

**National Drought Management Authority
EMBU (MBEERE) COUNTY
DROUGHT EARLY WARNING BULLETIN FOR JULY 2017**



A Vision 2030 Flagship Project



JULY EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Normal	Improving
Marginal Mixed Farming (MMF)	Alert	Stable
COUNTY	Alert	Stable
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	96	80% -120%
VCI-3Month	47.5	30-50
Forage condition	Fair	Good
Production Indicators	Value	Normal
Crop Condition (maize)	Fair	Good
Livestock Body Condition	Fair	Good
Milk Production	1.3	>1.3 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths	No death	No death
Access Indicators	Value	Normal
Terms of Trade	80.9	88.1
Milk Consumption	1.3	>1.1 litres
Average Water Distance for Households (Km)	4.4	2.6 Km
Average Grazing-Water point Distance (Km)	4	3 km
Utilization Indicators	Value	Normal
MUAC (% at risk of malnutrition)	9.6	9.1
Coping Strategy Index (CSI)	6.73	<6.73

Drought Situation & EW Phase Classification

Biophysical Indicators

- **Rainfall:** Slight erratic rainfall showers were received across the sub counties during the off season month of July
- **Vegetation Condition:** The vegetation condition in Mbeere North deteriorated slightly from above normal recorded in June to normal in the month of July

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** Harvesting of main food crops was ongoing though minimal harvest was realized from MMF zone as compared to MF
Livestock body condition ranged from fair to poor in the month. There were no abnormal cases of migration, diseases or death cases reported.
The milk production decreased slightly as compare to previous month from 1.4 litres per household per day in June to 1.2 litres per household per day
- **Access indicators:** Average distance to water sources for livestock increased slightly to 4.4 km while average distance to water sources for households marginally decreased to 4 km
- **The Terms of Trade** increased significantly improved in the month thereby boosting the purchasing power of livestock keepers.
- **Utilization Indicators:** Milk consumption reduced slightly in the month. The proportion of children under 5 years who are at the risk of malnutrition increased to 9.6% of the total sampled children The Coping strategy index decreased by 21 percent from 8.42 in June to 6.73 in the reporting month

Short rains harvests Short dry spell Reduced milk yields Increased HH Food Stocks Land preparation	Planting/Weeding Long rains High Calving Rate Milk Yields Increase	Long rains harvests A long dry spell Land preparation Increased HH Food Stocks Kidding (Sept)	Short rains Planting/weeding Increased milk yields								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The two sub counties experienced erratic showers of rainfall during the month under review
- The decreasing trend of rainfall received across the livelihood zones was normal at this off-season month

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

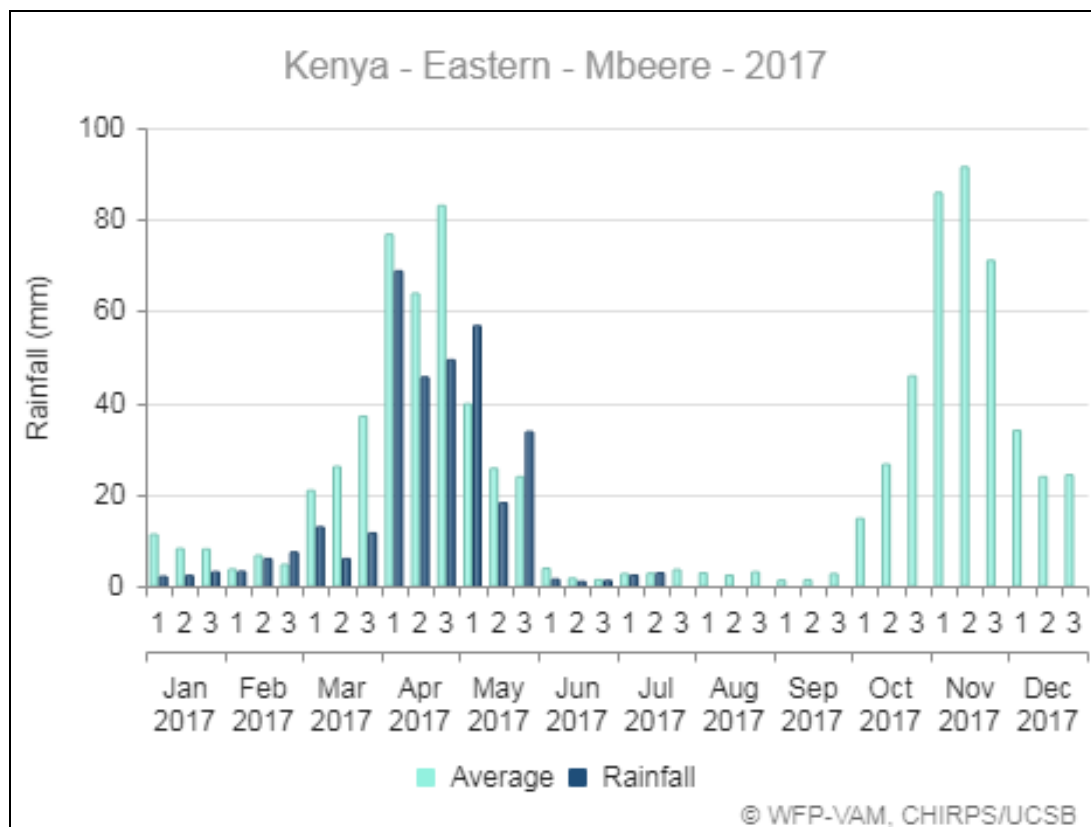


Figure 1: Average amount of rainfall recorded in Mbeere North and South sub counties, Embu County

- Mbeere North and South sub-counties received an average amount of 2.6 mm of rainfall during the 1st and 2nd dekads of July as compared to the normal average of 2.7 mm during the period.
- The rains received were erratic and poorly distributed across the two sub-counties as most areas in the marginal mixed farming livelihood zone did not receive rainfall at all

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The vegetation condition in both sub counties was normal during the month under review
- The vegetation condition deteriorated slightly in Mbeere North during the month of July as compared to the previous month due to the reduction in the rainfall received during the period under review.
- vegetation condition for Mbeere South remained stable during the month as compared to the previous month
- The average 3-month Vegetation Condition Index (VCI) decreased from 53.13 in June to 47.5 in the month of July
- Mbeere North Sub County recorded a 3-month Vegetation Condition Index of 49.58

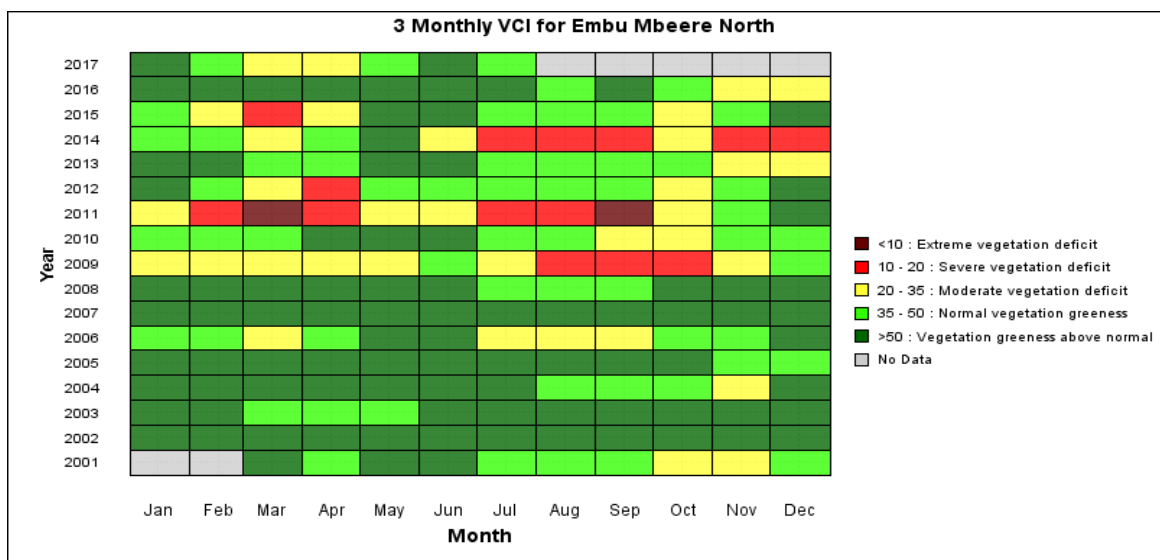


Figure 2a: 3-month Vegetation Condition Index for Mbeere North [Source: Boku University -Austria]

- Mbeere South Sub County recorded a 3-month Vegetation Condition Index of 45.37

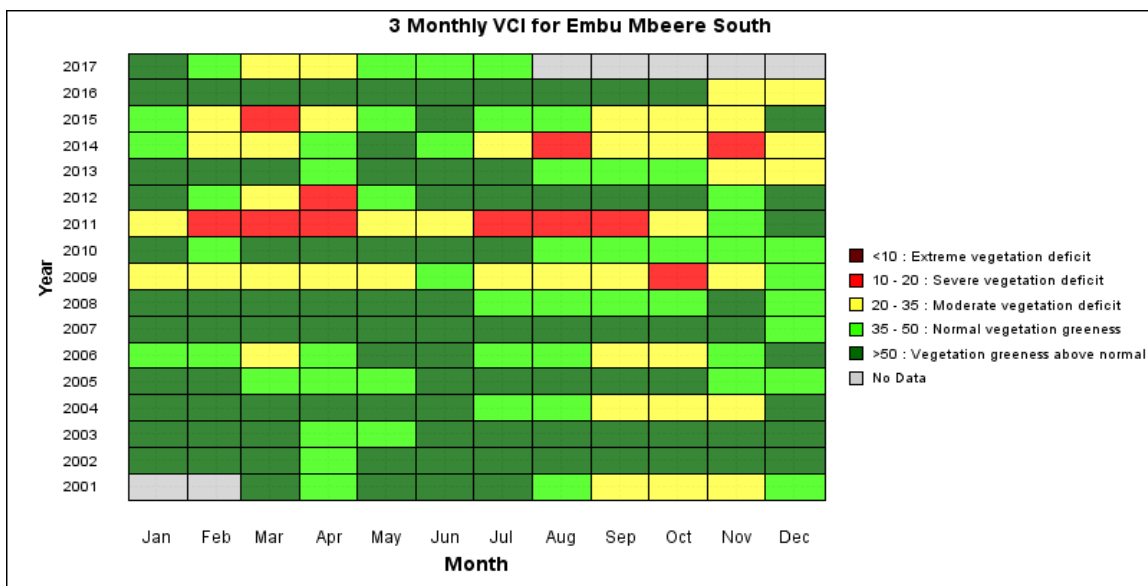


Figure 2b: 3-month Vegetation Condition Index for Mbeere South [Source: Boku University -Austria]

2.1.2 Pasture Condition

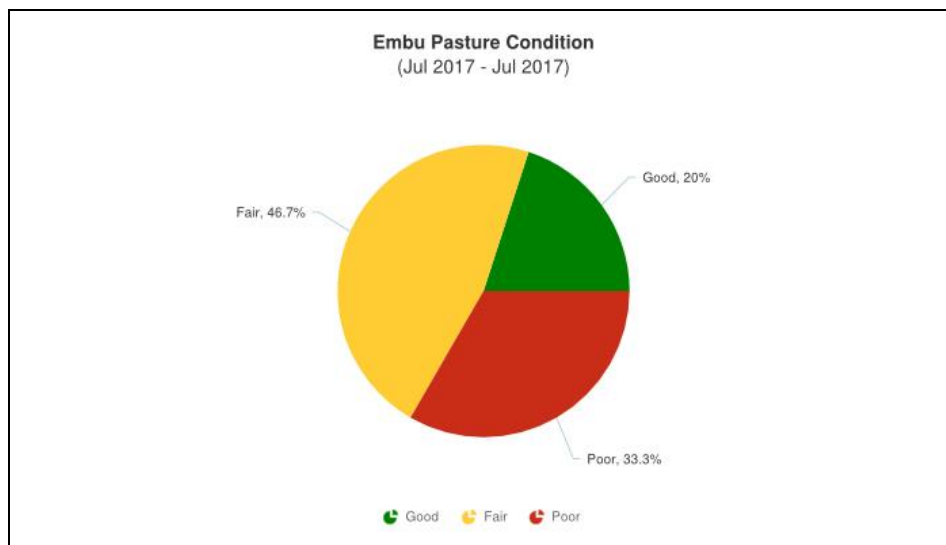


Figure 3a: Pasture Condition for Mbeere North and South sub counties, Embu County

- The pastures condition was fair to poor across the two livelihood zones in Mbeere North and Mbeere South.
- On average, 33.3% of the pasture in both sub counties were poor, 46.7% were fair and only 20% were good
- The quantity of pasture available is expected to last for 1-2 months in the mixed farming zone and less than one month in the marginal mixed farming zone
- The pasture condition was below normal at this time of the year.

2.1.3 Browse Condition

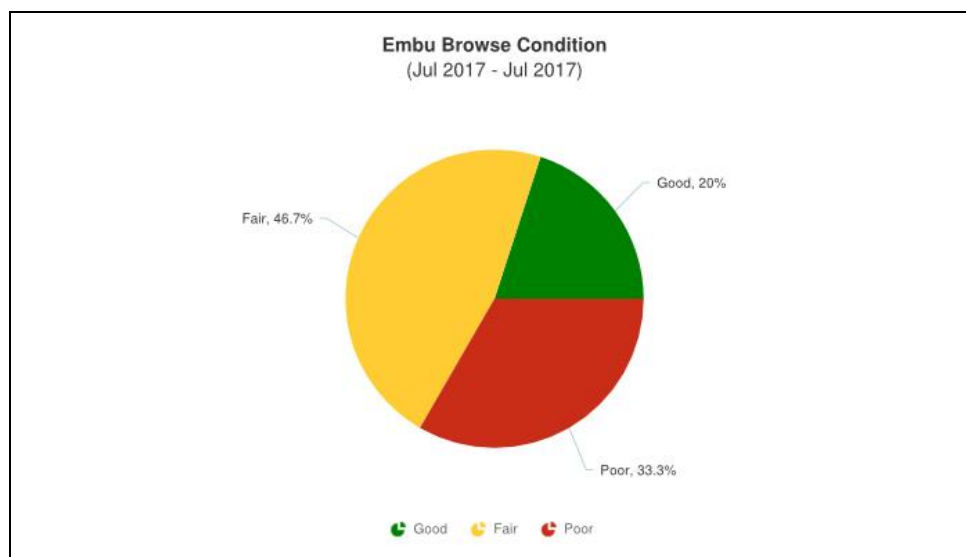


Figure 3b: Browse Condition for Mbeere North and South sub counties, Embu County

- The browse condition was good to poor across all the livelihood zones in the current month compared to the previous month this is attributed to the dry spell after the long rains.
- On average, 33.3% of the pasture in both sub counties were poor, 46.7% were fair and only 20% were good
- The available browse is projected to sustain the small stocks for on average 3-5 months in the mixed farming zone and 2-3 months in the marginal mixed farming zone.
- The browse condition was below normal at this time of the year and is expected to deteriorate with the dry spell in the next 3 months.

2.2 WATER RESOURCE

2.2.1 Water Sources

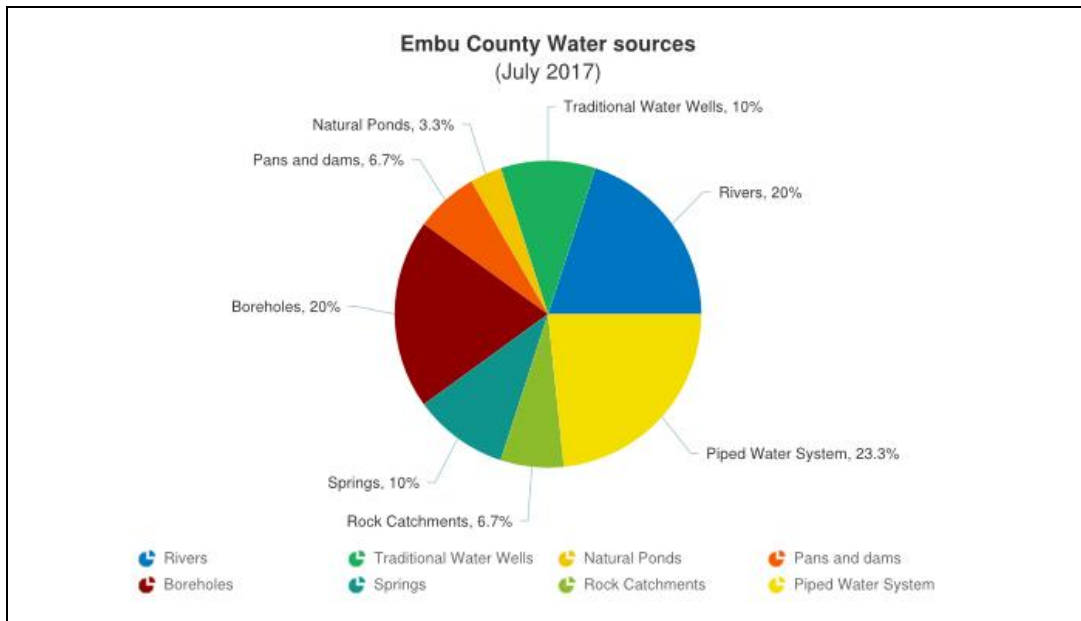


Figure 4: Water Sources for Mbeere North and South sub counties, Embu County

- The main three water sources in the month under review for both livestock and domestic use across the two livelihood zones in the two sub-counties were; piped water 23%, rivers and boreholes 20%, and traditional water wells and springs at 10%. Other sources that supported communities included pans/dams, ponds and rock catchments.
- The water quality at the sources was good (clear water) but waiting time was longer at 15-30 minutes for piped water and boreholes.
- Small proportion of sampled households using surface water sources treated water before drinking.
- The main sources and quality of water was normal at this particular time of the year.

2.2.2 Household Water Access and Utilization

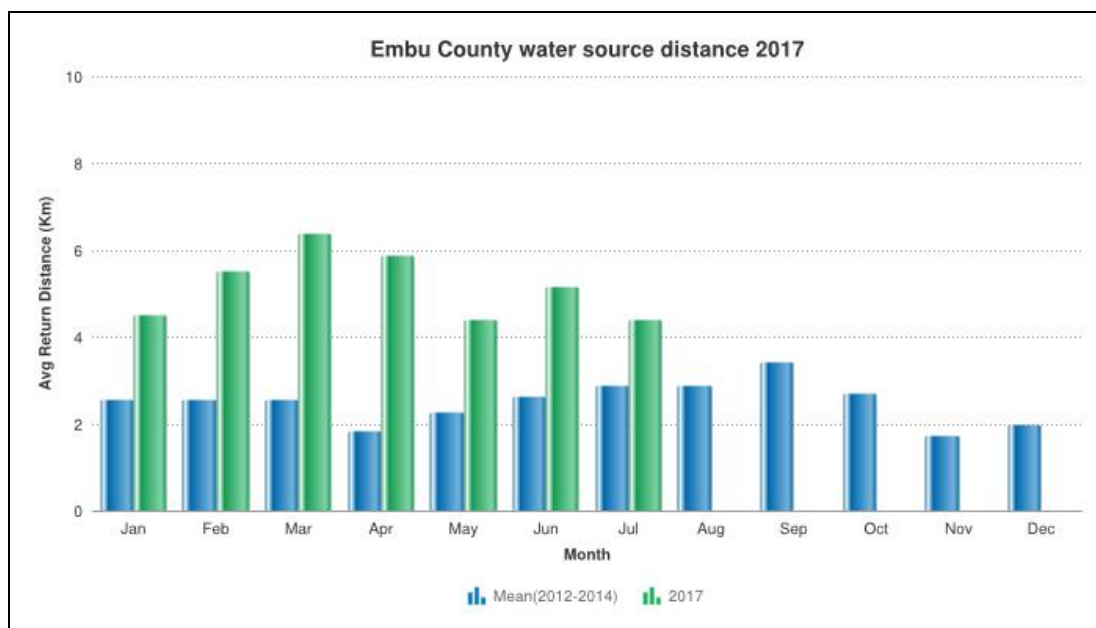


Figure 5: Water Access for Households in Mbeere North and South sub counties, Embu County

- The average return distances from the households to water sources decreased by 10% from 4.9 km in the previous month to 4.4 km in the in the month under review.
- The decrease in average distance to water sources is attributed to most households relying on piped water especially in Mbeere North and boreholes especially in Mbeere South which were closer to households
- Households in the MMF Livelihood Zone trekked for longer average distance at 4.2 km compared to those in MF Livelihood Zone at 4.0 km in search for water.
- The variation in average distance covered across livelihood zones was occasioned by the types of sources in the livelihood zones prompting households in MMF zones to trek for slightly longer distances.
- The current average distance was 52 % higher than the long term average distance.

2.2.3 Livestock access to water from grazing areas

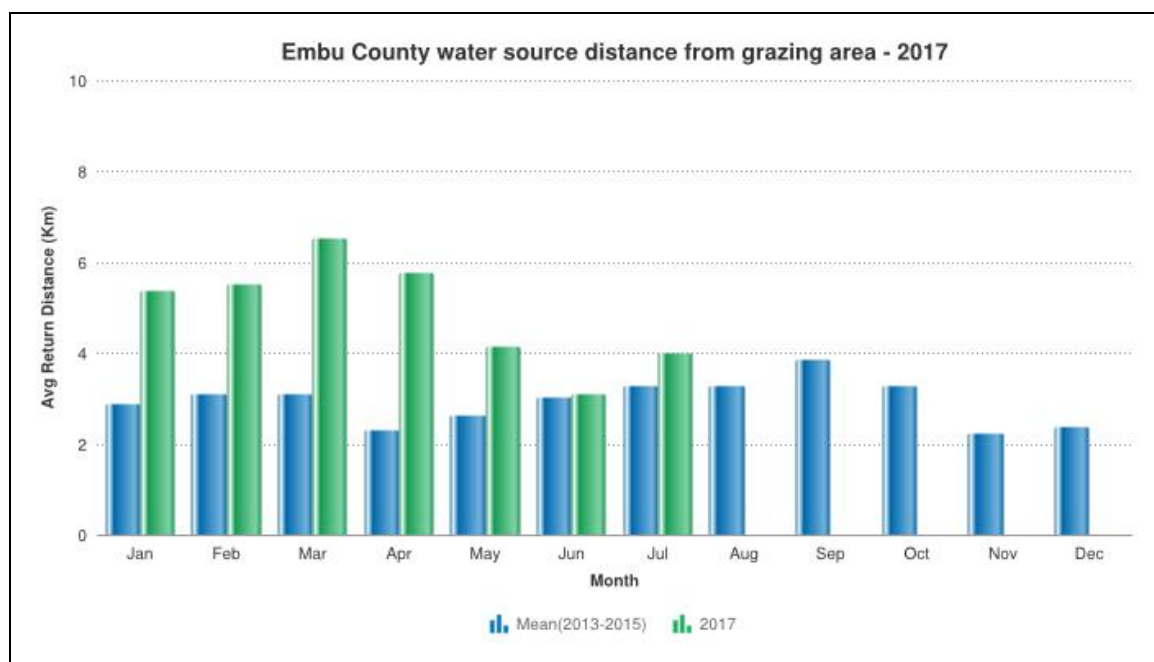


Figure 6: Water Access for Livestock for Mbeere North and South sub counties, Embu County

- The average distances to water sources from grazing areas increased in July by 43 percent from 2.8 km recorded previous month to 4 km in the month under review
- The average distance trekked by livestock from grazing point to water source was longer in the MMF livelihood Zone at 3.5 km compared to the average distance trekked in the MF livelihood Zone with an average of 3.2 km.
- The increase is attributed to search of pasture in far fields closer to water sources
- The frequency of watering livestock remains daily in the mixed farming zone but in the marginal mixed farming zone alternate watering applied.
- The current average distance was 21 percent higher than the long term mean distance at this time of the year.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The livestock body conditions ranged from fair to good across the two livelihood zones in the month under review.
- The small stock (sheep and goats) had good body condition with smooth appearance in both livelihood zones.
- Most areas in the mixed farming zone cattle had good body condition while in vast areas in the marginal mixed farming zone the body condition for cattle remained fair. The body condition may deteriorate further in the next 2-3 months as the dry spell continues.
- The average body condition was below normal at this time of the year occasioned by long challenges of pasture and water access

3.1.2 Livestock Diseases

- No notifiable livestock diseases were reported in the period under review though routine surveillance measures continue
- Livestock keepers bore the cost of seeking for services from private service providers on demand basis

3.1.3 Milk Production

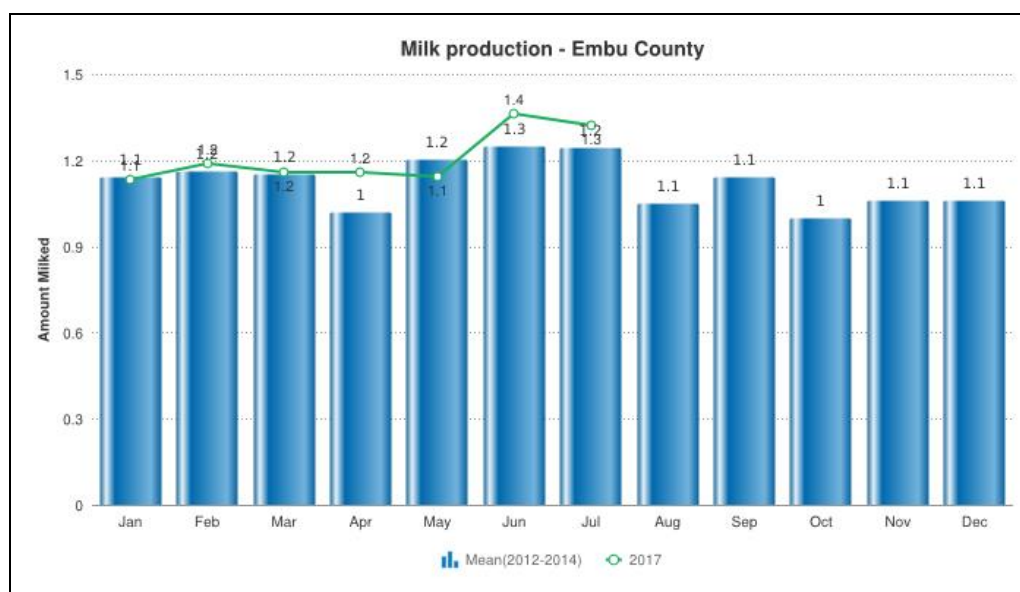


Figure 7: Milk Production in Mbeere North and South sub counties, Embu County

- The average daily household milk production per household decreased slightly from 1.4 litres per household per day recorded the previous month to 1.3 litres per household per day in the current month across the two livelihood zones.
- The decrease was occasioned by marginally longer distances to grazing fields and watering points compared to the previous month
- Households in the MF livelihood zone produced an average 0.9 litres per household daily compared to 1.3 litre per household produced per household daily in the MMF livelihood zone.
- The downward trend in milk production is expected to continue as the dry spell continues leading to poor forage and longer distances to water sources

3.2 Rain-Fed Crop Production

3.2.1 Stage and Condition of food Crops

- The main food crops planted in both livelihood zones are maize, millet, sorghum, cowpeas and green grams
- Harvesting of maize, beans, cowpeas and green grams was ongoing across both the livelihood zones.
- The harvest was poor in the marginal mixed farming zone as compared to the mixed farming zone. The actual/projected harvest will last for less than one month in the marginal farming livelihood while in the mixed farming zone the stocks are expected to last for 1-2 months

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

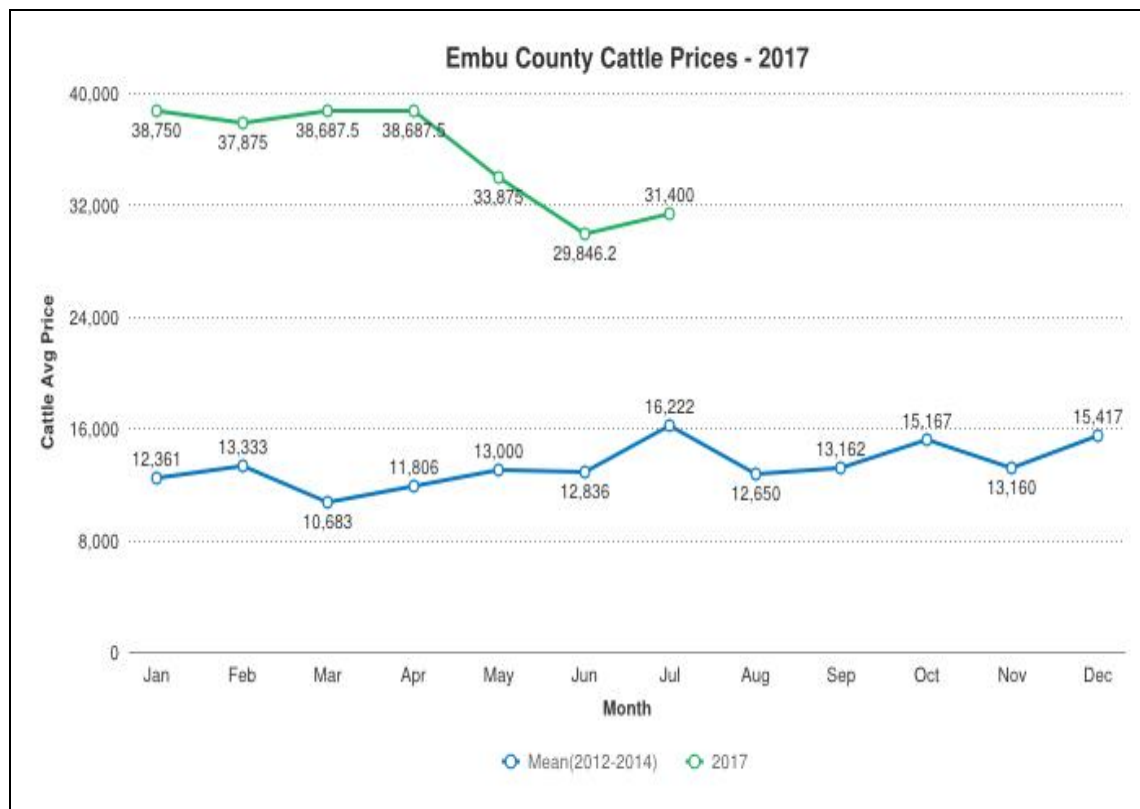


Figure 8: Market Cattle Prices in Mbeere North and South sub counties, Embu County

- The market price of a medium sized bull increased by 5 percent from KES 29,846 recorded in June to KES 31,400 recorded in the month under review.
- The increase in market prices can be attributed to temporary households' reprieve occasioned by the minimal harvests thus no drive to dispose livestock in order to purchase food therefore low market supply.
- Makutano livestock market recorded the highest average price of KES 35,000, while Kiritiri livestock market and Ishiara Livestock market recorded average price of KES 33,000 and KES 28,100 respectively.
- The price recorded in the month under review was significantly higher than the long term mean price at this time of the year.

4.1.2 Market Goats Prices

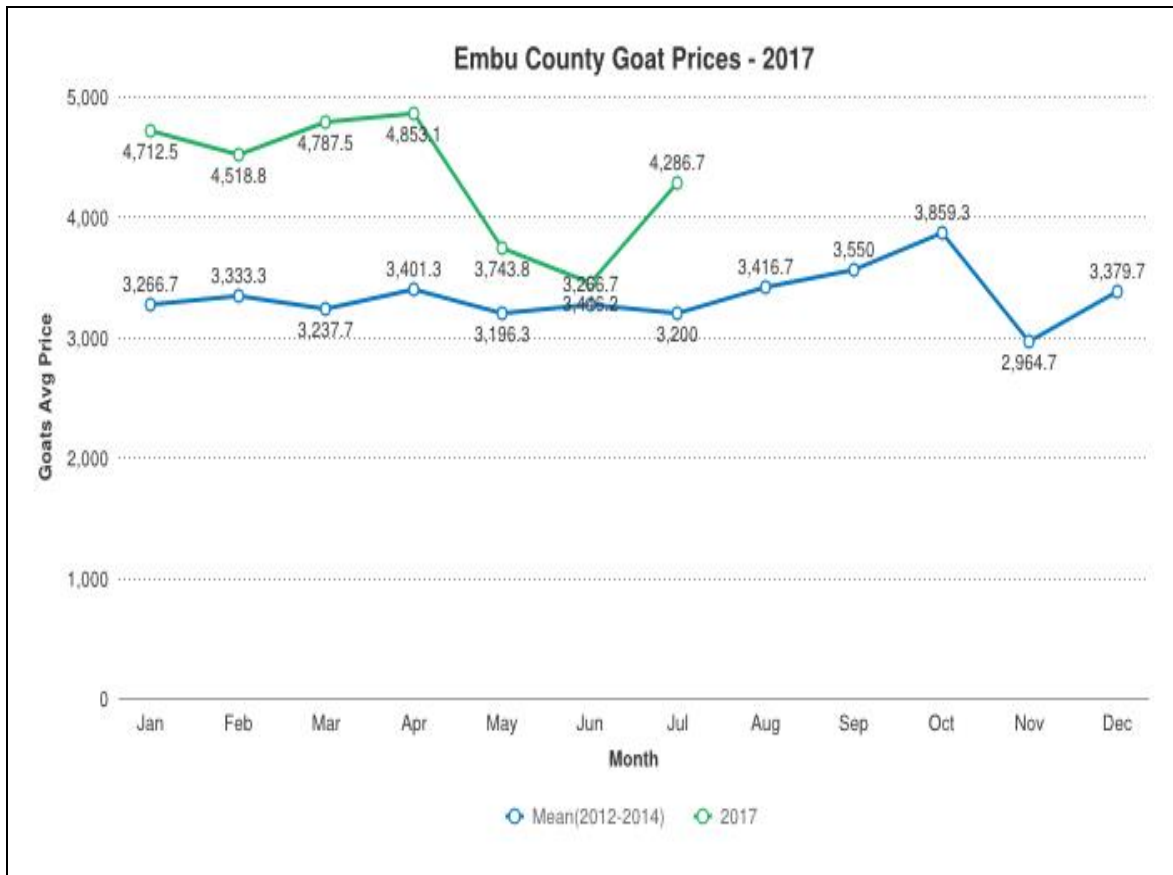


Figure 9: Average Goat Prices in Mbeere North and South sub counties, Embu County

- The average market price for a medium sized goat increased in the current month by 34 percent from KES 3,206 recorded in the month of June across the two livelihood to KES 4,287 in the month under review
- The increase in prices was attributed to low supply of goats in the market attributed to temporary households' reprieve occasioned by the minimal harvests thus no drive to dispose livestock in order to purchase food.
- Makutano livestock market in MF zone and Kiritiri livestock market in MMF zone recorded the highest average price of KES 5,000 while Ishiara Livestock markets in MMF zone recorded low average price of KES 3,470.
- This variation in prices across the markets was as a result of differentiation in breed and the market supply and demand forces.
- The price recorded in the month under review was 34 percent higher than the long term mean price at this time of the year.

4.2 FOOD PRICES

4.2.1 Maize Prices

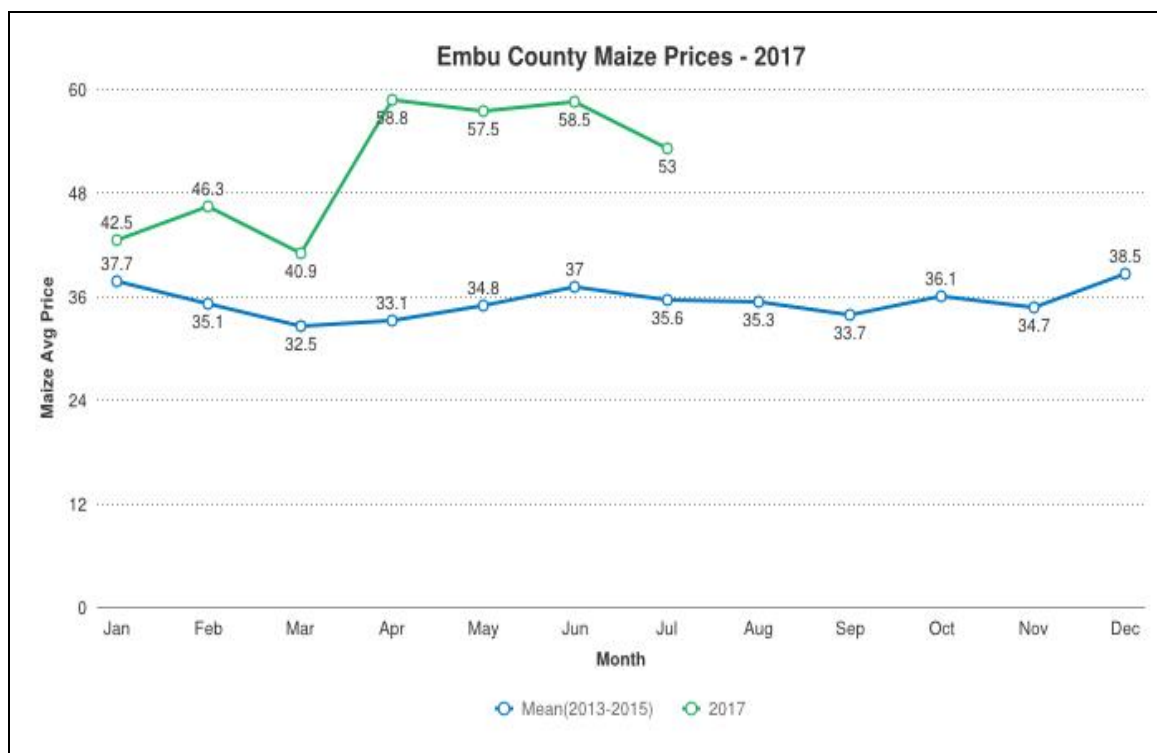


Figure 10: Average Maize Price in Mbeere North and South sub counties, Embu County

- The average market maize price decreased by 9 percent as compared to the average price of recorded in previous month across the two livelihood zones. The decrease is attributed to little harvests at the household level and also availability of the maize at the local markets.
- Across the major markets, one kilogram of maize was retailing at KES 52 in Kiritiri cereals market, KES 55 in Ishiara and Makutano cereals markets.
- The average maize price recorded in the current month was 47 percent higher than the long term mean price at this time of the year and is expected to remain high due to minimal harvests realised at households across both livelihood zones

4.2.2 Posho (Local Maize Meal)

- The average price of posho significantly decreased to KES 66 compared to the previous month at KES 75 per kilogram across the two livelihood zones in the two sub counties in the current month.
- The marginal mixed farming zone recorded highest average price of one kilogram of posho at KES 70 compared to KES 60 recorded in the mixed farming zone.
- This price difference was attributed to high demand of the commodity in the Marginal mixed farming zone compared to the mixed farming zone.
- The average price of local maize meal was above normal in the month of June and is expected to remain high for the households due to poor harvest and thereby households will continue depending on the markets

4.2.3 Beans Prices

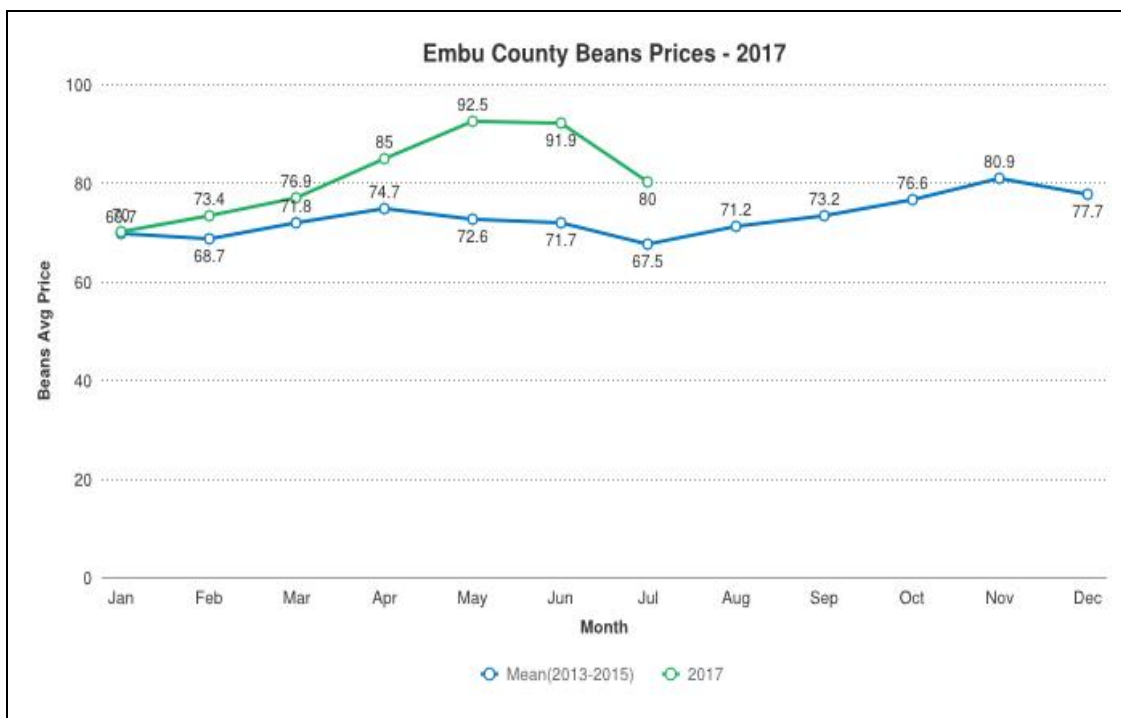


Figure 11: Average Beans Price in Mbeere North and South sub counties, Embu County

- The average market beans price decreased by 12 percent across the two livelihood zones from to KES 92 per kilogram recorded last month to KES 80 per kilogram in the month under review.
- The decrease was occasioned by the harvest of cowpeas, pigeon peas and green grams which are largely considered as alternatives to beans in terms of household usage
- One kilogram of beans retailed at KES 80 in Makutano cereals market and KES 72 in Ishiara cereal market.
- The current average price per kilogram was 18 percent higher than the long term mean price for one kilogram of beans at this time of the year and it is expected to remain low for the period the harvest of pulses sustain the households.

4.2.4 Green Grams Prices

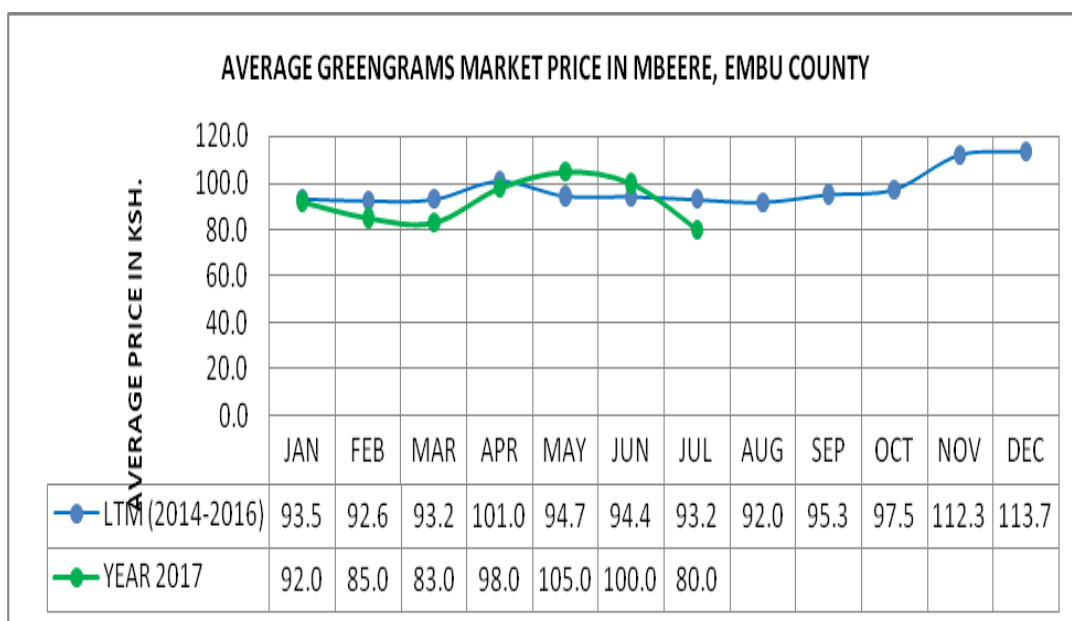


Figure 12: Average Green Grams Prices in Mbeere North and South sub counties, Embu County

- The average market price per kilogram of green grams significantly decreased by 20 percent from KES 100 recorded in the previous month to KES 80 per in the month under review across the markets in the two livelihood zones in the two sub-counties.
- The decrease was occasioned by the harvest of green grams across the two sub counties
- The current average price was 14 percent below the long term mean price of green grams at this time of the year.

4.3 Household Income

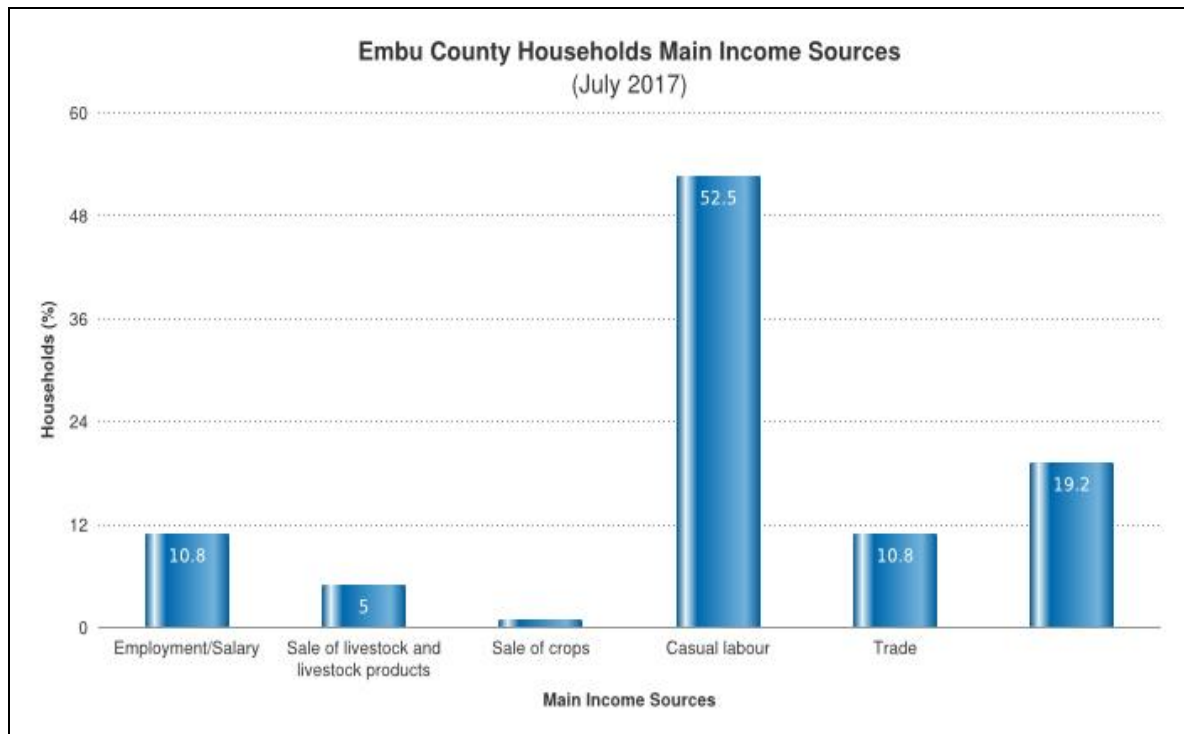


Figure 13: Main Incomes sources for households in Mbeere North and South sub counties, Embu County

- Households in the region drew their income from casual labour, sale of charcoal, formal employment, trade, sale of livestock and livestock products as illustrated in the bar graph above during the month.
- There was a small proportion of the households that relied on sale of crops and remittance for income during the month under review
- The main sources of income remained normal at this time of the year

4.4 Terms of Trade (ToT)

The terms of trade determines the purchasing power of livestock keepers.

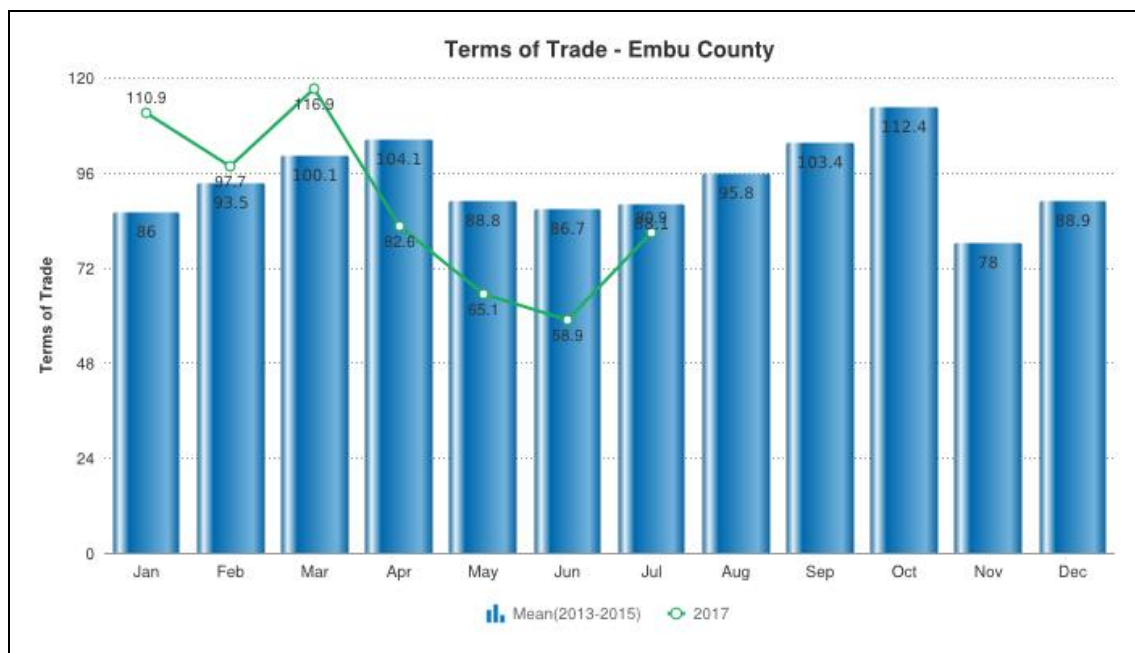


Figure 14: Terms of Trade in Mbeere North and South Sub Counties, Embu County

- The Terms of Trade (goat versus maize) increased by 40 percent in the month under review across the two livelihood zones from 58.9 kilograms of maize for sale of one goat in the month of June to 80.9 kilograms of maize for sale of one goat.
- The increase of terms of trade was due to the increase of average goat price while the average maize price decreased significantly during the month
- The variation in terms of trade across both livelihood zones was occasioned by varying average prices of maize and goats in the month under review.
- The terms of trade are expected to remain favourable for the livestock keepers until the reopening of schools when the average goat price is expected to reduce occasioned by sale to cover school fees and other educational and food needs
- The current ToT recorded across the two livelihood zones was 8 percent lower than the long term mean at this particular time of the year.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

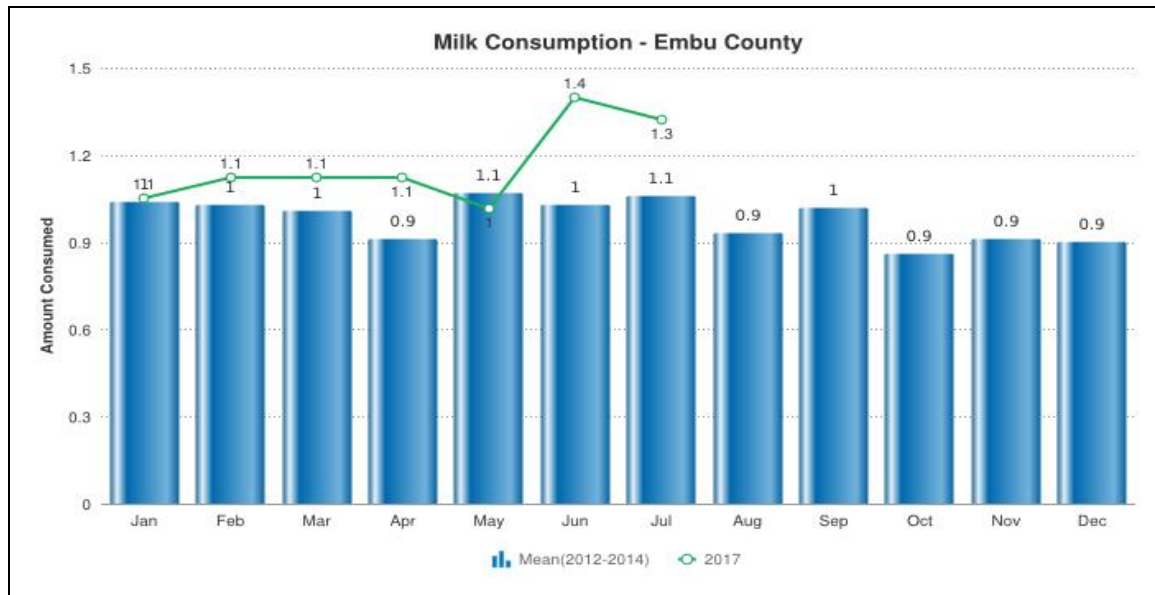


Figure 15: Milk Consumption in Mbeere North and South sub counties, Embu County

- The average daily household milk consumption decreased slightly from 1.4 litres per household per day in June to 1.3 litres per household per day in the month under review across the two livelihood zones.
- Households in the MF livelihood zone consumed average 0.9 litres per household daily compared to 1.3 litre per household consumed daily in the MMF livelihood zone.
- The variation between the livelihood zones can be attributed to more amount of milk produced in the MMF livelihood zone compared to the MF livelihood zone.
- The amount of milk consumed at household level is expected to decrease further due to expected decrease in production occasioned by deteriorating pasture and browse condition and relatively longer average distance to water sources as the dry spell continues.

5.2 Health and Nutrition Status

5.2.1 Nutrition Status of Children Under Five Years of Age

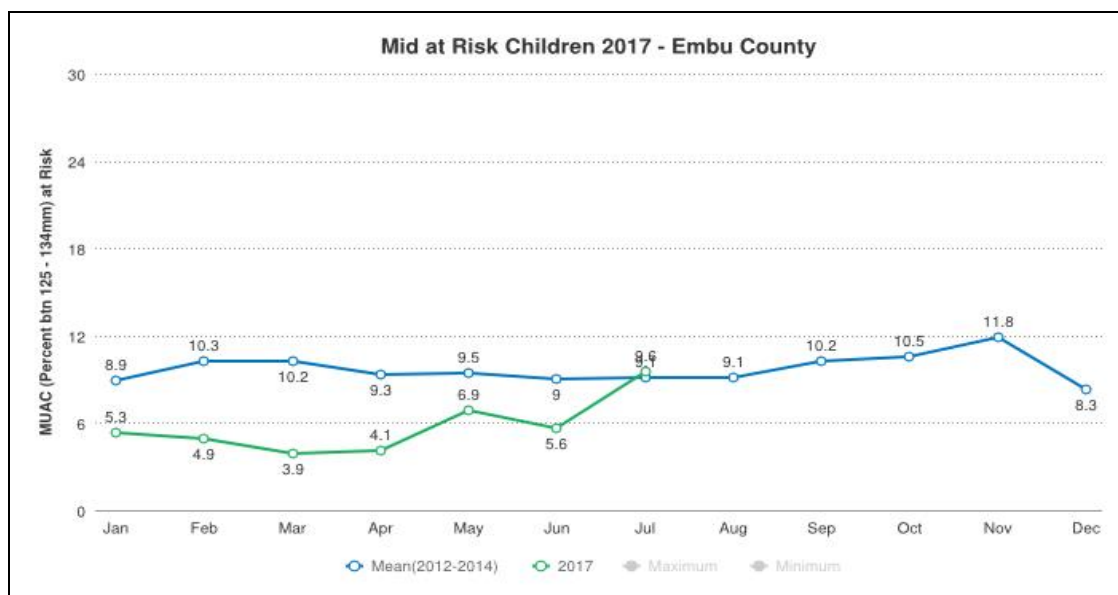


Figure 15: Children at Risk of Malnutrition in Mbeere North and South sub counties, Embu County [n=692]

- Out of all the sampled children across the two sub counties during the month under review, the proportion of children who were at risk of malnutrition increased by 71 percent from 5.6 % recorded in the previous month to 9.6% in the current month.
- The increase of the proportion of the children at risk can be attributed to the micronutrient deficiency in the food consumed by the children under five years of age in households
- The marginal mixed farming zone reported a bigger proportion of children who were at risk of malnutrition at 14.2 percent as compared to only 4.7 percent of the children in the mixed farming zone during the month under review.
- Kamarandi and Kiambere sample areas in the marginal mixed farming livelihood zone posted high percentage of children at risk of malnutrition at 17.2 and 11.2 percent respectively
- The proportion of children at risk of malnutrition in the month under review was however 5 percent higher than the long term mean in the region at this particular time.

5.2.2 Health

- No outbreaks of cholera and measles were reported in the two sub counties in the month under review.
- Cases of Upper Respiratory Tract Infections were reported at the household level

5.3 Food Consumption Score

The food consumption score gives the dietary diversity of the meals consumed by the sampled households

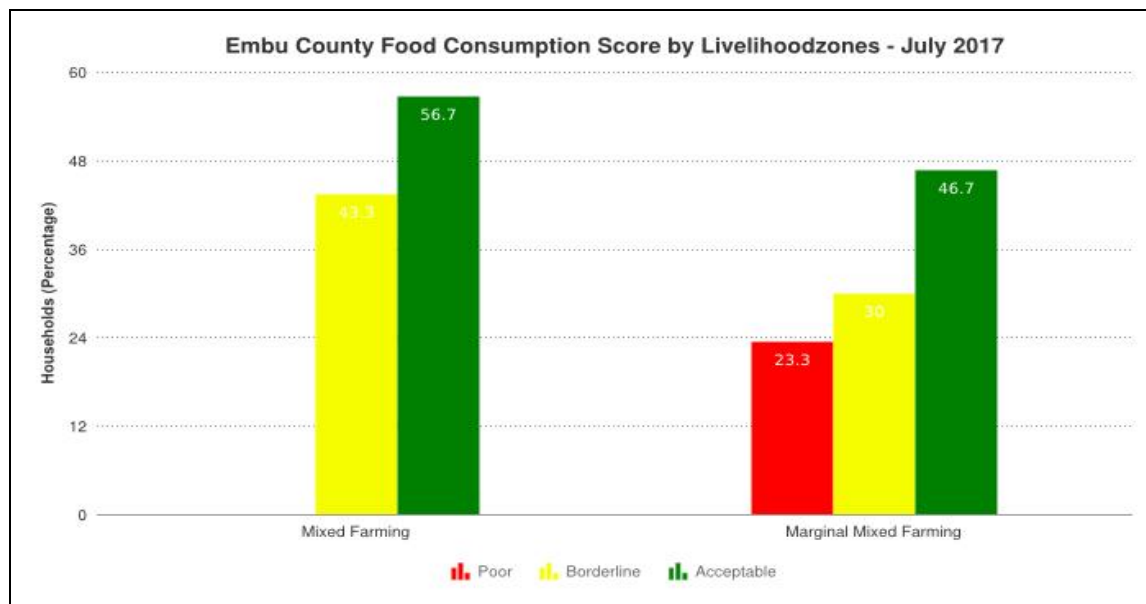


Figure 16: FCS for Sampled Households in Mbeere North and South sub counties, Embu County [n=120 hh]

- Out 120 sampled households across the two livelihood zones, 12% of the households were classified under the poor food consumption category, 36% of them under borderline food consumption category while the remaining 52% of the households were classified under acceptable food consumption category.
- 57% of the households in the mixed farming zone were classified under the acceptable food consumption bandwidth as compared to 47 % in the marginal mixed farming zone.
- 23.3 % of the households in the marginal mixed farming zone were classified to be under poor food consumption bandwidth.

5.4 Coping Strategy Index

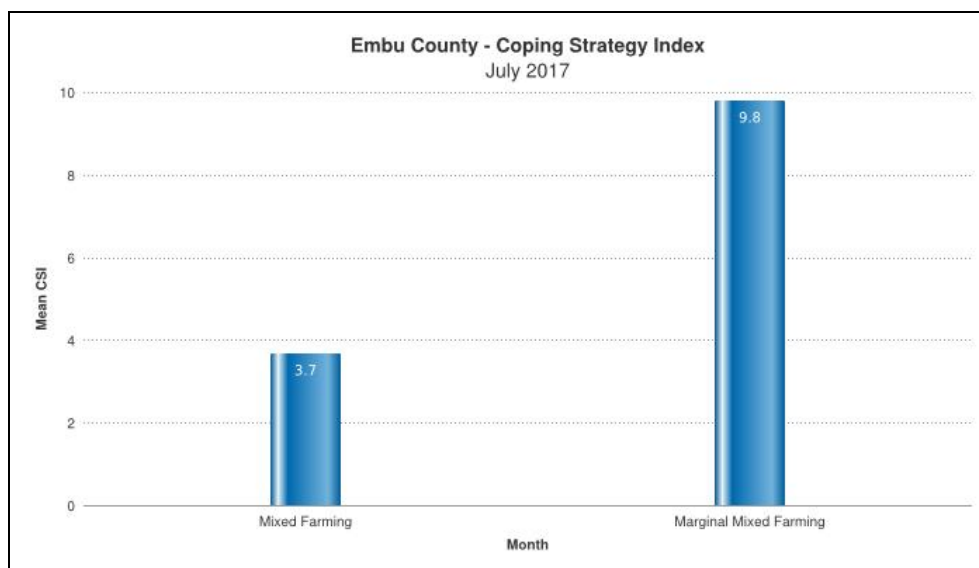


Figure 17: CS Index for Sampled Households in Mbeere North and South sub counties, Embu County [n=120]

- The mean Coping Strategies Index for decreased by 21 percent from 8.42 recorded the previous month to 6.73 in the month under review.
- The decrease can be attributed to the long rains harvest realised hence availability of food at household level
- Mixed farming livelihood zone recorded coping strategy index of 3.7 while the marginal mixed farming livelihood zone recorded a high livelihood zone of 9.8. This implies that households in marginal mixed farming zone faced more food shortage as compared to those in mixed farming zone in the month under review

5.4.1 Implication of the above Indicators to Food Security

- The little harvests realised brought reprieve for the households as they used produce from their farms for as opposed to purchasing food from markets. It is expected that the households will rely on their harvests for 2-3 months
- Terms of Trade improved significantly for the livestock keepers in the month occasioned by higher prices of livestock and reduced maize prices.
- Casual labour was readily available at this time of the year as farmers were engaged with harvesting activity therefore income from casual labour enhanced the purchasing power of households
- The pasture and browse condition deteriorated across the livelihood zones with the marginal farming livelihood zone being more affected. This is expected to remain so for 2-3 months until the next rainfall season which will affect the body conditions, milk production and livestock market prices negatively.
- There was minimal rainfall that was recorded across both livelihood zones during the month under review which negatively affected the recharge of surface water sources and hence led to increased livestock distances to water points and grazing areas
- The number of children below 5 years old who were at risk of malnutrition slightly increased due to micronutrient deficiency in meals consumed
- The households in the marginal mixed farming zone continued to employ severe coping strategies due to severe food shortage

6.0 CURRENT INTERVENTION MEASURES

6.1. Non-Food Interventions

6.1.1. Livestock Sector

- Promotion of good animal husbandry practices in all wards
- Routine disease outbreak surveillance

Implementer: County Department of Livestock Production and Veterinary Services

6.1.2. Health and Nutrition Sector

- Integrated Management of Acute Malnutrition (IMAM) in all health facilities
- Vitamin A and Zinc Supplementation
- Iron Folate Supplementation among Pregnant Women
- Routine disease surveillance-County public health Office
- Community MUAC monitoring for the acute and moderate malnutrition by the County Department of Health and NDMA

Implementer: County Department of Health Services

6.1.3: Agriculture Sector

- Trainings on post-harvest handling of grains, collective marketing and value addition of grains (sorting, grading packaging and dehuling)

Implementer: County Department of Agriculture

6.2. Food Interventions

- Distribution of food in both Mbeere South and Mbeere North sub counties

Implementer: National Government

7.0 EMERGING ISSUES

7.1 Migration

- No cases of migration and conflicts were reported in the month under review

7.2 Food Security Prognosis

- Most households in the marginal mixed farming zone may face severe food shortages thus making many adult members to skip meals entirely or take one meal per day. This condition may continue for the next months as the households realized little harvests which will last for 1-2 months
- Maize harvesting was ongoing during the month under review and is expected to continue into the next month. The harvested stock will replenish the household stocks and thus improve on household food security especially in the mixed farming zone.
- The nutritional status of the children under five will likely remain higher than normal in the next 6 months occasioned by the below normal household stocks and high market prices.

8.0 RECOMMENDATIONS

8.1 Livestock Sector

- Promotion of goat rearing, bee-keeping and local chicken.
- Promotion of fodder conservation
- Livestock diseases surveillance

8.2 Water and Sanitation Sector

- Desilting of major strategic water pans in the marginal mixed farming zone for livestock and household use
- Extension of pipeline to uncovered areas in the marginal mixed farming zone
- Provision and installation of water harvesting structures in schools and health facilities
- Rehabilitation of strategic boreholes

8.3 Health and Nutrition Sector

- Purchase and distribution of water treatment chemicals to households and schools using pans and rivers
- Nutritional assessment in the hotspots to capture cases of moderate malnutrition for early action
- Health outreaches to sensitize the community on proper feeding practices
- Routine community monitoring for cases of children at risk of malnutrition

8.4 Education Sector

- Upscaling the school feeding programme to cover needy schools in the marginal mixed farming zone
- Monitoring of school-going age children engagement in sand harvesting
- Monitoring the school drop-out cases and putting measures to increase school attendance

8.5 Agriculture Sector

- Promotion of small-scale irrigation on high value crops in order contribute to household incomes and diversified household diet.
- Promotion of post-harvest handling to minimize losses of the season's harvest
- Relief seeds distribution of traditional high value seed