

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



A Vision 2030 Flagship Project



OCTOBER EARLY WARNING PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- **Rainfall:** 29.89 mm of rainfall was received in the region in the month of October as compared to 20.58 mm normal average.
- **Vegetation Condition:** The vegetation condition in Mbeere North and Mbeere South remained normal in the month of October as per Vegetation Condition Index. The pasture and browse condition ranged from poor to fair

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** Farmers were engaged in short rains season planting while early planted crop was at germination stage. 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 remained comparatively stable as compared to the previous month.
- **Access indicators:** Average distance to water sources from grazing fields for livestock increased to 11.5 km from 8.3 km recorded in the previous month, while average distance to water sources for households increased to 8.2 km from 6.5km recorded in the previous month. The Terms of Trade decreased significantly from 71.6 in September to 56.4 in the month of October
- **Utilization Indicators:** Milk consumption reduced slightly in the month. The proportion of children under 5 years who were at the risk of malnutrition increased slightly from 7.1% recorded in September to 9% of the children at risk. The Coping strategy index increased by 35 percent from 13.23 in September to 17.8 in the reporting month

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Alert	Improving
Marginal Mixed Farming (MMF)	Alert	Improving
COUNTY	Alert	Improving
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	145%	80% -120%
VCI-3Month	39.32	30-50
Forage condition	Poor/Fair	good
Production Indicators	Value	Normal
Crop Condition (maize)	Good	Good
Livestock Body Condition	Fair to poor	Good
Milk Production	1 litre	>1 Litre
Livestock Migration Pattern	No migration	No migration
Livestock deaths	No death	No death
Access Indicators	Value	Normal
Terms of Trade	56.4	112.4
Milk Consumption	1	>1.1 litres
Average Water Distance for Households (Km)	8.2	2.7 Km
Average Grazing-Water point Distance (Km)	11.5	3.3 km
Utilization Indicators	Value	Normal
% at risk (MUAC;125-134)	9.0	10.5
Coping Strategy Index (CSI)	17.8	<10

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

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The onset of the short rains was in the second dekad of the month of October
- Both sub counties of Mbeere experienced erratic and light showers during the month under review
- The onset of the rainfall season across the livelihood zones was normal and the amount recorded was above the expected average during the first two dekads of the month

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

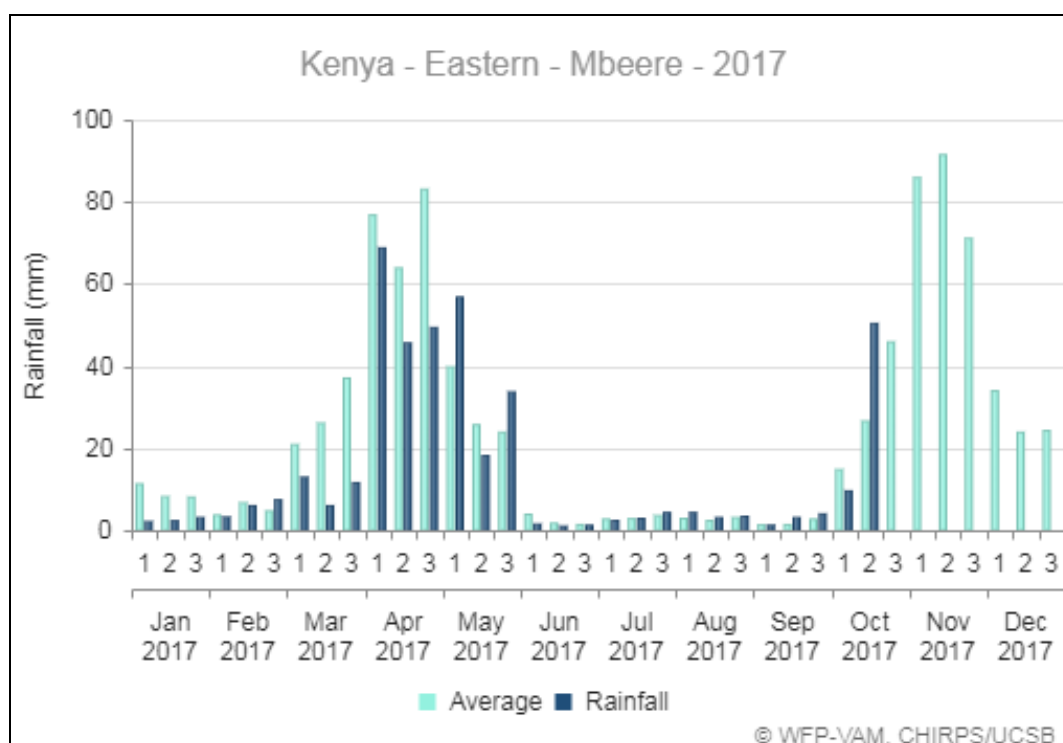


Figure 1: Average amount of rainfall recorded in Mbeere North and South sub counties, Embu County

- An average of 29.89 mm of rainfall were recorded across the two sub counties as compared to a long term mean rainfall amount of 20.58 mm during the 1st and 2nd dekads of October.
- The amount recorded in the month under review was significantly higher compared to only 2.1 mm recorded in the month of September
- The spatial distribution of the rains was poor since most parts of the two livelihood zones received minimal amounts in the period under review

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- Vegetation condition for Mbeere South and Mbeere North remained in normal greenness category during the month under review
- The 3-month Vegetation Condition Index (VCI) for the two sub counties reduced slightly from 41.95 in September to 39.32 in the month of October.
- Mbeere North Sub County recorded a 3-month Vegetation Condition Index of 40.73

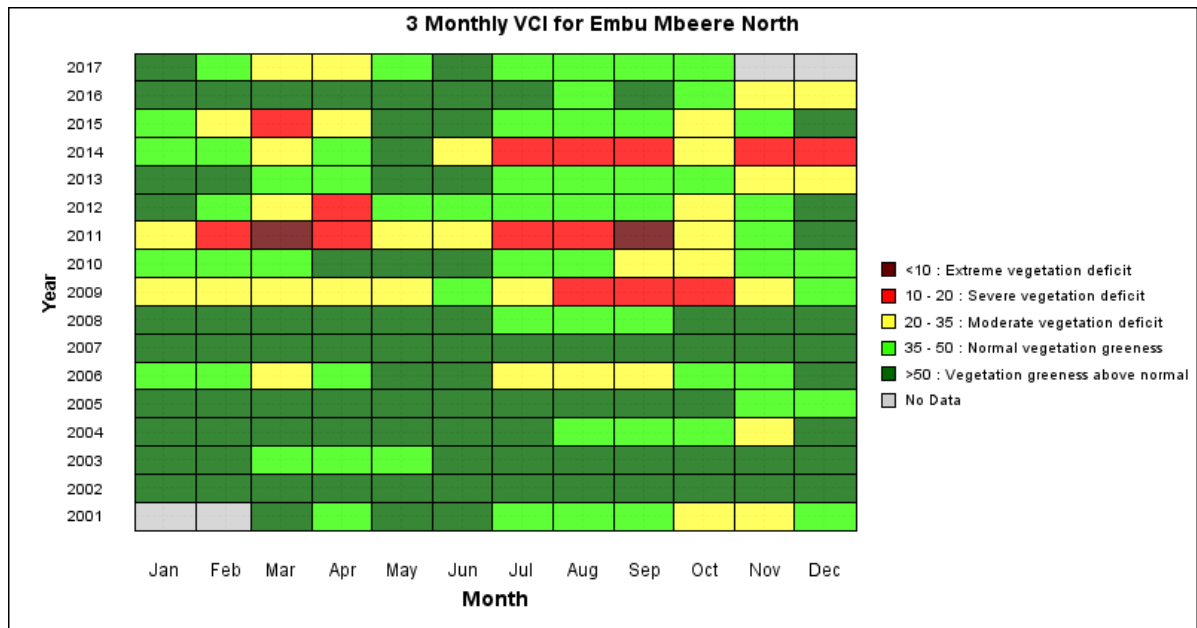


Figure 2a: 3-month Vegetation Condition Index for Mbeere North [Source: Boku University -Austria]

- Mbeere South Sub County recorded a 3-month Vegetation Condition Index of 37.9

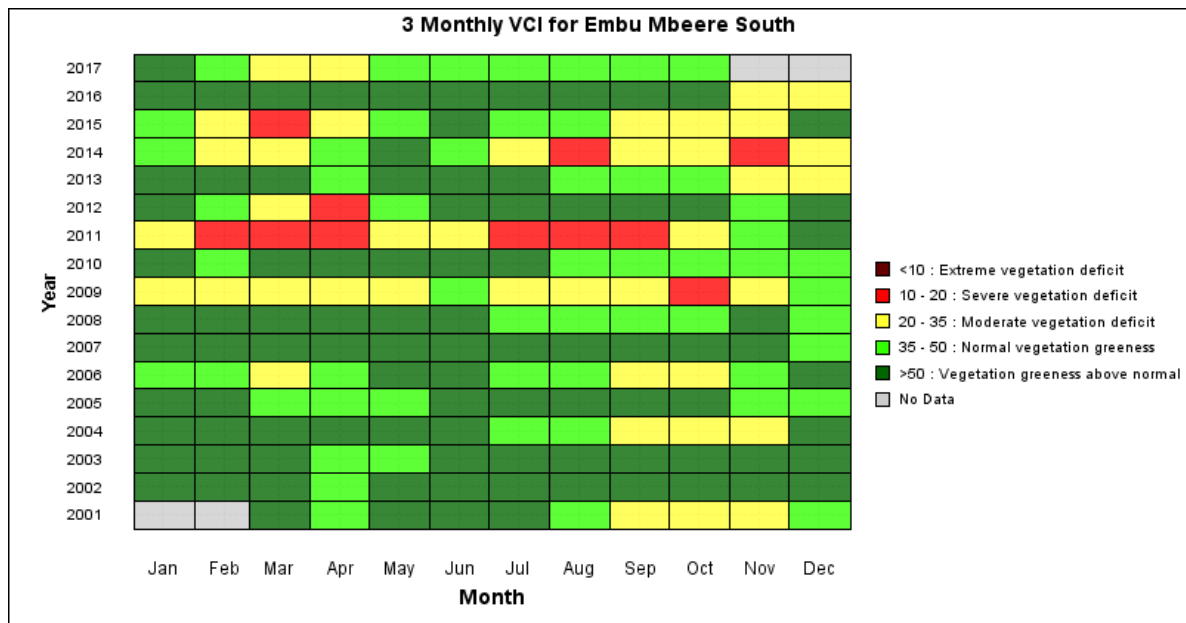


Figure 2b: 3-month Vegetation Condition Index for Mbeere South [Source: Boku University -Austria]

2.1.2 Pasture Condition

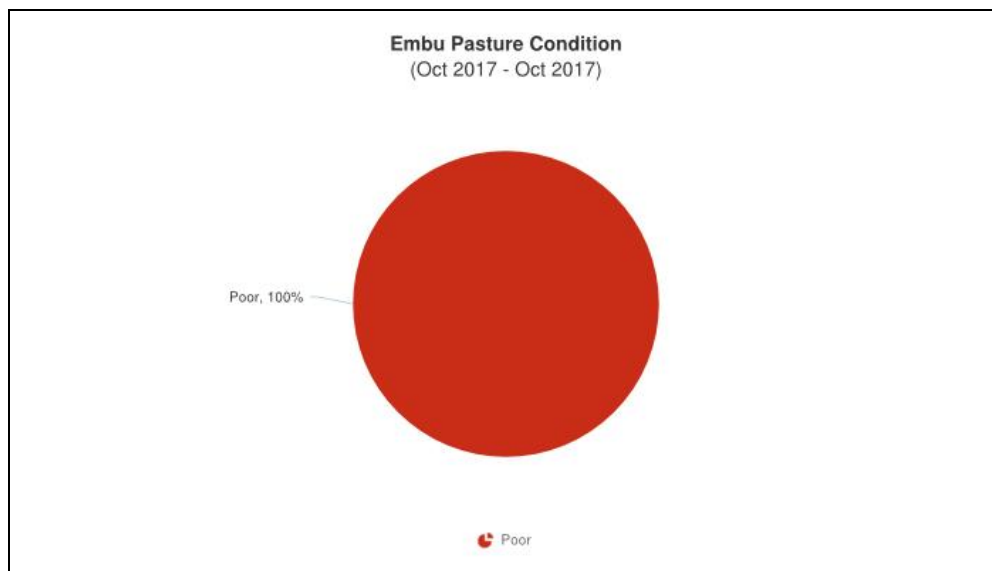


Figure 3a: Pasture Condition for Mbeere North and South sub counties, Embu County

- The pasture condition was poor across both livelihood zones in Mbeere North and Mbeere South.
- The pasture condition remained poor due to below normal regeneration in the previous rainfall season occasioned by early cessation
- The pasture condition was below normal at this time of the year. The situation is expected to improve with the onset of the short rains.

2.1.3 Browse Condition

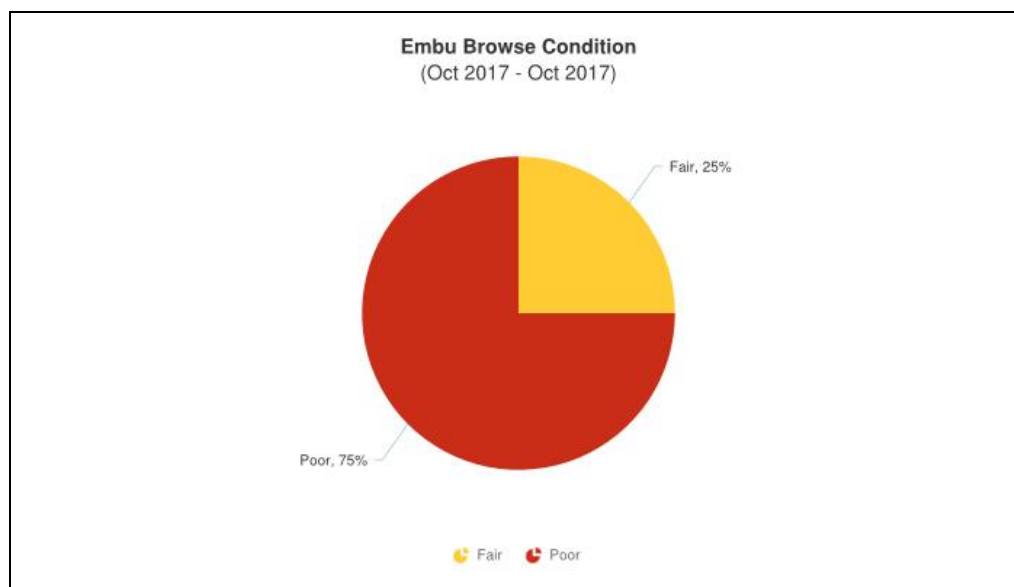


Figure 3b: Browse Condition for Mbeere North and South sub counties, Embu County

- The browse condition ranged from fair to poor across both livelihood zones in the current month.
- On average, 75% of the pasture in both sub counties was poor and only 25% was fair.
- The poor condition can be attributed to the dry spell after the long rains season and the pressure from large numbers small stock especially in the marginal mixed farming zone.
- The browse condition was below normal at this time of the year and is expected to improve with the onset of the short rains

2.2 WATER RESOURCE

2.2.1 Water Sources

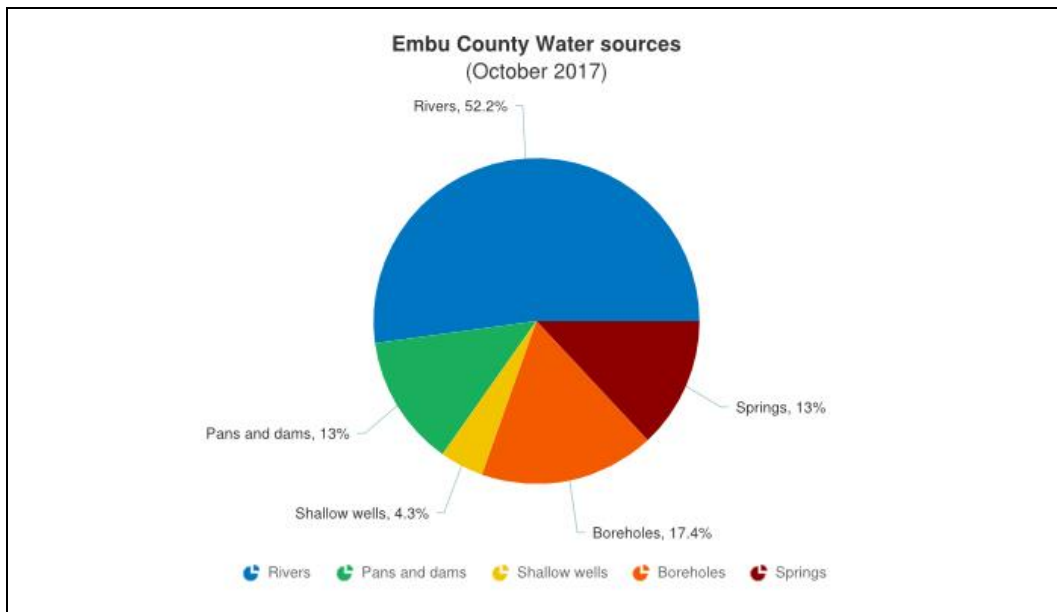


Figure 4: Water Sources for Mbeere North and South sub counties, Embu County

- 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 52.2%, boreholes at 17.4 % and pans/dams at 13%. A small proportion of households relied on traditional river wells and piped water system.
- The quality of water from open ground sources was poor occasioned by the start of the rains
- The waiting time for piped water and boreholes slightly reduced to 10-15 minutes occasioned by rainfall water harvesting.
- Small proportion of sampled households affirmed to be using water treatment chemicals for drinking water drawn from ground surface sources.

2.2.2 Household Water Access and Utilization

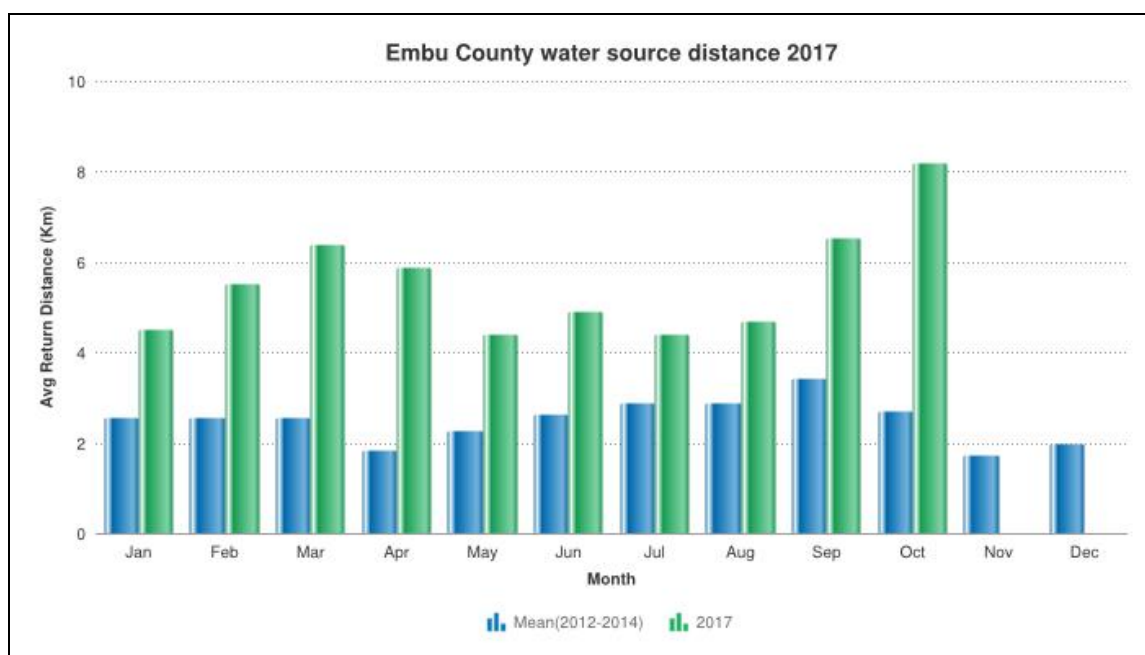


Figure 5: Water Access for Households in Mbeere North and South sub counties, Embu County

- The average return distances from the households to water sources increased further in October by 26 percent from 6.5 km recorded previous month to 8.2 km in the month under review
- Households in the MMF Livelihood Zone trekked for longer average distance of 9 km compared to those in MF Livelihood Zone at 5 km in search for water.
- The variation in average distance covered across livelihood zones was occasioned by the types of sources relied on in the livelihood zones prompting households in MMF zones to trek for slightly longer distances.
- The average return distances are expected to reduce with the onset of the short rains.

2.2.3 Livestock access to water from grazing areas

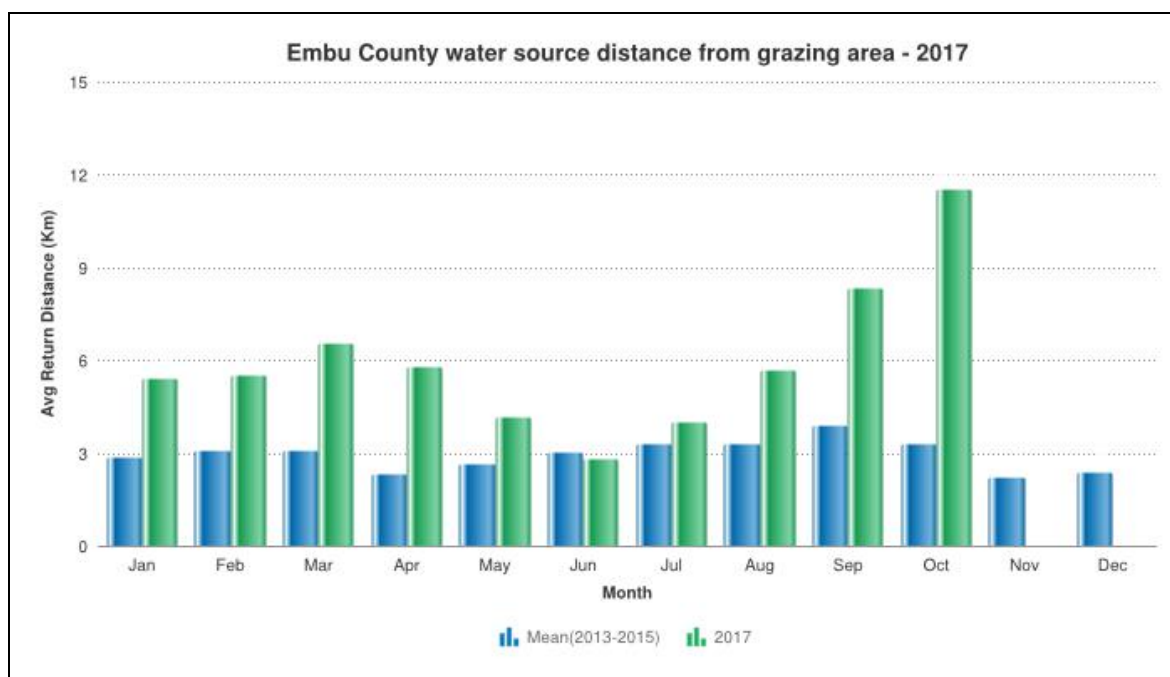


Figure 6: Water Access for Livestock for Mbeere North and South sub counties, Embu County

- The average distances to water sources from grazing areas increased in October by 39 percent from 8.3 km recorded previous month to 11.5 km in the month under review
- The increase is attributed to search of pasture in far grasslands designated for grazing away from water sources
- The average distance trekked by livestock from grazing point to water source was longer in the MMF livelihood zone at 15 km compared to the average distance trekked in the MF livelihood zone with an average of 7 km.
- Farmers in Marginal Mixed farming livelihood zones practiced alternate livestock watering while those in the mixed framing zone did it daily.
- The average return distances are expected to reduce with the onset of the short rains.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The livestock body condition was fair to poor across the two livelihood zones in the month under review.
- The body condition for small stock (sheep and goats) was fair in both livelihood zones while that of cattle was fair in most areas of the mixed farming zone while. In most areas of the marginal mixed farming zone body condition for cattle remained poor.
- The body condition of livestock is expected to improve in the next three months due to the onset of the short rains.
- The average body condition was below normal at this time of the year occasioned by increased average distance to water sources and depletion of pasture especially in the marginal mixed farming zone

3.1.2 Livestock Diseases

- No livestock diseases were reported in the period under review
- Routine surveillance measures by the county government continued in the month under review

3.1.3 Milk Production

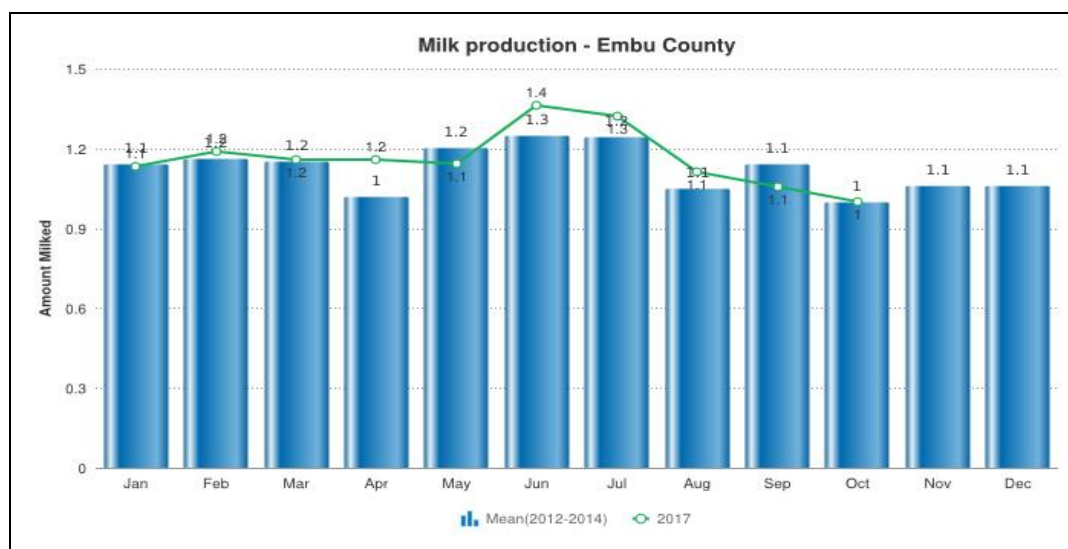


Figure 7: Milk Production in Mbeere North and South sub counties, Embu County

- The average daily household milk production per household in the current month was one litre per day across the two livelihood zones.
- Households in MF livelihood zone produced an average of 1.8 litres of milk per day while those in the MMF livelihood zone produced 0.5 litres of milk per day.
- The variation of milk production across the livelihood zones was occasioned by the availability of pasture and water and the differentiation in breed

3.2 Rain-Fed Crop Production

3.2.1 Stage and Condition of food Crops

- Early planted maize and beans in both livelihood zones were at germination stage.
- Farmers across both sub counties were engaged in short rains season planting activities.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

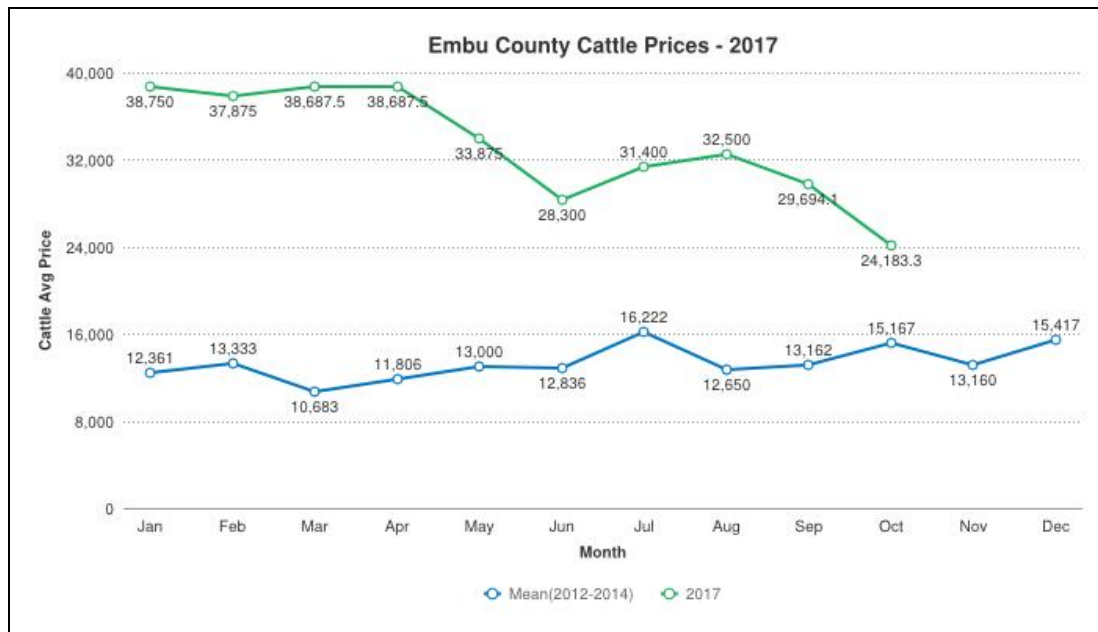


Figure 8: Market Cattle Prices in Mbeere North and South sub counties, Embu County

- The market price of a medium sized bull slightly decreased by 19 percent from KES 29,694 recorded in the month of September to KES 24,183 in the month under review.
- The decrease in market price was due to the poor body condition of cattle during the month
- 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 17,800 and KES 27,375 respectively.
- The price recorded in the month under review was 59 percent and 47 percent higher than the long term mean price at this time of the year and the average price recorded in October 2016 respectively

4.1.2 Market Goats Prices

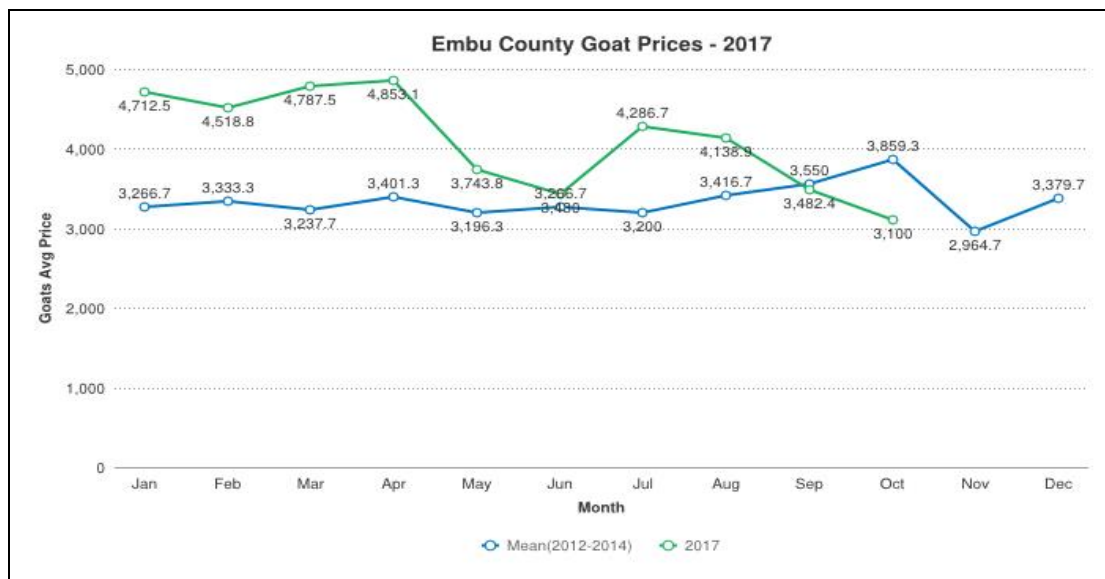


Figure 9: Average Goat Prices in Mbeere North and South sub counties, Embu County

- The average market price for a medium sized goat decreased in the current month by 11 percent from KES 3,482 recorded in the month of September across the two livelihoods to KES 3,100 in the month under review.
- The decrease in prices can be attributed to high market supply occasioned by lack of food stocks at household level and deteriorating body condition of the goats due to poor quality of browse.
- Makutano livestock market in MF zone recorded the highest average price of KES 4,000 while Kiritiri and Ishiara livestock market in MMF zone recorded low average price of KES 3,050 and KES 3,125 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 20 percent lower than the long term mean price and 10 percent lower than the average price recorded in a similar month last year.

4.2 FOOD PRICES

4.2.1 Maize Prices

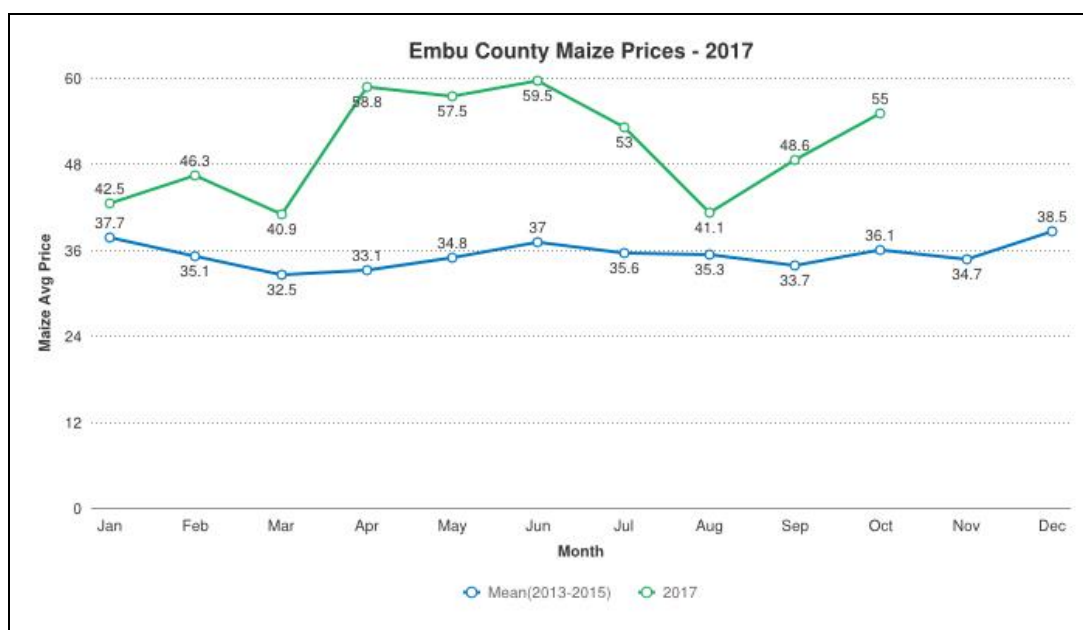


Figure 10: Average Maize Price in Mbeere North and South sub counties, Embu County

- The average market maize price increased by 13 percent to KES 55 per kilogram as compared to the average price recorded in previous month across the two livelihood zones.
- The increase is attributed depleted household stock; households across the two livelihood zones depended on markets for maize
- Across the major markets, one kilogram of maize was retailing at KES 58 in Ishiara cereals market, KES 50 in Kiritiri and KES 45 at Makutano cereals markets.
- The average maize price recorded in the current month was 52 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 increased from KES 49 per kilogram recorded the previous month to KES 52 at the current month across the two livelihood zones
- The increase was attributed to increase in average maize price.

4.2.3 Beans Prices

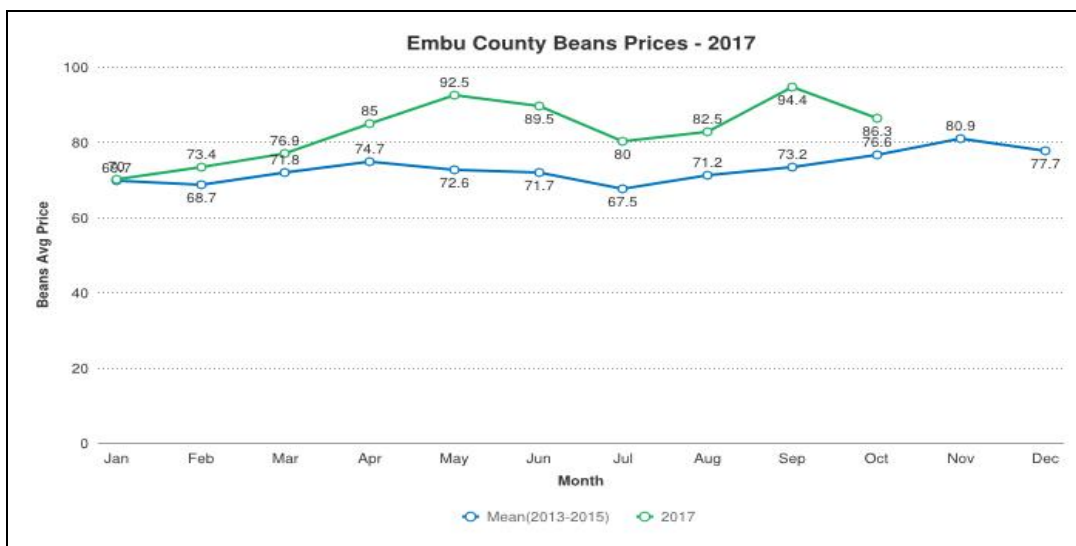


Figure 11: Average Beans Price in Mbeere North and South sub counties, Embu County

- The average market price for one kilogram of beans decreased by 9 percent to KES 86 when compared to the average price recorded in previous month across both livelihood zones.
- The decrease is attributed to more supply of pulses at the market areas due to the harvests realised the previous season.
- One kilogram of beans retailed at KES 100 in Kiritiri cereals market, KES 100 in Makutano cereal market and KES 70 in Ishiara cereal market.
- The current average price per kilogram is 13 percent higher than the long term mean.

4.2.4 Green Grams Prices

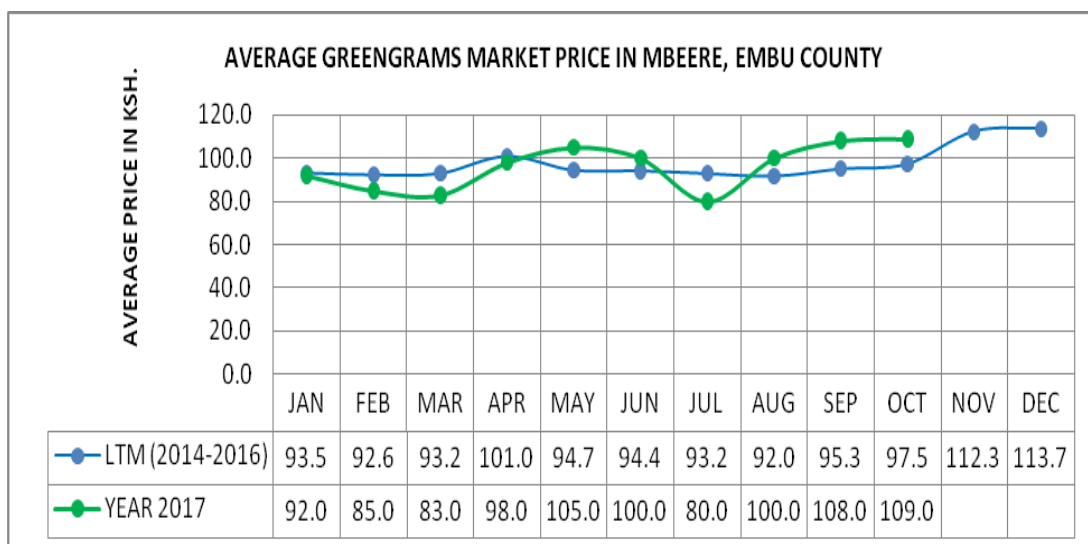


Figure 12: Average Price per kilogram of Green Grams in Mbeere North and South sub counties

- The average market price per kilogram of green grams remained stably high at KES 109 in the month under review compared to previous month across the markets in the two livelihood zones.
- The stability was occasioned by the prevailing market conditions for green grams since most of the stocks harvested during the last season were sold to cover other household needs
- The current average price was 12 percent above the long term mean price of green grams at this time of the year.

4.3 Household Income

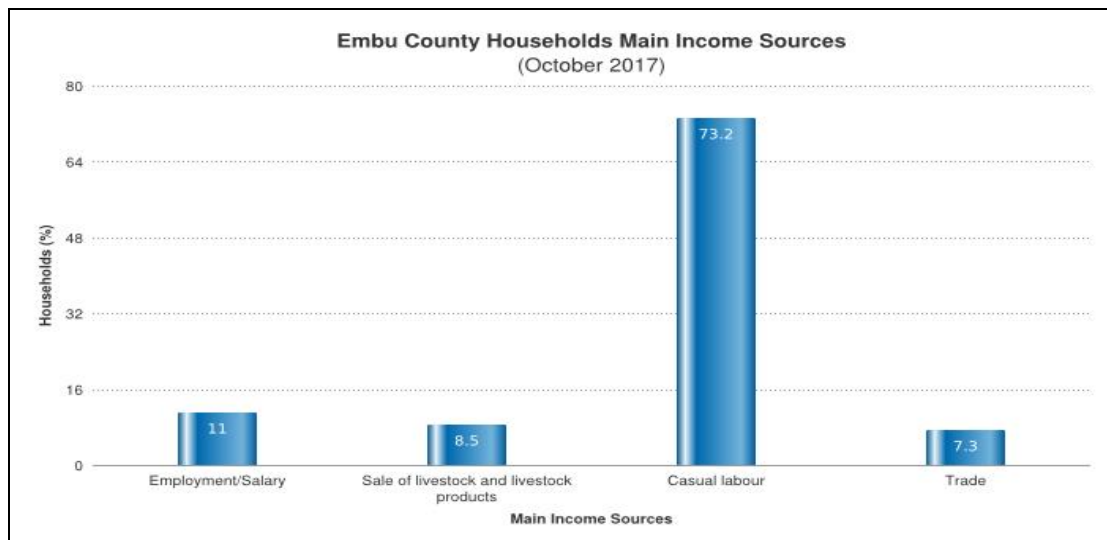


Figure 13: Main Incomes sources for households in Mbeere North and South sub counties, Embu County

- Households in the region drew their income from casual labour, formal employment, trade, sale of livestock and livestock products during the month under review as depicted in the bar graph above.
- The proportion of households that depended on casual labour slightly increased due to increased agricultural activity related to planting and land preparation.
- 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.

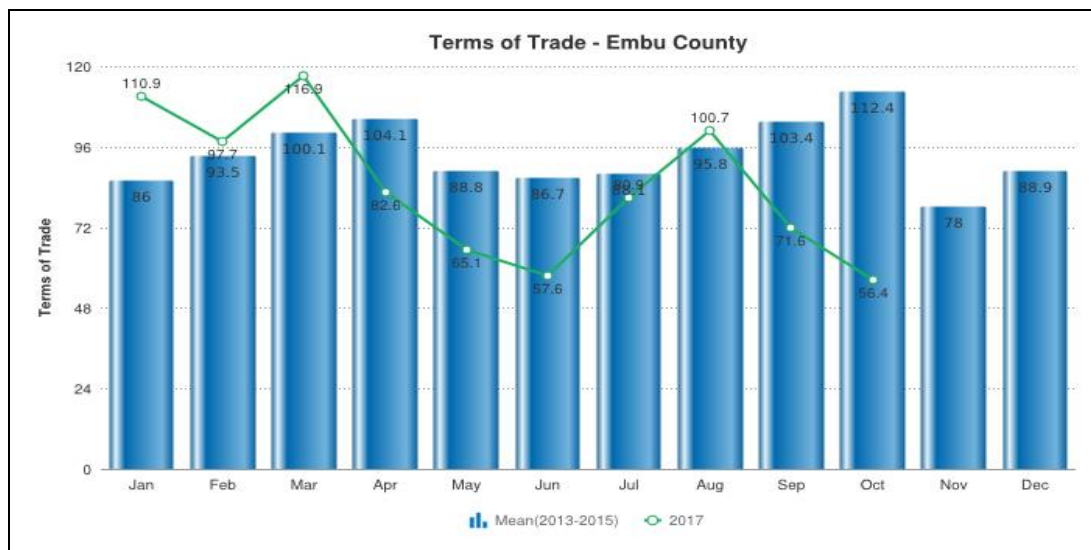


Figure 14: Terms of Trade in Mbeere North and South Sub Counties, Embu County

- The Terms of Trade (goat versus maize) decreased further by 21 percent in the month under review across the two livelihood zones from 72 kilograms of maize for sale of one goat in the month of September to 56 kilograms of maize for sale of one goat.
- The decrease of terms of trade was due to the decrease of average goat price while the average maize price increased significantly during the month
- The current ToT across the two livelihood zones was 50 percent lower than the long term mean.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

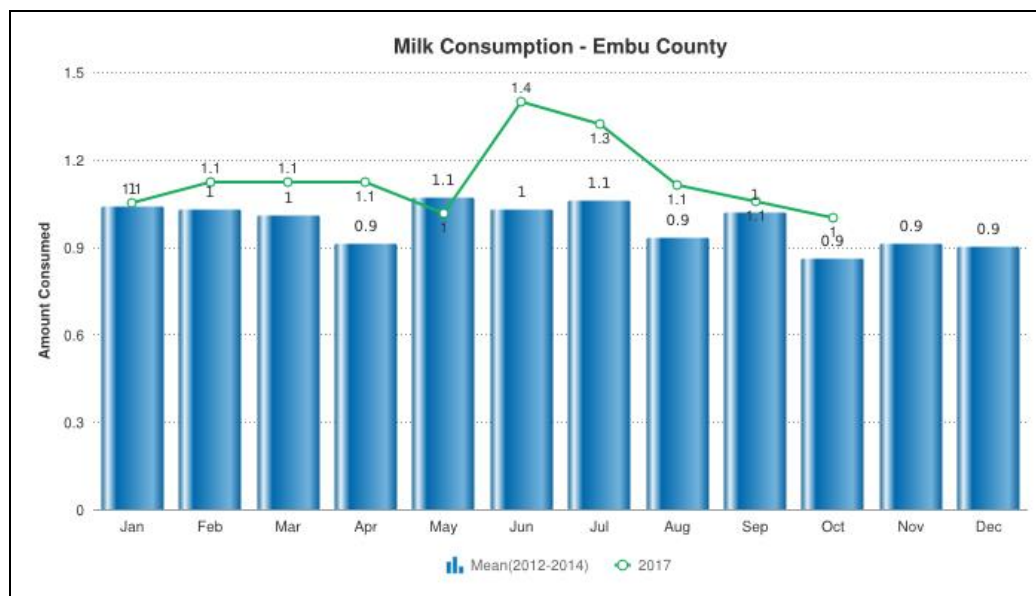


Figure 15: Milk Consumption in Mbeere North and South sub counties, Embu County

- The average daily household milk consumption decreased slightly from 1.1 litres per household per day recorded the previous month to 1.0 litre 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 show an upward trend in the next three months due to expected increase in milk production during the short rains season.

5.2 Health and Nutrition Status

5.2.1 Nutrition Status of Children Under Five Years of Age



Figure 16: Children at Risk of Malnutrition in Mbeere Sub Counties, Embu County [n=612]

- 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 1.9 percent from 7.1 % recorded in the previous month to 9.0% 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 less than five years of age in households.
- The proportion of children at risk of malnutrition in the month under review was 16 percent lower than the long term mean in the region at this particular time.

5.2.2 Health

- Cases of cholera outbreak were reported in the two sub counties in the month under review. The cases were reported in the urban centres within the sub counties
- The early reports from the county department of health indicated that the outbreak was associated with contamination of ground water sources during the onset of the short rains season

5.3 Food Consumption Score

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

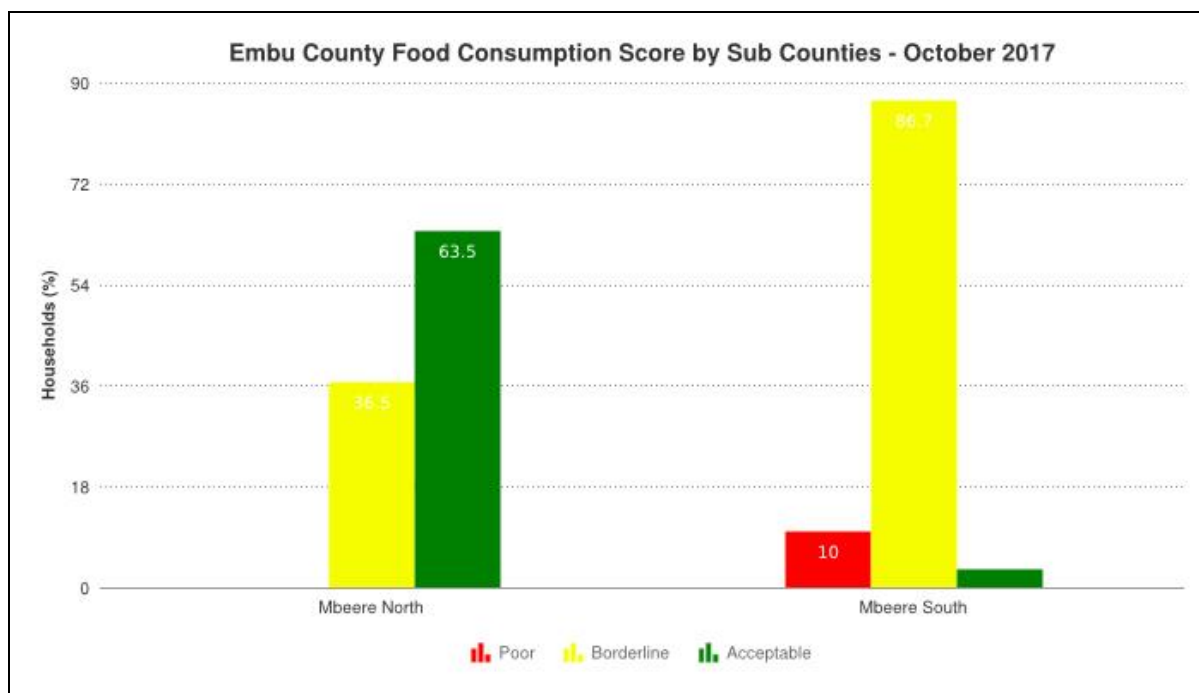


Figure 17: FCS for Sampled Households in Mbeere North and South sub counties, Embu County [n=120 hh]

- Out 120 sampled households across the two livelihood zones, 54.9 percent of the households were classified under the borderline food consumption category, 41.5 percent of the households were classified under acceptable food consumption while only 3.6 percent of the households were classified under poor food consumption category.
- Households classified in the acceptable category reduced by 46.7 percent while those that were classified under borderline category increased by 43.1 percent when compared to the proportions recorded last month
- The negative and positive change was occasioned by the continued lack of food stocks at the household level.

5.4 Coping Strategy Index

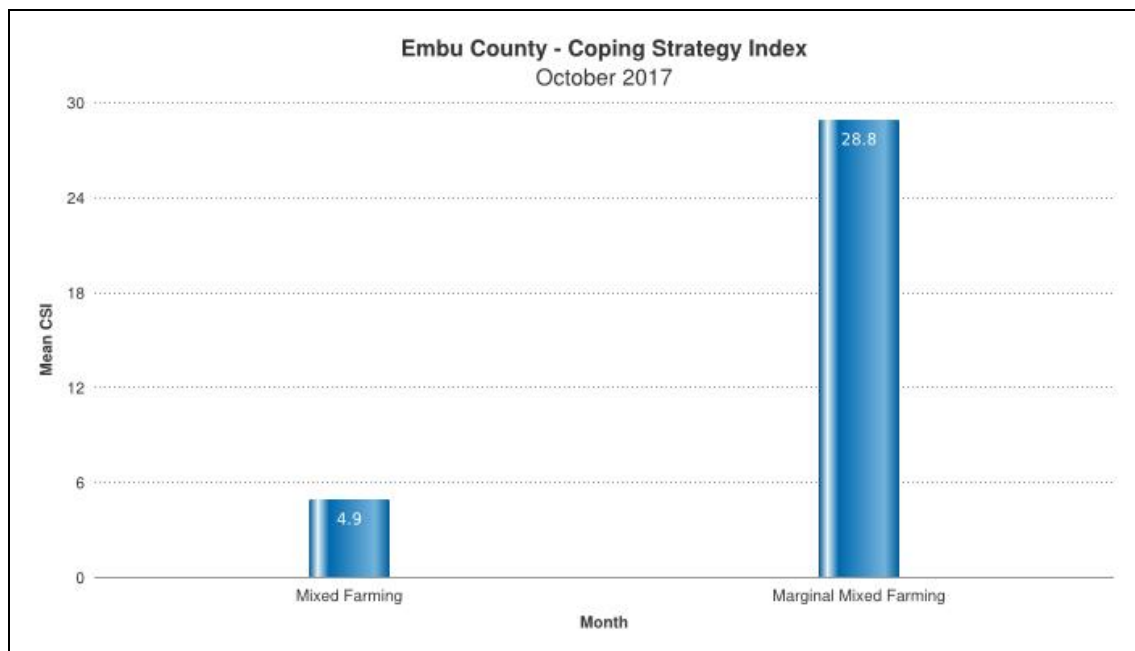


Figure 18: CS Index for Sampled Households in Mbeere Sub Counties, Embu County [n=120]

- The mean Coping Strategies Index increased by 35 percent from 13.23 recorded the previous month to 17.8 in the month under review.
- Mixed farming livelihood zone recorded coping strategy index 4.9 while the marginal mixed farming livelihood zone recorded a high coping strategy index of 28.8.
- This implies that households in marginal mixed farming zone continued to face 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

- Terms of Trade decreased significantly for the livestock keepers in the month occasioned by low prices of livestock and increased maize prices. This further reduced the purchasing power of livestock keepers
- Casual labour was readily available at this time of the year as land preparation for short rains planting was ongoing therefore income from casual labour enhanced the purchasing power of households that relied of this source of income
- The pasture and browse condition remained poor to fair across both livelihood zones with the marginal farming livelihood zone being more affected. This is affected the animal body condition negatively and consequently reduced milk production and lowered market prices
- The households across the livelihood zones continued to employ high coping strategies due to severe food shortage. The Marginal Mixed farming recorded highest coping strategy index occasioned by depleted household stocks

6.0 CURRENT INTERVENTION MEASURES

6.1. Non-Food Interventions

6.1.1. Livestock Sector

- Promotion of good animal husbandry in both sub counties
- 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
Implementer: County Department of Health Services and NDMA (Monitoring)

6.1.3: Agriculture Sector

- Normal Extension services
- Provision of planting seeds
Implementer: County Department of Agriculture

6.2. Food Interventions

- Provision of food to primary schools in Mbeere south to support school feeding program
Implementer: National Government.

7.0 EMERGING ISSUES

7.1 Migration and Conflicts

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

7.2 Food Security Prognosis (Three months)

- Most households in both the marginal mixed farming and mixed farming zones will continue facing food shortages occasioned by the depletion of household stocks though the availability of casual labour may raise purchasing power of households who depend on markets for food needs.
- Early planted beans and cowpeas will bring reprieve to the households in terms of vegetables after one month which will impact on health and nutrition.
- With the onset of short rain season in the month of October, regeneration of pasture and browse is expected within short period and refilling of the ground water sources which will impact positively of livestock and households
- The animal body conditions are likely to start improving as the quality and quantity of pasture changes due to the short rains being experienced across both livelihood zones. This will impact on the production and market prices
- The nutritional status of the children under five will likely remain above normal in the next 3 months occasioned by the lack of household stocks and high market prices of food commodities.

8.0 RECOMMENDATIONS

8.1 Livestock Sector

- Promotion of fodder conservation during the short rains season
- Livestock diseases surveillance
- Deworming and vaccination against expected outbreak of diseases during wet season
- Sensitization on restocking during the short rains season
- Promotion of goat rearing, bee-keeping and local chicken.

8.2 Water and Sanitation Sector

- Rehabilitation of strategic boreholes and shallow wells
- Extension of pipeline to uncovered areas across both sub counties
- Provision and installation of water harvesting structures in schools and health facilities

8.3 Health and Nutrition Sector

- Surveillance on outbreak of water borne diseases such as cholera
- Community outreaches to sensitize the community on proper feeding practices
- Sensitization on use of water treatment chemicals for households that depend on pans and rivers

8.4 Education Sector

- Monitoring of children engagement in sand harvesting
- Community sensitization on effects of Female Genital Mutilation (FGM) during the holiday season

8.5 Agriculture Sector

- Promotion of proper land preparation and planting practices
- Distribution of traditional high value seed
- Promotion of small-scale irrigation on high value crops for areas that receive minimal rainfall in order contribute to household incomes and diversify household diet.