

**National Drought Management Authority**  
**MAKUENI COUNTY**  
**DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2017**



A Vision 2030 Flagship Project



**DECEMBER EW PHASE**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Onset was on the third dekad of October to 1<sup>st</sup> dekad of November while cessation was on the second to third dekad of December countywide.
- The average 3 month VCI was 35.49 implying normal vegetation greenness for the County.
- Quantity and quality of pasture was good across all the livelihood zones.
- State of water sources was normal for the period under review.

**Socio Economic Indicators (Impact Indicators)**

- Maize experienced moisture stress in the Marginally Mixed farming areas such as Kisau Kiteta, Mbooni South and parts of Kibwezi East and West. There was however fairly good performance in Mixed Crop livelihood areas such as Nthangu and parts of Kaiti and Mbooni where the crop had reached maturity stage.
- Livestock body condition ranged from fair to poor (score of 3-4) with an improving trend.
- There were no cases of human and livestock death and disease
- Terms of trade was unfavorable at 75.6
- The percentage of children at risk of malnutrition was 8.1 which was within the normal range.
- The County CSI was 11.9 (high) attributed to the impact of drought during the month.
- Distances to Grazing areas and water sources had improved

**Early Warning (EW) Phase Classification**

Livelihood Zone	Phase	Trend
Mixed farming coffee/dairy	Normal	Stable
Mixed farming Food Crop/Livestock	Normal	Stable
Marginal Mixed Farming	Alert	Improving
County	Normal	Stable
Biophysical Indicators	Value	Normal Ranges
VCI-3Month	35.49	>35
State of Water Sources	5	5
Production indicators	Value	Normal
Crop Condition	Stressed	Fair
Livestock Body Condition	3-4 Alert	6-Normal
Milk Production	1.8L	1.8 Litres
Livestock Migration Pattern	Normal	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (ToT)	79.3	>80
Milk Consumption	1.1 L	1.2 litres
Return distance to water sources	4.6 Km	3.4 Km
Cost of water at source (20 litres)	Ksh 3-5	Ksh 3
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	8.1	<12.9
Coping Strategy Index (CSI)	11.9	<10

<ul style="list-style-type: none"> <li>▪ Short rains harvests</li> <li>▪ Short dry spell</li> <li>▪ Reduced milk yields</li> <li>▪ Increased HH Food Stocks</li> <li>▪ Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Planting/Weeding</li> <li>▪ Long rains</li> <li>▪ High Calving Rate</li> <li>▪ Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>▪ Long rains harvests</li> <li>▪ A long dry spell</li> <li>▪ Land preparation</li> <li>▪ Increased HH Food Stocks</li> <li>▪ Kidding (Sept)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Short rains</li> <li>▪ Planting/weeding</li> </ul>

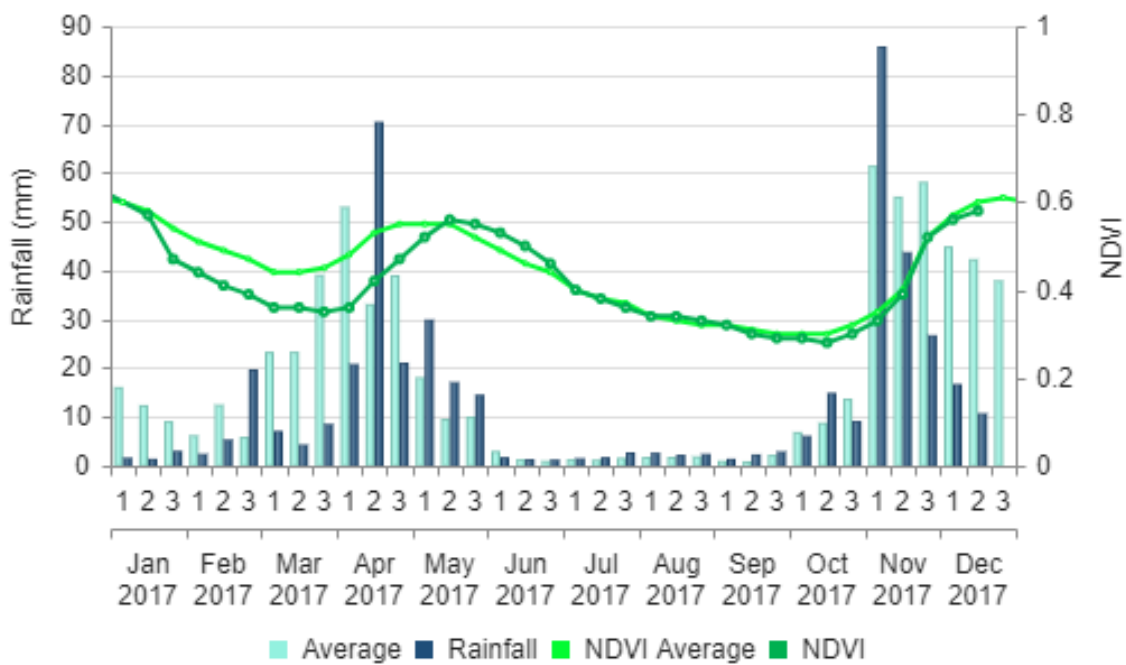
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
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# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- Generally onset of the OND rains was on the third week of October to first week of November while the Cessation was on the second to third dekad of December.
- According to the Kenya Meteorological Department the overall onset was late and the Cessation was early.
- More rainfall was experienced in the mixed farming livelihood zones than in the marginal mixed farming livelihood zone.
- The County recorded an average of 16.5 mm against an average of 44.7.1mm in dekad 1, 10.5 mm against an average of 42.1mm in dekad 2, and 8.7 mm against an average of 37.7mm in dekad 3.

Kenya - Eastern - Makueni - 2017

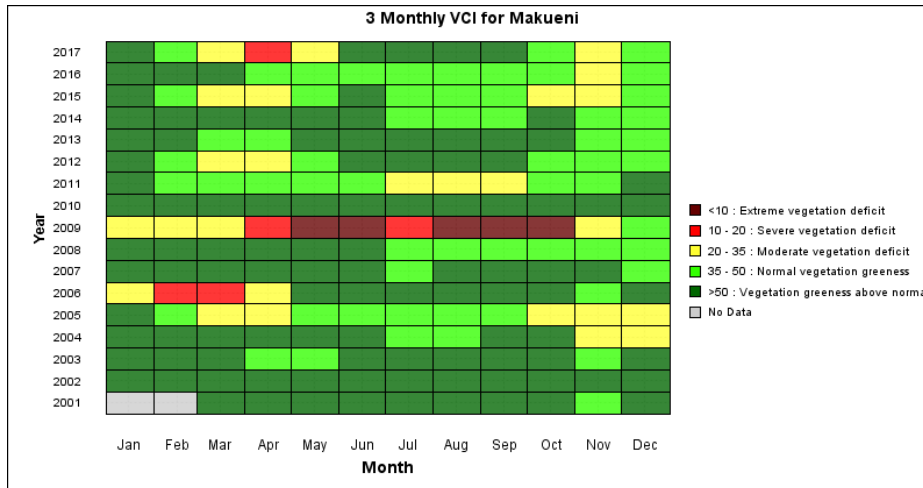


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## 2. IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index(VCI)

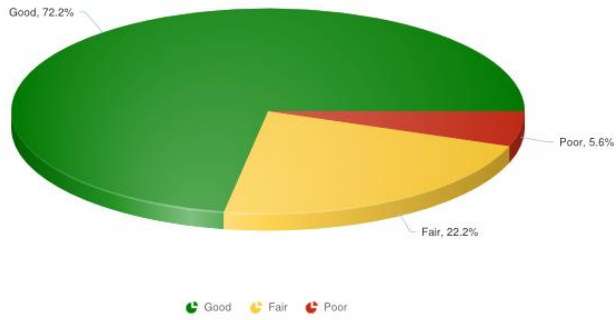


- The average 3-month VCI for the County was 35.49 from 30.28 recorded last month an indication of Normal vegetation greenness.
- There was an improvement in four sub counties (Kilome 34.27 from 34.93, Makueni 38.68 from 31.88, Kibwezi East 33.4 from 26.35 and West 26.39 from 23.83) that is from moderate vegetation deficit band to Normal vegetation greenness.

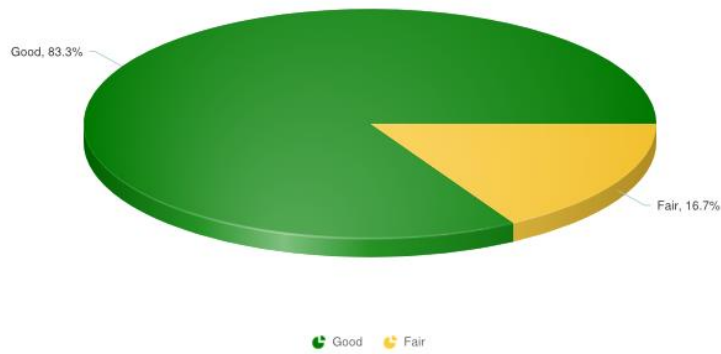
#### 2.1.2 Pasture and Browse

- The quantity and quality of Pasture was fair to good across all the three livelihood zones.
- Browse condition was good in both mixed farming (Coffee/Dairy) and mixed farming (Livestock/Food Crop) while in Marginal mixed farming livelihood zone it ranged from fair to good.
- The condition is expected to improve more as the OND short rains continue.

**Makueni Pasture Condition**  
(Dec 2017 - Dec 2017)



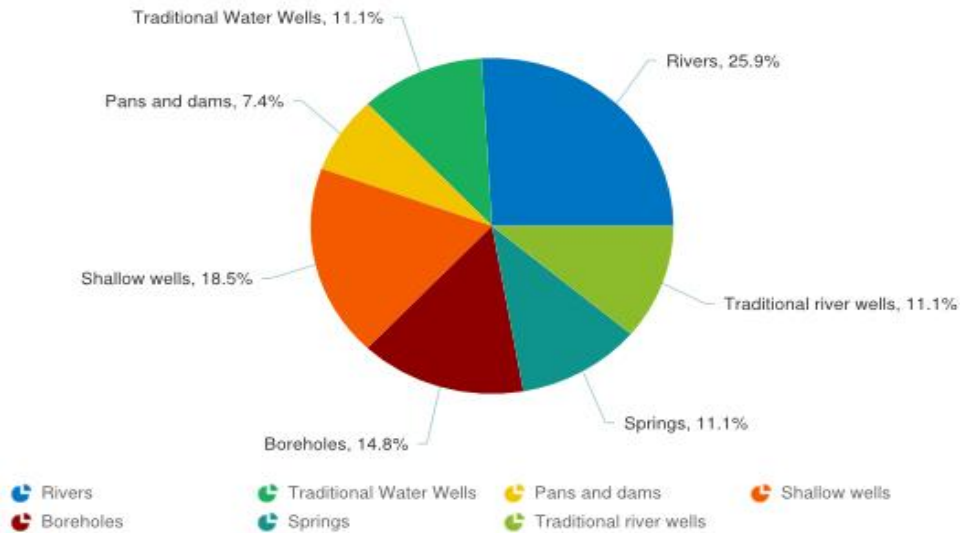
**Makueni Browse Condition**  
(Dec 2017 - Dec 2017)



## 2.2 WATER RESOURCE

### 2.2.1 Sources

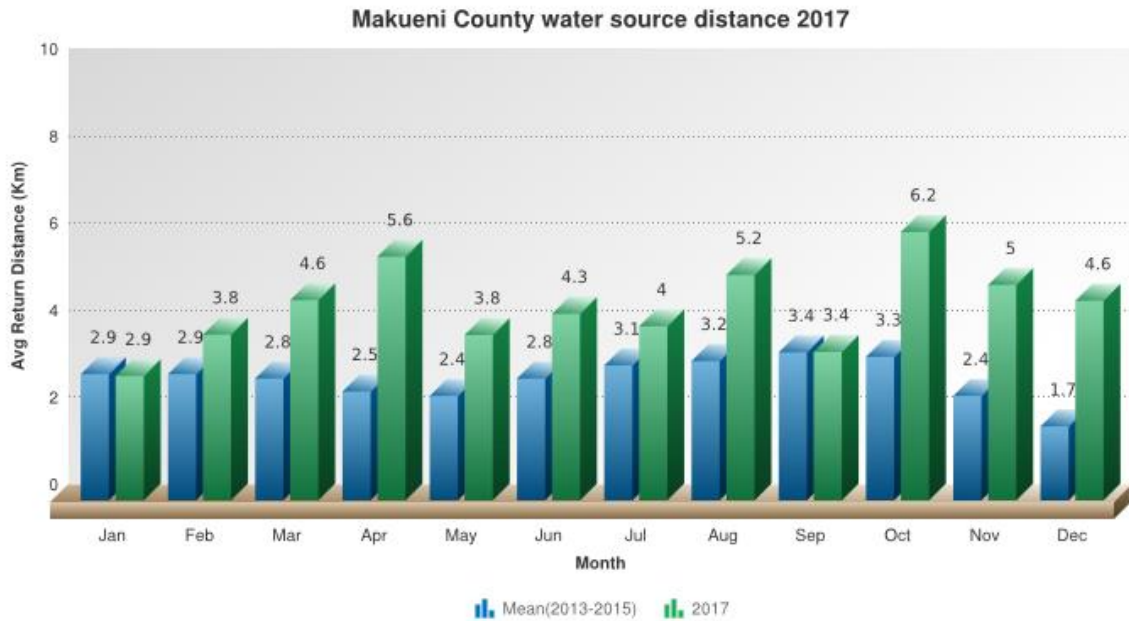
**Makueni County Water sources**  
(December 2017)



- Major sources of water for the county during the month were: Rivers at 25.9%, shallow wells at 18.5%, boreholes 14.8%, traditional river wells and springs each at 11.1% and piped water schemes mostly in Kilome Sub County.
- State of water sources for the County during the month was normal (index 5) implying the same is experienced at a similar time of the year in previous years.
- Average cost of a 20 litre Jerry can was between Ksh3 to 5 in the water Kiosks.

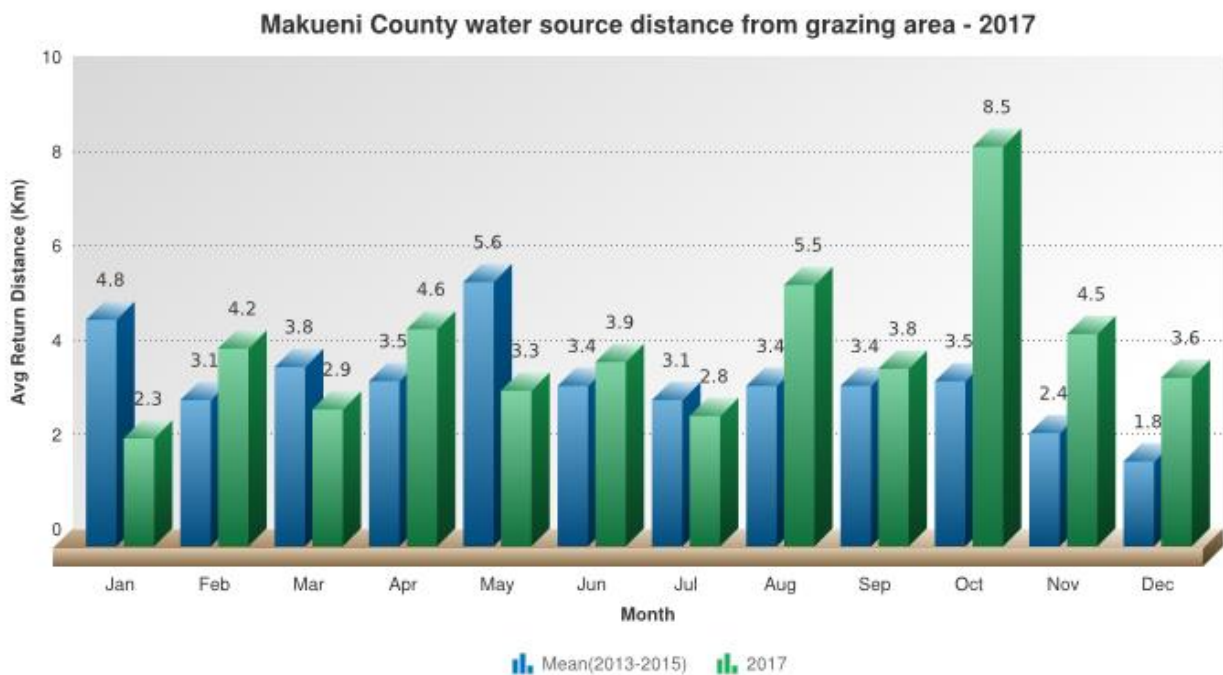
## 2.2.2 Household access and Utilization of water

### Distances to water sources for household consumption



- There was an improvement in average household return distances from 5.0Km to 4.6Km
- The improvement was attributed to the recharge in water levels in major water reservoirs due to the OND short rains.
- The situation is expected to remain stable for the next one month.

## 2.2.3 Livestock access to water



- Average return distances to water sources for livestock decreased remarkably from 4.5Km to an average of 3.6Km and this was attributed to the OND rains.
- The distances are expected to remain stable for the next one month.

## **3.0 PRODUCTION INDICATORS**

### **3.1 LIVESTOCK PRODUCTION**

#### **3.1.1 Livestock Body Condition**

- The current livestock body condition for cattle in most parts of the county was at the borderline (fore-ribs not visible but 13<sup>th</sup> and 14<sup>th</sup> ribs visible) with an improving trend while that of shoats was fair to good across all the three livelihood zones.
- The situation is expected to improve more in the next one month with the availability of pasture and water for livestock.

#### **3.1.2 Livestock Diseases**

- No major livestock disease outbreaks reported.

#### **3.1.3 Milk Production**

##### **Milk availability**

- Milk availability mostly in mixed farming livelihood zone was good and is expected to remain stable for the next one month with the availability of pasture and water for livestock.

##### **Marginal mixed Farming zone:**

- Households in this zone were more reliant on goat milk whose yield was between 300-500mls per day. Local Zebu also produced 300-500mls.

##### **Mixed farming (Food Crop/Livestock):**

- In this livelihood zone, Zebu cattle and crossbreeds accounted for most milk produced. Availability was approximately 500-700mls compared to a normal of 500mls.

##### **Mixed Farming (Coffee/Dairy):**

- The production of milk per day per household ranged from 800-1500mls per day against a normal of 1litre.

### **3.2 RAIN-FED CROP PRODUCTION**

#### **3.2.1 Stage and Condition of food Crops**

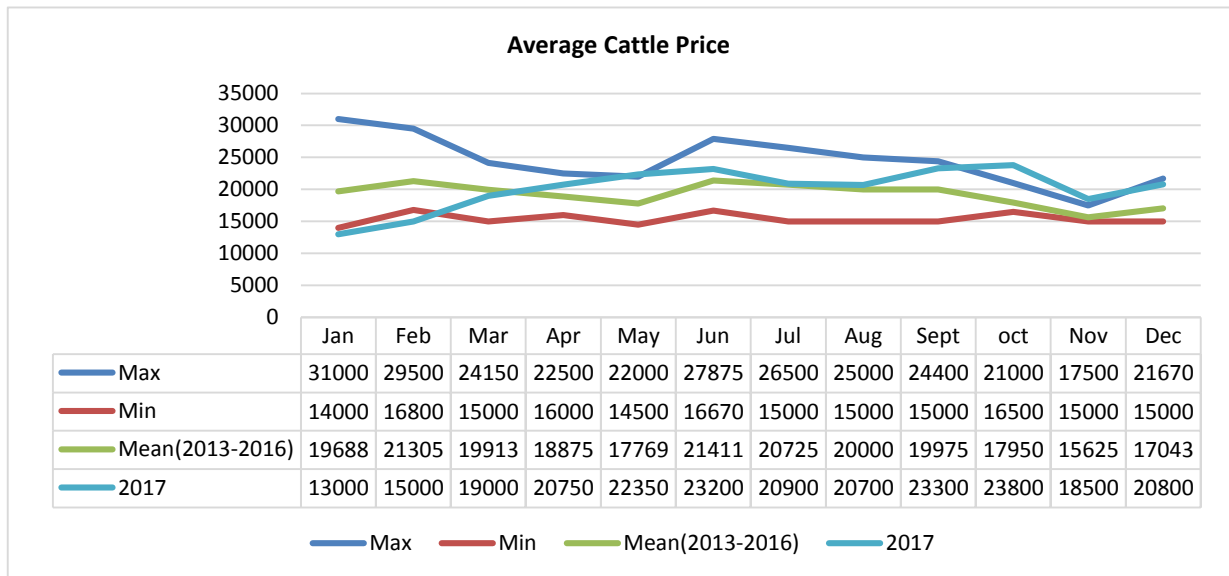
- Weeding was the main agricultural activity during the first two weeks of the Month.
- Maize experienced moisture stress in the Marginally Mixed farming areas such as Kisau Kiteta, Mbooni South and parts of Kibwezi East and West and is not expected to yield much. There was however fairly good performance in Mixed Crop livelihood areas such as Nthangu and parts of Kaiti and Mbooni where the crop had reached maturity stage. Although the actual harvest will not reach the anticipated amount, this season's harvest is expected to be an improvement from the previous season.
- Green gram and cowpeas harvest is expected to be good in Kibwezi East since the area received some showers when other areas were experiencing moisture stress. However, in Kibwezi West sub-county and parts of Makueni (Kathonzweni, Kisau-Kiteta, Kako/Waia), the crop performance is expected to be dismal as the crops were deprived of moisture during formation stages. In Kaiti and Kilome sub-counties, average to above average yields can be expected.
- Cases of fall Army worm infestation were reported in all sub-Counties though the situation was contained through provisions of Agro-chemicals by the county government.
- In Mbooni Sub county maize was also stressed due to moisture stress, in Kisau and Mbumbuni wards there was total failure for beans while cowpeas was still at its vegetative stage of growth.

- In Kibwezi west there was total failure for maize and beans. The expected harvest was for green grams, cowpeas and sorghum.

## 4.0 MARKET PERFORMANCE

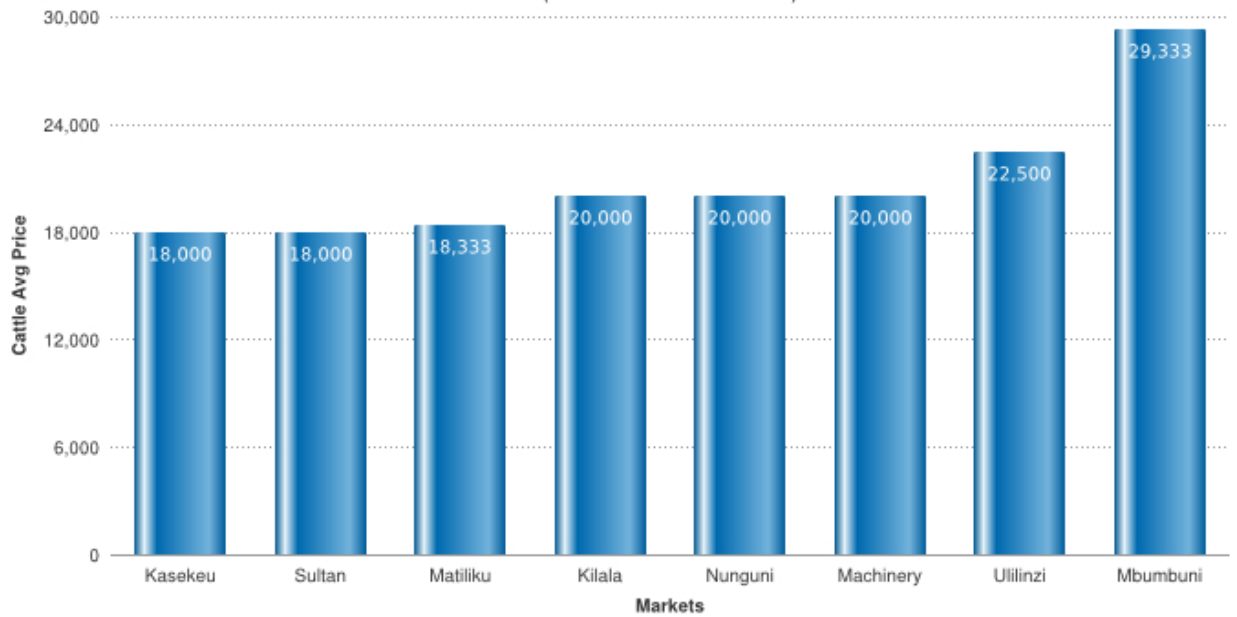
### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

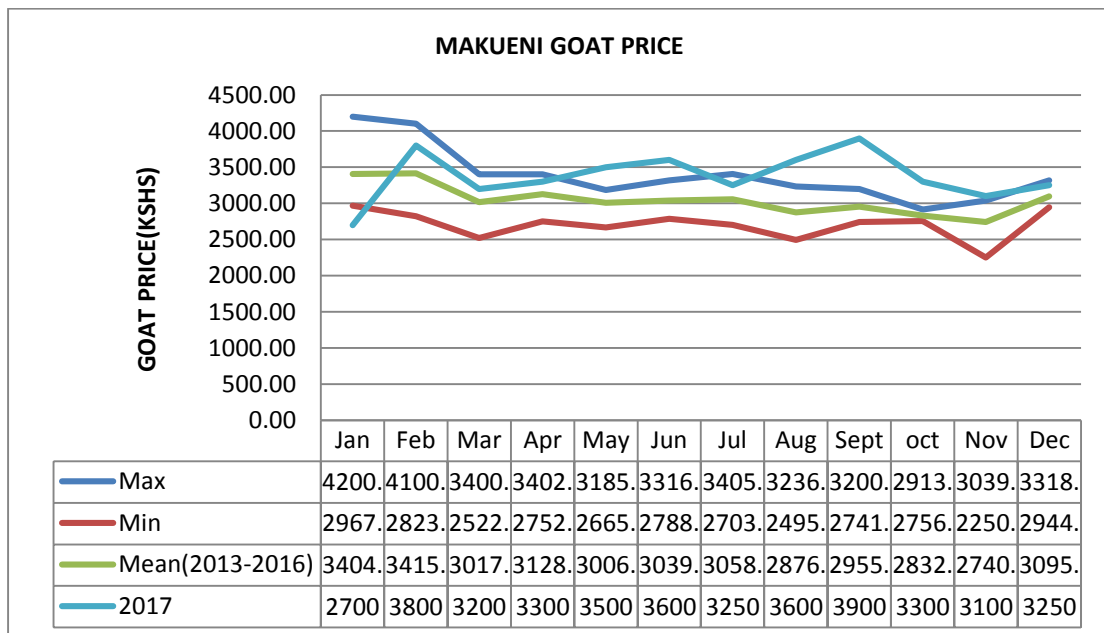


- Average farm gate prices of cattle (2-3 year old cattle) improved from Ksh18,500 to Ksh20,800. Compared to (2013-2016) long term average the current price was above normal.
- The improvement is attributed to the improving body condition for the cattle. The situation is expected to further improve in the next 1 month with the availability of water and pasture for livestock.
- The prices of cattle at different markets were as follows:

**Makueni County Cattle Prices by Markets**  
(Dec 2017 - Dec 2017)



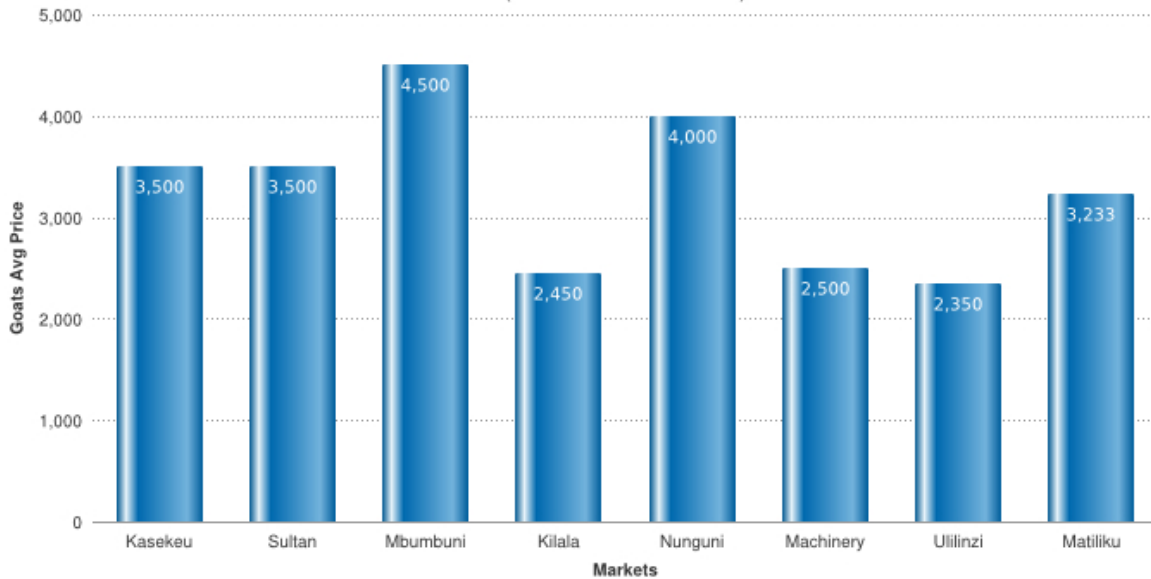
#### 4.1.2 Goat Prices



- The average farm-gate price of a goat increased from Ksh3,100 to Ksh3,250. This was still higher than the (2013-2016) long-term mean by 5 percent.
- The increase in price is attributed to the good body condition and the size of goats.
- Average goat market price was as follows in various markets across the county.

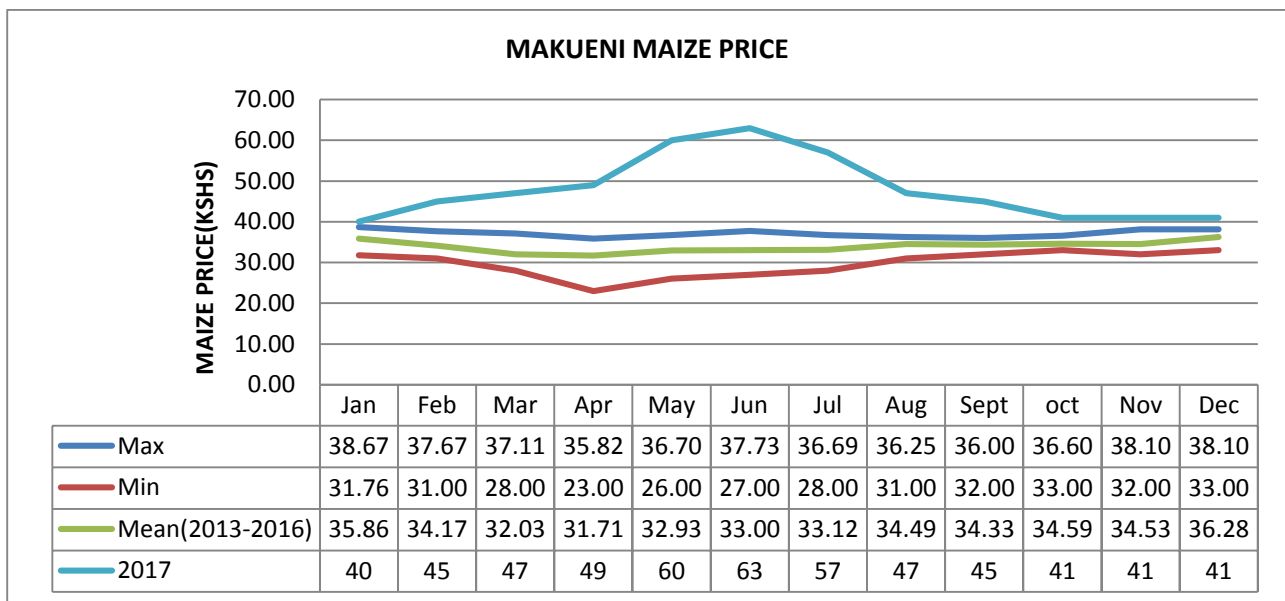


**Makueni County Goat Prices by Markets**  
(Dec 2017 - Dec 2017)



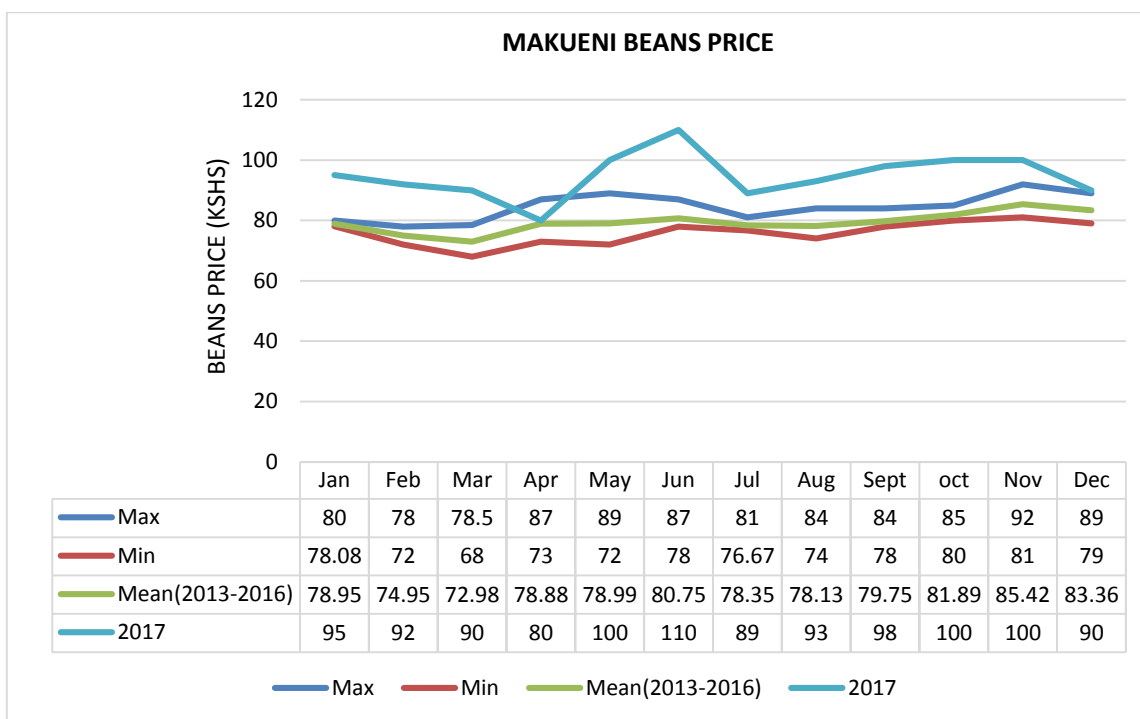
## 4.2 CROP PRICES

### 4.2.1 Maize



- The average market price of maize remained stable at Ksh41. The prices are expected to go higher given that there was failure of the maize crop in the wider part of the County.
- The price remained relatively higher than the (2013-2016) long-term average (13 percent higher).
- Compared to a similar time last year the price was higher.

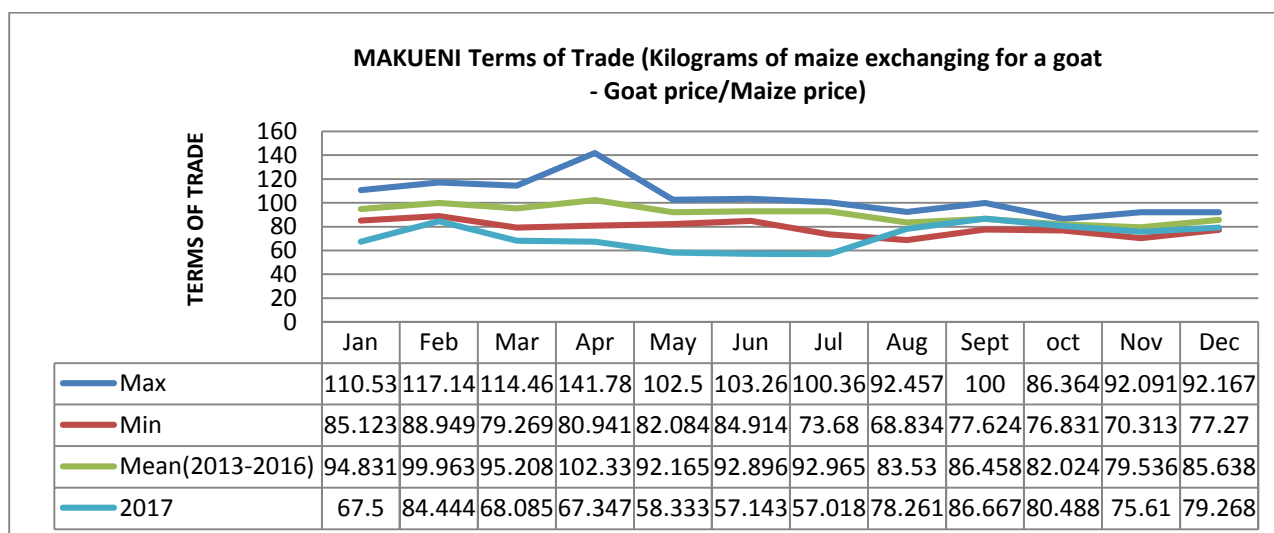
### 4.2.3 Beans



- The average price for beans was KSh90 a decrease from Ksh100 that of last month.
- Compared to the long term the current prices are 17 percent above normal. The situation is expected to worsen since we expect low harvest for the crop.

#### 4.2.3.1 Other outstanding observations.

### 4.3 Livestock Price Ratio/Terms of Trade



- Although the Terms of trade (ToT) were 7.4 percent lower than(2013-2016) long-term, they were still fair at 79.3 implying that from a sale of one goat, a farmer could purchase 79.3Kg of maize from the earnings of a goat.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

#### Marginal mixed Farming zone

- Milk production was equivalent to milk consumption in this livelihood zone.
- Current milk price was between Ksh60 per litre against the normal of Ksh55.
- The consumption is expected to increase given that there is adequate pasture and water for livestock.

#### Mixed farming Zone (Food crop/Livestock).

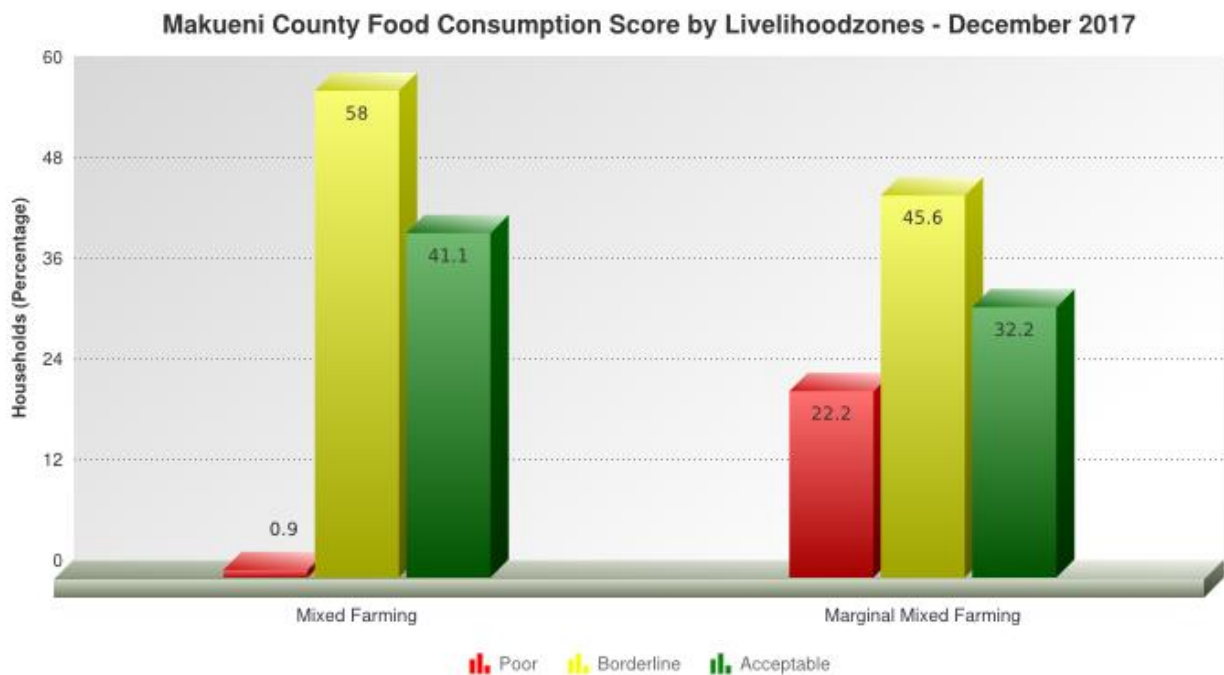
- Milk consumption per day in this zone was between 600mls to 700mls.
- The current milk price is between Ksh55 to Ksh60 against the normal of Ksh50.

#### Mixed Farming Zone (Coffee/Dairy)

- Milk consumption is about 800mls to 1000mls. The average milk price was between Ksh50 to Ksh60 against the normal of Ksh45.

### 5.2 FOOD CONSUMPTION SCORE

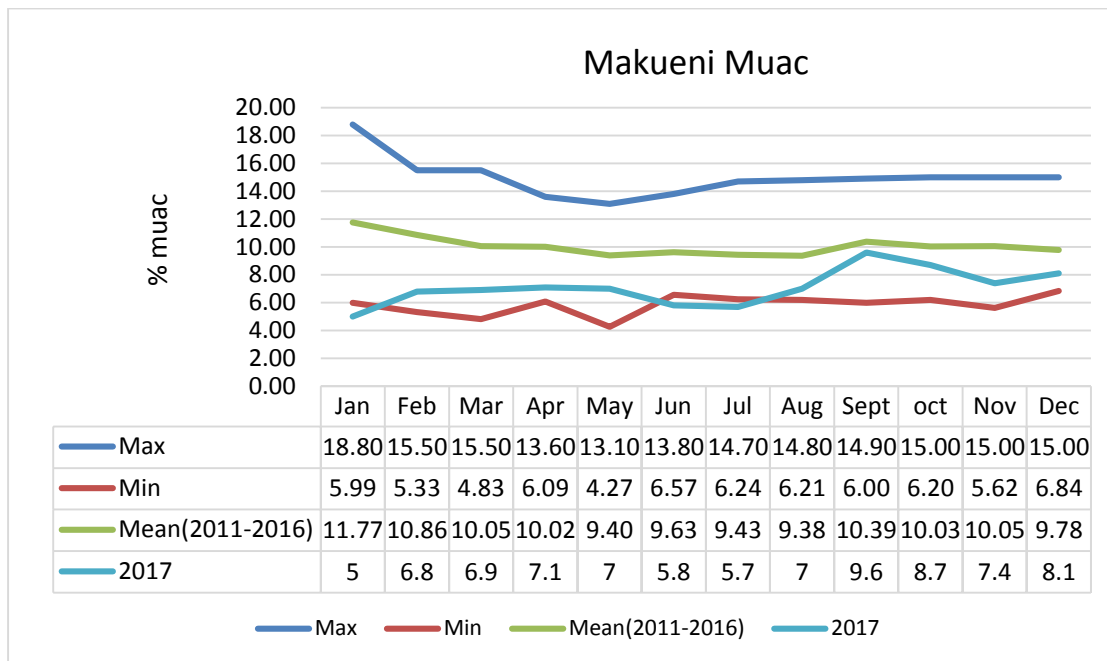
- In mixed farming zone 41.1% of households had an acceptable food consumption score, 58% of households were at the borderline while 0.9% had a poor consumption score while in the marginal mixed farming zone 32.2% of households had an acceptable food consumption score, 45.6% of households were at the borderline while 22.2% had a poor consumption
- This implies that the dietary diversity of most households ranged from fair to good.
- The bar graph below illustrates the food consumption score in the mixed farming and marginal mixed farming livelihood zones.



### 5.3 HEALTH AND NUTRITION STATUS

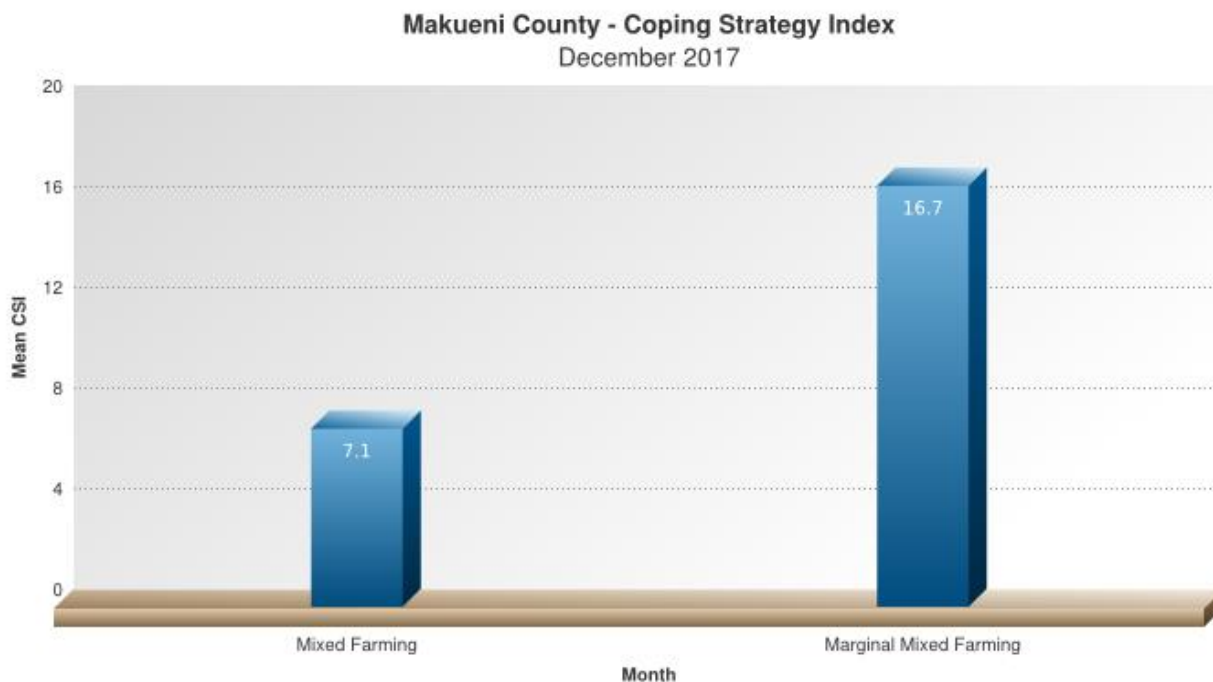
#### 5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition (under-fives) was 8.1%, an increase from 7.4% from that of last month though within the normal range.
- Compared to the long term average the situation was stable.



### 5.3 COPING STRATEGIES

- The CSI in Mixed farming livelihood zone was 7.1 while in the Marginal mixed farming zone it was 16.7 implying more coping mechanisms were being employed in Marginal Mixed Farming livelihood zone than in the Mixed Farming livelihood zones.
- The average CSI for the county was 11.9



## **6.0 CURRENT INTERVENTION MEASURES (ACTION)**

### **6.1 NON-FOOD INTERVENTIONS**

- During the month of December, the County government purchased agro-chemicals worth Ksh. 6.5 Million to help ward off the fall army worm whereby 982 litres of Lexus 247SC were purchased.

### **6.2 FOOD AID**

- Food Aid allocation from Special Programmes for distribution by the County Commissioner's office was received during the month of December.  
The rations were as follows: Beans 50(90 Kg) bags, Oil (0.5litres×24) 50 cartons. 500(50 Kg) bags of maize are expected to be received before distribution can begin.

## **7. EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement/Human Wildlife conflict**

- There were no reported cases of human wildlife Conflict.

### **7.2 Migration.**

- Cases of livestock migration from the neighbouring County of Kajiado to areas of Malili were reported.

### **7.3 Food security prognosis**

- Given that the rainfall amounts received were less than the average amount received at the same time of the year, crop harvests might not reach higher amounts as earlier anticipated. However, when compared to the previous season, this season is expected to perform better in terms of both crop and livestock production. With the current stable terms of trade and state of water sources and adequately regenerated pastures, the county is food secure and should comfortably sustain itself until the next season.  
However, the failing of green grams and cowpeas in areas where the crop has previously performed well due to intermittent rains could hamper the income of residents in these areas who depend on the crop as a source of livelihood. Maize crop has totally failed in some areas especially in the marginally mixed livelihood zone, and close monitoring should be done in these areas.

## **8. RECOMMENDATIONS**

### **Agriculture Sector**

- Promotion of water harvesting at household level.
- Promotion of Good Agronomic Practices that is smart Agriculture, minimum tillage, crop rotation and zai-pitting.
- Promotion of drought tolerant crops(production, value addition and utilization)

### **Livestock sector**

- Disease surveillance along the county borders and migratory routes
- Enhance livestock medical camps at sub county level

### **Water Sector**

- Servicing and rehabilitation of broken down boreholes as well as stockpiling with spares.

### **Health Sector**

- Integrated health outreaches and mass screening of children under the age of 5 years
- Sensitizing community health volunteers on nutrition education

### **Education**

- Upscale HGSMP to cover more schools.
- Introduce ten o' clock snack for ECDE centres