

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



A Vision 2030 Flagship Project



DECEMBER EW PHASE												Early Warning Phase Classification					
<p>Drought Status: NORMAL</p> <p>Shughull za kawaida</p>						LIVELIHOOD ZONE			EW PHASE		TRENDS						
						Marginal Mixed Farming			Normal		Stable						
						Mixed Farming			Normal		Stable						
						County			Normal		Stable						
Drought Situation & EW Phase Classification																	
Biophysical Indicators						Biophysical Indicators		Value		Normal ranges							
<ul style="list-style-type: none"> ▪ The county experienced above normal rainfall with good temporal and uneven spatial distribution with late cessation. ▪ The vegetation greenness was above normal. 						Rainfall (% of normal)		100		80-120							
						VCI-3 month		71.29		35-50							
						Forage Condition		Fair to good		Fair to good							
						Production Indicators						Production indicators		Value		Normal ranges	
<ul style="list-style-type: none"> ▪ Crops were mainly at flowering stage/fruit filling and in good condition. ▪ Maize infestation by fall armyworms was reported. ▪ Livestock body condition was fair to good for all the species with no abnormal cases of livestock diseases and deaths reported. ▪ Milk production was below normal. 						Maize Crop Condition		Good		Good							
						Livestock Body Condition		Fair to good		Fair to good							
						Milk Production (in litres)		1.1		≥ 1.8							
						Livestock Migration Pattern		Normal		Normal							
<ul style="list-style-type: none"> ▪ Terms of trade were unfavourable compared to long term mean. ▪ Milk consumption was within normal range. ▪ Water distances were below normal range. ▪ The cost of water at source was normal. 						Livestock Deaths (from Drought)		No death		No death							
						Access Indicators						Access Indicators		Value		Normal ranges	
						Terms of Trade (ToT)		84		≥ 109							
						Milk Consumption (in litres)		0.8		≥ 0.9							
<ul style="list-style-type: none"> ▪ The percentage of children mid at risk of malnutrition was above normal range. ▪ Households employed consumption based coping mechanisms less frequently compared to normal. 						Return Distance to Water Sources (in km)		2.4		≤ 3.9							
						Cost of Water at Source (20 litres Jerry can)		2-5		≤ 5Ksh							
						Utilization indicators						Utilization indicators		Value		Normal ranges	
						Nutrition Status, MUAC (% at risk of malnutrition)		7.2		≤ 6.6							
Coping Strategy Index (rCSI)		9.5		≤ 5.9													
<ul style="list-style-type: none"> ▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation 			<ul style="list-style-type: none"> ▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase 			<ul style="list-style-type: none"> ▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept) 			<ul style="list-style-type: none"> ▪ Short rains ▪ Planting/weeding 								
												Dry Season			Long Rains		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec						

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The month of December was wet across the livelihood zones with enhanced rains in First and third dekad.
- On average, the county recorded 136.8, 30.9 and 68.2 milimetres of rainfall in first, second and third dekads of December respectively compared to 46.5, 39.0 and 32.4 milimetres normally as shown in figure 1. This was 100 percent of normal rainfall recorded in December.
- The October, November December(OND) short rains Ceasation was late.

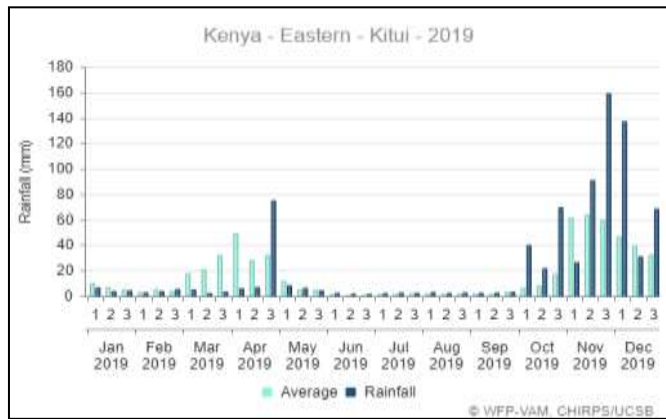


Figure 1: Rainfall Distribution for the Year 2019

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- Cumulatively for the season, most parts of Mixed Farming livelihood zones recorded enhanced rains at 350-1300 millimetres for 10-37 days compared to 300-600 millimetres in Marginal Mixed Farming livelihood zone at a span of 10-28 wet days.
- Matinyani and Kitui ATC rain stations in Mixed Farming livelihood zone recorded the highest cumulative amount of rainfall at 1,329.5 and 1,116.5 millimetres in 37 and 34 wet days respectively.
- Temporal distribution was good while spatial distribution was uneven across the livelihood zones.

1.3 OTHER EVENTS

- Most of infrastructures such as pans and dams, pit latrines, roads and bridges were destroyed by floods.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The county vegetation greenness improved by 29 percent to stand at a 3 month VCI of 71.29 in December from 50.6 in previous month, this is an indication of vegetation greenness above normal as shown in figure 3.
- Kitui West and Kitui Rural sub counties recorded the highest 3 month VCI at 92.81 and 90.11 respectively while Kitui South sub county recorded the normal vegetation greenness of 64.
- The current vegetation greenness is above normal as shown in figure 2.



Figure 2: Kitui County 3 Month VCI

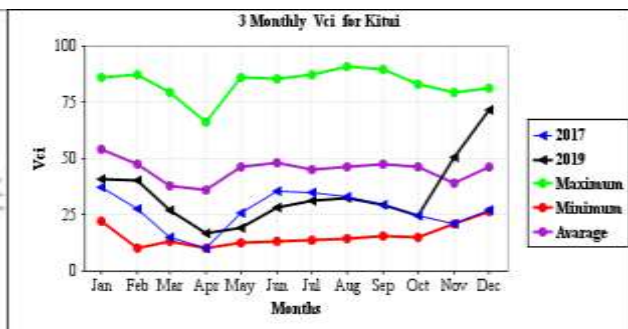


Figure 3: Kitui County 3 Month VCI Trend

2.1.2 Pasture

- Pasture quality and quantity improved across the livelihood zones compared to previous month.
- About 86 percent of pasture was considered good in December compared to 65 percent in previous month. The remaining 14 percent of pasture was fair in both quality and quantity.
- Improvement in pasture condition was attributed to seasonal rains received.

2.1.3 Browse

- Browse condition ranged from fair to good across the livelihood zones.
- About 89 percent of browse was considered good in December compared 65 percent in previous month. The remaining 11 percent of browse was fair in both quality and quantity.
- This situation is normal at this time of the year with an improving trend.

2.2 WATER RESOURCE

2.2.1 Sources

- The main water sources for both human and livestock consumption were pans & dams, traditional river wells and roof catchment as shown in figure 4.
- This situation is normal at this time of the year.
- Water resources had a recharge level of more than 80 percent of their capacity.
- Heavy rains experienced in the county led to destruction of some water facilities.

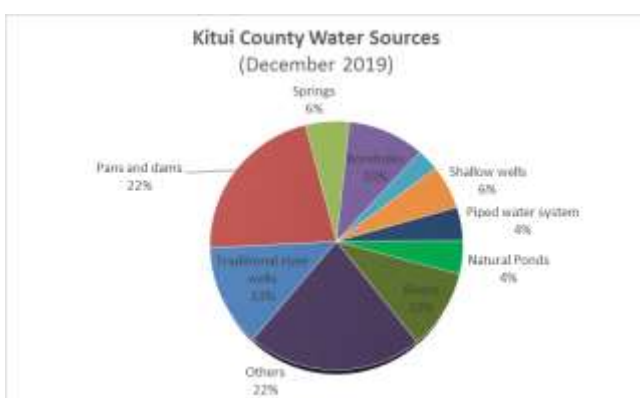


Figure 4: Kitui County Main Water Sources

2.2.2 Household Access and Utilization

- The average return distances from the households to water sources reduced by 27 percent to stand at 2.4km in December from 3.3 in previous month. This was mainly attributed to recharge of nearby water sources.
- There was no major variation across the livelihood zones.
- The current water distances are 38 percent lower than the long term mean as shown in figure 5.
- Water consumption per person per day remained stable at 12 litres in December as it was in previous month.

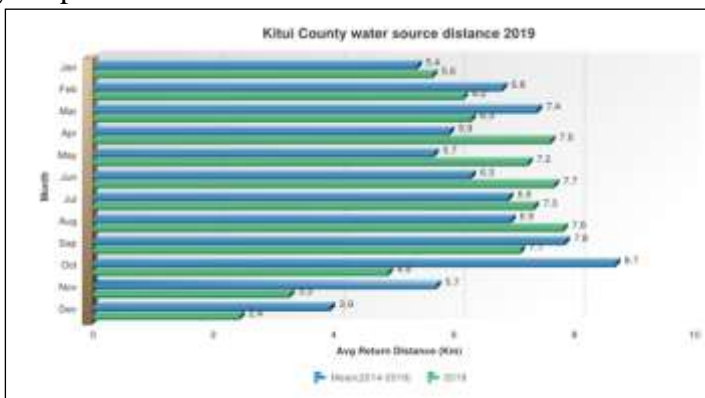


Figure 5: Household Access to Water

- The proportion of households buying water stood at two percent in December compared to nine percent in previous month.
- The average price of water per 20 litre Jerry can at source was normal at 2 to 5 shillings. In some areas the price of water was one shilling.

2.2.3 Livestock Access

- Livestock average return distances from grazing areas to watering points declined by 30 percent to stand at 2.6km in December from 3.7km in previous month.
- Livestock in the Marginal Mixed Farming livelihood zone trekked longer distances at 1.4km compared to 1.0km in the Mixed Farming livelihood zone.
- Livestock were being watered daily across the livelihood zones and this is normal at this time of the year.
- The current average distance from the livestock grazing areas to watering points is 33 percent lower than the long term mean as shown in figure 6.

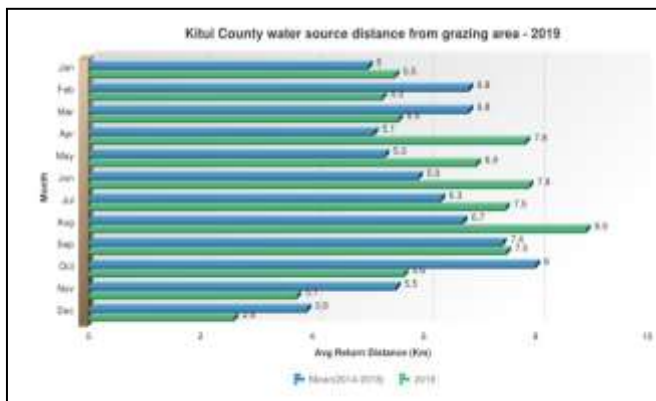


Figure 6: Average Grazing Distances

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 availability and accessibility 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 to good for all livestock species across the livelihood zones with an improving trend.
- On average, 54 and 46 percent of cattle had moderate (neither fat nor thin) and good smooth appearance body condition respectively.
- This trend was considered normal for the area at this particular time of the year and is expected to continue improving, as these favourable conditions exist.

3.1.2 Livestock Diseases

- Suspected cases of CCPP, PPR, goat and sheep pox were reported in Mwingi North Sub county.

3.1.3 Milk Production

- The average daily milk production per household rose by 22 percent to stand at 1.1 litres in December from 0.9 litres in previous month. This could have been attributed to improvement in forage and water availability which impacted positively on livestock body condition.
- Households in Marginal Mixed Farming livelihood zone produced an average of 1.3 litres per day compared to 1.1 litres in the Mixed Farming livelihood zone.
- The current milk production per household per day is 39 percent lower than the long term mean as shown in figure 7.

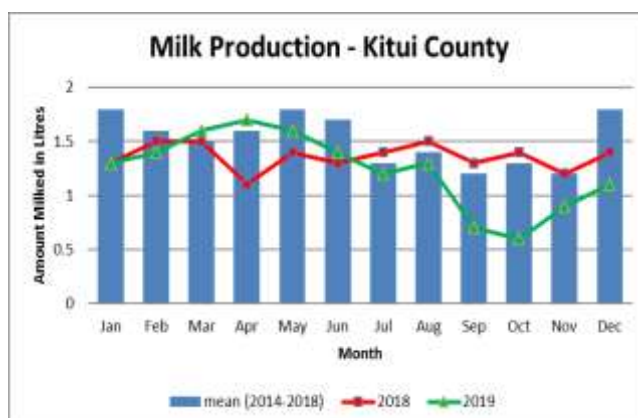


Figure 7: Milk Production per Household per Day

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- The major crops planted in the Mixed Farming livelihood zone included maize, cowpeas, beans, pigeon peas and green grams while green grams, sorghum, millet, cowpeas and maize were planted in the Marginal Mixed Farming livelihood zone.
- These crops were mainly at fruit/grains filling stage and in good condition.
- However, the crops in some of the areas were being harvested.
- Crops in pockets of black cotton soil had been affected by water logging.
- Maize crops infestation by fall armyworms were reported across the livelihood zones and the county department of Agriculture was advising farmers on the best chemicals to purchase through local radio station.
- In addition to rain-fed cropping, farmers along main rivers (Athi, Tana, Tiva and Thua) had horticultural crops that were at various stages of development.

3.3 Implication of the above indicators to food security

- Although an improvement in livestock productivity and crop condition might impact positively on household food security, presence of fall armyworms will impact negatively on maize production if it will remain uncontrolled.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average market price of cattle increased to stand at Ksh. 25,000 in December from Ksh. 23,424 in previous month.
- The traded volume of cattle reduced in the markets compared to previous month.
- Cattle prices were higher in Mixed Farming livelihood zone at Ksh. 30,000 compared to Ksh. 21,000 in Marginal Mixed Farming livelihood zone.
- The current market price of cattle is 26 percent lower than the long-term mean as shown in figure 8.

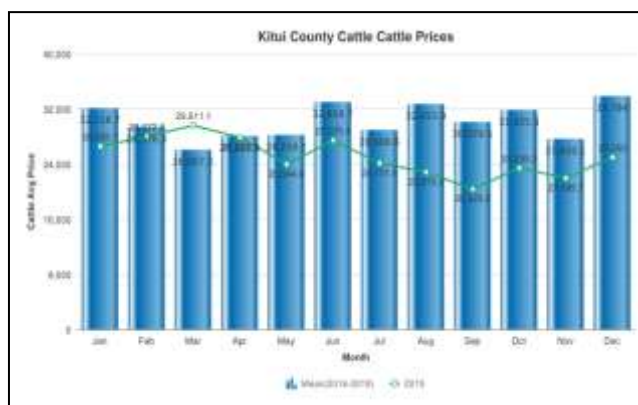


Figure 8: Cattle Prices

4.1.2 Small Ruminants Prices (Goat price)

- The average market price of goat marginally increased to stand at Ksh. 3,765 in December from Ksh. 3,704 in previous month. This could have been attributed to an improvement in goat body condition.
- Mixed Farming livelihood zone recorded a higher price of Ksh. 4,446 compared to Ksh. 3,220 in Marginal Mixed Farming livelihood zone.
- The current market price of goat is eight percent above the long-term mean as shown in figure 9.

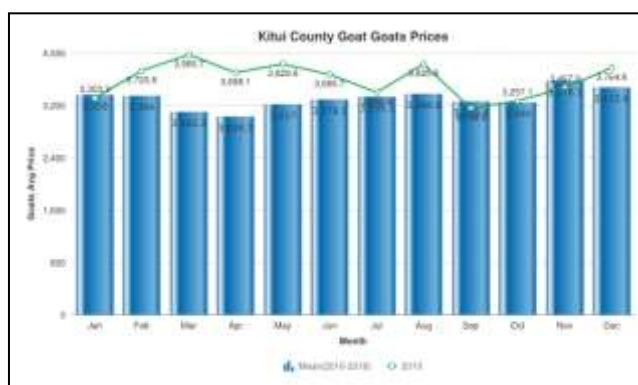


Figure 9: Goat Prices

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize per kilogram remained stable at Ksh.45 in December from Ksh.44 in previous month. This was mainly attributed to availability of the commodity in the market from traders sourcing the commodity in other counties.
- Marginal Mixed Farming livelihood zone recorded a higher price of Ksh.47 compared to Ksh.42 in Mixed Farming livelihood zone.
- The current market price of maize is 37 percent higher than the long term mean as shown in figure 10.

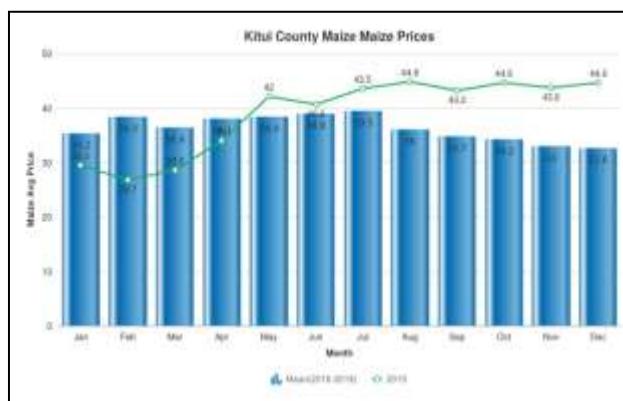


Figure 10: Maize Prices

4.2.2 Beans

- The average market price of beans declined to stand at Ksh.89 in December from Ksh.93 in previous month. The reduced prices were attributed to alternative pulses being harvested. However, Beans was mainly sourced from other counties by traders.
- Beans price was higher in Mixed Farming livelihood zone at Ksh.89 compared to Ksh.90 in Marginal Mixed Farming livelihood zone.
- The current beans price is 20 percent higher than the long-term mean as shown in figure 11.

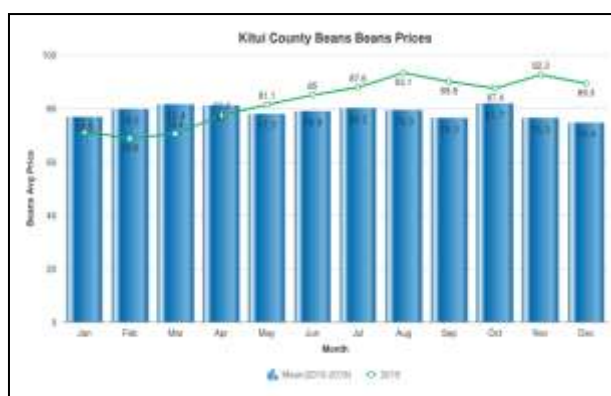


Figure 11: Beans Prices

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade was favourable in December at 84 compared to 80 in previous month. This implies that, households were able to purchase 84 kilos of maize from earnings of a goat in November compared to 84 kilos in previous month.
- The sale of one goat would enable a household in Mixed Farming livelihood zone to purchase 113 kilos of maize compared to 85 kilos in Marginal Mixed Farming livelihood zone.
- The current terms of trade is 22 percent lower than the long term mean as shown in figure 12.

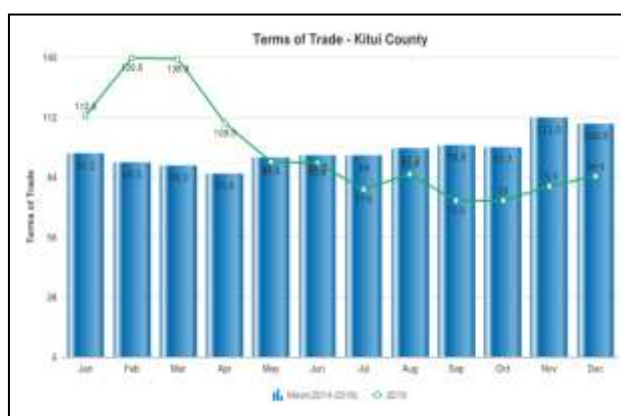


Figure 12: Terms of Trade

4.4 Implication of the above indicators to food security

- Livestock prices are likely to remain high hence improve household purchasing power following improvement in livestock body condition.

- Cessation of the short rains and extension of off-season rains is likely to impact positively on crop productivity hence lower the prices of staple food commodities.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable at 0.8 litres in December as that recorded in previous month. This could have been attributed to improvement in forage and water availability.
- There was no major variation across the livelihood zones.
- The current milk consumption is 11 percent lower than the long term mean as shown in figure 13.

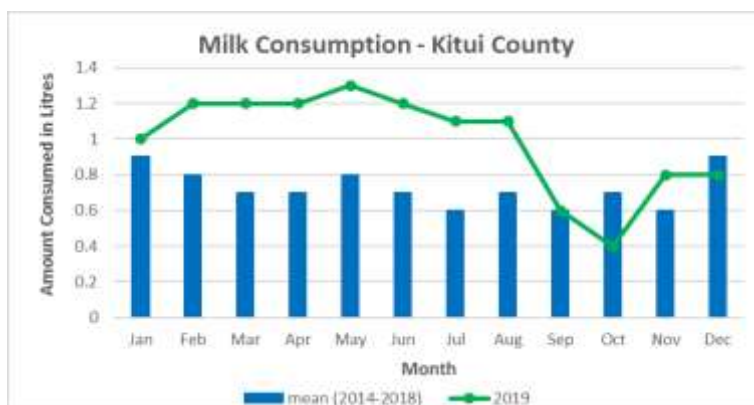


Figure 13: Milk Consumption per Household per Day

5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category rose to 80 percent in December from 75.7 percent in previous month. This could have been attributed to improvement in dietary diversity and food consumption at household level.
- The remaining 20 percent of households were in borderline food consumption category as shown in figure 14.
- Majority (81.3 percent) of households in Marginal Mixed Farming livelihood zone were in acceptable food consumption category compared to 78.2 percent in Mixed Farming livelihood zone.

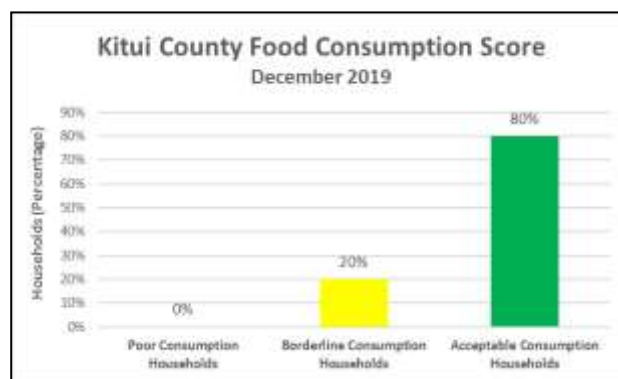


Figure 14: Food Consumption Score

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children mid at risk of malnutrition (MUAC 125-134mm) reduced to stand at 7.2 in December from 8.3 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 one percent above the long term mean as shown in figure 15.

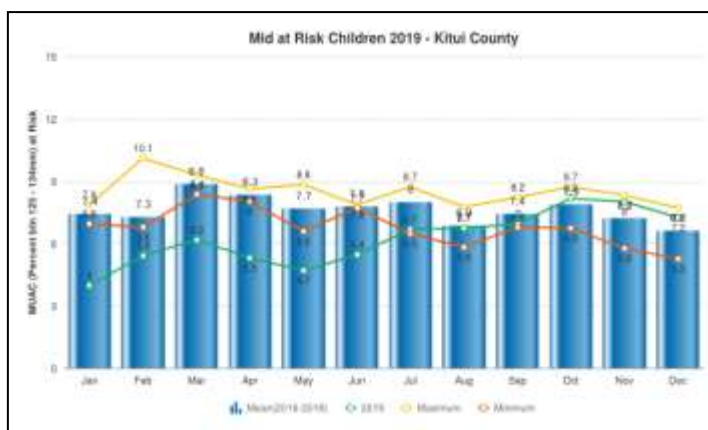


Figure 15: Proportion of Children at Risk of Malnutrition

5.3.2 Health

- The proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea stood at 2.8, 1.9 and 0.8 percent in December compared to 2.7, 2.0 and 1.3 percent in previous month respectively.

5.4 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) declined by four percent to stand at 9.5 in November from 9.9 in previous month. This implies that, fewer coping mechanisms due to lack of food or money to buy food were employed in December compared to previous month.
- Households in Marginal Mixed Farming livelihood zone had a high rCSI of 10.4 compared to 8.2 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 20, 25 and 2 percent of households were in stress, crisis and emergency coping strategies in December compared to 29, 22 and 3 percent in previous month respectively.

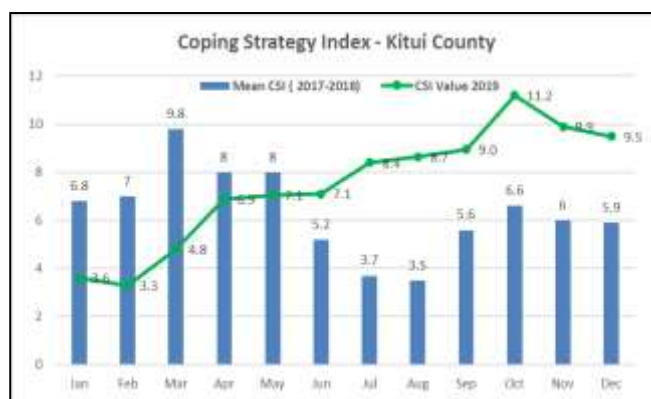


Figure 16: Reduced Coping Strategy Index (rCSI)

6.0 CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- 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+).
- Issue of advisories to farmers on the best chemicals to purchase in order to control the spread of fall armyworms by County Government of Kitui.
- Issuance and dissemination of heavy rains advisories by Kenya Meteorological Department and Kenya Red Cross.

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

- No abnormal incidences of insecurity, conflict or human displacement were reported in the county.

7.2 FOOD SECURITY PROGNOSIS

- According to OND 2019 Seasonal Rainfall Forecast Update from Kenya Meteorological Department released on 13th December 2019, rainfall is expected to continue into January 2020 in the county. However, the intensity is expected to reduce and there will be occasional breaks (dry spells). This will impact positively on both water and fodder availability and accessibility, hence an improvement in livestock productivity and food consumption.
- Based on ForPAC TAMSAT-ALERT soil moisture forecast for Kitui OND 2019 released on 28th 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. However, harvesting of crops is likely to be impacted negatively by the resumption of off-season rains.

- In addition, household purchasing power is expected to stabilize following an improvement in both crop and livestock production.

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.
- Promotion of water harvesting, storage and management.
- Promotion of post-harvest management.
- Promotion of livestock feed storage and management practices.
- Community sensitization on the impacts of flash floods.

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.