


**National Drought Management Authority**  
**KITUI COUNTY**  
**DROUGHT EARLY WARNING BULLETIN FOR OCTOBER 2019**



A Vision 2030 Flagship Project



OCTOBER EW PHASE						Early Warning Phase Classification					
						<b>LIVELIHOOD ZONE</b>		<b>EW PHASE</b>		<b>TRENDS</b>	
						Marginal Mixed Farming		Alarm		Improving	
						Mixed Farming		Alert		Improving	
						<b>County</b>		Alarm		Improving	
<p><b><u>Drought Situation &amp; EW Phase Classification</u></b></p> <p><b><u>Biophysical Indicators</u></b></p> <ul style="list-style-type: none"> <li>The month of October experienced an early onset of short rains across the livelihood zones. The rains were above normal.</li> <li>The vegetation greenness was below normal.</li> </ul> <p><b><u>Socio-Economic Indicators (Impact Indicators)</u></b></p> <p><b><u>Production Indicators</u></b></p> <ul style="list-style-type: none"> <li>Weeding and germination was on-going across the livelihood zones.</li> <li>Livestock body condition was fair for cattle.</li> <li>Suspected cases of CCP, parasites diseases and Sheep &amp; goat pox across the county.</li> <li>Cases of livestock deaths due to CCP/rains shock were reported in Marginal Mixed Farming livelihood zone.</li> <li>Milk production was below normal.</li> </ul> <p><b><u>Access Indicators</u></b></p> <ul style="list-style-type: none"> <li>Terms of trade were unfavourable compared to long term mean.</li> <li>Milk consumption was below the normal range.</li> <li>Water distances were below normal range.</li> <li>The cost of water at source was normal.</li> </ul> <p><b><u>Utilization Indicators</u></b></p> <ul style="list-style-type: none"> <li>The percentage of children mid at risk of malnutrition was above normal range.</li> <li>Households employed consumption based coping mechanisms more frequently compared to normal.</li> </ul>						<b>Biophysical Indicators</b>		<b>Value</b>		<b>Normal ranges</b>	
Rainfall (% of normal)		326		80-120							
VCI-3 month		24.61		35-50							
Forage Condition		Fair		Good to fair							
<b>Production indicators</b>		<b>Value</b>		<b>Normal ranges</b>							
Livestock Body Condition		Fair		Good to fair							
Milk Production (in litres)		0.6		≥ 1.3							
Livestock Migration Pattern		Not normal		Normal							
Livestock Deaths (from Drought)		Deaths		No death							
<b>Access Indicators</b>		<b>Value</b>		<b>Normal ranges</b>							
Terms of Trade (ToT)		72		≥ 98							
Milk Consumption (in litres)		0.4		≥ 0.7							
Return Distance to Water Sources (in km)		5.0		≤ 8.7							
Cost of Water at Source (20 litres Jerry can)		2-5		≤ 5Ksh							
<b>Utilization indicators</b>		<b>Value</b>		<b>Normal ranges</b>							
Nutrition Status, MUAC (% at risk of malnutrition)		8.2		≤ 7.9							
Coping Strategy Index (rCSI)		11.2		≤ 6.6							
<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>		
Dry Season			Long Rains			Dry Cool Season			Short Rains Season		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1.0 CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- The month of October was wet across the livelihood zones with early onset of 2019 short rains in first dekad of October compared to third dekad normally.
- However, timely onset were experienced in some parts of Marginal Mixed Farming livelihood zone.
- On average, the county recorded 39.7 and 21.4 millimetres of rainfall in first and second third dekads of October compared to 6.3 and 8.1 millimetres normally as shown in figure 1.

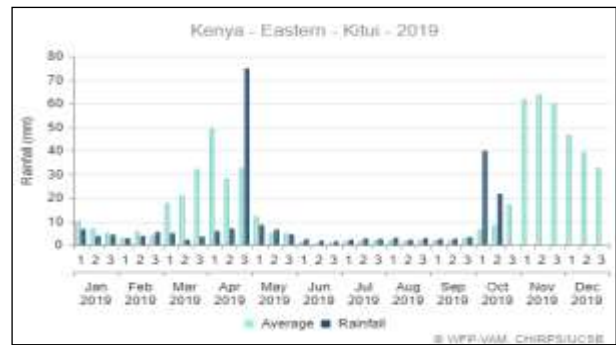


Figure 1: Rainfall Distribution for the Year 2019

This was 326 percent of normal rainfall recorded in October.

## 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- On average, most parts of Mixed Farming livelihood zone recorded between 200-400mm of rainfall compared to 90-150mm in Marginal Mixed Farming livelihood zone in 10-15 and 5-10 wet days respectively.
- Matinyani station in Mixed Farming recorded the highest cumulative amount of rainfall at 624mm in 14 wet days compared to Ikutha station in Marginal Mixed Farming livelihood zone which recorded 96.1mm in five wet days.
- Temporal distribution was good in Mixed Farming and fair in Marginal Mixed Farming livelihood zones while spatial distribution was uneven across the livelihood zones.

## 1.3 OTHER EVENTS

- Four lives were lost as a result of flash floods in Matinyani, Kitui West sub county as the vehicle they were travelling on, was swept away by the raging floods at Mutindi river.
- It is also suspected that, Ililuni primary school in Endau ward; Kitui East sub county was inaccessible as a result of swollen river Enziu which made the road to be impassable.

# 2.0 IMPACTS ON VEGETATION AND WATER

## 2.1 VEGETATION CONDITION

### 2.1.1 Vegetation Condition Index (VCI)

- The county vegetation greenness reduced by 15 percent to be at a 3 month VCI of 24.61 in October from 29.05 in previous month, this is an indication of moderate vegetation greenness as shown in figure 2.
- Mwingi North, Mwingi Central and Kitui East sub counties had a moderate vegetation deficit represented by a 3 month VCI of 25.81, 23.01 and 23.94 respectively compared to Kitui West, Kitui Rural and Mwingi West sub counties which had normal vegetation greenness. Kitui Central had vegetation greenness above normal with a 3 month VCI of 52.55 while Kitui South had severe vegetation greenness of 18.63.
- The current vegetation greenness is below normal as shown in figure 3.

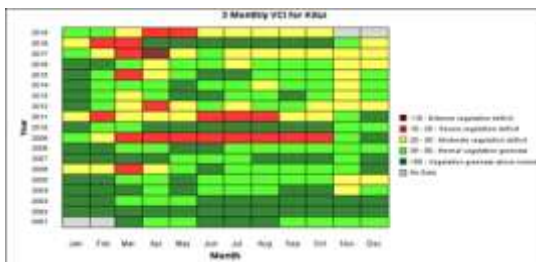


Figure 2: Kitui County 3 Month VCI

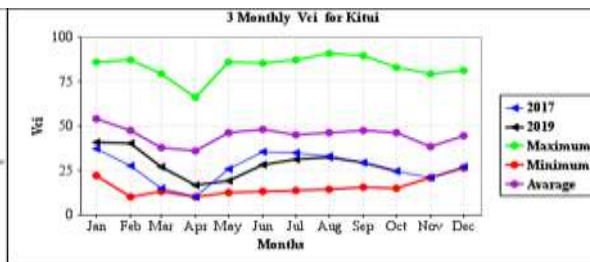


Figure 3: Kitui County 3 Month VCI Trend

### 2.1.2 Pasture

- Pasture quality and quantity improved across the livelihood zones following regeneration of triggered by the onset of 2019 short rains.
- About 55 percent of pasture was considered poor in October from 89 percent recorded in previous month. The remaining 32 and 14 percent of pasture was fair and good in both quality and quantity respectively.

### 2.1.3 Browse

- Browse condition improved across the livelihood zones compared previous month in both quality and quantity.
- On average, about 50 percent of browse was considered poor in October compared 78 percent in previous month. The remaining 32 and 18 percent of browse was fair and good in both quality and quantity respectively.
- The available browse is expected to last for 2-3 months which was normal across the livelihood zones.

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- The main water sources for both human and livestock consumption were boreholes, traditional river wells and piped water systems as shown in figure 4.
- On average, most of open water sources had a recharge level of about 60 percent across the livelihood zones.

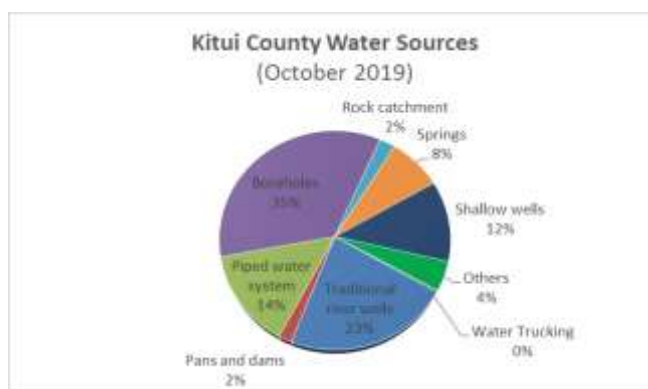


Figure 4: Kitui County Main Water Sources

### 2.2.2 Household Access and Utilization

- The average return distances from the households to water sources reduced to 5 km in October from 7.1 km in the previous month. The early onset of short rains triggered a recharge of water facilities in the county.
- Households in the Marginal Mixed Farming livelihood zone trekked a higher distance of 6.4km to main water sources compared to 4.7km in the Mixed Farming livelihood zone.
- The current water distance is 43 percent below the long term mean as shown in figure 5.
- Water consumption per person per day reduced marginally to stand at 12 litres in October from 13 litres in previous month.
- The proportion of households buying water stood at 54 percent in October compared to 53 percent in previous month while the average price of water per 20 litre Jerry can at source was normal at 2 to 5 shillings.
- However, the price of water was higher from vendors at 20 to 30 shillings compared to 10-20 shillings normally.

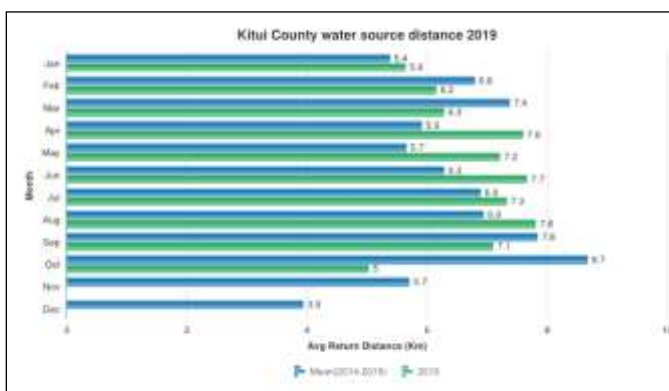


Figure 5: Household Access to Water

### 2.2.3 Livestock Access

- Livestock average return distances from grazing areas to watering points declined by 25 percent to stand at 5.6km in October from 7.5km in previous month.
- This was attributed to start of short rains and previously emergency water trucking and repair of strategic boreholes in hot spot areas.
- Livestock in the Marginal Mixed Farming livelihood zone trekked longer distances at 6.3km compared to 4.7km in the Mixed Farming livelihood zone.

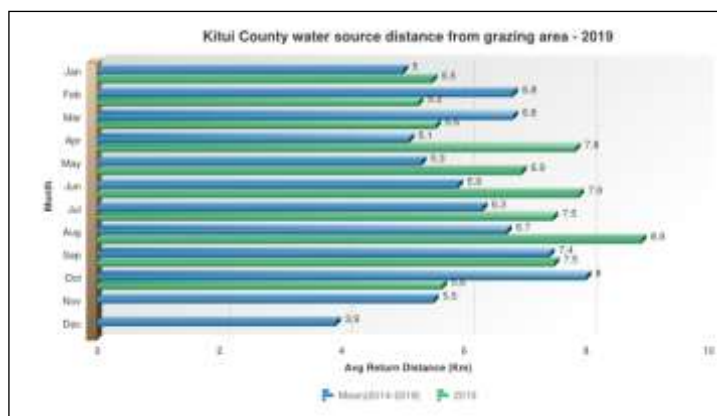


Figure 6: Average Grazing Distances

- Livestock were being watered on alternate days in Marginal Mixed Farming and daily in Mixed Farming livelihood zones compared to daily normally.
- The current average distance from the livestock grazing areas to watering points is below normal by 30 percent as shown in figure 6.

## 2.3 Implication of the Above Indicators to Food Security

- Regeneration of forage is likely to impact positively on livestock productivity hence improve household purchasing power.
- Stability in water distances will cushion both households and livestock from water stress.

## 3.0 PRODUCTION INDICATORS

### 3.1 LIVESTOCK PRODUCTION

#### 3.1.1 Livestock Body Condition

- Livestock body condition was fair for cattle and good to fair for small species with an improving trend.
- On average, 31.8 percent of cattle had thin fore ribs visible body condition in October compared to 43 percent in previous month. The remaining 36.4 and 31.4 percent of cattle had moderate (neither fat nor thin) and borderline (fore ribs not visible, 12<sup>th</sup> and 13<sup>th</sup> ribs visible) body conditions respectively.

#### 3.1.2 Livestock Diseases

- Suspected cases of Contagious Caprine Pleuro-Pneumonia (CCPP) and sheep & Goat pox were reported in Marginal Mixed Farming livelihood zones of Mwingi North, Mwingi Central, Kitui East and Kitui Rural sub counties.
- Tick-borne diseases in Goats and Worms-borne diseases for all species have been reported across the county.
- Worms-borne diseases in donkey across the county and trips in cattle in Mwingi North, Mwingi Central and Kitui South.
- Livestock deaths as a result of previous CCP/starvation and shock due to rains in Marginal Mixed farming.
- Treatment some of diseases; worm-borne, tick-bone, sheep & goat pox was done by the County Government of Kitui.

### 3.1.3 Milk Production

- The average daily milk production per household declined by 14 percent to 0.6 litres in October from 0.7 litres in previous month.
- Households in Marginal Mixed Farming livelihood zone produced an average of 0.9 litres per day compared to 0.5 litres in the Mixed Farming livelihood zone.
- The current milk production per household per day is 54 percent lower than the long term mean as shown in figure 7.

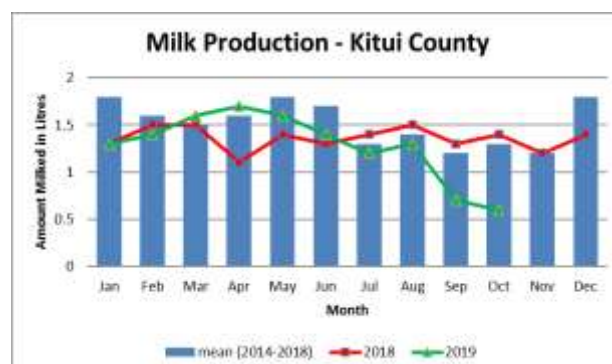


Figure 7: Milk Production per Household per

## 3.2 RAIN-FED CROP PRODUCTION

### 3.2.1 Stage and Condition of Food Crops

- Maize, cowpeas, beans, pigeon peas and green grams were the major crops planted in mixed farming livelihood zone areas. The crops were at germination stage and weeding was on-going.
- In Marginal Mixed Farming livelihood zones, the main crops planted were green grams, sorghum, millet, cowpeas and maize. These crops were at germination and weeding stages. Farmers in pocket areas of this livelihood zone were still preparing their land.
- In addition to rain-fed cropping, farmers along main rivers (Athi, Tana, Tiva and Thua) had horticultural crops which were at various stages of development.

### 3.3 Implication of the above indicators to food security

- Possible internal and external parasites in livestock is likely to impact negatively on their productivity.
- Livestock deaths attributed to previously starvation and shock due to rains could reduce the livestock population hence reduce milk production and consumption thus affect negatively on food security of households.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- The average market price of cattle increased to Ksh.23,250 in October from Ksh.20,670 in previous month. This could have been attributed to the regeneration of pasture.
- Cattle prices were higher in Mixed Farming livelihood zone at Ksh.26,042 compared to Ksh.19,583 in Marginal Mixed Farming livelihood zone.
- The current market price of cattle is 27 percent lower than the long-term mean as shown in figure 8.

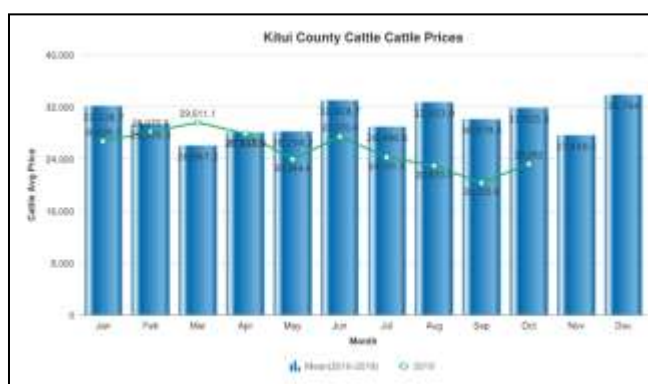


Figure 8: Cattle Prices

#### 4.1.2 Small Ruminants Prices (Goat price)

- The average market price of goat remained stable at Kshs 3,245 in October compared to Kshs. 3,203 in previous month.
- Mixed Farming livelihood zone recorded a higher price of Ksh.3,546 compared to Ksh.2,917 in Marginal Mixed Farming livelihood zone.
- The current market price of goat is normal compared to long-term mean as shown in figure 9.

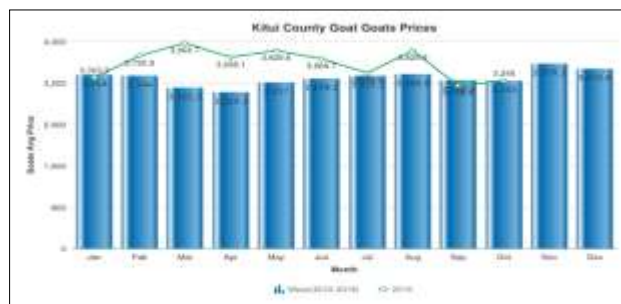


Figure 9: Goat Prices

## 4.2 CROP PRICES

### 4.2.1 Maize

- The average market price of maize per kilogram remained stable at Ksh.45 in October from Ksh.43 in previous month. This was attributed to availability of the commodity in the market from traders sourcing from other counties.
- Mixed Farming livelihood zone recorded a higher price of Ksh.46 compared to Ksh.42 in Marginal Mixed Farming livelihood zone areas.
- The current market price of maize is 32 percent higher than the long term mean as shown in figure 10.

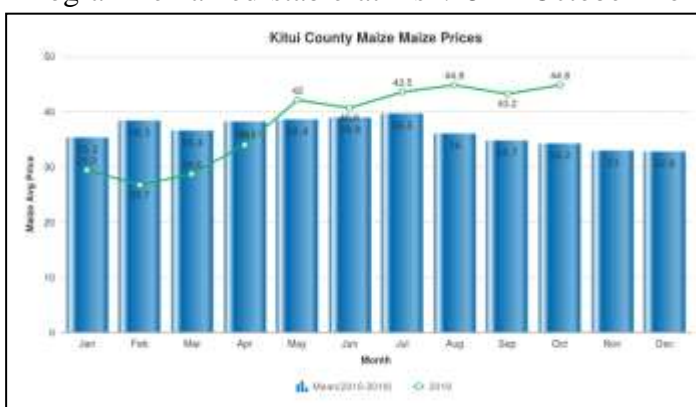


Figure 10: Maize Prices

### 4.2.2 Beans

- The average market price of beans slightly declined to Ksh.88 in October compared to Ksh. 90 in previous month. Beans was mainly sourced from other counties by traders.
- Beans price was higher in the Marginal Mixed Farming livelihood zone at Ksh.90 compared to Ksh.87 in the Mixed Farming livelihood zone.
- The current beans price is 7 percent higher than the long-term mean as shown in figure 11.

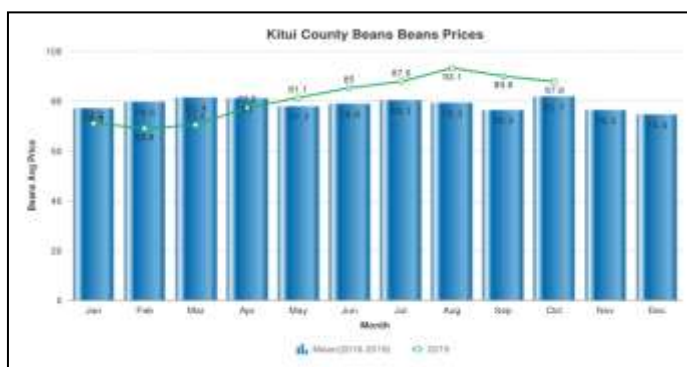


Figure 11: Beans Prices

### 4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade was unfavourable in October at 72 compared to 74 in previous month. This implies that, households were able to purchase 72 kilos of maize from earnings of a goat in October compared to 74 kilos in previous month.
- The sale of one goat would enable a household in Mixed Farming livelihood zone to purchase 78 kilos of maize compared to 69 kilos in Marginal Mixed Farming livelihood zone.
- The current terms of trade is 27 percent lower than the long term mean as shown in figure 12.

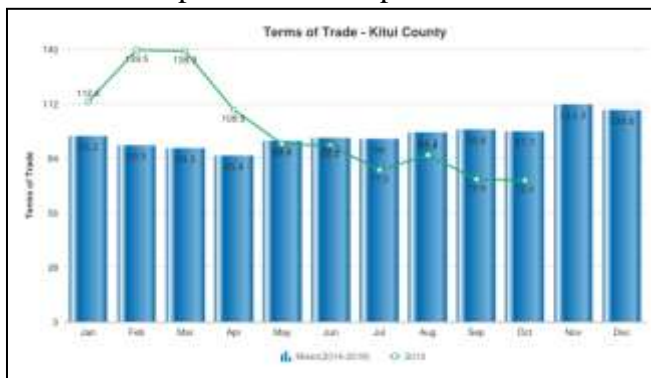


Figure 12: Terms of Trade

### 4.4 Implication of the above indicators to food security

- Overreliance of market on food supplies is likely to lead to an increment in prices of staple food commodities hence lower household purchasing power.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- The average daily milk consumption per household declined by 33 percent to stand at 0.4 litres in October from 0.6 litres in previous month.
- Households in the Mixed Farming livelihood zone consumed an average of 0.5 litres of milk compared to 0.6 litres in Marginal Mixed Farming livelihood zone.
- The current milk consumption is 43 percent below normal compared to the long term mean as shown in figure 13.

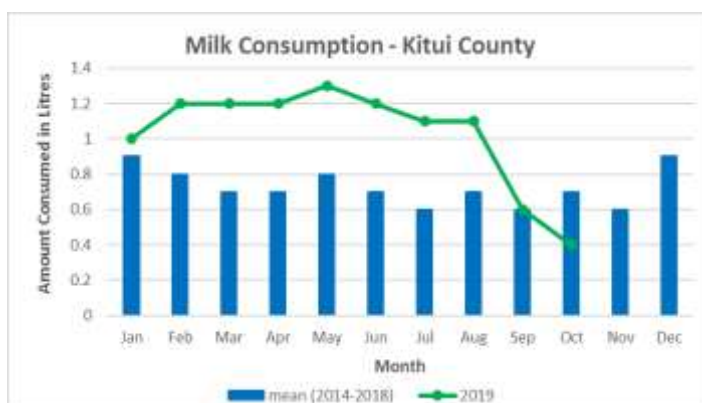


Figure 13: Milk Consumption per Household per Day

### 5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category declined to 67.8 percent in October from 74.9 percent in previous month. This was attributed to reduced dietary diversity and food consumption at household level as a result of diminishing household purchasing power and livestock productivity.
- The remaining 28.9 and 2.9 percent of households were in borderline and poor food consumption category respectively as shown in figure 14.
- Majority (68.1 percent) of households in Mixed farming livelihood zone were in acceptable food consumption category compared to 68 percent in Marginal Mixed Farming livelihood zone.

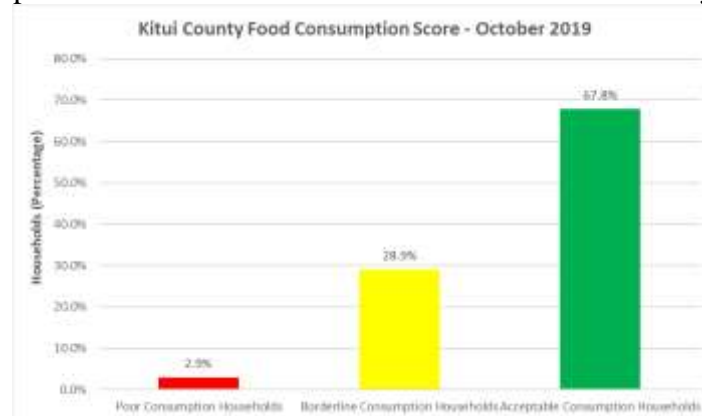


Figure 14: Food Consumption Score

## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The proportion of children mid at risk of malnutrition (MUAC 125-134mm) increased to 8.2 in October from 7.0 percent in previous month.
- No cases of moderately (MUAC 115-124mm) malnourished children were reported.
- Severely (MUAC <115mm) malnourished children were reported at 0.15 percent.
- The current level of children mid at risk of malnutrition is 0.3 percent above normal compared to the long term mean as shown in figure 15.

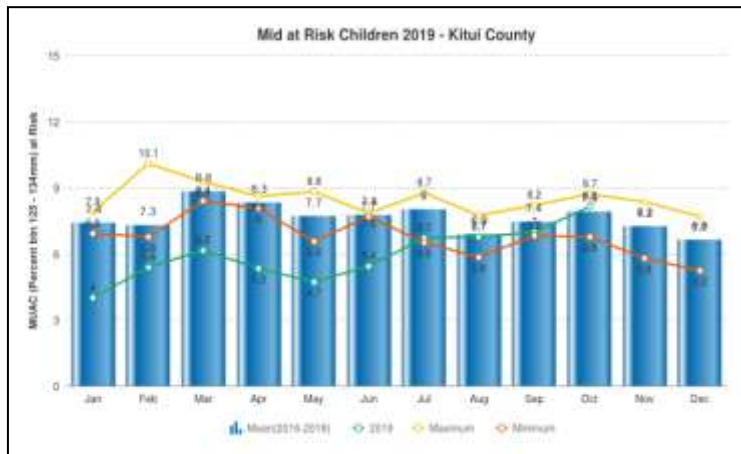


Figure 15: Proportion of Children at Risk of Malnutrition

### 5.3.2 HEALTH

- The proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea stood at 2.9, 2.6 and 1.6 percent in October compared to 2.3, 2.6 and 1.2 percent in previous month respectively.

## 5.4 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) increased to 11.2 in October from 9 in previous month. This implies that, households employed consumption based coping strategies more frequently in October compared to previous month to cope with lack of food or money to buy food.
- Households in Marginal Mixed Farming livelihood zone had a high rCSI of 13.2 compared to 9 in Mixed Farming livelihood zone.
- The current rCSI is 61 percent higher than the long term mean as shown in figure 16.
- Based on rCSI, about 40, 16 and 6 percent of households were in stress, crisis and emergency coping strategies compared to 32, 14 and 5 percent respectively.

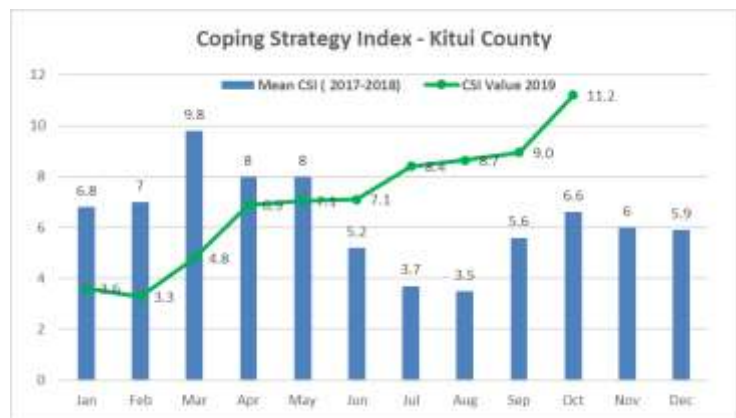


Figure 16: Reduced Coping Strategy Index (rCSI)

## 6.0 CURRENT INTERVENTION MEASURES

### 6.1 NON-FOOD INTERVENTIONS

- **Integrated health and nutrition outreaches services** funded by European Union, implemented by National Drought Management Authority and County Government of Kitui.
- **Emergency water trucking** by Tanathi Water Works Development Agency in collaboration with County Government of Kitui, Kitui Water and Sewerage Company (KITWASCO) and Kiambere Mwingi Water and Sewerage Company (KIMWASCO).



- **Baby friendly community initiatives** in Kitui South, Kitui East, Mwingi North and parts of Mwingi Central Sub Counties by Nutrition and Health program plus (NHP+).
- **Development and distribution of weather advisories** by Kenya Meteorological Department in collaboration with County Government of Kitui, Agricultural Sector Development Support Programme (ASDSP) and other partners.

## **6.2 FOOD AID**

- Therapeutic integrated management of acute malnutrition for the under-fives, pregnant and lactating mothers [supplementary feeding program (SFP)], Outpatient therapeutic program (OTP) and Stabilization centres by Ministry of Health supported by several partners.

## **7.0 EMERGING ISSUES**

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

- In-migration of pastoralists and their livestock from the neighbouring Tana River County has continued to fuel tension and conflicts over pasture and water along Kitui and Tana River border.

### **7.2 FOOD SECURITY PROGNOSIS**

- According to Kenya Meteorological Department weather outlook for the October-November-December (OND) 2009 season released on 2<sup>nd</sup> September 2019, rainfall in Kitui County is likely to be normal to slightly above normal with normal onset and cessation. This is likely to recharge water resources leading to improved water accessibility and availability for both human and livestock.
- However, household purchasing power is expected to stabilize at the peak of the short rains season in November.
- Based on ForPAC TAMSAT-ALERT soil moisture forecast for Kitui OND 2019 released on 28<sup>th</sup> October 2019, Kitui County is likely to experience above average soil moisture, this will impact positively on crop production. Hence, the county is likely to experience bumper harvest *ceteris paribus*.
- Households are expected to continue relying on the market for staple food supplies until the next harvest is realized in January 2020 following depletion of stocks at household level and poor harvest from the 2019 long rain season.

## **8.0 RECOMMENDATIONS**

### **Immediate/Short term**

- Intensify livestock disease control measures.
- Promote home-based water treatment and conservation measures such as storage facilities.
- Repair and maintenance of water points.
- Joint peace and security initiatives.
- Provision and distribution of assorted relief seeds to farmers.
- Promotion of water harvesting, storage and management.
- Promotion of post-harvest management.

### **Medium and Long term**

#### **Water Sector**

- Promotion of water harvesting, storage and management.
- Create awareness on the importance of protecting water sources.

#### **Agriculture Sector**

- Capacity building on safe use of chemicals by National Government, County Government and development partners.

- Enhance asset creation for households especially Farm ponds and water pans for food production by National Government, County Government and development partners.
- Enhance irrigated Agriculture by conducting Soil analysis and crops suitability surveys in all by National Government, County Government and development partners.

#### **Livestock Sector**

- Community sensitization on the importance of fodder preservation and controlled grazing.
- Pasture establishment and seed bulking.
- Livestock development programs to improve production (goats, chicken, cattle).

#### **Health and Sanitation Sector**

- Sensitization on hygiene and sanitation at household level.
- Carry out routine disease surveillance.
- Improve Vitamin A supplementation to children under five years and de-worming
- Improve vector control activities.

#### **Education Sector**

- Promotion of water harvesting, storage and management in schools.
- Enhance HGSMP in all public institutions.

#### **Peace Building Initiatives**

- Peace building and conflict management initiatives.