

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



A Vision 2030 Flagship Project



AUGUST EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- **Rainfall:** Slight erratic rainfall showers were received across the sub counties during the off season month of August
- **Vegetation Condition:** The vegetation condition in Mbeere North and Mbeere South remained normal in the month of August

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** Harvesting of main food (maize) was in its final stage though minimal harvest was realized across the two livelihood zones. 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 compared to previous month from 1.2 litres per household per day in July to 1.1 litres per household per day
- **Access indicators:** Average distance to water sources for livestock increased to 5.4 km from 4.4 km recorded in the previous month, while average distance to water sources for households remained almost the same.
- 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 11.3% of the total sampled children. The Coping strategy index increased by 21 percent from 6.73 in July to 9.5 in the reporting month

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Normal	Deteriorating
Marginal Mixed Farming (MMF)	Alert	Stable
COUNTY	Alert	Stable
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	96	80% -120%
VCI-3Month	40.02	30-50
Forage condition	Fair	Good
Production Indicators	Value	Normal
Crop Condition (maize)	Fair	Good
Livestock Body Condition	Fair	Good
Milk Production	1.1	>1.3 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths	No death	No death
Access Indicators	Value	Normal
Terms of Trade	99.2	95.8
Milk Consumption	1.1	>1.1 litres
Average Water Distance for Households (Km)	4.3	2.9 Km
Average Grazing-Water point Distance (Km)	5.4	3.3 km
Utilization Indicators	Value	Normal
MUAC (% at risk of malnutrition)	11.3	9.1
Coping Strategy Index (CSI)	9.58	<6.73

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 County experienced erratic and light showers during the month under review
- The trend of rainfall received across the livelihood zones is normal. These are however off season rains.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

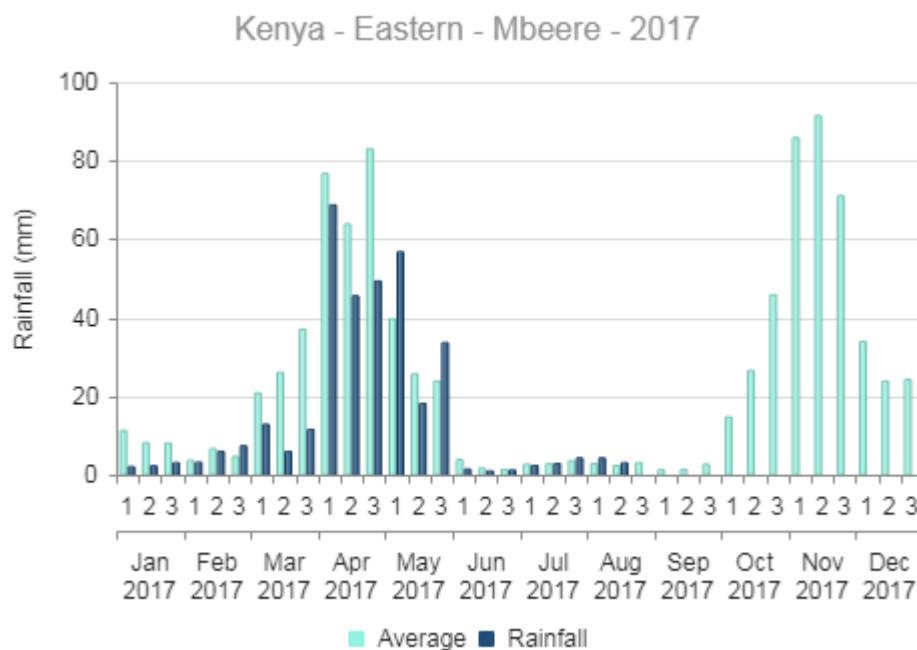


Figure 1: Average amount of rainfall recorded in Mbeere North and South sub counties, Embu County

- Mbeere North and South sub-counties received an average amount of 2.5 mm of rainfall during the 1st and 2nd dekads of August as compared to the normal average of 3mm 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
- Vegetation condition for Mbeere South and Mbeere North remained normal and stable during the month under review
- The average 3-month Vegetation Condition Index (VCI) decreased from 47.5 in July to 40.02 in the month of August
- Mbeere North Sub County recorded a 3-month Vegetation Condition Index of 47.65 while Mbeere South Sub County recorded a 3-month Vegetation Condition Index of 37.28

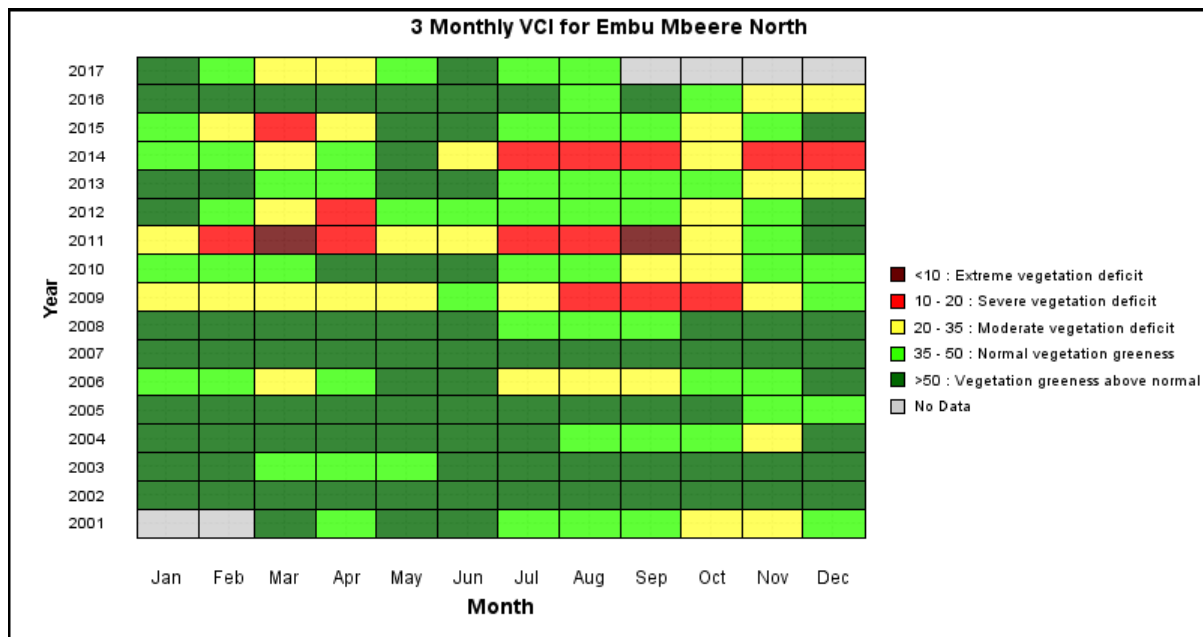


Figure 2a: 3-month Vegetation Condition Index for Mbeere North [Source: Boku University -Austria]

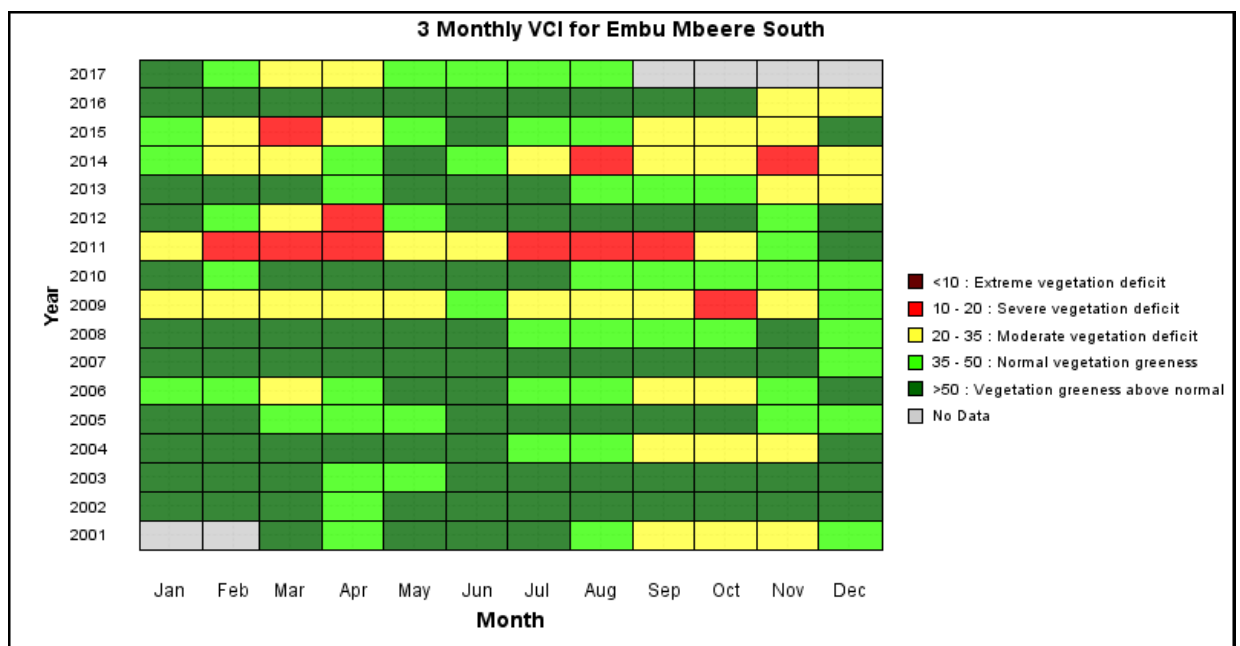


Figure 2b: 3-month Vegetation Condition Index for Mbeere South [Source: Boku University -Austria]

2.1.2 Pasture Condition

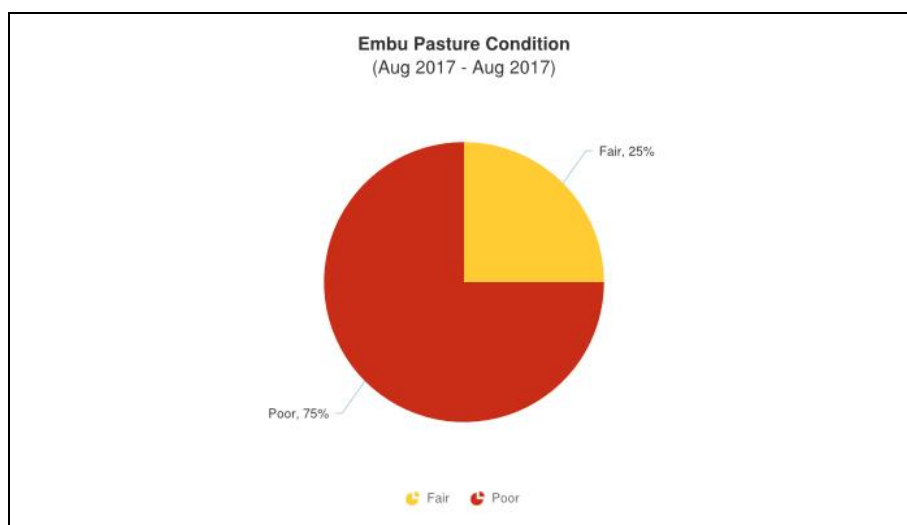


Figure 3a: Pasture Condition for Mbeere North and South sub counties, Embu County

- The pastures condition was fair to poor across the two livelihood zones in Mbeere North and Mbeere South.
- On average, 75% of the pasture in both sub counties were poor, and only 25% was fair.
- The quantity of pasture available is expected to last for 1 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. The situation is expected to deteriorate further due to the dry spell.

2.1.3 Browse Condition

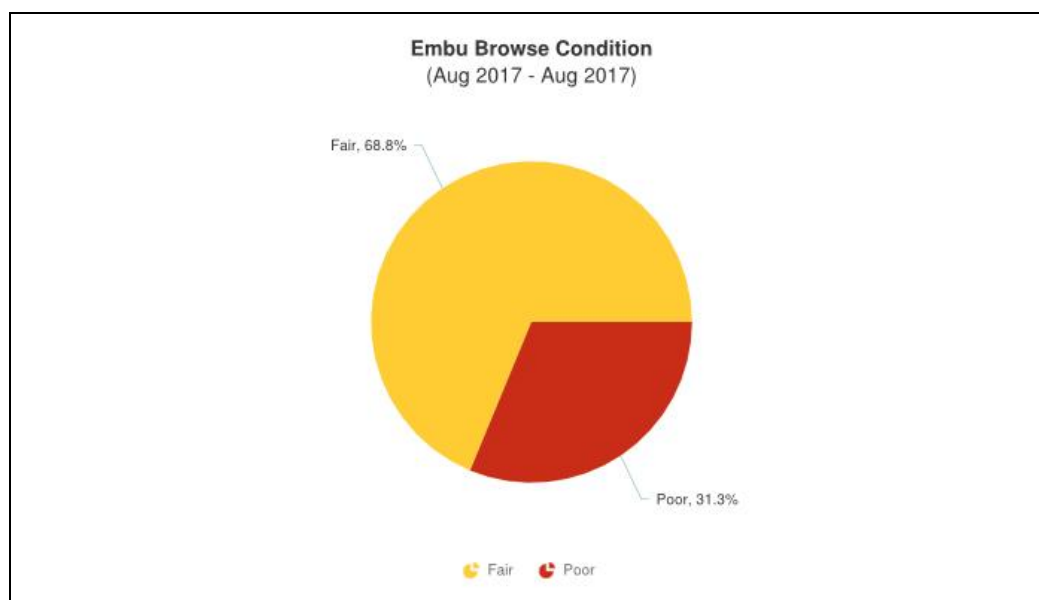


Figure 3b: Browse Condition for Mbeere North and South sub counties, Embu County

- The browse condition was fair to poor across all the livelihood zones in the current month compared to fair recorded previous month. This is attributed to the dry spell after the long rains.
- On average, 31.3% of the pasture in both sub counties was poor, and 68.8% was fair.
- The available browse is projected to sustain the small stocks for on average 2-3 months in the mixed farming zone and 1-2 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 2 months.

2.2 WATER RESOURCE

2.2.1 Water Sources

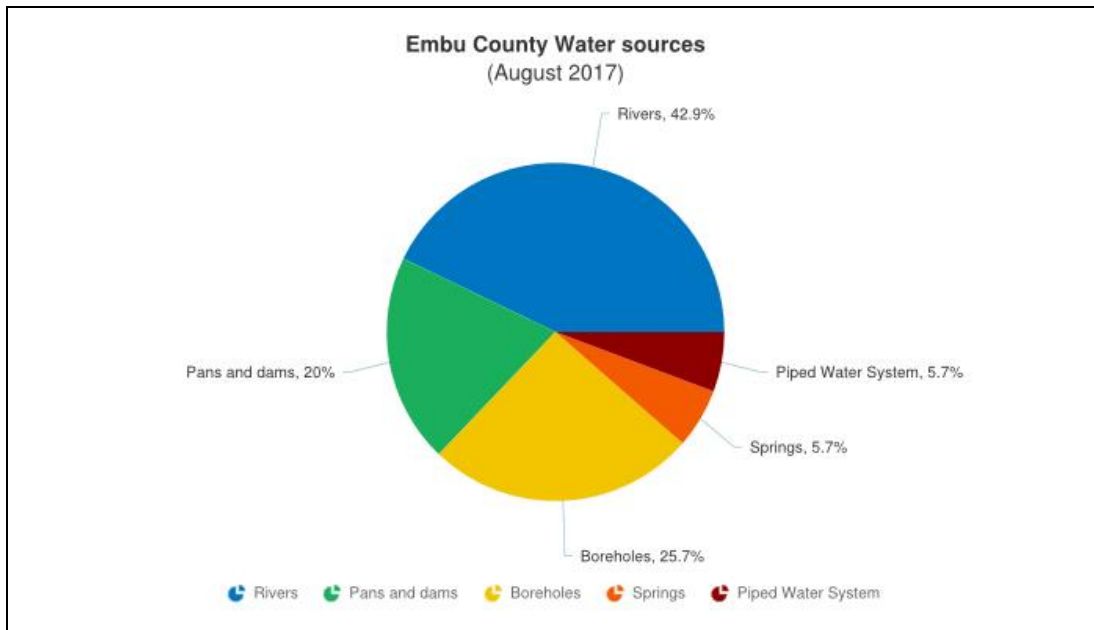


Figure 4: Water Sources for Mbeere North and South sub counties, Embu County

- 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; rivers 42.9%, boreholes at 25.7 % and pans and dams at 20% .Other sources that supported communities included springs, and piped water system.
- 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

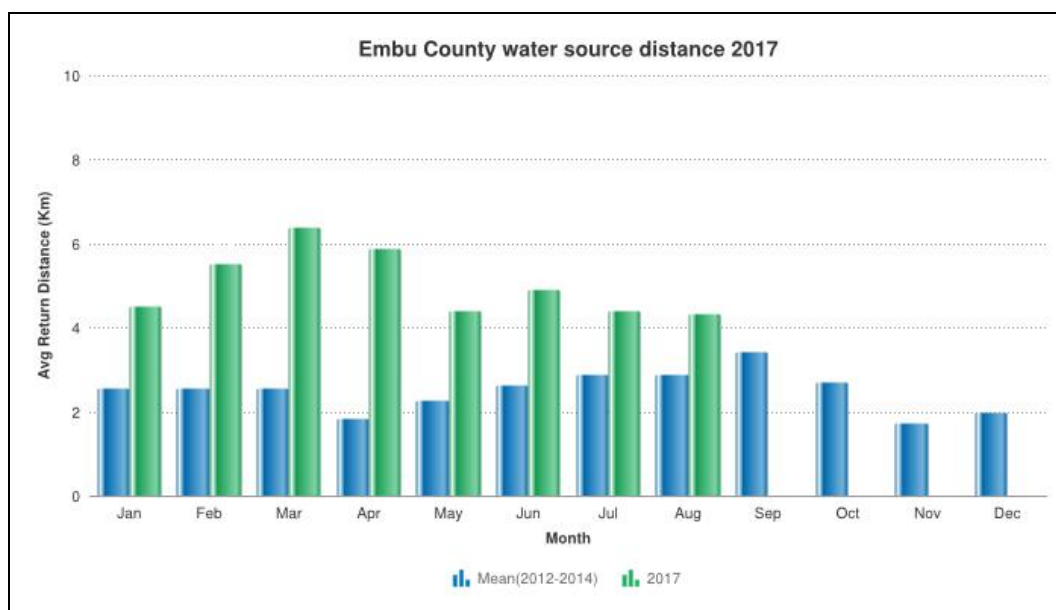


Figure 5: Water Access for Households in Mbeere North and South sub counties, Embu County

- The average return distances from the households to water sources remained almost the same 4.3 km compared to previous month 4.4km.
- Households in the MMF Livelihood Zone trekked for longer average distance at 4.5 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 48.3 % higher than the long term average distance.

2.2.3 Livestock access to water from grazing areas

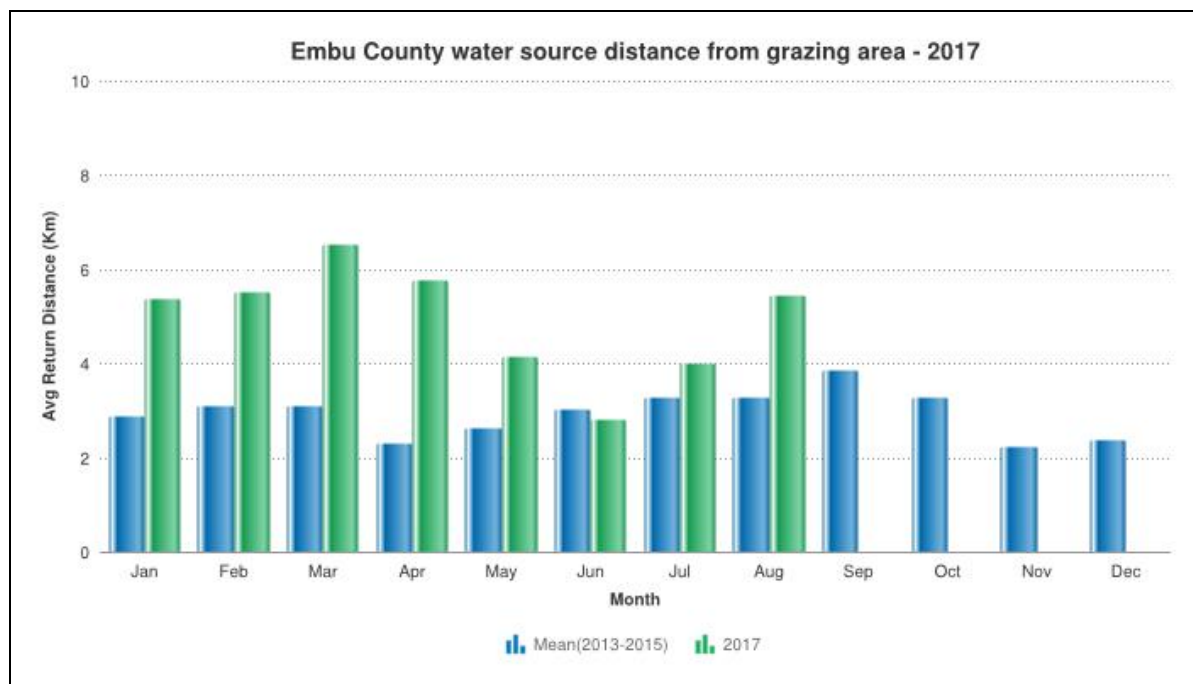


Figure 6: Water Access for Livestock for Mbeere North and South sub counties, Embu County

- The average distances to water sources from grazing areas increased in August by 26 percent from 4 km recorded previous month to 5.4 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 6 km compared to the average distance trekked in the MF livelihood Zone with an average of 4 km.
- The increase is attributed to search of pasture in far fields closer to water sources
- The frequency of watering livestock is alternate across all the livelihood zones.
- The current average distance was 63.6 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 was fair (neither fat nor thin) across the two livelihood zones in the month under review.
- The small stock (sheep and goats) had good-to-fair body condition both livelihood zones.
- Most areas in the mixed farming zone cattle had fair body condition while in vast areas in the marginal mixed farming zone the body condition for cattle was fair to poor. The body condition may deteriorate further in the next 2months 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

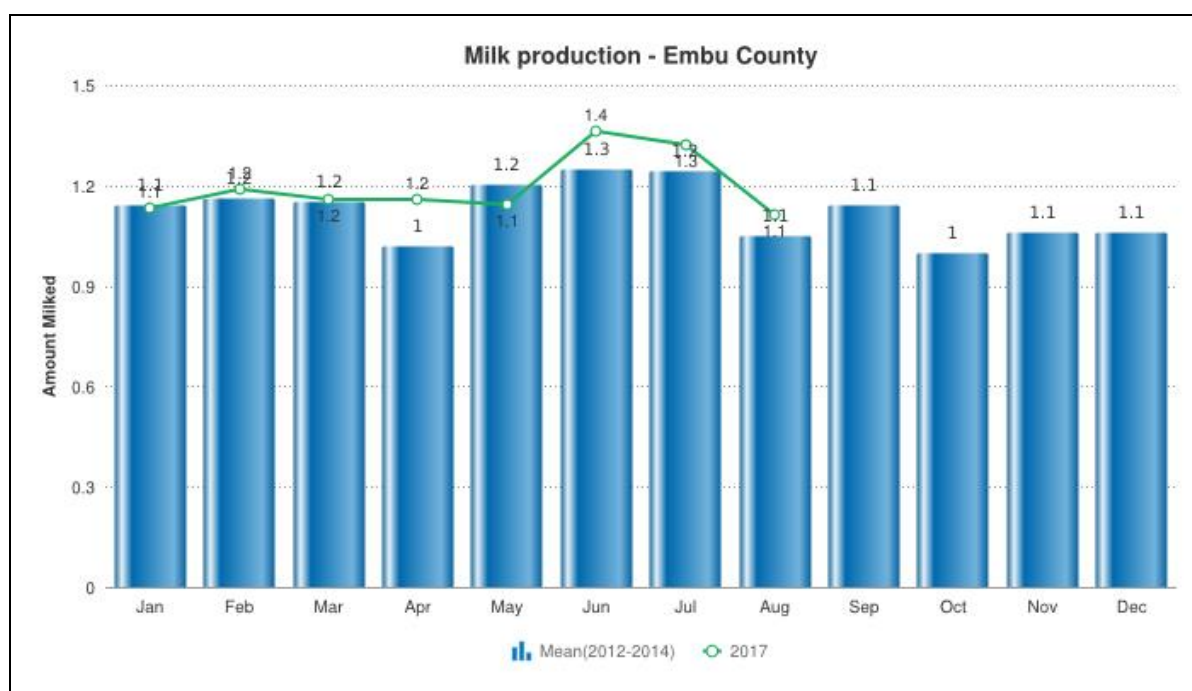


Figure 7: Milk Production in Mbeere North and South sub counties, Embu County

- The average daily household milk production per household decreased slightly from 1.2 litres per household per day recorded the previous month to 1.1 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
- 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
- A final stage of harvesting maize was ongoing across both 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

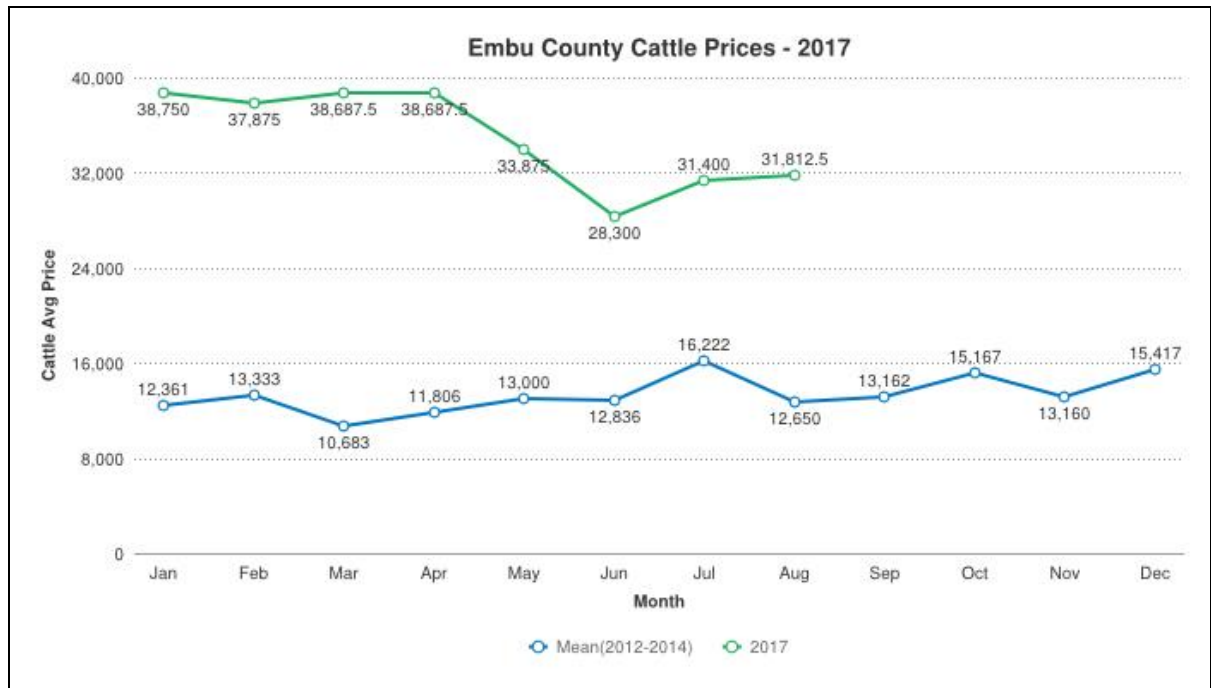


Figure 8: Market Cattle Prices in Mbeere North and South sub counties, Embu County

- The market price of a medium sized bull almost remained the same KES 31,812.5 which is 1 percent increase compared to KES 31,400 recorded last month.
- Makutano livestock market recorded the highest average price of KES 40,000, while Kiritiri livestock market and Ishiara Livestock market recorded average price of KES 33,500 and KES 28,800 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

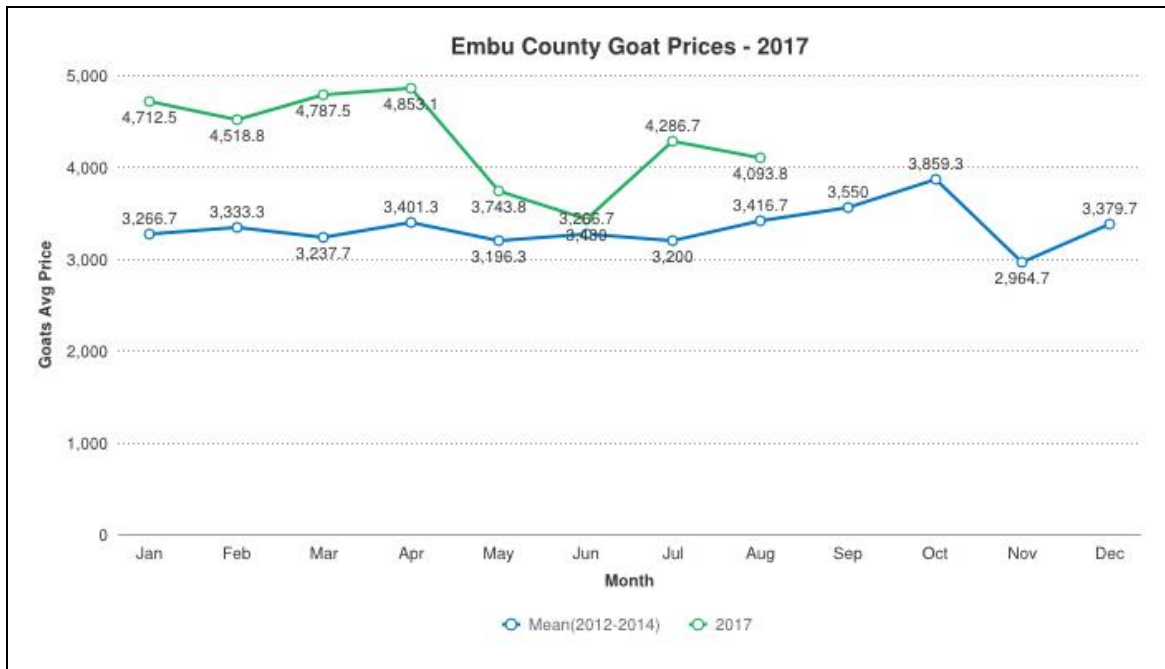


Figure 9: Average Goat Prices in Mbeere North and South sub counties, Embu County

- The average market price for a medium sized goat slightly decreased in the current month by 4.7percent from KES 4,286 recorded in the month across the two livelihood to KES 4,093 in the month under review
- The decrease in prices can be attributed to high market supply and deteriorating body condition of the shoats due to longer distances to grazing fields and watering points.
- Makutano livestock market in MF zone recorded the highest average price of KES 4,875 while Kiritiri and Ishiara livestock market in MMF zone recorded low average price of KES 3,862 and KES 3,775 respectively.
- 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 19.8 percent higher than the long term mean price at this time of the year.

4.2 FOOD PRICES

4.2.1 Maize Prices

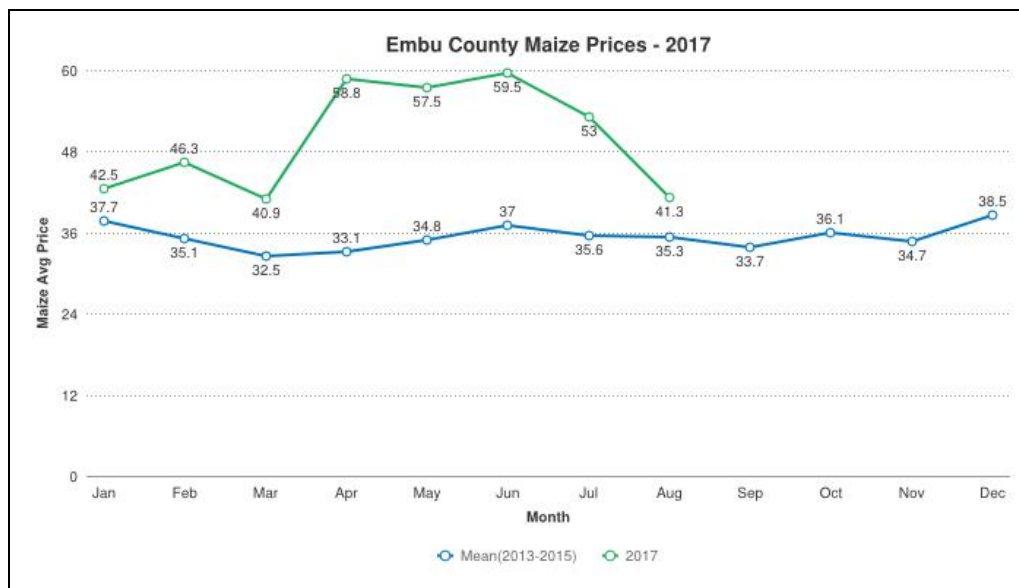


Figure 10: Average Maize Price in Mbeere North and South sub counties, Embu County

- The average market maize price decreased by 28.3 percent as compared to the average price recorded in previous month across the two livelihood zones. The decrease is attributed to 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 50 in Kiritiri cereals market, KES 40 in Ishiara and KES 35 at Makutano cereals markets.
- The average maize price recorded in the current month was 17 percent higher than the long term mean price at this time of the year.

4.2.2 Posho (Local Maize Meal)

- The average price of posho significantly decreased to KES 54 compared to the previous month at KES 66 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 60 compared to KES 45 recorded in the mixed farming zone.
- The average price of local maize meal was above normal in the month of August 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

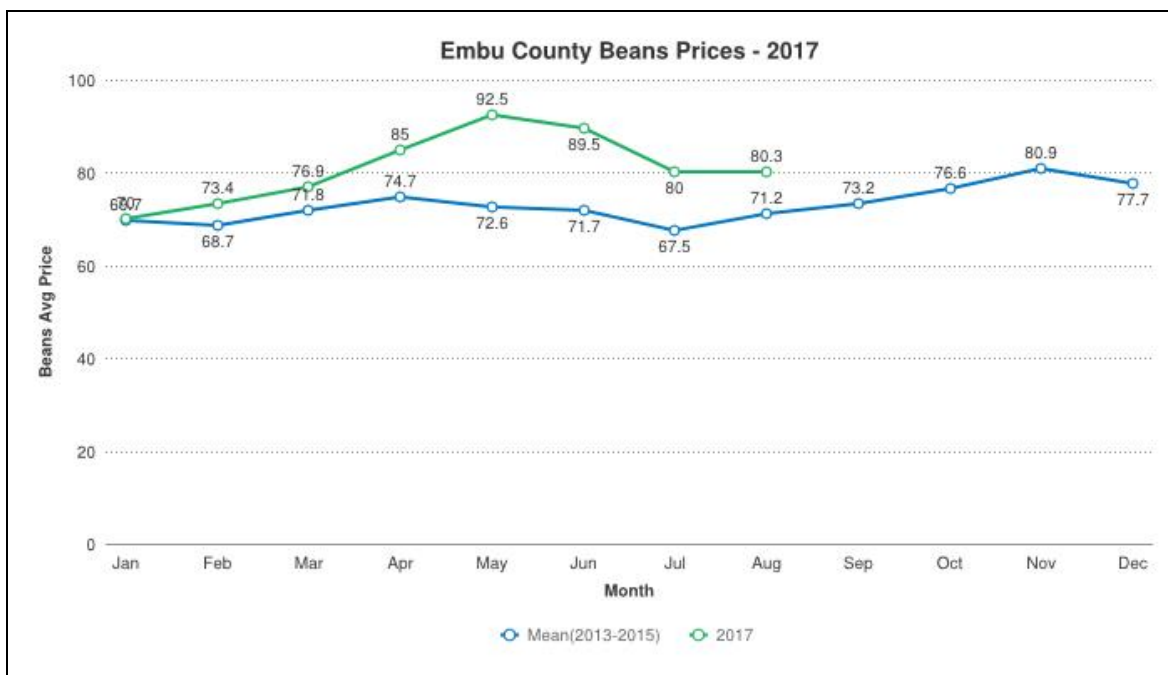


Figure 11: Average Beans Price in Mbeere North and South sub counties, Embu County

- The average market beans price almost remained the same across the two livelihood zones at KES 80 per kilogram.
- One kilogram of beans retailed at KES 100 in Makutano cereals market, KES 76 in Kiritiri cereal market and KES 72 in Ishiara cereal market.
- The current average price per kilogram is 12.7 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

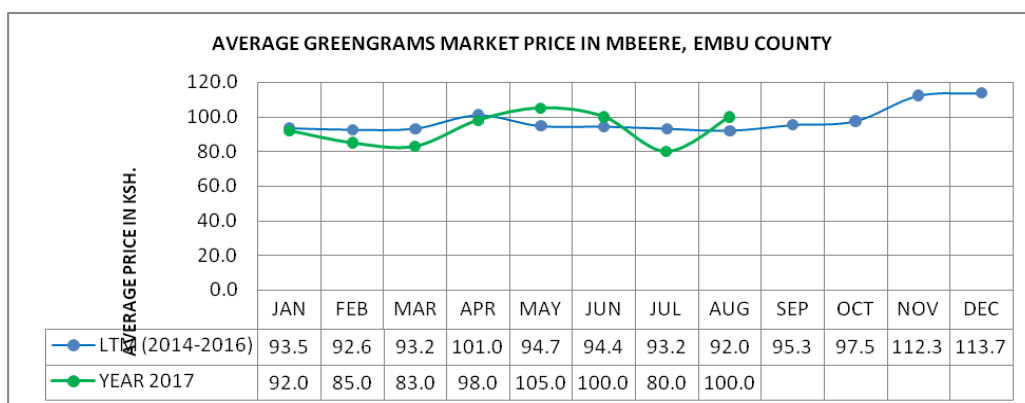


Figure 12: Average Green Grams Prices in Mbeere North and South sub counties, Embu County

- The average market price per kilogram of green grams significantly increased by 20 percent from KES 80 recorded in the previous month to KES 100 per in the month under review across the markets in the two livelihood zones in the two sub-counties.
- The increase was occasioned by high demand of green grams across the two sub counties.
- The current average price was 8.6 percent above the long term mean price of green grams at this time of the year.

4.3 Household Income

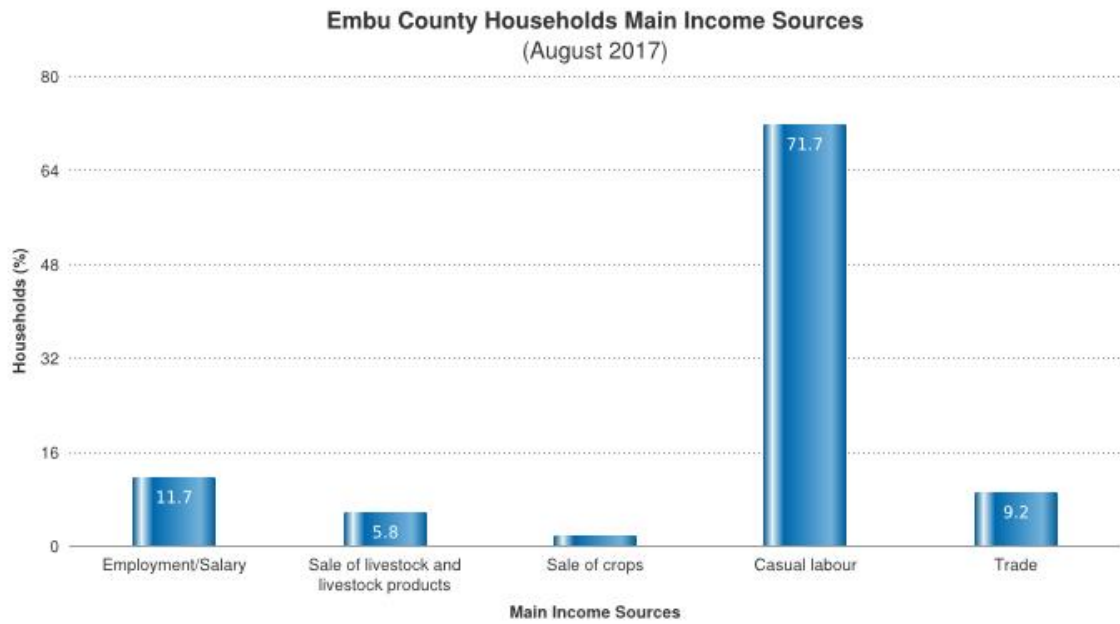


Figure 13: Main Incomes sources for households in Mbeere North and South sub counties, Embu County

- 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.

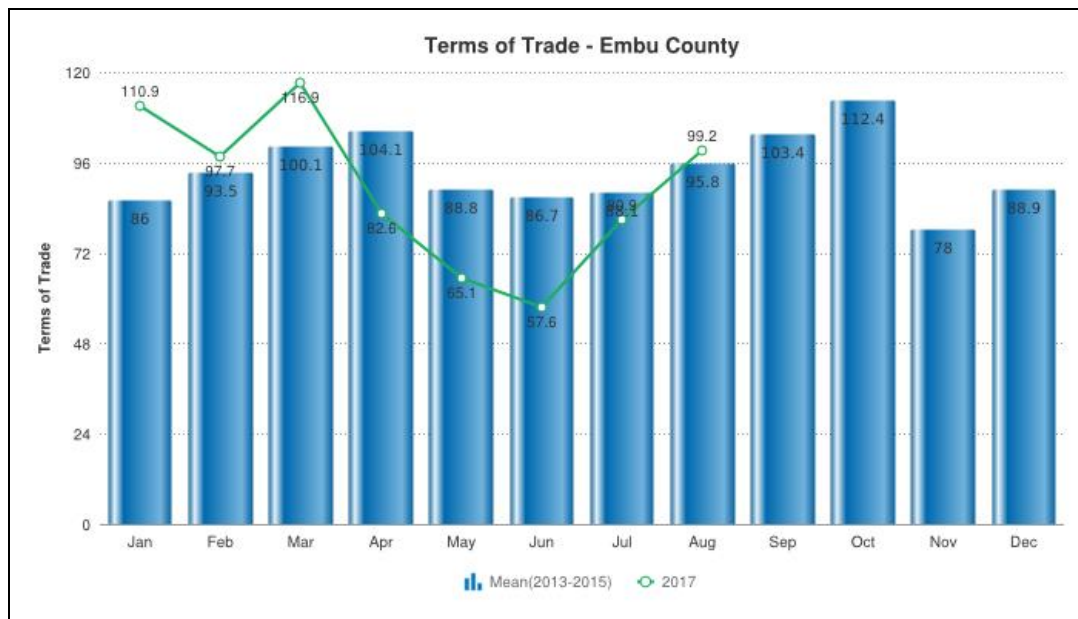


Figure 14: Terms of Trade in Mbeere North and South Sub Counties, Embu County

- The Terms of Trade (goat versus maize) increased by 19.3 percent in the month under review across the two livelihood zones from 80.9 kilograms of maize for sale of one goat in the month of July to 99.2 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

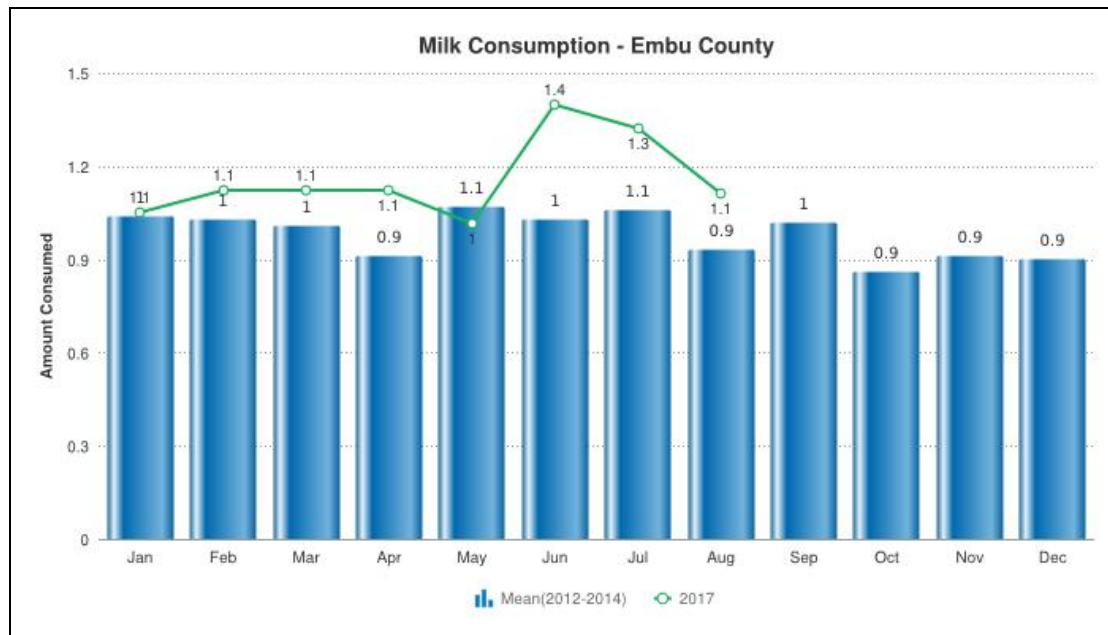


Figure 15: Milk Consumption in Mbeere North and South sub counties, Embu County

- The average daily household milk consumption decreased from 1.3 litres per household per day in July to 1.1 litres per household per day in the month under review across the two livelihood zones.
- 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

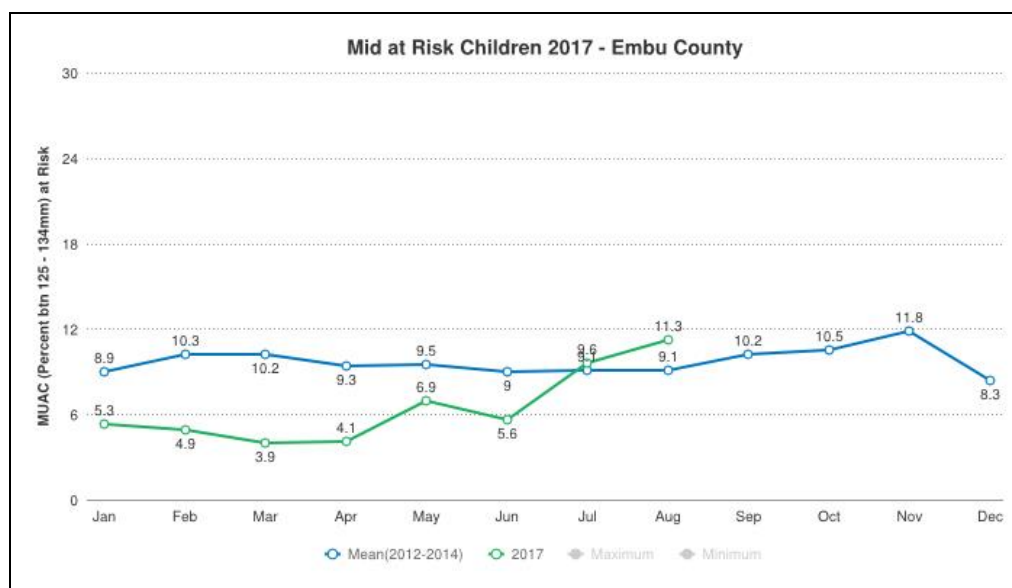


Figure 15: Children at Risk of Malnutrition in Mbeere North and South sub counties, Embu County [n=692]

- 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 15 percent from 9.6 % recorded in the previous month to 11.3% 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 proportion of children at risk of malnutrition in the month under review was however 2.4 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

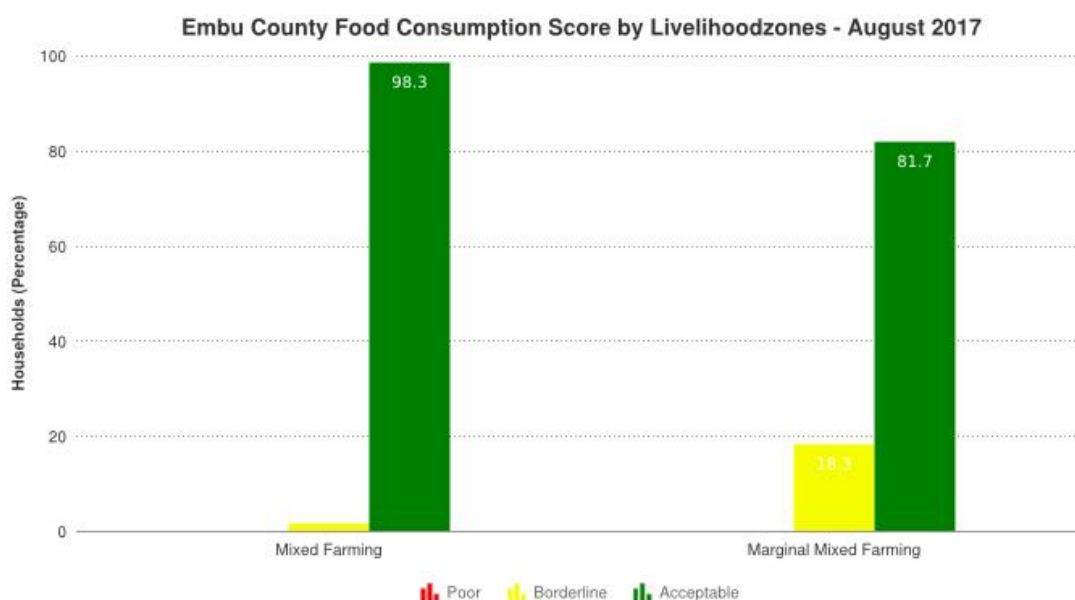


Figure 16: FCS for Sampled Households in Mbeere North and South sub counties, Embu County [n=120 hh]

- Out 120 sampled households across the two livelihood zones, 0% of the households were classified under the poor food consumption category, 10% of them under borderline food consumption category while the remaining 90% of the households were classified under acceptable food consumption category.
- 98.3% of the households in the mixed farming zone were classified under the acceptable food consumption bandwidth as compared to 81.7 % in the marginal mixed farming zone.
- Majority of household are on acceptable category due to food variety at the household level owing it to the little harvests realised from the long rains.

5.4 Coping Strategy Index

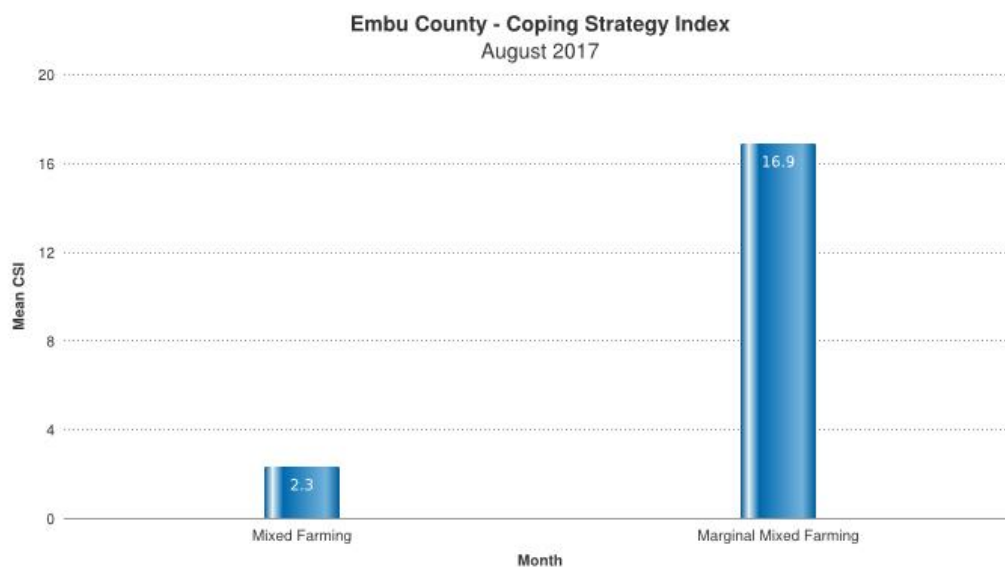


Figure 17: CS Index for Sampled Households in Mbeere North and South sub counties, Embu County [n=120]

- The mean Coping Strategies Index for increased by 29 percent from 6.73 recorded the previous month to 9.58 in the month under review.
- Mixed farming livelihood zone recorded coping strategy index of 2.3 while the marginal mixed farming livelihood zone recorded a high livelihood zone of 16.9. 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 1 month
- 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 across the livelihood zones continued to employ high 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
- The harvested stock of food stuffs replenished household stocks and thus improved household food security especially in the mixed farming zone. However the stock are diminishing at household level and average households are now relying on retail purchases
- 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