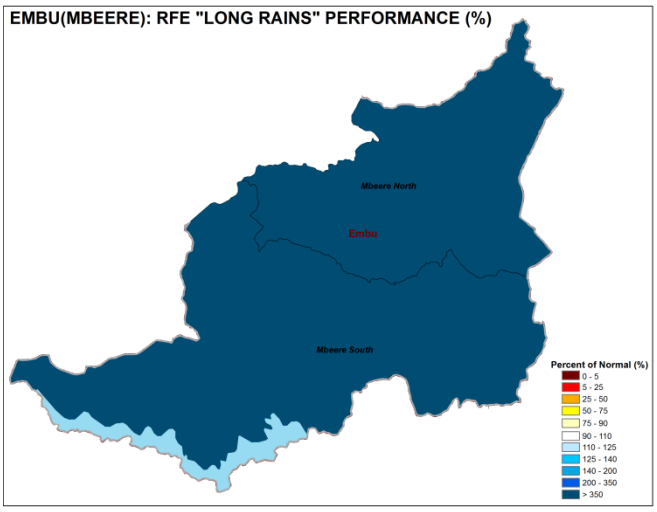

Figure 2: Rainfall Performance

2.2 Insecurity/Conflict

Land ownership conflicts were experienced in some parts of Mwea ward hindering farmers realizing full farming potential for both crops and livestock. Cases of Crocodiles attacking people and livestock along river Tana were reported particularly in Kiambere ward. River Tana is the main sources of water for domestic and livestock use in this area.

2.3 Other shocks and hazards

Floods

The enhanced rainfall characterized by storms caused heavy surface run-off that resulted in flooding in some areas, these include Mwea, Makima and Kiambere. The flooding led to loss of life for three people and destruction of traditional mud houses, market stalls and displacement of 130 persons.

Crop Pests

Minimal infestation of fall army warm was reported particularly for maize in both mixed farming and marginal mixed farming zones. The county department of agriculture has been promoting integrated pest management (IPM) strategies to curb the invasion and spread of pests in the farms.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Crop production increased under irrigation resulting to high yields while rain fed production reduced. Good crop production resulted in increased availability of food in markets and reduced prices. Stocks at household level are 74 percent of long-term average. Markets are well stocked both with crop produce and with livestock from within and outside the County. Forage and browse is good to fair with water availability across the livelihood zones influencing good body condition and increased milk production.

3.1.1 Crops Production

Main crops grown in Mbeere north and south sub-counties include maize, green gram and beans. Maize contributes 50 percent to food and 10 percent to cash income in MMF livelihood zone while in MF it contributes 38 percent to food and 25 percent to cash income (Table 1).

Table 1: Crop Percentage Contribution to Food and Cash income per Livelihood Zone

Livelihood Zone	Crop	% Food	% Cash Income
Marginal Mixed Farming (MMF)	Maize	50	10
	Beans	17	6
	Green Gram	10	30
Mixed Farming (MF)	Maize	38	25
	Beans	23	15

Rain-fed Crop Production

Notable decrease of about 35 percent and 28 percent was observed for area under maize and green gram respectively compared to long-term average (LTA). The reduction in acreage under maize was linked to forecasted poor season, earlier than normal onset of the rains that caught majority of the farmers unaware resulting into water logging in parts of Mwea, and Makima hampered cultivation of farms. Production for maize and green gram declined by 14 and 13 percent respectively attributed to reduction area planted coupled with minimal infestation by Fall Army Warm (FAW) for maize.

Table 2: Rain-fed Crop Production

Crop	Area planted during 2018 Long rains season (Ha)	Long Term Average (5 year) area planted during the Long rains season (Ha)	2018 Long rains season production (90 kg bags) Projected/Actual	Long Term Average (5 year) production during the Long rains season (90 kg bags)
Maize	10,920	16,900	151,800	176,500
Green gram	5950	8,300	59,500	68,400
Beans	6200	5,600	49,600	33,600

Irrigated Crop Production

Watermelon, tomatoes and kales were the main crops planted under irrigation particularly in Muringari, Kiang'ombe, Ishiara, Nthawa, Riandu, Mbeti south, Makima and Mavuria with acreage increasing for each by 43, 23 and 33 percent respectively. This has resulted into increased yields for all the irrigated crops attributed to adequate water for irrigation.

Table 3: Irrigated Crop Production

Crop	Area planted during the 2018Long rains season (ha)	Long Term Average (3 years) area planted during Long rains season (ha)	2018Long rains season production (MT) Actual	Long Term Average (3 years) production during 2018Longrains season (MT)
Watermelon	500	350	5000T	3500T
Tomatoes	800	650	6400T	5200T
Kales	240	180	960T	720T

3.1.2 Cereals Stock

The main source for the three main cereal produce in Mbeere is currently from own production with no reported cases of aflatoxin. Maize stocks being held by farmers are 26 percent below LTA, which is an increase, compared to 86 percent below LTA reported in the 2017 the season of the year. Traders are currently holding low stocks of maize as farmers stockpiling until prices improve. The harvest realized for the season has replenished household stocks therefore positively household dietary and improved availability of cereals in the market and even reduction in market prices. The available maize stocks at household level are projected to last for about 2 – 3 months.

Table 4: Cereals Stocks

Commodity	Maize		Sorghum		Green grams	
	Current	LTA	Current	LTA	Current	LTA
Farmers	53,000	72,000	26,000	12,000	18,500	25,200
Traders	8,000	13,970	8,500	3,800	11,000	2,200
Total	**61,000**	**85,970**	**34,500**	**15,800**	**29,500**	**27,400**

3.1.3 Livestock Production

Livestock reared in Mbeere north and south are cattle, goat, sheep and with poultry keeping contributing 55 percent to food and goat contributing 40 percent to cash in MMF. In MF zone, goat contributes 40 percent to cash income while poultry and cattle contribute 40 and 35 percent to food respectively (Table 4).

Table 5: Percent Livestock Contribution to Food and Cash Income

Livelihood Zone	Livestock Species	% Food	% Cash Income
Marginal Mixed Farming (MMF)	Goat	15	40
	Poultry	55	20
	Cattle	20	25
Mixed Farming (MF)	Goat	20	40
	Poultry	40	25
	Cattle	35	10

Pasture and Browse Situation

Browse and pasture condition is good in both livelihood zones however pockets of MMF had forage condition tending towards fair due to dry period being experienced from June through August. Recently harvested maize residues are conserved for use by cattle in the dry period. Pasture and browse is expected to last almost 2 months, which is stable compared to normally 1.5 – 2 months. Majority of livestock are currently being herd by children although when schools open women and men adult will be herding livestock.

Table 6: Pasture and Browse Condition

Livelihood zone	Pasture Condition		How long to last (Months)		Factors Limiting access	Browse condition		How long to last (Months)		Factors Limiting access
	Current	Normal	Current	Normal		Current	Normal	Current	Normal	
MF	Good	Fair	2	2	None	Good	Good	2	2	None
MMF	Good – Fair	Fair	2	1.5	None	Fair	Fair	2	1.5	

Livestock Productivity

Livestock Body Condition

All livestock species across the two livelihood zones are currently in good body condition attributed to availability of forage and water as a result good performance of long rains. The available forage coupled with crop residues in mixed farming will likely sustain the good body condition however; cattle body condition in pockets MMF is likely to deteriorate as forage diminishes in the next two months. The good body condition indicates improved livestock products and even prices thus increased household purchasing power.

Table 7: Livestock Body Condition

Livelihood zone	Cattle		Goat		Sheep	
	Current	Normally	Current	Normally	Current	Normally
MF	Good	Good	Good	Good	Good	Good
MMF	Good - Fair	Fair	Good	Good	Good	Good

Tropical livestock units (Tropical Livestock Units)

The average tropical livestock units **(**TLU) in poor income household was less than one compared to normally 1 – 1.5. Medium income households in marginal mixed farming had 2 TLUs while in mixed farming, they had 1.5 compared to 3 and 2 respectively. Low birth rates due to last drought that affected livestock breeding cycle and sale of livestock have contributed to reduction in TLUs.

Milk Production and Consumption

Milk production improved as a result of forage regeneration and easy accessibility to water resulting to good body condition. Mixed farming households are producing on average 4 litres in a day while marginal mixed farming households having 2 litres in a day which slightly above

LTA. Low milk consumption was noted due to household selling milk for cash income. The cost of milk per litre is currently retailing at Ksh 60, which is normal compared to LTA.

Table 8: Milk Production, Consumption and Pricing

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
MF	4	2	2.5	1-2	60	50-60
MMF	2	1	1.0	0.5 -1	60	50- 60

Migration

All livestock species are currently grazing within their homesteads due to availability of forage and accessibility to water points.

Mortalities and Diseases

There were no reports of livestock disease outbreak, however, cases of Lumpy Skin Disease (LSD) were observed in Mbeere south sub-county. Other endemic livestock diseases, which include Contagious Caprine Pleuropneumonia (CCPP), Anaplasmosis and Helminthiasis, were reported across the two livelihood zones. Poultry were affected by Fowl pox, Fowl typhoid, *Coccidiosis* and Newcastle Disease.

Water for Livestock

The current main water sources were pans and dams, rivers, shallow wells and boreholes, which are normal at the period of the year. Water pans recharge levels is currently 80 - 90 percent of their capacity. Trekking distance remained comparatively stable in both livelihood zones however in some parts of Kiambere and Kamarandi households and livestock trekked to river Tana for water roughly 12 - 15 km to and from. Watering frequency for cattle was daily while goats and sheep had water after one or two days which is relatively normal at this season of the year. Access to water in marginal pockets of Kiambere was hindered by attack of crocodiles along river Tana.

Table 9: Water for Livestock

Livelihood zone	Sources		Return distances (km)		Expected duration to last (months)		Factors Limiting access
	Current	Normal	Current	Normal	Current	Normal	
MF	Boreholes, Piped water, seasonal rivers, dams, shallow wells	Boreholes, Piped water, seasonal rivers, dams, sand dams	1 - 2	1 - 2	3	3	None
MMF	Boreholes, Piped water, seasonal rivers, dams, sand dams	Boreholes, Piped water, seasonal rivers, dams, sand dams	3-10	3-10	2	2	Crocodiles in river Tana

3.1.4 Impact on Availability

The above normal long rainfall rejuvenated forage and improved recharge levels for water points. This in return supported good livestock body conditions fetching good market prices, which supported increased milk production and consumption at household level. Crop productions for maize and green grams decreased save for beans. March to May season crops harvests have slightly improved stocks both at household level and in the market resulting in decrease in crop produce prices. In addition, this supported improved dietary diversity and increased meal frequency.

3.2 Access

3.2.1 Market Prices

Market operations

All markets within MF and MMF were vibrant and operational with normal traded volumes of food commodities and livestock although high volumes were observed in Ishiara and Makutano markets due to parents selling to get school fees for the third term. Additionally presence of more buyers stimulated better prices, which motivated farmers to sell more. The main traded commodities include maize, beans cowpeas, green gram coupled with cattle, goats, sheep and poultry all mainly sourced within Mbeere save for market, which acts as a terminal market to traders from Isiolo and Marsabit Counties.

Market Prices

Maize Price

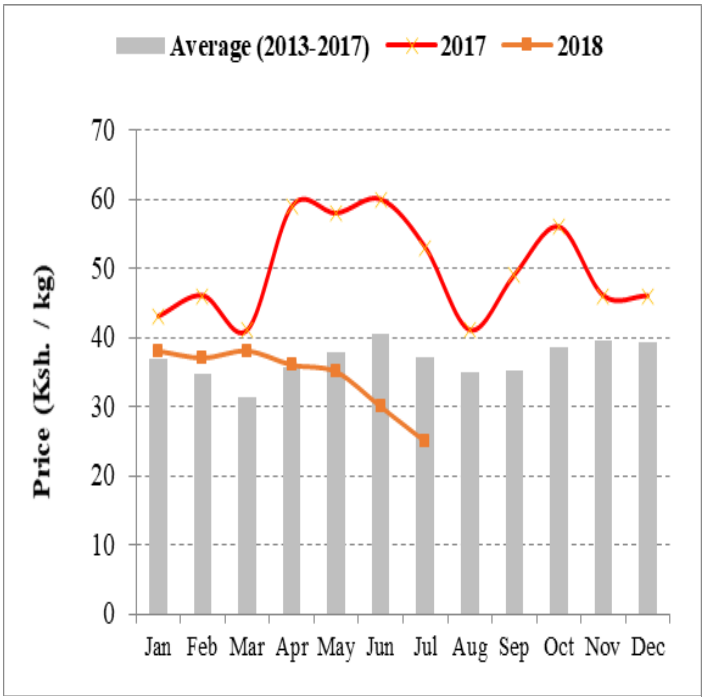

Figure 3: Market prices

Maize average price in July 2018 was Ksh 25 per kilogram, twelve shillings lower than the 2013 - 2017 LTA of Ksh 37. The average market price decreased by 32 percent compared to 2013 – 2017 LTA in at the same period. This is attributed to the increased production due to good season, availability of stocks both at the market and households level. Since May the trend has been downwards, households have stocks that could last for 2 – 3 months. Prices are higher in marginal mixed farming due to long distances to markets and poor infrastructure increasing transport costs. In the mixed farming a kilogram was retailing between Ksh 15 – 20 while in marginal mixed farming markets it was retailing at Ksh 20 – 25 per kilogram.

Goat Price

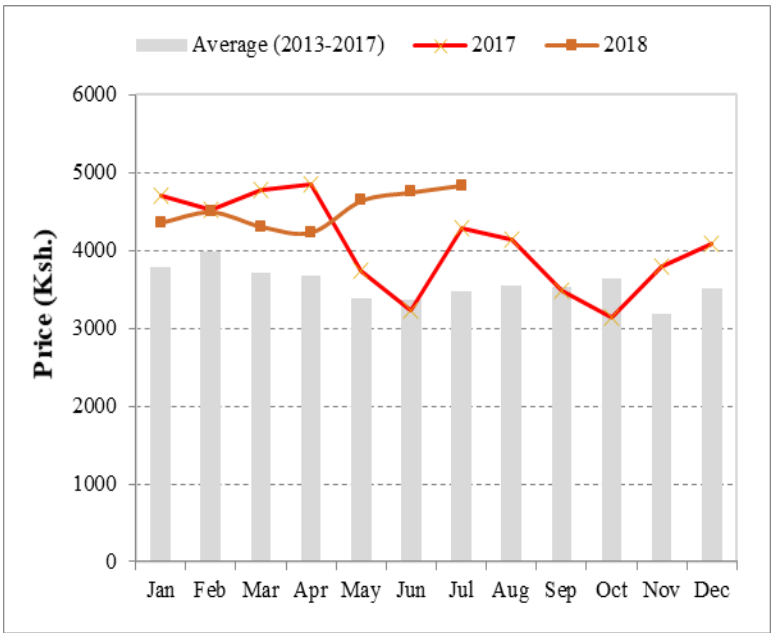

Figure 4: Goat prices

Current goat average price was 39 percent above the LTA attributed to relatively better forage and browse conditions that in return resulted to good goats body condition. Market prices slightly declined in April 2018 due to high supply of goats in the market as households' looked for second term school fees and cash to support agricultural activities such as weeding at their farms. The prices are expected to remain above LTA as browse conditions are projected to last for the next two months. This will continue to sustain good goat body condition up to the onset of the short rains. In Ishiara market, a marginal mixed farming zone, frequently sold goats were ranging between Ksh 6,000 to Ksh 9,000. Sheep prices were low in all the main markets due to low demand as a result of low preference for sheep meat ranging between Ksh 3,000 – 5,500.

3.2.2 Terms of Trade

Upward trend continue to be observed April through July. The current TOT was above 2013 – 2017 LTA by 107 percent and 140 percent above the average TOT recorded in July 2017. The increase in TOT is attributed to improved goats' body condition attracting good market prices coupled with low maize market prices. The TOT is likely to increase further as cereals particularly maize is likely to flood the market due to expected imports from outside the county. In addition, goats are likely to maintain the same good body condition attracting better prices.

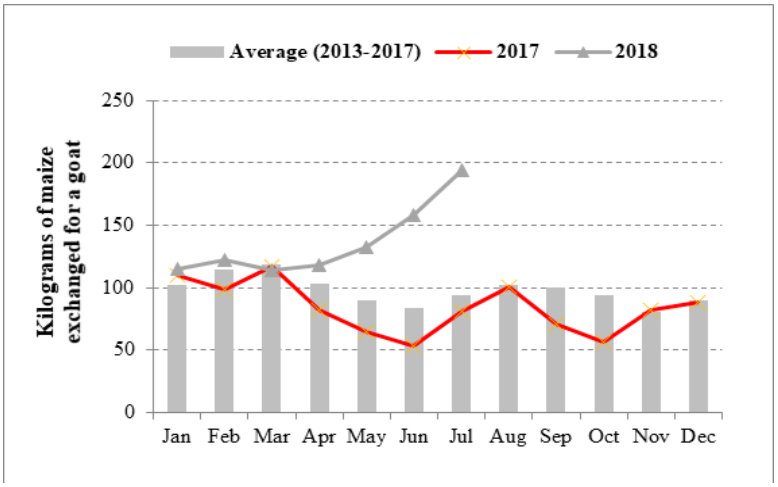

Figure 5: Terms of Trade

3.2.3 Income Sources

Food crop production and livestock production were the main sources of cash income in marginal mixed farming with food crop production contributing 40 percent and livestock 23

percent. In the mixed farming zone, cash crop production gives 30 percent of cash income and food crop production donates 20 percent to household cash income.

3.2.4 Water Access and Availability

Major water sources

Larger proportion of households is currently fetching water from boreholes, rivers and piped water system. According to NDMA July bulletin 36 percent of the households are depending on rivers and 18 percent on piped water. Boreholes are currently used by around 18 percent of the households mainly from the marginal mixed farming livelihood zone.

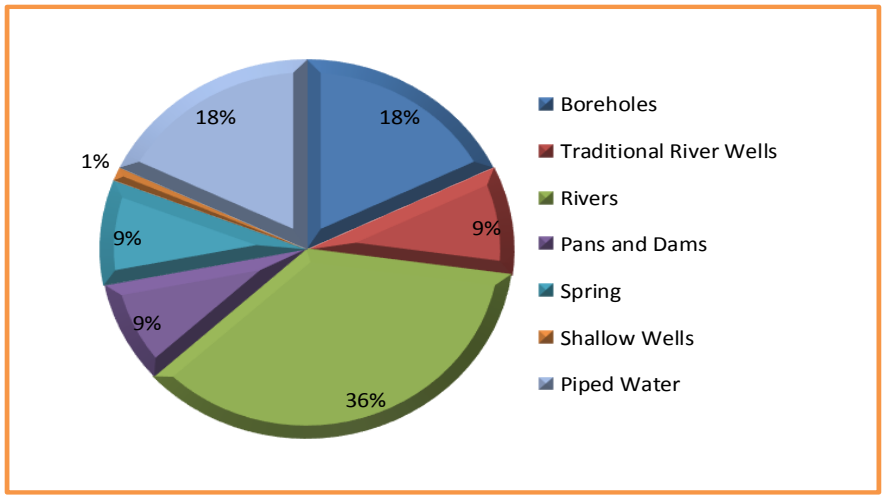

Figure 6: Major water sources

Most water pans and dams are projected to last between 3 - 4 months probably to the next rains season anticipated in October.

Currently seven water pans and 12 boreholes spread within Mbeti south ,Nthawa, Kanyuambora Mavuria, Kiambere, Makima, Mwea, Evurori and Muminji are reported to be non-function occasioned by mechanical breakdown, breakage spillage by flash floods and high silt loads. Trekking distances remained stable across the livelihood zones. Trekking distances to nearby water sources were comparatively stable however households in Kiambere ward and Kamarandi trekked return distance of about 12 – 15 km to river Tana.

Cost of water was normal particularly for households using boreholes with a 20-litre jerican retailed at Ksh 2 – 5 in mixed farming and Ksh 2 – 10 in marginal mixed farming. Pockets of marginal mixed farming, which include Mutuobare, Kamarandi whereby households without donkey that is used to carry water, are charged a cost of Ksh 15 – 30 per 20-litre jerican as transportation charges. Water consumption in mixed farming was normal at 60 litres per person per day while marginal mixed farming households are taking 20 – 30 litres per person per day due to easily access to water as a result of enhanced rainfall the fully recharged water sources.

Table 10: Trekking Distance, Cost of Water, Waiting time, Consumption

Livelihood zone	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Ksh. Per 20litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current
MMF	0.5-5	0.5-5	2-10	2-10	5-30	5-30	15	20 - 30
MF	0-3	0-3	2-5	2-5	0-10	0-10	60	60

3.2.5 Food Consumption

Majority of households had acceptable food consumption with a proportion of 98.4 and 71.1 percent in acceptable in MF and MMF respectively. This indicates high dietary diversity and frequent meals frequency. In MMF, a proportion of 28.3 percent of households had borderline food consumption score (NDMA July bulletin). According World Food Program (WFP) Food Security Outlook and Monitoring (FSOM) data, cereals, pulses and vegetables were eaten six days a week while dairy products eaten three days a week.

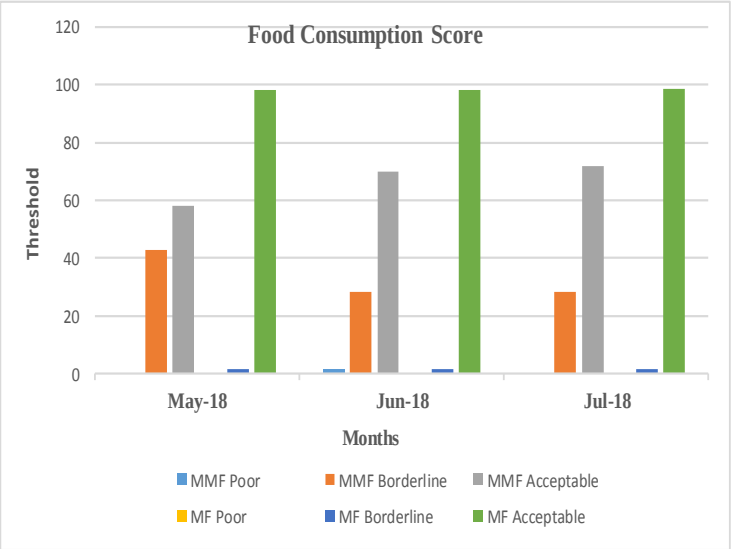

Figure 7: Food consumption score

3.2.6 Coping Strategy

The mean food consumption based reduced coping strategy (rCSI) as per FSOM data was 5.8 which indicates an improvement compared to rCSI recorded in May 2017 of 24.1. The reduction is coping mechanisms is a result of crop harvests, reduced crops prices, availability of livestock products and favorable terms of trades. According to FSOM data, 50.5 percent of households are applying stressed livelihood coping strategies, 15.8 percent in crisis coping and 12.1 percent in emergency coping.

3.3 Utilization

3.3.1Morbidity and mortality patterns

The frequently suffered ailments upper respiratory infection (URTI) and diarrhea for under five and general population with skin infection also affecting children under-fives. Notable spike was noted for URTI for both under-five and general population as a result of cold weather season during experienced from March – July.

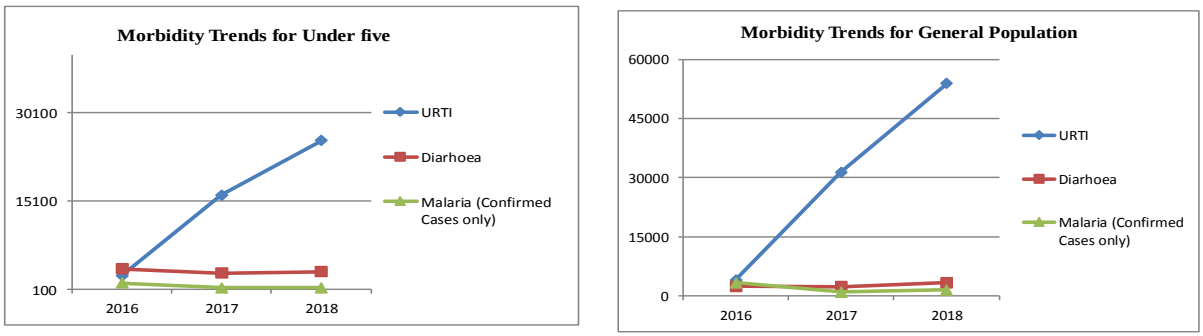

Figure 8: Morbidity trends for under-five and general population

The crude mortality and under five years' mortality rates are at 0.0747/10,000/day and 0.128/10,000/day respectively and were within the normal threshold of <0.5/10,000/day (birth and death registration Office).

3.3.2 Immunization and Vitamin A supplementation

Fully immunized children (FIC) in January – June 2018 is relatively comparable to fully immunized in January – June 2017. In January to June 2017 the percentage of fully immunized children was 76.7 while in January to June 2018 the percentage decreased to 72.7. The current immunization rate is 6.3 percent below the national target of 80 percent. The high immunization rate is attributed to integrated health and nutrition outreaches and routine immunization services.

Vitamin A Supplementation

Vitamin A supplementation generally improved for all the age cohorts in the first half of 2018, however remained below the national target of 80 percent. Significant increase was observed for children 12 – 59 months of about 13 percent attributed to malezi bora weeks, integrated health and nutrition outreaches and routine health facility services.

Table 11: Vitamin A Supplementation

Year	Percentage (%) Vitamin A Supplementation Coverage		
	6 – 11 months	12 – 59 months	6 – 59 Months
January – June 2017	44.3	55	53
January – June 2018	49.6	68	66.1

3.3.2 Nutritional Status and Dietary Diversity

The proportion of children under the age of five years at risk of malnutrition (MUAC<135mm) have been relatively stable since March to June although remained above the 2013 – 2017 LTA. The current prevalence was 6.5 percent, which was 10 percent above the LTA. The above normal prevalence of malnutrition can be attributed to poor dietary diversification especially in the marginal mixed farming, poor child and maternal practices and increased morbidity cases such as URTI in children. Meal frequency was three meals in a day for adults and 3 – 4 meals in a day for children predominantly consisting of cereals, pulses and vegetables. According to community interviews, current number of meals is slightly above normal due to availability of food commodities at household and even in the markets due to recently realized good seasonal harvest.

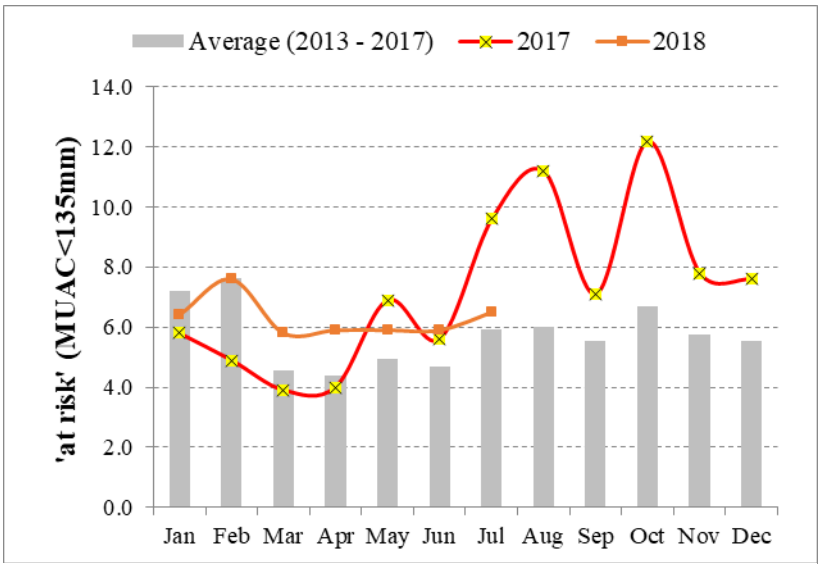

Figure 9: Nutritional status and Dietary diversity

3.3.2 Sanitation and Hygiene

Latrine coverage as per public health office was 94.1 percent in Mbeere north and 84.1 percent in Mbeere south. The high latrine coverage in Mbeere north was attributed to campaigns support by CARITAS and Nutrition International on community total led sanitation (CLTS) that resulted to some villages being certify free from open defecation. Majority of households are storing water in closed jerican with few using water guard to treat water for drinking. In marginal mixed farming zone, livestock wade into water pans that are also used by households leading to sedimentation, which in return increases water turbidity and likelihood of water pollution.

Table 12: Latrine coverage

Sub County	Latrine Coverage	
	January to June 2018 % Coverage	July to December 2017 % Coverage
Mbeere South	84.1	82.9
Mbeere North	94.3	94.0

3.4 Trends of Key Food Security Indicators

Table 13: Food Security Trends in Mbeere North and South

Indicator	Short Rains Assessment, Feb 2018	Long Rains Assessment, August 2018
% of maize stocks held by households (agro-pastoral)	43 percent below LTA	26 percent below LTA
Livestock body condition	Good for sheep and goat Cattle Fair/poor in Marginal Mixed Farming zone and Fair in MF	Good for all species
Water consumption (litres per person per day)	15litres/person/day	MMF: – 25 litres/person/day MF: - 60 litres/person/day
Price of maize (per kg) (Ksh)	51	25
Distance to grazing (km)	1 – 5	MMF: 0.5 – 5 MF: 0 - 3
Terms of trade (pastoral zone)	88	194
Coping strategy index	21 (MMF), 3.9 (MF)	5.8 (FSOM)
Food consumption score	Poor – 0, Borderline – 3, Acceptable 87.	MF: Poor – 0, Borderline – 28.3, Acceptable 71.7 MMF: Poor – 0, Borderline – 1.6, Acceptable - 98.4

4.0 CROSS – CUTTING ISSUES

4.5 Education

4.5.1 Enrolment

Enrolment for three school levels slightly increased in second term by 2.8 percent from 1st term from a figure of 91067 to 93689. In the ECD, enrolment trends have been on an upward trend due to incentives given to ECD pupils by the county government such as provision of milk to ECD children and the teachers are better paid under the county government, which motivates them to be more active, available and engage more in teaching. In primary schools, enrollment went up by 3.6 percent in the second term due to less farm labour activities that normally children participate to generate cash income for households. In secondary schools, there was a 2.06 percent growth from term I to term II. This is attributed to government regulation of fees payable in schools. The amount was reduced to a ceiling of Ksh 4000, which is for lunches for the day scholars.

Table 14: Term 1 and 2 enrolment

Levels	Term 1 2018 Enrolment			Term 2 2018 Enrolment		
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Total**
ECD	5142	4966	10108	5152	4971	10123
Primary	30317	29131	59550	31532	30178	61715
Secondary	10937	10472	21409	10982	10869	21851
Total	**46396**	**44569**	**91067**	**47666**	**46018**	**93689**

4.5.2 Participation

Attendance was stable across the livelihoods zones both in first term and second term however few cases of absenteeism attributed to flooded seasonal rivers during the rainy days, fees for secondary students and lack of food in primary schools. The attendance rates were ranging between 99.8 – 100 percent both for ECD, primary and secondary schools.

4.5.3 Retention

The number of dropouts across all levels of institutions was minimal attributed to provision of milk in ECDs, school meal programme in some schools and reduction in fees for day secondary schools. It was noted that dropout rate is higher in boys than girls due to boys engaging in income generating activities such as boda boda, sand harvesting and miraa trading while girls are mainly due early pregnancies. At ECDE level, dropouts mainly affect children with special needs and who are enrolled in schools that do not have special units. In addition, distance to schools is another reason why children drop out and variedly when the parents move from a locality.

4.5.4 School Meals Programme

There is one type of school feeding programme in the Sub Counties namely the HGSMP. It is currently benefits 132 schools in the marginal mixed farming livelihood zone. This programme is supporting 58.2 percent of the primary learners, in both sub-counties (Mbeere South and North) which is 35,968 learners (18448 boys and 17520 girls). 41.8 percent of the primary learners are not benefitting under this programme. These are 108 schools constituting a total of 25,742 leaners (13084 boys and 12,658 girls). The feeding program enhances attendance and enrolment

for both girls and boys in primary schools. The County Govt. is providing school milk to the ECDE children while the parents are providing for the mid-day snack or porridge.

4.5.5 Inter Sectoral links where available

A total of 221 primary schools were provided with a 24,000-litre water tank each. Nine of these have reported that the tanks were burst while 18 schools reported that they never got supplied but have access to clean water from other sources.

Except for the 69 schools, that experienced collapsed toilets during the long rains all the other schools have adequate sanitary units for pupils and teachers and WASH plus CLTS is active in schools and the community. Vitamin A supplementation and de-worming was done in all schools in May 2018. There was a school health education programme in selected schools sensitizing on diarrhea organized by MOH.

5.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

- The above normal March – April – May 2018 cumulative rainfall that was well distributed in both time and space has supported improved rangeland resources and will likely sustain most of environmental indicators until next season.
- According to NOAA/CPC preliminary forecast, Cumulative rainfall during the short rains in eastern and western areas of Kenya is forecasted to be above average between October and December 2018, based on El Niño and IOD neutral conditions. Air temperatures in the eastern part of the country from August through October are expected to be 0 – 1 degree Celsius, above normal based on an ensemble mean.
- Good performance of MAM season is projected to result to high yields for staple food crops in Western Kenya and Rift valley coupled with imports from Uganda is expected to stabilize market prices for staple food commodities.

5.2 Food Security Outlook for August to October 2018

In the month of August, the replenished households food stocks realized from March to May season harvest, good livestock body condition and improved milk consumption will likely continue to support better diversify food groups taking 3 – 4 meals in a day, which will most likely sustain typically the same food consumption scores through to end of October. Favorable terms of trade coupled with availability of milk are likely to maintain stable prevalence of children at risk of malnutrition. In September, anticipated high calving and kidding will improve households' milk production. Land preparation in October for short rains planting will likely provide agricultural labour activities enhancing household waged labour income supporting better purchasing power.

Outlook for November 2018 to January 2019

The forecasted above-average short rains which is more dependent season for the county is expected to start on time driving intensified crop planting and weeding activities in the farms. This is likely to support farm labour-based activities improving household cash income further increasing household purchasing power. Good livestock body condition will likely be sustained, improved birth rates in September will improve milk production and consumption thus

likelihood of reduction in malnutrition prevalence. In December, food consumptions will most likely improve, as fast maturing crops are likely to be harvested replenishing household food stocks supporting more food group's consumption and meal frequency. Food consumption based coping strategies will likely reduce as food availability, accessibility and utilization improves in both mixed and marginal mixed farming livelihood zones.

6.0 CONCLUSION AND INTERVENTIONS

6.1 Conclusion

6.1.1 Phase classification

Mbeere north and south is classified in Minimal/None (IPC Phase 1) based integrated food security phase classification. The county classification improved from Stressed in short rains assessment undertaken in February 2018 following the above normal March to May season rainfall improved crop production and good body condition for livestock. Terms of trade are favourable and remained above the LTA.

6.1.2 Summary of Findings

March – April - May rainfall was over 350 percent of normal occasioning flooding in Mwea, Makima and Kiambere resulting to death of three people and displacement of 130 people. FAW and cases of LSD coupled with endemic livestock diseases were reported hindering maximum potential production. Generally, area planted for rain-fed crops decreased due to forecast indicated MAM would be below normal however, acreage for irrigated crops increased attributed to adequate water for irrigation. Livestock body condition for all species was good as a result of good to fair forage condition. All main markets were operational well provisioned with food commodities and livestock with normal traded volumes.

Majority of households had acceptable food consumption with a proportion of 98.4 and 71.1 percent in acceptable in MF and MMF respectively. In MMF, a proportion of 28.3 percent of households had borderline food consumption score. According to FSOM data, 50.5 percent of households are engaging in stressed livelihood coping strategies. HGSMP is the only school meal feeding programme in Mbeere north and south sub-counties currently benefiting 132 schools in the marginal mixed farming livelihood zone.

6.1.3 Sub-county Ranking

Sub-County	Food Security Rank (Worst - Best)	Main Food Security Threat
Kiambere	1	Long trekking distances to water points (12km), human/livestock conflicts, crops harvested majorly for sale, low maize stocks, and households consuming only two food groups.
Muminji	2	Long trekking distances (8km), crops harvested majorly for sale, low maize stocks, and households consuming only two food groups.
Mavuria	3	Human/livestock conflicts (hippo attacks), long trekking distances to water points (6km), 3 food groups consumed (legumes, grains & vegetables) and flooding along river Tana.
Makima	4	Flooding along river Tana, Land ownership conflict, poor

		infrastructure,
Evurore	5	Good crop production, access to functional markets, availability of irrigation schemes, livestock keeping and good infrastructure.
Mwea	6	Good crop harvest (sorghum and maize), access to markets and irrigation schemes.
Mbeti south	7	Cash crop (miraa), small scale irrigation along rivers (Thiba and Rupingasi and access to markets
Nthawa	8	Good crop production, good rainfall performance, availability of cash crops, good infrastructure, good livestock production, availability of piped water and access to health amenities.

6.2 Ongoing Interventions

6.2.1 Food interventions

The ministry of interior and coordination distributed 81,500 kgs of maize, 48,000 kgs of beans, 70,000 kgs or rice and 1,920 litres of vegetable cooking oil to 33,000 vulnerable households in the months of March and April in Mbeere South and North. ECDE pupils are being provided with School milk by the County Government while the primary schools have a homegrown school meals programme. The main objective of these two interventions is to improve/increase enrolment, attendance, retention and completion rates.

6.2.2 Non-food Interventions

Intervention	Objective	Specific Location	Cost (Ksh. M)	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture						
Supply of high value traditional crop seeds	Increase in food availability at household and increased income	All wards	12	12000	October, November and December 2018	National Government
Recruitment of farmers for sorghum and green gram	Increased farm incomes and food security	All wards	55	3,774	Sep 2017-June 2018	KCEP-CRAL, County Government
Supply of seed to farmers	Seed supplied in March-May season	All wards	10	9000	March-May 2018	National/County Government
Livestock						
Conservation of pasture &	Increased feed reserves	Mbeere north & south	3	200 househol	August- October 2018	County Government

fodder				ds		
Routine animal husbandry	Increased incomes, improved living standards	Mbeere north & south	2.5	2000 households	Year round	County Government
Breed improvement	Improve livestock production	Mbeere north & south	4	100 households	Continuous	UTaNRMP
Water						
Drilling of new boreholes	Provision of water to households and livestock	Mavuria, Kiambeere, Makima Mwea, Evurori, Muminji	6	400 households	Work on going	County Government
Extension of EWASCO pipeline	Provision of water to households and livestock	Mavuria, Kiambeere Makima, Mwea, Evurori, Muminji	7	1,500 Households	Work ongoing	County Government
Earth dam excavation	Provision of water to households and livestock and for irrigation to improve production.	Evurori	16	600 households	One month	NDMA/ County Government
Repair of strategic boreholes	Operationalize non-functional boreholes	Mbeti south ,	2	150 households	On going	County Government
Health & Nutrition						

Vitamin A Supplementation	Enhance supplementation coverage	Health facilities in all divisions in Mbeere South	0.125	23,933 (12,683 male and 11,250 females)	Bi annual	MOH NDMA
Management of Acute Malnutrition (IMAM)	Improve nutrition standards and treatment of existing conditions	All facilities implementing feeding programmes	1.04	1.0432494851 (2475 males and 2376 females)	Annual	GOK (MOH), UNICEF, WHO, NI, CARITAS
IYCN Interventions (EBF and Timely Intro of complementary Foods)		Mbeere South and North	3	24357 (12422 males and 11,935 females)	Continuous	GOK, UNICEF & WHO
Iron Folate Supplementation among Pregnant Women		Mbeere South and North	0.032	6,706 females	Continuous	GOK UNICEF WHO
Deworming		Mbeere South and North	0.2416	28,091 (14327 males and 13,764 females)	Bi-annual	MOH, MOE, NDMA
Food Fortification		Mbeere South and North	2	All	Continuous	MOH, UNICEF, NIMOH,CARITAS,
General supplementary feeding		Mbeere South and North	10	All	On need basis	Ministry of health

Routine surveillance		Mbeere North and South		30,851 HH	Throughout the year	NDMA/County Govt.
Aqua tabs provision	To ensure consumption of clean and safe water	Mbeere North and South	0.1	30,851 HH	Throughout the year	NDMA/County Govt.

6.3 Recommended Interventions

6.3.1 Food interventions

Ward	Population in Need (% Range min – max)	Proposed Mode of Intervention
Kiambere	35-40	Asset Creation Program (ACP)
Muminji	30-35	ACP
Mavuria	25-30	ACP
Makima	25-30	ACP
Evurore	15-20	ACP
Mwea	15-20	ACP
Mbeti South	10-15	ACP

6.3.2 Non-food Interventions

Sub County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources (Ksh. Millions)	Available Resources	Time Frame
AGRICULTURE							
Mbeere North & South	All	Capacity building on Post-harvest Management	6,000	County Government	1.5	Staff, vehicles	August – September 2018
LIVESTOCK							
Mbeere South & North	All	Accelerated forage establishment & conservation	2000 households	County Government	1	Technical officers	August-October
Mbeere South & North	All wards	Breed improvement	3000 households	County Government	10	Technical staff	1 year
Mbeere	Kiamber	Deworming of	3000	County	4	staff	August -

North & South	e, Mavuria, Makima	stock	households	Government			September
Mbeere North & South	All wards	Capacity building on Animal husbandry & practices	3000 households	County Government, Stakeholders	10	Staff/Stake holders	Continuous
EDUCATION							
Implement HGSMP across Mbeere	Most of these schools have limited coping mechanisms	Evurore, Muminji, Nthawa, Makima, Mavuria and Kiambere wards	12720	Ministry of Education	24.168	Staff members	Throughout the year
Establish Farm Units in schools that have huge unutilized tracts of land	Schools to produce own food for sustenance and to reduce dependency on the Government on the Govt.	Evurore Muminji Nthawa Makima Kiritiri and Kiambere wards	61,812 learners In 240 schools	Ministry of Education Ministry of Agriculture	3.6		Continuous
Establish IGA like tree wood lots	schools can harvest later and sell in exchange for food	Evurore Muminji and Nthawa Makima Kiritiri and Kiambere wards	61812	Ministry of Education Ministry of Agriculture County Govt	4.95		Continuous

HEALTH AND NUTRITION							
SMART Survey	Establish stunting rates and malnutrition status of the population in the County.	Mbeere South and North	All	MOH NDMA Redcross, UNICEF WHO NI	4		When resources are available
Upscale and Intensify HINI activities	Improve the nutrition status of the population	Mbeere South and North	31,466	MOH, NDMA, Red cross, UNICEF, WHO	11.65		Continuous
Training on nutrition indicators	Capacity building on HINI and IMAM related activities.	Mbeere South and North	12 Data monitors 345 CHWs	MOH, NDMA, Red cross, UNICEF,WHO	5	When resources are availed	