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

A Vision 2030 Flagship Project

KENYA VISION 2030

SEPTEMBER 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 September
- **Vegetation Condition**: The vegetation condition in Mbeere North and Mbeere South remained normal in the month of September as per Vegetation Condition Index. The pasture and browse condition ranged from poor to fair

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** Farmers across both livelihood zones have started land preparations for the short rains season planting. 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 1.1 litres per household per day in August to 1 litre per household per day in September
- **Access indicators:** Average distance to water sources for livestock increased to 7 km from 5.4 km recorded in the previous month, while average distance to water sources increased to 6 km from 4.7 km recorded in the previous month. The Terms of Trade decreased significantly in the reporting month
- **Utilization Indicators:** Milk consumption reduced slightly in the month. The proportion of children under 5 years who were at the risk of malnutrition decreased slightly to 8.7% of the total sampled children. The Coping strategy index increased by 29 percent from 9.5 in August to 13.3 in the reporting month

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Alert	Stable
Marginal Mixed Farming (MMF)	Alert	Deteriorating
COUNTY	Alert	Deteriorating
Biophysical Indicators	**Value**	**Normal**
Rainfall (% of Normal)	65%	80% -120%
VCI-3Month	41.95	30-50
Forage condition	Poor/Fair	Fair/good
Production Indicators	**Value**	**Normal**
Crop Condition (maize)	No crop	No crop
Livestock Body Condition	Fair to poor	Good
Milk Production	1	>1.3 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths	No death	No death
Access Indicators	**Value**	**Normal**
Terms of Trade	62.9	95.8
Milk Consumption	1	>1.1 litres
Average Water Distance for Households (Km)	6	3.4 Km
Average Grazing-Water point Distance (Km)	7	3.9 km
Utilization Indicators	**Value**	**Normal**
MUAC (% at risk of malnutrition)	8.7	10.2
Coping Strategy Index (CSI)	13.3	<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.
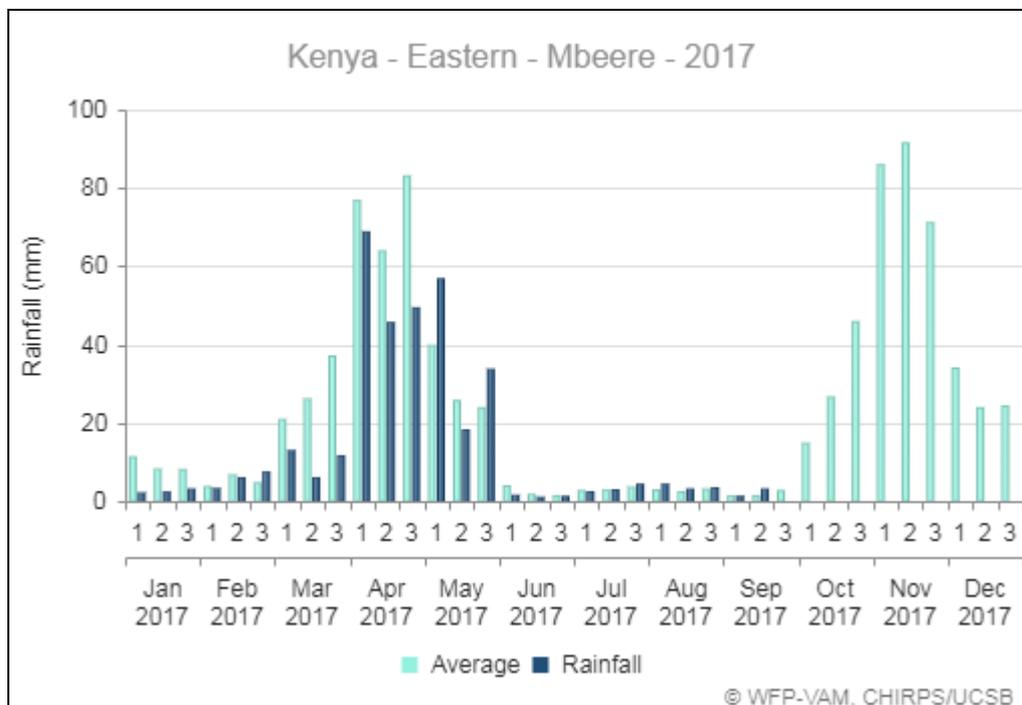
1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

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 1.3 mm of rainfall during the 1st and 2nd dekads of September as compared to the normal average of 2mm 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)

- Vegetation condition for Mbeere South and Mbeere North remained in normal greenness category during the month under review
- The average 3-month Vegetation Condition Index (VCI) for the two sub counties increased slightly from 40.97 in August to 41.95 in the month of September.
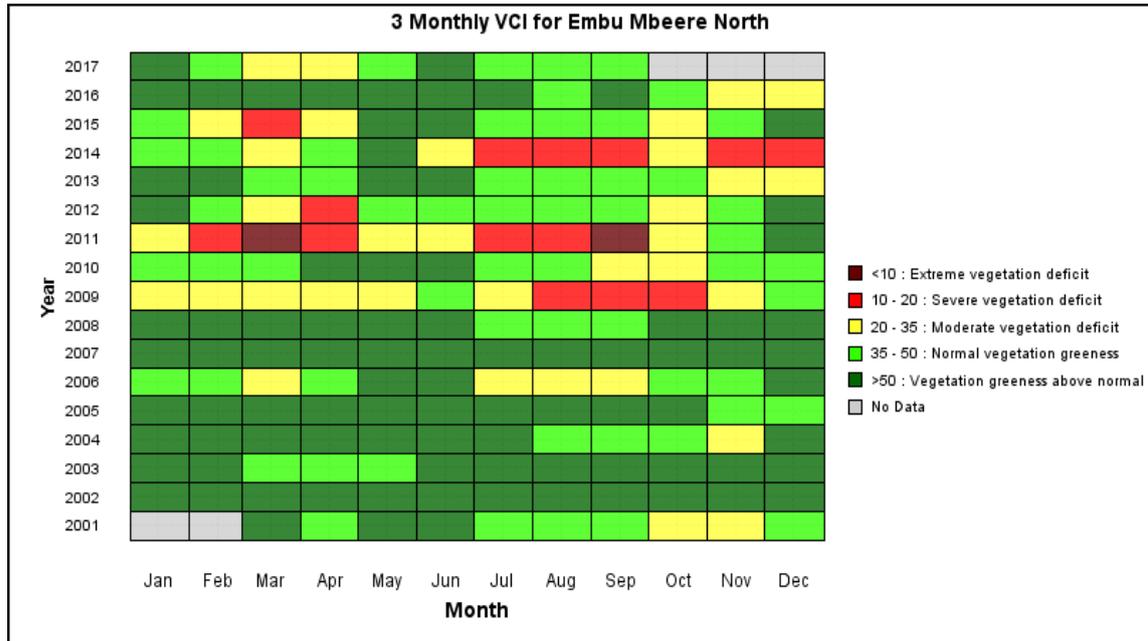- Mbeere North Sub County recorded a 3-month Vegetation Condition Index of 45.7

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 38.2
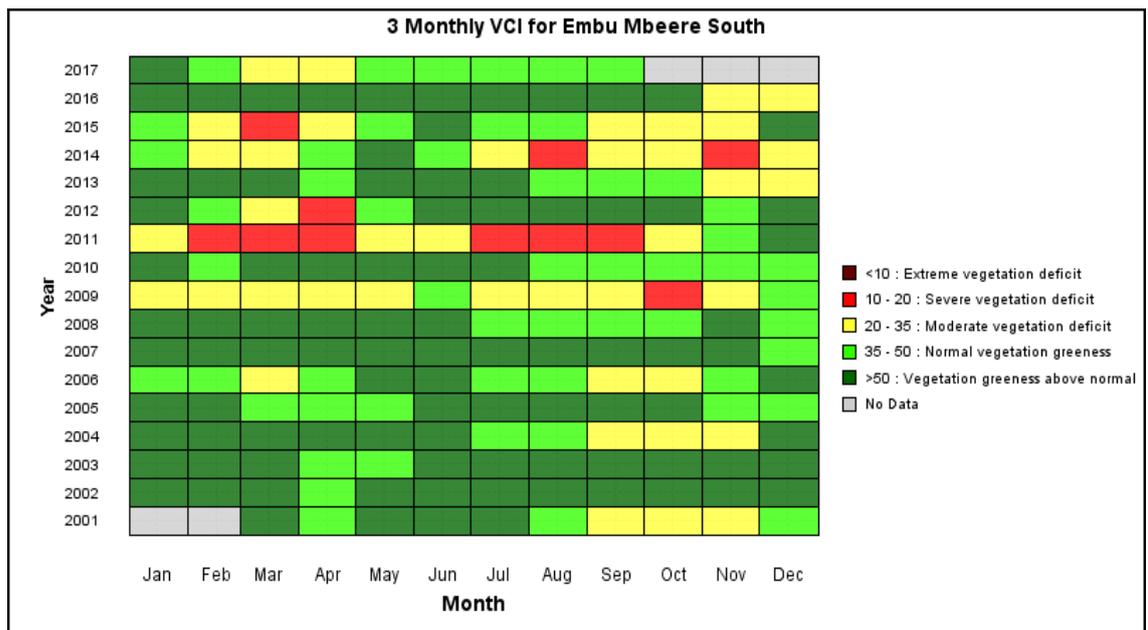

Figure 2b: 3-month Vegetation Condition Index for Mbeere South [Source: Boku University -Austria]
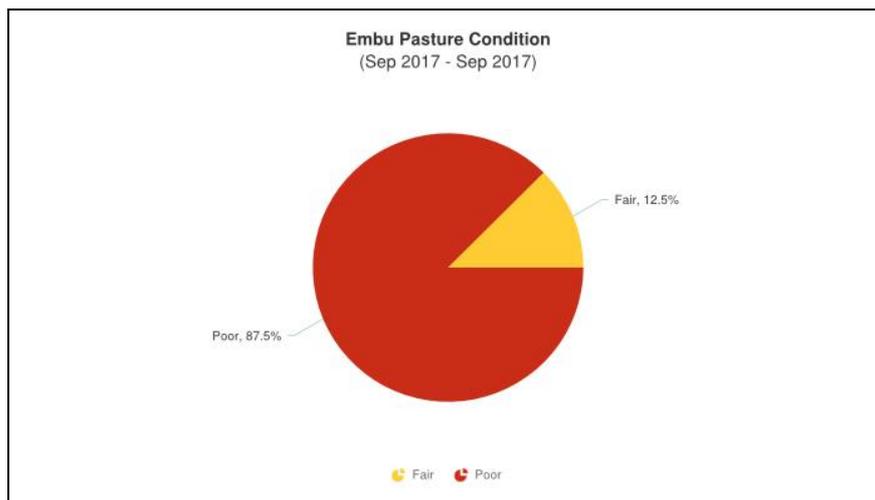
2.1.2 Pasture Condition

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

- The pasture condition ranged from fair to poor across both livelihood zones in Mbeere North and Mbeere South.
- On average, 87% of the pasture in both sub counties were poor while only 13% 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.
- Pasture was already depleted in some areas of marginal mixed farming zone such as Kiambere, Mavuria, Kiriie and Ngiire
- The pasture condition was below normal at this time of the year. The situation is expected to improve due to forecasted onset of the short rains in the month of October.
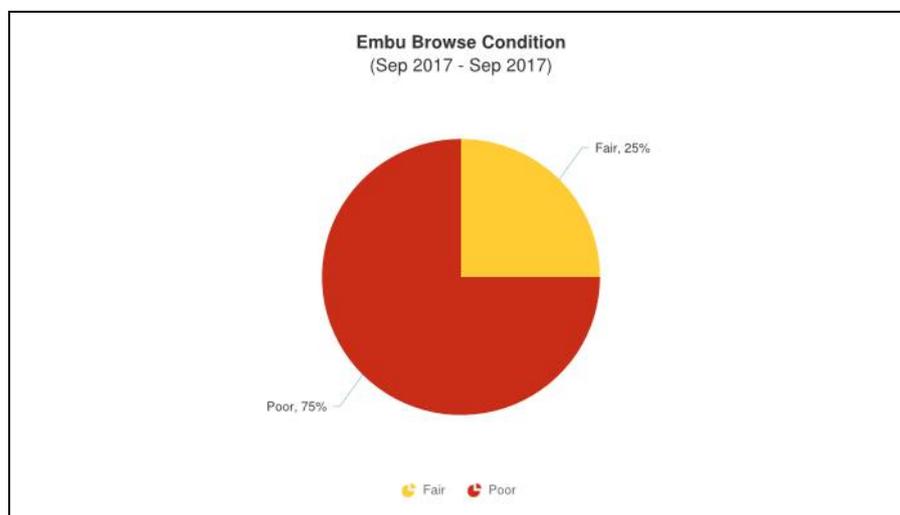
2.1.3 Browse Condition

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. This is attributed to the ongoing dry spell.
- On average, 75% of the pasture in both sub counties was poor, and 25% was fair.
- The available browse is projected to sustain the small stocks for on average 2 months in the mixed farming zone and 1 month in the marginal mixed farming zone.
- Browse condition was poor in some areas of both livelihood zones such as Kiambere, Mavuria, Makima, Kiriie,Kathanje,Riandu and Ngiire
- The browse condition was below normal at this time of the year and is expected to improve as from next month occasioned by the forecasted the short rains.
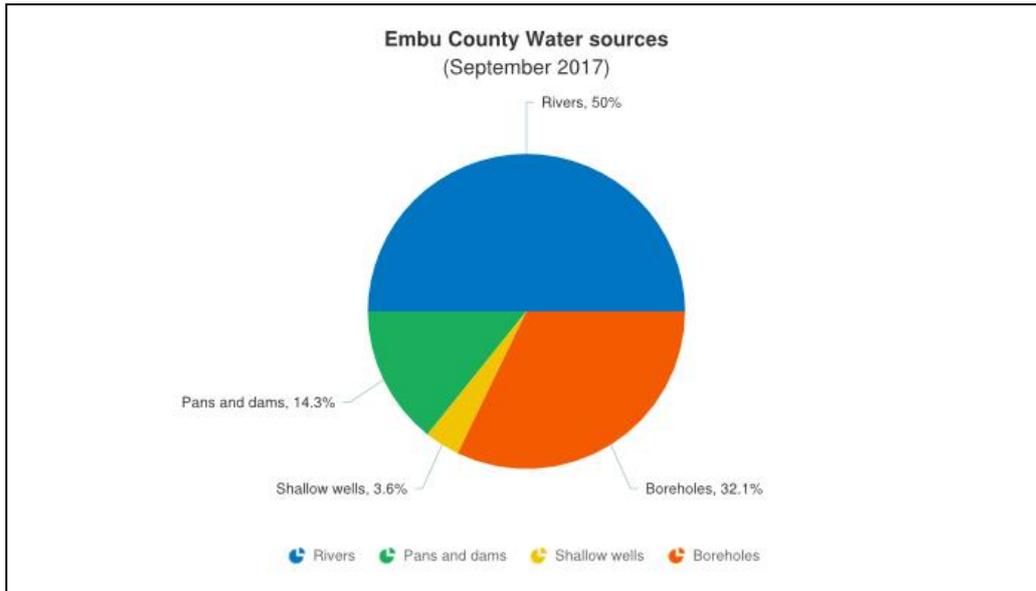
2.2 WATER RESOURCE
2.2.1 Water Sources

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 50%, boreholes at 32 % and pans/dams at 14% .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. The longest waiting time was observed in Kiambere ward in Mbeere south at between 30 minutes to an hour.
- Small proportion of sampled households affirmed to be using water treatment chemicals for drinking water drawn from ground surface sources.
- The main sources and quality of water was normal at this particular time of the year.

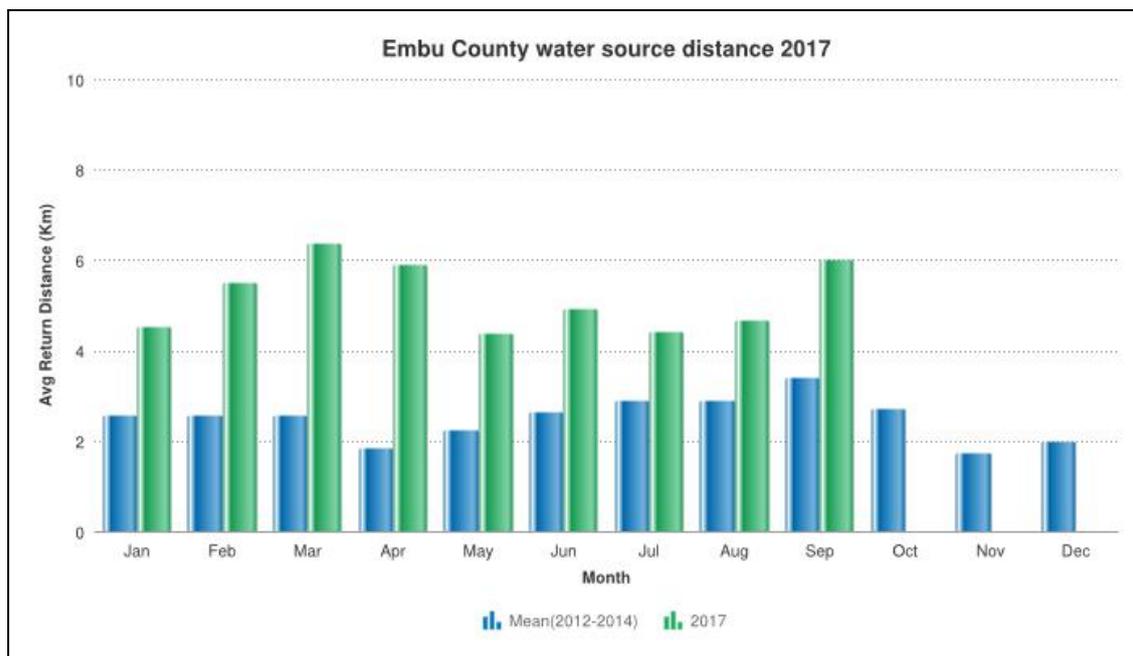### 2.2.2 Household Water Access and Utilization

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 increased in September by 22 percent from 4.7 km recorded previous month to 6 km in the month under review
- Households in the MMF Livelihood Zone trekked for longer average distance at 7 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 76% higher than the long term average distance and 170% higher than the average distance recorded in the same month of the year 2016.

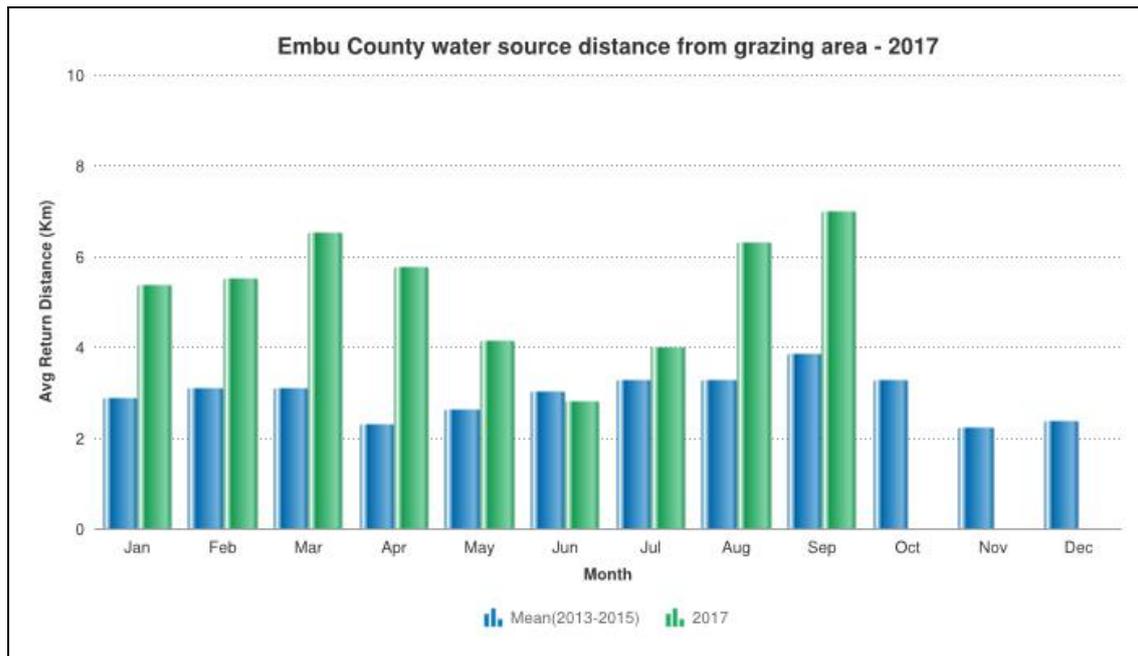### 2.2.3 Livestock access to water from grazing areas

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 September by 23 percent from 5.4 km recorded previous month to 7 km in the month under review
- The increase is attributed to search of pasture in far fields closer to water sources
- The average distance trekked by livestock from grazing point to water source was longer in the MMF livelihood Zone at 10 km compared to the average distance trekked in the MF livelihood Zone with an average of 5 km.
- The frequency of watering livestock is alternate across both livelihood zones.
- The current average distance was 79 percent higher than the long term mean distance and 133% higher than the average distance recorded in the same month of the year 2016.

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.
- Body condition for cattle was fair in most areas of the mixed farming zone while in vast areas in the marginal mixed farming zone it remained poor.
- The body condition may slightly improve in the next month and the next three months due to the forecasted short rains.
- The average body condition was below normal at this time of the year occasioned by increased average distance to pasture fields and water sources

3.1.2 Livestock Diseases

- No notifiable livestock diseases were reported in the period under review though routine surveillance measures by the county government continued
- Cases of fowlpox were reported in parts of the mixed farming zone
- Livestock keepers borne the cost of seeking for services from private service providers on demand basis
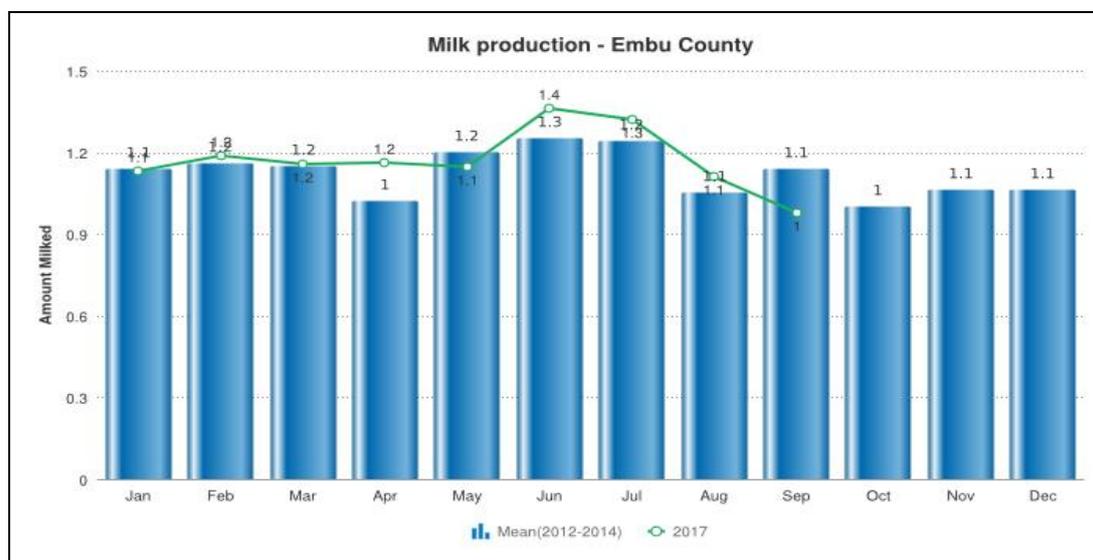
3.1.3 Milk Production

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

- The average daily household milk production per household decreased slightly from 1.1 litres per household per day recorded the previous month to 1 litre per household per day in the current month across the two livelihood zones.
- The decrease was occasioned by longer distances to grazing fields and watering points compared to the previous month

3.2 Rain-Fed Crop Production
3.2.1 Stage and Condition of food Crops
- There were no food crops in the fields during the month under review
- Farmers across both sub counties were engaged in land preparation activities in readiness for short rains season planting

4.0   MARKET PERFORMANCE
4.1   Livestock Marketing
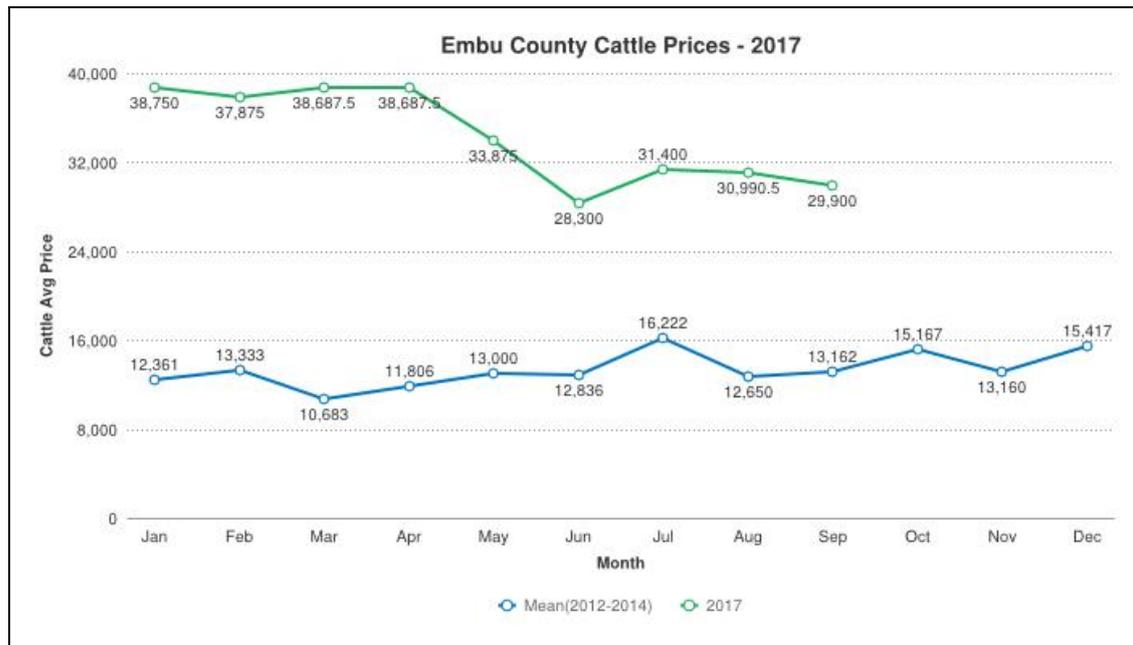### 4.1.1 Cattle Prices

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 3.6 percent from KES 30,990 recorded in the month of August to KES 29,900 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 38,000, while Kiritiri livestock market and Ishiara Livestock market recorded average price of KES 32,000 and KES 24,100 respectively.
- The price recorded in the month under review was significantly higher than the long term mean price at this time of the year and average price recorded in September 2016
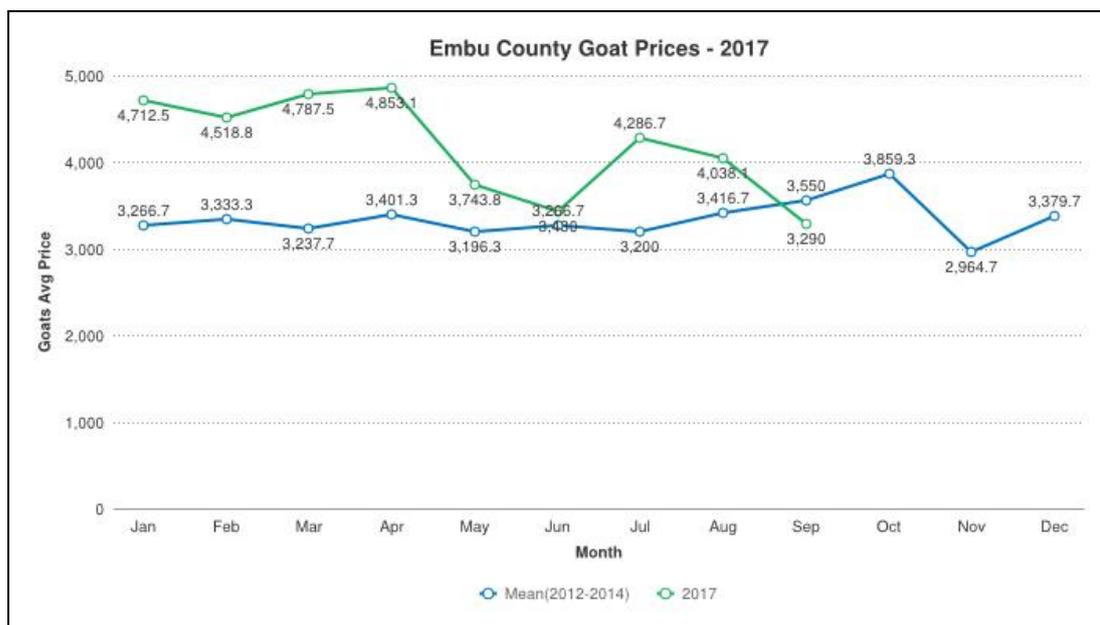
4.1.2 Market Goats Prices

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 23 percent from KES 4,038 recorded in the month across the two livelihood to KES 3,290 in the month under review
- The decrease in prices can be attributed to high market supply 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 4,500 while Kiritiri and Ishiara livestock market in MMF zone recorded low average price of KES 3,133 and KES 3,100 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 7 percent lower than the long term mean price at this time of the year and the price recorded in a similar month last year.

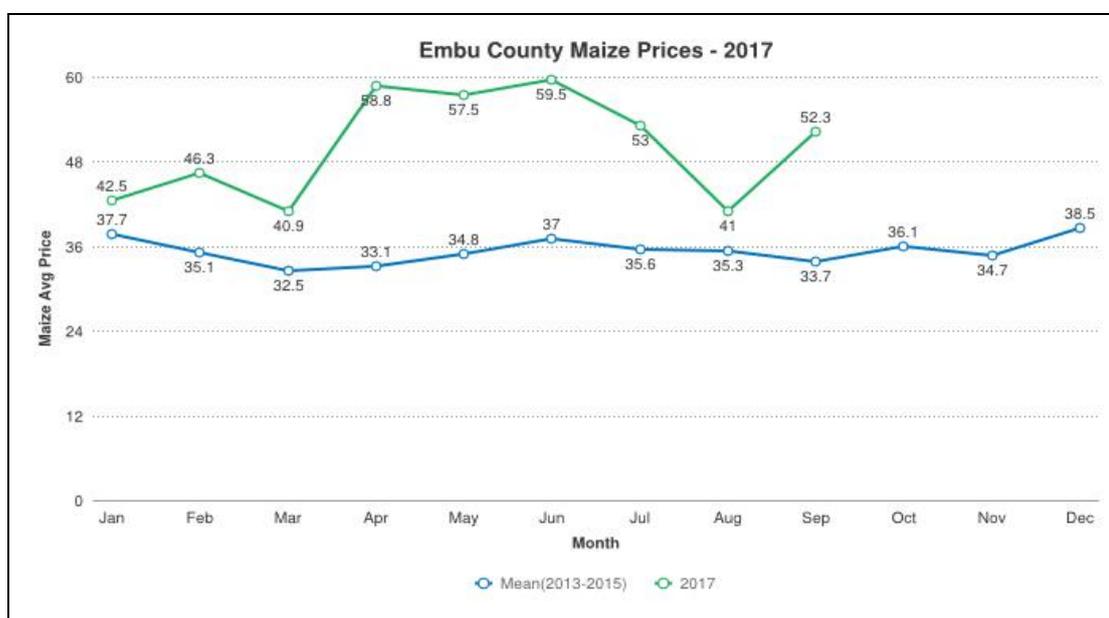## 4.2 FOOD PRICES
4.2.1 Maize Prices

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

- The average market maize price increased by 21.6 percent as compared to the average price recorded in previous month across the two livelihood zones.
- The increase is attributed depleted household stock; farmers are purchasing food stuff at the retail markets.
- Across the major markets, one kilogram of maize was retailing at KES 52 in Ishiara cereals market, KES 50 in Kiritiri and KES 40 at Makutano cereals markets.
- The average maize price recorded in the current month was 55 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 further from KES 54 per kilogram recorded the previous month to KES 48.8 at the current month across the two livelihood zones
- The decrease was attributed to the ongoing government subsidy on maize flour
- The marginal mixed farming zone recorded highest average price of one kilogram of posho at KES 60 compared to KES 40 recorded in the mixed farming zone.
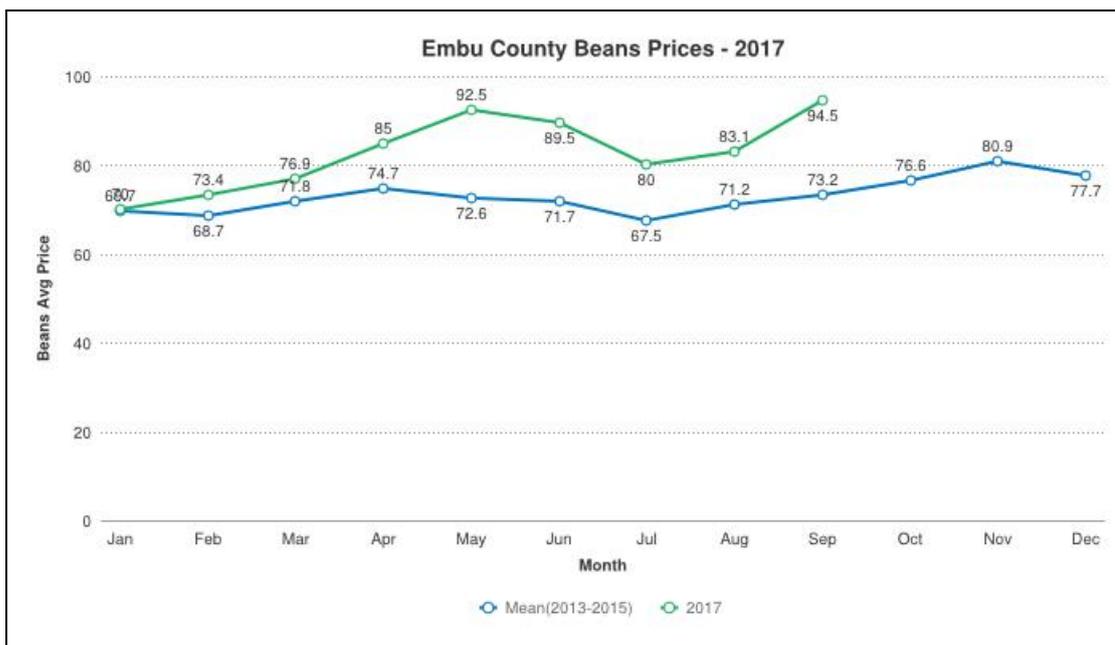
4.2.3 Beans Prices

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

- The average market beans price increased by 12 percent as compared to the average price recorded in previous month across both livelihood zones.
- The increase is attributed to depleted household stock of cowpeas, green grams and pigeon peas which act as alternatives for beans for many households in both sub counties
- One kilogram of beans retailed at KES 120 in Kiritiri cereals market, KES 100 in Makutano cereal market and KES 78 in Ishiara cereal market.
- The current average price per kilogram is 23 percent higher than the long term mean and 46 percent higher than the price recorded in a similar month last year.
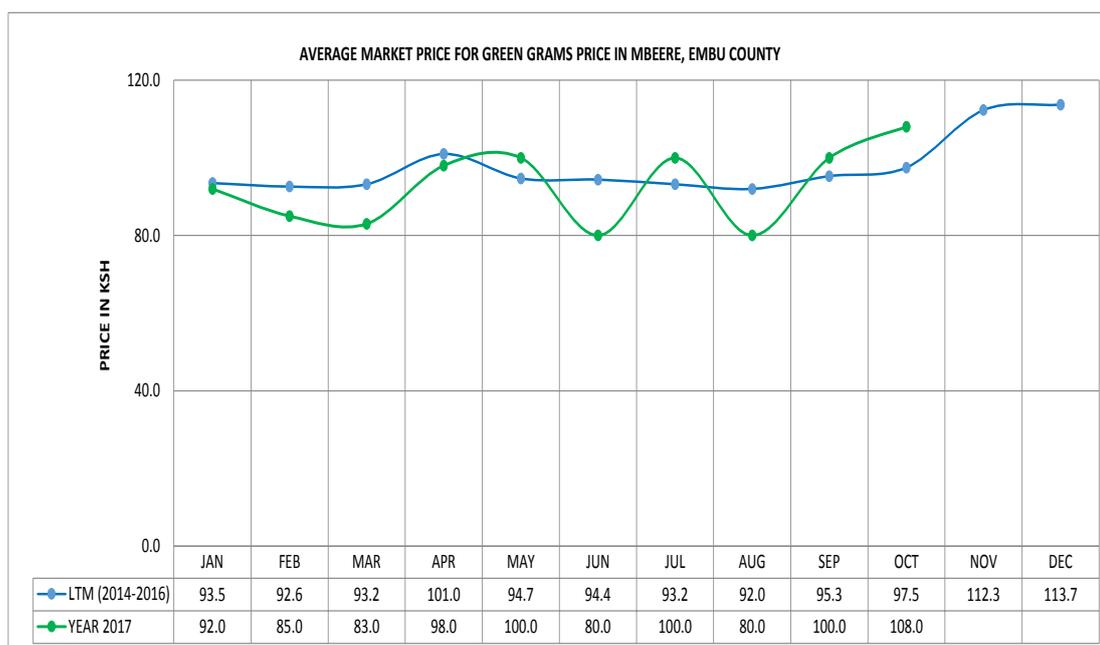
4.2.4 Green Grams Prices

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
LTM (2014-2016)	93.5	92.6	93.2	101.0	94.7	94.4	93.2	92.0	95.3	97.5	112.3	113.7
YEAR 2017	92.0	85.0	83.0	98.0	100.0	80.0	100.0	80.0	100.0	108.0		

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 7.4 percent from KES 100 recorded in the previous month to KES 108 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 13 percent above the long term mean price of green grams at this time of the year and 23 percent higher than the average price recorded in a similar month last year.
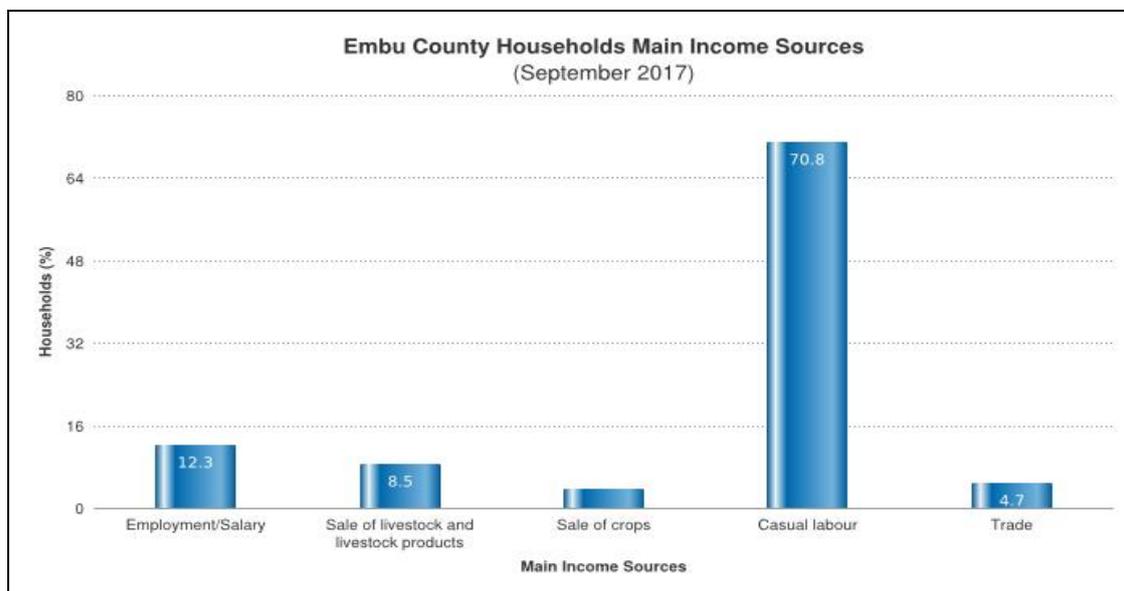
4.3 Household Income

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.
- 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 with a rise in the proportion of households that relied on casual labour to get income

4.4 Terms of Trade (ToT)

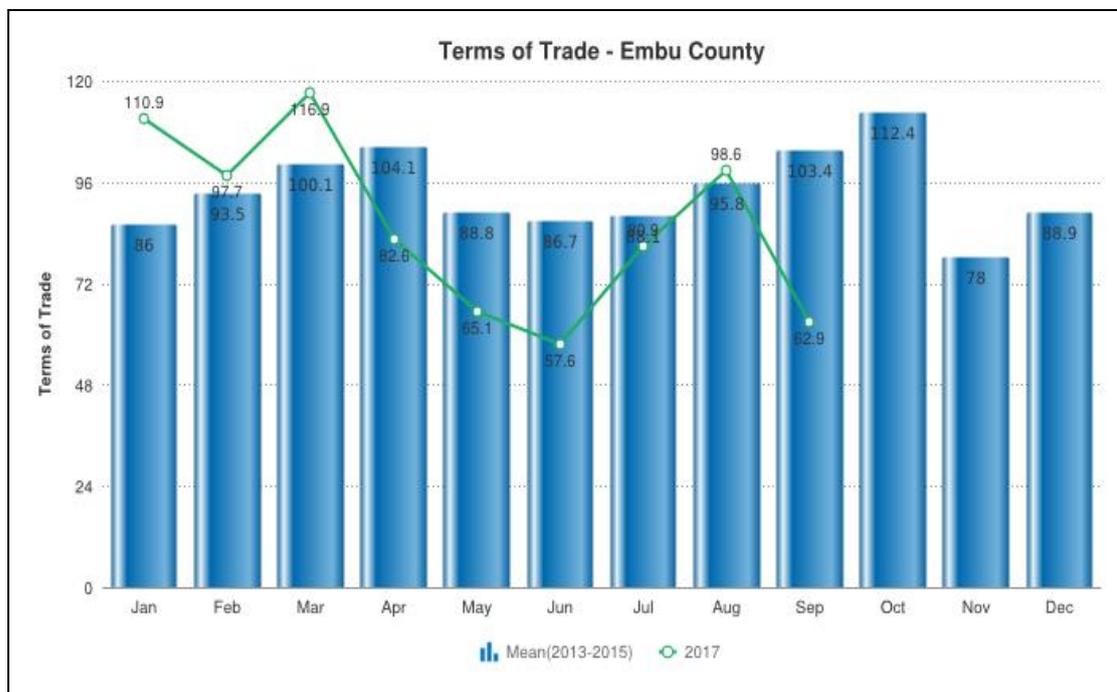The terms of trade determines the purchasing power of livestock keepers.

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

- The Terms of Trade (goat versus maize) decreased by 36 percent in the month under review across the two livelihood zones from 99 kilograms of maize for sale of one goat in the month of August to 63 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 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 current ToT across the two livelihood zones was 39 percent lower than the long term mean at this particular time of the year and 57 percent lower than the TOT recorded in a similar month last year.

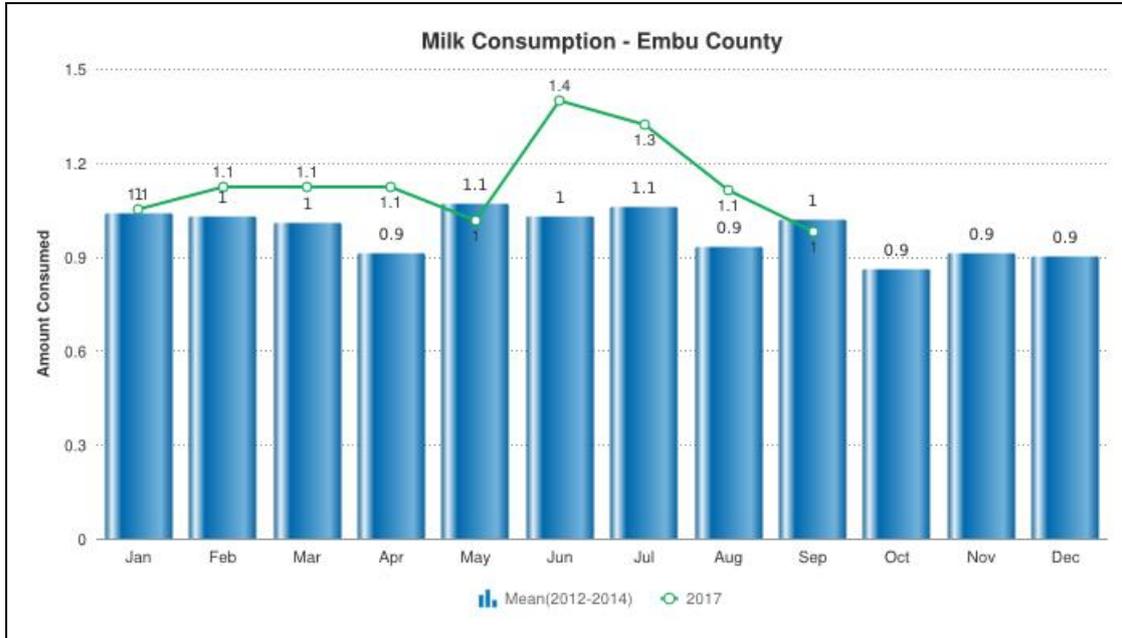## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

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 1.1 litres per household per day in August to 1 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 the onset of the short rains season

5.2 Health and Nutrition Status

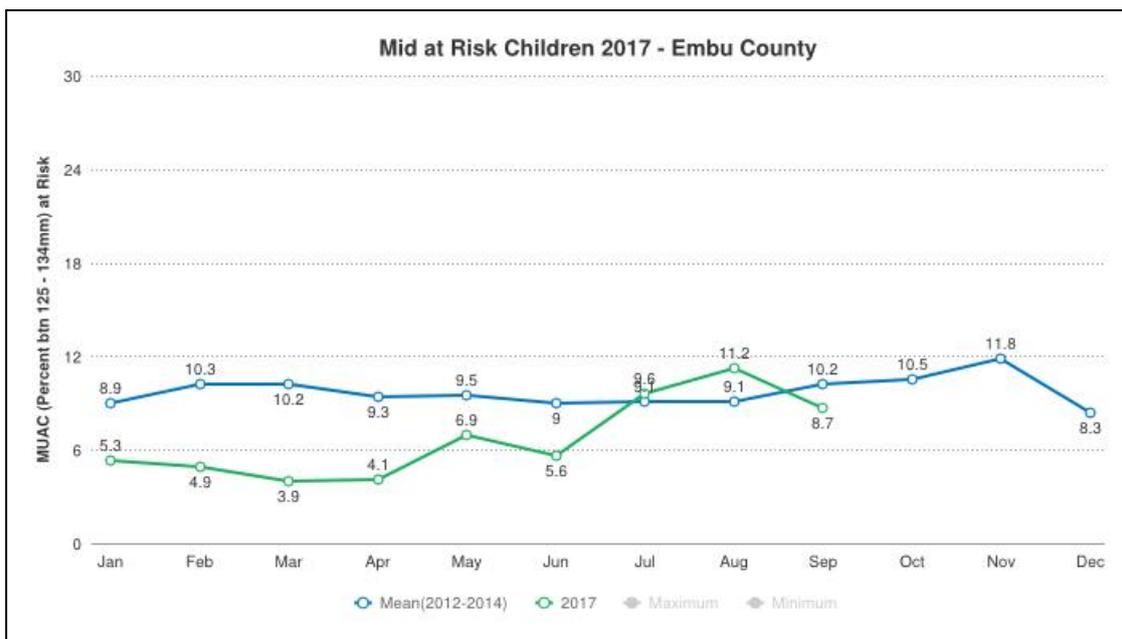### 5.2.1 Nutrition Status of Children Under Five Years of Age

Figure 15: Children at Risk of Malnutrition in Mbeere Sub Counties, Embu County [n=623]

- 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 decreased by 29 percent from 11.2 % recorded in the previous month to 8.7% in the current month.
- The decrease can be attributed to the ongoing screening of children under five years in selected health facilities and in the community for admission into the supplementation program
- The proportion of children at risk of malnutrition in the month under review was 15 percent lower 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

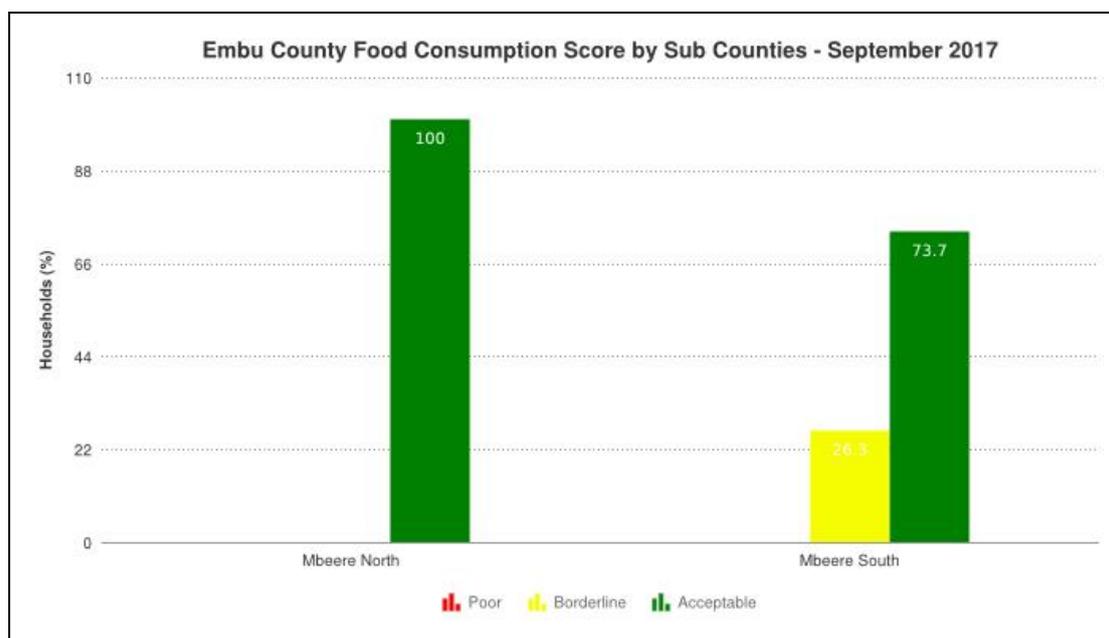The food consumption score gives the dietary diversity of the meals consumed by the sampled households

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, 14% of the households were classified under the borderline food consumption category while the remaining 86% of the households were classified under acceptable food consumption category.
- Majority of households in Mbeere North were on acceptable category due to food variety at the household level owing to the little harvests realised from the long rains.
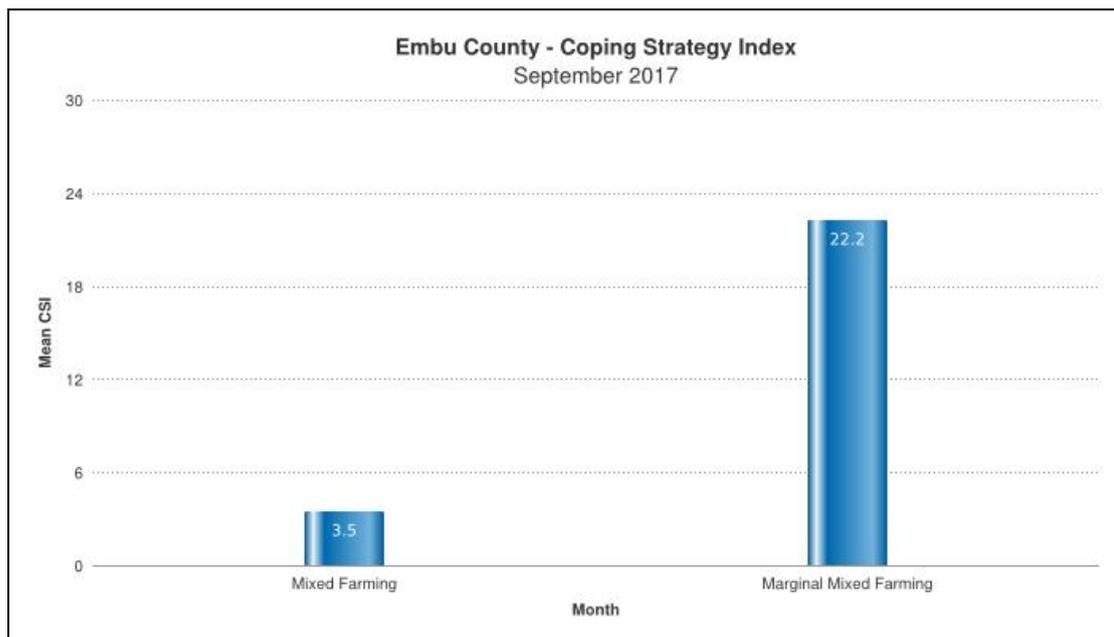
5.4 Coping Strategy Index

Figure 17: CS Index for Sampled Households in Mbeere Sub Counties, Embu County [n=120]

- The mean Coping Strategies Index increased by 29 percent from 9.5 recorded the previous month to 13.37 in the month under review.
- Mixed farming livelihood zone recorded coping strategy index 3.5 while the marginal mixed farming livelihood zone recorded a high livelihood zone of 22.2. 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

- Terms of Trade decreased significantly for the livestock keepers in the month occasioned by low prices of livestock and increased maize prices.
- 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
- The pasture and browse condition deteriorated further across the livelihood zones with the marginal farming livelihood zone being more affected. This is expected to remain so for one month until the next rainfall season which will affect the body conditions, milk production and livestock market prices negatively.
- 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
- Normal Extension services
- Provision of planting seeds
  Implementer: County Department of Agriculture

- Provision of vouchers for drought tolerant traditional high value seeds (pigeon Peas, Green grams and millet and sorghum) to targeted farmers by Kenya Cereal Enhancement Programme (KCEP).

6.2. Food Interventions
There was no food distribution during the month under review

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 (Three months)

- Most households in both the marginal mixed farming and mixed farming zones may face severe food shortages occasioned by the depletion of household stocks and low purchasing power due to meager income sources. This condition may continue for the next three months until the early harvests of the short rains season
- The forecasted onset of short rain season in the month of October will lead to regeneration of pasture and browse within short period and refilling of the ground water sources which will impact positively of livestock and households
- The nutritional status of the children under five will likely remain higher than normal in the next 3 months occasioned by the below normal household stocks and high market prices.

8.0 RECOMMENDATIONS

8.1 Livestock Sector
- Purchase and distribution of hay in the marginal mixed farming zone to cushion affected animals before the onset of season
- 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.
- Promotion of fodder conservation during the short rains season
- Livestock diseases surveillance

8.2 Water and Sanitation Sector
- Extension of pipeline to uncovered areas across both sub counties
- Desilting of major strategic water pans in the marginal mixed farming zone for livestock and household use
- Provision and installation of water harvesting structures in schools and health facilities
- Rehabilitation of strategic boreholes and shallow wells

8.3 Health and Nutrition Sector
- Health outreaches to sensitize the community on proper feeding practices
- 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
- 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 proper land preparation practices
- Distribution of traditional high value seed
- Promotion of small-scale irrigation on high value crops in order contribute to household incomes and diversified household diet.