National Drought Management Authority
KITUI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR NOVEMBER 2020

A Vision 2030 Flagship Project

NOVEMBER EW PHASE	Early Warning Phase Classification		

Drought Status: NORMAL

Shughuli za kawaida

LIVELIHOOD ZONE	EW PHASE	TRENDS
Marginal Mixed Farming	Normal	Stable
Mixed Farming	Normal	Stable
County	Normal	Stable

Drought Situation & EW Phase Classification

Biophysical Indicators
- The onset of 2020 short rains was timely in third dekad of October. However, parts of the county observed late onset in the first dekad of November.
- The vegetation greenness was normal.

Socio-Economic Indicators (Impact Indicators)
Production Indicators
- Crops were mainly at germination stage with fair condition due to moisture stress.
- Livestock body condition was good to fair with normal cases of livestock migration and no deaths because of drought reported.
- Confirmed cases of PPR disease and deaths were reported in Imale, Kitui East Sub County.
- Cases of desert locust invasion were reported.
- Milk production was below normal.

Access Indicators
- Terms of trade were favourable.
- Milk consumption was below normal.
- Water distances were within normal range.
- The cost of water at source was normal.

Utilization Indicators
- Malnutrition cases were within normal range.
- About 80 percent of households were in acceptable food consumption category.
- Households employed normal consumption based coping mechanisms.

Biophysical Indicators	Value	Normal ranges
Rainfall (% of normal)	82	80-120
VCI-3 month	44.09	35-50
VCI-3 month forecast 29th December	57.85	35-50
Forage Condition	Fair to poor	Fair to poor

Production indicators	Value	Normal ranges
Maize Crop Condition	Fair	Good
Livestock Body Condition	Good to fair	Good to fair
Milk Production (in litres)	0.7	≥ 1.3
Livestock Migration Pattern	Normal	Normal
Livestock Deaths (from Drought)	No death	No death

Access Indicators	Value	Normal ranges
Terms of Trade (ToT)	109	≥ 101
Milk Consumption (in litres)	0.5	≥ 0.8
Return Distance to Water Sources (in km)	4.5	≤ 5.3
Cost of Water at Source (20 litres Jerry can)	2-5	≤ 5Ksh

Utilization indicators	Value	Normal ranges
Nutrition Status, MUAC (% at risk of malnutrition)	3.0	≤8.9
Coping Strategy Index (rCSI)	4.5	≤ 7.3
Food Consumption Score (% at Acceptable)	80	≥ 80

- Short rains harvests - Short dry spell - Reduced milk yields - Increased HH Food Stocks - Land preparation	- Planting/Weeding - Long rains - 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
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 onset of October November December 2020 short rains was timely in the third dekad of October. However, parts of the county observed late onset in the first dekad of November.
- On average, the county recorded 62.1 and 40.8 milimetres of rainfall for the first and second dekad of November compared to 61.5 and 63.6 milimetres normally as shown in figure 1. This was 82 percent of normal rainfall recorded in November.
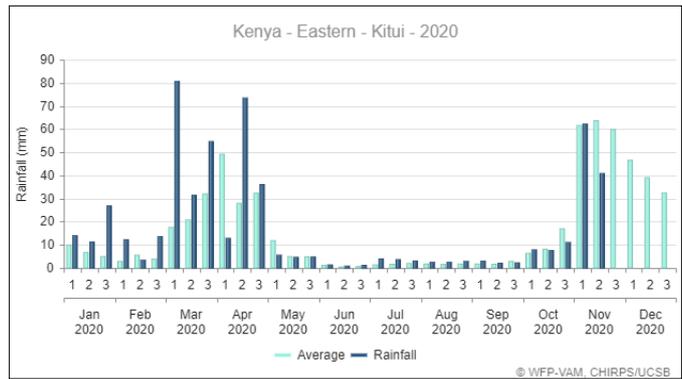

Figure 1: Rainfall Distribution for the Year 2020

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The rainfall was characterized by poor temporal and uneven spatial distribution.
- Mixed Farming livelihood zones stations recorded a cumulatuve amount ranging at 100-300 milimetres in a span of 11-17 wet days compared to 100-200 milimetres in a span of 6-14 wet days in Marginal Mixed Farming Livelihood zones.

1.3 OTHER EVENTS

- Invasion of desert locust was reported in the county mainly in Kitui East (Zombe/Mwitika, Mutitu/Kaliku, Endau/Malalani), Kitui South (Mutha, Ikanga/Kyatune) and Mwingi West sub counties and no significant damage on the same was reported.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The county vegetation greenness declined by 49 percent to stand at a 3 month VCI of 44.09 in November from 85.88 in previous month. This is an indication of normal vegetation greenness as shown in figure 2.
- Kitui West, Kitui Rural, Mwingi West and Kitui Central sub counties recorded the highest 3 month VCI at 56.44, 54.31, 52.13 and 52.05 respectively Compared to Mwingi North, Mwingi Central, Kitui South and Kitui East sub counties which recorded the lowest vegetation greenness at a 3 month VCI of 39.12, 41.91, 43.58 and 44.0 respectively.
- The county vegetation greenness is normal compared to long term average but lower the maximum recorded value as shown in figure 3.
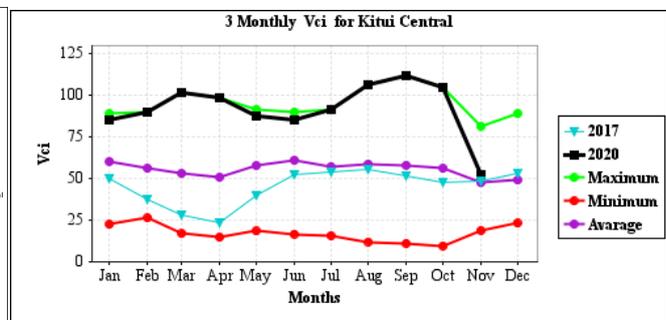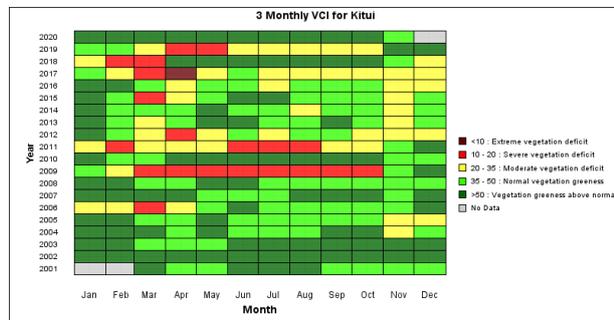

Figure 3: Kitui County 3 Month VCI Matrix **Figure 2: Kitui County 3 Month VCI Trend**

2.1.2 Vegetation Condition Index Forecast

▪ Based on Sussex Vegetation Outlook for the month of December and January 2021, the 3-month VCI forecast indicates that, the county vegetation greenness is likely to remain above normal in exception of Mwingi Central sub county which is likely to experience normal vegetation greenness as shown in figure 4. This will boost availability of livestock feeds.
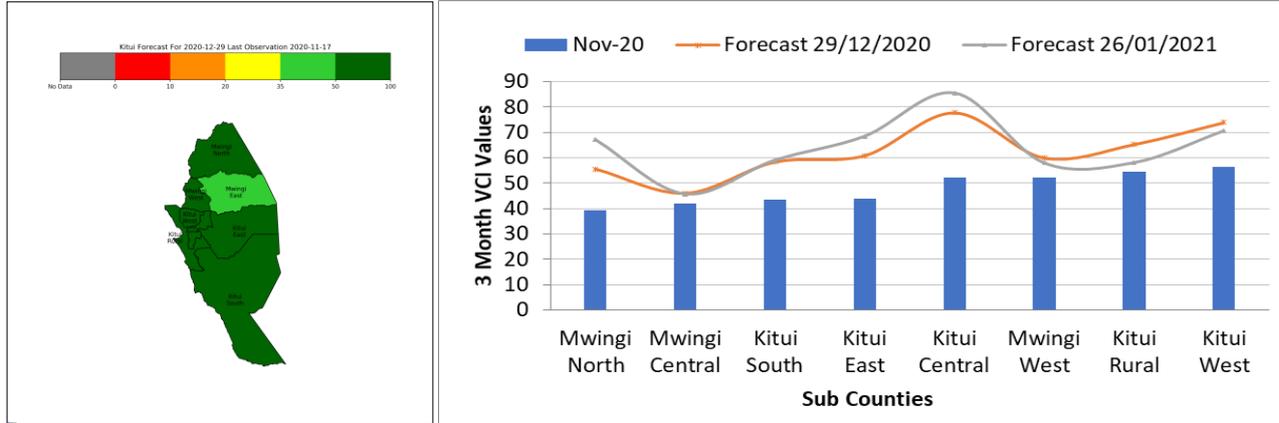

Figure 4: Kitui County 3 Month VCI Forecast for the Month of December and January 2021

2.1.3 Pasture

▪ Pasture condition ranged from fair to poor across the livelihood zones with a declining trend as shown in figure 5.

▪ On average, about 41 percent of pasture was deemed to be poor in both quality and quantity in November compared to 28 percent in previous month. The remaining 59 percent of pasture was fair.

▪ However, pasture regeneration and improvement is likely to be observed across the livelihood zones due to onset of the 2020 short rains.
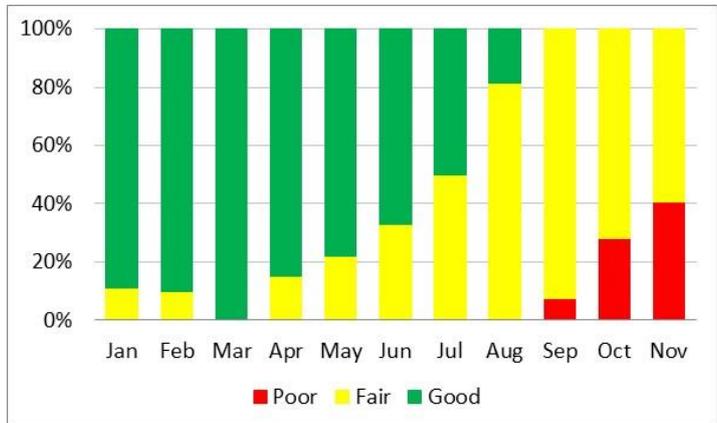

Figure 5: Kitui County Pasture Condition

2.1.4 Browse

▪ Browse condition was fair to poor across the livelihood zones with a declining trend as shown in figure 6.

▪ Moreover, about 19 percent of browse was regard as poor in November compared to 12 percent in previous month. The remaining 81 percent of browse was fair in both quality and quantity.

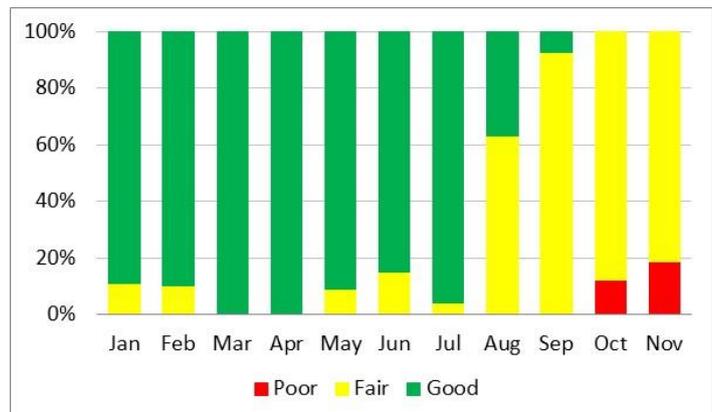▪ Browse condition is expected to improve followed the onset of 2020 short rains.

Figure 6: Kitui County Browse Condition

2.1.5 Soil Moisture Forecast

- The TAMSAT-ALERT Soil Moisture Forecast released on 20th November 2020 is predicting below normal soil moisture conditions in most parts of the county. These conditions might impact negatively on crop yield and pasture availability. It is therefore advisable to activate early actions to mitigate the impacts of poor soil moisture on agricultural production and livelihood.
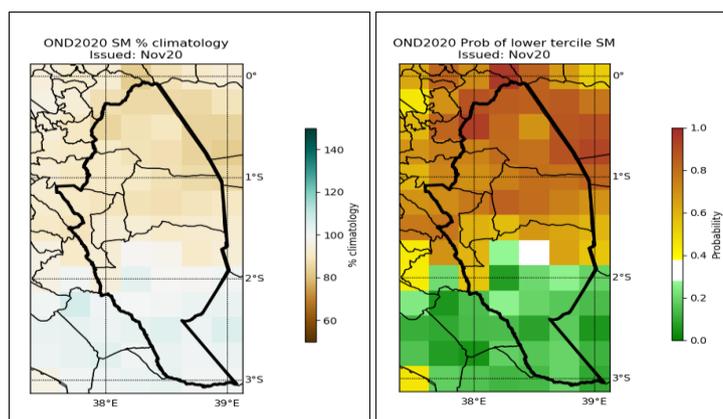

Figure 7: Kitui County Soil Moisture Forecast

- However, there is a reduced chance that most parts of Kitui South Sub County will experience below average soil moisture conditions as shown in figure 7.

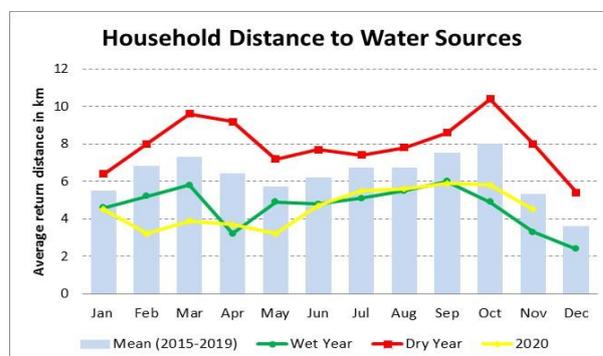## 2.2 WATER RESOURCE

2.2.1 Sources

- The main water sources for both human and livestock consumption were traditional river wells, boreholes, shallow wells, pans & dams and piped water system as shown in figure 8.
- This situation is normal at this time of the year.
- The on-going rains has led recharge of water facilities at about 40 percent of their capacity across the livelihood zones.
- Water at open water facilities are likely to last for 2-3 months across the livelihood zones compared to 3-4 months normally.
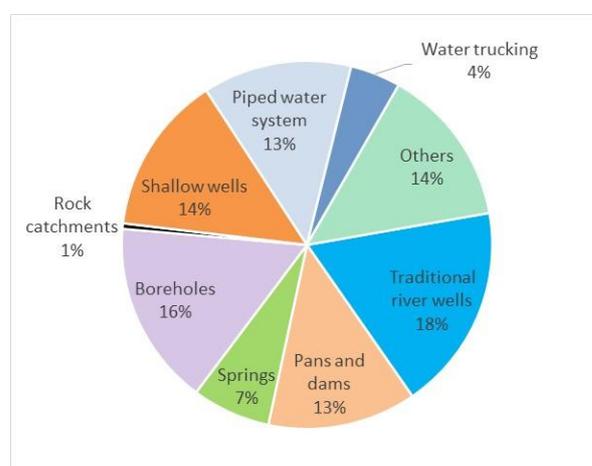
Figure 8: Major Water Sources in Kitui County

2.2.2 Household Access and Utilization

- The average return distances from the households to water sources declined by 22 percent to stand at 4.5km in November from 5.8km in previous month.
- Households in Marginal Mixed Farming livelihood zone trekked an average of 4.5km compared to 4.3km in Mixed Farming livelihood zone.
- The current water distance is 15 percent lower than the long-term mean and 36 percent above the wet year distance as shown in figure 9.
- Water consumption per person per day remained stable at 17 litres in November compared to 18 litres in previous month.
- About nine percent of the households were treating their water before consuming in November compared to eight percent in previous month. Water treatment chemicals was the most preferable treatment method.

Figure 9: Household Access to Water

- The proportion of households buying water stood at 43 percent in November compared to 50 percent in previous month.
- The price of water per 20-litre Jerry can at source was normal at 2-5 shillings. In some areas, the price of water was one shilling. However, water retailed at 20-30 shillings from vendors.

2.2.3 Livestock Access
- The average return distances from livestock grazing areas to watering points declined by 32 percent to stand at 4.5km in November from 6.6km in previous month.
- Livestock in Marginal Mixed Farming livelihood zones trekked a higher distance at 5.0km compared to 3.7km in Mixed farming livelihood zone.
- Livestock watering frequency was on alternate days in Marginal Mixed Farming and daily in Mixed Farming livelihood zones compared to daily normally.

Figure 10: Average Grazing Distances

- The current average distance from livestock grazing areas to watering points is 20 percent lower than the long-term mean as shown in figure 10.
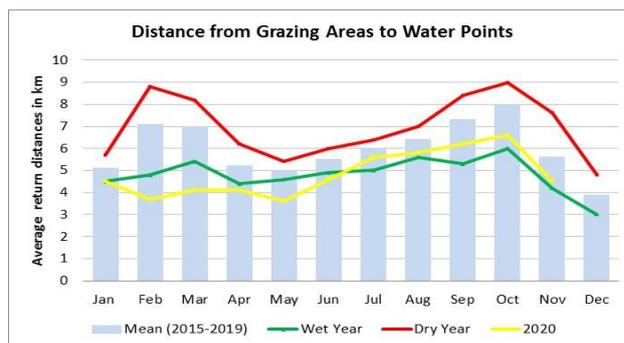
2.3 Implication of the Above Indicators to Food Security
- Water and forage access and availability is likely to improve partially following the continuation of the short rains and this will boost food security at household level.

3.0 PRODUCTION INDICATORS
3.1 LIVESTOCK PRODUCTION
3.1.1 Livestock Body Condition
- Livestock body condition ranged from good to fair for all species across the livelihood zones with a deteriorating trend. This could be attributed to reduced forage and livestock diseases.
- On average, 19 percent of cattle had good smooth appearance body condition in November compared to 24 percent in previous month. The remaining 70 and 11 percent of the livestock had moderate (neither fat nor thin) and Borderline (fore ribs not visible, 12th and 13th ribs visible) body condition respectively as shown in figure 11.
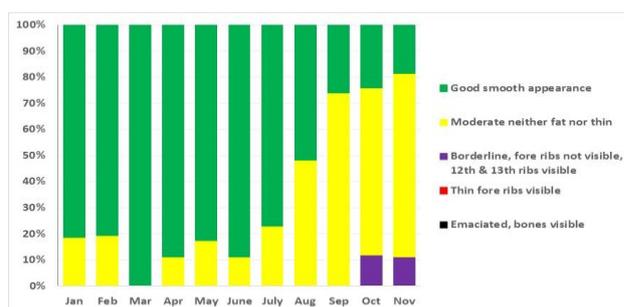

Figure 11: Cattle Body Condition

3.1.2 Livestock Diseases
- There was an outbreak of peste des petits ruminants (PPR) in Imale area, Kitui East Sub County which is suspected to have killed about 300 cattle.

3.1.3 Milk Production
- The average daily milk production per household remained stable to stand at 0.7 litres in November as it was in previous month.
- Households in Marginal Mixed Farming livelihood zone produced an average of 1.2 litres per day compared to 0.3 litres in Mixed Farming livelihood zone.
- The current milk production is lower than the long-term mean and wet year by 46 and 56 percent respectively as shown in figure 12. This is due to household preference of holding bulls for farming and reduced calving rates.
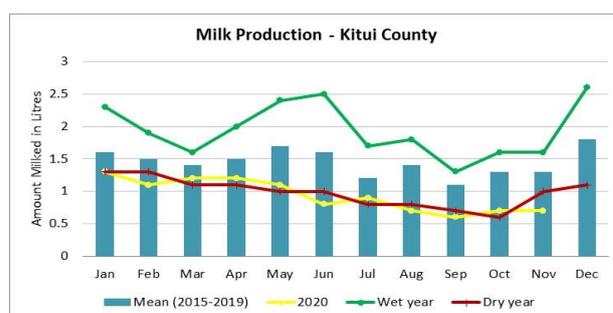

Figure 12: Milk Production per Household per

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops
- The major crops planted in Marginal Mixed Farming livelihood zone were green grams, cow peas, maize, millet and sorghum while maize, beans, pigeon peas, green grams and cow peas were planted in Mixed Farming livelihood zone.
- The crops were mainly at germination stage and in fair condition due to lack of enough moisture.
- However, land preparation, planting and weeding for the season was on going across the livelihood zones and this is normal at this time of the year.
- 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
- Regeneration of livestock feeds and improvement in water availability and accessibility is likely to impact positively on livestock productivity.
- Crop productivity might be low due to poor performance of on-going short rain season and this will impact negatively on household purchasing power.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices
- The average market price of cattle remained stable to stand at Ksh.31,704 in November from Ksh.29,606 in previous month. This was attributed to stability in cattle body condition.
- Cattle prices were higher in Mixed Farming livelihood zone at Ksh.34,333 compared to Ksh.29,000 in Marginal Mixed Farming livelihood zone.
- The current market price of cattle is 24 and 35 percent higher than the long-term mean and 2019 price respectively as shown in figure 13.
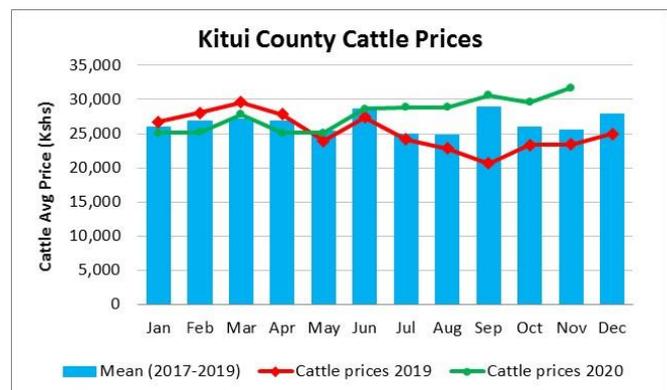
Figure 13: Cattle Prices

4.1.2   Small Ruminants Prices (Goat price)
- The average market price of goat remained stable at Ksh.3,798 in November from Ksh.3,972 in previous month. This was due to stability in goat body condition.
- Mixed Farming livelihood zone recorded a higher price of Ksh.4,004 compared to Ksh.3,580 in Marginal Mixed Farming livelihood zone.
- The current market price of goat is 10 percent higher than the long-term mean as shown in figure 14.
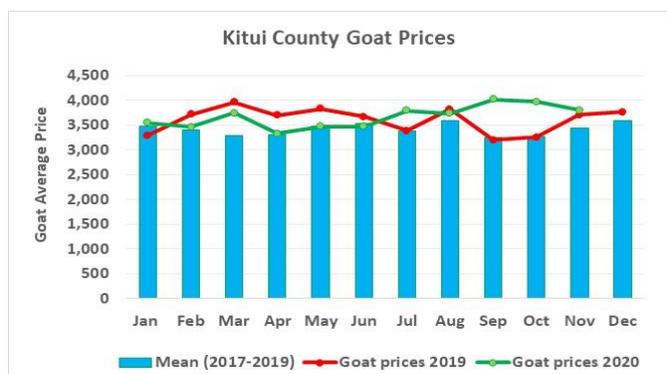
Figure 14: Goat Prices

4.2 CROP PRICES

4.2.1 Maize
- The average market price of maize per kilogram remained stable at Ksh.35 in November from Ksh.33 in previous month.
- Maize price was higher in Marginal Mixed Farming livelihood zone at Ksh.38 per kilogram compared to Ksh.31 in Mixed Farming livelihood zone.
- The current market price of maize is three and 20 percent lower than the long-term average and 2019 price respectively as shown in figure 15.
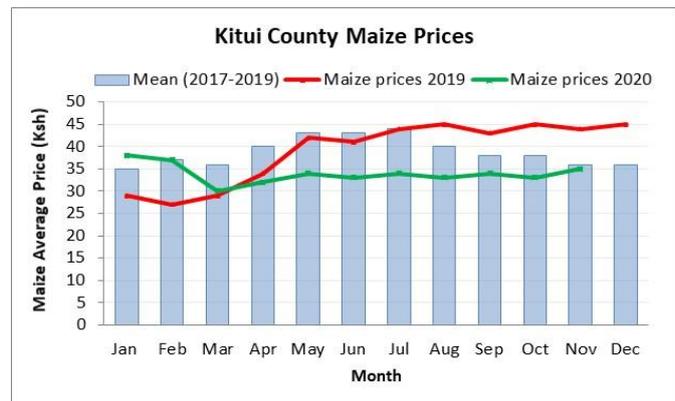- This is due to availability of the commodity in the market from outside the county.

Figure 15: Maize Prices

4.2.2 Beans
- The average market price of beans rose by 11 percent to stand at Ksh.94 in November from Ksh.85 in previous month. This was occasioned by high demand of the planting seed.
- Beans price was higher in Marginal Mixed Farming livelihood zone at Ksh.92 compared to Ksh.88 in Mixed Farming livelihood zone.
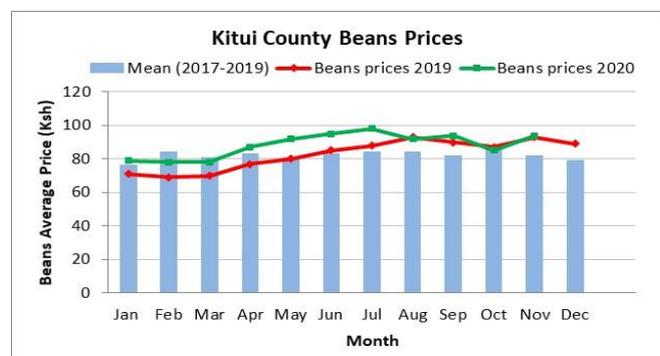- The current beans price is 15 percent higher than the long term mean as shown in figure 16.

Figure 16: Beans Prices

4.3 Livestock Price Ratio/Terms of Trade
- Terms of trade, declined by 10 percent to stand at 109 in November from 120 in previous month. This implies that, households were able to purchase 109 kilograms of maize from earnings of a goat in November compared to 120 kilograms in previous month.
- The sale of one goat would enable a household in Mixed Farming livelihood zone to purchase 128 kilograms of maize compared to 94 kilograms in Marginal Mixed Farming livelihood zone.
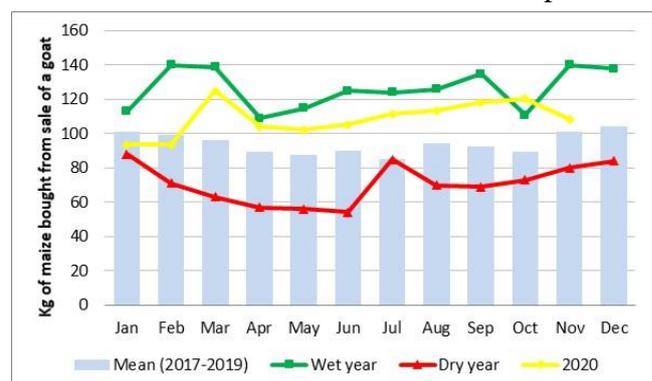- The current terms of trade is seven percent higher than the long term mean as shown in figure 17.

Figure 17: Terms of Trade

4.4 Implication of the above indicators to food security
- Household purchasing power is expected to deteriorate following the rise in food commodity prices.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable to stand at 0.5 litres in November as it was in previous month.
- Milk consumption was higher in Marginal Mixed Farming livelihood zone at 0.8 litres compared to 0.3 litres in Mixed Farming livelihood zone.
- The current milk consumption is 38 percent lower than the long-term average as shown in figure 18 and this is due to low milk produced compared to normal.
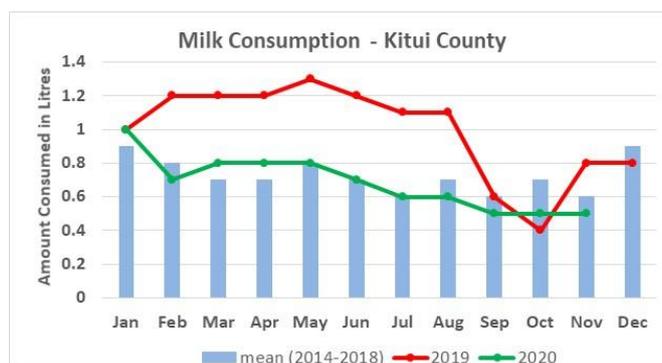
Figure 18: Milk Consumption per Household per Day

5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category remained stable at 80 percent in November from 84 percent in previous month.
- The remaining 20 percent of the households were in borderline food consumption category as shown in figure 19.
- Majority (87 percent) of the households in Mixed Farming Livelihood zone were in acceptable food consumption category compared to 75 percent in Marginal Mixed Farming livelihood zone.
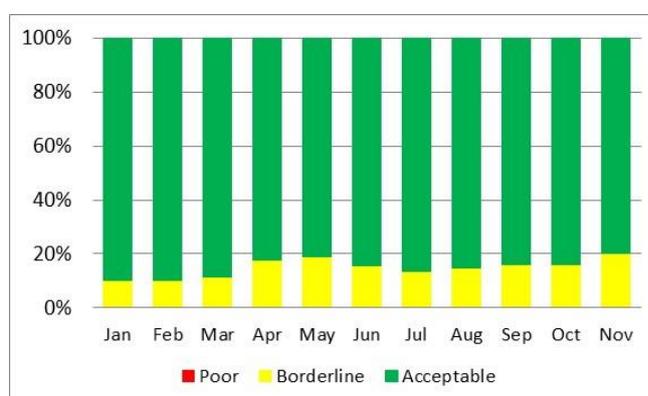
Figure 19: Food Consumption Score

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition remained stable to stand at 3.0 percent in November from 3.2 percent in previous month.
- Moreover, no cases of Global Acute Malnutrition (GAM) based on Mid Upper Arm Circumference (MUAC) was reported.
- The current level of children at risk of malnutrition is 5.9 percent lower than the long-term mean as shown in figure 20 and this is attributed to availability of diversified foods at household and market levels due to stability in terms of trade.
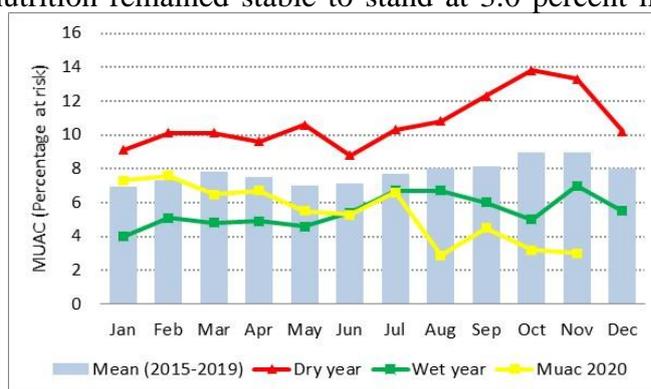
Figure 20: Children at Risk of Malnutrition

5.3.2 Health

- The proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea stood at 1.8, 0.0 and 0.7 percent in November compared to 1.5, 0.5 and 1.0 percent in previous month respectively.

5.4 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) rose by 18 percent to stand at 4.5 in November compared to 3.8 in previous month.

- Households in Marginal Mixed Farming livelihood zone had a high rCSI of 6.1 compared to 2.5 in Mixed Farming livelihood zone. Reliance on less preferred or less expensive food and reduced portion size of meals were the most frequent coping mechanisms adopted across the livelihood zones.

- The current rCSI is 38 and 55 percent lower than the long-term mean and 2019 index respectively as shown in figure 21.

Figure 21: Reduced Coping Strategy Index (rCSI)

- Moreover, about 72 percent of the households were employing none or minimal coping mechanisms to cope with lack of food or money to buy food in November compared to 69 percent in previous month. The remaining 17 and 10 percent of the households were employing stress and crisis coping mechanisms respectively.

6.0   CURRENT INTERVENTION MEASURES

6.1   NON-FOOD INTERVENTIONS

- Promotion of high value horticulture crops, mango production & value addition, Promotion of viable and equitable commercialization of the agricultural sector through value chain development and strengthening sorghum & millet value chains across the county by County Government of Kitui in collaboration with various partners.

- Rehabilitation of water supplies, drilling of boreholes and construction of earth dams by County Government of Kitui in collaboration with various partners.

- Vitamin A Supplementation/Deworming, Growth Monitoring, Iron and Folic acid supplementation (IFAS) by Ministry of Health supported by development partners.

- Development and distribution of climate and weather advisories by Kenya Meteorological Department, County Government of Kitui, National Drought Management Authority and other partners.

- National Hygiene Programme (NHP), dubbed "Kazi Mtaani" to cushion the most vulnerable citizens living in the informal settlements to address the adverse effects of COVID-19 pandemic by the National Government.

6.2 FOOD INTERVENTIONS

- 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

- Based on ForPAc forecasts of Standard Precipitation Index (SPI) for October to December 2020 season issued on September 2020, there is a higher than usual chances that the county will pass thresholds signifying alert phase and alarm worsening phase. Hence a need to take early action to cushion households against the adverse impacts of drought.
- Moreover, the weather outlook for October, November and December 2020 published by Kenya Meteorological Department, issued on 05th September 2020 indicates that, the county is likely to receive below-average (depressed) rainfall with timely onset and cessation. This will lead to partially recharge of water facilities and regeneration of pasture hence a slight improvement in livestock feeds and productivity. Food availability at household level is likely to improve partly due to favourable terms of trade. However, the likelihood of depressed rains will reduce crop production activities which might lower household income.
- Based on Sussex Vegetation Outlook for the month of December and January 2020, the 3-month VCI forecast indicates that, the county vegetation greenness is likely to remain normal to above normal throughout the forecasted period and this will boost availability of livestock feeds.
- Moreover, the TAMSAT-ALERT Soil Moisture Forecast released on 20th November 2020 signify that the county will experience below normal soil moisture conditions. It is therefore advisable to activate early actions to mitigate the impacts of poor soil moisture on agricultural production and livelihood.
- Based on Kenya Food Security Outlook for October 2020 to May 2021, Ministry of Agriculture estimates that national maize production for the 2020 long rains is projected to be 10-15 percent above the five-year average. This is due to enhanced harvest from high and medium production areas. This will stabilize staple food prices thus boost household purchasing power and access to diversified foods.
- Based on the Desert Locust Forecast by FAO, there is a risk of re-invasion from Ethiopia, Somalia and Yemen into Kenya. The upsurge of desert locust is likely to damage crops and rangeland resources.

8.0   RECOMMENDATIONS

Immediate/Short term

National Government, County Government and Development partners to collaborate on:

Agriculture Sector
- Dissemination of climate and agro-weather advisories across the county.
- Promotion of appropriate post-harvest management practices
- Promotion of rain water harvesting technologies for crop production.
- Intensify measures to control desert locusts.
- Set up experimental index insurance schemes.

Livestock Sector
- Intensifying livestock disease control measures along Kitui-Tana River border.
- Promote pasture conservation and management practices.

Water Sector
- Promote rain water harvesting technologies and management.
- Water infrastructure development and maintenance.

Health and Nutrition Sector
- Promoting home-based water treatment and conservation measures such as storage facilities across the county.
- Community awareness creation on COVID-19 preventive measures.
- Educate community on sanitation and hygiene related to water.

Education Sector

- Implementation of COVID-19 protocols in all learning institutions.

Social Protection Sector

- Mapping of vulnerable and at-risk households, affected food systems and responding through safety-nets.

Peace and Security Sector

- Enhancing peace building and conflict management activities along Kitui-Tana River border.