



A Vision 2030 Flagship Project



National Drought Management Authority KITUI COUNTY DROUGHT EARLY WARNING BULLETIN FOR JUNE 2021

MAY EW PHASE												Early Warning Phase Classification		
Drought Status: ALERT Maandalizi ya mapema						LIVELIHOOD ZONE		EW PHASE		TRENDS				
						Marginal Mixed Farming		Alert		Stable				
						Mixed Farming		Normal		Stable				
						County		Alert		Stable				
<u>Drought Situation & EW Phase Classification</u> <u>Biophysical Indicators</u> <ul style="list-style-type: none"> ▪ The month of June was dry and this is normal. ▪ The vegetation greenness was normal with a declining trend. ▪ VCI forecast indicates normal vegetation greenness for month of July. <u>Socio-Economic Indicators (Impact Indicators)</u> <u>Production Indicators</u> <ul style="list-style-type: none"> ▪ Most crops withered due to moisture stress. However, some crops were at grain filling and harvesting stage. ▪ Livestock body condition was good to fair with normal cases of livestock migration and deaths. ▪ Confirmed cases of CCPF, Anthrax and FMD diseases were reported. ▪ Milk production was below normal range. <u>Access Indicators</u> <ul style="list-style-type: none"> ▪ Terms of trade were favourable. ▪ Milk consumption was below normal range. ▪ Water distances were within normal range. ▪ The cost of water at source was normal. <u>Utilization Indicators</u> <ul style="list-style-type: none"> ▪ Malnutrition cases were within normal range. ▪ About 75.6 percent of households were in acceptable food consumption category. ▪ About 15.1 percent of households employed crisis and emergency food-based coping mechanisms 						Biophysical Indicators			Value	Normal ranges				
Rainfall (% of normal)		93	80-120											
VCI-3 month		40.35	35-50											
VCI-3 month forecast Aug-05		49.71	35-50											
Forage Condition		Fair to poor	Good to fair											
Production indicators			Value	Normal ranges										
Maize Crop Condition		Poor	Good											
Livestock Body Condition		Good to fair	Good to fair											
Milk Production (in litres)		1.0	≥ 1.2											
Livestock Migration Pattern		Normal	Normal											
Livestock Deaths (from Drought)		No death	No death											
Access Indicators			Value	Normal ranges										
Terms of Trade (ToT)		117	≥ 107											
Milk Consumption (in litres)		0.7	≥ 0.9											
Return Distance to Water	Household	4.8	≤ 5.9											
Sources (Km)	Livestock	5.1	≤ 6.0											
Cost of Water at Source (20 litres Jerry can)		2-5	≤ 5Ksh											
Utilization indicators			Value	Normal ranges										
Nutrition Status, MUAC (% at risk of malnutrition)		2.7	≤ 7.1											
Coping Strategy Index (rCSI)		6.7	≤ 5.5											
Food Consumption Score (%)	Acceptable	75.6	≥ 80											
	Borderline	24.4	≤ 20											
	Poor	0	0											
<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			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 June was generally sunny and dry across the livelihood zones. This was followed by cool and cloudy conditions.
- On average, the county recorded 0.9 and 0.5 millimetres of rainfall for the first, and second dekad of June compared to 1.1 and 0.4 millimetres normally respectively as shown in figure 1. This was 93 percent of normal rainfall recorded in June.

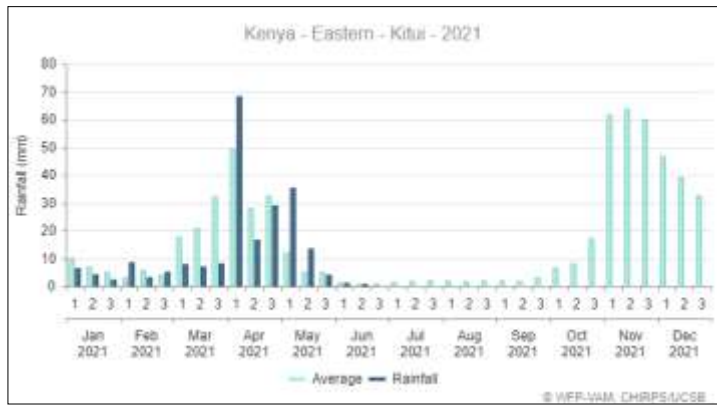


Figure 1: Rainfall Distribution for the Year 2021

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The county vegetation greenness remained stable at a 3 month VCI of 40.35 in June from 39.49 in previous month. This is an indication of normal vegetation greenness.
- Kitui Rural sub county had a moderate vegetation greenness at a 3 month VCI of 27.87 with a declining trend since February 2021 as shown in figure 3.
- However, Mwingi Central, Mwingi North, Kitui South, Kitui East, Mwingi West and Kitui West sub counties had normal vegetation greenness at a 3 month VCI of 35.16, 38.66, 40.77, 41.84, 43.11 and 46.83 respectively.
- Conversely, Kitui Central sub county had above normal vegetation greenness at a 3 month VCI of 52.66.
- The county vegetation greenness is below normal compared to long term mean as shown in figure 2.

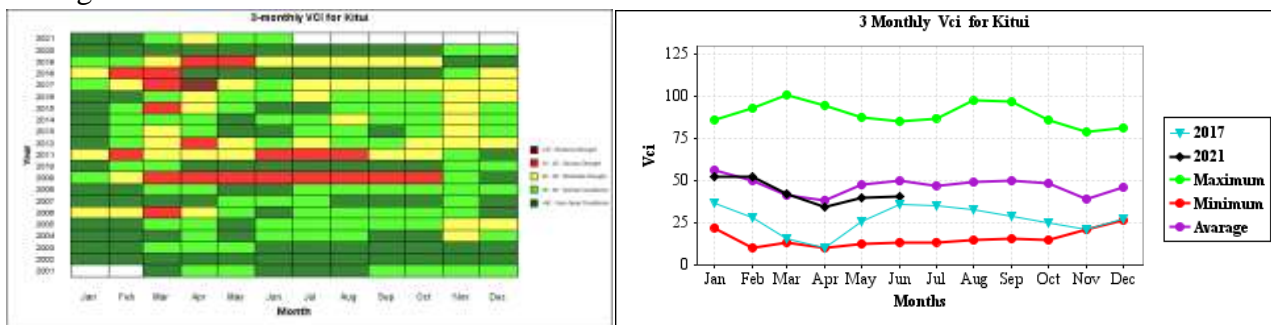


Figure 2: Kitui County 3 Month VCI Matrix and Trend

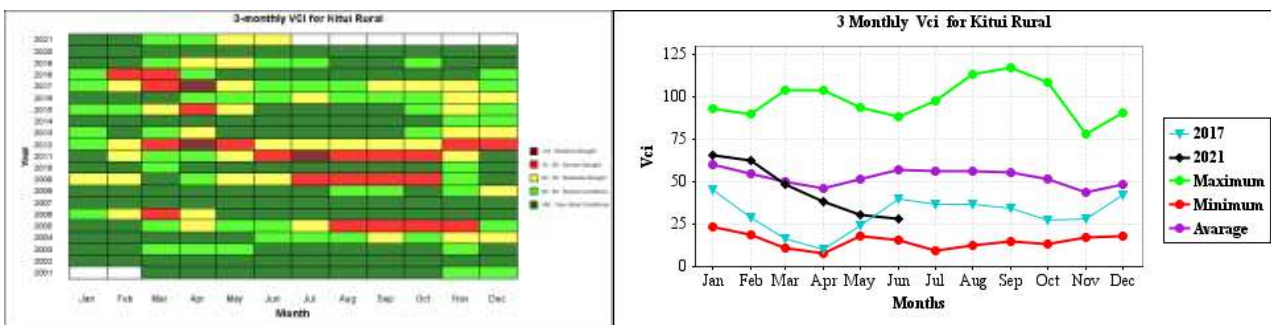


Figure 3: Kitui Rural 3 Month VCI Matrix and Trend

2.1.2 Vegetation Condition Index Forecast

- Based on Sussex Vegetation Outlook for the month of July and August 2021, the 3-month VCI forecast indicates normal to above normal vegetation condition across the sub counties in exception of Mwingi Central sub county which is likely to experience a moderate vegetation greenness as shown in figure 4 and this will boost availability and accessibility of livestock feeds.

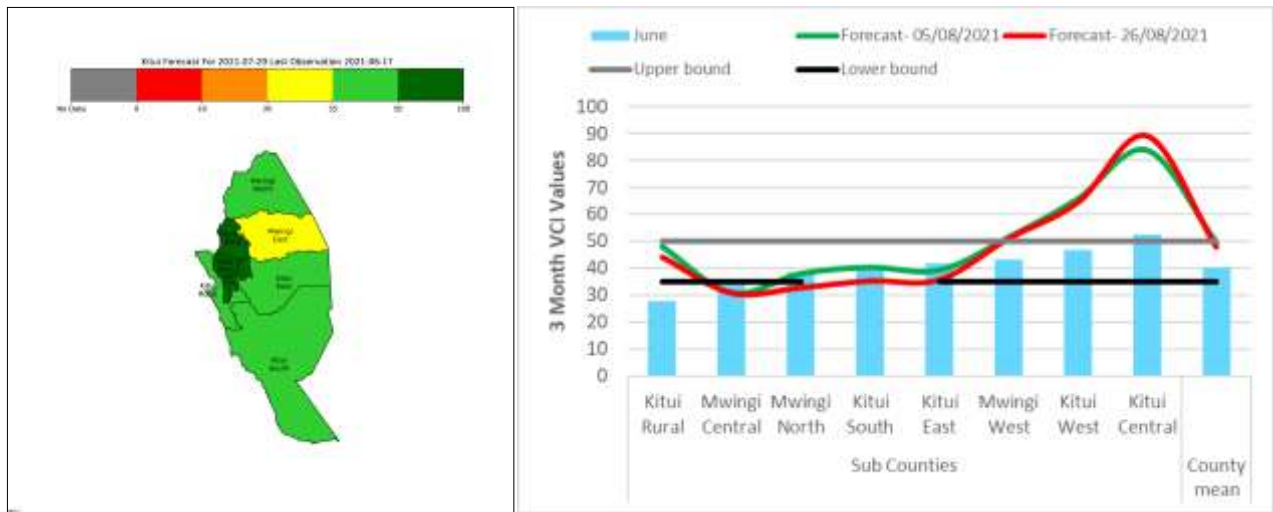


Figure 4: Kitui County 3 Month VCI Forecast

2.1.3 Soil Moisture Forecast

- The TAMSAT-ALERT Soil Moisture Forecast issued on 26th June 2021, indicates that there is less than 30 percent chance that Kitui County will have lower tercile soil moisture condition.
- Moreover, most parts of the county will experience normal soil moisture conditions as shown in figure 5 and this might impact positively on vegetation condition and livestock feeds.

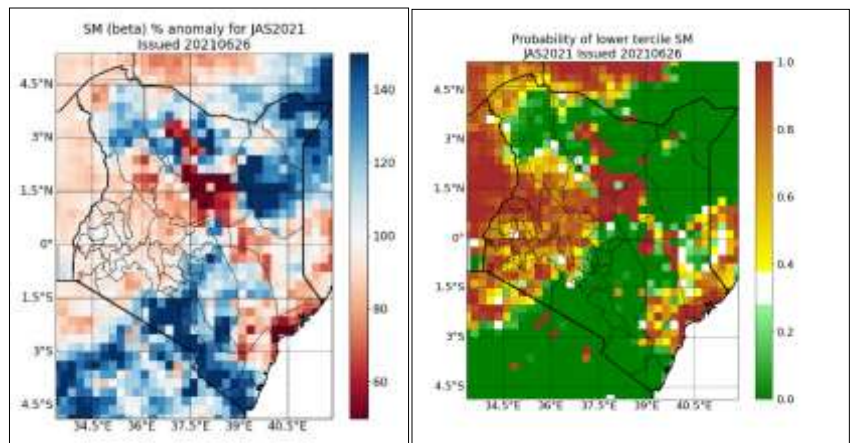


Figure 5: Kitui County Soil Moisture Forecast

2.1.4 Pasture

- Pasture condition ranged from fair to poor with a declining trend across the livelihood zones as shown in figure 6. This condition was due to poor 2021 long rain performance and progression of the dry spell.
- On average, about 63 percent of pasture was regarded as poor in both quality and quantity in June compared to 15 percent in previous month. The remaining 26 and 11 percent of pasture was fair and good respectively.

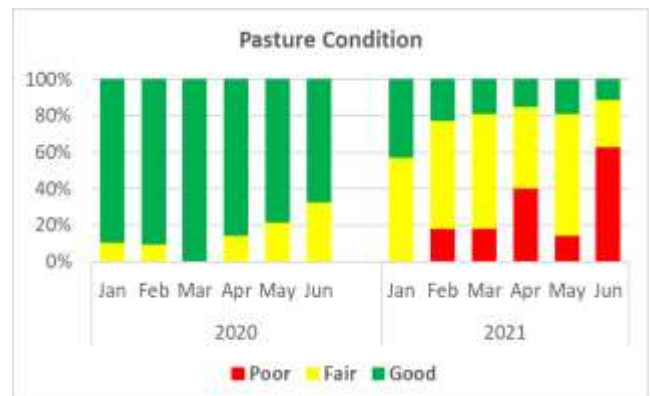


Figure 6: Kitui County Pasture Condition

- The available pasture is expected to last for $\leq 1-2$ months across the livelihood zones compared to 2-3 months normally. Conversely, Pasture is likely to last for more than two months in Kitui Central sub county.
- Pasture condition was better in year 2020 compared to similar period in year 2021.

2.1.5 Browse

- Browse condition ranged from fair to poor across the livelihood zones with a declining trend as shown in figure 7.
- On average, about 19 percent of browse was regarded as poor in both quality and quantity in June compared to 11 percent in previous month. The remaining 70 and 11 percent of browse was fair and good respectively.
- Browse is expected to last for 2-3 months compared to 3-4 months normally across the livelihood zones.
- Browse condition was better in year 2020 compared to similar period in year 2021.

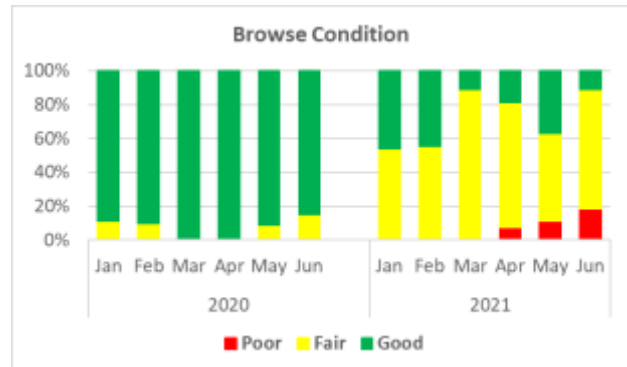


Figure 7: Kitui County Browse Condition

2.2 WATER RESOURCE

2.2.1 Sources

- The main water sources for both human and livestock consumption in June were pans & dams, boreholes, traditional river wells, shallow wells and piped water system as shown in figure 8.
- This situation is normal at this time of the year.
- However, water levels in open water sources were below 30 percent of their capacity in most parts of the county and majority of water pans had dried up in Marginal Mixed Farming livelihood zones.
- Water levels at open water facilities are likely to last for $< 1-2$ months across the livelihood zones compared to 3-4 months normally. This is mainly due to high levels of siltation and poor recharge from 2021 long rains.

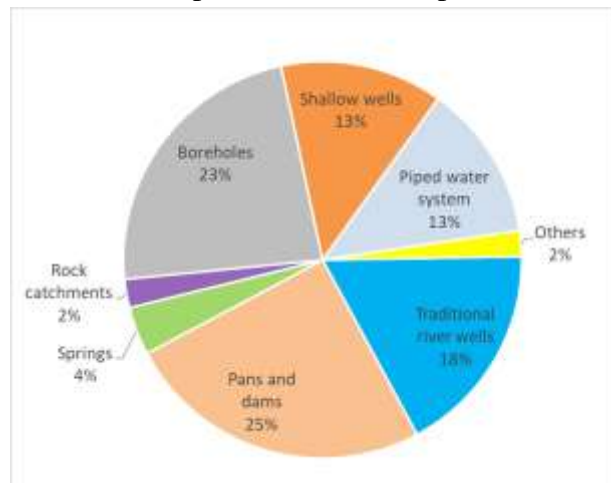


Figure 8: Major Water Sources in Kitui County

2.2.2 Household Access and Utilization

- The average return distances from the households to water sources rose by 17 percent to stand at 4.8km in June from 4.1km in previous month.
- Households in Marginal Mixed Farming livelihood zone trekked an average of 5.1km compared to 4.6km in Mixed Farming livelihood zone.
- The current water distance is 19 percent lower than the long-term mean as shown in figure 9.

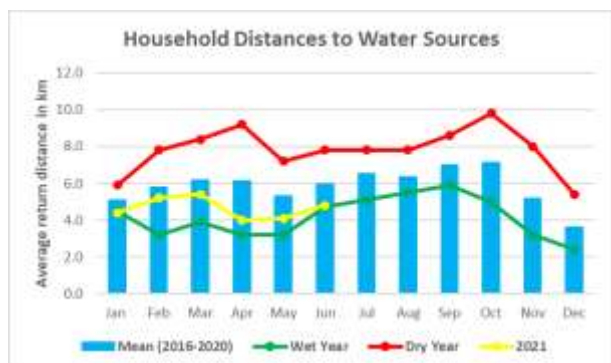


Figure 9: Household Access to Water

- Water consumption per person per day remained stable at 17 litres in June from 18 litres in previous month.
- The proportion of households treating water before consuming stood at 17 percent in June compared to 16 percent in previous month. Water treatment chemicals and boiling were the most preferred treatment methods at 15.9 and 1.1 percent respectively.
- The proportion of households buying water stood at 44 percent in June compared to 39 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 20-25 shillings from vendors.

2.2.3 Livestock Access

- The average return distances from livestock grazing areas to watering points increased by nine percent to stand at 6.0km in June from 4.7km in previous month. This was attributed to drying up of nearby water resources as a result of poor recharge, high siltation and evaporation rates.
- Livestock in Marginal Mixed Farming livelihood zones trekked a distance of 5.5km compared to 4.6km in Mixed Farming livelihood zone.
- Livestock watering frequency was daily in Mixed Farming and 3-4 days per week in Marginal Mixed Farming livelihood zones compared to daily normally.
- The current average distance from livestock grazing areas to watering points is 14 percent lower than the long-term mean as shown in figure 10.

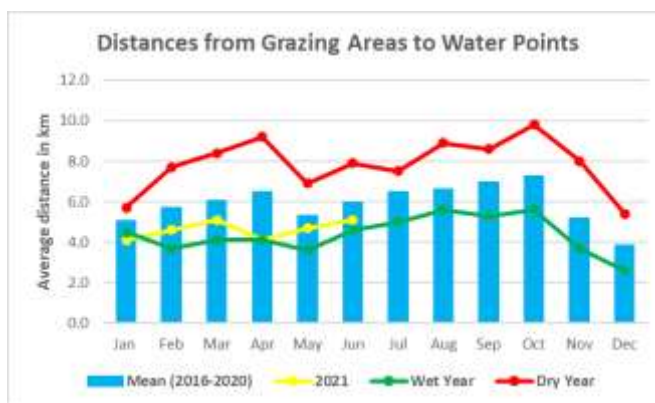


Figure 10: Average Grazing Distances

2.3 Implication of the Above Indicators to Food Security

- Livestock productivity is likely to worsen following declining fodder and water situation. This will impact negatively on household purchasing power and food consumption patterns.

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 worsening trend. This was due to declining forage and water availability.
- On average, 11 percent of cattle had good smooth appearance body condition in June compared to 56 percent in previous month. The remaining 89 percent of the livestock had moderate (neither fat nor thin) body condition as shown in figure 11.
- Livestock body condition was better in year 2020 compared to similar period in year 2021.

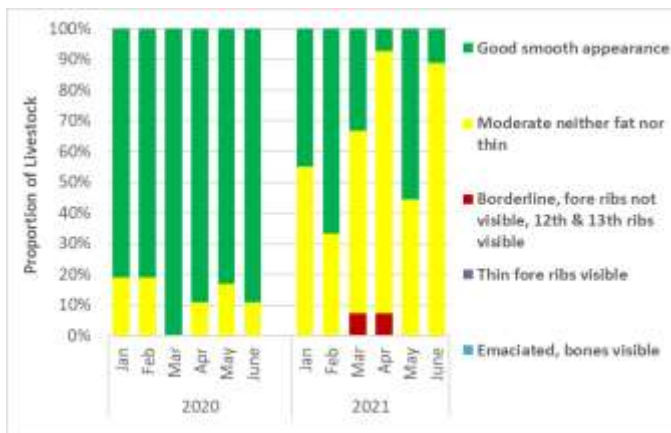


Figure 11: Cattle Body Condition

3.1.2 Livestock Diseases

- There were 155 confirmed cases of Contagious Caprine Pleuropneumonia (CCPP) in Mwingi Central sub county (Kivou and Waita wards) and 20 confirmed cases of Foot and Mouth Disease (FMD) in Kitui Rural (Yatta/Kwa Vonza ward) and Kitui East sub county (Zombe/Mwitika ward).
- Moreover, two cattle died as a result of Anthrax in Zombe/Mwitika ward.

3.1.3 Milk Production

- The average daily milk production per household reduced by 17 percent to stand at 1.0 litres in June compared 1.2 litres in previous month. This was attributed to deteriorating livestock body condition due to reduced livestock feeds.
- Households in Marginal Mixed Farming livelihood zone produced an average of 1.4 litres per day compared to 0.7 litres in Mixed Farming livelihood zone.
- The current milk production is 18 percent lower than the long term mean as shown in figure 12.

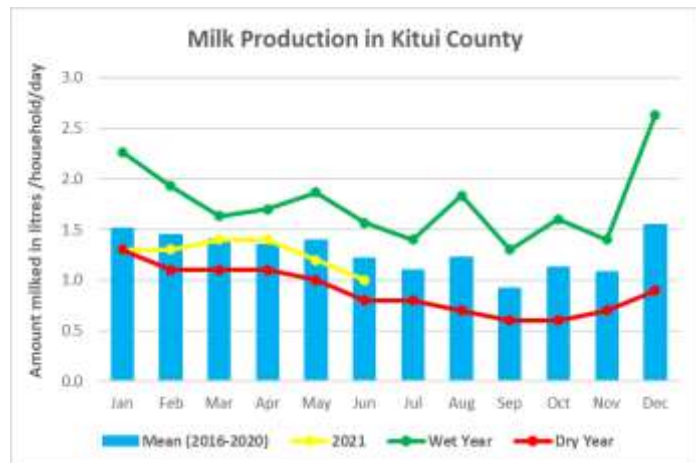


Figure 12: Milk Production

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, millet, sorghum, cowpeas and maize. Moreover, maize, beans, pigeon peas, green grams and cow peas were planted in Mixed Farming livelihood zone.
- Area planted was lower than the long-term average due to late onset and poor performance of the long rains and most crops withered due to moisture stress.
- Crops were mainly at grain filling and harvesting stage and in poor condition due to moisture stress.
- Very little harvests compared to normal (of mainly pulses) is expected across the livelihood zones.
- 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

- Following poor performance of crop production, reduced food stocks at household level is expected.
- Reduced livestock and crop productivity is likely to impact negatively on household purchasing power and food consumption patterns.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average market price of cattle declined by 12 percent to stand at Ksh.29,796 in June from Ksh.33,896 in previous month. This was attributed to deteriorating cattle body condition.
- Cattle prices were higher in Marginal Mixed Farming livelihood zone at Ksh.30,000 compared to Ksh.29,633 in Mixed Farming livelihood zone.
- The current market price of cattle is normal as shown in figure 13.

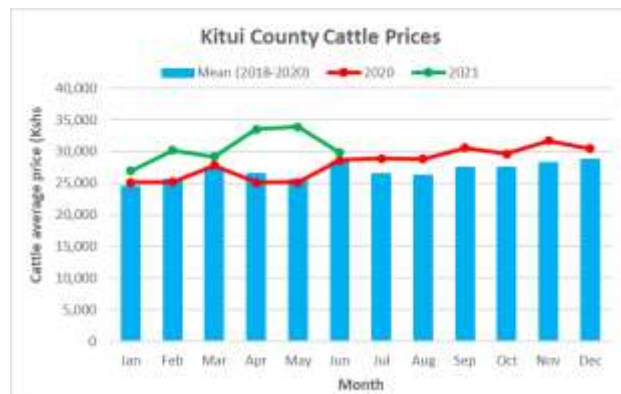


Figure 13: Cattle Prices

4.1.2 Small Ruminants Prices (Goat price)

- The average market price of goat declined by 14 percent to stand at Ksh.3,735 in June from Ksh. 4,335 in previous month. This was due to deteriorating goat body condition.
- Marginal Mixed Farming livelihood zone recorded a higher price of Ksh.3,758 compared to Ksh.3,717 in Mixed Farming livelihood zone.
- The current market price of goat is normal 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.32 in June from Ksh.33 in previous month. This is due to availability of the commodity in the market from outside the county
- Maize price was higher in Mixed Farming livelihood zone at Ksh.33 per kilogram compared to Ksh.32 in Marginal Mixed Farming livelihood zone.
- Moreover, Maize retailed at Ksh.35 per kilogram in Mwingi, Kithyoko and Kasaala markets.
- The current market price of maize is eight percent lower than the long term mean as shown in figure 15.

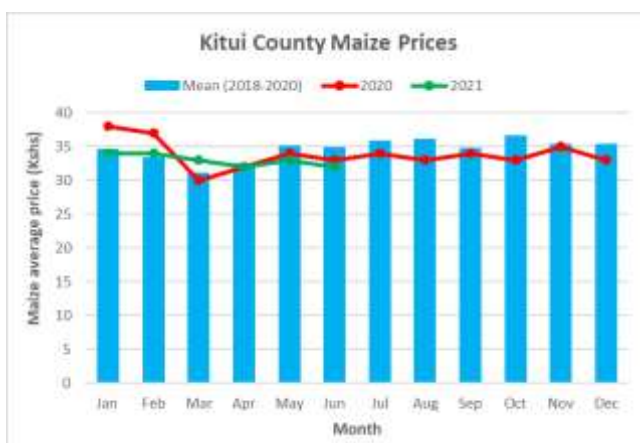


Figure 15: Maize Prices

4.2.2 Beans

- The average market price of beans per kilogram remained stable to stand at Ksh.91 in June from Ksh.95 in previous month.
- Beans price was higher in Marginal Mixed Farming livelihood zone at Ksh.95 compared to Ksh.85 in Mixed Farming livelihood zone.
- The current beans price is eight percent higher than the long term mean as shown in figure 16.
- Beans was mainly sourced from outside the county.

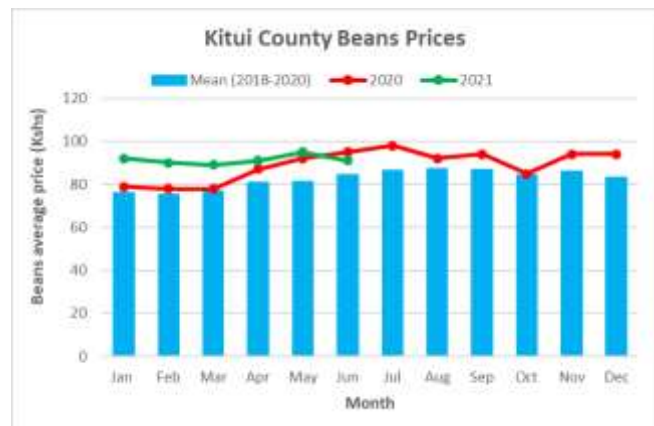


Figure 16: Beans Prices

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade reduced by 11 percent to stand at 117 in June from 131 in previous month. This implies that, households were able to purchase 117 kilograms of maize from earnings of a goat in June from 131 kilograms in previous month.
- The sale of one goat would enable a household in Marginal Mixed Farming livelihood zone to purchase 119 kilograms of maize compared to 116 kilograms in Mixed Farming livelihood zone.
- The current terms of trade is 10 percent higher than the long-term mean as shown in figure 17.

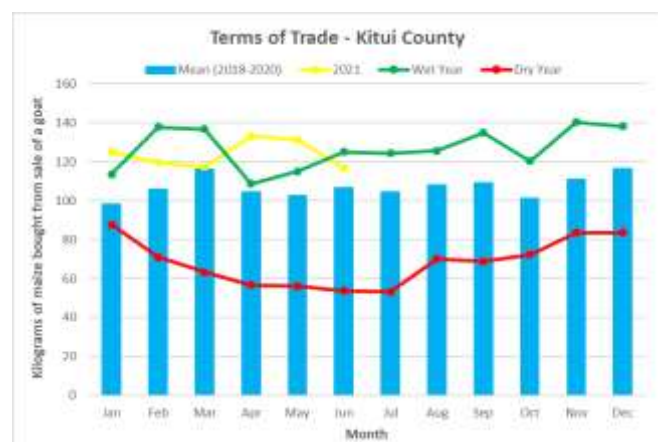


Figure 17: Terms of Trade

4.4 Implication of the Above Indicators to Food Security

- Crop prices are likely to rise following anticipated low productivity while livestock prices will decline following deteriorating livestock body condition. This will impact negatively on household food consumption patterns.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household declined by 22 percent to stand at 0.7 litres in June from 0.9 litres in previous month and this was due to decline in milk production.
- Milk consumption was higher in Marginal Mixed Farming livelihood zone at 0.9 litres compared to 0.7 litres in Mixed Farming livelihood zone.
- The current milk consumption is 23 percent lower than the long-term average as shown in figure 18.

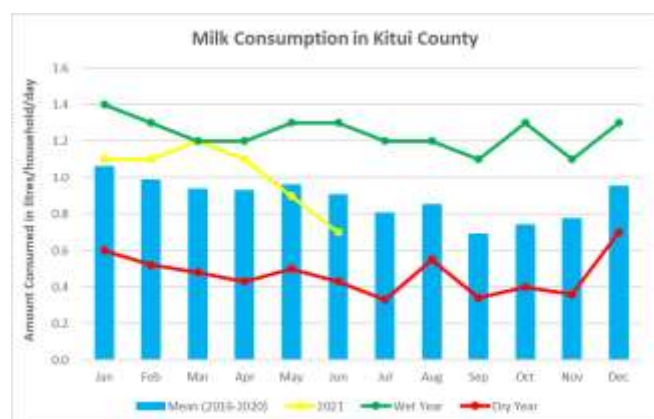


Figure 18: Milk Consumption

5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category remained stable to stand at 75.6 percent in June from 74.8 percent in previous month.
- The remaining 24.4 percent of the households were in borderline food consumption category as shown in figure 19.
- About 71.3 percent of the households in Marginal Mixed Farming livelihood zone were in acceptable food consumption category compared to 80.8 percent in Mixed Farming livelihood zone.
- More households (84.3 percent) were in acceptable food consumption category in similar period in year 2020 compared to year 2021.

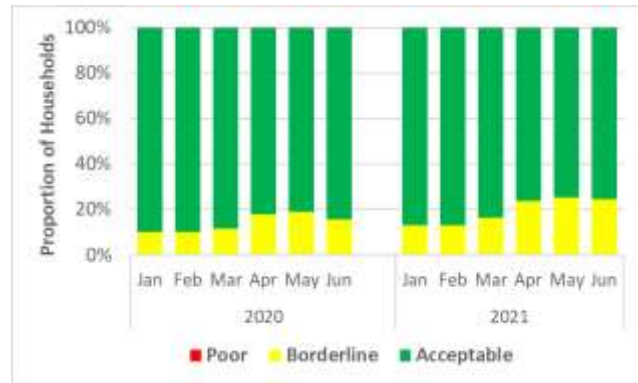


Figure 19: Food Consumption Score

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition remained stable to stand at 2.7 percent in June as it was in previous month.
- Moreover, no severely malnourished children were reported.
- The current level of children at risk of malnutrition is 4.4 percent lower than the long-term mean as shown in figure 20 and this is due to availability of diversified foods at household and market levels due to stability in terms of trade.

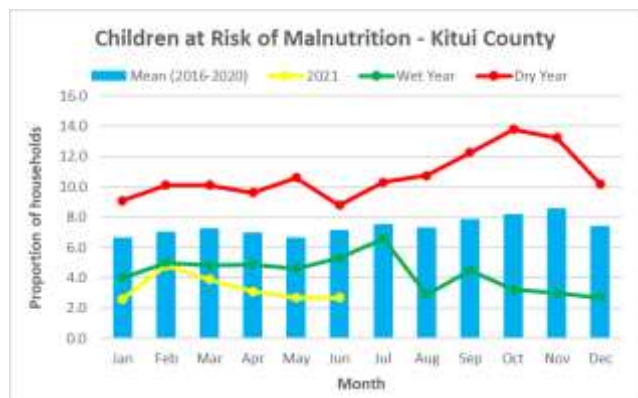


Figure 20: Children at Risk of Malnutrition

5.3.2 Health

- The proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea stood at 3.9, 1.5 and 0.5 percent in June compared to 2.7, 0.7 and 1.6 percent in previous month respectively.

5.4 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) declined by 13 percent to stand at 6.7 in June compared to 7.7 in previous month.
- Households in Marginal Mixed Farming livelihood zone had a high rCSI of 8.2 compared to 4.8 in Mixed Farming livelihood zone.
- Reliance on less preferred or less expensive food, reduced portion size of meals and reduced number of meals eaten per day were the most frequent coping mechanisms adopted across the livelihood zones.
- The current rCSI is 22 percent higher than the long-term mean as shown in figure 21.

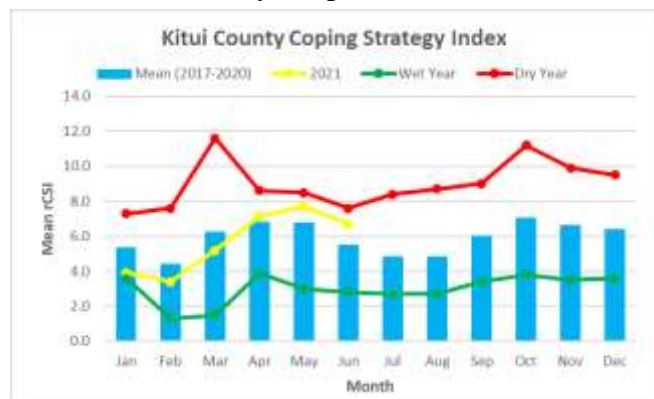


Figure 21: Reduced Coping Strategy Index (rCSI)

- About 30.4, 14.4 and 0.7 percent of households were employing stressed, crisis and emergency food-based coping mechanisms in June compared to 27.4, 15.6 and 2.6 percent respectively in previous month.
- In Marginal Mixed Farming livelihood zone, 19.3, 21.3 and 1.3 percent of households were employing stressed, crisis and emergency food-based coping mechanisms to cope with lack of food or money to buy food compared to 44.2, 5.8 and 0.0 percent respectively in Mixed Farming livelihood zone.

6.0 CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- Promotion of high value horticultural crops, mango production & value addition and 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.
- Dissemination of climate and agro-weather advisories by Kenya Meteorological Department, County Government of Kitui and partners.

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 Kenya Meteorological Department Weather Outlook for June-July-August 2021 season issued on 31st May 2021, the county is expected to be generally sunny and dry throughout the forecast period occasioned by warmer than average temperatures. This will lead to depletion of rangeland resources.
- According to Sussex Vegetation Outlook for the month of July and August 2021, the 3-month VCI forecast indicates normal to above normal vegetation greenness across the county in-exception of Mwingi Central sub county which is likely to experience a moderate vegetation condition. This condition and availability of crop residues will boost availability and accessibility of livestock feeds.
- The TAMSAT-ALERT Soil Moisture forecast issued on 26th June 2021, indicates normal soil moisture conditions in most parts of the county and this will boost livestock feeds.
- Following poor performance of crop production, household terms of trade and food consumption patterns are likely to diminish coupled by reliance on markets for food commodities.
- Based on FEWS NET price projections for June 2021 to January 2022, maize grain prices will range between Ksh. 30-37 throughout the projected period. This will be driven by increases in household market dependency, the prevailing national maize surplus following speculative regional imports earlier in the year, supply from the high and medium potential areas of the North Rift and Western Kenya, and cross-border imports from Tanzania.

- According to multiple forecast models, there is at least a 60 percent probability of warmer than normal temperatures in the eastern parts of the country between July and September. This will lead to deterioration of rangeland resources.

8.0 RECOMMENDATIONS

Immediate/Short term

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

SECTOR	INTERVENTION	TARGET AREA
Agriculture	Support the affected crops through drip irrigation	County wide
	Capacity building on post-harvest management	County wide
Livestock	Intensify livestock disease surveillance and control measures	Kivou, Waita, Yatta/Kwa Vonzu and Zombe/Mwitika
	Promote pasture conservation and management practices	County wide
Water	Stock taking and inspection of non-operational strategic boreholes	County wide
	Repair and maintenance of strategic boreholes	Katutu borehole,
	Capacity building of water management committees and pump attendants	County wide
Health and Nutrition	Promoting home-based water treatment and conservation measures	County wide
	Strict adherence to COVID-19 protocols	County wide
Education	Water trucking to affected institutions	Ngomeni ward
Social Protection	Mapping of vulnerable and at-risk households, affected food systems by COVID-19 and responding through safety-nets	County wide
Peace and Security	Support community-based conflict early warning and enhance surveillance	Tseikuru, Ngomeni, Nguni, Endau/Malalani and Mutha wards