



# National Drought Management Authority

## EMBU COUNTY

### EARLY WARNING BULLETIN FOR MARCH 2015

#### MARCH EW PHASE

**Drought Status: ALERT**



#### Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
MARGINAL MIXED FARMING	LATE ALERT	WORSENING
MIXED FARMING	ALERT	IMPROVING
COUNTY	ALERT	WORSENING

#### Drought Situation & EW Phase Classification

##### Biophysical Indicators

- The 3 months Vegetation Condition Index (VCI) show a negative drought trend, currently showing severe drought status in Mbeere north and Mbeere south sub-counties. The VCI values for Mbeere north is 17.23 and Mbeere south is 16.26.
- The long rains onset has been experienced mainly in the mixed farming livelihood zone, between dates 22<sup>nd</sup>-30<sup>th</sup>, with an average of two three wet days. The temporal and spatial distribution was however poor.
- Water stress increased mainly in the marginal mixed farming part of the county, occasioned by trying up of some pans and shallow wells hence increased distances and waiting time at the water points.

##### Socio Economic Indicators (Impact Indicators)

- Pasture stress is evident in the marginal mixed farming part of the county, manifested in the declining cattle body condition. This consequently affected the prices of livestock and milk production across the county. Shoaat body condition is good across the livelihood zones.
- The terms of trade (TOT) for households was 0.36
- Food prices remained high, household food stocks on the decline. Stocks are mainly out sourced from other counties.

Biophysical Indicators	Value	Normal ranges(LTA)
Average rainfall (March)	54.6	71.9
SPI- 3 Months	-	-
VCI-3month	21.14	46
State of Water Sources	4	5

Production indicators	Value	Normal ranges (LTA)
Livestock Migration Pattern	Abnormal	Normal
Livestock Body Conditions	3 in MMF 4 in MF	4-5
Milk Production	60	69
Livestock deaths (for drought)	No death	No death
Crops area planted (%)	-	% of LTA

Access Indicators	Value	Normal ranges (LTA)
Terms of Trade (ToT)	0.36	-
Milk Consumption	52	52
Water for Households	-	-

Utilization indicators	Value	Normal ranges(LTA)
MUAC	4.2	5.5
Coping Strategy Index (CSI)	1.2	-

**Current Drought Risk**

Low



Medium

High



There has been an irregular onset of the long rains, commencing in the 3<sup>rd</sup> dekad of March but unevenly distributed. Some parts of the county are yet to receive the first rains. Forage situation has declined notable in the last three months, scarcity intense in the marginal mixed farming zone this has affected livestock production a great deal. Food stocks have also declined following several subsequent poor seasons.

# BIO-PHYSICAL INDICATORS

## 1. MEASURING DROUGHT HAZARD

### 1.1 METEOROLOGICAL DROUGHT

#### 1.1.1 Actual Rainfall

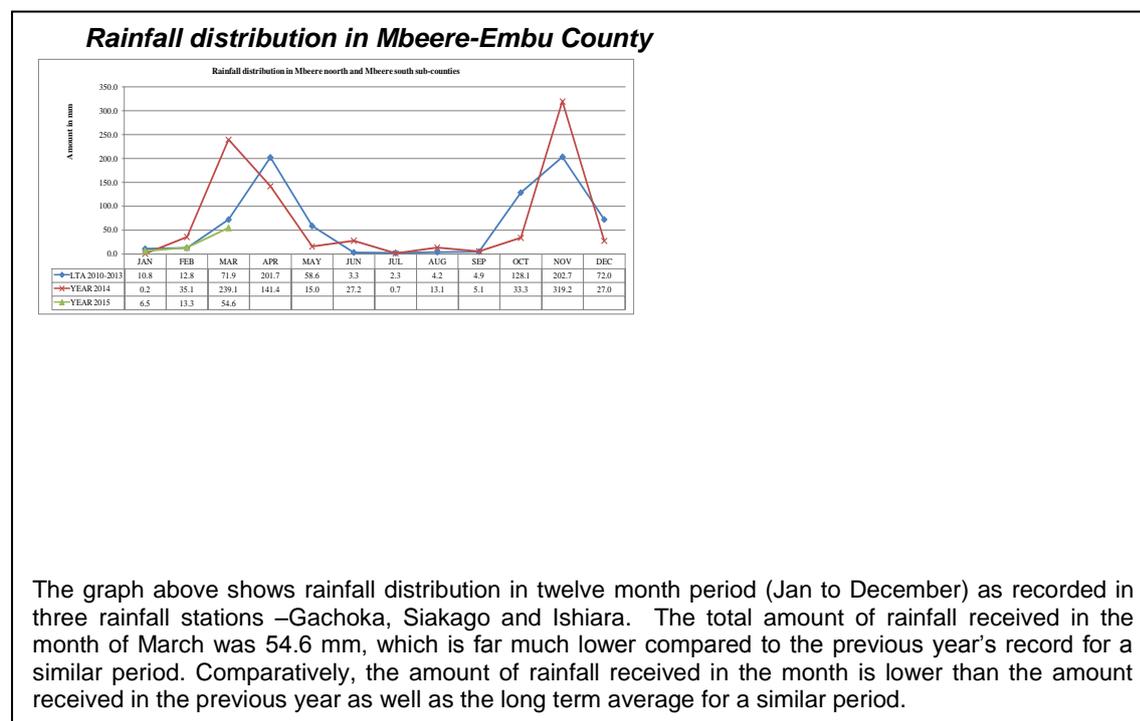
- **Amount of rainfall and Spatial distribution**

- The onset long rains season was characterised by a poor onset, whose spatial distribution was very erratic. First rains were received on 22<sup>nd</sup> March in parts of Nthawa, Ishiara, Kamarandi, Muminji and Riandu, for an average of 2-3 days. The larger part of Mbeere, mainly lower MMF zones is yet to receive the rains.
- The amount of rainfall received in the month was far much lower compared to last year's in a similar month as well as the long term average for years 2009-2013 for a similar period. The amount received in the month was 54.6 mm.

- **Temporal distribution**

- The county experienced an irregular onset of the long rains which covered less than half of the county, with rains basically experienced between dates 22<sup>nd</sup>-29<sup>th</sup> March 2015 for an average of 2-3 days.

#### Rainfall station data:

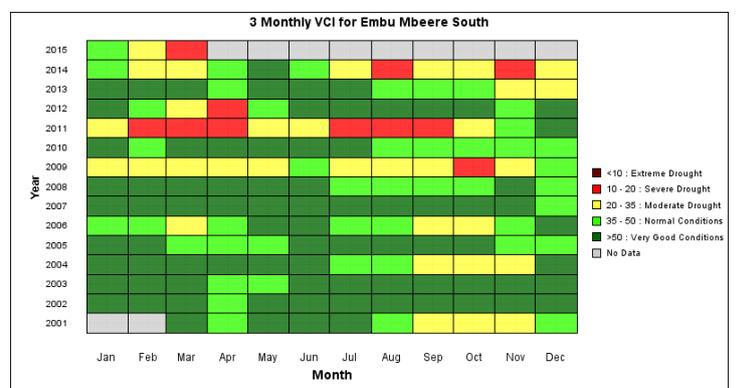
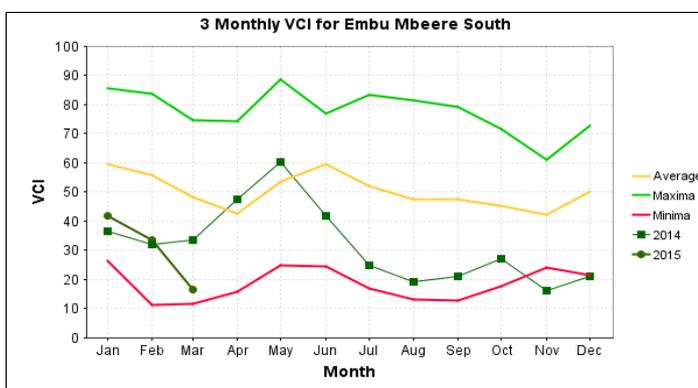
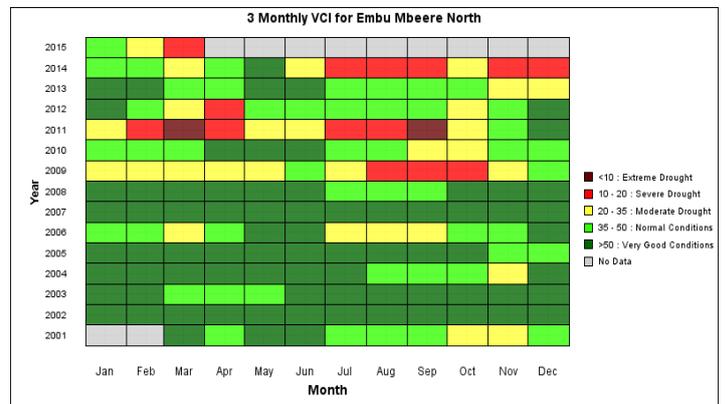
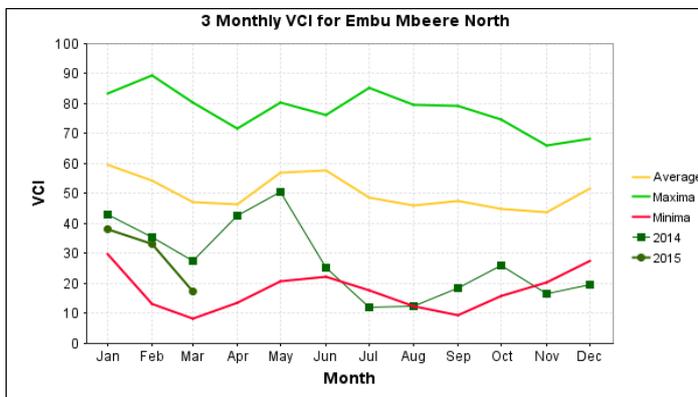


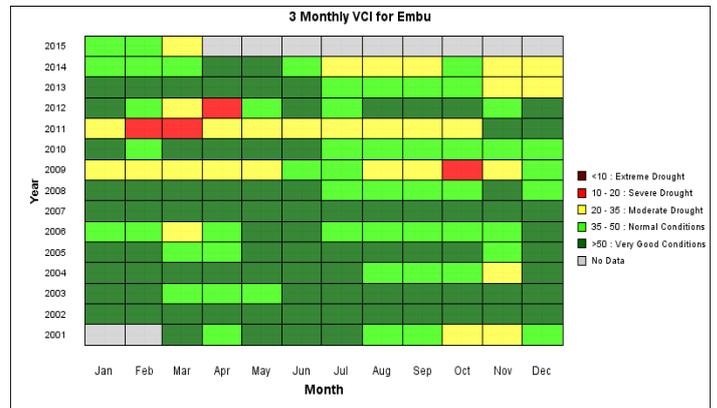
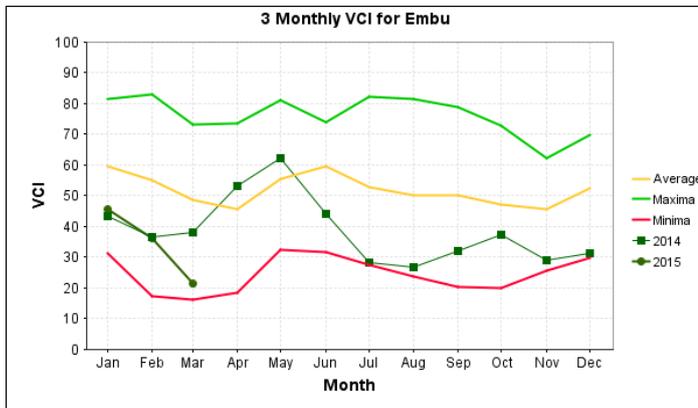
## 1.2 AGRICULTURAL DROUGHT

### 1.2.1 VEGETATION CONDITION INDEX (VCI)

Threshold for VCI 3-month and related drought categories		
Color	VCI values	Drought Category
	3-monthly average	
	≥50	Wet
	35 to 50	No Drought
	21 to 34	Moderate Drought
	10 to 20	Severe Drought
	<10	Extreme Drought

- The month was characterised by a sharp decline in the CVI values, more evident in the semi arid sub-counties of Mbeere north and Mbeere south. The VCI trend in the two sub counties show a negative drought trend from moderate to severe drought in a period.
- In Mbeere south, the VCI values declined from 33.35 recorded in February to 16.26 recorded in March; in Mbeere north the VCI declined from 32.91 to 17.23. The decline in VCI is occasioned by extreme temperatures during the three months dry spell.
- Comparatively, the current VCI values are much lower than last year's as well as the long term average for a similar period. This is observable at the sub county and county levels.
- The VCI trends are as shown in the seasonal graphs and matrices below.





## 1.2.2 Pasture and Browse Conditions

### Pasture

- Pasture condition is poor and inadequate in the marginal mixed farming livelihood zone. The situation is no better in the mixed farming livelihood zone as its decline has been rapid in the last two months.
- The pasture decline is attributed to the extreme temperatures and overgrazing during the three months dry spell. Its generation was not optimal as the short rains performance was below normal.
- Livestock currently graze on the hillsides and other reserve areas; there is high pasture depletion in the lowlands. Pasture in the mixed farming zone is likely to last a month. Pasture is inadequate in the mixed farming livelihood zone. There are no major constraints in accessing pasture in Mbeere, however livestock movement from the neighbouring Mwingi pose a possible threat in terms of livestock disease spread.

### Browse

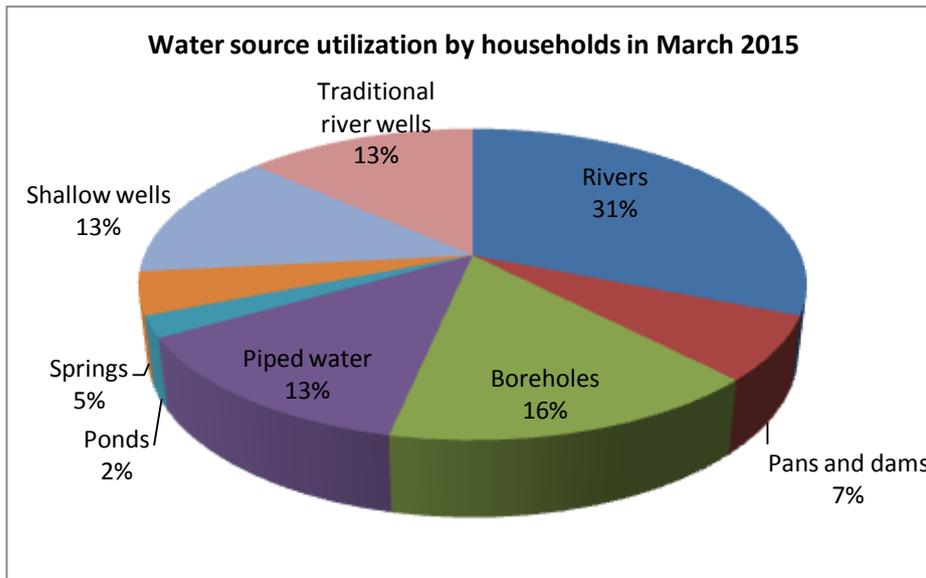
- Browse condition is fair across the county; minimal in the marginal mixed farming zone. This observation is within seasonal norm.
- As expected, a decline in browse condition was observed across the county, worse in the semi arid sub counties of Mbeere north and Mbeere south.
- Overgrazing was observed in the marginal mixed farming livelihood zone.
- The available browse is likely to last a month.
- Comparatively, browse condition is better in mixed farming livelihood zone than in the marginal mixed farming zone.

## 1.3 HYDROLOGICAL DROUGHT

### 1.3.1 Water Resource

#### State of Water Sources

- A higher percentage of households utilized natural rivers as the main source of water for both domestic and livestock use. Other water sources utilized in the month include hydro dams and pans, shallow wells, boreholes, traditional river wells and piped water supply systems (EWASCO and EMBEWASCO) that serve the county. The later is basically domestic water accessible in communal water points and domestic connections.
- A few households utilized springs and ponds, mainly to water the livestock.



*n=360 households*

- The above water sources are normal for this time of the year. However, there has been increased congestion at communal water points in the past one month. Longer queues and hence longer waiting periods are observed in the congested water points (boreholes, shallow wells and communal water kiosks, the later often rationed).
- Here is an increase in the number of households using the permanent water as other seasonal water sources dry up during the dry spell.
- A few pans dried up in the month; water levels reduced in surface water sources and therefore increased congestion in water points.
- Water in the main water sources is expected to last two months in both mixed farming and marginal mixed farming zones. Most of the water sources currently in use however run all year round.
- Generally water availability is below normal for the period and showing declining trend across the county.

## MEASURING DROUGHT IMPACT ON SOCIO-ECONOMIC INDICATORS

### 2.0 PRODUCTION INDICATORS

#### 2.1 Livestock production

##### 2.1.1 Livestock Ownership

- On average, TLU stands at 2. There are more shoats than cattle owned by households particularly in the MMF zones. The low TLU could be attributed to livestock loses as a result of drought and diseases in the past few years.

##### 2.1.2 Livestock Migration Patterns

- Cattle currently graze in the hills and other reserves until pasture situation improves in the county. This is expected in the next one month.

##### 2.1.3 Livestock Body Condition

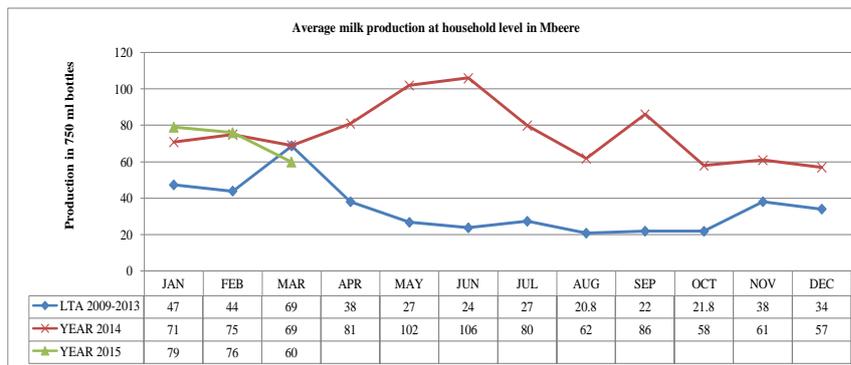
- The general body condition for cattle is fair, though poor in some parts of marginal mixed farming livelihood zones where forage is scarce, with a score of 3 (thin visible fore ribs).
- In the mixed farming livelihood zone, cattle body condition range between fair and good, with a body condition score of 4. Sheep, goats and other livestock species have a good body condition across all livelihood zones.
- The decline in livestock body condition is attributed to forage stress experienced mainly in the MMF zones.

### 2.1.4 Livestock Diseases

- Cattle: There are no cattle diseases reported in the month.
- Goats: Suspected cases of Contagious Caprine PreuroPneumonia (CCPP) was reported in various parts of MMF zone.
- Newcastle disease in poultry was also reported in the month.

### 2.1.5 Milk Production

- There was a notable decline in milk production at the household level; with an average production of 45 litres in the month. The milking herd mainly comprise of cattle and goats, most of which are indigenous breeds.
- The current milk production is below last year's production as well as the LTA for a similar period hence slightly below seasonal range. Milk production trends are as shown in the graph below.



*n=360 households*

### 2.1.6 Livestock deaths

- There are minimal livestock deaths reported in the month. Poultry deaths as a result of predation and diseases were reported.

## 2.2 Rain fed Crop Production

### 2.2.1 Date of Planting and Area planted

- The long rains cropping season started in the month. Most farmers planted before the rains onset. This being the minor of the two cropping seasons, there could be a slight reduction in acreage under crop.
- There has been a timely rains onset in some parts of the county, while the larger part of Mbeere had a late onset, mainly in the 1<sup>st</sup> week of April.

### 2.2.2 Stage and Condition of food Crops

- The season's crop is at germination stage. There was even germination in areas that received timely rains. The crop is yet to germinate in other parts of the county that received rains at later.

### 3.0 ACCESS INDICATORS

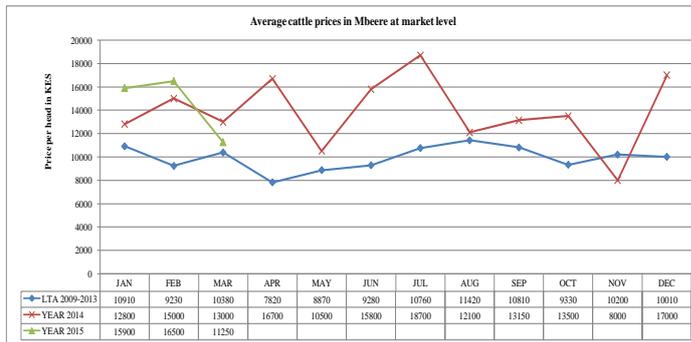
#### 3.1 Livestock Prices

##### 3.1.1 Livestock Terms of Trade

The current terms of trade is 0.36, a slight improvement from 0.32 recorded in the month of February.

##### 3.1.2 Cattle Prices

- There has been a notable decline in the average price of cattle across markets in Mbeere. As the graph below indicates, cattle traded at an average price of Ksh. 11,250.00, a decline from Ksh. 16,500.00 recorded in February. The current average price is higher than the LTA but lower than last year's average price for a similar period.

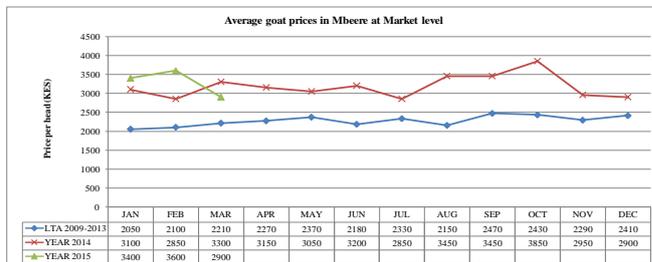


*n=360 households*

- Low cattle sales were recorded across the county in the month.

##### 3.1.3 Small Ruminants Prices (goat)

- Similar to the case of cattle, a decline in the average price of goats was observed in the month.



*n=360 households*

- The average price of goats in the month was Ksh. 2,900.00, a decline from Ksh. 3600.00 recorded in February. The price however varied across livelihood zones whereby higher goat prices were recorded in the mixed farming LZ (Ksh.3,000.00) than in marginal mixed farming LZ (Ksh 2,727.00). Higher sales were however recorded in the marginal mixed farming livelihood zone.
- The current goat prices are above the long term average but within seasonal norm.

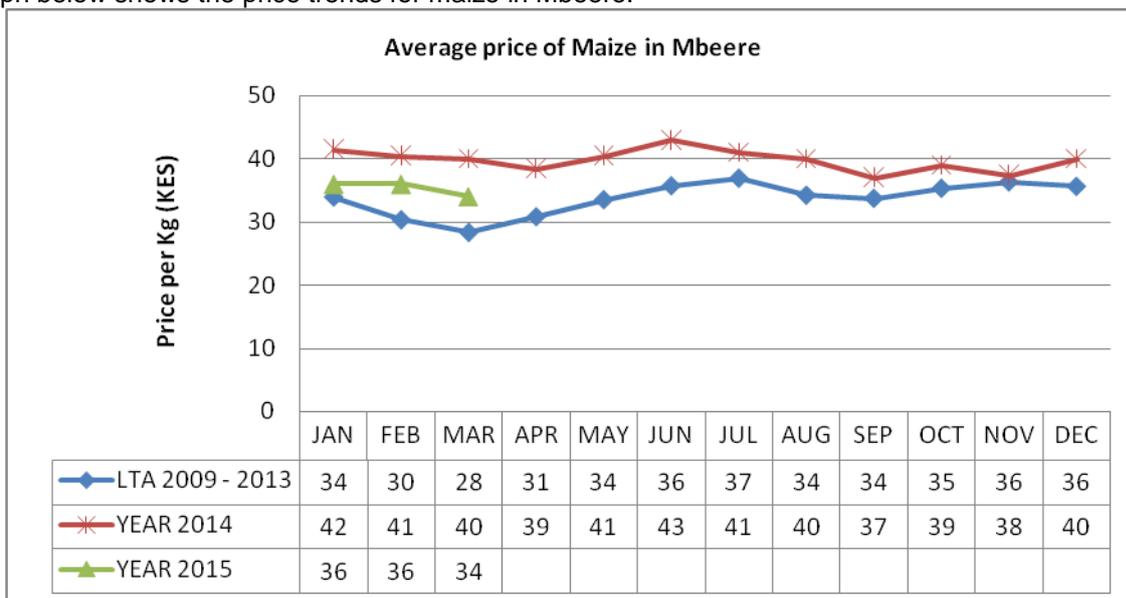
### 3.1.4 Milk Prices

- The average price of milk remained constant, trading at an average price of Ksh. 60.00 per litre. This is a normal observation as milk prices hardly fluctuate. These prices are within seasonal range.

## 3.2 Price of cereals and other food products

### 3.2.1 Maize

The graph below shows the price trends for maize in Mbeere.



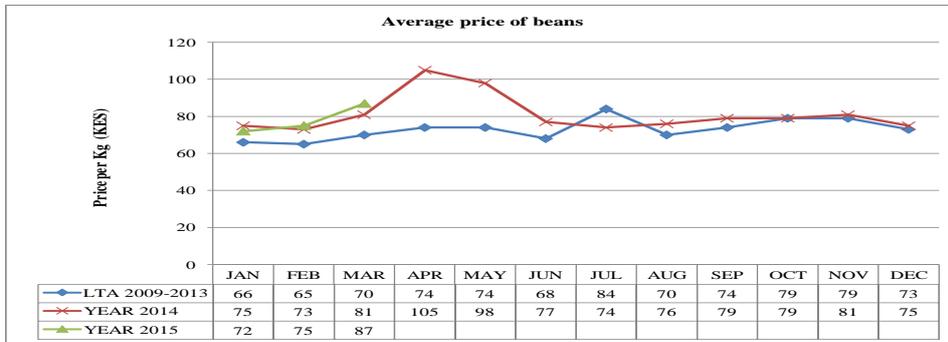
*n=360 households*

- There was a slight decline in the average price of maize in the month. A kilogram of the commodity traded at Ksh. 34.00. The commodity was nonetheless available in the markets. The current average price for maize is above the LTA but below the average price for a similar period last year.

### 3.2.2 Posho (Maize Meal)

- The average price of Posho is Ksh. 45.00. This is an increase from Ksh. 35.00 recorded in February.

### 3.2.3 Beans



*n=360 households*

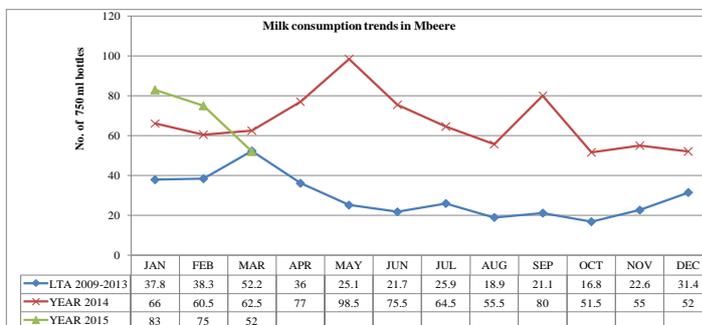
- There was an increase in the average price of beans in the month. This being a planting season, the observations made are obvious due to increased demand for the seed.
- In the month of March, a kilogram of beans was sold at an average price of Ksh. 87.00.
- Bean prices are higher in mixed farming LZ trading at Ksh 85.00 per kg compared to marginal mixed farming LZ where the same commodity traded at Ksh 78.00.
- The current price is above the LTA as well as the previous year's price for a similar period.

### 3.3 Access to Food and Water

#### 3.3.2 Availability of milk for household consumption

- Milk consumption declined in the month. The average milk consumption at the household level was 39 litres in the month. This amount is lower compared to the amount consumed by the same households in the month of February (56 litres). Milk production is relatively low across all livelihood zones and consequently, its consumption at household level.

The graph below shows average milk consumption trend in Mbeere –Embu county.



*n=360 households*

#### 3.3.3 Availability of water for household consumption

##### Household access and Utilization

- Trekking distance remained constant through for the months of February and March. The current average water distance for households is 2.9 kilometres- one way. Longer distances were trekked in the marginal mixed farming livelihood zones. Waiting time was longer in these areas too.
- On average a household uses 80 litres of water, mainly for domestic purposes. The mode of water treatment is mainly boiling while a few households use water treatment chemical purify water before consumption.

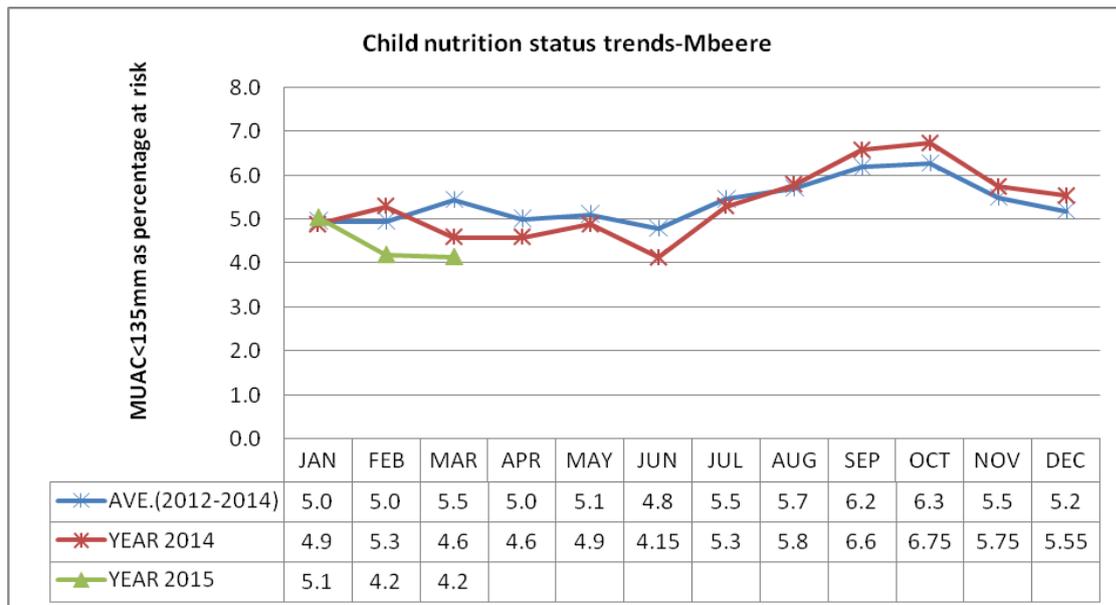
#### Livestock access

- The average water distance from the grazing area is 3.2 kilometres. Longer distances are covered in marginal mixed farming zone (average of 3.6kms) where livestock are watered in alternate days in some areas.

## 4.0 UTILISATION INDICATORS

### 4.1 Health and Nutrition Status

- Out of the 1042 boys and 1069 girls of ages 12-59 months sampled for mid upper arm circumference (MUAC) measurement in the month, 4.2% of them were found to be at risk of malnutrition, with a MUAC measurement of < 135 mm.
- Same rates were recorded in the month of February. The nutritional status trends for children 12-59 months old in Mbeere are as shown in the graph below.



*n=2,111 children*

#### Malnutrition

- In March, 4.2 % of the sampled children had MUAC < 135 mm (at risk of malnutrition). This rate remained constant through the months of February and March.

#### Health

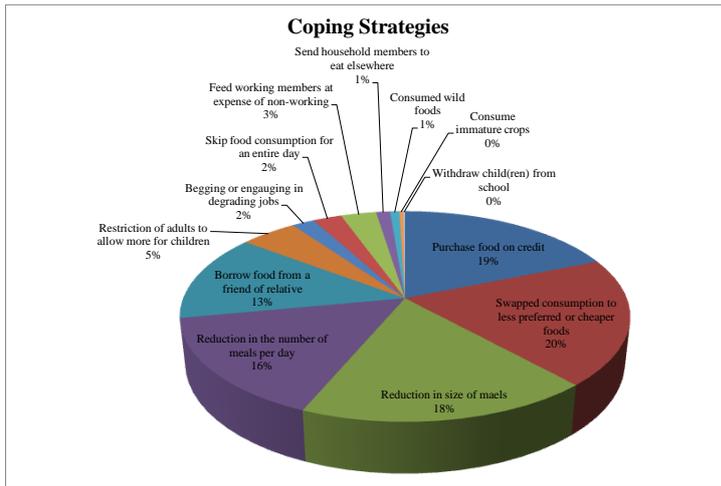
- General morbidity among the under fives is normal. The major diseases amongst the age category in the month were upper respiratory tract infections and malaria.
- Malnutrition cases some of which are severe have been observed in Kiambere mainly contributed by the high poverty levels and food scarcity amongst households.

## 4.2 Coping Strategy

### 4.2.1 Coping Strategy Index

- The current coping strategy index is within normal range, at 1.2, which is within normal range.

- The prevalence of coping strategies applied in the month is as shown in the chart below.



*n=360 households*

## 5.0 Current Intervention Measures

### 5.1 Non-food interventions (in February and March)

- Repair of strategic boreholes courtesy of NDMA- drought response
- Distribution of water storage tanks to learning institutions, health facilities and market centres courtesy of the county government.

### 5.2 Food Security Prognosis

The long rains season were characterised by a poor onset (irregular temporal and spatial distribution in the first two weeks). With the resumption of the rains in the first week of April however, improvements in forage, water situation and hence livestock production is expected in a month's time. Households food security situation is however likely to improve in July after harvesting of the season's crop.

## 6.0 RECOMMENDATIONS

Below are recommendations to reduce the impacts of the current drought.

- Food rations to the most vulnerable and supplementary feeding to the malnourished children.
- Close monitoring of the season's progress is key, particularly on field pest control. The county has had crop losses to pests such as boll worm and army worms in the recent past.