

**National Drought Management Authority**  
**EMBU (MBEERE) COUNTY**  
**DROUGHT EARLY WARNING BULLETIN FOR AUGUST 2020**



A Vision 2030 Flagship Project



**AUGUST EARLY WARNING PHASE**



**Early Warning (EW) Phase Classification**

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Normal	Deteriorating
Marginal Mixed Farming (MMF)	Normal	Deteriorating
County (Mbeere Only)	Normal	Deteriorating
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	108	80-120
VCI-3 Month	73.26	>50
Forage condition	Fair/Poor	Fair
Production Indicators	Value	Normal
Crop Condition	No crop	No crop
Livestock Body Condition	Fair/Poor	Good
Livestock Migration Pattern	None	None
Livestock deaths	None	None
Access Indicators	Value	Normal
Terms of Trade	175	90-140
Households distance to water (km)	4.7	4.7
Livestock return distance to water (km)	6.0	6.0
CSI	5.63	<5.0

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

**Rainfall:** No rainfall was recorded in both sub counties of Mbeere

**Vegetation Condition:** The vegetation condition index remained above normal. The pasture condition ranged from fair to poor across both livelihood zones while browse condition ranged from good to fair across both livelihood zones.

**Water sources:** Rivers, earth pans/dams and traditional river wells remained as the main water sources. The quality of the surface water was good as a result of reduced siltation during this dry period.

**Socio Economic Indicators (Impact Indicators)**

**Production indicators:** The body condition for cattle in marginal mixed farming livelihoods was fair to poor while in the mixed farming farming livelihood zone condition ranged between good to fair. The body condition for goats remained good in both livelihood zones due to availability of browse. Milk production remained stable.

**Access indicators:** The average distance to water sources remained stable for both households. The prices of beans and green grams increased further while that of maize remained stable. Milk consumption remained stable due to stable production and Terms of Trade remained stable also due to stability in prices of goats and maize.

**Utilization:** Household coping increased due to diminishing of household stocks in marginal farming zones. Consequently, the proportion of households in borderline food consumption increased as those in acceptable consumption category decreased.

**County Seasonality Calendar**

Short rains harvests Short dry spell Reduced milk yields Increased HH Food Stocks Land preparation			Planting/Weeding Long rains High Calving Rate Increased milk production			Long rains harvests A long dry spell Land preparation Increased HH Food Stocks Kidding (Sept)			Short rains Planting/weeding Increased milk production		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

## 1.0 CLIMATIC CONDITIONS

### 1.1 Rainfall Performance

- According to satellite surveillance minimal precipitation was recorded in both sub counties though rain gauge station data recorded nil rainfall in August.

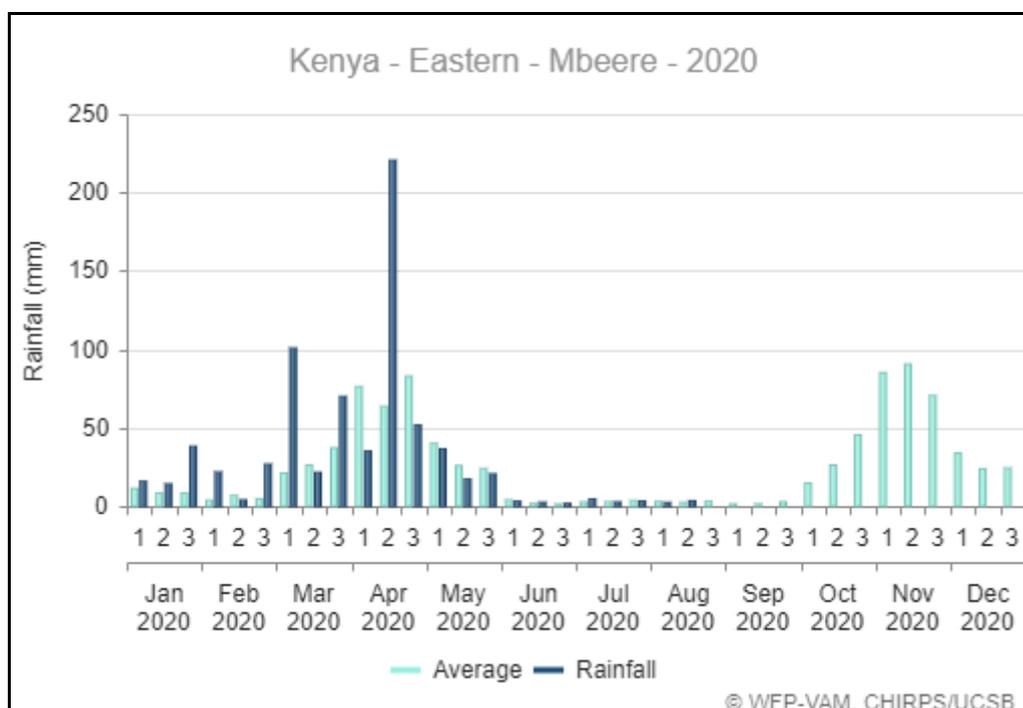


Figure 1: Rainfall estimates in Mbeere North and South Sub Counties

- The average precipitation reduced by 23 percent from 3.4 mm in the first two dekads in July to 2.7 mm in the same period of the month under review.
- The reduction was normal at this time of the year when a dry spell is experienced before the commencement of the short rains in October.

### 1.2 Amount and spatial distribution of rainfall

- The vast area of Mbeere region did not receive any rains in August though some areas in Nthawa and Mwea wards received poorly distributed slight rains in the first dekad of the month.
- The poor and uneven distribution was normal at this dry period of the year.

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

- The vegetation greenness remained above normal in the month under review with a marginal increase from 71.3 recorded in July to 73.26 in the current month.
- Mbeere South Sub County recorded a higher VCI of 74.25 as compared to Mbeere North Sub County that recorded VCI of 72.27 (Figure 2a and 2b). This represented a three and two percentage increase respectively compared to July.
- The increase was occasioned by off-season rains experienced in parts of Mwea, Nthawa and Mbeti South wards.

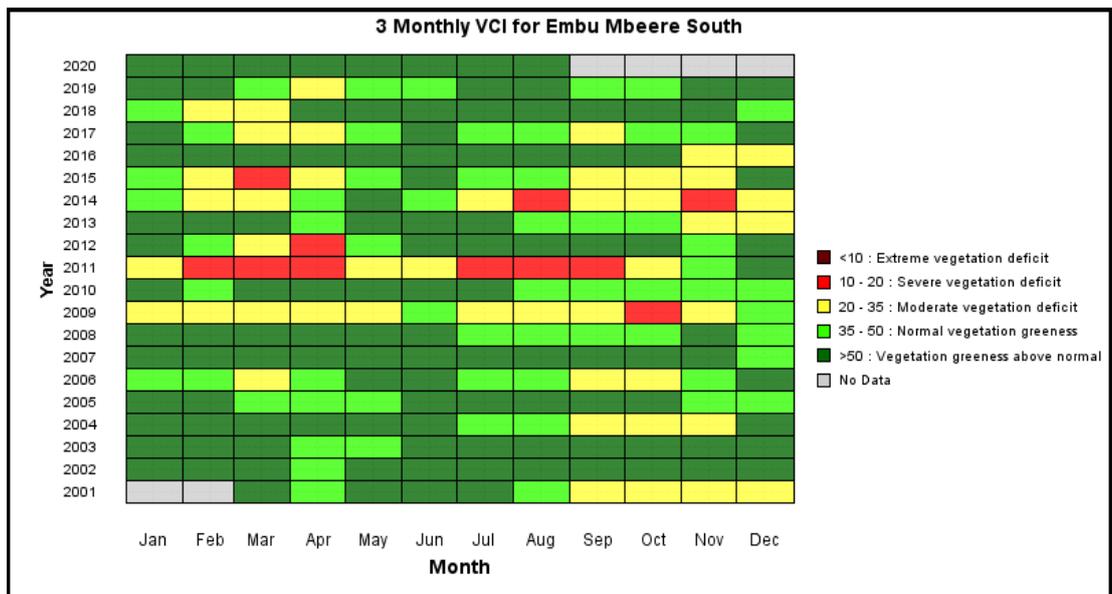


Figure 2a: 3-monthly VCI for Mbeere South sub- county [Source: MODIS]

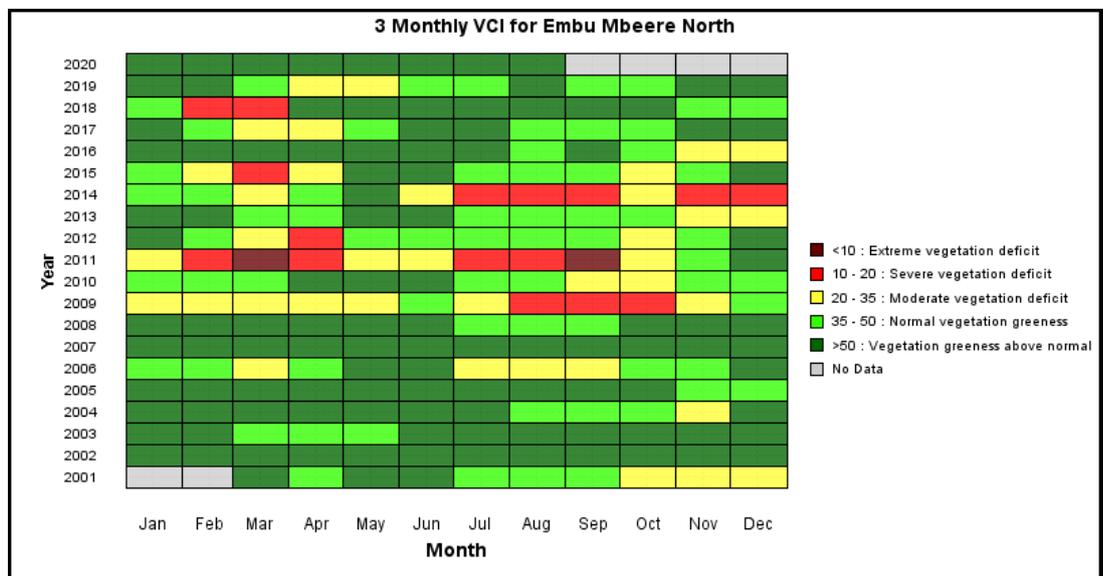


Figure 2b: 3-monthly VCI for Mbeere North sub county [Source: MODIS]

### 2.1.2 Pasture Condition

- The pasture condition in both livelihood zones in the sub counties was fair to poor . Most parts of the mixed farming livelihood zone recorded fair pasture condition the entire marginal mixed farming zone and parts of mixed farming zone reocorded poor pasture condition.
- Poor pasture condition was reported in Mutitu, Kirie, Mutuobare, Kamarandi, Makima, Ngoce and Kiambere locations.
- The current conditions can be attributed to the current dry conditions coupled with off-season rains which caused rotting of dry grass essential for cattle at this time.

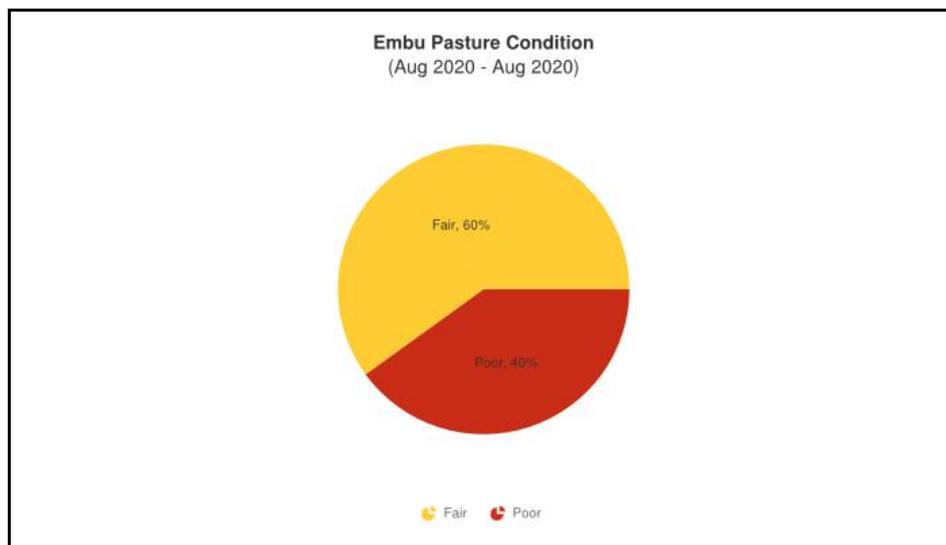


Figure 3: Pasture condition in Mbeere South and North sub counties

- Pasture condition is expected to deteriorate further if the current weather condition persists though it is normal at this time of the year.
- The available pasture is expected to last for 1-2 months across both livelihood zones though crop residues will supplement on livestock feeding which may sustain fair body conditions for 2-3 months until the rainy season.

### 2.1.3 Browse Condition

- The browse condition was fair with some spots in the mixed farming zones recording good browse condition (20%).
- The fair-good browse condition can be attributed to the resilient nature of browse and the small number of small stock in most parts of the mixed farming livelihood zones.

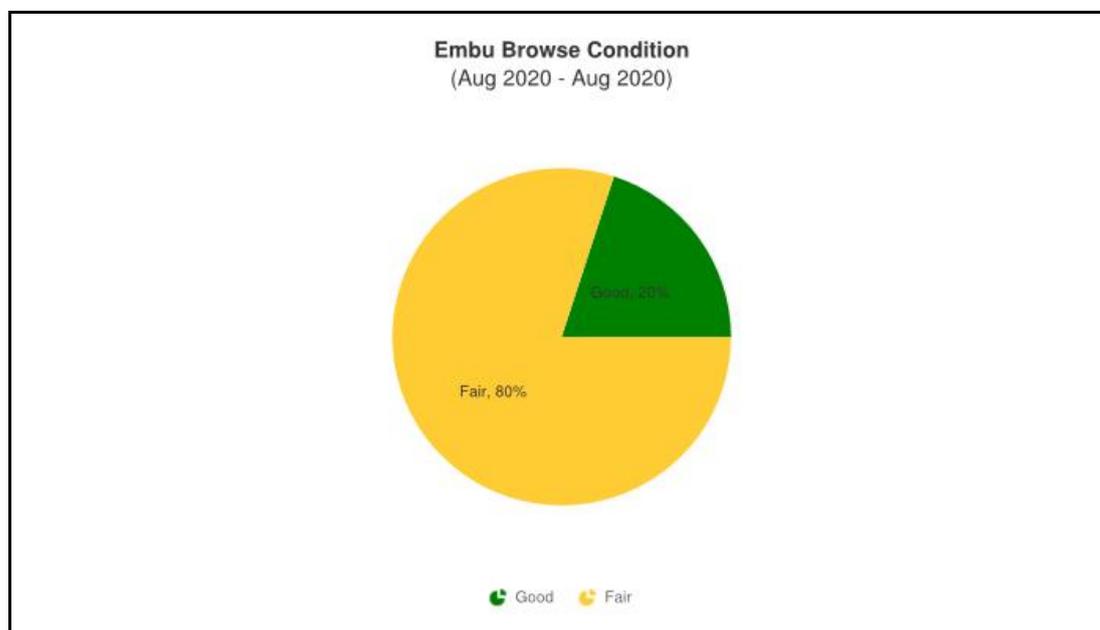


Figure 4: Browse condition in Mbeere North and South sub counties

- The current browse condition is expected to last for 2-4 months as most households also utilize the harvested farms to feed their small stock.
- The browse condition is expected to deteriorate further if the dry weather condition persists for more than two months.
- The current browse condition is normal at this time of the year

## 2.2 WATER RESOURCE

### 2.2.1 Water Sources

- The major water sources for households across both livelihood zones in August were rivers, boreholes, dams/pans and traditional river wells.
- A larger proportion of households (53.3%) relied on rivers, followed by traditional river wells (20%) and 13.3 % of the households drew water from pans with an equivalent proportion also getting water from boreholes.

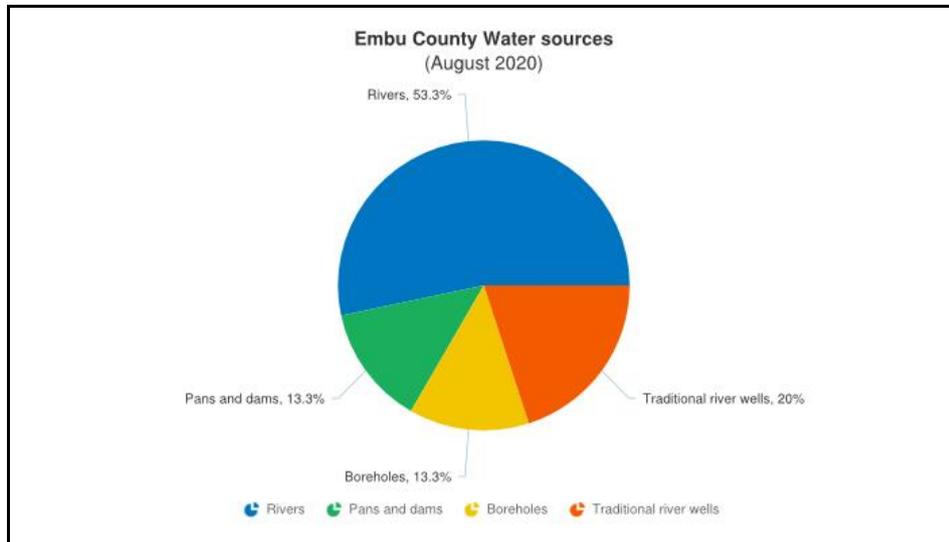


Figure 5: Water sources for Mbeere North and South sub counties

- There was a slight increase in proportion of households that used river water in August since most of the boreholes were reported to produce saline water that was not fit for human drinking.
- The earth pans in both livelihood zones are projected to last for a 2-3 months as the water level was low

### 2.2.2 Household Water Access and Utilization

- The average household return distance to water sources remained stable in August compared to the previous month at 4.7 km .

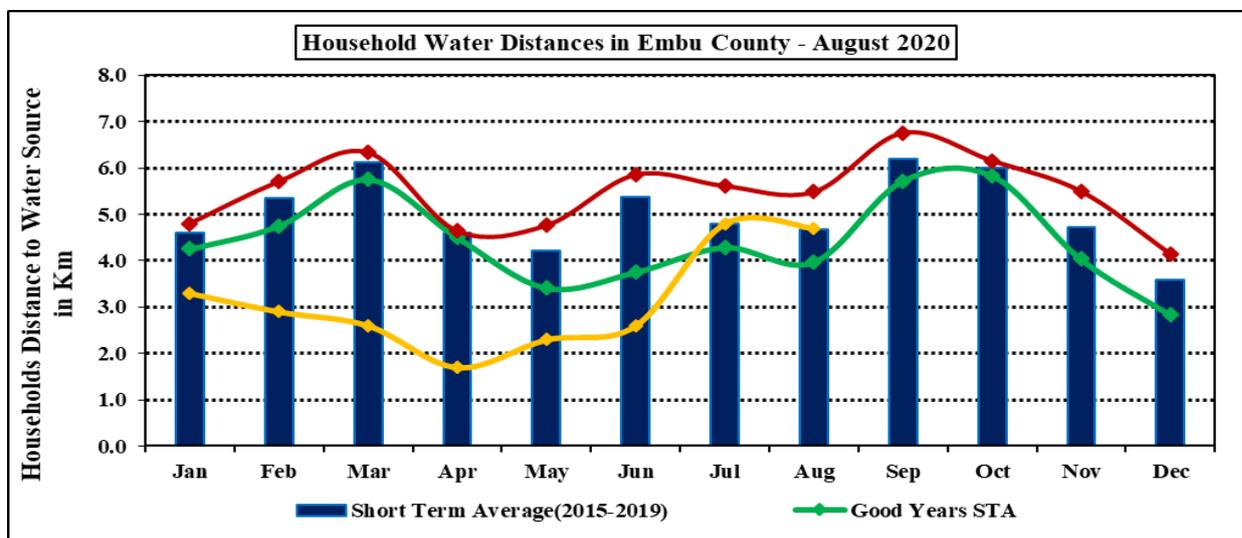


Figure 6: Household average distances to water sources

- The stability in distances trekked is attributed to continued water stress in marginal mixed farming zone as many small earth dams dried up and also due to mechanical breakdowns of strategic boreholes occasioning reliance on rivers and large earth dams located far away.
- Areas such as Kiambere, Mutuobare and Gacabari in Mbeere South sub county were greatly affected.
- Households in the marginal mixed farming zone trekked for longer distances 5.0 km to water sources compared to households in the mixed farming zone that trekked for an average return distance of 4.5 km to fetch water.
- The variance in the livelihoods distances is due to extensive network of pipeline water in the mixed farming zone as compared to the marginal mixed farming zone where the pipeline is faulty and does not cover many locations.
- The recorded average return distance to water sources for households was normal at this time of the year.

### 2.2.3 Livestock access to water from grazing areas

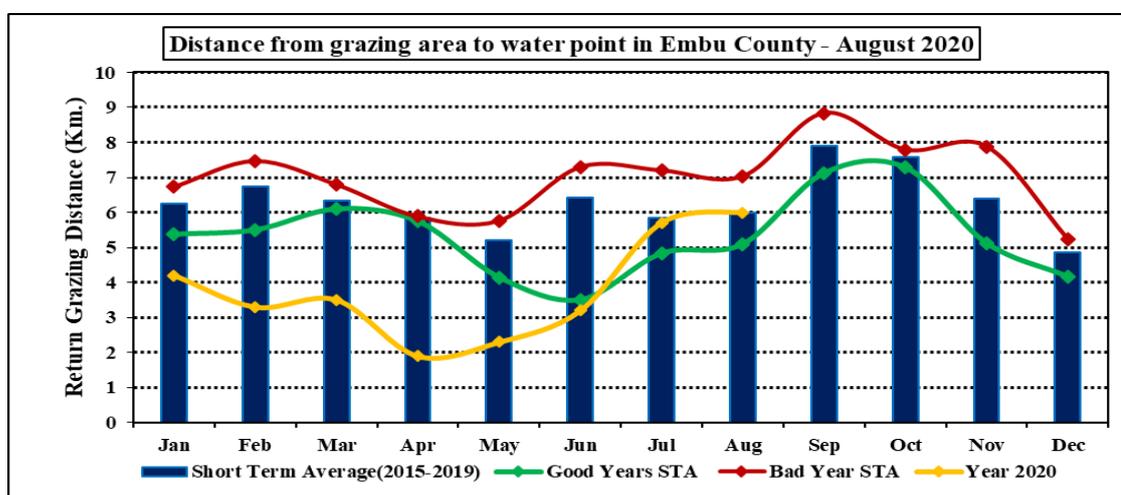


Figure 7: Livestock average return distances to water sources

- The average return distance to water sources from grazing areas remained stable in August compared to the previous month at 6.0 km.
- The stability in distance is attributed to drying of surface water sources in many parts of the marginal mixed farming zone necessitating reliance on rivers.
- Livestock in the marginal mixed farming zone trekked for longer distances of 6.9 km from grazing areas to water sources compared to those in the mixed farming zone that trekked for an average return distance of 5.6 km to access water from the grazing areas.
- The variance in the livelihoods distances is due to the variation in pasture condition whereby in the marginal farming zones farmers trekked to far areas in search of pasture
- The current average return distance was normal at this time of the year.

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- The body condition for cattle in marginal mixed farming livelihoods was fair to poor while in the mixed farming farming livelihood zone condition ranged between good to fair during the month under review.
- The body condition for goats remained good in both livelihood zones availability of green browse and dry leaves.
- The livestock body condition for cattle was below normal is normal at this time of the year while that of goats remained normal occasioned by the favourable prevailing conditions.
- The body condition for both large and small stock is expected to deteriorate further if the dry condition persists for more than two months.

##### 3.1.2 Livestock Diseases

- New castle disease (NCD) remains an endemic poultry disease across both livelihood zones.
- The county department of veterinary services continues with routine disease surveillance.

##### 3.1.3 Milk Production

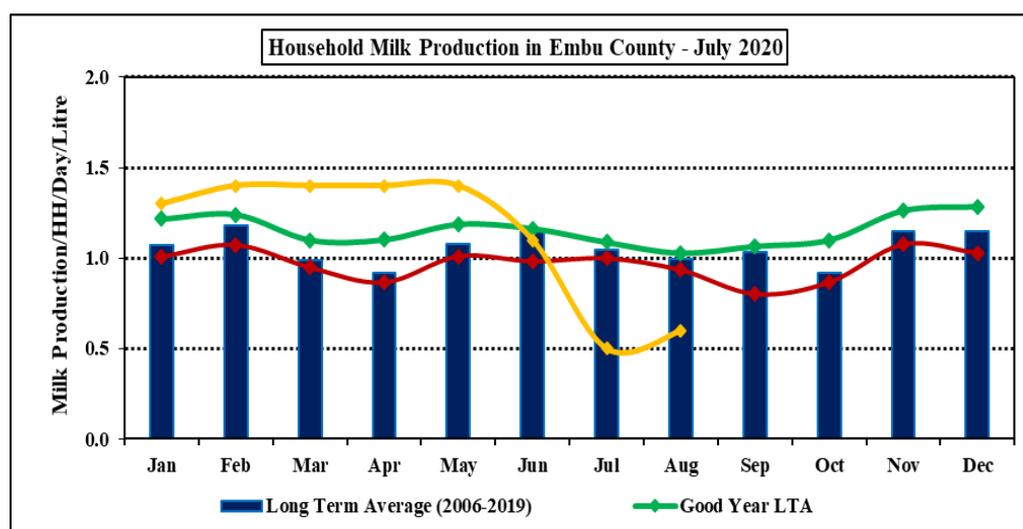


Figure 8: Milk production in Mbeere North and South sub counties

- The average household daily milk production remained stable in August as compared to the previous month at 0.6 litres.
- The stably low milk production is attributable to poor/fair pasture condition across both sub counties and longer trekking distances to water sources in most parts of the marginal mixed farming zone.
- The milk production was normal at this time of the year.

#### 3.2 Rain-Fed Crop Production

##### 3.2.1 Stage and Condition of food Crops

- No food crops in the farms currently.
- Land preparation is on going in both marginal mixed farming livelihoods and mixed farming livelihood zones in readiness for short rains season planting.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- The average price of a medium size mature bull remained stable in the month of August as compared to the previous month at Ksh 36,000.

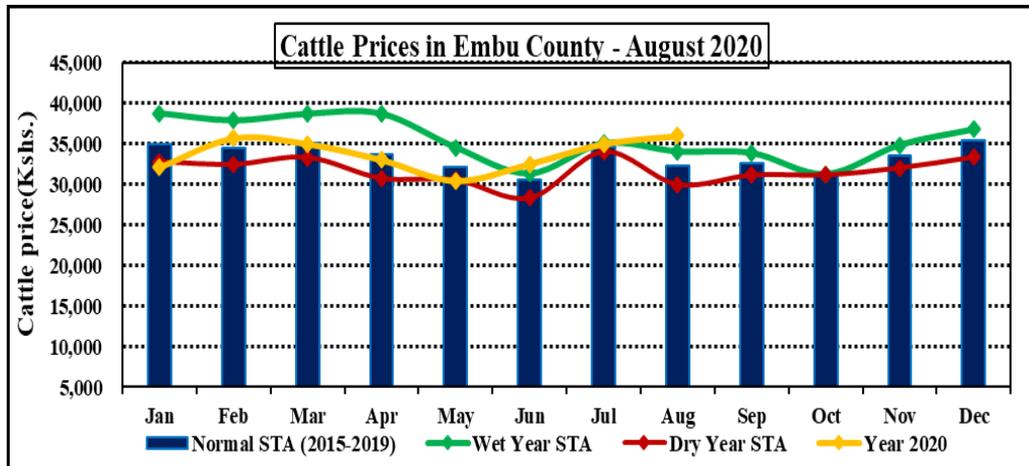


Figure 9: Average Market prices for cattle in Mbeere sub counties

- The stability in cattle price is attributed to low livestock supply in the major markets occasioned by reduced market operations thereby increasing the demand from the traders.
- Ishiara livestock market recorded the highest average price for cattle of Ksh. 38,000, Makutano livestock market recorded and Ksh 35,000 while Kiritiri livestock market recorded average cattle price of Ksh 30,000.
- The average price recorded in August was significantly higher than the short term average price and slightly above the average price recorded in the wet years in Mbeere region.

#### 4.1.2 Goats Prices

- The average market price for a medium sized two-year goat remained stable in the reporting month as compared to the previous month at Ksh. 5,400.

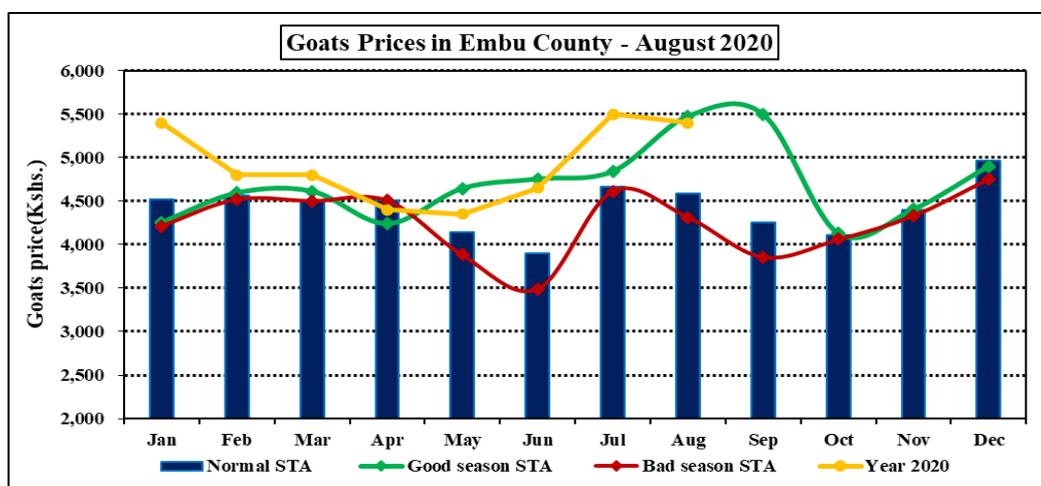


Figure 10: Average market prices for goats in Mbeere sub counties

- The stability was occasioned by low supply of livestock in the major markets thereby increasing the demand.

- Ishiara livestock market in marginal mixed farming zone recorded average price of Ksh. 6,000 while Makutano and Kiritiri livestock markets reported average price of Ksh. 4500 respectively.
- The average price in August was above the normal short term average and equivalent good year average in Mbeere region.

## 4.2 FOOD PRICES

### 4.2.1 Maize Prices

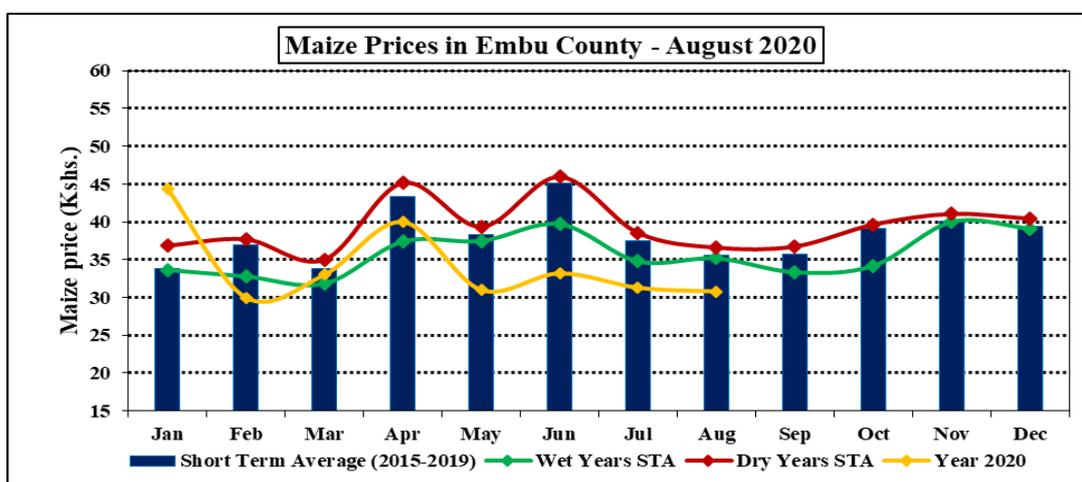


Figure 11: Average market prices for maize in Mbeere sub counties

- The average market price remained stable at Ksh. 31 in the month under review.
- The stability in maize prices is attributable to availability of maize stocks in the households.
- Kiritiri cereals market recorded highest price for one kilogram of maize at Ksh. 35 while both Ishiara market and Makutano cereals markets recorded slightly lower average price of Ksh. 30.
- The average maize price recorded in August was slightly lower than the short term average of Ksh 36 .

### 4.2.2 Posho (Local Maize Meal)

- The average price of ‘posho’ reduced by 12 percent to retail at Ksh. 38 per kilogram in the month of August.

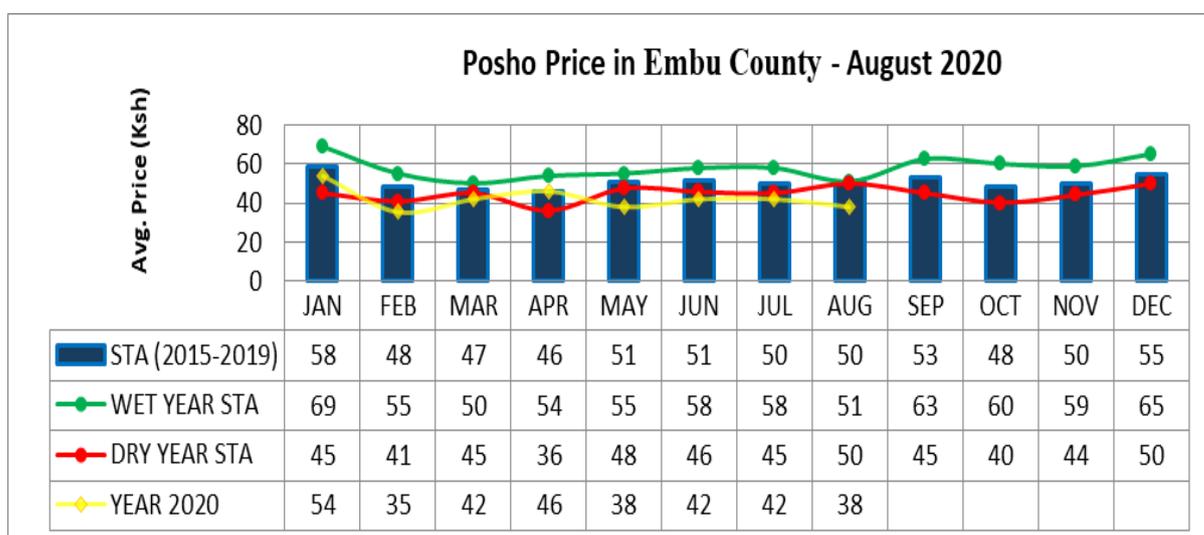


Figure 12: Average market prices for Posho in Mbeere sub counties

- The reduction can be attributed to low price of maize across major community markets.
- The recorded ‘posho’ price was 25% lower than the short term average price of Ksh 50 per kilogram.

### 4.2.3 Beans Prices

- The average price of beans increased by 10% compared to the previous month to retail at Ksh 116 per kilogram in the month of August.

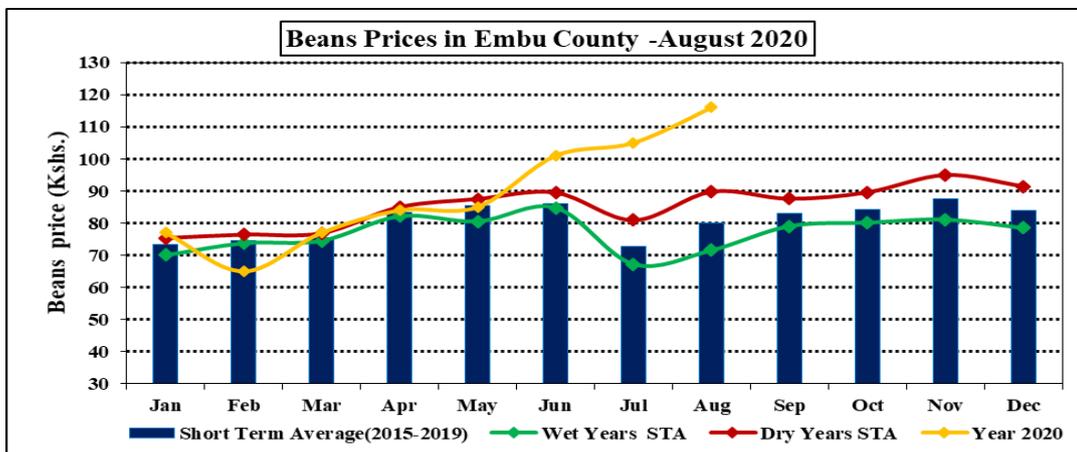


Figure 13: Average market prices for beans in Mbeere sub counties

- The increase in price is attributable to diminished household stocks due to poor long rains harvest thus creating household dependence on markets.
- Ishiara cereals market recorded the highest price at 130 per kilogram while Kiritiri and Makutano markets recorded average price of Ksh. 100 and Ksh. 90 respectively for one kilogram of beans.
- The recorded price of beans was significantly higher than the short term average price of Ksh 80 per kilogram.

### 4.2.4 Green Grams Prices

- The average price of green grams remained stable in the month of August compared to the previous month at Ksh 120 per kilogram.

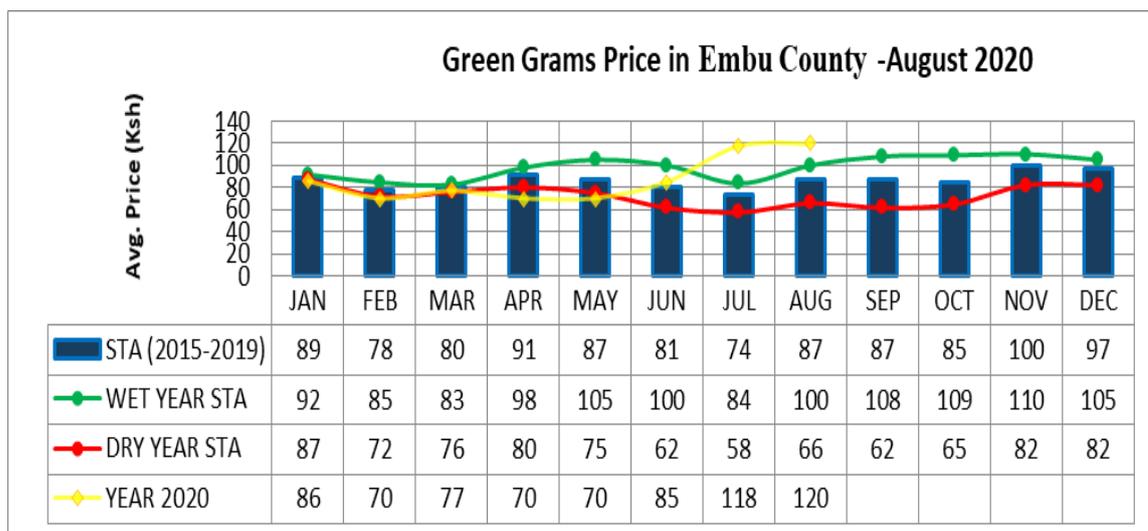


Figure 14: Average market prices for green grams in Mbeere sub counties

- The stably high price is attributable to dinished household stocks hence creating household dependence on markets.
- The average price recorded was 40 % higher than the short-term average of Ksh 87 per kilogram.

### 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.

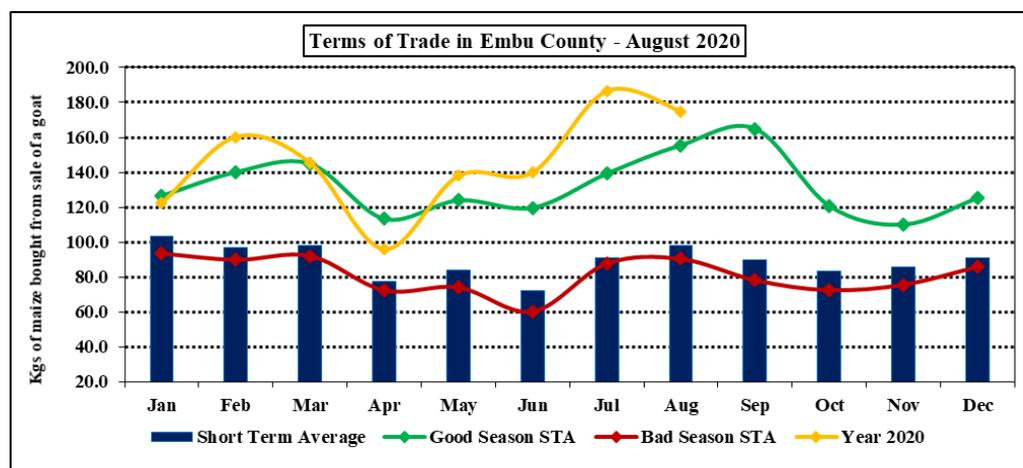


Figure 15: Terms of trade in Mbeere sub counties

- The Terms of Trade reduced by 6 percent to 175 kilograms of maize bought from sale of one goat in August
- The reduction is attributable to stability in maize prices and slight decrease in goat prices.
- Mixed farming zone recorded higher terms of trade at 200 kilograms for sale of one goat as compared to marginal mixed farming zone with 150 kilograms of maize for sale of one goat.
- The differentiation across the livelihood zones is attributable to differences in the market prices of goat and cereals in major markets of Ishiara and Makutano.
- The Terms of Trade recorded in the month of August were above normal at this time of the year in Mbeere region.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk Consumption

- Household milk consumption remained stable compared to the previous month at 0.5 litres per day.

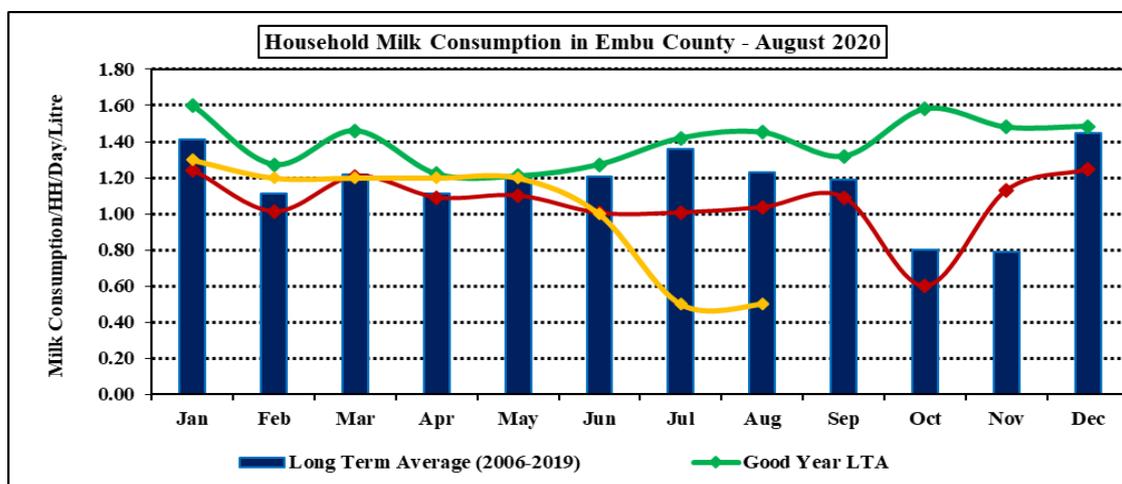


Figure 16: Household milk consumption in Mbeere North and South sub counties

- The stability in milk consumption is attributable to stability in milk production occasioned by stress in access to pasture and water across both livelihood zones.

- The current average milk consumption is lower than the normal long-term average daily household consumption of 1.5 litres.

## 5.2 Nutritional Status of Children

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

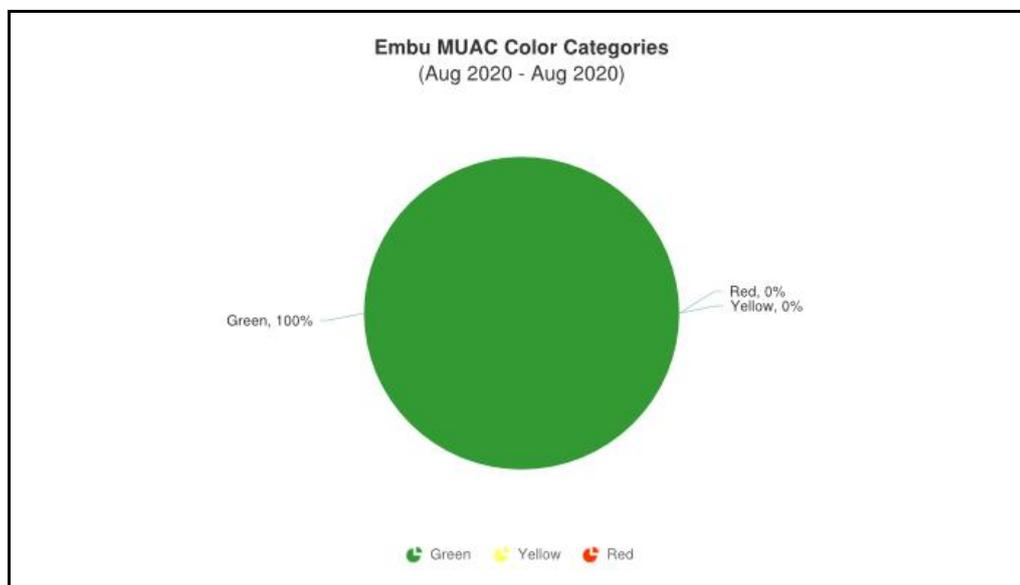


Figure 17: Nutritional status of sampled children in Mbeere sub counties(n=331)

- All sampled children recorded normal MUAC measurements (green)
- This can be attributed to the availability of food at household level.

## 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.

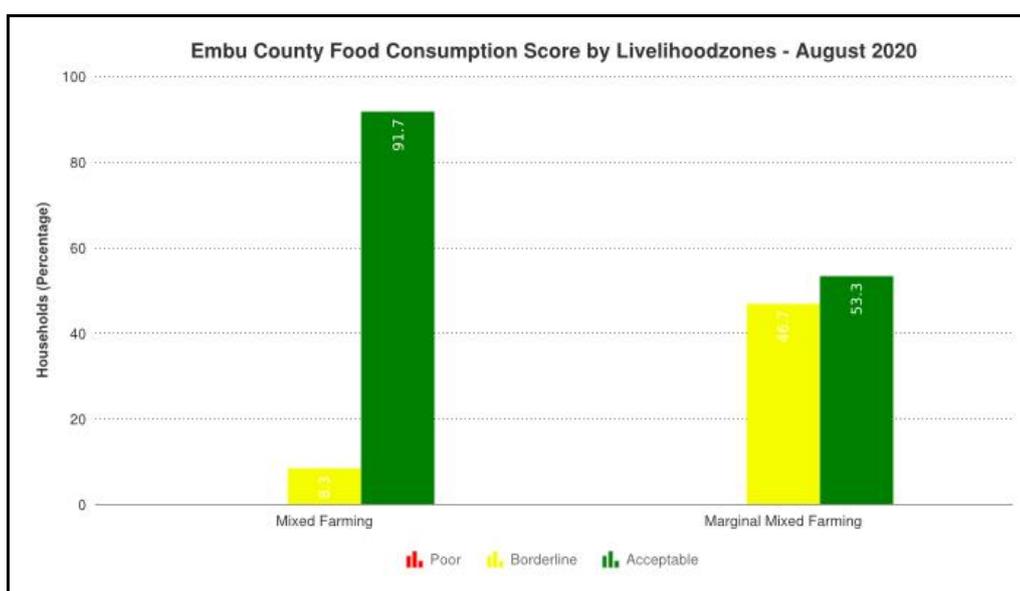


Figure 18: Household food consumption

- The proportion of households in acceptable food consumption category decreased from 81% in the month of July to 72.5% in the reporting month while the proportion of households in

borderline food consumption increased from 19% recorded in the month of July to 27.5% in the current month.

- This could be attributable to the decrease in meal frequency in the marginal mixed farming zone as the stocks reduce
- Households in the mixed farming zones had a better food consumption score compared to those in marginal mixed zones as a result of the variation in food stocks.

#### 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.

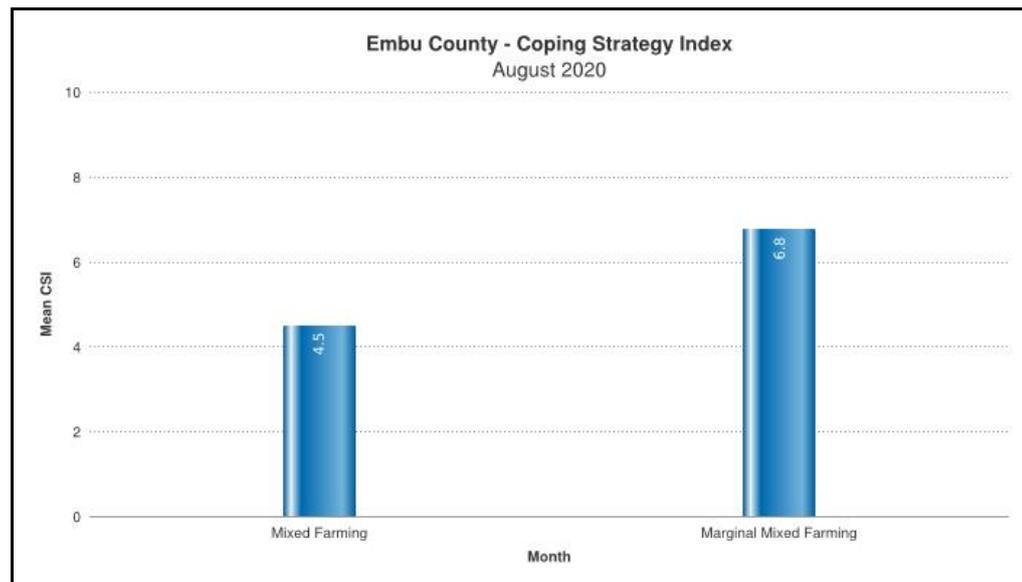


Figure 19: Household Coping

- The mean coping strategy index increased by 57% from 2.41 recorded in July to 5.63 in the month of August.
- The increase is attributable to reduction in household stocks and reduction in purchasing power of households occasioned by low terms of trade.
- Households in the mixed farming livelihood zone applied less coping as compared to the households in the marginal mixed farming livelihood zone.

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

- The drying up of small earth pans and lack of rainfall in both sub counties impacted negatively on water access for both livestock and domestic use. The distance to water sources remained stably high during the month under review.
- The faster diminishing of household food stocks led to dependence on markets for cereals such as beans and green grams and hence the prices increase further.
- The decrease in pasture quantity due to depletion led to deterioration of livestock body conditions and subsequently low milk production.
- The terms of trade decreased slightly thereby reducing the household purchasing power especially in the marginal mixed farming zone where livestock sales are the major source of household income.

## 6.0 CURRENT INTERVENTION MEASURES

### 6.1 Food Interventions

No food interventions reported in the month under review.

### 6.2. Non-Food Interventions

Intervention	Implementer	Status of implementation	Beneficiaries
<ul style="list-style-type: none"> <li>Excavation of Itira/Kagumori water pan</li> <li>Funding of Common Interest groups along Green grams, poultry, dairy, mangoes value chains</li> <li>Support for of Rupingazi-Weru irrigation scheme</li> </ul>	<p>NARIG Project</p> <p>NARIG Project</p> <p>Department of Agriculture KCEP CRAL</p>	<p>Ongoing</p> <p>Completed</p> <p>Ongoing</p>	<p>Muminji ward</p> <p>40 farmer groups financed (5.9M in Nthawa ward, 5.65M in Muminji ward, 6.22M in Evurore ward)</p> <p>Mbeti south-St.Lukes school for the deaf.</p>
<ul style="list-style-type: none"> <li>Treatment of FMD and LSD</li> <li>Upgrading of local goats in Kiambere ward.</li> </ul>	<p>Embu County government</p> <p>NDMA</p>	<p>Routine</p> <p>Complete</p>	<p>Nthawa ward</p> <p>Across both sub counties</p> <p>Kiambere ward in Mbeere South sub county</p>
<ul style="list-style-type: none"> <li>Community sensitization on COVID 19</li> <li>Routine Human Disease Surveillance</li> <li>Routine health and nutrition interventions to children, pregnant and lactating mothers</li> <li>Community MUAC monitoring and referral</li> </ul>	<p>Embu County government</p> <p>NDMA</p>	<p>Routine</p>	<p>Community units</p> <p>Targeted groups in both sub counties</p> <p>Targeted households in both sub counties</p>
<ul style="list-style-type: none"> <li>Solarization of boreholes and provision of water tanks to schools</li> </ul>	<p>NDMA</p>	<p>Completed</p>	<p>Ceria day secondary school and Ceria primary school in Mbeere North sub county</p> <p>Ngunyumu Primary school</p> <p>Igumori school in Mbeere South</p>

## 7.0 Food Security Prognosis (Three months)

- The cereal stocks are likely to be depleted within two months in the marginal mixed farming zone and the prices will likely remain high.
- The pasture condition likely to remain fair to poor in marginal mixed farming zone as depletion continues coupled with below normal regeneration occasioned by delayed onset of the forecasted short rains.
- Low water capacity of earth pans across both livelihood zones is likely to result further increase of distance to water sources by households and livestock especially in Mbeere South Sub County.
- The terms of trade may reduce further in the marginal mixed farming zone as the cereal prices are expected to increase further while the livestock prices may reduce as the body conditions deteriorate.

## 8.0 SECTOR RECOMMENDATIONS

Sector	Recommended Activities	Target area	Proposed Implementer
<b>AGRICULTURE</b>	<p>Provision of certified seed and fertilizer.</p> <p>Capacity building on conservation agriculture.</p> <p>Formation of common interest marketing groups for green grams.</p>	<p>Vulnerable households in marginal mixed farming zone</p> <p>Both sub counties</p> <p>Kiambere and Mwea wards</p>	<p>Embu county Government, KCEP CRAL Other stakeholders</p>
<b>LIVESTOCK</b>	<p>Small stock breed improvement.</p> <p>Mult vitamin supplementation and De-worming of livestock.</p> <p>Vaccination of stock against LSD and FMD along the stock routes</p> <p>Selective feed supplementation of Key stock</p>	<p>Marginal mixed farming zone</p> <p>Both sub counties</p> <p>Both sub counties</p> <p>Areas of marginal mixed farming zone</p>	<p>County Department of Veterinary services</p> <p>Other stakeholders</p>
<b>WATER AND SANITATION</b>	<p>Extension and Repair of water pipeline in Mbeere North and South sub counties.</p>	<p>Both sub counties</p>	<p>EMBE</p> <p>EMBEWASCO</p> <p>County Department of water</p>

	<p>Provision of household water treatment chemicals.</p> <p>Repair of strategic boreholes.</p> <p>Solarization of strategic boreholes.</p> <p>Rehabilitation, desilting and fencing of dams.</p> <p>Capacity building of water user committees.</p>		
<b>HEALTH AND NUTRITION</b>	<p>Procurement and distribution of nutrition supplementary and therapeutic feeds.</p> <p>Support quarterly audits to enhance information system.</p> <p>Conduct KAP survey.</p> <p>Training of mothers on Exclusive Breastfeeding and complementary feeding.</p>	Both sub counties	<p>Embu County government</p> <p>NDMA, USAID</p> <p>UNICEF</p> <p>Other stakeholders</p>
<b>INFRASTRUCTURE</b>	<p>Rehabilitation of collapsed school toilets.</p> <p>Setting up hand washing points in public schools in readiness for schools re-opening</p>	Both sub counties	<p>Embu County Government</p> <p>Ministry of Education</p> <p>Other stakeholders</p>