

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



A Vision 2030 Flagship Project



NOVEMBER EARLY WARNING PHASE

Drought Status: **NORMAL**

Shughuli za kawaida

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Normal	Stable
Marginal Mixed Farming (MMF)	Normal	Stable
County	Normal	Stable
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	35 %	80% -120%
VCI-3Month	55.81	30-50
Forage condition	Fair/good	Good
Production Indicators	Value	Normal
Crop Condition (Maize)	Fair to Good	Good
Livestock Body Condition	Fair to good	Good
Milk Production	1.4 litre	>1 Litre
Livestock Migration Pattern	No migration	No migration
Livestock deaths	No death	No death
Access Indicators	Value	Normal
Terms of Trade	88.1	88.9
Milk Consumption	1.2	>1 litres
Average Water Distance for Households (Km)	5.5	2 Km
Average Grazing-Water point Distance (Km)	6.9	2.4 km
Utilization Indicators	Value	Normal
% of under-five children at risk (MUAC)	7.6	8.3
Coping Strategy Index (CSI)	16.7	<10

Drought Situation & EW Phase Classification

Biophysical Indicators

- **Rainfall:** 10.08 mm of rainfall was received in the region in the month of December as compared to 28.86 mm normal long term average.
- **Vegetation Condition:** The vegetation condition was in above normal for both Mbeere North and Mbeere South. The pasture and browse condition was good in both livelihood zones.

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** rain-fed crops were in flowering, podding and tussling stages of crop development in both sub counties. Livestock body condition ranged from fair to good in the month. There were no cases of migration, diseases or mortalities reported. The milk production slightly increased as compared to the previous month.
- **Access indicators:** Average distance to water sources from grazing fields for livestock decreased from 8.1 km recorded in the previous month to 6.9 km, while average distance to water sources for households increased from 5.3 km recorded in the previous month to 5.5 km. The Terms of Trade increased significantly from 82.5 in November to 88.1 in the month of December.
- **Utilization Indicators:** Milk consumption increased slightly from 1.2 recorded in the previous month to 1.4. The proportion of children under 5 years who were at the risk of malnutrition decreased slightly from 7.8% recorded in November to 7.6% in the month under review. The Coping strategy index remained stable as compared to the previous month at 16.7.

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

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- Rains were received in the first and second dekads of the month.
- The temporal distribution of the rainfall recorded was poor across both livelihood zones

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

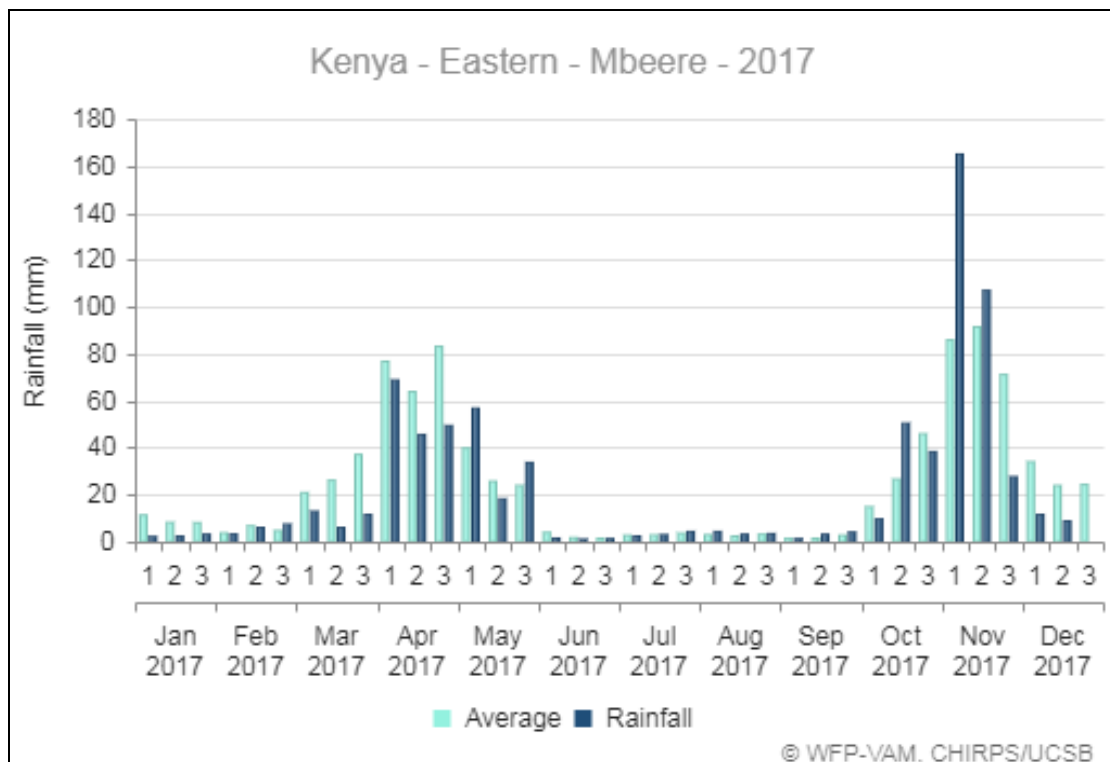


Figure 1: Average amount of rainfall recorded in Mbeere North and South sub counties, Embu County

- The two sub counties received an average amount of 10.08 mm of rainfall compared to long term average amount of 28.86 mm for the 1st and 2nd dekads of December.
- The amount recorded in the month under review was below normal during the first two dekads of the month.
- These rains were erratic and poorly distributed across the two livelihood zones in the two sub-counties.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The vegetation condition for Mbeere region was above normal at this time of the year.
- The average 3-month Vegetation Condition Index (VCI) for the two sub counties increased from 50.04 in November to 55.81 in the month of December.
- The vegetation condition for Mbeere North remained above normal greenness while that of Mbeere South improved from normal vegetation greenness to above normal vegetation greenness category in the month of December as per Vegetation Condition Index.
- Mbeere South Sub County recorded a higher 3-month Vegetation Condition Index of 57.07 as compared to Mbeere South Sub County with Index of 54.56

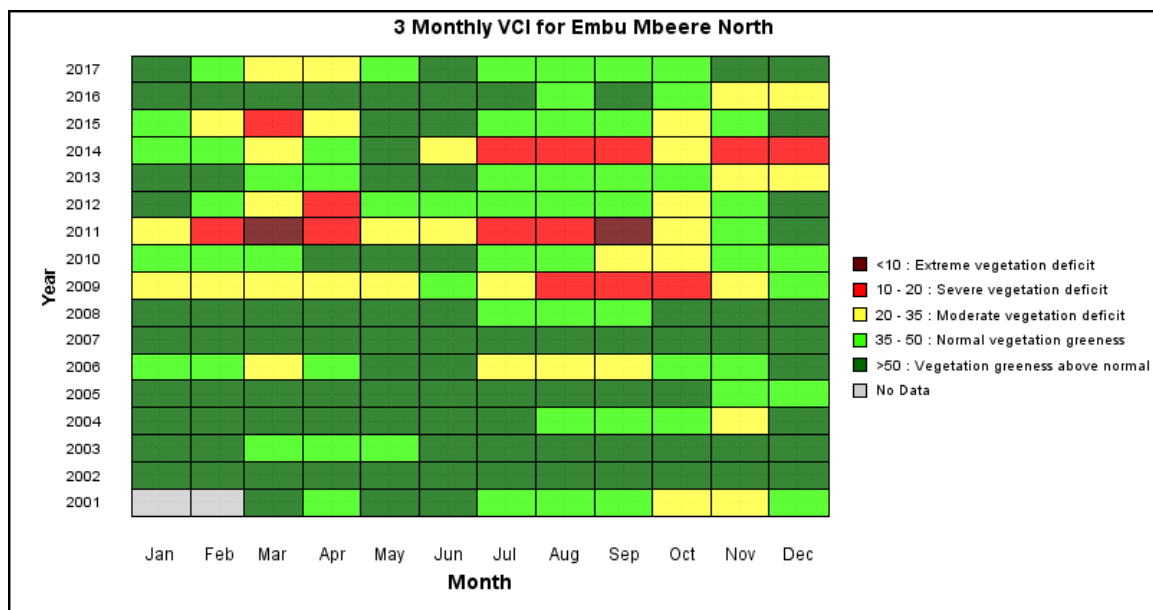


Figure 2a: 3-month Vegetation Condition Index for Mbeere North [Source: Bokku University -Austria]

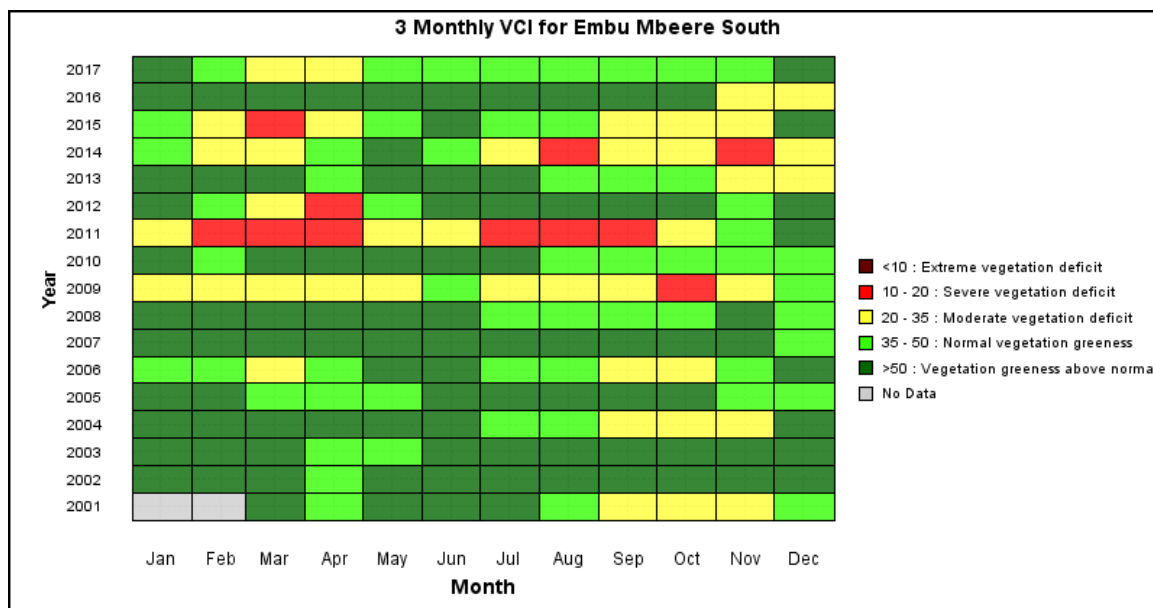


Figure 2b: 3-month Vegetation Condition Index for Mbeere South [Source: Bokku University -Austria]

2.1.2 Pasture Condition

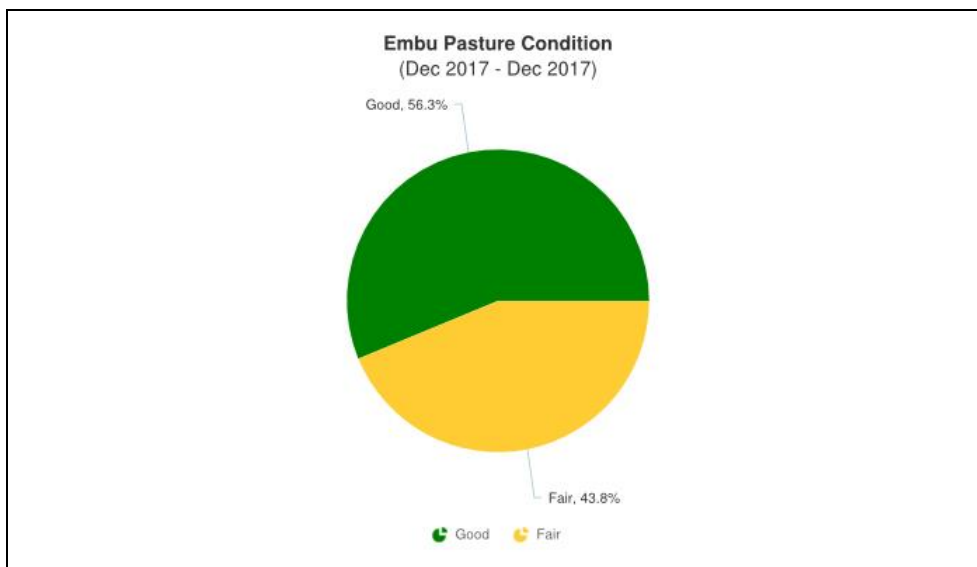


Figure 3a: Pasture Condition for Mbeere North and South sub counties, Embu County

- The pasture condition across the two sub-counties improved further during the month from in both Mbeere North and Mbeere South.
- The Marginal Mixed Farming livelihood zones recorded good pasture conditions while that for Mixed Farming livelihood zones ranged from fair to good
- The improvement is due to regeneration occasioned by the impact of the short rains.
- The pasture condition was normal in the month under review at this time of the year

2.1.3 Browse Condition

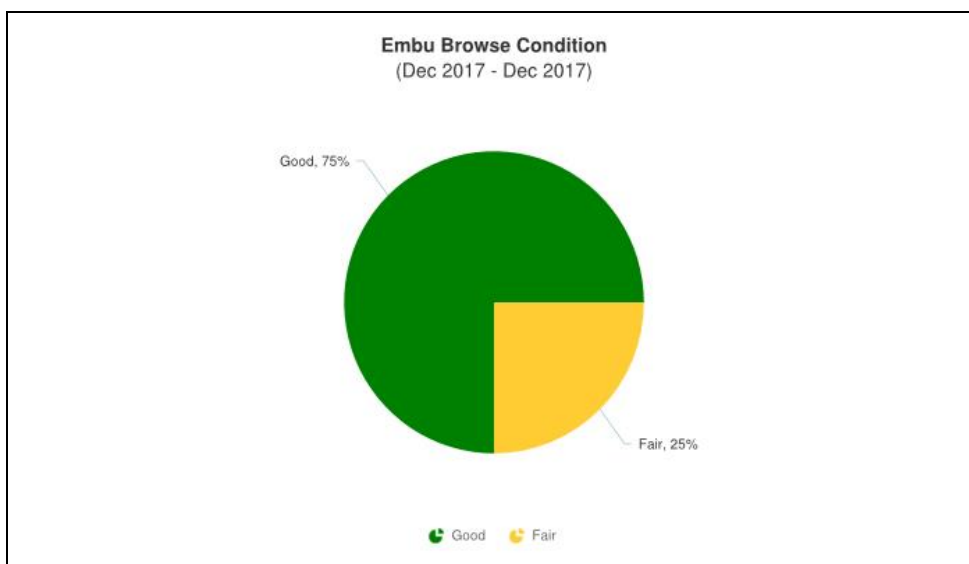


Figure 3b: Browse Condition for Mbeere North and South sub counties, Embu County

- The browse condition ranged from fair to good across both livelihood zones in the month under review.
- The browse condition was good in Marginal Mixed Farming livelihood zones and ranged from fair to good in Mixed Farming livelihood zones across the two sub-counties in the month
- The improvement is occasioned by regeneration owing to the short rains.
- The available browse is expected to last for the next three months.

2.2 WATER RESOURCE

2.2.1 Water Sources

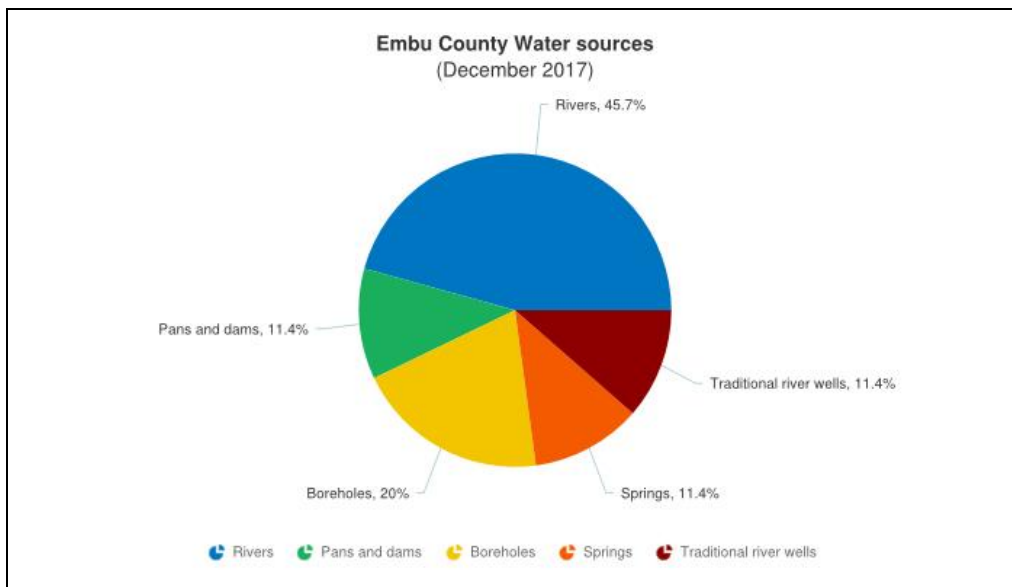


Figure 4: Water Sources for Mbeere North and South sub counties, Embu County

- The main three water sources in the month under review for both livestock and domestic use across the two livelihood zones were; rivers at 45.7%, boreholes at 20%, and pans/dams at 11.4%; springs and traditional wells were also used at 11.4% respectively.
- The quality of water was good, with exception of water from open ground sources which remained poor occasioned by the surface runoff due to ongoing short rains.
- The waiting time for boreholes and pipeline ranged between 5-10 minutes occasioned by household rainfall water harvesting and multiple water sources.
- Small proportion of sampled households affirmed usage of water treatment chemicals for drinking water.

2.2.2 Household Water Access and Utilization

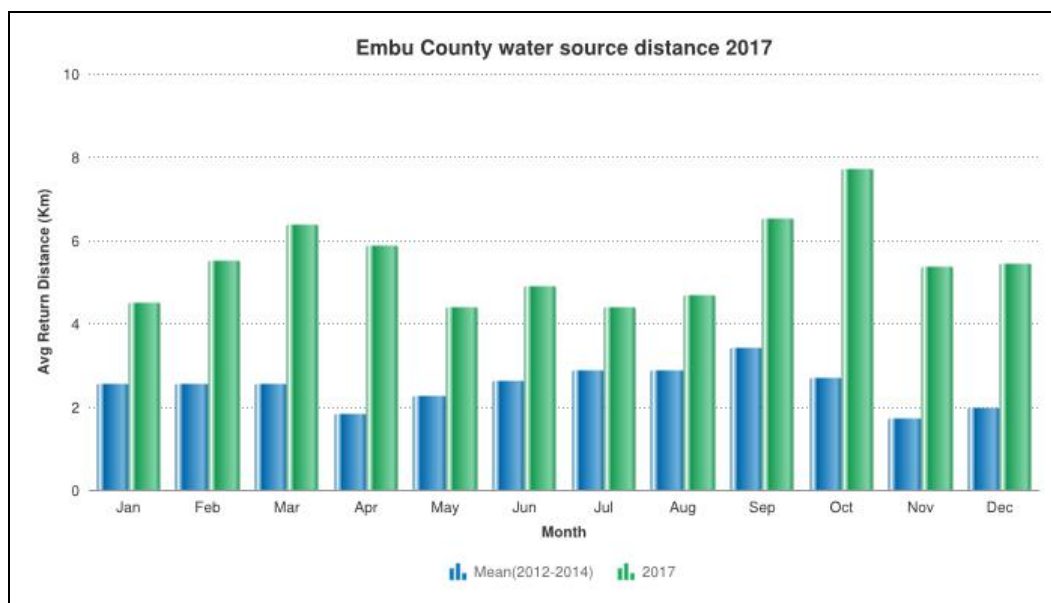


Figure 5: Water Access for Households in Mbeere North and South sub counties, Embu County

- The average distances from the households to water sources slightly increased in December from 5.3 km recorded previous month to 5.5 km in the month under review.
- The increase was occasioned by little or no rains received during the month hence no water harvesting at household level and low recharge of near water sources.
- Households in the MMF Livelihood Zone trekked for average distance of 3 km compared to those in MF Livelihood Zone at 5 km in search for water.
- The trend is considered normal and within the expected range in the region at this particular time of the year.

2.2.3 Livestock access to water from grazing areas

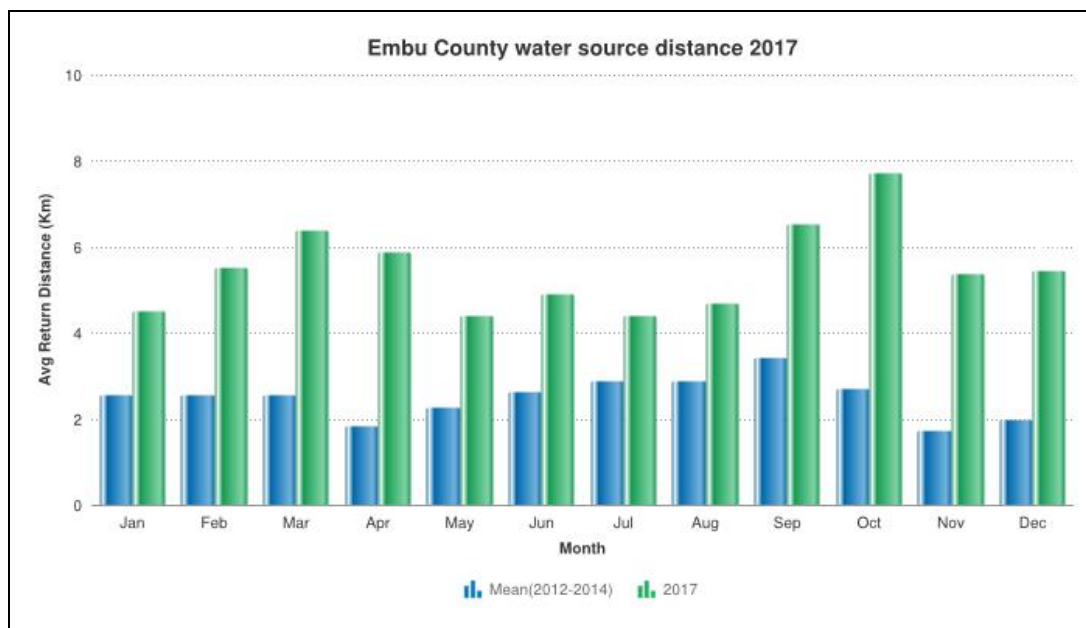


Figure 6: Water Access for Livestock in Mbeere North and South sub counties, Embu County

- The average distances to water sources from grazing areas decreased in December by 14 percent from 8 km recorded previous month to 6.9 km in the month under review
- The decrease is attributed to regeneration of pasture nearer to watering points hence livestock for shorter average distances in search of water.
- Livestock keepers across both livelihood zones were watering their animals daily.
- This trend is considered normal and within the expected range in the region at this particular time of the year. However, the distances are expected to increase with the cessation 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 good across the two livelihood zones in the month under review.
- The body condition for small stock (sheep and goats) was good in both livelihood zones while that of cattle was good in most areas of the mixed farming zone but remained fair in some areas of the marginal mixed farming zone due to poor pasture condition occasioned by below normal regeneration
- The average livestock body condition was normal at this time of the year.

3.1.2 Livestock Diseases

- Cases of Foot and Mouth Disease (FMD) were reported in the areas of the marginal mixed farming livelihood zone (parts of Siakago, Mchonoke, Kerie, Riando and parts of Thawa ward) the period under review
- The county government imposed a quarantine to curb spread of the disease
- Surveillance measures by the county department of livestock production continued in the month under review

3.1.3 Milk Production

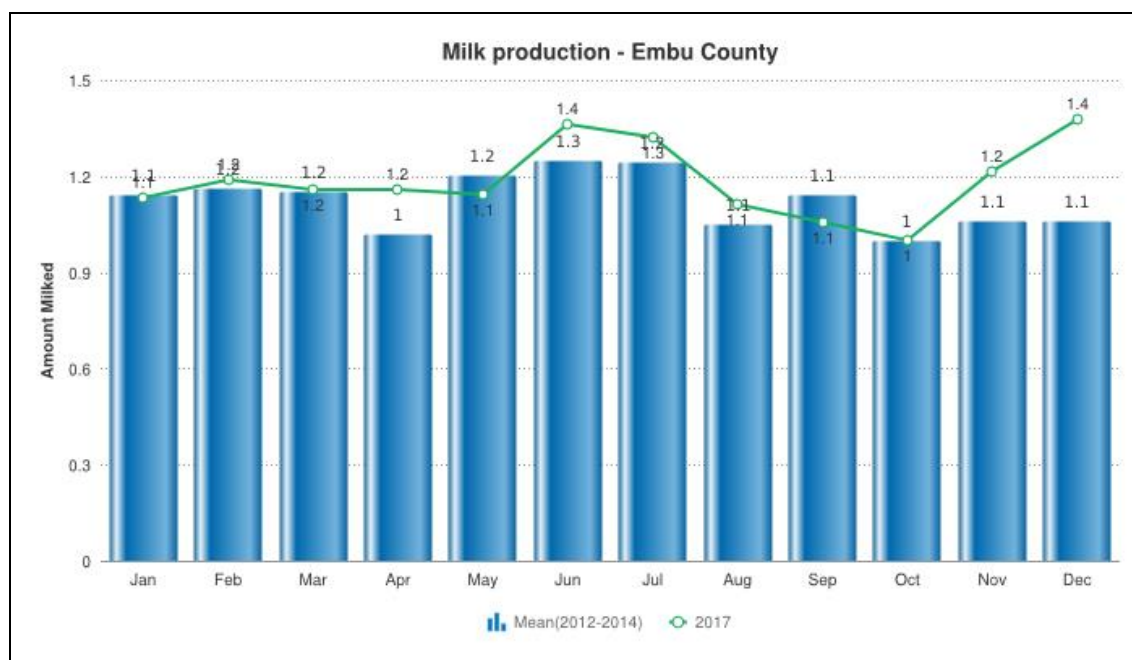


Figure 7: Milk Production in Mbeere North and South sub counties, Embu County

- The average daily household milk production per household across the two livelihood zones increased slightly from 1.2 recorded in November to 1.4 litres in the reporting month
- The increase was associated with reduced distances to water sources and availability of pasture.
- Households in MF livelihood zone produced an average of 2 litres of milk per day while those in the MMF livelihood zone produced 1 litre of milk per day.
- The variation of milk production across the livelihood zones was occasioned by the pasture and browse availability and differentiation in breed.

3.2 Rain-Fed Crop Production

3.2.1 Stage and Condition of food Crops

- Maize, beans, millet, sorghum, cow peas, green grams were reported to be in tussling, flowering and podding stages of crop production respectively. Harvesting of beans was ongoing in parts of the mixed farming zone in Kanyumbora and Mwea.
- Crops in parts of marginal mixed farming of Kamarandi and Kiambere wards were already experiencing acute moisture stress at the maturity stage
- The crops conditions ranged from fair to good across the two sub counties, however infestation of fall armyworms (FAW) on maize may negatively affect expected production.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

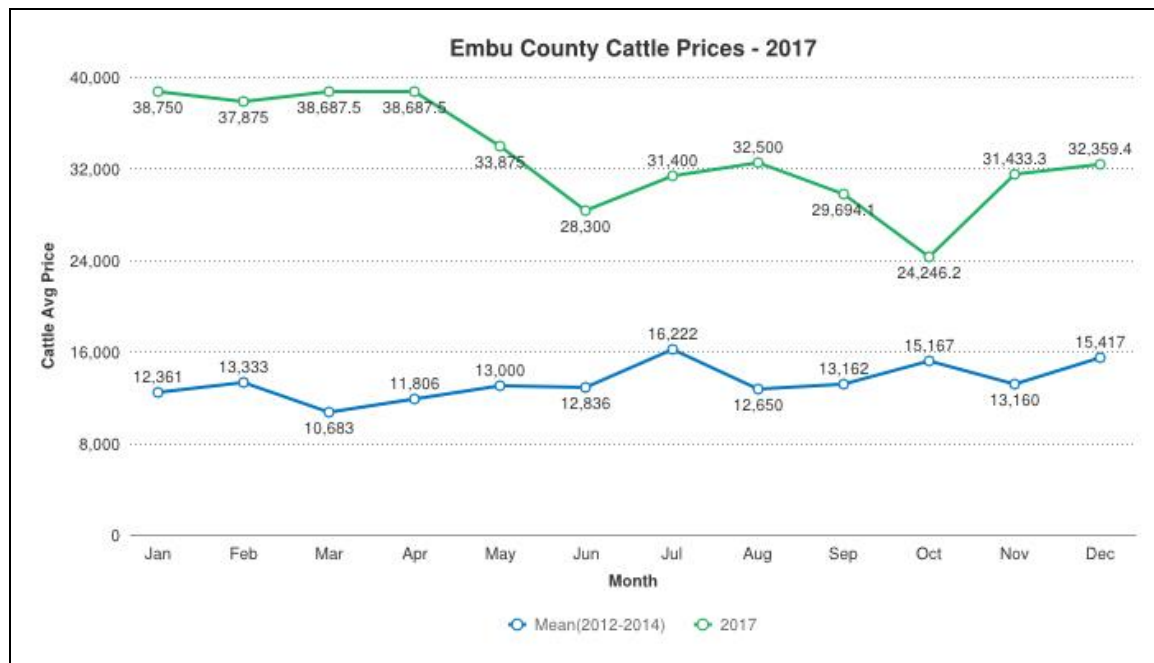


Figure 8: Market Cattle Prices in Mbeere North and South sub counties, Embu County

- The market price of a medium sized bull (3 year) remained relatively stable at KES 32,359 in the month under review as compared to KES 31,433 recorded in the month of November.
- The stability in market price was due to current good body condition and low supply as farmers preferred to sell in January in order to cover school fees expenses.
- 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 32,138 and KES 28,650 respectively.
- The price recorded during the month under review was significantly higher than the long term average price

4.1.2 Goats Prices

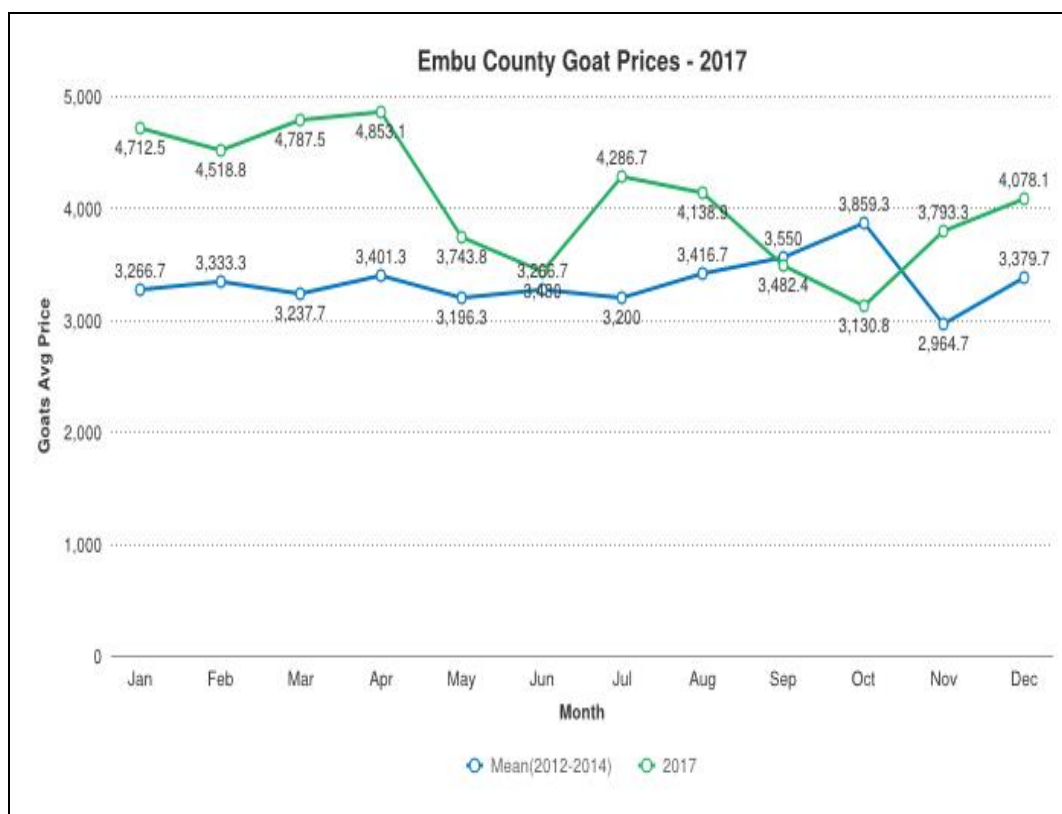


Figure 9: Average Goat Prices in Mbeere North and South sub counties, Embu County

- The average market price for a medium sized goat across the two livelihood zones increased by 7.5 percent in the current month from KES 3,793 recorded in the month of November to KES 4,078 in the month under review.
- The increase in average market price for goats was occasioned by improved body condition and high demand during the Christmas and new year festivities.
- Makutano livestock market in MF zone recorded the highest average price of KES 4,500 while Ishiara and Kiritiri livestock markets both in MMF zone recorded average price of KES 4,312 and KES 3,188 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 21 percent higher than the long term mean price.

4.2 FOOD PRICES

4.2.1 Maize Prices

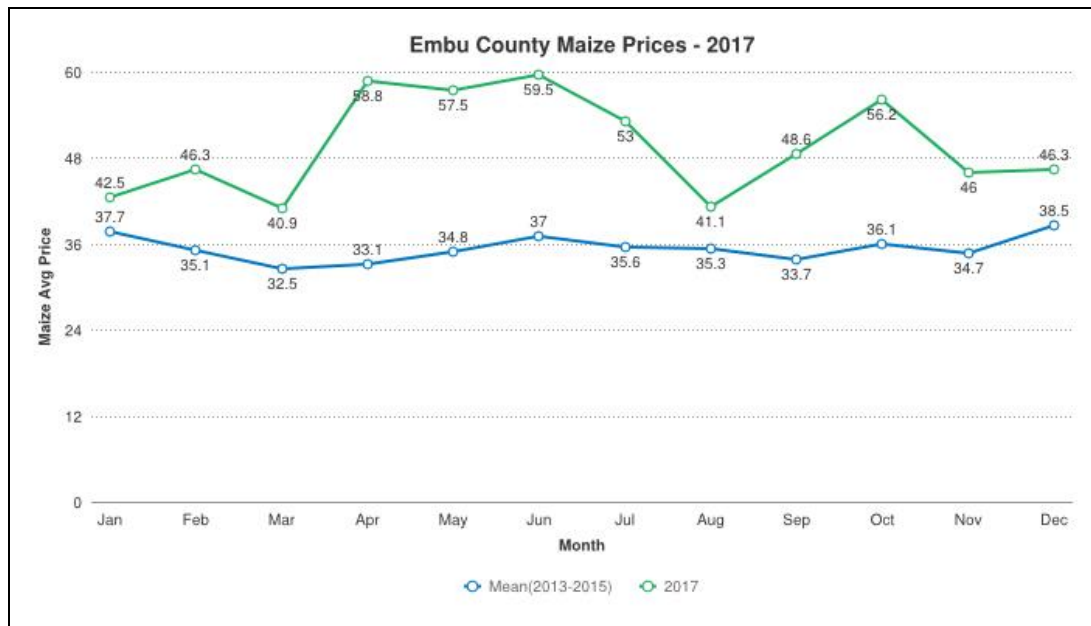


Figure 10: Average Maize Price in Mbeere North and South sub counties, Embu County

- The average market price for maize remained stable as compared to the previous month at KES 46.3 per kilogram across the two livelihood zones.
- Across the major markets, one kilogram of maize was retailing at KES 52 in Ishiara cereal market, KES 45 at Makutano and KES 35 in Kiritiri cereal markets respectively.
- The average maize price recorded in the current month was 20 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' slightly decreased from KES 55 per kilogram recorded the previous month to KES 52 during the month under review across the two livelihood zones
- The decrease was attributed to relatively lower average price of sifted maize flour coupled with the start of short rains crop harvest
- The marginal mixed farming zone recorded high average price for 'posho' at KES. 60 as compared to the mixed farming zone that recorded an average 'posho' price of 45

4.2.3 Beans Prices

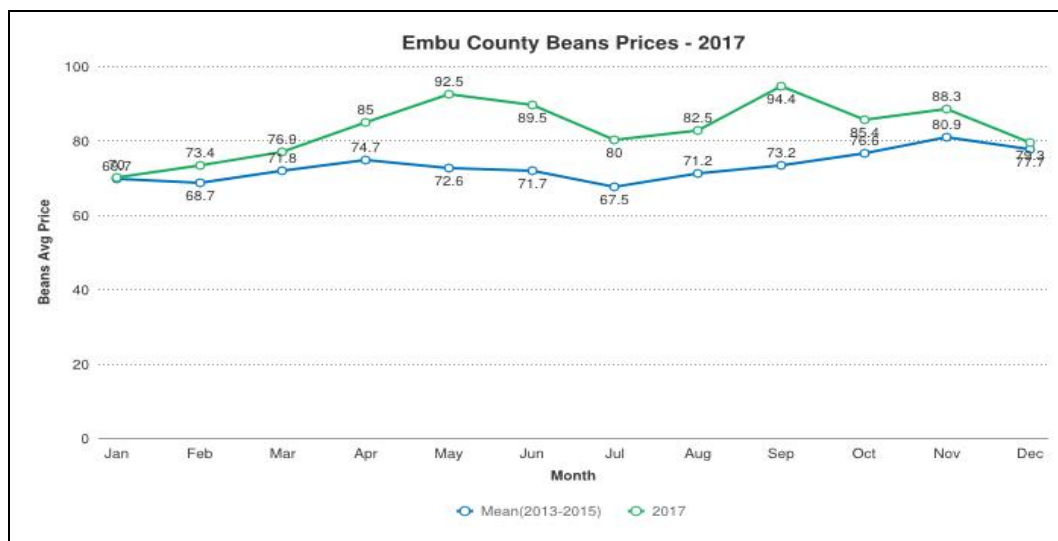


Figure 11: Average Beans Price in Mbeere North and South sub counties, Embu County

- The average market price for beans decreased by 10 percent from KES 88 per kilogram recorded in previous month to KES 79 recorded in the reporting month.
- The decrease is attributed to early short rains harvest which households depended on during the month thereby low demand at the markets led to price decline.
- One kilogram of beans retailed at KES 100 in Makutano cereal market, KES 75 in Kiritiri cereals market, and KES 74 in Ishiara cereal market.
- The current average price per kilogram was 2 percent higher than the long term mean price.

4.2.4 Green Grams Prices

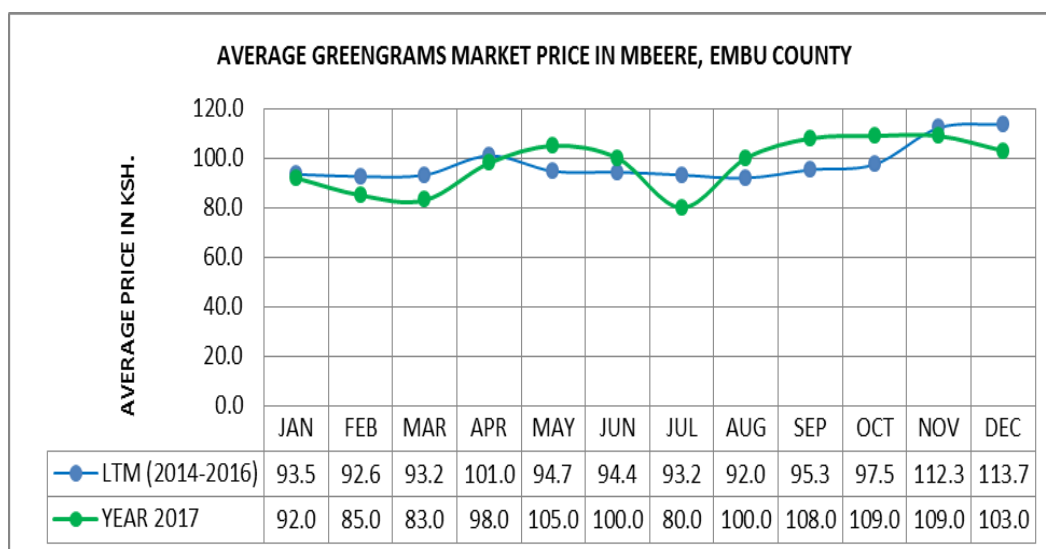


Figure 12: Average Price per kilogram of Green Grams in Mbeere North and South sub counties

- The average price per of green grams decreased from KES 109 per kilogram recorded in the month of November to KES 103 per kilogram in month under review across the two livelihood zones.
- The decrease was attributed to early short rains harvest of green grams especially in Mwea ward, in the marginal mixed farming zone.
- The current average price was 11 percent above the long term mean price of green grams at this time of the year.

4.3 Household Income

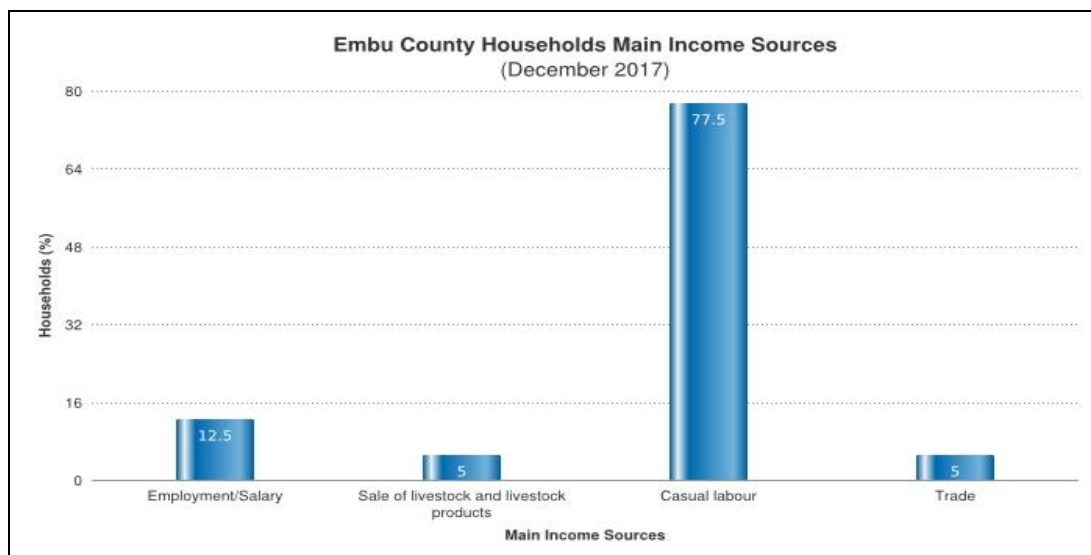


Figure 13: Main Incomes sources for households in Mbeere North and South sub counties, Embu County

- Households in the region continued to draw income from casual labour, formal employment, trade, sale of livestock and livestock products during the month under review
- The proportion of households that depended on casual labour slightly increased during the month under review due to increased agricultural activity related to weeding and harvesting thereby improving the purchasing power of households for food needs
- The main sources of income for households remained normal at this time of the year.

4.4 Terms of Trade (ToT)

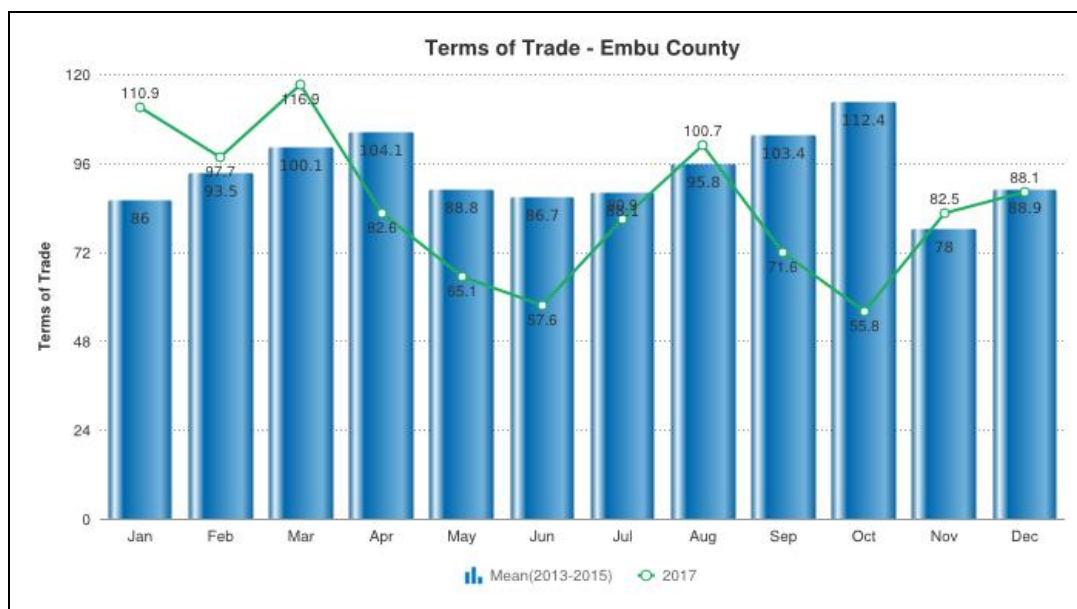


Figure 14: Terms of Trade in Mbeere North and South Sub Counties, Embu County

- The Terms of Trade (goat versus maize) increased further across the two livelihood zones by 6 percent from 83 kilograms of maize for sale of one goat in the month of November to 88 kilograms of maize for sale of one goat in the month under review.
- The increase of terms of trade was due to the increase of average goat price while the average maize price remained relatively stable during the month
- The increasing trend was normal and within the expected range in the area at this particular time of the year.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

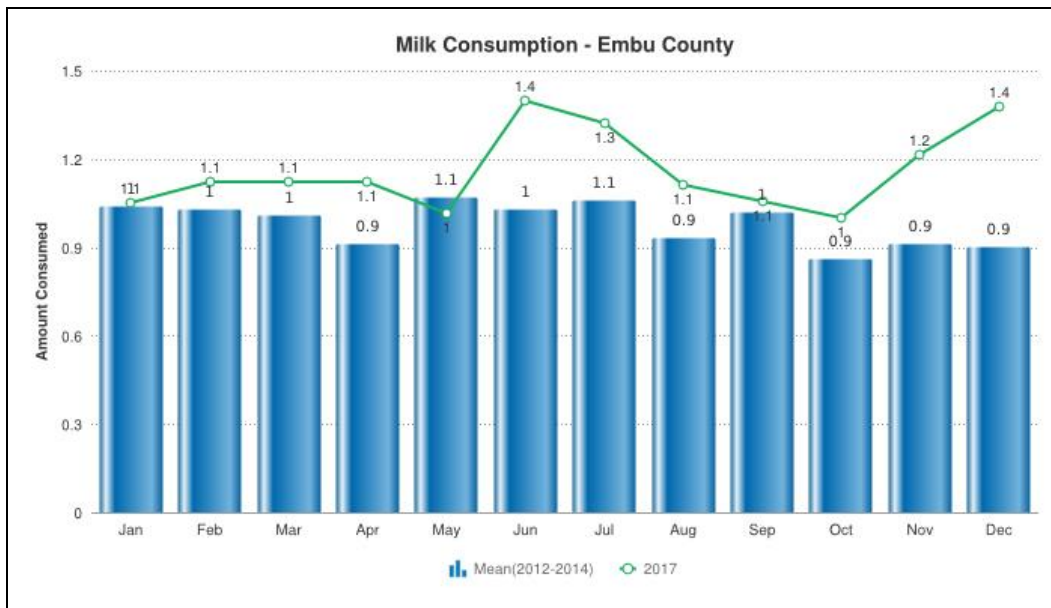


Figure 15: Milk Consumption in Mbeere North and South sub counties, Embu County

- The average daily household milk consumption increased slightly as compared to the previous month from 1.2 litres to 1.4 litres per household per day in the month under review across the two livelihood zones.
- The increase was attributed to improved milk production due to availability of pasture and browse.
- The mixed farming zone produced 2.5 litres per household per day as compared to 1.4 litres per household per day recorded in the marginal mixed farming zone.
- The differentiation in milk production by livelihood zone was attributed to animal husbandry practices and type of breed.

5.2 Health and Nutrition Status

5.2.1 Nutrition Status of Children

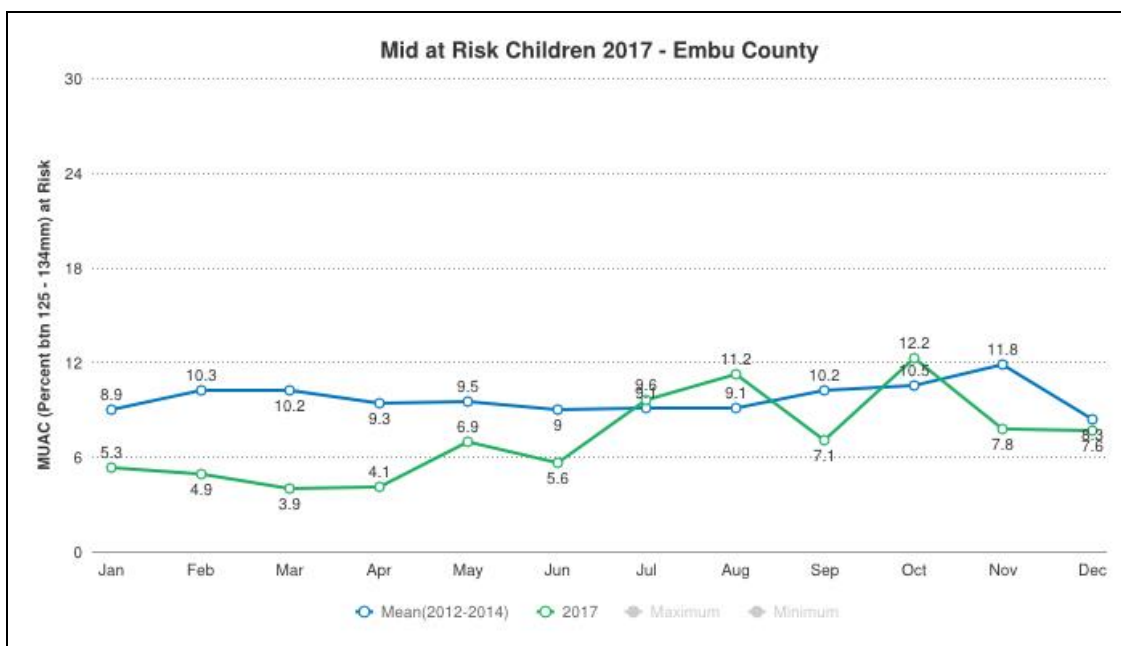


Figure 16: Children at Risk of Malnutrition in Mbeere Sub Counties, Embu County [n=616]

- The proportion of children who were at risk of malnutrition during the month under review slightly reduced from 7.8 percent recorded in the month of November to 7.6 percent of all the sampled children in the month under review.
- The decrease can be attributed to improved household purchasing power, availability of food in the markets, increased milk production and consumption and the early harvest of short rains crops.
- The ongoing screening of children under five years in selected health facilities and in the community for admission into the supplementation program led to early detection
- The proportion of children at risk of malnutrition in the month under review was 0.7 percent lower than the long term mean in the region at this time of the year.

5.2.2 Health

- No new cases of cholera were reported in Mbeere region during the month under review.
- The county department of Health continued with contact tracing, surveillance and community sensitization on hygiene and control of cholera spread.

5.3 Food Consumption Score

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

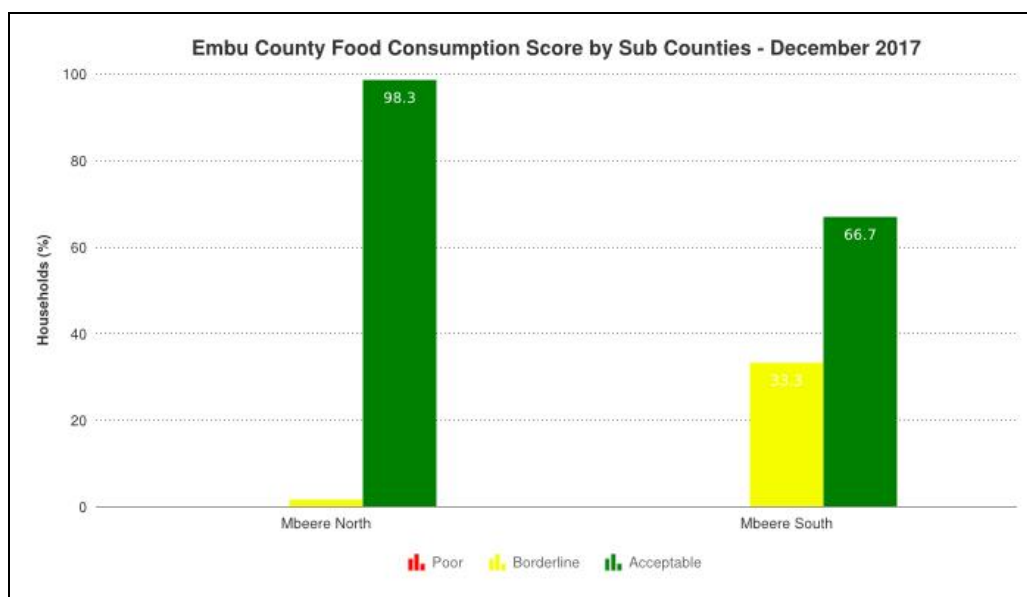


Figure 17: FCS for Sampled Households in Mbeere North and South sub counties, [n=120 hh]

- 17.5 percent of the sampled households across the two livelihood zones were classified in the borderline food consumption category while 82.5 percent of the households were classified in acceptable food consumption.
- Majority of household across both livelihood zones were on acceptable category indicating that households consumed diversified meals during the month under review.
- The diversification was due to improved households' purchasing power coupled with production from livestock and farming.

5.4 Coping Strategy Index

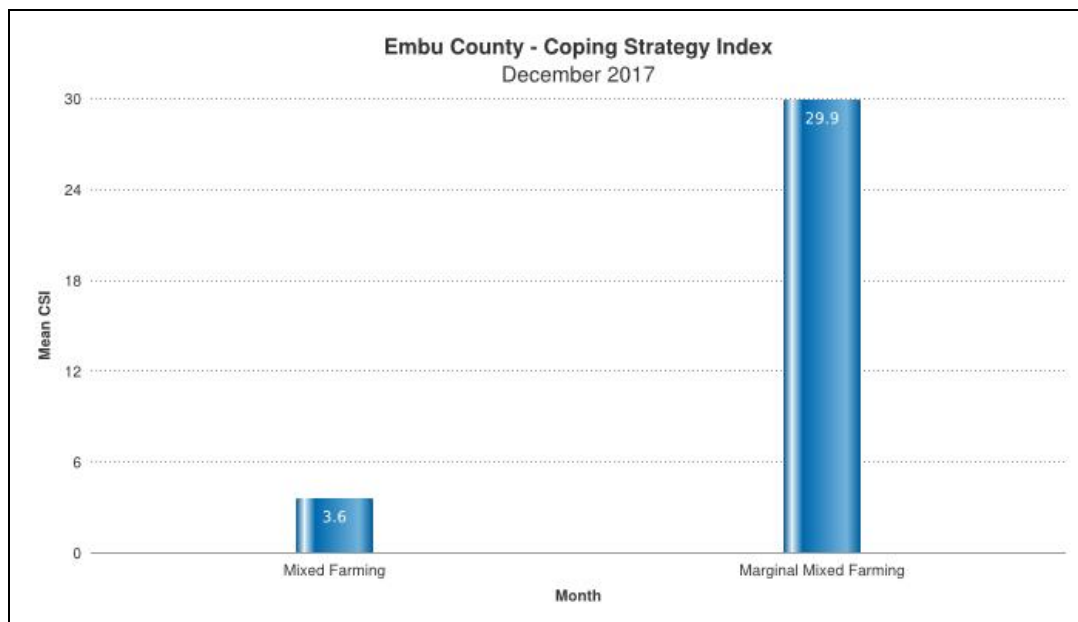


Figure 18: CS Index for Sampled Households in Mbeere Sub Counties, Embu County [n=120]

- The mean Coping Strategies Index remained stable as compared to the previous month at 16.7 compared to 16.6 recorded the previous month.
- Mixed farming livelihood zone recorded coping strategy index 3.6 while the marginal mixed farming livelihood zone recorded a high coping strategy index of 29.9
- This implied that households in marginal mixed farming zone continued to face more food shortage and therefore engaged in severe coping strategies as compared to those in mixed farming zone in the month under review.
- Some of the strategies adopted by households included skipping meals the entire day for adults and reduction in size and number of the meals

5.4.1 Implication of the above Indicators to Food Security

- Terms of Trade marginally improved during the month of December further improving the purchasing of livestock keepers
- The pasture and browse condition remained good in both sub counties during the month thereby leading to improved milk production and high market prices.
- The distance to water sources for both livestock and household remained stable as compared to the previous month due to the high recharge levels from the short rains season. The households therefore got enough time to engage in other income generating activities
- The marginal mixed farming zone continued to engage in severe coping strategies due to lack of food at household levels

6.0 CURRENT INTERVENTION MEASURES

6.1. Non-Food Interventions

6.1.1. Livestock Sector

- Promotion of good animal husbandry practices for livestock keepers in both sub counties
- surveillance of outbreak of Foot and Mouth Disease (FMD)

Implementer: County Department of Livestock Production and Veterinary Services

6.1.2. Health and Nutrition Sector

- Routine screening and management of malnutrition at health facility level
- Routine Vitamin A and Zinc Supplementation and deworming at health facility level
- 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

- Sensitization and promotion of post-harvest handling practices

Implementer: County Department of Agriculture

6.2. Food Interventions

- There was no direct food intervention during the month under review

7.0 EMERGING ISSUES

7.1 Livestock and Human Diseases

- Cases of Foot and Mouth in cattle were identified in the parts of the marginal mixed farming zone. Quarantine currently imposed.
- The county remains on alert as regards to cholera outbreak and management of confirmed cases

7.2 Food Security Prognosis (Three months)

- Household stocks are expected to be replenished from the short rains harvests in the next three months and will improve food security at household level.
- Pasture and browse condition is expected remain fair to good occasioned by the regeneration from the short rains season. In addition, water for livestock will be available for the next three months due to the recharge from the just ended rain season.
- Livestock production is expected to be relatively good in the next three months occasioned by the good body conditions and availability of water and pasture.
- The proportion of children under five years at risk of malnutrition will likely remain low in the next 3 months occasioned by expected short rains harvests and reduced market food commodity prices.

8.0 RECOMMENDATIONS

8.1 Livestock Sector

- Livestock diseases surveillance (FMD in particular)
- Sensitization on strategic destocking in view of the forecasted prolonged dry spell before the long rains season in Embu County
- Sensitization on good animal husbandry practices

8.2 Water and Sanitation Sector

- Purchase and provision of water treatment chemicals especially in areas where cases of cholera have been reported
- Extension of pipeline to uncovered areas across both sub counties
- Provision and installation of water harvesting structures in health facilities and schools

8.3 Health and Nutrition Sector

- Health education, contact tracing and case management in response to 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

- Support for the home grown school meals program as the schools reopen for the new term
- Initiation of Early warning clubs in selected schools to foster children knowledge about drought and food security
- Monitoring of children engagement in sand harvesting

8.5 Agriculture Sector

- Promotion of good post-harvest handling at household level
- 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.