



A Vision 2030 Flagship Project



National Drought Management Authority KITUI COUNTY DROUGHT EARLY WARNING BULLETIN FOR MAY 2022

MAY EW PHASE	Early Warning Phase Classification			
<p>Drought Status: ALERT</p> <p>Maandalizi ya mapema</p>	LIVELIHOOD ZONE	EW PHASE	TRENDS	
	Marginal Mixed Farming	Alert	Worsening	
	Mixed Farming	Alert	Worsening	
	County	Alert	Worsening	
Drought Situation & EW Phase Classification				
<u>Biophysical Indicators</u>				
<ul style="list-style-type: none"> ▪ The county received depressed 2022 long rains with late onset and timely cessation. ▪ Vegetation greenness and forage condition was below normal. ▪ VCI forecast for the month of June indicates moderate vegetation greenness. 	Biophysical Indicators	Value	Normal ranges	
	Rainfall (% of normal)	41-50	80-120	
	VCI-3 month	27.87	35-50	
	VCI Forecast – 1 st July 2022	31.4	35-50	
	Forage Condition	Fair to poor	Fair to Good	
	Production indicators			
	Maize Crop Condition	Poor	Good	
	Livestock Body Condition	Good to fair	Good to fair	
	Milk Production (in litres)	1.0	≥ 1.3	
	Livestock Migration Pattern	Not normal	Normal	
Livestock Deaths (from Drought)	No death	No death		
Access Indicators				
<u>Access Indicators</u>				
<ul style="list-style-type: none"> ▪ Livestock in-migration was reported and this is not normal at this time of the year. ▪ Suspected cases of CCPP were reported in Tseikuru Ward. ▪ Milk production was below normal range. 	Access Indicators	Value	Normal ranges	
	Terms of Trade (ToT)	78	≥ 108	
	Milk Consumption (in litres)	0.7	≥ 1.0	
	Return Distance to Water Sources (Km)	Household	4.6	≤ 5.0
		Livestock	5.4	≤ 5.1
	Cost of Water (20 litres Jerry can)	At Source	2-5	≤ 5Ksh
	Vendor	20-25	10-20	
Utilization indicators				
<u>Utilization Indicators</u>				
<ul style="list-style-type: none"> ▪ Malnutrition cases were slightly above normal. ▪ About 65.9 percent of households were in acceptable food consumption category. ▪ About 16.3 and 5.6 percent of the households employed crisis and emergency food-based coping mechanisms respectively. 	Utilization indicators	Value	Normal ranges	
	Nutrition Status, MUAC (% at risk of malnutrition)	6.4	≤ 6.2	
	Coping Strategy Index (rCSI)	10	≤ 7.3	
	Food Consumption Score (%)	Acceptable	65.9	≥ 80
Borderline		33.7	≤ 20	
Poor		0.4	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 May was mainly characterized by hot and dry weather conditions over most parts of the county.
- The onset of 2022 March-May long rains was late by a month in the third week of April compared to 2nd or 3rd week of March normally. Cessation was timely in the fourth week of April.
- Based on WFP-VAM, CHIRPS/MODIS data, the county recorded an average of 5.3 and 2.9 millimetres of rainfall in the first and second dekad of May compared to 11.5 and 5.0 millimetres normally respectively. This was 50 percent of normal rainfall recorded in May as shown in figure 1.
- The May Normalized Difference Vegetation Index (NDVI) was 85 percent of normal NDVI values.

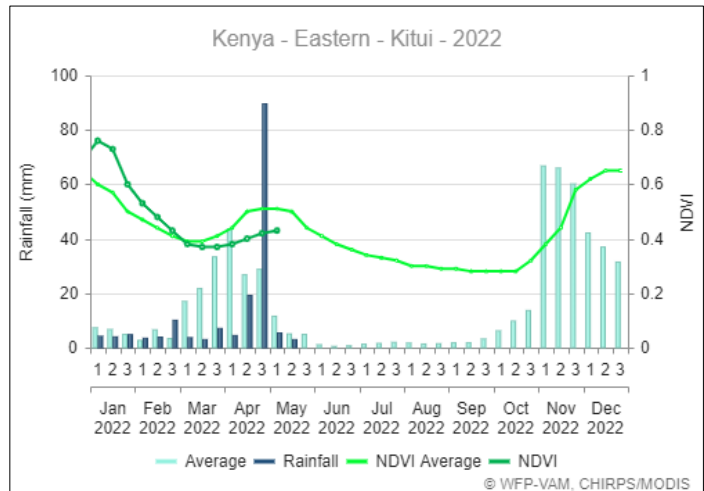


Figure 1: Rainfall and NDVI Distribution

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The county generally recorded depressed rainfall which was poorly distributed in both time and space.
- Based on Kenya Meteorological Department, most parts of the county received an average of 41-50 percent of normal rainfall recorded in long (March to May) rains as shown in figure 2.

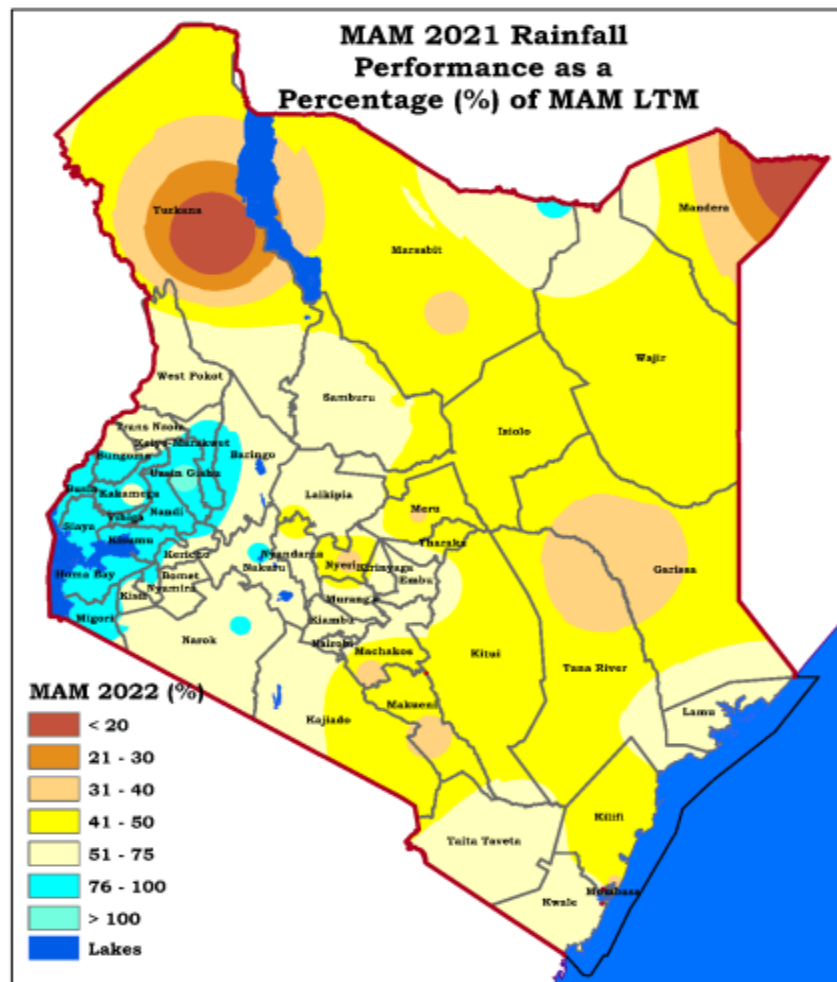


Figure 2: March to May 2022 Rainfall Performance as a Percentage of Long-Term Mean

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The county vegetation greenness declined by 16 percent to stand at a 3 month VCI of 27.82 in May from 32.92 in previous month. This is an indication of moderate vegetation greenness.
- The current vegetation greenness is below the long term average as shown in figure 3.

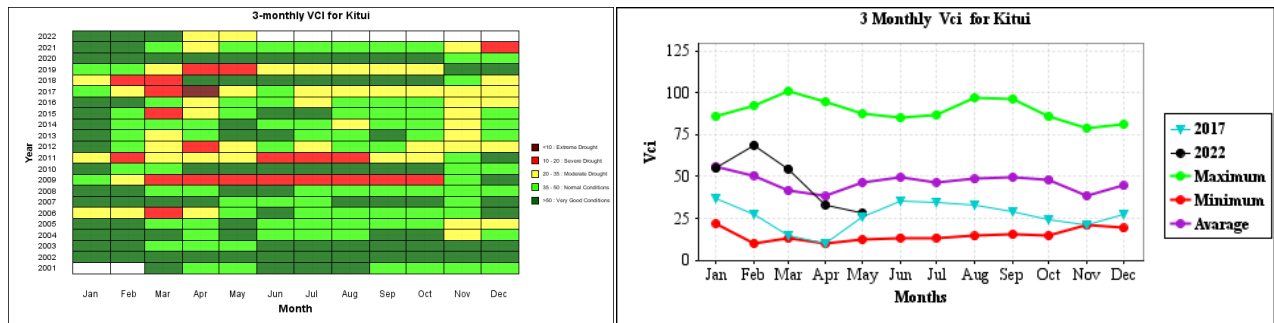


Figure 3: Kitui County 3 Month VCI Matrix and Trends

- Kitui South, Kitui East, Mwingi Central, Kitui Rural and Mwingi North sub counties recorded a moderate vegetation greenness at a 3 month VCI of 22.42, 25.59, 28.74, 32.15 and 34.75 respectively. However, Mwingi West, Kitui West and Kitui Cenral sub counties had normal vegetation greenness at a 3 month VCI of 47.19, 36.43 and 35.98 respectively.
- Based on 3 month VCI values, the vegetation greenness for the month of May, 2022 diminished compared to previous months and also similar period in year 2021 as shown in figure 4.



Figure 4: Kitui County 3 Month VCI Matrix and Trend for Different Sub Counties

2.1.2 Vegetation Condition Index Forecast

- Based on Sussex Vegetation Outlook for the month of June 2022, the 3-month VCI forecast indicates moderate vegetation greenness with southern parts of the county likely to experience severe vegetation deficit. This situation might worsen availability and accessibility of livestock feeds.
- Conversely, Mwingi North, Mwingi West and Kitui West sub counties are likely to experience normal vegetation greenness as shown in figure 5.

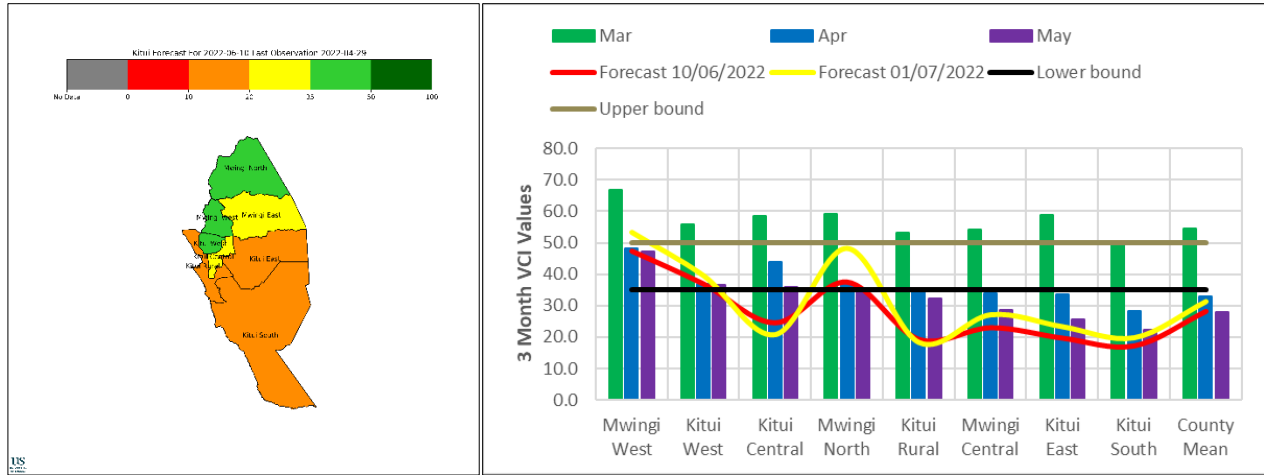


Figure 5: Kitui County 3 Month VCI Forecast

2.1.3 Pasture

- Pasture condition deteriorated in May compared to previous month due to progression of the dry spell.
- Pasture was mainly fair to poor across the livelihood zones with a worsening trend as shown in figure 6.
- On average, 44 percent of pasture was poor in both quality and quantity in May compared to 19 percent in previous month. The remaining 56 percent of pasture was fair.
- The available pasture is likely to last for 1-2 months compared to 3-4 months normally.

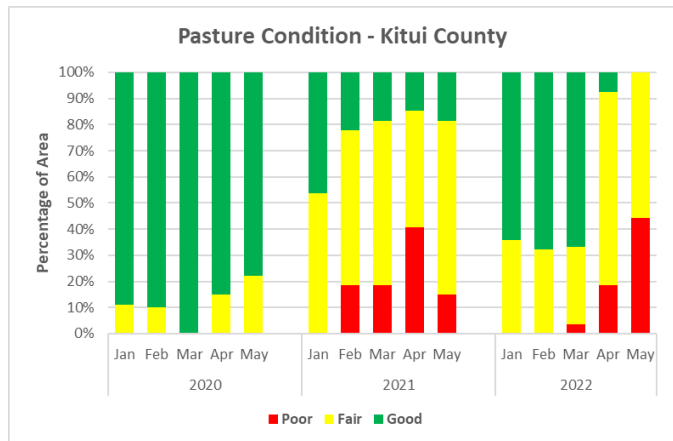


Figure 6: Kitui County Pasture Condition

2.1.4 Browse

- Browse condition worsened compared to similar period in 2021 and 2020 as shown in figure 7.
- In May 2022, browse was majorly fair to poor in both quality and quantity with a worsening trend.
- About 22 percent of browse was regarded as poor in May compared to 19 percent in previous month. The remaining 63 and 15 percent of browse was regarded as fair and good respectively.
- The available browse is likely to last for 2-3 months compared to 3-4 months normally.

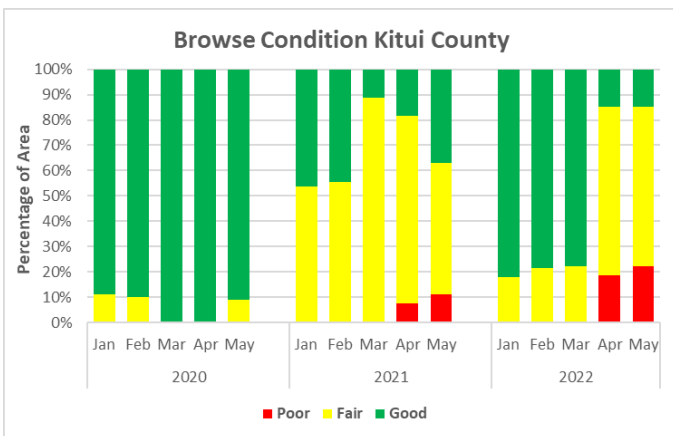


Figure 7: Kitui County Browse Condition

2.2 WATER RESOURCE

2.2.1 Sources

- The major water sources for both human and livestock consumption in the month of May were piped water system, boreholes, traditional river wells and shallow wells as shown in figure 8.
- Piped water system and boreholes were relied by 26 and 22 percent of the households compared to 19 and 16 percent of households who relied on traditional river wells and shallow wells respectively.
- Water pans/dams were only relied by three percent of the households and this is not normal at this time of the year.
- The onset of the 2022 long rains recharged open water sources at less than 10 percent of their capacity.
- High surface temperatures and siltation are hindering the period water will last.

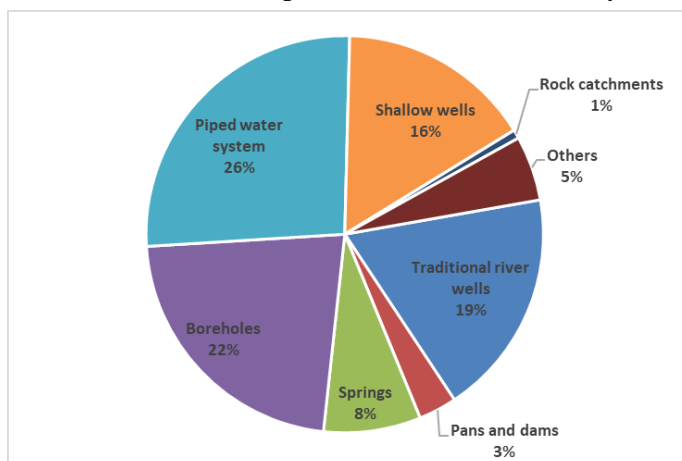


Figure 8: Major Water Sources in Kitui County

2.2.2 Household Access and Utilization

- The average return distances from the households to water sources declined by 12 percent to stand at 4.6km in May from 5.2km in previous month. This was mainly attributed to rains observed in the month of April.
- Households in Marginal Mixed Farming livelihood zone trekked an average of 5.3km compared to 3.9km in Mixed Farming livelihood zone.
- The current water distance is seven percent lower than the long-term mean as shown in figure 9.
- Water consumption per person per day declined to nine litres in May from 17 litres in previous month.
- The proportion of households treating water before consuming stood at 13.3 percent in May from 10 percent in previous month. Water treatment chemicals was the most preferred treatment method across the livelihood zones.
- The proportion of households buying water stood at 41 percent in May from 50 percent in previous month.
- The price of water per 20-litre Jerry can at source was normal at 2-5 shillings. However, water retailed at 20-25 shillings from vendors.

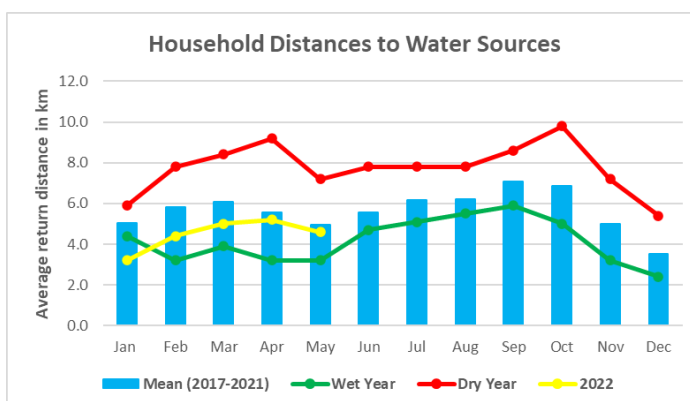


Figure 9: Household Access to Water

2.2.3 Livestock Access

- The average return distances from livestock grazing areas to watering points remained stable to stand at 5.4km in May from 5.6km in previous month.
- Livestock in Marginal Mixed Farming livelihood zones trekked a distance of 6.6km compared to 3.9km in Mixed Farming livelihood zone.
- Livestock watering frequency was daily in Mixed Farming livelihood zone and 3-4 days per week in Marginal Mixed Farming livelihood zones.
- The current average distance from livestock grazing areas to watering points is six percent higher than the long-term mean as shown in figure 10.

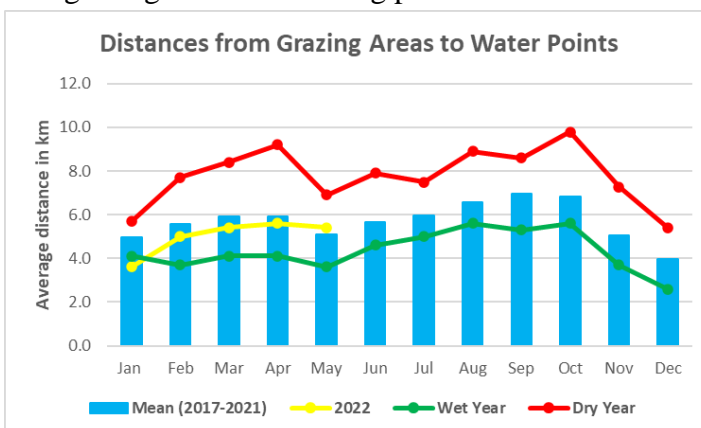


Figure 10: Distances from Grazing Areas to Water Points

2.3 Implication of the Above Indicators to Food Security

- Livestock productivity is likely to worsen following declining forage and water availability and accessibility.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition ranged from fair to good for all species across the livelihood zones with an improving trend. This was due to an improvement in water availability and accessibility from April rains.
- On average, 19 percent of cattle had good smooth appearance body condition in May compared to seven percent in previous month.
- The remaining 81 percent of cattle had moderate (neither fat nor thin) body condition as shown in figure 11.
- The current livestock body condition has deteriorated compared to similar period in 2021 and 2020.

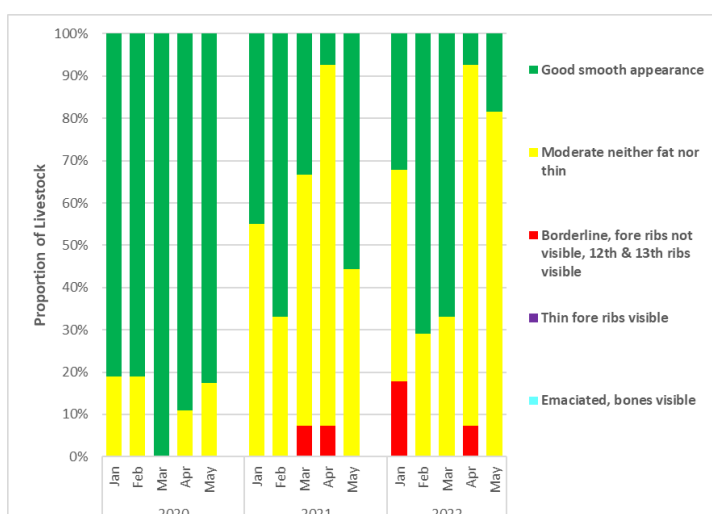


Figure 11: Cattle Body Condition

3.1.2 Livestock Diseases

- Suspected cases of contagious caprine pleura pneumonia (CCPP) in goats were reported in Tseikuru ward in Mwingi North Sub County.

3.1.3 Milk Production

- The average daily milk production per household increased by 25 percent to stand at one litre in May from 0.8 litres in previous month.
- Milk production was higher in Marginal Mixed Farming livelihood zone at 1.5 litres compared to 0.8 litres in Mixed Farming livelihood zone.
- The current milk production is 21 percent lower than the long-term mean as shown in figure 12. This is mainly due to reduced livestock holding units by household and preference to hold bulls for farming.

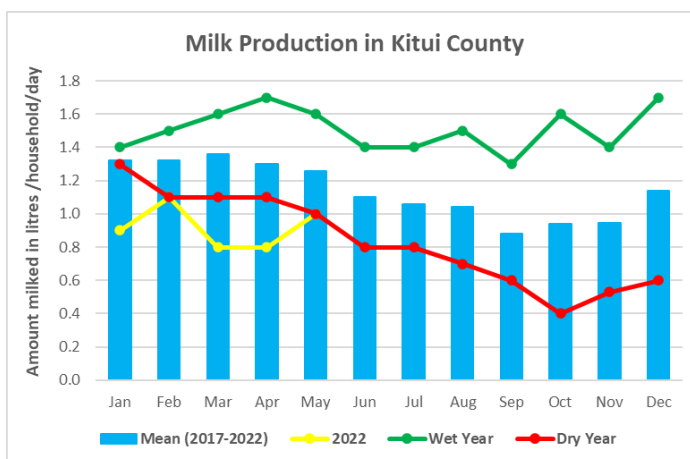


Figure 12: Milk Production

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.
- Crops across the livelihood zones withered during germination stage due to moisture stress, hence little/no harvest 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

- Depletion of household food stocks and reduced crop yields are likely to impact negatively on household purchasing power and access to diversified foods.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average market price for cattle remained stable to stand at Ksh.32,193 in May from Ksh.30,156 in previous month.
- Cattle prices were higher in Mixed Farming livelihood zone at Ksh.33,817 compared to Ksh.28,583 in Marginal Mixed Farming livelihood zone.
- The current market price of cattle is 16 percent higher than the long-term mean as shown in figure 13. This is due to stability in cattle body condition.

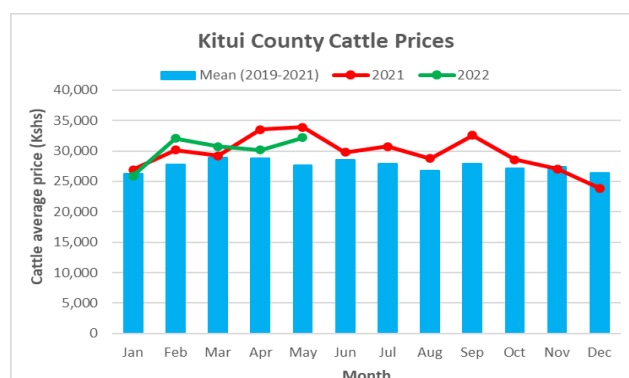


Figure 13: Cattle Prices

4.1.2 Small Ruminants Prices (Goat Price)

- The average market price of a goat remained stable to stand at Ksh.4,226 in May from Ksh.4,060 in previous month.
- Mixed Farming livelihood zone recorded a higher price of Ksh.4,292 compared to Ksh.4,117 in Marginal Mixed Farming livelihood zone.
- The current market price of a goat is nine percent higher than the long-term mean as shown in figure 14 and this is due to stability in goat body condition.

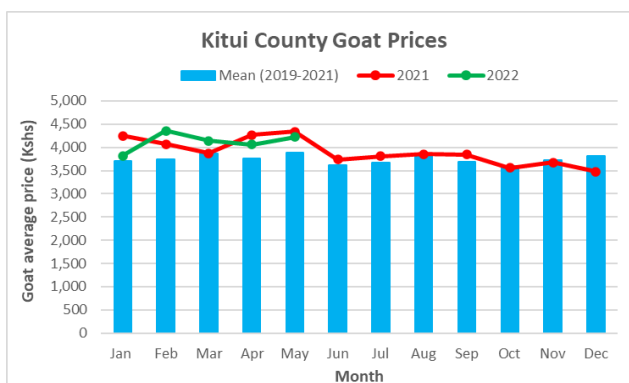


Figure 14: Goat Prices

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize per kilogram rose by 17 percent to stand at Ksh.54 in May from Ksh.46 in previous month.
- Maize prices ranged at 50-60 shillings across the livelihood zones.
- The current market price of maize is 49 percent higher than the long-term mean as shown in figure 15. This is mainly due to reliance on the market for the commodity.
- Maize was mainly sourced from outside the county.

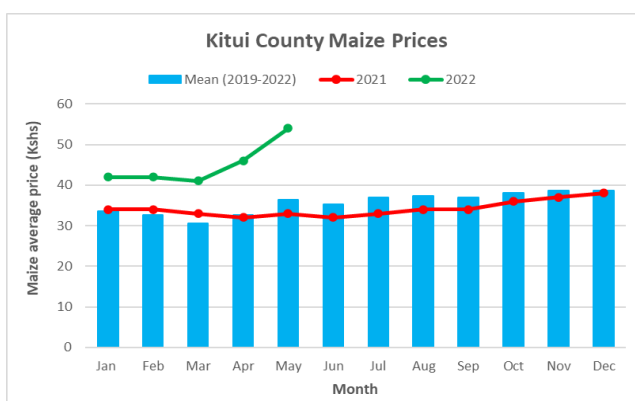


Figure 15: Maize Prices

4.2.2 Beans

- The average market price of beans per kilogram rose by seven percent to stand at Ksh.107 in May from Ksh.100 in previous month. This was mainly attributed to reduced yields from previous season harvests and depletion of stocks at household level.
- Beans price was higher in Marginal Mixed Farming livelihood zone at Ksh.113 compared to Ksh.103 in Mixed Farming livelihood zone.
- The current beans price is 20 percent higher than the long-term mean as shown in figure 16.
- Beans were mainly obtained from outside the county.

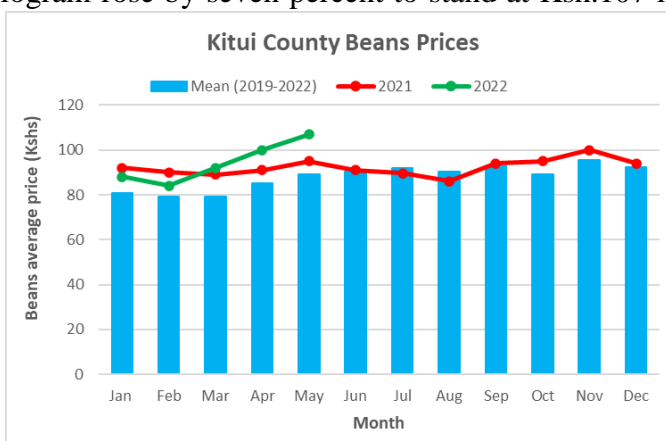


Figure 16: Beans Prices

4.3 Livestock Price Ratio/Terms of Trade

- Household terms of trade has been on a declining trend since March 2022. This is attributed to high staple food prices and depletion of food stocks at household levels.
- Terms of trade declined by 11 percent to stand at 78 in May from 88 in previous month. This implies that, households were able to purchase 78 kilograms of maize from exchange of a goat in May compared to 88 kilograms in previous month.
- Terms of trade was higher in Mixed Farming livelihood zone at 82 compared to 74 in Marginal Mixed Farming livelihood zone.
- The current terms of trade is 28 percent lower than the long-term mean as shown in figure 17.

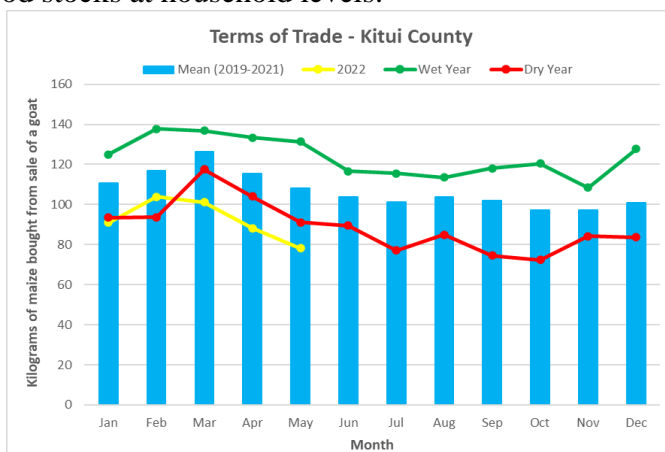


Figure 17: Terms of Trade

4.4 Implication of the Above Indicators to Food Security

- Household purchasing power is likely to deteriorate further following high staple food prices, depletion of food stocks at household level and diminishing livestock productivity which will impact negatively on food consumption patterns and nutrition status.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable to stand at 0.7 litres in May from 0.6 litres in previous month.
- Milk consumption was higher in Marginal Mixed Farming livelihood zone at 0.9 litres compared to 0.6 litres in Mixed Farming livelihood zone.
- The current milk consumption is 33 percent lower than the long-term average as shown in figure 18 and this is due to a decline in production.

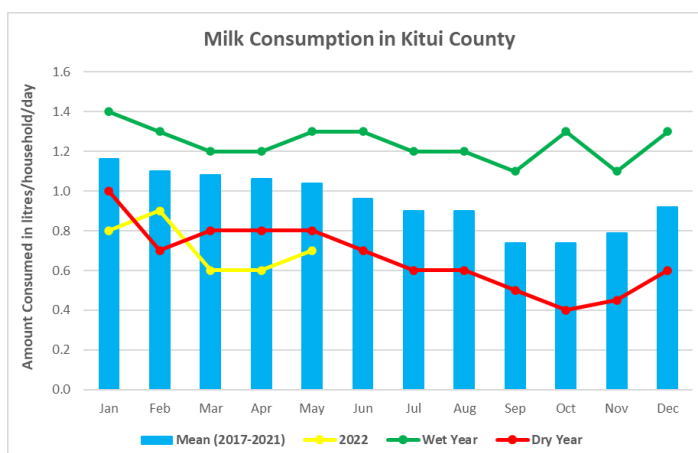


Figure 18: Milk Consumption

5.2 FOOD CONSUMPTION SCORE

- Households in acceptable food consumption category have been on a declining trend since February 2022. This is mainly due to high food prices and diminishing household purchasing power.
- In May 2022, about 65.9 percent of households were in acceptable food consumption group compared to 69.1 percent in previous month. The remaining 33.7 and 0.4 percent of households were in borderline and poor food consumption category respectively.
- Mixed Farming livelihood zone had the highest number of households in acceptable food consumption category at 67.5 percent compared to 64.7 percent in Marginal Mixed Farming livelihood zone.
- Households with acceptable food consumption score were lower in May 2022 at 65.9 percent compared to 74.8 and 81.1 percent in similar period in year 2021 and 2020 respectively as shown in figure 19.
- On average, households consumed cereals six days per week; pulses and oils five days per week; sugars/sugary products four days per week; vegetables three days per week; milk, meat, eggs or fish, and fruits once per week as shown in table 1.

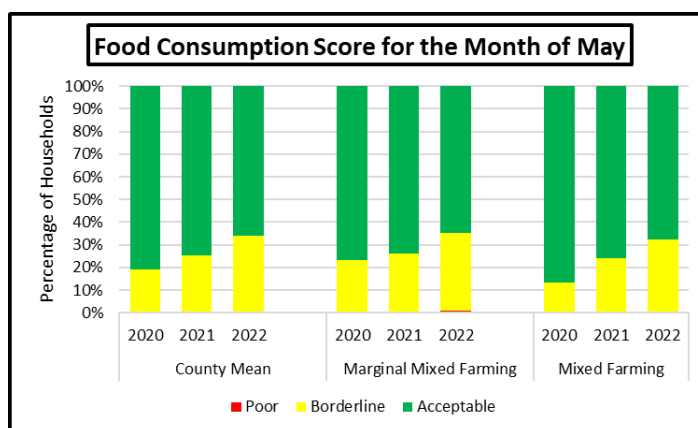


Figure 19: Food Consumption Score (FCS)

Table 1: Meals Eaten Per Day in the Last One-Week Recall Period

	Cereals	Pulses	Vegetables	Meat, Eggs or Fish	Milk	Oil	Sugars	Fruits
County	6	5	3	1	1	5	4	1
Marginal Mixed Farming	6	4	3	1	1	4	2	1
Mixed Farming	7	5	5	1	2	6	6	1

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- Children at risk of malnutrition have been on an increasing trend since March 2022 due to reduced livestock and crop yields, high staple food prices and depletion of food stocks at household levels.
- The percentage of children at risk of malnutrition remained stable to stand at 6.4 percent in May as it was in previous month.
- However, about 0.1 percent of children were severely malnourished.
- The current level of children at risk of malnutrition is slightly above the long-term average as shown in figure 20.

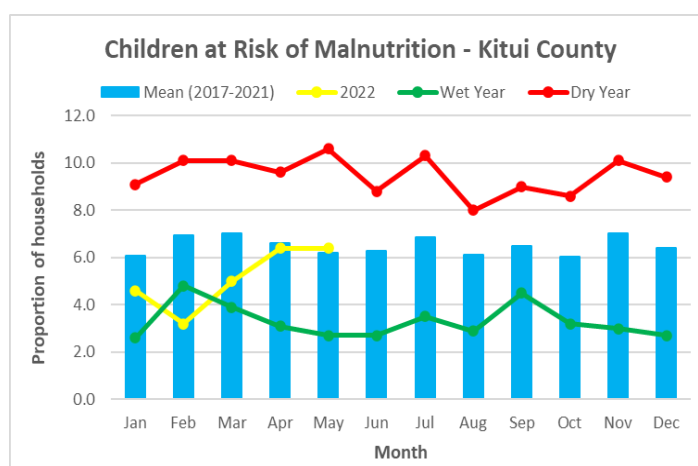


Figure 20: Children at Risk of Malnutrition

5.3.2 Health

- The proportion of children suspected to have fever with chills like malaria, fever with breathing difficulties and diarrhoea cases stood at 4.5, 0.6 and 1.2 percent in May compared to 3.4, 0.3 and 0.6 percent in previous month respectively.

5.4 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) rose by 25 percent to stand at 10 in May from 8.0 in previous month.
- Households in Marginal Mixed Farming livelihood zone had a high rCSI of 14 compared to 5.5 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 38 percent higher than the long-term mean as shown in figure 21.
- Moreover, about 16.3 and 5.6 percent of households employed crisis and emergency food-based coping mechanisms in May compared to 17.5 and 0.7 percent in previous month respectively.
- In Marginal Mixed Farming livelihood zone, 25.3 and 10 percent of the households employed crisis and emergency food-based coping mechanisms compared to 5.0 and zero percent in Mixed Farming livelihood zone respectively.
- Moreover, 1.1 and 3.3 percent of households employed crisis and emergency livelihood coping mechanisms respectively to cope with lack of food or money to buy food.
- Households employed both food based and livelihood coping mechanisms more frequently in May 2022 compared to similar period in 2021 and 2020 as shown in figure 22.

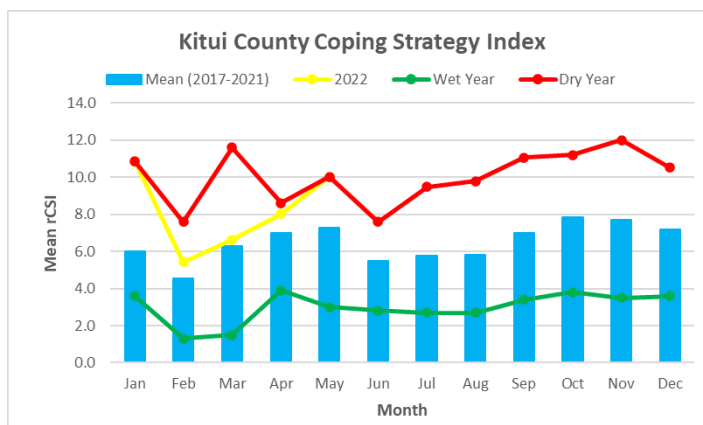


Figure 21: Reduced Coping Strategy Index (rCSI)

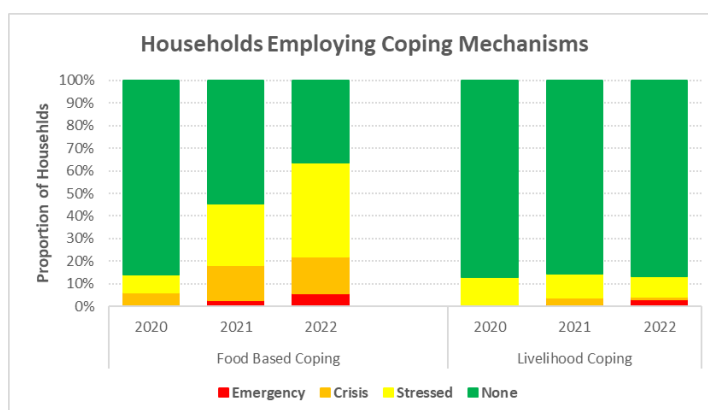


Figure 22: Households Employing Coping Mechanisms in the Month of May

6.0 CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

SECTOR	INTERVENTION	TARGET BENEFICIARIES	COST (Ksh.) in Million	ACTOR/ ORGANIZATION
Livestock	Procurement and distribution of range cubes (feeds)	8,000 goats, 1,000 cattle and 1,000 sheep in all the eight sub counties	82.4	County Government of Kitui and FAO
	Rehabilitation of strategic grazing areas	All eight sub counties	12.6	County Government of Kitui

SECTOR	INTERVENTION	TARGET BENEFICIARIES	COST (Ksh.) in Million	ACTOR/ ORGANIZATION
	Vaccinations against notifiable diseases (Deworming)	10,000 assorted livestock species in Kitui East, Kitui South, Mwingi North and Mwingi Central sub counties	1.236	County Government of Kitui
Water	Repair and rehabilitation of 50 strategic boreholes	All the eight sub counties	16.7	County Government of Kitui and partners
	Capacity building of water management committees and pump attendants	All the eight sub counties	16.4	County Government of Kitui
Peace and security	Support community-based conflict early warning and enhance surveillance	Tseikuru, Ngomeni, Nguni, Voo/Kyamatu, Endau/Malalani		Ministry of Interior and Coordination of National Government
Cross cutting	Dissemination of agro-weather advisories	16 wards covered by KCEP CRAL Programme in Mwingi North, Mwingi West, Mwingi Central, Kitui South, Kitui East and Kitui Rural sub counties	0.31	Kenya Meteorological Department and partners
	Daily weather updates on Syokimau Radio Station	9,564 households in 20 wards of Kitui South, Mwingi West, Kitui West, Kitui Central, Kitui Rural and Kitui East sub counties	0.12	Kenya Meteorological Department and partners
	Participatory Scenario Planning and Review of County Drought Contingency Plan	All eight sub counties	0.69	NDMA through EDE/SDRM 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 due to drought were reported in the county. However, there is a likelihood of human wildlife conflicts especially in Marginal Mixed Farming livelihood zone due to progression of the dry spell.

7.2 Migration

- Migration of herders from Tana River County with herds of cattle and camels were reported in areas of Nguni, Ngomeni, Endau/Malalani, Voo/Kyamatu and Mutha wards along Kitui and Tana River boundaries. The herders were in search of water and pasture for their livestock and

this condition has brought tension within these areas which might result into resource-based conflicts between local farmers and migrating herders.

7.3 FOOD SECURITY PROGNOSIS

- Based on Kenya Meteorological Department climate Outlook for June to August 2022 issued on 27th May 2022 indicates that, most parts of the county are likely to experience generally sunny and dry conditions with warmer than normal temperatures throughout the forecasted period. This situation will diminish rangeland resources and worsen households' food security situation.
- According to Sussex Vegetation Outlook for the month of June 2022, the 3-month VCI forecast indicates moderate vegetation greenness with southern parts of the county likely to experience severe vegetation deficit. This condition will impact negatively on availability and accessibility of livestock feeds hence lower livestock productivity and household purchasing power.
- Malnutrition cases and households employing severe coping mechanisms to access food or money to buy food are likely to increase following crops failure across the county, depletion of household food stocks and diminish terms of trade.
- The prices of staple food commodities are likely to remain higher than the long-term average occasioned by reduced production and depletion of the food stocks at the household level.

8.0 RECOMMENDATIONS

Immediate/Short term

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

SECTOR	INTERVENTION	TARGET AREA	ESTIMATED COST (Ksh.) in Million
Livestock	Intensive disease control for endemic notifiable diseases	County wide	40
	Promote pasture conservation and management practices	County wide	3.5
Water	Water infrastructure development and maintenance	County wide	4.5
	Repair/rehabilitation of strategic boreholes	County wide	16.7
	Promotion of water harvesting and storage practices	County wide	1.5
	Capacity building of water management committees and pump attendants	County wide	16.4
Health and Nutrition	Promoting home-based water treatment and conservation measures	County wide	1.5
	Promotion of sanitation and hygiene practices	County wide	2.5
	Household visits, sensitization/community dialogues and outreaches to create awareness on COVID-19 preventive measures	County wide	3.5
Education	Installation of hand washing facilities and supply of water, thermo guns and masks for students/pupils	County wide	10
	Provision of school feeding programmes	County wide	300
Coordination	Awareness creation and induction of stakeholders involved on National Drought Emergency Fund (NDEF) structures	County and Sub County level actors	1.856