

**National Drought Management Authority  
KILIFI COUNTY  
DROUGHT EARLY WARNING BULLETIN FOR NOVEMBER 2017**



A Vision 2030 Flagship Project



**NOVEMBER EW PHASE**



**Early Warning(EW) Phase Classification and trends**

Livelihood Zone	Stage	Trend
Marginal Mixed farming	Alert	Worsening
Livestock/Ranching	Alarm	Worsening
Cash Cropping/Dairy	Alert	Worsening
Food Cropping	Alert	Worsening
<b>COUNTY</b>	Alert	Worsening
<b>Biophysical Indicators</b>	<b>Value</b>	<b>Normal</b>
Average Rainfall (mm)	125	≥63
VCI-3month	34.96	35-50
<b>Production indicators</b>	<b>Value</b>	<b>Normal</b>
Livestock Migration Pattern	In -migration and intra Migration	No intra-migration
Livestock Body Conditions	4-6	6-8
Milk Production ltr/hh/day	5.3	≥2.9
Crop condition	Fair	Good
<b>Access Indicators</b>	<b>Value</b>	<b>Normal</b>
Terms of Trade (ToT)	52	≥68
Milk Consumption (% range)	1.8	≥1.3
Average Water Distance for Households (Km)	3.7	≤ 2
Average Grazing-Water point Distance (Km)	4.8	≤ 3.5
<b>Utilization indicators</b>	<b>Value</b>	<b>Normal</b>
Nutrition Status, MUAC (% at risk of malnutrition)	6.2	4.8

**Drought situation and phase classification**

**Biophysical Indicators (Environmental indicators)**

- Water availability was below normal at this of the year more so for Magarini sub county
- Pasture condition ranged between fair to good across the livelihood zones.
- The 3-month vegetation cover index (VCI) was 34.96 indicating moderate vegetation condition.

**Socio Economic Indicators (Impact Indicators)**

**Production indicators**

- Livestock body condition ranged between fair to good across all livelihood zones.
- Milk production recorded an increase compared to the previous month.
- No migration of livestock was reported during the period under review.

**Access indicators**

- Milk consumption was above normal.
- Average distances to water sources by households and livestock recorded some decrease compared to the previous month.
- Food prices remained high and above long term mean.
- The Terms of Trade were unfavorable for the livestock keepers.

**Utilization indicators**

- Households' food shortages was still evident.
- Percentage of children under five-years at risk of malnutrition recorded an increase during the month under review.

- Short rains harvests
- Short dry spell
- Reduced milk yields
- Increased HH Food Stocks
- Land preparation

- Long rains
- Planting/Weeding
- 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

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
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## 1.0 CLIMATIC CONDITIONS

### 1.1 Rainfall performance

### 1.2 Onset

- Short rains season started late as compared to normal.

### 1.2 Amount and Spatial Distribution

- The short rains season rains were characterized by poor distribution in terms of time and uneven spatial distribution.
- According to figure 1a below, much rains were received in the 3<sup>rd</sup> dekad of October and 1<sup>st</sup> dekad of November.

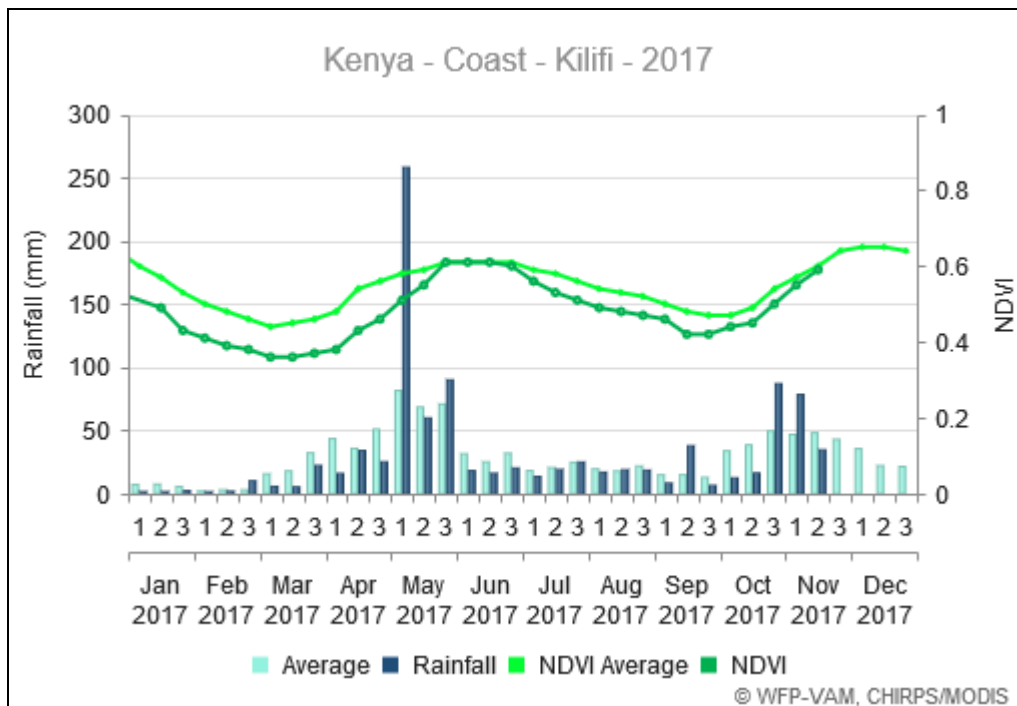


Figure 1a: Kilifi County rainfall distribution and NDVI condition: Source: WFP-VAM

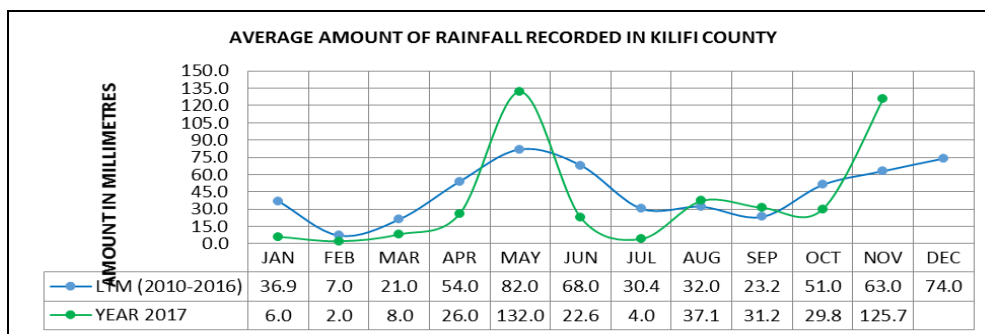


Figure 1b: Average amount of rainfall recorded in Kilifi County

- The month of November recorded enhanced rains which were above the long term mean.
- The ranching zones of Bamba in Ganze Sub County recorded the highest amount of 241mm followed by the food cropping zone of Kilifi south which recorded 155mm.
- The mixed farming zones of Kakuyuni ward in Malindi Sub County recorded the lowest amount of 39.7mm followed by ranching zone of Adu ward in Magarini Sub County with 89.8mm.
- The last week of November recorded reduced rains across all livelihood zones.

## 2.0 IMPACT ON VEGETATION AND WATER

### 2.1 Vegetation Condition

#### 2.1.1 Vegetation Condition Index [VCI]

- The county 3 month Vegetation Condition Index is as indicated below;

Sub County	VCI-3month As at 28 <sup>th</sup> August, 2017	VCI-3month As at 25 <sup>th</sup> September, 2017	VCI-3month As at 31 <sup>st</sup> October, 2017	VCI-3month As at 27 <sup>th</sup> Nov, 2017
<b>Kilifi County</b>	26.54	24.06	37.5	34.96
Ganze	30.96	25.78	34.89	35.4
Kaloleni	49.95	46.93	49.57	52.65
Magarini	19.7	18.4	35.93	29.92
Malindi	25.38	19.72	29.15	29.73
Kilifi-North	35.09	32.86	43.04	47.63
Rabai	50.39	48.38	50.78	53.05
Kilifi-South	41.85	43.69	56.7	60.57

Figure 2a: Three month Vegetation Condition Index (VCI) values for Kilifi County [Source: Boku University -Austria]

- The county 3 Month VCI for November 2017 was 34.96 depicting moderate vegetation deficit.

- Magarini and Malindi sub counties recorded moderate vegetation deficit with some areas of the two counties recording minimal rains.

- The table below indicated the county’s 3 month VCI matrix

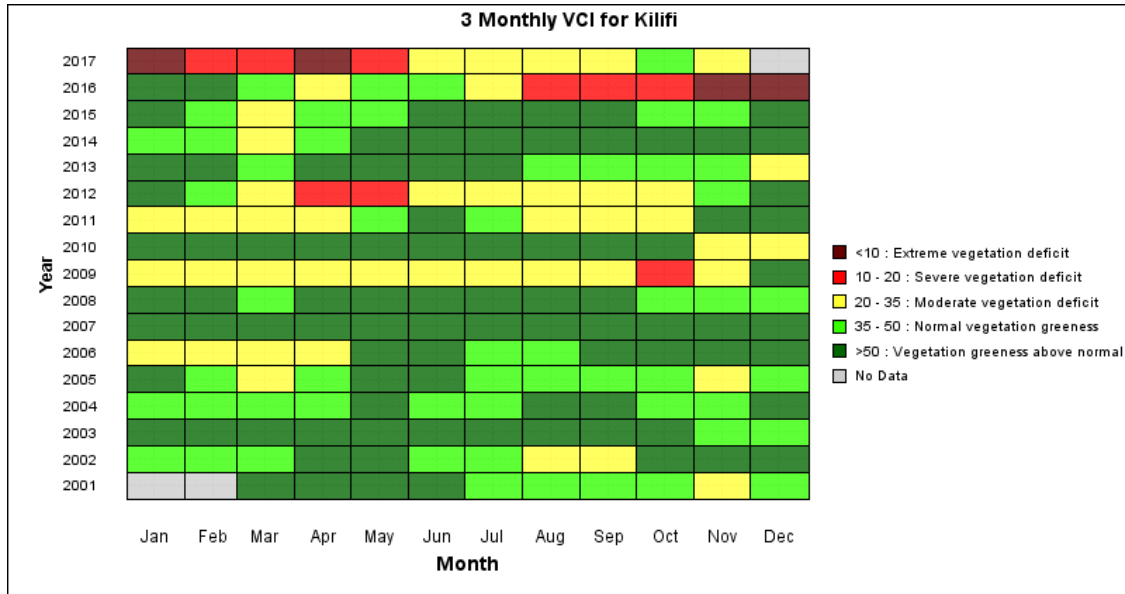


Figure 2b: Three month vegetation Condition Index (VCI) matrix and chart for Kilifi County (source: Boku University-Austria)

- From the matrix above, November 2017 vegetation condition was much better compared to November 2016 when the county was recording significant loss of livestock due pasture and water stress.

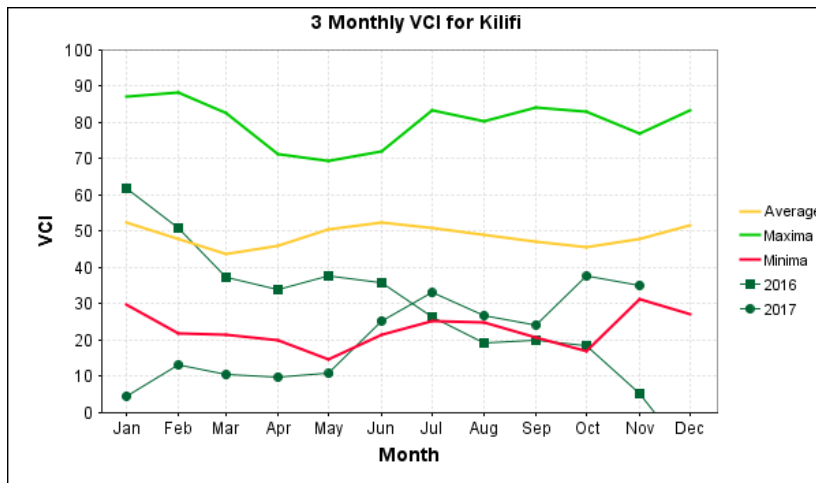


Figure 2c: Kilifi County Time Series Analysis for 3-month Vegetation Condition Indices [source: Boku University –Austria]

- The 3 month VCI for November 2017 was below long term mean but better compared to November 2016, an indication that on average some parts of the county have good vegetation condition.

### 2.1.2 Pasture

- Pasture condition for the month of November had recorded some positive improvement compared to the previous month.
- The condition on average ranged between fair to good across all livelihood zones.
- Condition expected to improve further if the rains continue in the month of December.

### 2.1.3 Browse

- Browse condition improved significantly during the month of November.
- On average across all livelihood zones it ranged between good and fair

## 2.2 Water Resources

### 2.2.1 Sources

- During the month of November, the main water sources for domestic and livestock use across all livelihood zones were pipeline, pans/dams, rivers, shallow wells, natural ponds and boreholes.
- Significant recharge of pans and dams was recorded in Ganze and Kaloleni sub counties with Magarini recording poor recharge following poor rains.
- The current situation was not normal at this time of the year for some parts like Magarini which remained dry the better part of November.

### 2.2.2 Household water access and utilization

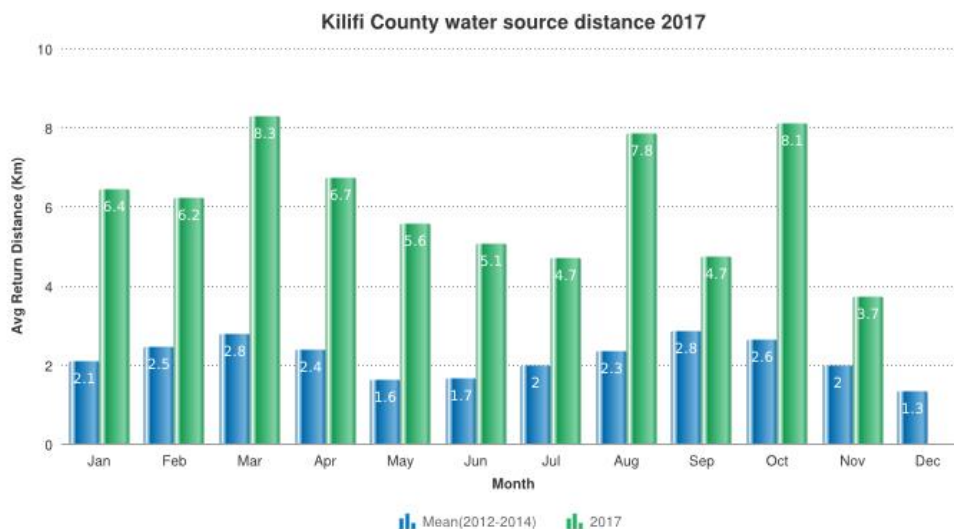


Figure 5: Households average distance to water points.

- The average distance to water sources for households recorded a 54.3 percent decrease in November compared to the previous month.
- The decrease can be attributed to recharge of pans and dams in Ganze and Kaloleni sub counties which had dried.
- Average distance to water point for households during the month was 85 percent longer compared to the long term mean at this time of the year.

### 2.2.3 Livestock access to water

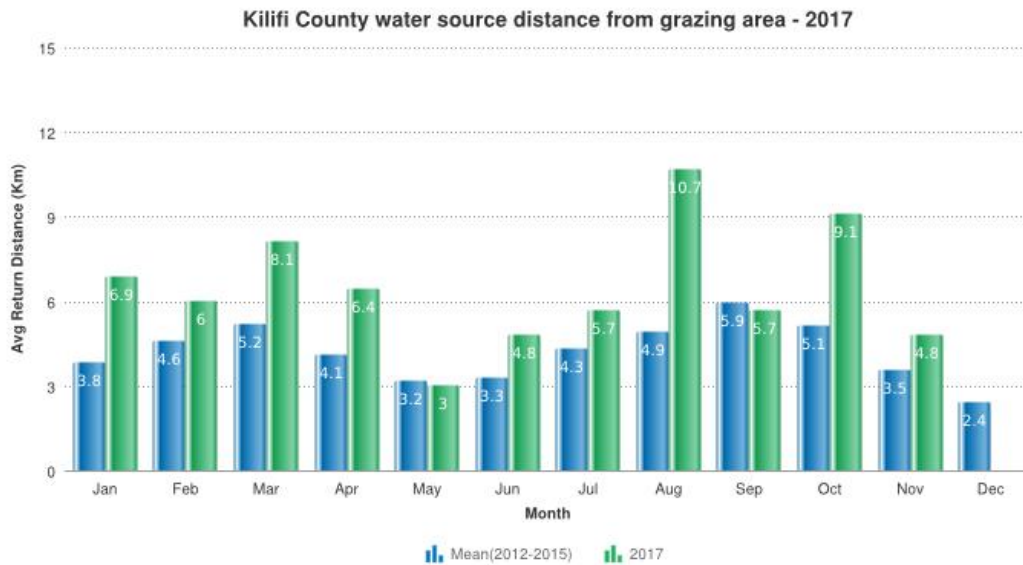


Figure 6: Average livestock return distance to water point from grazing area.

- The month under review recorded a 47.25 percent decrease in average distance from grazing areas compared to the previous month.
- The decrease can be attributed to recharge of pans and regeneration of pasture thus reduced distance in search for pasture and water.
- The average distance to water sources from grazing areas during the month under review was 37.14 percent longer compared to the long term mean at this time of the year.

## **PRODUCTION INDICATORS**

### **3.0 Livestock Production**

#### **3.1.1 Livestock body condition**

- Following improved access to water, pasture and browse, livestock body condition continued recording a positive improvement.
- Body condition for cattle ranged between good and poor across the county with sheep and goats recording good body condition across all livelihood zones.

#### **3.1.2 Livestock disease**

- No major livestock diseases were reported during the month under review .

### 3.1.3 Milk production

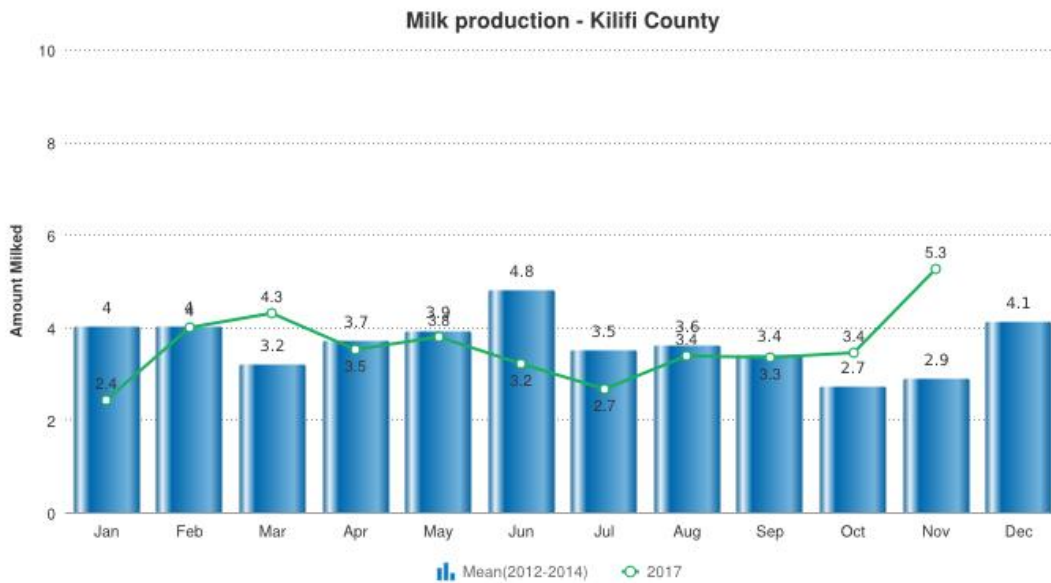


Figure 7: Average Milk Production

- The month under review recorded a 56 percent increase in production in ltrs/day/hh compared to the month of October.
- Production expected to increase as pasture and browse condition improved.
- The average production was higher compared to the long term mean at this time of the year.

## 3.2 RAIN FED CROP PRODUCTION

### 3.2.1 Stage and condition of food crops

- Main crop in the farms was maize in different stages of development with first planted crop being at knee high.
- The crop was in good condition during the month under review.

### 3.2.2. Crop Harvest

- Harvesting of mangoes, coconuts and water melons was recorded though on small scale.



## 4.0 MARKET PERFORMANCE

### 4.1. LIVESTOCK MARKET

#### 4.1.1 Cattle prices

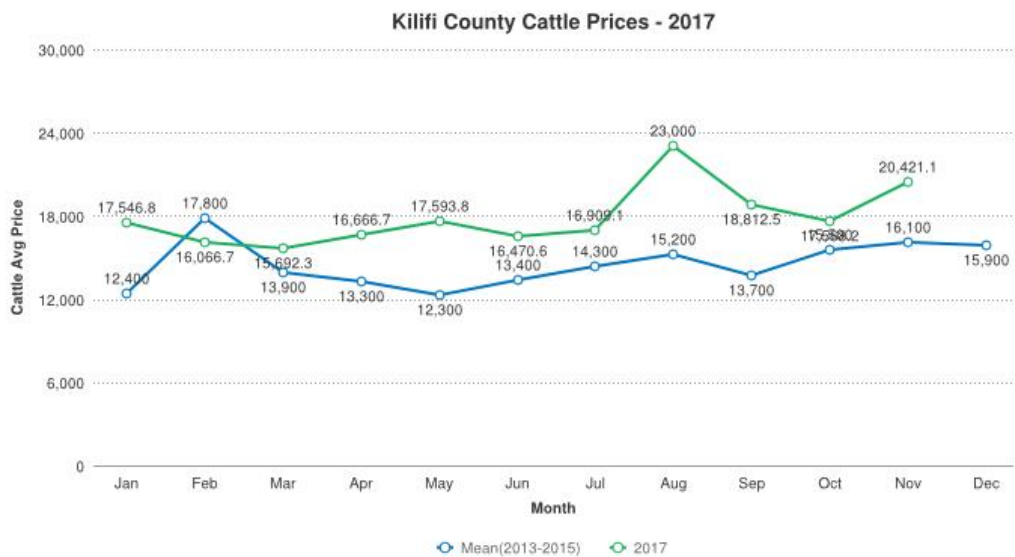


Figure 7: Average cattle price (4 year bull/steer) in major livestock markets in Kilifi County.

- The month of November recorded an increase of 16.24 percent in average price for the medium-sized cattle compared to the previous month.
- The increase can be attributed to improved body condition across the livelihood zones.
- The current average price was 26.8 percent higher compared to the long term mean at this time of the year.

#### 4.1.2 Goat prices.



Figure 8: Average goat price (3 year old) at market level in Kilifi County.

- The average goat prices during the month of November remained stable compared to the previous month.
- The highest average market price was recorded in the mixed farming zone at Kshs5000.
- The average price recorded in the month under review was 23.5 percent higher compared to the long term mean at this time of the year.

## 4.2 Crop prices

### 4.2.1 Maize

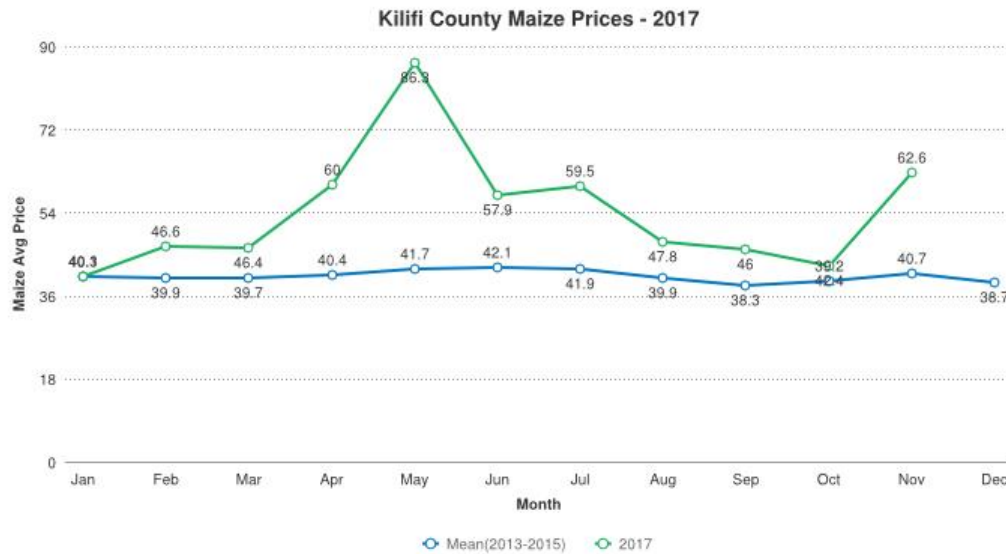


Figure 9: Average maize price in Kilifi County.

- The month of November recorded a 47.6% increase in average maize price per kilo.
- The increase is due to some variety in the market sold mainly for planting and sold in small scale with Bamba ward recording an average/kg of Kshs123.
- Households mainly depended on sifted maize meal which was retailing at an average of Kshs90/2kgs
- The average price recorded for the month under review was 53.8 per cent higher compared to the long term mean at this time of the year.

#### 4.2.2 Beans

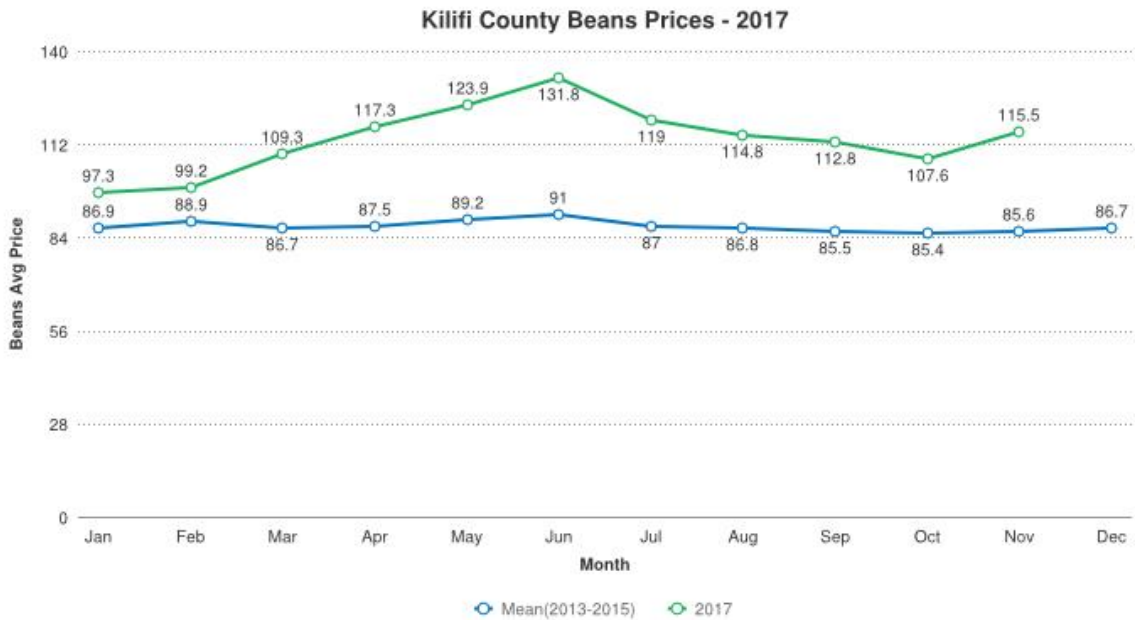


Figure 10: Average beans price in Kilifi County.

- The average beans price per kilogram in the month under review was Kshs115.5 an increase compared to the previous month.
- The highest average price was recorded in the ranching zone, Magarini sub county at an average of Kshs 140 per kilogram while lowest average price was recorded in mixed farming zone at Kshs98 per kilogram
- The current average price was 34.9 percent higher compared to the long term mean at this time of the year.

#### 4.3 TERMS OF TRADE

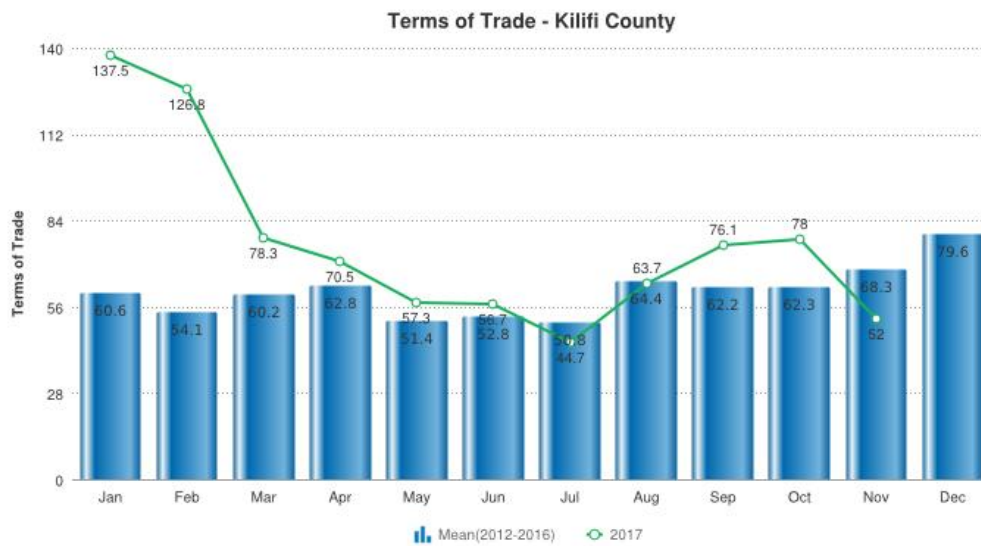


Figure 11: Terms of trade for Kilifi County.

- The month of November recorded a decrease in Terms of Trade compared to previous month.
- The goat sellers were able to buy 52 Kilogram of maize by selling one goat. The decrease can be attributed to an increase in maize prices as goat prices remained stable.
- The Terms of Trade for the month under review were unfavorable compared to the long term mean at this time of the year.

## 5.0 NUTRITION STATUS

### 5.1 MILK CONSUMPTION

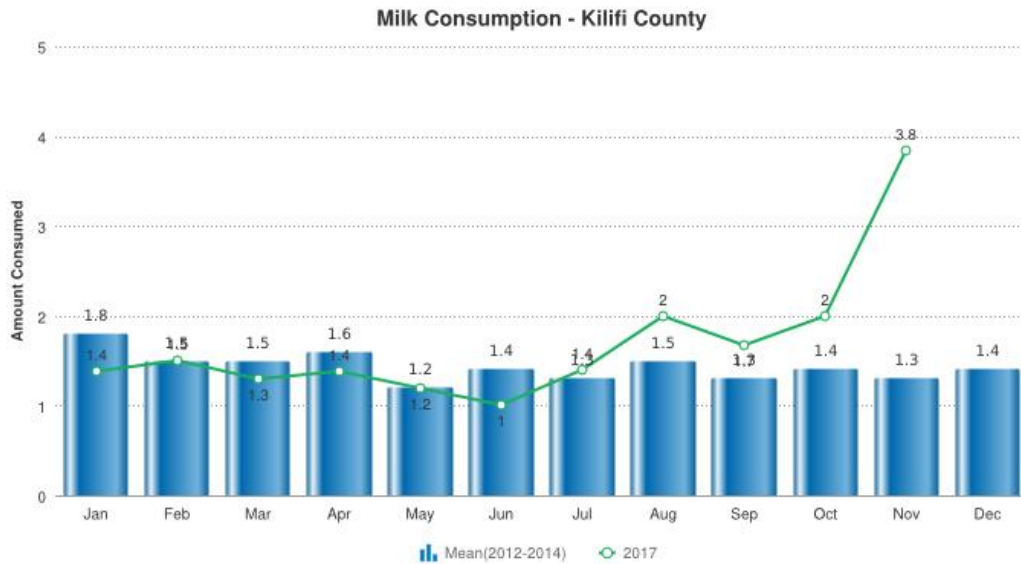
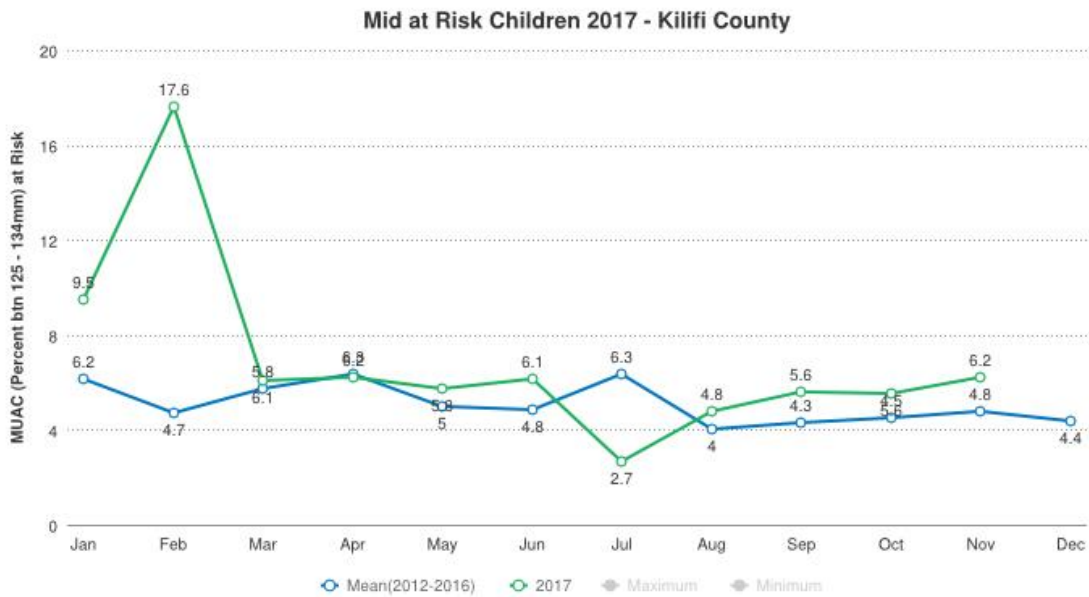


Figure 12: Milk consumption chart

- November recorded an increase in milk production up to 3.8ltrs /hh/day which resulted in an increase in milk consumption at household level.
- Milk consumption at household level is through tea and not fresh milk even for the under-fives.
- The average milk consumption per person per day is higher for the month under review compared to long term mean at this time of the year.

## 5.2 Health and Nutrition Status

### 5.2.1 Mid Upper Arm Circumstance (MUAC)



*Figure 13: Proportion of children under five years at risk of malnutrition.*

- The month of November recorded an increase of 1.4 per cent in the number of children under five years at risk of malnutrition compared to the previous month.
- This can be attributed to household food insecurity as school closed, increased cases of diarrhea and poor dietary consumption across the livelihood zones.

## 5.2.2 Food Consumption Score.

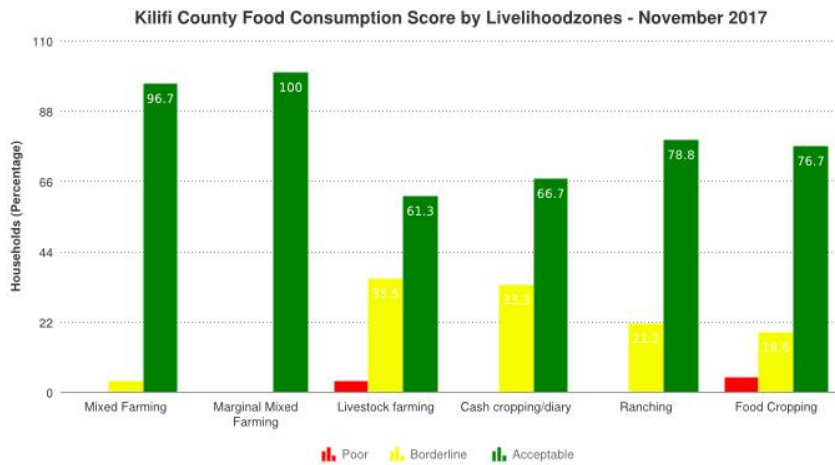


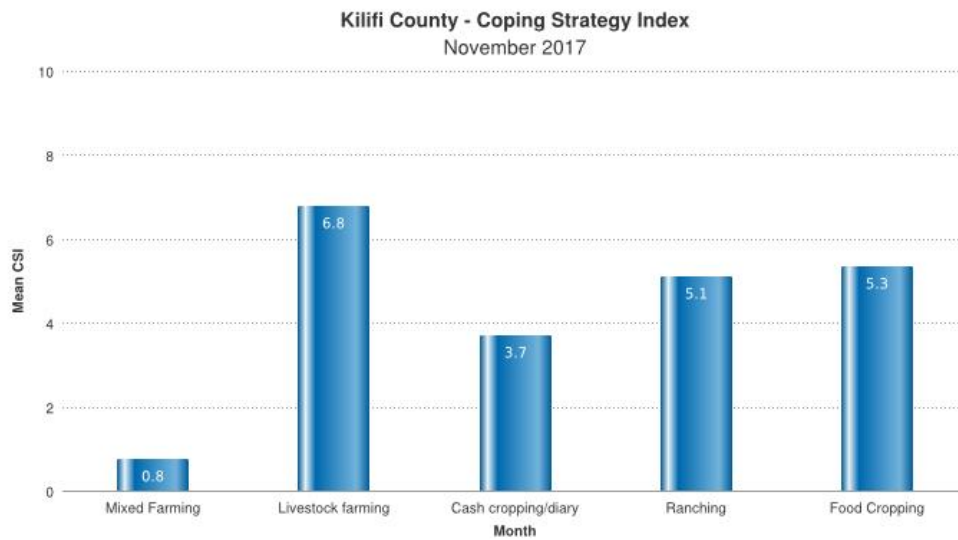
Figure 14: Food Consumption Score

- Livestock farming zone recorded highest number of households under poor food consumption.
- In the marginal mixed farming zone, all households recorded an acceptable food consumption.
- In both the food cropping and livestock livelihood zones, dietary diversity remained the main challenge due to food scarcity and high food prices in the market.



### 5.3 COPING STRATEGIES

#### 5.3.1 Coping Strategy Index



*Figure 13: Coping Strategy Index for Kilifi County*

- Following previous poor seasons, still households employed various strategies to cope with food shortages.
- The livestock farming zone recorded highest levels of food shortage as shown on figure 13 above.

## **6.0 CURRENT ONGOING INTERVENTION MEASURES**

### **6.1 Food- aid**

- Supplementary feeding for the malnourished at the health facilities across all livelihood zones.

### **Non-food aid**

#### **Social- Protection**

- Cash for Asset by GoK/ WFP, World Vision, Kenya Red Cross Society and NDMA in Ganze, Kaloleni, Malindi, Rabai and Magarini Sub Counties to 12,200No.of vulnerable households.

#### **Agriculture sector**

- Tractor-land preparation services across all the wards.
- Purchase and delivery of drought tolerant seeds to 4000 beneficiaries worth 4600/- each by Caritas Mombasa in Kaloleni and Ganze sub counties
- Training of 200 farmers on drought tolerance and postharvest management in Kaloleni Sub County by Caritas Mombasa.
- Training of 150 farmer groups on Conservation Agriculture and mitigation to climate change to increase farm productivity by FAO
- Purchase and distribution of demo inputs to 75 farmer groups across the county, 150kgs Green grams, 150kgs cowpeas and 150kgs sorghum seeds, 75 x50kg NPK fertilizer, 75 x 50 kg CAN fertilizer, 150 x 100mls bottles herbicide, 75 x 100mls bottles fungicide by FAO.
- Launch of Conservation Agriculture planting equipment - 7 animal drawn planters and 2 tractor drawn no-till planters by FAO.

#### **Livestock Sector**

- Purchase and distribution of pellets to 862 households in Ganze and Kaloleni sub counties. Each household received 80 kg bag of pellets by Caritas Mombasa.

#### **Health Sector**

- Stakeholders' forum to help reduce stunted malnutrition which was alarming in the county according to the recent statistics.

## **7.0 EMERGING ISSUES**

- No emerging issues were reported during the month of November.

### **7.1 Food Security Prognosis**

- Following delayed and poorly distributed rains, minimal land has been cultivated thus less harvest expected hence increased likelihood of household food insecurity.
- Following regeneration of pasture and browse, livestock body condition expected to continue improving thus increased milk production and good average prices.

- Following closing of schools, household food security expected to deteriorate due to increased demand.

## **8. RECOMMENDATIONS**

### **Water Sector**

- Assessment of water situation in Magarini sub county.

### **Livestock Sector**

- Support to fodder and pasture production and conservation across the county

### **Heath Sector**

- Increase intervention geared towards reducing cases of malnutrition across the county.

### **Agriculture Sector**

- Closely monitor the 2017 short rains crop production progress.
- Community capacity building of Climate Smart Agriculture