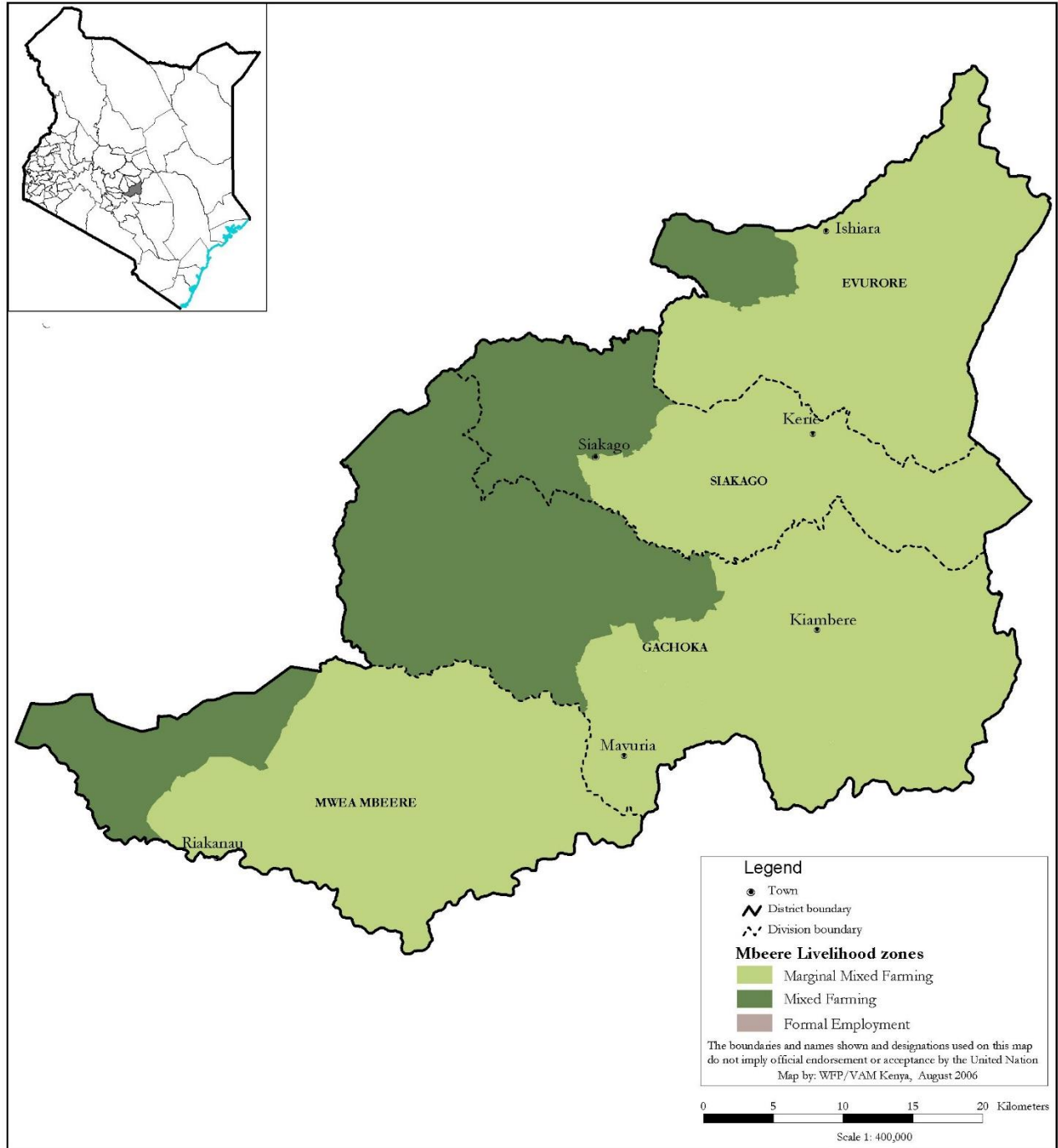


EMBU COUNTY (MBEERE) 2019 LONG RAINS FOOD AND NUTRITION SECURITY ASSESSMENT REPORT



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

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EXECUTIVE SUMMARY

The long rains assessment was conducted on 15-19th July 2019 by Kenya Food Security Steering Group (KFSSG), Embu (Mbeere) County Steering Group (CSG) comprising of members of agriculture, livestock, water, health and nutrition and education sectors. The assessment is normally conducted biannually with an aim to achieve objective, evidenced based and transparent food and nutritional security after the performance of long rains 2019. The performance of the food and nutritional security indicators were impacted negatively as a result of below average performance of the long rains coupled with below average rains in the last short rains seasons. Livestock and human diseases as well as crop pests, high food prices and below average performance of crop has continued to affect food security in the county. Food production has also been limited by frequent land ownership conflicts that result to farmers not planting their crops. Human wildlife conflicts has been reported in mixed farming areas resulting to destruction of crop while crocodile attacks as households and livestock access water in the River Tana. Production of major crops are expected to decline by over 95 percent compared to the long term averages (LTA). About 80 percent of the crop planted initially did not germinate resulting to second planting. The decline in production has resulted in reduced stocks at household level and those held by traders by 85 and 64 percent respectively compared to the LTA. Pasture condition was fair to poor compared to fair normally. The body condition of livestock especially cattle and sheep was fair to poor while goats were good to fair. The return distances from grazing increased by 30-33 percent in marginal mixed farming and mixed farming livelihood zones respectively. Market functions were normal without disruptions but prices of food commodities continued to rise. Maize prices remained above LTA by 28 percent but it remained stable between June and July 2019. The price of a goat declined by 15 percent compared to LTA and 33 percent lower compared to similar period in 2018. In July 2019, a household was able to access 90 kg of maize from a sale of a goat compared to 107 kg in the same month in 2018. The return distances for domestic water increased in the mixed farming livelihood zone from 1.5 km normally to five kilometres while marginal mixed farming livelihood zone, the distance increased to 10 km from five km. Waiting time at the source was above normal by 50 percent (15 minutes more) in the mixed farming. In the marginal mixed farming, the waiting time doubled to 60 minutes from 30 minutes normally. Water consumption in mixed farming reduced from 60 litres per person per day normally to 40 litres per person per day. In the marginal mixed farming, consumption of water was 20 litres per person per day from 30 litres normally due to limited availability of water, high cost as well as increased distances to water sources. The proportion of households in with borderline and acceptable food consumptions were 17.9 and 81.3 percent respectively as at July 2019. Reduced coping strategy index (rCSI) in July 2019 for households not engaging and stressed coping strategies was 34.1 and 63.4 percent respectively. The proportion of under-five mortality rate and the Crude Mortality Rate (CMR) were below the emergency cut offs. The proportion of under five children with Mid Upper Arm Circumference (MUAC<135mm) was stable at 1.23 percent in July 2019, compared to 3.8 percent in June and 80 percent below the LTA. The mixed farming livelihood zone in the county is classified in the Minimal (IPC 1) in while marginal mixed farming livelihood zone is classified as Stressed phase (IPC Phase 2).

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1.0 INTRODUCTION

1.1 County Background

Embu County lies 120 kilometers north east of Nairobi, south-eastern side of Mount Kenya covering an area of 2,818 square kilometre (Km²). It borders Tharaka Nithi to the north, Kitui to the east, Machakos to the south, Murang'a to the south west and Kirinyaga to the west and it comprises of four constituencies namely, Runyenjes, Manyatta, Mbeere North and Mbeere South. The county has a population of 219,220 persons (KNBS 2016 projected population). Administratively, Mbeere region is divided into two sub counties namely: Mbeere North and Mbeere South. The region has two main livelihoods zones namely: Mixed Farming (MF) and Marginal Mixed Farming (MMF) with population proportions of 49 and 51 percent respectively (Figure 1). Main sources of cash income in the mixed farming livelihood zone are: cash crop production contributing 30 percent of cash income; food crop production at 20 percent; livestock production at 18 percent and formal waged labor at 10 percent. In the marginal mixed farming livelihood zone, food crop production is the major source of income accounting for 40 percent followed by livestock production at 23 percent then cash crop production at 10 percent.

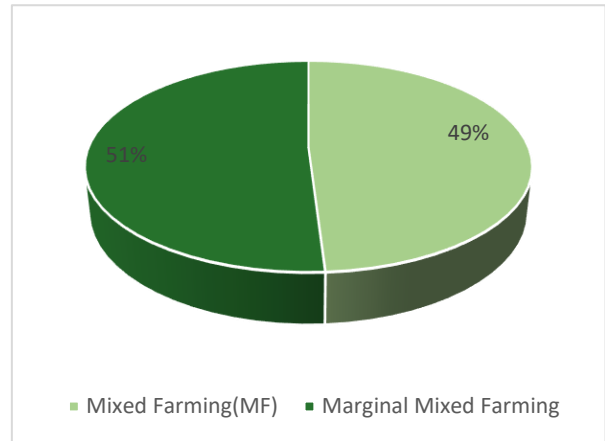


Figure 1: Proportion of the population in the county

1.2 Methodology and Approach

The long rains assessment aimed at developing an objective, evidence based and transparent food and nutritional security situation after long rains (March–May 2019) performance of long rains. A multi-sectoral and multi-agency approach consisting of members of KFSSG, CSG and non-state actors was used in the analysis of food and nutritional security and to provide possible recommendations and response mechanism. The process involved collection of secondary data through livelihood baseline, NDMA monthly surveillance bulletins, nutritional smart surveys, sectoral reports, agro ecological data and price data. Primary data was collected through field semi-structured interviews for key informant interviews, focused group discussions, household interviews, market surveys as well as sectoral checklists administration. Transect drives, visual inspection techniques were also used as well as observations across the sampled livelihood zones. Sampling was done based on various criteria such as livelihood zones, below or average rainfall performance, conflict areas, sites that had never been visited before, farming/livestock areas, markets, among many other factors. A minimum of four interview sites were sampled across all the livelihood zones. The assessment exercise was conducted from 15th to 19th July 2019. The data was collated, analyzed and triangulated together with the secondary data. The integrated food security phase classification (IPC) protocols were used in the classification of the severity and identification of the causes of food insecurity in the county.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

The onset of the long rains late in the third dekad of April compared to the normal of third dekad of March. Cumulative the county received 171.76 millimeters of long rains compared to average of 261.51 millimeters. The long rains were 34 percent below the rainfall estimates averages. The county received largely 50-75 percent of the normal rains while the areas around Embu town and Wachoro received average from 75-90 percent of the normal rains (Figure 2). The rains were uneven in space and characterized by poor distribution in time that was largely erratic across both livelihood zones. The rainfall cessation was early in third dekad of May which was normal.

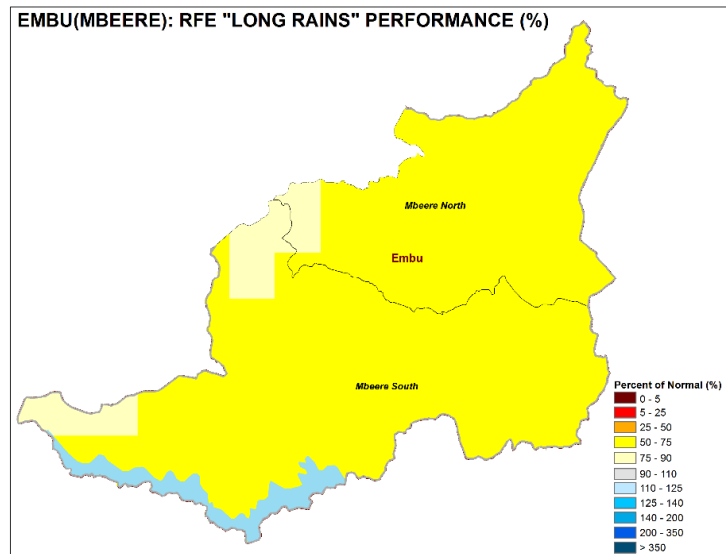


Figure 2: Rainfall performance as percent of the normal

2.2 Insecurity/Conflict

In Mwea and Makima, land ownership related conflicts has limited access and utilization of agricultural land for productivity. Crocodile attacks on people and livestock resulted to injuries and death has been reported in Kiambere along River Tana. Tana River is the main source of water for both domestic and livestock use in Kiambere.

2.3 Other Shocks and Hazards

There was no diseases outbreak, however cases of epidemic and water borne diseases such as dysentery, diarrhea and typhoid increased compared to the previous year 2018 as a result of poor water and sanitation practices. Maize production is projected to decline as a result of infestation of Fall Army Worm in the mixed farming areas. Livestock diseases such as Lumpy Skin Diseases, Rabies, Newcastle in poultry, Foot and Mouth Diseases were reported as well as tick borne related diseases (Anaplasmosis). Plant poisoning resulted to three cattle deaths. In marginal mixed livelihood areas in Muminji, Kirie, Iriaitune, Kamarandi, Mutitu, Kiambere, Ntharawe and Nthambu locations, a total crop failure was expected.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

About 95 percent losses of the crop production is projected due to below average performance of long rains that was characterized with late onset, poor and unevenly distributed in space and time coupled with early cessation. The stocks are projected to decline significantly due to below average production. Productivity of livestock has reduced due to fair to poor body condition as a result of

limited rangeland resources. Households continued to rely on market supplies despite increased food commodities prices.

3.1.1 Crop Production

The main crops grown in Mbeere North and South were maize, green grams and beans. In the mixed farming livelihood zone, maize and beans were majorly planted while in marginal mixed farming livelihood zone, cowpeas, maize and green grams were planted. Maize contributes 50 percent to food and 10 percent to cash income in marginal mixed farming livelihood zone while in mixed farming livelihood zone, it contributes 38 percent to food and 25 percent to cash income (Table 1).

Table 1: Proportion of Income and Food

Livelihood zone	Crop	Percentage contribution	
		% to food	% to Cash
Mixed Farming	Maize	38	25
	Beans	23	15
Marginal Mixed Farming	Maize	50	10
	Beans	17	6
	Green grams	10	30

Rain Fed Crop Production

The three main crops were maize, beans and green grams, however their area declined by 22, 49 and 48 percent respectively compared to the long term average (Table 2). Projected production is expected to decline by over 95 percent across all the main crops compared to the LTA. A total crop failure is expected due to late onset of rains, poor distribution in time and space, low amounts received and false start of the long rains causing over 80 percent crop failure that were planted initially and even second crop. Some farmers did not replant or opted not to plant at all. Farmers were planting as late as May 2019. Production is expected to be significantly below average as the crop wilted at critical water requirement stage as well as destruction by wildlife. In marginal mixed livelihood areas in Muminji, Kirie, Iriaitune, Kamarandi, Mutitu, Kiambere, Ntharawe and Nthambu locations, a total crop failure was expected. While in the mixed farming areas about five percent of production is expected due to early planting of crops under conservation agriculture but Fall Army Worm will affect the production.

Table 2: Rain Fed Crop Production

Crop	Area planted during 2019 Long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2019 Long rains season production (90 kg bags) Projected	Long Term Average production during the Long rains season (90 kg bags)
1.Maize	7,132	9,150	3,565	91,500
2.Beans	3,950	7,710	850	47,400
3.Green Grams	4,440	8,550	575	63,500

The area under irrigation for water melons, kales and tomatoes also declined by 20, 33 and 59 percent respectively compared to the LTA. Production of water melon, kales and tomatoes are expected to decline by 64, 67 and 59 percent respectively compared to the LTA (Table 3). Below average performance of long rains contributed to low recharge of rivers that are normally used for irrigation thereby impacting on productivity. Prolonged dry condition extended towards April

hence the levels could not significantly support irrigated crops up to maturity. About 40 percent of the farmers who do irrigation were not able to access water for irrigation. Some farmers especially *Miraa* farmers had abstracted low flowing rivers water that is used for *Miraa* irrigation resulting to conflicts down the stream and even towards Tharaka Nithi county.

Table 3: Irrigated Crop Production

Crop	Area planted during 2019long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2019long rains season production (90 kg bags) Projected	Long Term Average production during the Long rains season (90 kg bags)
1. Water Melons	240	301	3400Tons	9352 Tons
2. Kales	122	183	1220Tons	3660 Tons
3. Tomatoes	34	83	204Tons	498 Tons

3.1.2 Cereals Stock

Stock held by farmers, traders and NCPB declined compared to the LTA. Stocks held by farmers, traders and NCPB declined by 85, 64 and 61 percent respectively compared to the LTA (Table 4). The declined in cereal stocks was associated with significantly below average projected production as a result of below average long rains. Poor storage facilities and techniques at household level also contributed to declined stocks. In the marginal mixed farming livelihood zone, stocks were not available due to two consecutively failed seasons. Stocks held by traders also declined as a result of poor road network to deliver the food commodities especially in the marginal mixed farming livelihood zones. The stocks held by traders are expected to increase with the gradual increase in food commodities prices. Households depend on market supplies for their food commodities.

Table 4: Cereal Stocks in the Sub Counties

Commodity	Maize		Rice		Sorghum		Millet		TOTAL	
	Current	LTA	Current	LTA	Current	LTA	Current	LTA	Current	LTA
Farmers	13,000	85,000	0		4,050	30,000	1,315	6,000	18,365	121,000
Traders	3,700	13,800	1,550	4,050	2,050	4,000	1,635	2,800	8,935	24,650
Millers	0	0							0	0
NCPB	53,055	135,572							53,055	135,572
Food Aid	0								0	0

3.1.3 Livestock Production

The main livestock reared in the county were sheep, goats, cattle and local poultry. Livestock production (including beekeeping) contributed 20 and 45 percent of income in the mixed farming and marginal mixed farming livelihood zones respectively. The contribution to cash and food in the households (Table 5).

Table 5: Percentage of Livestock Contribution to Cash and Food

Livelihood Zone	Livestock types	Percentage Contribution to cash and food	
		% to Cash	% to Food
Mixed Farming	Cattle	40	35

Livelihood Zone	Livestock types	Percentage Contribution to cash and food	
		% to Cash	% to Food
	Goat	40	20
	Poultry	25	40
Marginal mixed farming	Cattle	25	20
	Goat	40	15
	Poultry	20	55

Pasture and Browse Situation

Pasture condition in the mixed farming livelihood zone was fair to poor compared to fair normally at this time of the year. In the marginal mixed farming livelihood zone, pasture condition was poor (Table 6). Below average performance of long rains did not support regeneration of pastures especially in marginal mixed farming livelihood zones. Pasture was poor in Kamarandi, Lower Kiambere, Mutuobale, Ishiara, Iria itune Makima, Mavuria Ngiire, Kirie and parts of Ndurumoi locations. Pasture in both livelihood zones are expected to last until mid of August compared to end of September normally. Browse conditions in the marginal mixed farming livelihood zone was fair to poor compared to fair at this time of the year. Browse conditions were fair in the mixed farming livelihood zone compared to good normally at this time of the year. In parts of Iriaitune, Ndurumori and Kamarandi locations in Mbeere North, browse condition was fair occasioned by the poor regeneration during the long rains season. Parts of Kilia, Maviani, Mutuobale, Kiambere and Kamwiyendei in marginal mixed farming in Mbeere South, browse condition was fair as a result of poor regeneration during the long rains season. Browse condition are expected to last until the end of August compared to September normally. There was insignificant contribution of crop residues to livestock feeding. In the Ishiara market, a bunch of pasture was sold at Ksh.20 compared to Ksh.10 normally.

Table 6: Pasture and Browse Conditions

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	
Mixed farming	Fair - Poor	Fair	0.5	2	None	Fair	Good	1.5	2	None
Marginal mixed farming	Poor	Fair	<0.5	1.5	None	Fair - Poor	Fair	0.5	1.5	None

Livestock Productivity

Livestock Body Condition

In the mixed farming livelihood zone, the body condition of cattle and sheep were fair at this time compared to good normally (Table 7). In marginal mixed farming livelihood zones in Kamarandi, Ndurumori, Kiambere, Ntharawe, Mutuobare, Mavuria, Iriaitune, and Lower Kirie, the body condition of cattle was poor and deteriorated very much due to long distances to water and grazing areas. Goats were good to fair in body condition compared to good normally at this time of the year. In the marginal mixed farming livelihood zone, cattle body condition was poor compared to good normally, as a result of poor pasture conditions and long trekking distances to water. The body conditions of sheep and goat in the marginal mixed farming livelihood zone was fair

compared to good normally. The body condition of all livestock types is likely to deteriorate further as a result of deteriorating pastures and increased return distances from grazing to water sources.

Table 7: Livestock Body Condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Mixed farming	Fair	Good	Fair	Good	Good-Fair	Good	N/A	N/A
Marginal mixed farming	Poor	Good	Fair	Good	Fair	Good	N/A	N/A

Tropical Livestock Units (TLUs) and Birth Rates

Tropical livestock units in mixed farming and marginal mixed farming livelihood zones for poor income households declined by 50 and 33 percent respectively compared to the normal at this time of the year (Table 8). TLUs in mixed farming and marginal mixed farming livelihood zones for medium income households declined 25 and 33 percent respectively compared to the normal at this time of the year. The TLUs in both zones has been reducing due to recurrent droughts. Livestock births were normal across all breeds but there was depressed conception rate among cattle in marginal mixed farming livelihood zone.

Table 8: Tropical Livestock Units

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Mixed farming	<1	1	1.5	2
Marginal mixed farming	1	1.5	2	3

Milk Production, Consumption and Prices

Production of milk at household level declined by 25-50 percent compared to the long term average in both mixed farming and marginal mixed farming livelihood zones. Milk consumption at household level also declined by 33 percent in the marginal mixed farming livelihood zone. Production of milk declined due to poor body condition of cattle as a result of fair to poor forage condition and increased trekking distances to water. Price of a litre of milk was 17-40 percent above the long term averages (Table 9). Milk consumed was supplied from Manyatta and Runyenjes. Milk prices in the marginal mixed farming livelihood zone of Kiambere (Karura) was Ksh. 120 per litre compared to Ksh. 60 normally.

Table 9: Milk Production, Consumption and Cost

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Mixed farming	1.5	2	1.5	1 - 2	70	50
Marginal mixed farming	0.5	1	0.5	0.5 - 1	70	60

Livestock Migration, Disease and Mortalities

There were no livestock migration except normal livestock movements within and outside the sub counties. Livestock were reported to be moving in dry grazing areas, towards the riverine and hill tops in search of pastures. Lumpy Skin Diseases (LSD) in cattle was reported in Nthawa and Mwea. Foot and Mouth Disease was reported in Mwea and Evurore. Newcastle in poultry was reported across the livelihood zones. In parts of Karura (Kiambere) tick borne related diseases

(Anaplasmosis). Rabies was spot reported across various areas in the livelihood zones. There were no livestock mortalities across the livelihood zones, although three heads of cattle died due to plant poisoning. The veterinary department continued to conduct diseases surveillance, vaccination and treatments. The county continued to procure vaccine to control Rabies, Newcastle, Fowl Pox and Fowl Typhoid.

Water for Livestock

The main sources of livestock water included rivers, piped water systems, dams, shallow wells and boreholes in the mixed farming livelihood zone which were normal at this time. In the marginal areas, dams, rivers, boreholes and sand dams were the main sources. The return distances increased between 30-33 percent in marginal mixed farming and mixed farming livelihood zones respectively compared to the normal at this time of the year (Table 10). In areas such as Karura (Kiambere), Kiogogo (Muminji), livestock trekked up to 22 km in search of water. The increase was attributed to increased distance to pasture fields and drying up of water sources for livestock. Watering livestock in marginal mixed farming livelihood zones was on alternate days compared to daily in a normal season due to increased distances and dried up water sources. Daily watering was done in mixed farming livelihood zone. Water will last less than one and a half months in marginal mixed farming and mixed farming respectively compared to 2-3 months.

Table 10: Water for Livestock

Livelihood zone	Return distances (km)		Expected duration to last (months)		Factors Limiting access
	Current	Normal	Current	Normal	
Mixed farming	1 – 3	1 – 2	1.5	3	human /livestock /wildlife conflict
Marginal mixed farming	3 – 14	3 – 10	0.5	2	human /livestock / wildlife conflict

Fair to poor livestock body condition will reduced livestock productivity thereby limiting access to livestock and livestock products at household level.

3.1.4 Impact on Availability

The performance of long rains resulted to below average food availability. Harvests are likely to be below and delayed thereby implication that household rely more on consumption based strategies. Livestock productivity has been limited hence household remain dependent on market for their food commodities.

3.2 Access

3.2.1 Markets

Market Operations

The main markets in the mixed farming livelihood zone are Makutano and Siakago, while Kiritiri, Mutuobare, Ngiiri and Ishiara are located in the marginal mixed farming livelihood zone. There were no market disruptions across the livelihood zones which was normal at this time of the year. Markets were well provisioned with food commodities and livestock across the zones. The main livestock types in the market were cattle, sheep, goats and poultry. The livestock were sourced across the livelihood zones and across other places such as Mwingi, Tharaka and Masinga. The

food commodities in the market included maize, beans, cowpeas and green grams. Food commodities such as bananas, tomatoes, potatoes, vegetables among others were available across the markets. The food commodities were from out the county such as Busia, Nairobi and Eldoret. In the marginal mixed farming livelihood zone, market supplies were hampered by poor road infrastructures. The demand for food commodities was high in marginal mixed farming areas due to below average production as a result of two consecutive below average performance of rains. Majority of households are market dependent. Prices of main food commodities are likely to gradual increase across the livelihood zones.

Market Prices

Maize price

Maize prices have been on an upward trend since the month of March this year. The average price of a kilogram of maize in July 2019 was Ksh.45.6 compared to long term average of Ksh.36. In the month of July, the maize price were 28 percent above the five-year average (2014-2018) of the same month (Figure 3). Maize prices were stable (4%) between the month of June and July 2019. The increase in maize prices was attributed to diminished or no stocks at household level and hoarding by traders. The maize prices are expected to increase across the livelihood zones as demand increases.

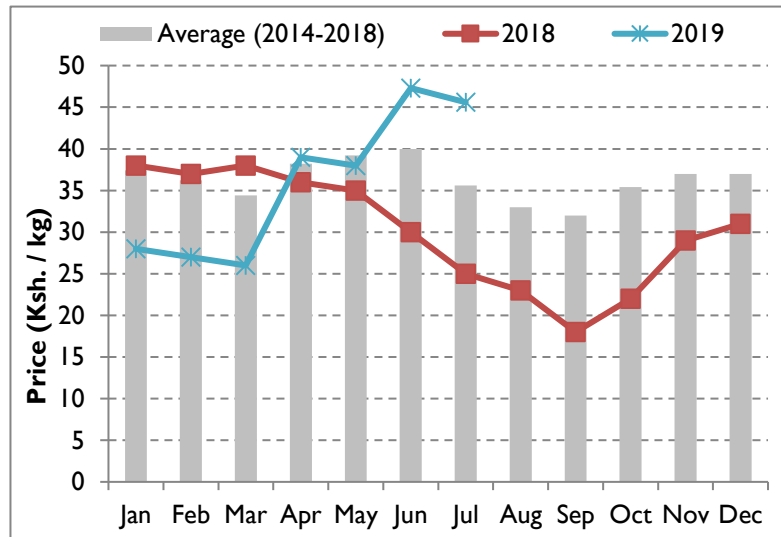


Figure 3: Average Maize Prices

Goat price

The price of a medium sized goat as at July 2019 was 15 percent below the LTA. The current price of a goat was Ksh. 3,232 (Figure 4). The price of goat was stable between June and July 2019. In July 2019, the price of goat was 33 percent lower compared to a similar period in 2018. The 2019 prices of goat were above the LTA, however, the price trends gradually declined from February. The decline in the goat prices was attributed by high supplies at the market as household sought to purchase household needs. Limited number of traders has also

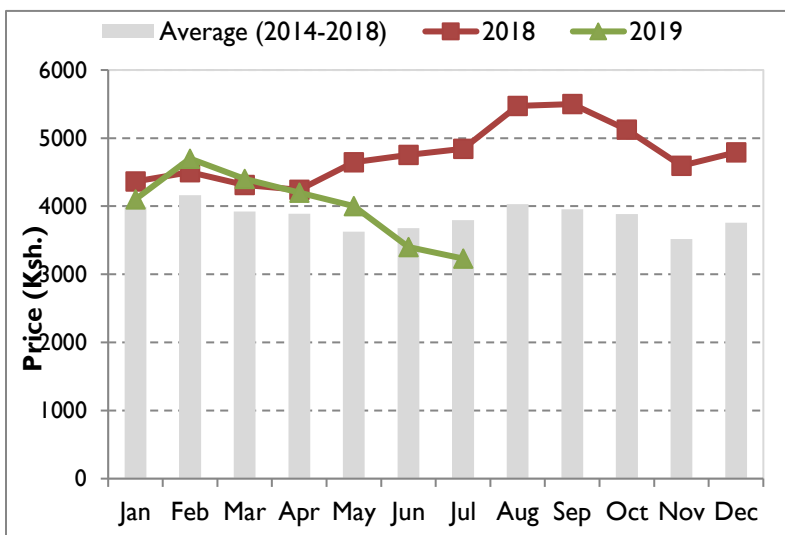


Figure 4: Average Goat Prices

necessitated the declined prices as traders offered lower prices. The prices of goat are expected to decline further with deteriorating body conditions across the livelihood zones.

3.2.2 Terms of trade

In July 2019, the terms of trade were 15 percent below the long term average and a goat exchanged for 90 kg of maize compared to 107 kg normally (Figure 5). Compared to a similar period last year the terms of trade were 53 percent lower. However, June 2018 was an exceptionally good season due to the much above average long rains and the ToT was also unusually favorable. The declining terms of trade were associated with declining goat prices and increasing maize prices. The decrease of terms of trade significantly lowered the purchasing power of livestock keepers during the month. The terms of trade are expected to decline further and remain consistently below the long term averages as result of deteriorating goat body conditions with increasing maize prices.

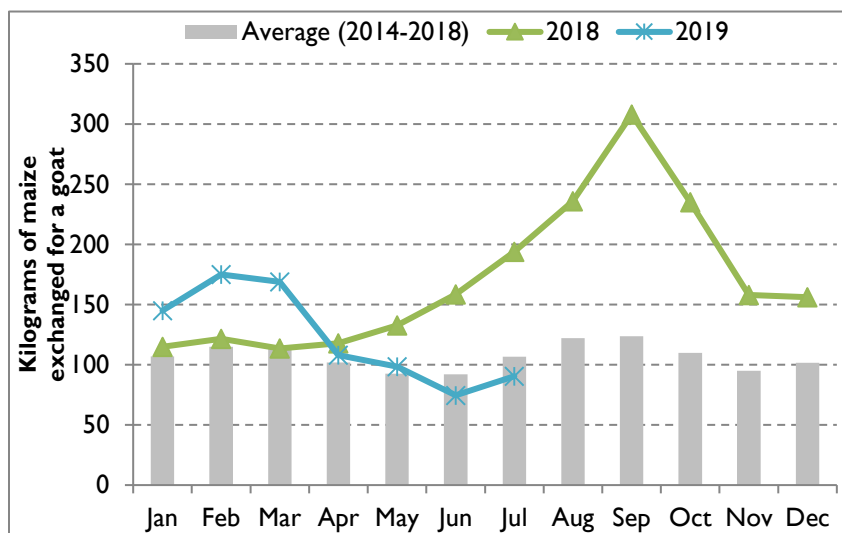


Figure 5: Terms of Trade

3.2.3 Income Sources

The main income sources in the county are mainly food crop production, cash crop production and livestock production. Other sources of income include (Table 11).

Table 11: Proportion of Contribution to Cash Income by Livelihood

Sources of Income	Proportion of contribution to cash income by livelihood	
	Mixed Farming	Marginal Mixed Farming
Livestock Production	18	23
Food Crop Production	20	40
Cash Crop Production	30	10
Formal Waged Labour	10	5
Small Business	5	5
Petty Trading	5	3
Casual Waged Labour	3	4

3.2.4 Water Access and Availability

Major Water Sources

The main water sources in the county include; rivers, boreholes and dams across the livelihood zones which are the normal sources. Recharge levels for open water sources was less than 30 percent as most sources did not get water and also due to below average performance of the long rains. The proportion of household using traditional river wells increased due to drying of rivers and breakdown of strategic boreholes in Ntharawe and Muiru in Kiambere, Mbeere South (Figure 6). Water quality from boreholes, piped systems and traditional river remained better compared to water pans and dams as result of livestock movements in accessing the water. In the mixed farming and marginal mixed farming livelihood zones, the proportion of current operational water sources was 15 and 41 percent respectively compared to the normal (Table 12). The sources were non operation as result of low recharge due to ongoing dry conditions, breakage of some sources and high concentration of human especially in the permanent sources. The most affected places included Evurore (Ngoce, Kamarandi and Kiangombe), Muniji (Kirie and Karambari), Mwea (Gitaraka), Makina (Makima area), Kiambere (Ntharawe, Mutuobare and Karura). High concentration to water points was reported in several parts of the sub counties (Table 13).

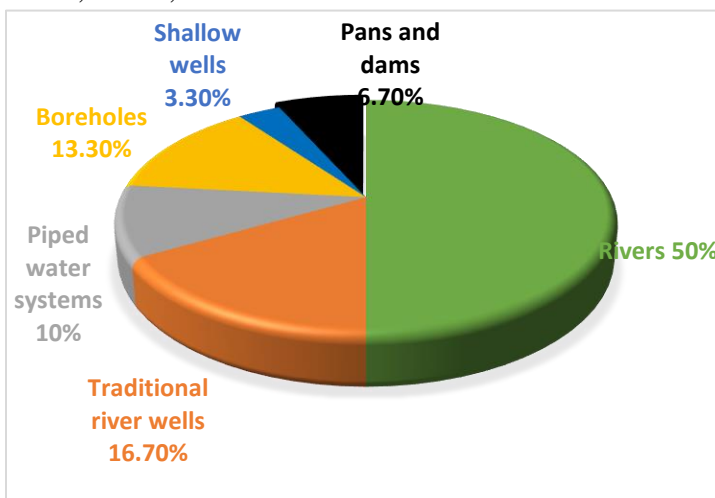


Figure 6: Sources of Water

In the mixed farming and marginal mixed farming livelihood zones, the proportion of current operational water sources was 15 and 41 percent respectively compared to the normal (Table 12). The sources were non operation as result of low recharge due to ongoing dry conditions, breakage of some sources and high concentration of human especially in the permanent sources. The most affected places included Evurore (Ngoce, Kamarandi and Kiangombe), Muniji (Kirie and Karambari), Mwea (Gitaraka), Makina (Makima area), Kiambere (Ntharawe, Mutuobare and Karura). High concentration to water points was reported in several parts of the sub counties (Table 13).

Table 12: Proportion of Current Operational Water Sources

Ward/ Livelihood zone	Water Source (Three (3) major sources)	No. of Normal Operational	No. of Current Operational Sources	Projected Duration (Operational Sources)	Normal Duration that water last in months	% of full Capacity Recharged by the Rains	Locality of Non- operational Water Sources
Mixed farming	1. River	4	4	4	12	30	

(Mbeti South, Nthawa, Kanyuambora which is part of Evurori ward)	2. Boreholes	20	15	3	12	30	Gachuriri market, Rwika market, Gikuyari, Ikondigo, Muchonoke
	3. Dams	15	14	3	12	30	Muchonoke (Nthawa)
Marginal Mixed Farming (Mavuria, Kiambeere, Makima, Mwea, Evurore and Muminji)	1. River	3	3	4	12	30	
	2. Boreholes	38	20	2	6	20	Ntharawe(2),Nyangwa(2),Kiambere(2), Karii (3) Makima(4) Mwea(3) Muminji(2)
	3. Dams	23	25	1	4	20	Mugwanjogu, Karia, Kiogogo (Evurori),Karambari, Cieria (Muminji) Kerwa (Mavuria), Wamikuyu,(Mwea),gwakigumba (Kiambere)

Table 13: Concentration Water Points

Most Concentrated Water Points				
Ward/ Livelihood zone	Actual Name of the Water Point	Normal No. Served	Current No. Being Served	Reason(s) for Variation
Mixed Farming (Mbeti South, Nthawa, Kanyuambora which is part of Evurori ward)	Mathai, Mururiri, Gicheruri, Ciakaragu and Kambindi Boreholes (Nthawa ward)	1000H/H	1500 H/H	Most seasonal water sources have dried up.
Marginal Mixed Farming (Mavuria, Kiambeere, Makima, Mwea Evurore and Muminji)	Ciorindagwa, Iriamurai, kimbeere new site (Mavuria and Kiambeere)	700H/H	1000H/H	High yielding boreholes and serves a very big area

Distance to water sources

The return distances to water for domestic use in the mixed farming livelihood zone increased from 1.5 km normally to five kilometres. In the marginal mixed farming livelihood zone, the return distances to domestic water increased from five kilometres to 10 km (Table 14). The distances across the livelihood zones were above averages due to drying of water pans and dams, reduced water sources as well as breakdown of boreholes and rationing of the piped water systems.

Table 14: Distances, Consumption and Cost of Water

Ward / livelihood zone	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Ksh. Per 20litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Mixed Farming (Mbeti South, Nthawa, Kanyuambora)	0.5-5	0.5-1.5	2-10	2-5	0-15	0-10	40	60

which is part of Evurori ward)								
Marginal Mixed Farming (Mavuria, Kiambeere, Makima, Mwea Evurore and Muminji)	1-10	0.5-5	2-20	2-10	5-60	5-30	20	30

Waiting time at the source

The waiting time at the source increased across the livelihood zones. In the mixed farming areas waiting time was above the normal by 50 percent (15 minutes more) compared to the normal. In the marginal mixed farming, the waiting time double to 60 minutes from 30 minutes normally (Table 14). The increase in water time was associated with high concentration at the source as well as low yielding for boreholes.

Cost of water

The cost of water was 100 percent above the averages across the livelihood zones (Table 14). In the marginal mixed farming, the cost of water increased from Ksh.10 per 20 litres jerrycan to Ksh.20 per 20 litres jerrycan. The cost of water in the mixed farming livelihood zones, increased from Ksh.5 normally to Ksh.10 per 20 litres jerrycan. The increase in the cost was associated with low yielding boreholes and rationing of piped water as well as dried up water pans leading to high concentration in the permanent sources. Water from vendors cost Ksh.30-50 per 20 litres jerrycan as result of transportation charges.

Water consumption

Water consumption in mixed farming reduced from 60 litres per person per day normally to 40 litres per person per day. In the marginal mixed farming, consumption of water was 20 litres per person per day from 30 litres normally due to limited availability of water, high cost as well as increased distances to water sources (Table 14).

3.2.5 Food Consumption

In July 2019, the proportion of household with acceptable and borderline food consumption in marginal mixed farming livelihood was 63.3 and 35 percent respectively (Figure 7). In the mixed farming, 98.4 and 1.6 percent of the households has acceptable and borderline food consumption.

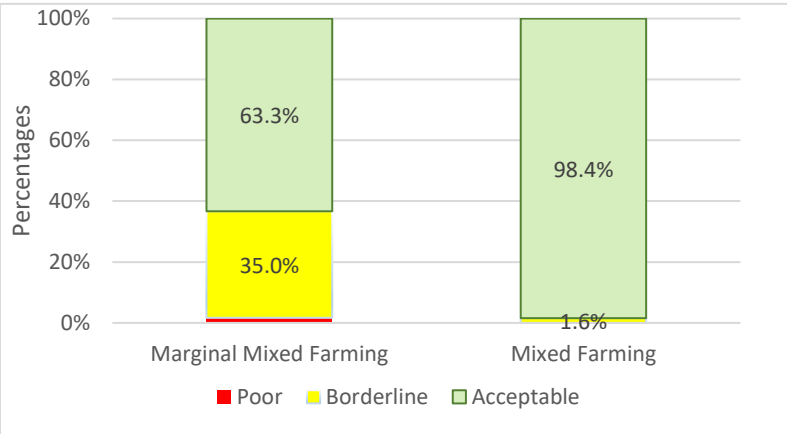


Figure 7: Food Consumption at July 2019

Milk Consumption

Milk consumption in the mixed farming livelihood zone was 1.5 litres compared to two litres normally. While in the marginal mixed farming, less than one litre was consumed compared to one litre normally.

3.2.6 Coping Strategy

In the marginal mixed and mixed farming livelihood zones in July 2019, 76.7 and 50.8 percent respectively engaged into stressed coping strategies (Figure 8). About 18.3 and 49.2 percent of the households in marginal mixed farming and mixed farming livelihood zones did not engage on any consumption based strategies. The strategies used were reduction of meal number and size (on average of two days in week) and reduction of non-food expenses coupled with spending savings and borrowing money.

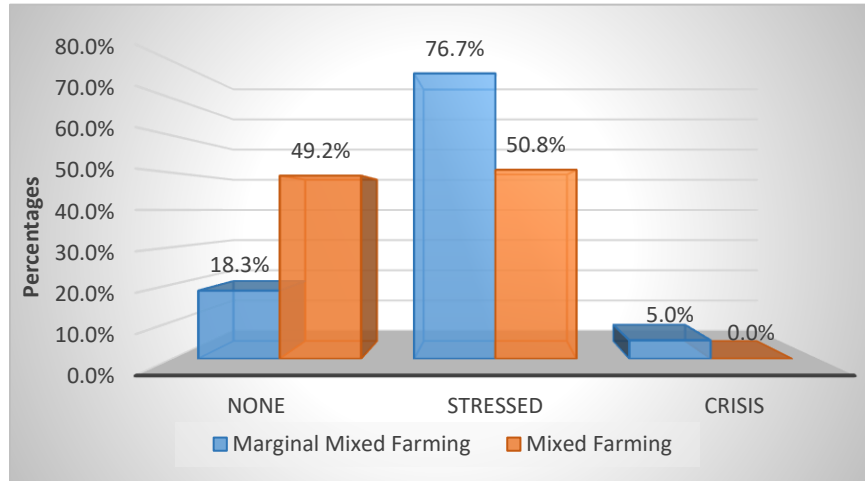


Figure 8: Reduced Coping Strategy Index

3.3 Utilization

3.3.1 Morbidity and Mortality Patterns

The top three conditions amongst children under five years remained the same as last year 2018. The diseases include Upper Respiratory Infections, skin infections and diarrhea. Amongst the

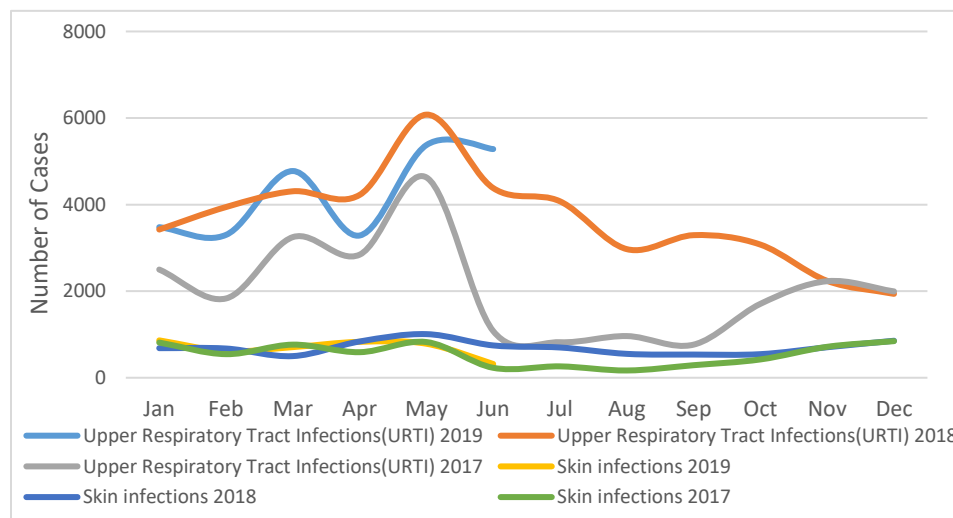


Figure 8: Morbidity for Under-Five Years Children

general population, the top three diseases were upper respiratory tract infections, intestinal worms and skin conditions (Figure 10). The trends for URTIs in the period January to June 2019 for under-fives and general populations were similar and comparable as those exhibited in 2018 (Figure 11). In the period January to June 2019, more children were treated for URTI, skin infections and diarrhea compared to the same period in 2018. In the January to June 2018, intestinal worms ranked third while in the period under review it was ranked second. There was an increase in morbidity cases

for both under-fives and general population as a result of limited access to safe water for drinking and washing as well as dusty environment.

There was no diseases outbreak in the period under review which was the same as the previous year 2018 mainly as a result of continued sensitization in community total led sanitation and construction of latrines. Diarrhea cases increased by 38 percent (6937 cases from 5022) in January to June 2019 compared to same period of 2018. Dysentery cases increased to 203 cases in January to June 2019 compared to 119 in the similar period of 2018. Typhoid cases also increased to 1029 cases in the period January to June 2019 compared to 782 in the similar

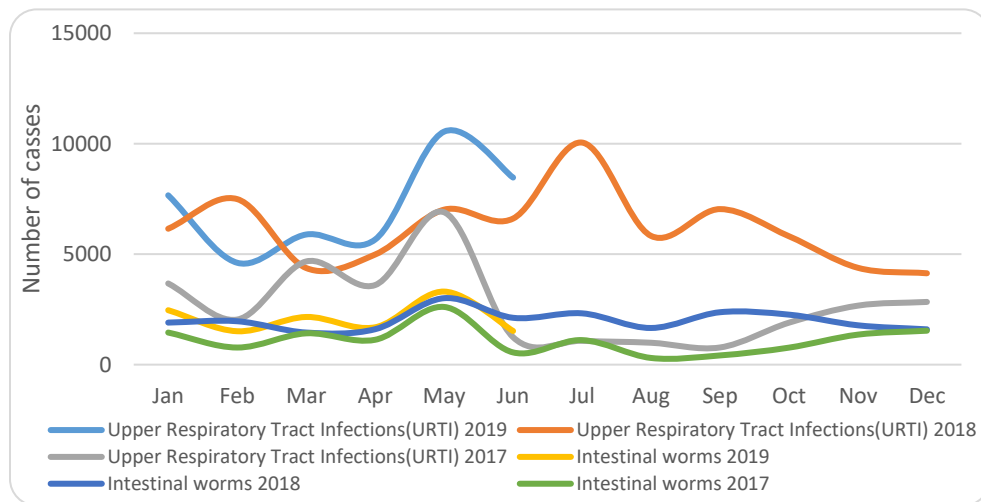


Figure 9: Morbidity for the General Population

period in 2018 which were Typhoid Fever through Widal tests as positive results were based on culture tests. Malaria cases in January to June 2019, declined by 20.5 percent compared to similar period in 2018. Increased cases of dysentery, diarrhea and typhoid were associated with poor water and sanitation practices. Under five mortality rate for children was 0.05 while the crude mortality rate is 0.4631. There were no disease out breaks that could contribute to high death rates.

3.3.2 Immunization and Vitamin A supplementation

In the period January to June 2019, the proportion of fully immunized child was 99.3 percent compared to 72.8 percent in the similar period in 2018 (Table 15). The coverage was above the national target of 80 percent as a result of increased outreaches and data quality assessments that improved documentation. Vitamin A coverage 6-11 months in the period January to June 2019 increased to 72 percent from 50.1 percent in the similar period in 2018. For children aged 12-59 months, the coverage also improved from 69.4 percent in January to June 2018 to 74.4 percent in the similar period in 2019. In children aged 6-59 months, the coverage was 73.2 percent in January to June 2019 from 60 percent same period in 2018. The increase was associated to a new partner (Nutrition International) who supported community health volunteers in Vitamin A supplementation at the households alongside ECDE supplementation during the Malezi Bora period as well as improved outreached and enhanced data quality.

Table 15: Immunization and Vit. A Coverage

Year	Children 6-11 months		Children 12 to 59 months		Children 6-11 months	Children 12 to 59 months
	Received vitamin A supplementation	Total Population (6-11 months)	Received vitamin A supplementation	Total Population (12-59 months)	Proportion of children Received Vit. A supplementation	Proportion of children Received Vit A supplementation
2019	72	100	73.2	100	73.2	73.2
2018	50.1	100	69.4	100	69.4	69.4

					n in the last 6 months	n in the last 6 months
January to June 2019	2244 (72%)	3140	19765 (78.4%)	25186	N/A	N/A
January to June 2018	1923 (50.1%)	3834	20212 (69.4%)	29110	N/A	N/A

3.3.3 Nutritional Status and Dietary Diversity

The proportion of under five children with Mid Upper Arm Circumference (MUAC<135mm) was stable at 1.23 percent in July 2019, compared to 3.8 percent in June and 80 percent below the LTA. However, the proportions increased from March to May 2019 then it stabilized towards June (Figure 12). The proportion of children at risk of malnutrition in July 2019 was 36 percent lower compared to June 2018 as a result of poor dietary diversity, poor child and maternal practices and increased morbidity cases such as URTI in children especially in the marginal mixed farming livelihood zone. According to community interviews, household across the livelihood zones consumed 1-2 meals per day compared to normal of 2-3 meals per day. The under five children consumed 2-3 meals per day as well as breast milk. The composition of meals consisted of cereals and cereal products and pulses. In the period between January and February 2019, there were more underweight children compared to

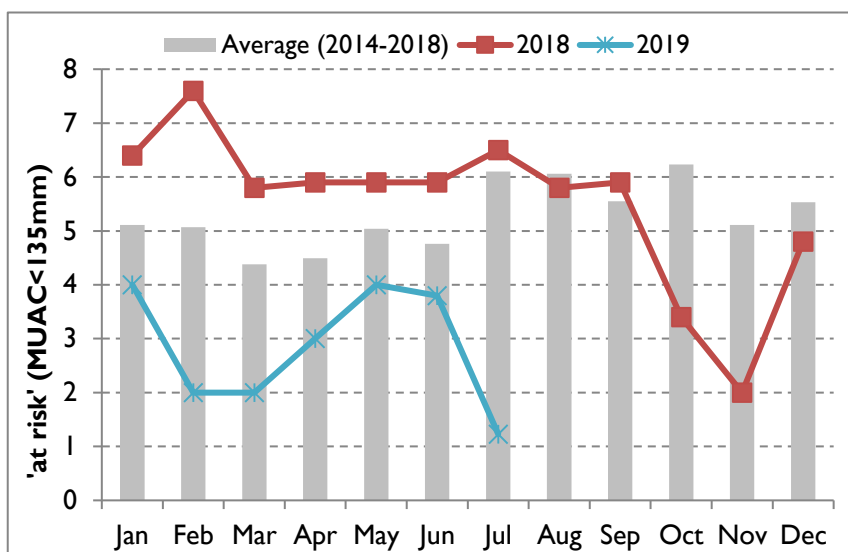


Figure 12: Proportion of Children at Risk of Malnutrition (MUAC)

household across the livelihood zones consumed 1-2 meals per day compared to normal of 2-3 meals per day. The under five children consumed 2-3 meals per day as well as breast milk. The composition of meals consisted of cereals and cereal products and pulses. In the period between January and February 2019, there were more underweight children compared to

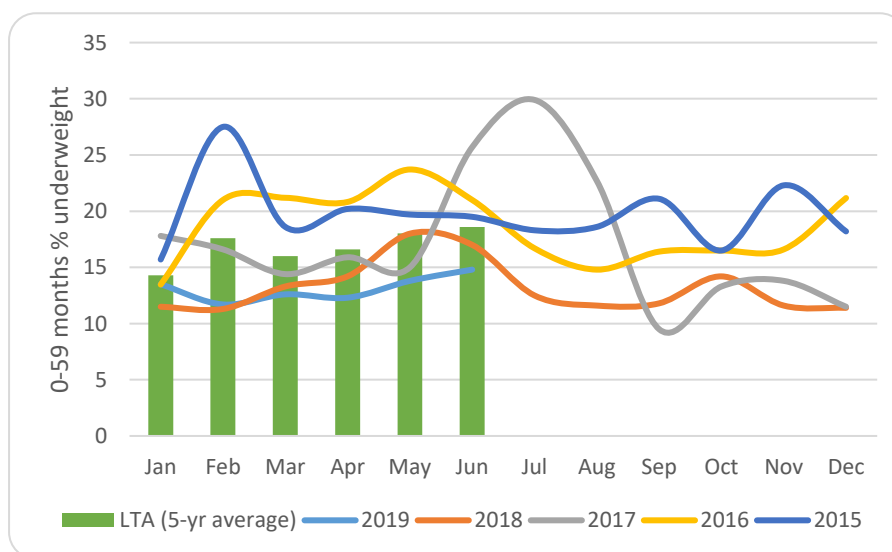


Figure 13: Proportion of Under Weight Children

the similar period in 2018 (Figure 13). However, the general trend showed an increase in the number of underweight children from the months of March to June for both 2018 and 2019. Based on community interviews in mixed farming livelihood zones only about 70 percent of mothers practiced exclusive breastfeeding while in marginal mixed farming livelihood zones only about 40 percent. These was as a result of was hunger, where mothers resulted in casual wages as they leave their children at home. The trends of admission on moderate malnutrition in the period January to June 2019 was high expect in the months of March and May. However, the trend was below the 2018 and the five-year average (Figure 14). In severe acute malnutrition, the admissions were high compared to the five-year averages. The increased trends were associated with poor infant feeding practices particularly for the children aged (6-23) months as exhibited by the low proportion that are getting the minimum meal frequency and dietary diversity coupled with high morbidity incidence among under-five, poor food handling, hygiene and sanitation issues. The trends for both moderate and severe acute malnutrition showed a likely increasing trend.

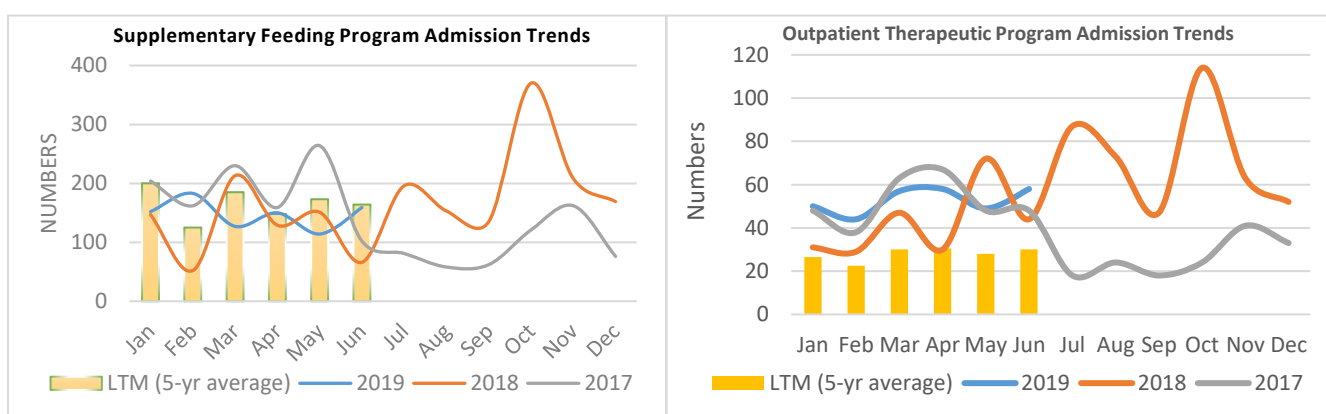


Figure 10: Trends in SFP and OTP

3.3.4 Sanitation and Hygiene

The proportion of latrine coverage several wards remained stable as a result of community led total sanitation (CLTS) as well as involvement of local administrators (chiefs) (Table 16). During the community interviews, water storage was just done using closed jerrycans. Community disposes human waste in pit latrines while the other waste was disposed in pits. Limited water treatment was done especially in marginal mixed farming livelihood zone.

Table 16: Latrine Coverage

Sub County/Livelihood zone	Latrine Coverage	
	January to June 2019 % Coverage	January to June 2018 % Coverage
GACHOKA	87.5%	87%
MAVURIA KIAMBERE MMF	86.4%	81.4%
MAKIMA MMF	87%	86.5%
MWEA	81.9%	81.4%
NTHAWA	95%	94%
EVURORE	96%	97%
MUMINJI	93%	86%

3.4 Trends of Key Food Security Indicators

Table 17: Trends of Food Security

Indicator	Short Rains Assessment, Feb 2019	Long Rains Assessment, July 2019
% of maize stocks held by households	46% of the LTA	15% of the LTA
Livestock body condition	Good for sheep and goats across all livelihood zones but fair for cattle in the MF and fair to poor in the MMF	MF-Cattle and Sheep-Fair MMF Sheep and Cattle -Fair to poor Goat-Good to Fair
Water consumption (litres per person per day)	MMF: 20 litres MF: 60 litres	MMF: 20 litres MF: 40 litres
Price of maize (per kg)	28	47
Distance to grazing	MFF: 5-14 kilometres MF: 1-2.5 kilometres	MFF: 3-14 kilometres MF: 1-3 kilometres
Terms of trade	147 kg	90
Coping strategy index	Mean: 3.8 MMF: 5.1 MF: 1.6	rCSI July 2019 MMF: None-18.3% Stressed-49.2% Crisis-5% MF: None-49.2% Stressed-50.8% Crisis-0%
Food consumption score	Mixed Farming Poor: 0 % Borderline: 0 % Acceptable: 100 % Marginal Mixed Farming Poor: 0 % Borderline: 21.7 % Acceptable: 78.3 %	FCS July 2019 Mixed Farming Poor: 0 % Borderline: 1.6% Acceptable: 98.4% Marginal Mixed Farming Poor: 1.7 % Borderline: 35% Acceptable: 63.3%

4.0 CROSS – CUTTING ISSUES

4.1 Education

4.1.1 Enrolment

Enrolment for three school levels slightly increased in Term II compared Term I 2019. In the Term II, enrolment increased by 28 (11 girls and 17 boys) in ECD, 953 (517 girls and 436 boys) and 126 (114 girls and 12 boys) in primary and secondary level respectively (Table 18). An upward trend in enrolment in ECD was as a result of provision of milk to ECD pupils by the county government and better pay by county government to ECD teachers, which motivates them to be more active, available and engage more in teaching while in primary and secondary schools, the upward trend was due to free primary education, less farm labor activities that normally children participate to generate cash income for households, government regulations of fees payable in schools and one hundred percentage transition to secondary schools and the involvement of the local administration

(chiefs) in enforcing the policy has also enhanced enrolment rates in schools across the sub counties.

Table 158: Enrolment

Enrollment	Term I 2019			Term II 2019		
	Nº Boys	Nº Girls	Total	Nº Boys	Nº Girls	Total
ECD	5,013	4,769	9,782	5,030	4,780	9,810
Primary	29,193	28,009	57,202	29,629	28,526	58,155
Secondary	12,021	11,120	23,141	12,033	11,234	23,267

4.1.2 Participation

Daily attendance across all levels of learning increased up to 99 percent (Table 19). However, a one percent negligible variation noted was due to sicknesses and pupils being sent away for fees and other levies. Cases of absenteeism were reported arising due to hunger and it likely to get worse as food at household level gets depleted.

Table 19: Participation

Indicator	Term I 2019						Term II 2019			
	January 2019		February 2019		March 2019		May 2019		June 2019	
School attendance	Nº Boys	Nº Girls	Nº Boys	Nº Girls	Nº Boys	Nº Girls	Nº Boys	Nº Girls	Nº Boys	Nº Girls
ECD	4,999	4,764	5,008	4,768	5,006	4,762	5,015	4,770	5,011	4,769
Primary	29,186	28,005	29,191	28,002	28,745	28,086	29,625	28,519	29,623	28,520
Secondary	12,015	11,115	12,018	11,111	12,019	11,108	12,025	11,217	12,024	11,216

4.1.3 Retention

The number of dropouts across all levels of institutions was stable. At ECDE level, no dropout was reported in Term I, however, a 0.078 percent dropout was reported in Term II. Drop out at primary level was 0.012 percent in Term I and 0.015 percent in Term II. At secondary level, drop out was 0.012 and 0.03 percent in Term I and Term II respectively (Table 20). The drop out in primary and secondary was mainly due to lack of fees and engagement in income generating activities (*BodaBoda* and *Miraa* picking and selling), truancy as well as household doesn't see value of schooling and forced repetition that result to overage. Girls dropped out due to early pregnancies and marriages. In addition, distance to schools resulted to drop out especially in ECD children and variedly when the parents move from a locality.

Table 20: Retention

Indicator	End of Term I 2019		End of Term II 2019	
	Nº Boys	Nº Girls	Nº Boys	Nº Girls
Students dropped out from school				
ECD	0	0	2	1
Primary	3	4	6	3
Secondary	1	2	3	4

4.1.4 School Meals Programme

In Mbeere South and North, 132 are under Home Grown School Meal Program (HGSMMP) benefiting 33,706 pupils (17,223 boys and 16,483 girls) (Table 21). The feeding program enhances attendance, participation and enrolment in the schools. Delays in disbursement of funds to the schools for the last two terms has impacted negatively on participation in schools and already cases

of absenteeism have increased. The county government provided school milk to the ECDE children while the parents are providing for the mid-day snack or porridge.

Table 161: School Meals Program

Sub-county	HGSMF		
	No. schools	No Boys	No Girls
Mbeere North	51	6,656	6,466
Mbeere south	81	10,567	10,017
Totals	132	17,223	16,483

In Mbeere South and North, 236 ECDs school benefit on school milk program targeting 9,810 children (4,938 boys and 4,872 girls) (Table 22).

Table 172: School Milk Program

Sub County	No. of centres	No. of Boys	No. of girls	Total
Mbeere North	97	1,807	1,899	3,706
Mbeere South	139	3,131	2,973	6,104
Total	236	4,938	4,872	9,810

4.1.5 Inter Sectoral links

In Mbeere South and North, most schools had safe drinking water and functional latrines, except a few schools that had no water tanks. Education linked with Ministry of Health (MOH) in Vitamin A supplementation and de-worming including providing schools with best health practices. School health education programme in selected school was undertaken in sensitization of diarrhea preventive measures.

5.0 FOOD SECURITY PROGNOSIS

5.1 Prognosis Assumptions

The food security prognosis in Mbeere South and North will be on the following assumptions:

- The October to December short rains season is forecasted to be average by seasonal ensemble forecast National Oceanic and Atmospheric Administration's National Weather Service/ Climate Prediction Center (NOAA/CPC).
- Monthly land surface temperatures are likely to be above average 0.25-0.5 C° especially through September.
- Through August-September projected production is expected to be less than 50 percent of the long term averages. Harvests are likely to be delayed to November.
- Agricultural labor demand in the marginal agricultural areas are likely to remain below normal through August.
- With the current dry season experienced continued livestock migrations and increased resource-based conflicts are likely to be witnessed.
- Maize prices are expected to above averages.
- With fair to poor livestock body condition, prices of livestock are likely to decline further to below 2018 prices and 5-year averages.

5.2 Food Security Outlook

5.2.1 Food Security Outlook (August to October)

The harvests are projected to be delayed and below average, thereby implicating poor households to gradual increase reliance to consumption based strategies through August. Increased staple food prices are likely to affect household food availability especially with reduced incomes. Decline in livestock prices as result of deteriorating livestock body conditions through July-August is expected leading to significant reduction of milk at household level. Reduced labor opportunities, reduced livestock prices will likely affect households purchasing power especially through September. Poor households are likely to struggle to access essential food commodities. Households are likely to remain in Stressed (IPC Phase 2) in the marginal mixed farming livelihood zone while Minimal (IPC Phase 1) in the mixed farming livelihood zone.

5.2.2 Food Security Outlook (November to January)

Short rains in October-December is likely to be average thereby stabilizing food security at the household level especially through January. Labour opportunities in agriculture are likely to increase with increased land preparation in mid-September. Pastures and water are likely to improve through November which will eventually improve milk production, resulting to improved consumption of milk at household level. Reduced staple food prices as well as increased market supplies are likely to improve food security at household level. Through December and January, household food stocks are likely to be replenished gradually improving the malnutrition prevalence. Households are likely to employ less consumption based strategies. Households are likely to move to Minimal (IPC Phase 1).

6.0 CONCLUSION AND INTERVENTIONS

6.1 Conclusion

6.1.1 Phase Classification

The mixed farming livelihood zone in the county is classified in the Minimal (IPC 1) in while marginal mixed farming livelihood zone is classified as Stressed phase (IPC Phase 2).

6.1.2 Summary of Findings

Following the below average performance of two seasons, the county has experienced acute food insecurity. A total crop failure was reported in marginal mixed farming livelihood zones. Crop production in the sub counties is projected to decline by over 95 percent following below average performance of long rains seasons coupled with a below average rains last season. The stocks held in the sub counties declined for both households and traders leading to increased food commodities prices. Households especially in the marginal mixed farming livelihood zones continue to depend on market supplies despite the high prices of food commodities. Livestock productivity has declined across the livelihood zones as a result of fair to poor body conditions, fair to poor pasture conditions and increased trekking distances from grazing to water sources. Water consumption for households has continue to decline as a result of reduced water sources and increased distances as well as high concentration in the permanent sources. Human wildlife conflicts has increased especially along the River Tana, as households and livestock access water in the river. Livestock prices continue to decline to below average as maize prices increases above the long term average. Traded volumes for livestock continue to decline due to poor body conditions, reduced pricings as well as reduced number of traders in the market. A number of pupils have been reported to drop

out of school due to engagement in income generating activities (*Boda boda* and *Miraa* picking and selling). *Miraa* farming as a cash crop is taking up land used for food production, however some members of households seek casual labour at the farms as well as women look for waged labour compromising children under five years in food access. The prevalence to malnutrition continue to worsen.

6.1.3 Sub-County Ranking

Table 23: Ward Ranking

Wards	Ward Ranking (1=Most food insecure, 8=Least food insecure)	Current main food security threats
Kiambere	1	Reduced TLUs, Poor body conditions, poor pasture and browse condition, Low livestock prices in the market, Milk price above LTA, Human-wildlife conflicts, (lose livestock due to crocodile), Malnutrition above the LTA, Distance to water sources were high (both human and livestock), No water treatment, high dropout rates, Total crop failure,
Muminji	2	Reduced TLUs, Poor body conditions, poor pasture and browse condition, Low livestock prices in the market, Milk price above LTA, Malnutrition above the LTA, Distance to water sources were high (both human and livestock), No water treatment, high dropout rates, Total crop failure, long distances to access markets for food commodities
Evurore	3	95% Below production in MF, Total crop failure in MMF, Irrigation schemes are not operational to max. due to low levels of water. Poor pasture and browse condition in MMF, increased distance due to drying of water pans, limited sources of water, drying of River Ena, increased drop out, Malnutrition above the LTA
Makima	4	Reduced TLUs, Poor body conditions, poor pasture and browse condition, Low livestock prices in the market, Milk price above LTA, Total crop failure in red soils, increased distance due to drying of water pans, limited sources of water, Malnutrition within the LTA, illegal small scale irrigation along river Thiba
Mavuria	5	Reduced TLUs, Fair body conditions, Fair-poor pasture and browse condition, Projected production-5%, Fall Army Worm infestation, Functional boreholes, short distances to water sources, Permanent river Thiba, Malnutrition within the LTA
Mwea	6	Fair livestock body condition, fair pasture and browse condition, Newcastle and Lumpy Skin Diseases reported, Fair performance of crops, favorable soils, lower prices of food commodities, illegal small scale irrigation along river Tana, Malnutrition within the LTA
Mbeti South	7	Fair-good pasture and browse condition, reduced distances to water, piped water systems, milk prices within the LTA, Malnutrition below the LTA
Nthawa	8	Fair-good pasture and browse condition, reduced distances to water, piped and irrigated water systems, milk prices within the LTA, more sources of coping strategies (<i>Miraa</i>), 10% projected production, Malnutrition below the LTA

6.2 Ongoing Interventions

6.2.1 Food Interventions

In Mbeere South and North, 132 are under Home Grown School Meal Program (HGSMP) benefiting 33,706 pupils (17,223 boys and 16,483 girls). In Mbeere South and North, 236 ECDs schools benefit on school milk program targeting 9,810 children (4,938 boys and 4,872 girls).

6.2.2 Non-Food Interventions

Table 24: Non Food Ongoing Interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture							
Capacity building on Aflatoxin and post-harvest management	Food safety and minimizing losses	All Wards		0.84M	30,000 HH	July - August 2019	County Extension
Food and crops situation surveillance	To assess the situation and advice accordingly	All wards		1.2M	30,000 HH	Monthly basis	County Extension, NDMA
Livestock Production							
Breed improvement	Improved Living standards, Increased income	Mbeere south		0.3M	20 households	2019	Livestock production department
Up grading of goats(Galla)	Feed reserves for sustained production	Mbeere North		0.864M	144 galla goats	2019	Ward development fund
Promotion of hay bailing	Feed reserves for sustained production	Mbeere North		70,000	1 bailer procured (Munthara)	2019	Ward development fund
Water							
Borehole rehabilitation	Improve access to water	Kikulani, Kwandu a Nyaga and Ciorindagwa and Irimurai, Mathai, ciakaragu and mlachake boreholes		80,000	720HH	June 2019 and March-April 2019	County government/ NDMA

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Desilting of dam	Improve access to water	Kerwa dam		4M	400HH	April/May 2019	NIB
Earth dams excavation, Pipeline extension	Improve access to water	Kavari, Kune dams, Ngurungu dam, Ndutori, kavairi		32.6M	550 HH		County govt/UTaN RMP
Dam construction, Pipeline extension	Improve access to water	Gwakarigu and Gwakigumba Gitaru-Mutuovare-Karura, Gitaru-Mathigira Kenda, Masinga-Mbondoni-Kithecu, Wami kuyu		30M	1800HH		County govt/Kengen
Education							
School meals program	Improve retention	54 schools		100M	54 school		MOE/County Government
Health and Nutrition							
Vitamin A Supplementati on		Health facilities in all divisions		3,400,000	23933	2019-2020	MOH/COUNTY
Zinc Supplementati on		Only therapeutic at health facilities level		200,000	19886	2019-2020	MOH/COUNTY
Management of Acute Malnutrition (IMAM)		All facilities implementing feeding programs		8M	3501	2019-2020	MOH/COUNTY
IYCN Interventions (EBF and Timely Intro of complementar y Foods)				6M	24357	2019-2020	MOH/COUNTY
Iron Folate Supplementati on among Pregnant Women				1M		2019-2020	MOH/COUNTY
Deworming				1M		2019-2020	MOH/COUNTY

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
blanket supplementary feeding		Mbeere south		800,000	30,851 HH and 38 health facilities	2019-2020	MOH/COUNTY
Routine/ active case search surveillance		Mbeere south		100,000	30,851 HH and 38 health facilities	2019-2020	MOH/COUNTY
3. Aqua tabs provision		Mbeere south		100,000	30,851 HH and 38 health facilities	2019-2020	MOH/COUNTY

6.3 Recommended Interventions

6.3.1 Food Interventions

Table 25: Recommended Food Interventions

Ward	Population in Need (% Range min – max)	Proposed Mode of Intervention
Kiambere	55-60	CFA
Muminji	50-55	CFA
Evurore	45-50	CFA
Makima	40-45	CFA
Mavuria	25-30	CFA
Mwea	20-25	CFA
Mbeti South	10-15	CFA
Nthawa	5-10	CFA

6.3.2 Non-Food Interventions

Table 26: Recommended Non Food Interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture							
Support for traditional high value seeds, conservation agriculture, cash for asset and construction of 4 water pans for irrigation		Mbeere South and North		104M	51,000 HH	Sep-19	GOK, County
Supply of relief food		Mbeere South and North		60M	30,000 HH	July – December 2019	County, WFP, GOK
Livestock							

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Destocking campaigns		Mbeere South and North		1.8M	1500 heads of cattle,700 shoats	July – December 2019	County, OPP,NDMA
Slaughter destocking		Mbeere South and North		2.8M	200 heads of cattle,400 shoats	July – December 2019	County, OPP,NDMA
Provision of feed supplements		Mbeere South and North		4.3M	1269 cattle,1934 shoats	July – December 2019	County, OPP,NDMA
Water							
Equipping of boreholes with solar pump and storage tank		Mathai, Mururiri, ciakaragu and ciambu, Kikulani, Mashamba, Namuri, Kamweli, kambiti, kikumene and koma, Gacabari and Kariguri		25M	2200HH	July – December 2019	National govt, county govt and NDMA
Rehabilitation of Kune spring		Riandu		1.2M	150HH	July2019- July 2020	National govt, county govt and NDMA
Water treatment chemicals		Mbeere South and North		5M		July – December 2019	National govt, county govt and NDMA
Education							
Emergency School feeding funds	Schools in dire need to retain children in the schools	Lower kirie, kamumu and Ishiara		28M	61879 pupils	July – December 2019	Ministry of Education, County Govt. of Embu
Water trucking in 90 schools	The schools have no reliable sources of water	Lower kirie, kamumu and Ishiara, Makima Kiritiri and Kiambere zones		20M	16,500pupils	July – December 2019	Ministry of Education, County Govt. of Embu, EWASCO and KENGEN

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Expand schools under HGSMF	Schools in new settlement areas are very needy	Makima Kiritiri and Kiambere zones		100M	60 Schools	July – December 2019	GOK/WFP
Health and Nutrition							
Nutrition survey		All locations in Mbeere South		3.3M	157,413	July – December 2019	NDMA, County government, UNICEF
Conduct mass screening and referral on hot spot		Mutuovare, Riachina Gitaraka, Riakanau, Mutitu, Iriaitune, Muthanthara and Kamarandi		1.2M	23933		MOH, NDMA,
Conduct integrated health and nutrition outreaches		Kiambere , Mwea, Mavuria Evurore Muminji, Nthawa		0.5M	entire community within target areas		MOH (Embu County), NDMA
Procurement and distribution of nutrition supplementary and therapeutic feeds		Mutuovare, Riachina Gitaraka, Riakanau, Mutitu, Iriaitune, Muthanthara and Kamarandi		12M	1357		DOH, NDMA, USAID, KEMSA