



A Vision 2030 Flagship Project



## National Drought Management Authority EMBU (MBEERE) COUNTY DROUGHT EARLY WARNING BULLETIN FOR MAY 2022

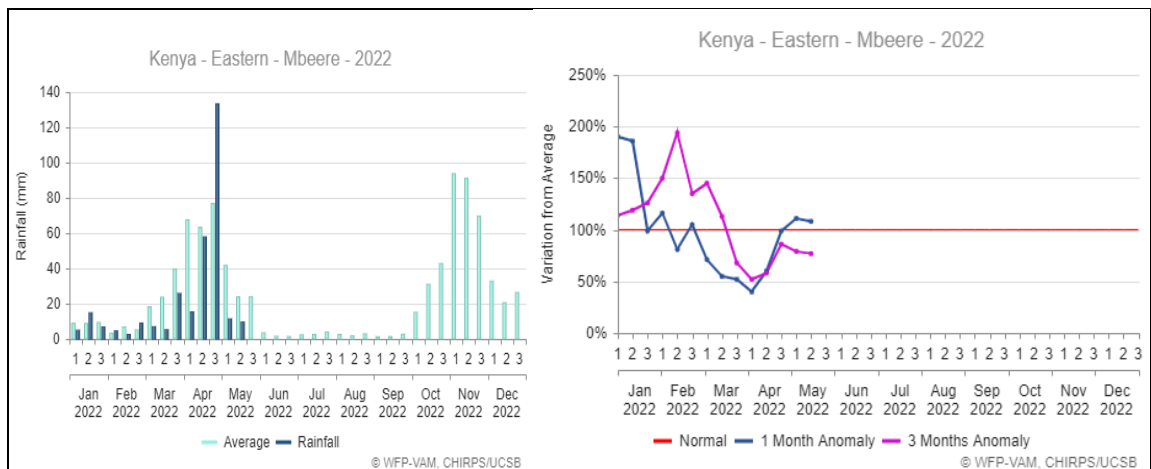
MAY DROUGHT EW PHASE	Early Warning (EW) Phase Classification		
<b>Drought Status: ALERT</b>    <b>Maandalizi ya mapema</b>	LIVELIHOOD ZONE	EW PHASE	TRENDS
	Marginal Mixed Farming	Alert	Deteriorating
	Mixed Farming	Normal	Stable
	<b>County</b>	Alert	Deteriorating
<b>Drought Situation &amp; EW Phase Classification</b> <u><b>Biophysical Indicators</b></u> <ul style="list-style-type: none"> <li>Cessation of the season was early as compared to the normal- experienced in the second dekad as compared to the third dekad of May</li> <li>Minimal rains were recorded in the month under review</li> <li>The vegetation greenness remains above normal for both livelihood zones. Forage condition remain fair to poor</li> </ul> <u><b>Socio-Economic Indicators (Impact Indicators)</b></u> <b>Production Indicators</b> <ul style="list-style-type: none"> <li>Poor condition of crop in the farms was reported in both livelihood zones.</li> <li>Livestock body conditions remain fair to good.</li> <li>Milk production remained stable due to stable body conditions.</li> </ul> <b>Access Indicators</b> <ul style="list-style-type: none"> <li>Milk consumption was stable attributed to stable production during the month.</li> <li>Terms of trade reduced significantly due to increase of maize price while the goat price reduced during the month.</li> <li>Distances to water sources for both households and livestock increased occasioned by the dry condition which persisted during the three weeks of the month</li> </ul> <b>Utilization Indicators</b> <ul style="list-style-type: none"> <li>There were no cases of children at risk of malnutrition reported in the sampled households however health facilities reported rising cases in the hotspots.</li> <li>Twenty-five percent of the sampled households recorded borderline food consumption while 75% were in acceptable</li> </ul>	Biophysical Indicators	Value	Normal ranges
	Rainfall (% of normal)	67	80-120
	VCI-3 month	57.42	35-50
	VCI-1-month	67.96	35-50
	Forage Condition	Fair to Poor	Fair to Good
	Production indicators	Value	Normal ranges
	Crop Condition	Poor	Fair/good
	Livestock Body Condition	fair/good	good
	Milk Production (in litres)	0.7	1.4
	Livestock Migration Pattern	Nil	Nil
	Livestock Deaths (from Drought)	Nil	Nil
	Access Indicators	Value	Normal ranges
	Terms of Trade (ToT)	92	137
	Milk consumption (in litres)	0.5	1.7
	Household Distance to Water Sources (in km)	4.2	2.5
Livestock Distance to Water Sources (in km)	5.2	2.9	
Utilization indicators	Value	Normal ranges	
% of Children at risk of malnutrition by MUAC	0	0	
Coping Strategy Index (rCSI)	7.94	2.96	

<ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Increased HH Food Stocks</li> <li>Land preparation</li> </ul>			<ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk Yields Increase</li> </ul>			<ul style="list-style-type: none"> <li>Long rains harvests</li> <li>A long dry spell</li> <li>Land preparation</li> <li>Increased HH Food Stocks</li> <li>Kidding (Sept)</li> </ul>			<ul style="list-style-type: none"> <li>Short rains</li> <li>Planting/weeding</li> </ul>		
<b>Dry Season</b>			<b>Long Rains</b>			<b>Dry Cool Season</b>			<b>Short Rains Season</b>		
<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>

## 1.0 CLIMATIC CONDITIONS

### 1.1 Rainfall Performance.

- The cessation of the long rains was early in the second dekad of May for both marginal mixed farming zones and mixed farming zone as compared to the normal of the third dekad of May



### 1.2 Amount and spatial distribution of rainfall

- Mbeere region received an average of 10.0 mm of rain as compared to the normal of 29.7 mm at this time of the year.
- The rains received were poor and unevenly distributed in time and space.
- The mixed farming livelihood zone recorded an average of 17.5 mm of rains as compared to the marginal mixed farming zone with 5.0 mm during the month under review (NDMA rainfall stations data)
- The mixed framing zone recorded one day of rains in the last week of May

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

- The vegetation condition remains above normal in the month under review.
- The vegetation condition index increased by 19 percent from 49.72 in April to 57.43 in the reporting month.
- The increase can be attributed to the ongoing regeneration of the vegetation cover during occasioned by the long rains.
- Mbeere North sub-county recorded a higher 3-month VCI of 60.54 as compared to Mbeere South Sub County that recorded 3-month VCI of 54.31 (Figure 2).

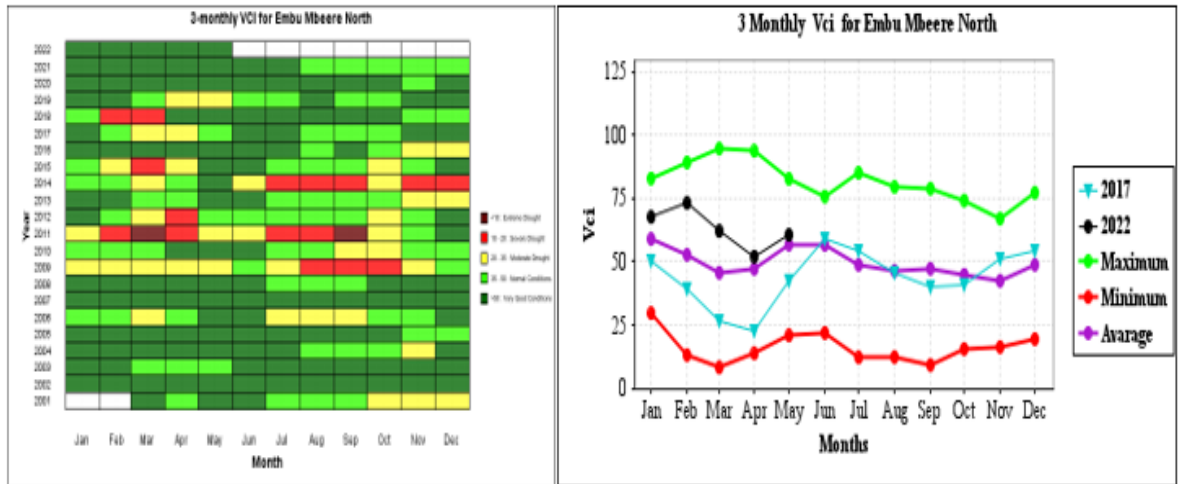


Figure 1: 3-month VCI charts for Mbeere North sub county [Source: MODIS]

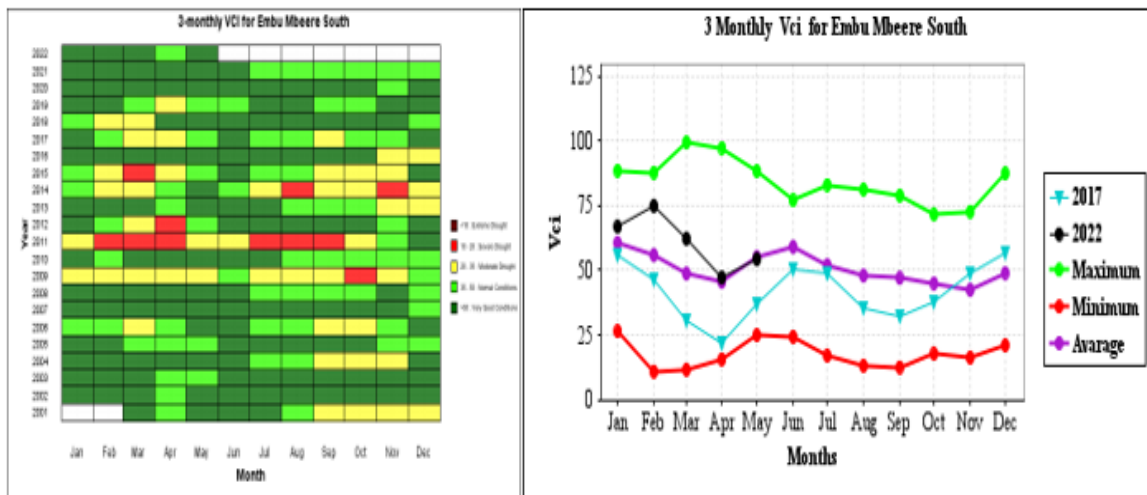


Figure 2: 3-month VCI charts for Mbeere South sub county [Source: MODIS]

### 2.1.2 Pasture Condition

- Pasture condition remains fair to poor across both livelihood zones though some improvement was experienced during the month under review.
- The proportion of poor pasture conditions increased from 27.3 in April to 45.5 percent as a result of decrease in fair pasture proportions by the same amount in the month under review.
- Portions with poor pasture condition include Muminji wards and parts of Evurore and Makima wards.
- The current pasture conditions are below normal in both livelihood zones compared to normal condition of fair to good at this time of the year
- The available pasture is expected to last for 1-2 months in the marginal mixed zones and 3-4 months in the mixed farming zones.

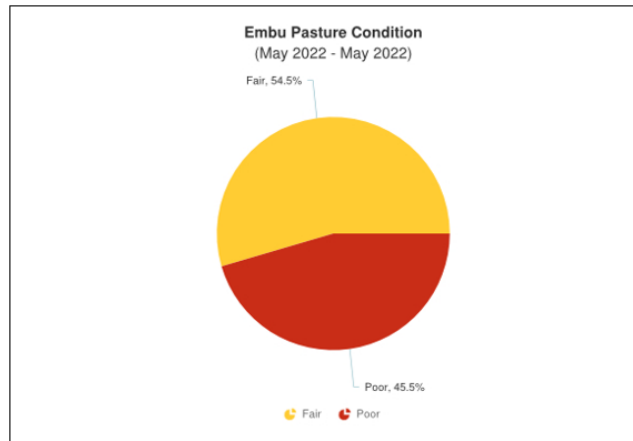


Figure 3: Pasture condition in Mbeere South and North sub counties.

### 2.1.3 Browse Condition

- Browse condition deteriorated across both livelihood zones with 45.5 percent of the areas recording poor during the current month as compared to the previous month when there were no areas with poor browse condition.
- Poor browse conditions were reported in Muminji and Makima wards and parts of Evurore ward.
- The proportion of the areas with fair browse conditions reduced from 54.5 percent in April to 9.1 percent in the month under review.
- The deterioration of the browse condition can be attributed to the extended dry spells thus inhibiting regeneration.
- The current browse condition is below normal at this time of the year compared to a similar period last year.
- The available browse is expected to last for 3-5 months in the mixed farming zones and 2-4 months in the marginal mixed farming zones.

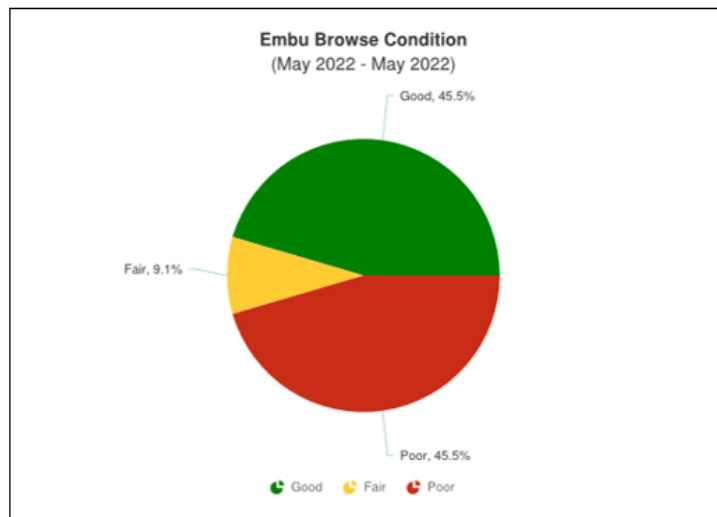


Figure 4: Browse condition in Mbeere North and South sub counties

## 2.2 WATER RESOURCE

### 2.2.1 Water Sources

- Major sources of water in both livelihood zones during the month under review remain rivers, traditional river wells, boreholes, and earth pans/dams.
- The proportion of households relying on the three main sources remained stable in the month of May as compared to the previous month.
- The level of flow for the permanent rivers during the month of May was low while some seasonal rivers were dry.
- The current capacity of open surface water sources is expected to last for 2-3 months across both livelihood zones.

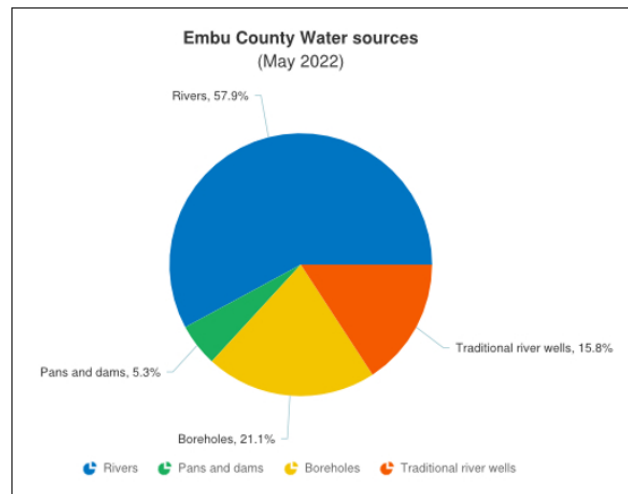


Figure 5: Water sources for Mbeere North and South sub counties

### 2.2.2 Household Water Access and Utilization

- The average household return distance to water sources increased by 17 percent from 3.5 km in April to 4.2 km in the month under review.
- The increase can be attributed to households seeking clean water from protected sources such as boreholes.
- Households in the marginal mixed farming livelihood zones trekked for distances of 2.4 km compared to those in mixed farming zones at 1.8 km.
- Treatment of drinking water using water treatment chemicals was reported by 46 percent of the sampled households.
- The current average return distance to water sources was above the short term average and the bad year average distance at the same period of the year.

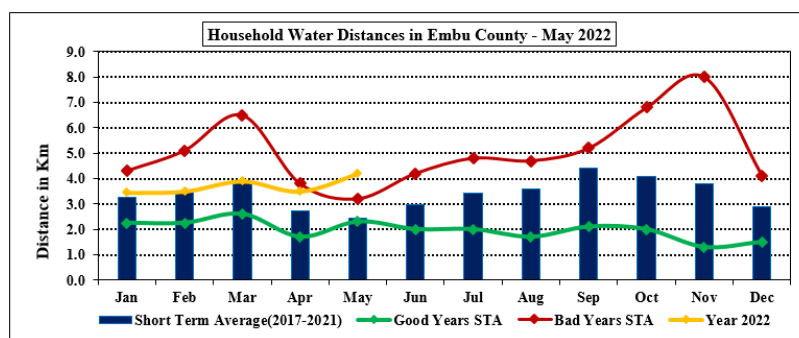


Figure 6: Household average distances to water sources

### 2.2.3 Livestock access to water from grazing areas

- The average livestock return distance to water sources from grazing areas increased by 18 percent from 4.4 km in the month of April to 5.2 km in the month of May.
- The increase in water distances can be attributed to increased trekking distances in search of pasture occasioned by the poor to fair pasture condition across both livelihood zones.

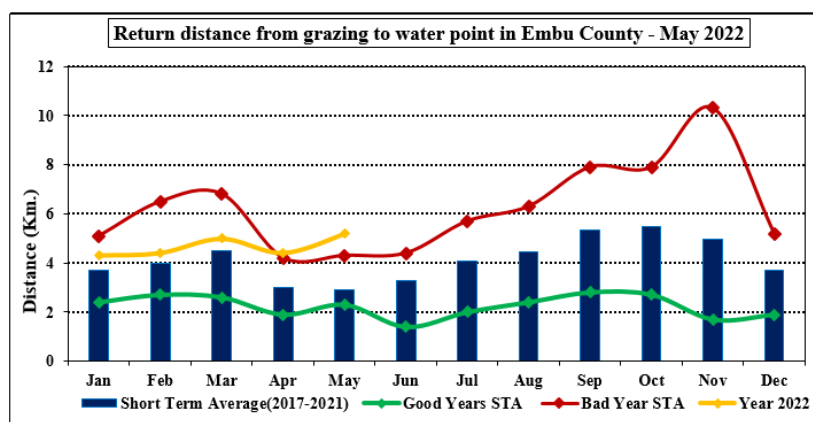


Figure 7: Livestock average return distance to water points from grazing areas

- Livestock in the marginal mixed farming zones trekked for an average distance of 3.8 km compared to mixed farming zones distances of 1.7 km.
- The current average return distance is 79 percent higher than the short-term average of 2.9 km.

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- The livestock body condition remains moderate to good across both livelihood zones in the month of May.
- The moderate livestock body condition increased from 62 % recorded in the previous month to 82% in the current month.
- The body condition for small stocks is currently good while body condition for cattle is moderate to good
- The livestock body condition is expected to deteriorate in the marginal mixed farming livelihood zones due to the deterioration of the pasture condition.

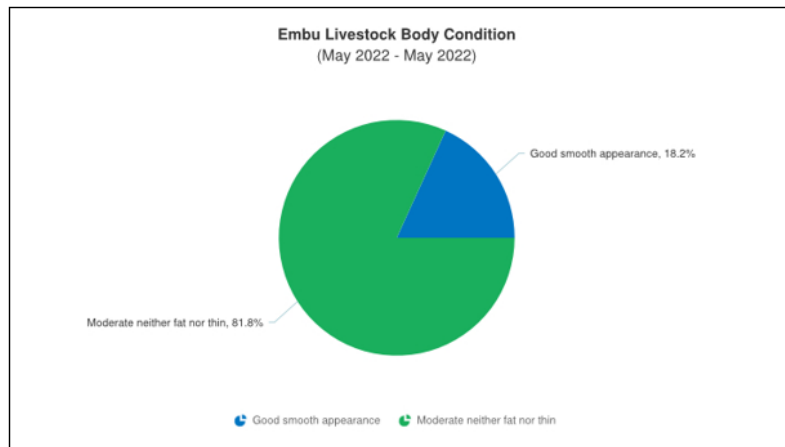


Figure 8: Livestock body condition in Mbeere sub counties

##### 3.1.2 Livestock Diseases

- No disease outbreak was reported during the month under review
- Vaccination of New Castle Disease (NCD) in poultry and Lumpy Skin Disease (LSD) in cattle was conducted by individual farmers.

##### 3.1.3 Milk Production

- The average daily household milk production increased to 0.7 litres in the month under review from 0.5 litres recorded in the previous month.
- The marginal increase in milk production can be attributed to availability of pasture and the use of crop residues.
- The current milk production is 59% lower than the short-term average production of 1.7 litres per household per day.

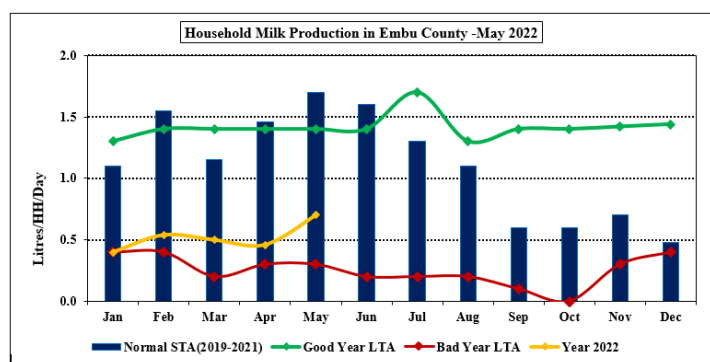


Figure 9: Milk production in Mbeere North and South sub counties

### 3.2 Rain-Fed Crop Production

#### 3.2.1 Stage and Condition of food Crops

- The beans, green grams and cowpeas are at the podding stage in both livelihood zones while maize crop is at the tussling stage in the mixed farming zone and at the knee height stage in the marginal mixed farming zone.
- The condition of crop is poor currently occasioned by the moisture stress due to the moisture stress experienced in the month of May

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Market Prices for Cattle

- The average price of a medium size mature bull decreased by 13 percent from Kshs 40,000 in April to Kshs 35,500 in May.
- The decrease in average price can be attributed to high stocks in the market due to increased sales occasioned by the need by the parents to pay fees.
- Ishiara and Kiritiri livestock markets in the marginal mixed farming livelihood zone recorded average prices of Ksh. 31,000 and Ksh. 36,000 respectively while Karaba livestock market in the mixed farming zone recorded highest average prices of Kshs. 48,000.
- The variation in average prices across the livelihood zones can be attributed to the variation in body conditions and the trader numbers.
- The current average price is 13 percent higher than the short-term average price of Kshs 31,500.

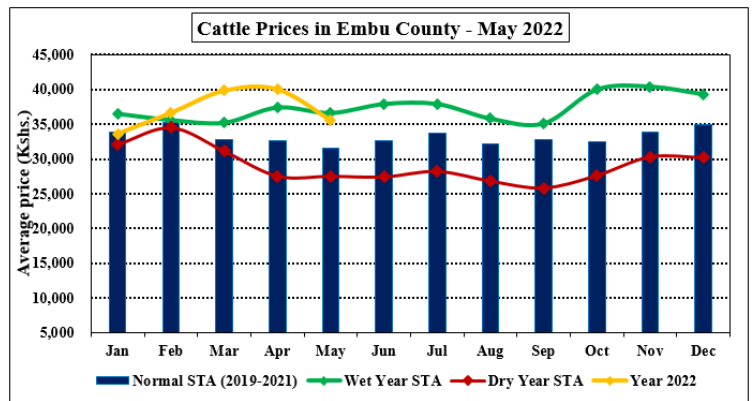


Figure 10: Average Market prices for cattle in Mbeere sub counties

#### 4.1.2 Goats Prices

- The average goat price decreased by 9 percent to Kshs. 5,200 in the month under review as compared to the previous month.
- The decrease in average price can be attributed to increased sell by households to cater for school fees as the school reopened in late April and in the current month.
- Kiritiri and Ishiara livestock markets in the marginal mixed farming livelihood zone recorded average prices of Ksh. 4,400 and Ksh. 5,500 respectively while Karaba livestock market in the mixed farming zones recorded highest average prices of Ksh. 6,000.
- The variation in average prices across the different markets is attributable to demand level in the respective markets.
- The recorded price is 16 percent higher than the short-term average price of Kshs 4,500.

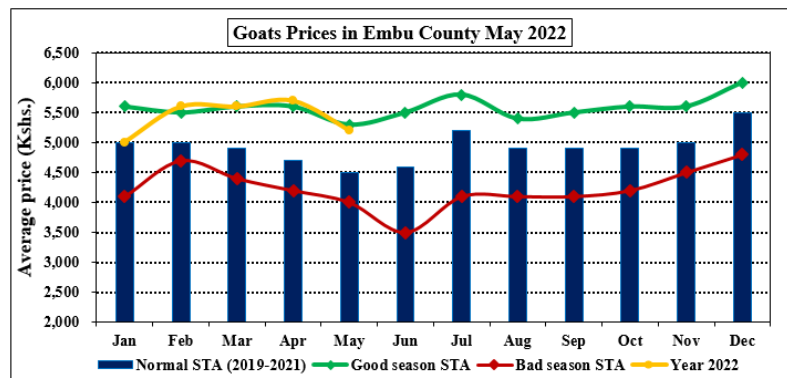


Figure 11: Average market prices for goats in Mbeere sub counties

## 4.2 FOOD PRICES

### 4.2.1 Maize Prices

- The average market price of a kilogram of maize remained increased from Ksh. 45 in April to Ksh 56 in the current month.
- The increase in price can be attributed to depletion of household stocks and the poor condition of the crops in the farms.
- Both Ishiara and Kiritiri cereal markets in the marginal mixed farming livelihood zone recorded average price of Ksh. 62 and Ksh. 50 respectively while Kanyuambora and Karaba cereal markets in the mixed farming zones recorded average prices of Kshs 58 and Kshs. 50 respectively.
- The variation in average price across the different markets is attributable to the demand for the commodity and the high transportation costs to the interior markets.
- The current average maize price is 65 percent higher than the short-term average of Ksh. 34.

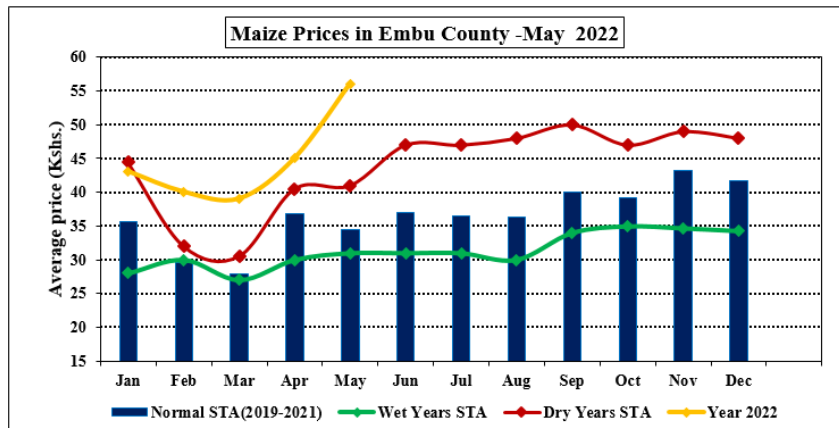


Figure 12: Average market prices for maize in Mbeere sub counties

### 4.2.2 Posho (Local Maize Meal)

- The average price of *posho* increased from Ksh. 57 in the month of April to Ksh. 64 under in the month of May.
- The increase in posho prices could be attributed to increase in maize prices.
- Ishiara and Kiritiri markets in the marginal mixed farming livelihood zone recorded average prices of Ksh. 60 and Ksh. 58 respectively while Kanyuambora and Makutano markets in the mixed farming zones recorded average prices of Ksh. 54 and Ksh. 57 respectively.
- Variance in average price within the livelihoods can be attributed to variation in cost of transportation and milling.
- The current average price per kilogram is 45% higher than the short-term average price of Ksh. 44.

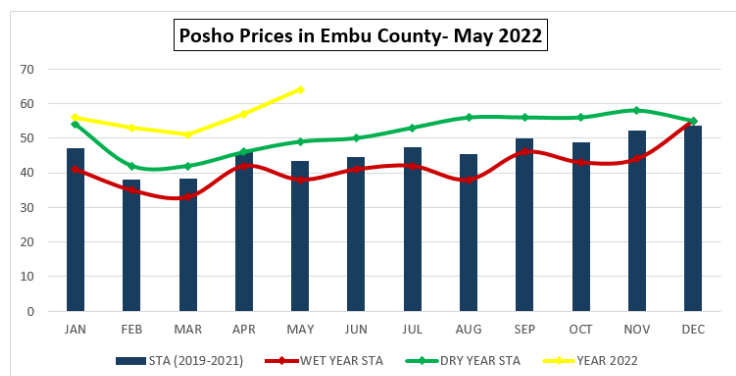


Figure 13: Average market prices for Posho in Mbeere sub counties



### 4.2.3 Beans Price

- The average price of one kilogram of beans decreased from Ksh. 113 in the month of April to Ksh. 108 in the month under review.
- The price decrease can be attributed to replenishment of household stocks occasioned by early harvests.
- Ishiara and Kiritiri markets in the marginal mixed farming livelihood zone recorded average prices of Kshs. 132 and Kshs. 100 respectively while Kanyuambora market in the mixed farming zones recorded average prices of Kshs 90.
- The current average price of beans is 15 % higher than the short-term average price of Kshs 94 per kilogram.

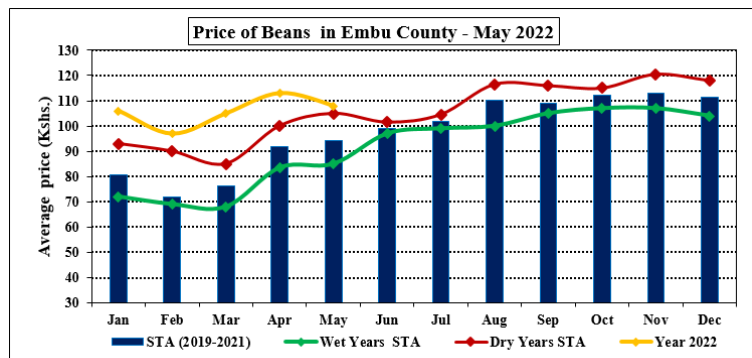


Figure 14: Average market prices for beans in Mbeere sub counties

### 4.2.4 Green Grams Price

- The average price of one kilogram of green grams increased by 8 percent from Kshs 130 in the month of April to Kshs 140 in the month under review.
- The price increase can be attributed to dependence in markets since the harvested stock is sold immediately after harvest to cater for other household financial needs.
- The current average price is 33% higher than the short-term average of Kshs. 105 and higher by 10 percent when compared to the bad year short term average of 127.

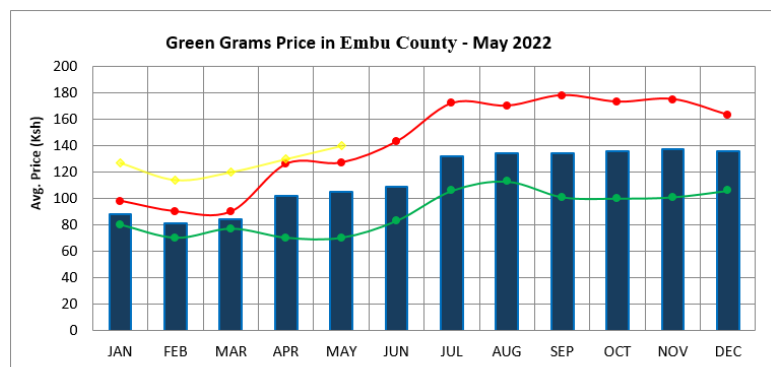


Figure 15: Average market prices for green grams in Mbeere sub counties

### 4.3 Terms of Trade (ToT)

Terms of trade determine the purchasing power of the households by providing an estimate of the number of kilograms of maize bought from sale of one goat.

- The Terms of trade decreased further by 28 percent in the month under review to 92 kilograms of maize purchased from sale of goat.
- The decrease is attributed to the decrease in goat price and significant increase in maize prices in the reporting month.
- The current terms of trade are 43 percent lower than the short-term average of 137.

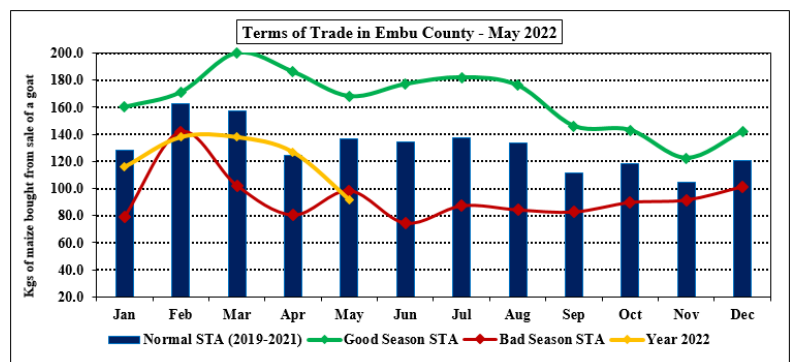


Figure 16: Terms of trade in Mbeere sub counties

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk Consumption

- The average household daily milk consumption marginally increased to 0.5 litres in the month under review.
- The marginal increase in amount of milk consumed can be attributed to the increase of production in the mixed farming zone due to availability of pasture and water at closer distances.
- The current milk consumption is 50 percent lower than the short-term average of 1.0 litres.

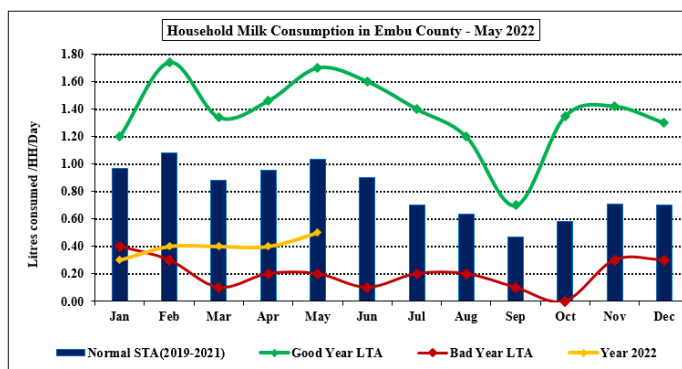


Figure 17: Household milk consumption in ~~Mbeere~~ North and South sub counties

### 5.2 Nutritional Status of Children

The Mid Upper Arm Circumference (MUAC) is a pointer indicator for malnutrition among children under five years.

- During the month under review 100 percent of sampled children recorded normal MUAC measurements (measurements at the green band).
- This may be attributed to improved feeding practices as the parents prioritize the children feeding before adults.
- This is normal at this time of the year when vegetables and other pulses are available at household level.

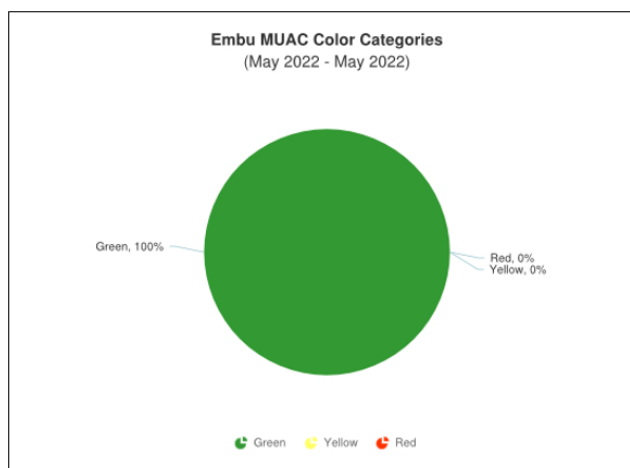


Figure 18: Nutritional status of sampled children in Embu (n=303)

### 5.3 Food Consumption Score

The Food Consumption Score (FCS) gives the dietary diversity and the relative nutritional importance of different food groups consumed by households over a period of 7 days.

- During the month under review, 75% of the sampled households recorded acceptable food consumption while 25 % of the households fell in borderline food consumption category.
- The households in the acceptable food consumption category decreased by 7% in the month of May due to low food stocks in the households coupled.
- Food consumption for households in mixed farming zones was better as compared to those in the marginal mixed farming zones where 35% of the households reported borderline consumption as compared to only two percent in the mixed farming zone.

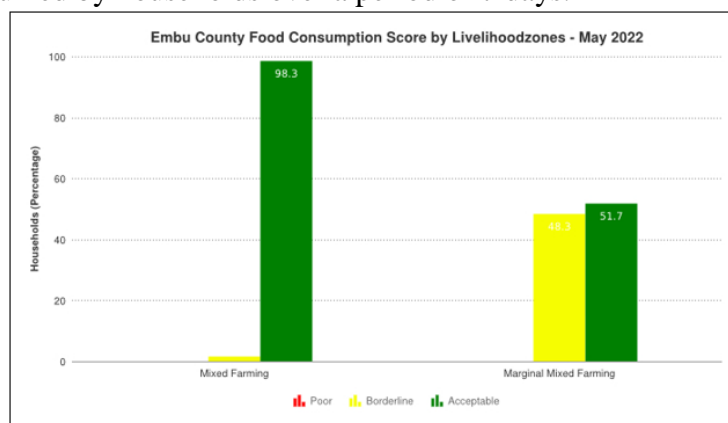


Figure 19: Household food consumption (120 households)

- The variation across livelihood zones may be attributed to the current level of household stocks and availability of irrigation schemes in the mixed farming zone hence household access to vegetables and fruits.

#### 5.4 Coping Strategy Index

The Coping Strategy Index is a derivative of the strategies that households adopt when they lack food or money to buy food.

- The mean coping strategy index increased by 65 percent from 4.81 in the month of April to 7.94 in the month of May.
- The increase can be attributed to low purchasing power of household in marginal zones and the depletion of household stocks across both livelihood zones.
- The marginal mixed farming zones recorded a higher CSI of 12.3 compared to mixed farming zones with CSI of 3.6.
- The variation across the livelihood zones is attributed to the level of current household stocks and variation on purchasing power.

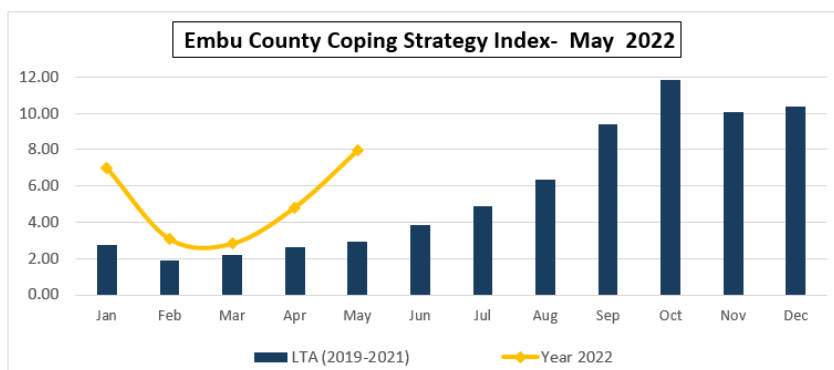


Figure 20: Coping Strategy Index for households in Mbeere sub counties

#### 5.5 Implication of the above Indicators to Food Security

- The increase in distance to water sources households led to reduced time spent in casual labour and hence reduced household incomes.
- Reduced household food stock and poor performance of the long rains season led to reduced dietary diversity and increased coping in the households in the marginal farming zones.
- The increase in maize price and reduction in goat prices negatively affected the households especially those in the marginal livelihood zone by reducing their purchasing power.
- The decrease in cattle prices negatively affected the households by reducing amount spent on purchase of non-food items as almost all was spent on payment of school fees as the schools re-opened for the first term.

### 6.0 CURRENT INTERVENTION MEASURES

#### 6.1 Non-Food Interventions

Intervention	Implementer	Status of implementation	Beneficiaries
Community MUAC monitoring and referral	NDMA/ Embu County government	ongoing	Targeted households in both sub counties
Routine agricultural extension	Embu County government	ongoing	Farmers in Mbeere North and South sub counties

<b>Intervention</b>	<b>Implementer</b>	<b>Status of implementation</b>	<b>Beneficiaries</b>
Routine livestock production extension and support to farmers	Embu County government	ongoing	Farmers in Mbeere North and South sub counties

### 7.0 Food Security Prognosis (Three months)

- The household food stocks will likely remain low due to the poor performance of the season rains and the poor condition of crop currently in the farms.
- Pasture and browse condition is expected to remain poor to fair as the depletion rate is expected to increase for the entire period before the short rains commence on mid-October. This will impact negatively on livestock body condition and productivity.
- The distances to water sources are expected to increase further as the surface water sources continue to reduce in levels while other dry. This will likely impact negatively on livestock body condition.
- The household coping strategy index is likely to increase further as the purchasing power of households especially in the marginal mixed farming zones reduce with the depletion of stocks and reduction in livestock prices.

### 8.0 SECTOR RECOMMENDATIONS

<b>Sector</b>	<b>Recommended activities</b>	<b>Target area</b>	<b>Responsible</b>
Agriculture	<ul style="list-style-type: none"> <li>• Provision post-harvest technologies and equipment</li> <li>• Pre-positioning for relief food</li> </ul>	Mbeere North and south	Embu County government
Livestock Production and Veterinary Services	<ul style="list-style-type: none"> <li>• Administration of de-wormers and multi-vitamin</li> <li>• Upscale of vaccination against LSD and NCD</li> </ul>	Mbeere North and south	Embu County Government, NDMA
Health and Nutrition	<ul style="list-style-type: none"> <li>• Sensitization of the public to maintain hand washing practices</li> <li>• Management of malnutrition cases at the health facilities through administration of outpatient therapeutic supplements.</li> </ul>	Both Mbeere North and South,	Embu County Government, Nutrition International

Sector	Recommended activities	Target area	Responsible
	<ul style="list-style-type: none"> <li>Support for aflatoxin testing in markets within both livelihood zones</li> </ul>		
Water	<ul style="list-style-type: none"> <li>Repair and maintenance of critical boreholes.</li> <li>Rehabilitation of springs.</li> </ul>	<ul style="list-style-type: none"> <li>-Kwa-andu ambogo borehole</li> <li>-Mathai borehole</li> <li>-Muchonoke borehole</li> <li>-Kiambere dispensary borehole</li> <li>-Gatituri spring</li> </ul>	Embu County Government, NDMA, Upper Tana Natural Resource Management Project