

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



A Vision 2030 Flagship Project



MARCH EW PHASE	Early Warning Phase Classification			
<p><b>Drought Status: ALERT</b></p> <p><b>Maandalizi ya mapema</b></p>	<b>LIVELIHOOD ZONE</b>	<b>EW PHASE</b>	<b>TRENDS</b>	
	Marginal Mixed Farming	Alert	Worsening	
	Mixed Farming	Alert	Stable	
	<b>County</b>	<b>Alert</b>	<b>Worsening</b>	
<b>Drought Situation &amp; EW Phase Classification</b>				
<b>Biophysical Indicators</b>				
<p>▪ The month of March was dry in most parts of the county and this is not normal at this time of the year.</p> <p>▪ The vegetation greenness was below normal</p> <p><b>Socio-Economic Indicators (Impact Indicators)</b></p> <p><b>Production Indicators</b></p> <p>▪ Land preparation was ongoing.</p> <p>▪ Livestock body condition was good to fair for all the species with no abnormal cases of livestock diseases and death reported.</p> <p>▪ Milk production was above the long-term mean.</p> <p><b>Access Indicators</b></p> <p>▪ Terms of trade were favourable compared to long term mean.</p> <p>▪ Milk consumption was above normal range.</p> <p>▪ Distances to water sources were below normal range.</p> <p>▪ The cost of water at source was normal.</p> <p><b>Utilization Indicators</b></p> <p>▪ The percentage of children at mid risk of malnutrition was within normal range.</p> <p>▪ Households employed normal coping mechanisms to cope with lack of food or money to buy food.</p>	<b>Biophysical Indicators</b>	<b>Value</b>	<b>Normal Range</b>	
	Rainfall (% of normal)	26	80-120	
	VCI-3 month	26.61	35-50	
	Forage Condition	Poor/Fair	Good	
	<b>Production indicators</b>			
	Livestock Body Condition	Good to fair	Good	
	Milk Production (in litres)	1.6	≥ 1.5	
	Livestock Migration Pattern	Normal	Normal	
	Livestock Deaths (from Drought)	No death	No death	
	<b>Access Indicators</b>			
Terms of Trade (ToT)	139	≥ 89.3		
Milk Consumption (in litres)	1.2	≥ 0.7		
Return Distance to Water Sources (in km)	6.3	≤ 7.4		
Cost of Water at Source (20 litres Jerry can)	2-5	≤ 5Ksh		
<b>Utilization indicators</b>				
Nutrition Status, MUAC (% at risk of malnutrition)	6.1	≤ 8.8		
Coping Strategy Index (CSI)	4.9	≤ 9.7		

<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>		
<b>Dry Season</b>			<b>Long Rains</b>			<b>Dry Cool Season</b>			<b>Short Rains Season</b>		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1.0 CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- Most parts of the county were dry during the month. However, some parts of the county received more than 20mm of rainfall in a span of one day in the third dekad of March.
- On average, the county received 6.6mm, 2.9mm and 5.7mm of rainfall in the first, second and third dekad respectively as shown in figure 1. This was 26 percent of normal rainfall recorded in March.

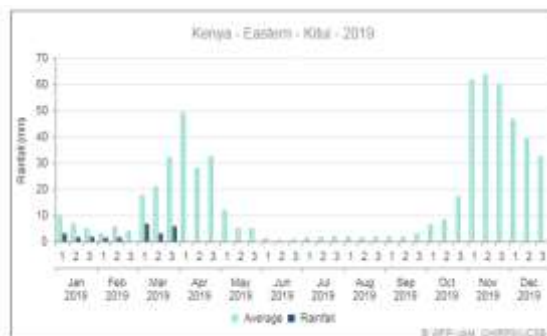


Figure 1: Rainfall Distribution for the Year 2018

# 2.0 IMPACTS ON VEGETATION AND WATER

## 2.1 VEGETATION CONDITION

### 2.1.1 Vegetation Condition Index (VCI)

- The county’s vegetation greenness was moderate during the month of March as represented by three (3) months VCI of 26.61 compared to 40.8 in February as shown in figure 2 and 3. This was a decrease from previous month by 34 percent.
- Kitui South Sub County had a severe vegetation deficit with a 3 month VCI of 18.27.

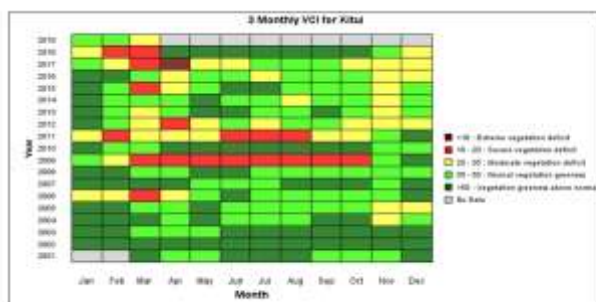


Figure 2: Kitui County 3 Month VCI

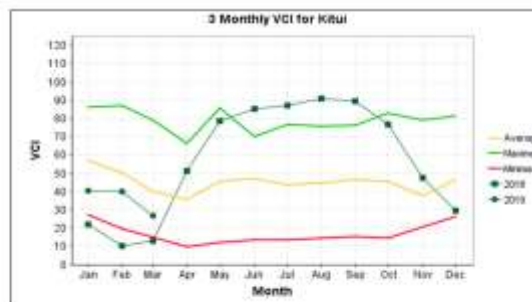


Figure 3: Kitui County 3 Month VCI

### 2.1.2 Pasture

- The condition of pasture declined in March compared to previous month. This was attributed to progression of the dry spell.
- Majority (67.9 percent) of pasture was fair in both quality and quantity while 32.1 percent of pasture was poor.
- Areas of pasture deficit included Tseikuru, Ngomeni, Kyuso, Tharaka, Zombe/Mwitika Nguni, Nuu, Endau/Malalani, Voo/Kyamatu, Kanziko, Mutha, Athi, Ikutha and parts of Kanyangi wards.
- The available pasture is expected to last for a month

### 2.1.3 Browse

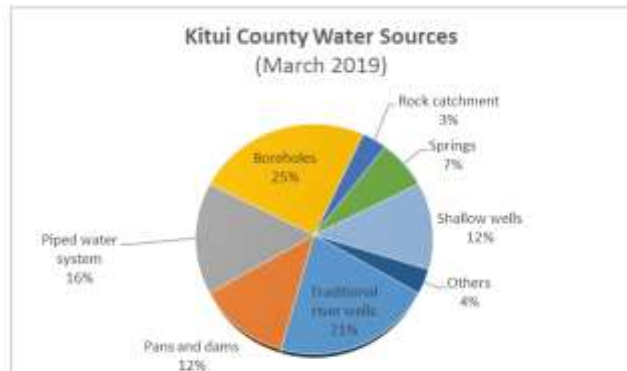
- The quality and quantity of browse ranged from fair to poor across the livelihood zones.
- During the month under review, 96.4 percent of browse was considered fair in quality and quantity while the remaining 3.6 percent was good.
- In Mixed Farming livelihood zone, the browse was considered fair in quality and quantity compared to 93.3 percent in Marginal Mixed Farming livelihood zone.

- The available browse is expected to last for 2 months and this is normal at this time of the year.

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- Water levels at the open water sources decreased significantly.
- The quality of water will be compromised following congestion of households and livestock at main water sources and this is not normal at this time of the year.



### 2.2.2 Household Access and Utilization

- The average return distance from the households to water sources remained stable at 6.3km in March from 6.2km in previous month. Households in Marginal Mixed Farming livelihood zone trekked a higher distance of 6.8 km compared to 6.6 km in Mixed Farming livelihood zone.
- The current water distance is 15 percent below the long term mean as shown in figure 5.
- Water consumption per person per day remained stable at 13 litres in March as it was in previous month and the proportion of households buying water increased to stand at 34 percent in March compared to 28 percent in previous month
- The average price of water per 20 litre Jerry can at source was normal at 2 to 5 shillings.

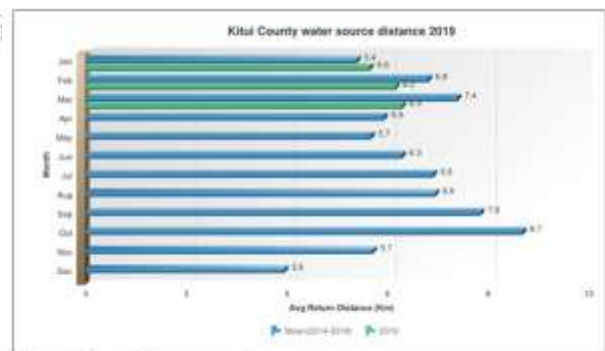


Figure 5: Household Access to Water

### 2.2.3 Livestock Access

- Livestock average return distances from grazing areas to watering points remained stable at 5.5km from 5.4km recorded in previous month.
- Marginal Mixed Farming livelihood zone recorded a higher distance of 6.6km compared to 4.8km in Mixed Farming livelihood zone.
- The current average distance from the livestock grazing areas to watering points is 19 percent below normal as shown in figure 6.
- Livestock were being watered daily in Mixed Farming livelihood zone and on alternate days in Marginal Mixed Farming livelihood zone.

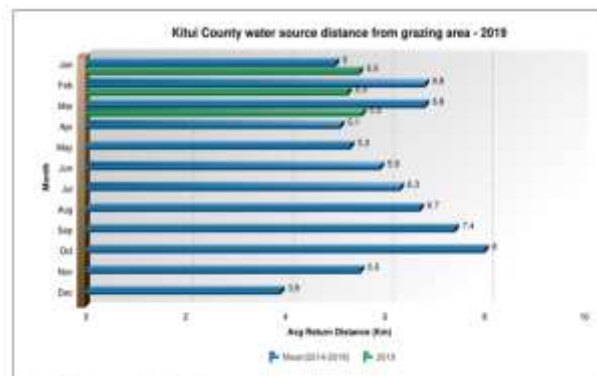


Figure 6: Average Grazing Distance

## 2.3 Implication of the Above Indicators to Food Security

- Worsening forage condition is likely to impact negatively on livestock productivity.

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- Livestock body condition ranged from good to fair for all livestock species.
- About 54 percent of livestock had moderate; neither fat nor thin body condition while the remaining had good smooth appearance body condition and this is normal at this time of the year.
- The stability in livestock body condition is attributed to availability of pasture and crop residues.

##### 3.1.2 Livestock Diseases

- No alarming livestock outbreaks reported during the month under review.

##### 3.1.3 Milk Production

- The average daily milk production per household increased to stand at 1.6 litres from 1.4 litres recorded in previous month and this could have been attributed to stability in livestock body condition.
- Households in Marginal Mixed Farming livelihood zone produced an average of 1.9 litres compared to 1.4 litres in Mixed Farming livelihood zone.
- The current milk production per household is seven percent above the long-term mean as shown in figure 7.

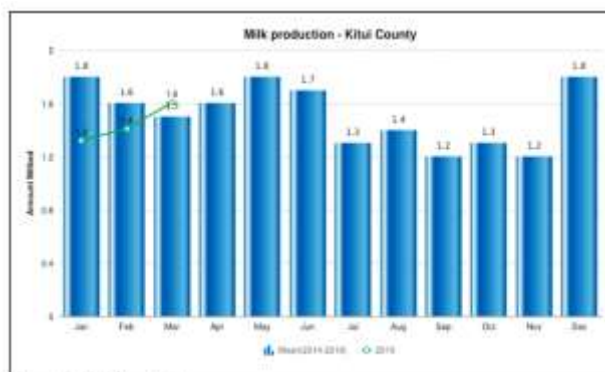


Figure 7: Milk Production

#### 3.2 RAIN-FED CROP PRODUCTION

##### 3.2.1 Stage and Condition of Food Crops

- Land preparation and dry planting for very few farmers was ongoing across livelihood zones for the long rains season.

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

- Livestock productivity is likely to deteriorate following reduction in the availability of fodder and increasing trekking distances to water sources.
- Crop production is likely to be impacted negatively with the late onset of the long rains.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- The average cattle market price remained stable at Ksh. 29,611 in March from Ksh. 28,073 in previous month. This could have been attributed to an increased demand of the commodity in the market and stability in livestock body condition.
- Mixed Farming livelihood zone recorded a higher price of Ksh.30,541 compared to Ksh.27,200 in Marginal Mixed Farming livelihood zone.
- The current average price of cattle is 14 percent above the long-term mean as shown in figure 8.

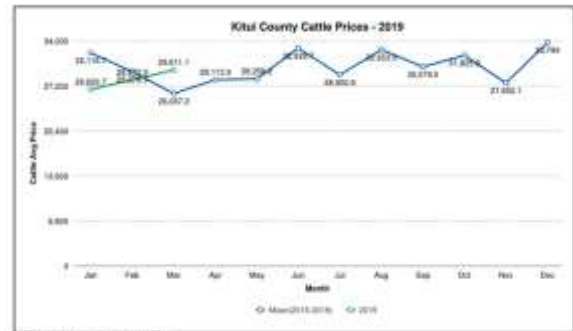


Figure 8: Cattle Prices

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

- The average market goat price remained stable at Ksh.3,967 in March from Ksh. Ksh.3,721 in the previous month.
- Mixed Farming livelihood zone recorded a higher price of Ksh.4,517 compared to Ksh.3,430 in Marginal Mixed Farming livelihood zone
- The current price of goat is 28 percent above the long-term mean as shown in figure 9.

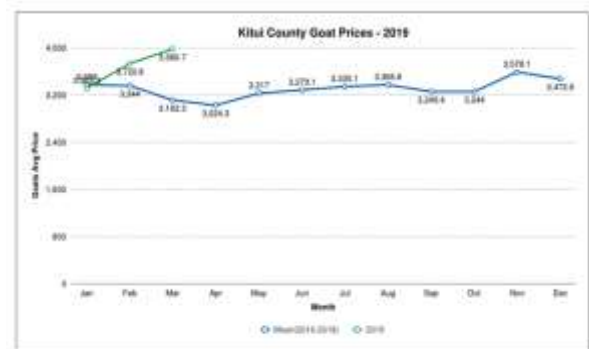


Figure 9: Goat Prices

## 4.2 CROP PRICES

#### 4.2.1 Maize

- The average market price of maize per kilogram increased slightly to stand at Ksh.29 in March from Ksh.27 in previous month and this could have been attributed to demand of the commodity in the market from other counties.
- Marginal mixed Farming livelihood zone recorded a higher price of Ksh.30 compared to Ksh.27 in Mixed Farming livelihood zone
- The current price of maize is 21 percent below the long term mean as shown in figure 10.

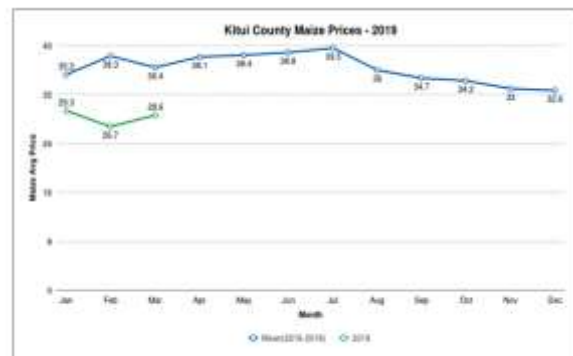


Figure 10: Maize Prices

#### 4.2.2 Beans

- The average market price of beans per kilogram remained stable at Ksh.70 in March from Ksh.69 in previous month. Beans was available in the market from other counties.
- A higher price of Ksh.77 was recorded in Marginal Mixed Farming livelihood zone compared to Ksh.65 in Mixed Farming livelihood zone.
- The current beans price is 13.5 percent below normal compared to long term mean as shown in figure 11.

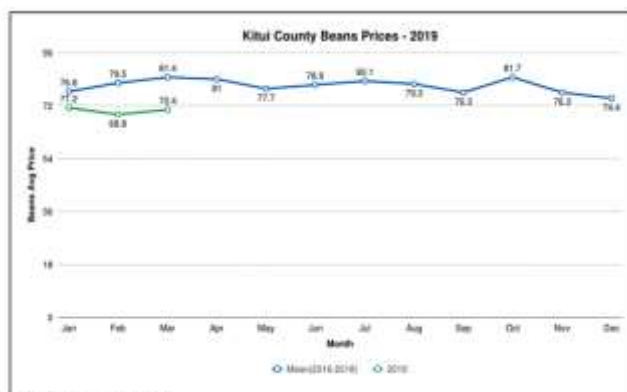


Figure 11: Beans Prices

#### 4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade was favourable at 139 in March from 140 in previous month. This implies that, households were able to purchase 139 kilos of maize from earnings of a goat in March compared to 140 kilos in previous month. This could have been attributed to increasing maize and goat prices.
- The sale of one goat would enable a household in Mixed Farming livelihood zone to purchase 153 kilos of maize compared to 128 kilos in Marginal Mixed Farming livelihood zone.
- The current terms of trade is 56 percent above the long term mean as shown in figure 12.

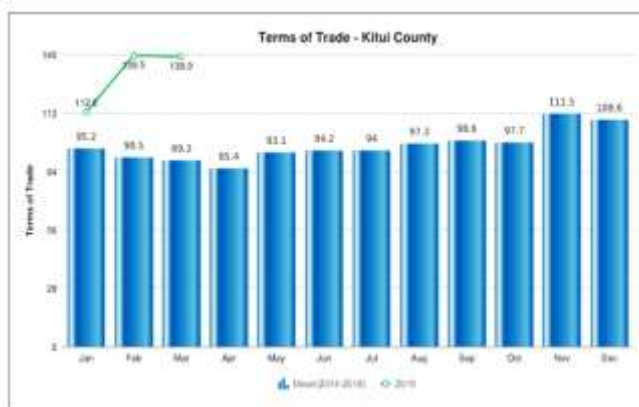


Figure 12: Terms of Trade

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

- Prices of food commodities is likely to remain stable due to stability in market operations and availability of stocks by traders and this might impact positively on household purchasing power.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable to stand at 1.2 litres in March as that recorded in previous month.
- Marginal Mixed Farming livelihood zone recorded a higher milk consumption of 1.2litres compared to 1.0 litres in Mixed Farming livelihood zone
- The current milk consumption is 71 percent above the long term mean as shown in figure 13.

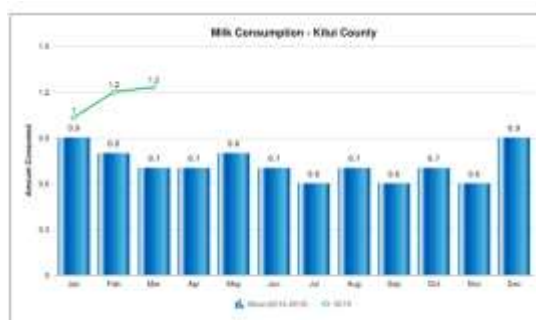


Figure 13: Milk Consumption

### 5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category reduced to 77.4 percent in March from 80.4 percent in previous month. However, the proportion of households in poor and borderline food consumption category were at 1.5 and 21.1 percent respectively as shown in figure 14.
- Majority (94.2 percent) of households in Mixed Farming livelihood zone were in acceptable food consumption category compared to 63.7 percent in Marginal Mixed Farming livelihood zone.

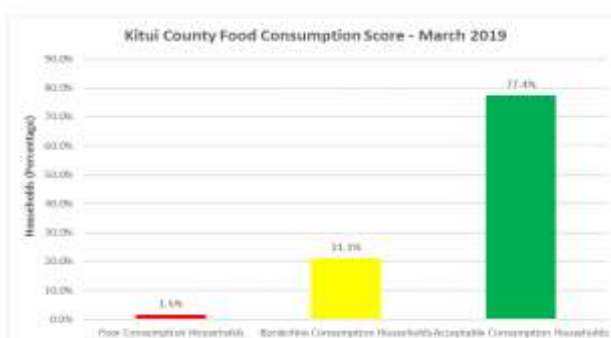


Figure 14: Food Consumption Score

## 5.3 NUTRITION STATUS AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The proportion of children mid at risk of malnutrition (MUAC 125-134mm) increased to 6.1 percent in March from 5.4 percent in previous month.
- No cases of moderately (MUAC 115-124mm) and Severely (MUAC <115mm) malnourished children were reported.
- The current level of children mid at risk of malnutrition is 30 percent below the long term mean as shown in figure 15 and this is attributed to improvement in household eating habits.

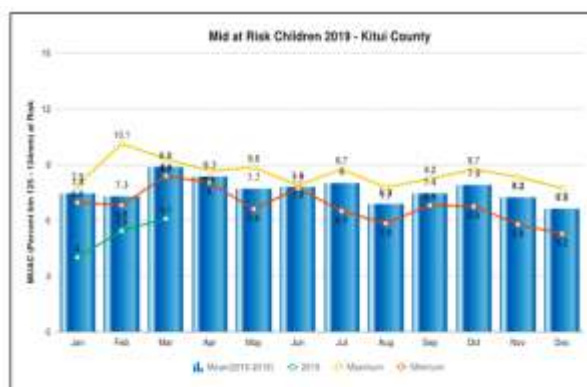


Figure 15: Proportion of Children at Risk of Malnutrition

### 5.3. HEALTH

- In March, the proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea cases reduced to stand at 2.5, 0.7 and 0.7 percent compared to 2.7, 1.3 and 1.2 percent respectively in previous month.

## 5.4 COPING STRATEGIES

- The mean coping strategy index (CSI) increased to stand at 4.9 in March from 3.3 in previous month. This implies that, households employed normal coping mechanisms to cope with lack of food or money to buy food.
- Households in Marginal Mixed Farming livelihood zone registered high CSI of 6.2 compared to 3.4 in Mixed Farming livelihood zone.
- The current CSI is 49.5 percent lower than the long term mean as shown in figure 16.

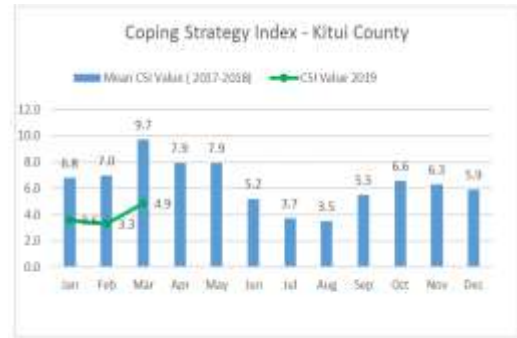


Figure 16: Coping Strategy Index



## **6.0 CURRENT INTERVENTION MEASURES**

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

- **Sustainable Food Systems Programme (SFSP)** by United Nations World Food Programme through County Government of Kitui, National Drought Management Authority in collaboration with Action Aid Kenya and Caritas Kitui targeting 15,000 households in 23 wards of Kitui County was under discussion.
- **Vaccination against Rift Valley Fever, PPR and rabies** by County Government of Kitui in collaboration with FAO. The activity targeted all livestock species and dogs across the county.

### **6.2 FOOD AID**

- Therapeutic Integrated Management of Acute Malnutrition for the Under-fives, Pregnant and Lactating Mothers (Supplementary Feeding Program (SFP), Out Patient Therapeutic Program (OTP) & Stabilization Centres by Ministry of Health supported by several partners.

## **7.0 EMERGING ISSUES**

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

- No major incidences of resource-based conflict were reported apart from conflict between the herders and locals in Mutha wards in Kitui South Sub-County.

### **7.2 FOOD SECURITY PROGNOSIS**

- The revised outlook for the forthcoming long rains season, published by the Kenya Meteorological Department on 27<sup>th</sup> March, 2019, is that Kitui County is likely to receive near normal rainfall with a tendency to below normal (that is generally depressed rainfall). The spatial and temporal distribution of rainfall is expected to be poor with late onset and timely cessation dates. Therefore, food security situation is expected to continue deteriorating until the beginning of the long rains in 4<sup>th</sup> week of March to 1<sup>st</sup> week of April, and then gradually improve.
- Livestock productivity is expected to stabilize following an availability of forage and presence of crop residues. This will impact positively on household purchasing power.
- National Weather Service – Climate Prediction Center (NOAA/CPC) ensemble forecast models predict air temperature anomalies of 0.25 to 0.5 °C above average in Kitui County. The expected higher temperatures will deteriorate forage and increase evaporation rates in open water sources hence both livestock and domestic water stress will escalate leading to reduction in livestock productivity.

## **8.0 RECOMMENDATIONS**

### **Immediate/Short term**

- Development of advisories
- Provision of relief seed to the most affected households
- Intensify livestock disease control measures.
- Promote home based water treatment and conservation measures such as storage facilities.
- Integrated health outreach programs.
- Repair and maintenance of strategic water points.
- Training farmers on post-harvest handling techniques.
- Community sensitization on the importance of fodder preservation and controlled grazing.

### **Medium and Long term**

#### **Water Sector**

- Promotion of water harvesting, storage and management.
- Create awareness on the importance of protecting water sources.
- De-silting of earth dams and rock catchment.

#### **Agriculture Sector**

- Training of farmers on utilization and value addition of locally produced foods
- Training on post-harvest handling techniques
- Up scaling of current crop production improvement programs

#### **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**

- Support to Mobile outreach immunization.
- Formation of mother to mother support groups.
- 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**

- Drilling of shallow wells and boreholes in schools.
- Expand HGSMP to all public schools.

#### **Peace Building Initiatives**

- Peace building and conflict management initiatives.