

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



A Vision 2030 Flagship Project



NOVEMBER EARLY WARNING PHASE

Drought Status: NORMAL



Shughuli za kawaida

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming (MF)	Normal	Improving
Marginal Mixed Farming (MMF)	Normal	Improving
County (Mbeere Only)	Normal	Improving
Biophysical Indicators	Value	Normal
Rainfall (% of Normal)	97.9	80-120
VCI-3 Month	43	>35
Forage condition	Fair/Poor	Fair
Production Indicators	Value	Normal
Stage and condition of crop	Germination /planting	Germination/planting
Livestock Body Condition	Fair/Poor	Fair
Milk Production	1.42	0.9
Livestock Migration Pattern	None	None
Livestock deaths	None	None
Access Indicators	Value	Normal
Terms of Trade	162	85
Households distance to water (km)	3.8	4.73
Livestock return distance to water (km)	5.2	6.4
Milk Consumption	0.3	0.8
Utilization Indicators	Value	Normal
CSI	4.25	<7.8
MUAC (proportion in green band)	100	99.7
FCS (% Borderline and Poor)	12.5	29

Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall: the short rains continued the distribution was evenly in both and time and space though in one or two occasions erratic .

Vegetation Condition: The forage condition in both livelihood zones continues to improve as it ranges from fair to good in both livelihood zones.

Water sources: The continuous short rains recharged water sources. Rivers, boreholes, shallow wells and traditional river wells were the main water sources. flow of the permanent rivers was above normal flow and seasonal rivers at basic flow. In the marginal mixed farming zones the rate of flow of the permanent rivers is at normal flow, while seasonal river below base flow.

Socio Economic Indicators (Impact Indicators)

Production indicators: The body condition for cattle in both livelihood zones improved ,ranged at fair to good due to reduced trekking distances in search of pasture and water. This led to an increase in milk production. In the mixed farming livelihood , beans are suffering from nitrogen leeching while maize is at knee height level .In the marginal mixed farming livelihood zonesearly planted maize is near knee length and beans at 3 leaf stage

Access indicators: The average distance to water sources for both households and livestock has reduced.

Utilization: All the children sampled (n=315) recorded normal MUAC measurements attributable to improved feeding habits. The food consumption score proportions stood at 87.5 percent acceptable and 12.5 percent on borderline. The coping strategy index remained stable compared to previous month at 4.59

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

- The short rains season continued into the month of November. On average Mbeere North and Mbeere south received rains for an average of six to nine days, with an exception of some localised areas in marginal mixed livelihood zones that received rains for an average of four to five days.
- Mbeere 82.9 percent of the normal rains. In the first and second dekad the county received 115.9 mm, and 29.5mm compared to long term averages of 85 mm and 90.4 mm as shown in figure 1
- The rains recorded during the period under review were erratic with most parts of the marginal mixed farming zone receiving rains for three to five days.

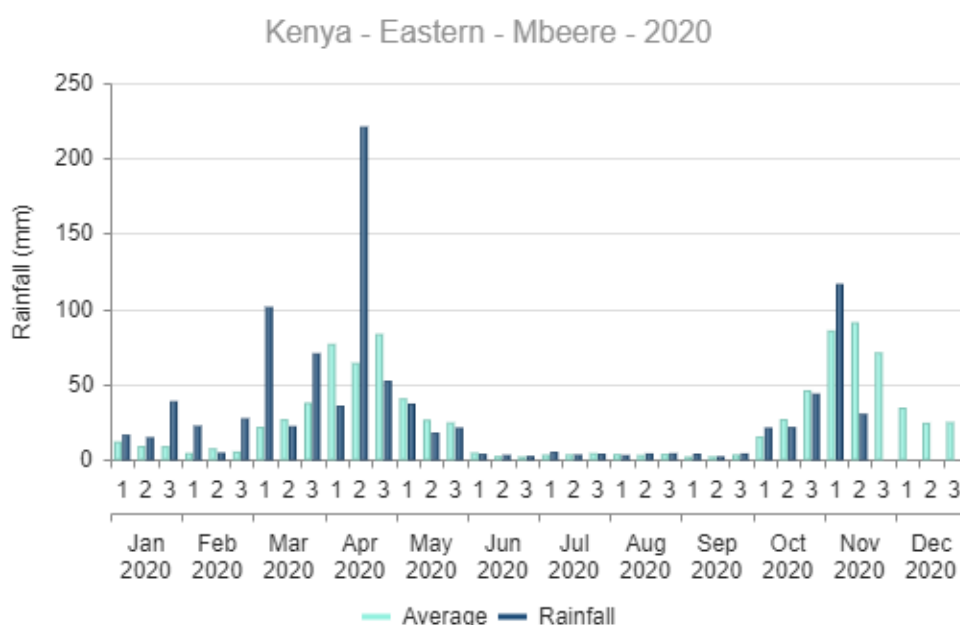


Figure 1: Rainfall performance in Mbeere North and South Sub Counties

1.2 Amount and spatial distribution of rainfall

- During the month of November, both livelihood zones received an average amount of rainfall of 266.7 mm .
- Mixed farming livelihood zones received an average amount of rainfall of 267.1 mm. the total amount of rainfall recorded in the stations was, Nthawa station 416 mm ,Ngura station 420 mm,makima station 169.3 malkini seconsry school station 135.6 and Ndune station 194.6mm.
- Marginal mixed farming livelihood zones received an average amount of rainfall of 266.25 mm. the total amount of rainfall recorded in the stations was, Muthantara dispensary clinic 232.9 mm,Kiritiri agricultural office station 289 mm,Kirie station 284.1mm .Kirate dispensary station 259 mm.

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 but decreased from 60.8 in October to 43 in the month of November.
- Mbeere South Sub County recorded a higher three-monthly VCI by 11 percent at 45.33 as compared to Mbeere North Sub County that recorded three-monthly VCI of 40.78 (Figure 2a and 2b).

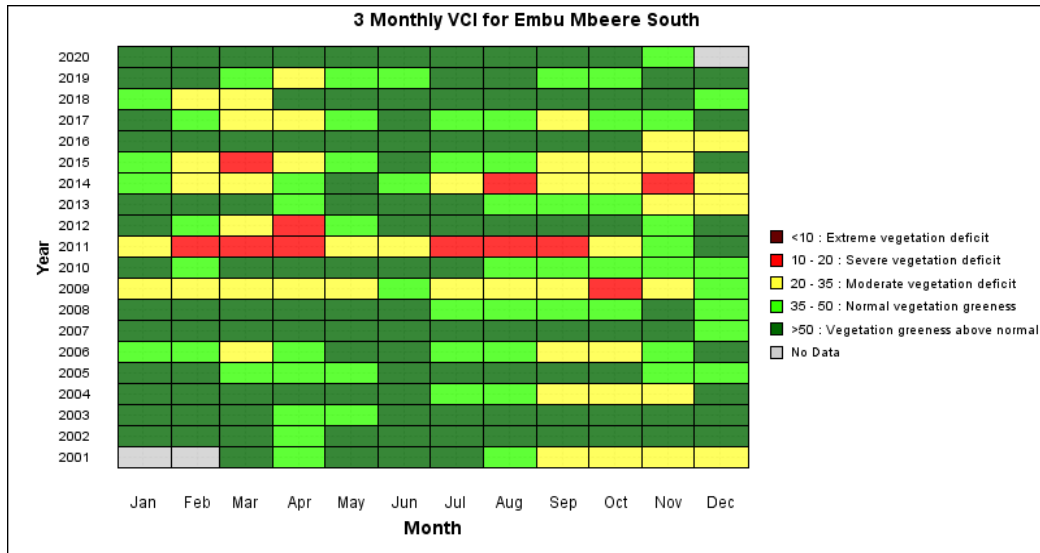
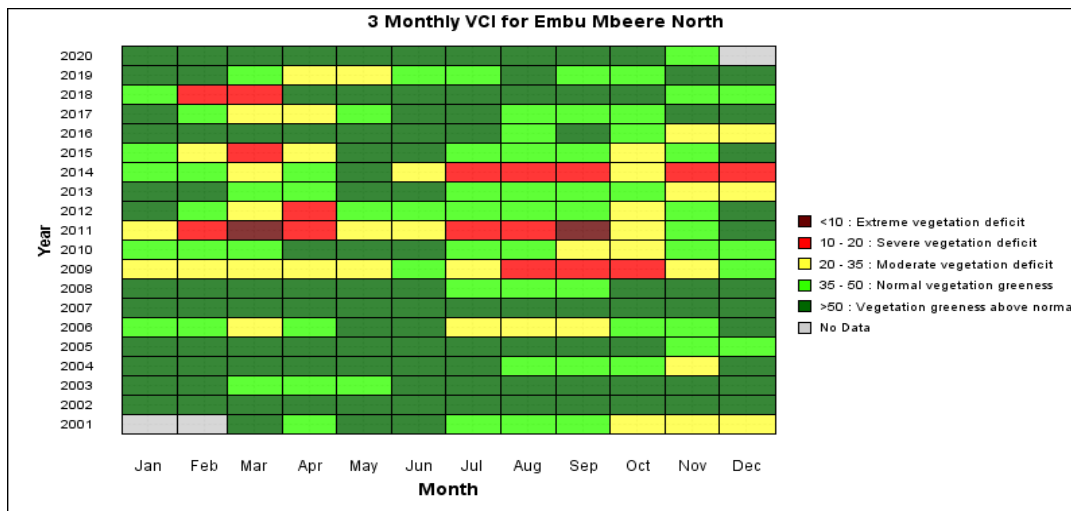


Figure 2a: 3-monthly VCI for Mbeere South sub- county [Source: MODIS]

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



2.1.2 Pasture Condition

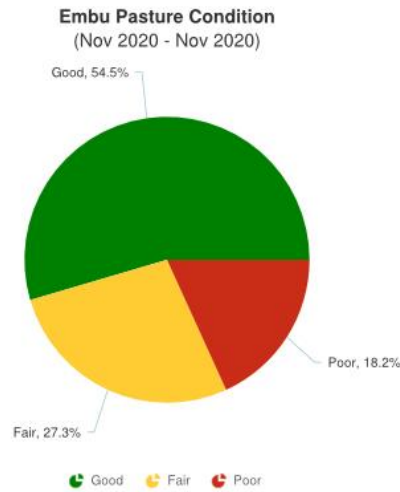


Figure 3: Pasture condition in Mbeere South and North sub counties

- Pasture conditions stood at 54.5 percent good, 27.3 percent fair and 18.2 percent poor across all livelihoods. This was an improvement from last month which stood at 18.2 percent fair and 81.8 percent poor.
- The improvement in pasture condition can be attributed to the ongoing short rains conditions in the reporting month.
- Pasture condition is expected to improve due to regeneration caused by the ongoing short rains.
- The available pasture after regeneration is expected to last for four to six months across both livelihood zones.

2.1.3 Browse Condition

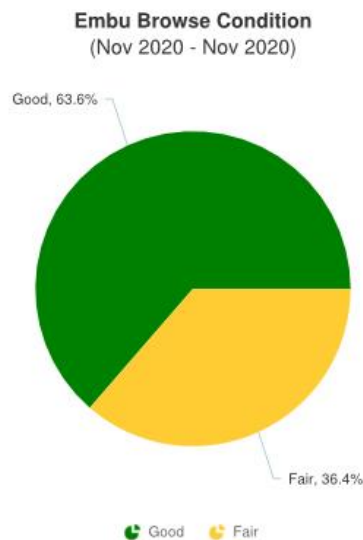


Figure 4: Browse condition in Mbeere North and South sub counties

- The browse condition stood at 63.6 percent good and 36.4 percent fair in November.
- The browse condition is expected to improve as the regeneration sets in occasioned by the short rains.
- The current browse condition is normal at this time of the year.

2.2 WATER RESOURCE

2.2.1 Water Sources

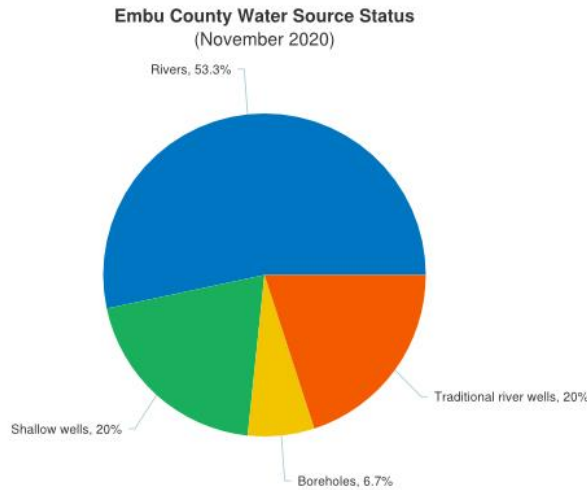


Figure 5: Water sources for Mbeere North and South sub counties

- The major water sources for households across both livelihood zones in the month of November were rivers, boreholes, traditional river wells and shallow wells.
- The proportion of households using river, rivers and boreholes water marginally reduced as households resorted to using water from roof catchment since some rains were experienced across both livelihood zones.
- A percentage of households were using shallow wells since there was recharge due to the short rains.
- The earth dams have been recharged, though due to the heavy rainfall they are filling up with silt thus it's hard to tell the level of recharge. On observation, in the mixed farming livelihood zones the recharge is above half capacity in most parts while flow of the permanent rivers was above normal flow and seasonal rivers at basic flow. In the marginal mixed farming the earth dams are below half currently. The rate of flow of the permanent rivers is at normal flow, while seasonal river below base flow.

2.2.2 Household Water Access and Utilization

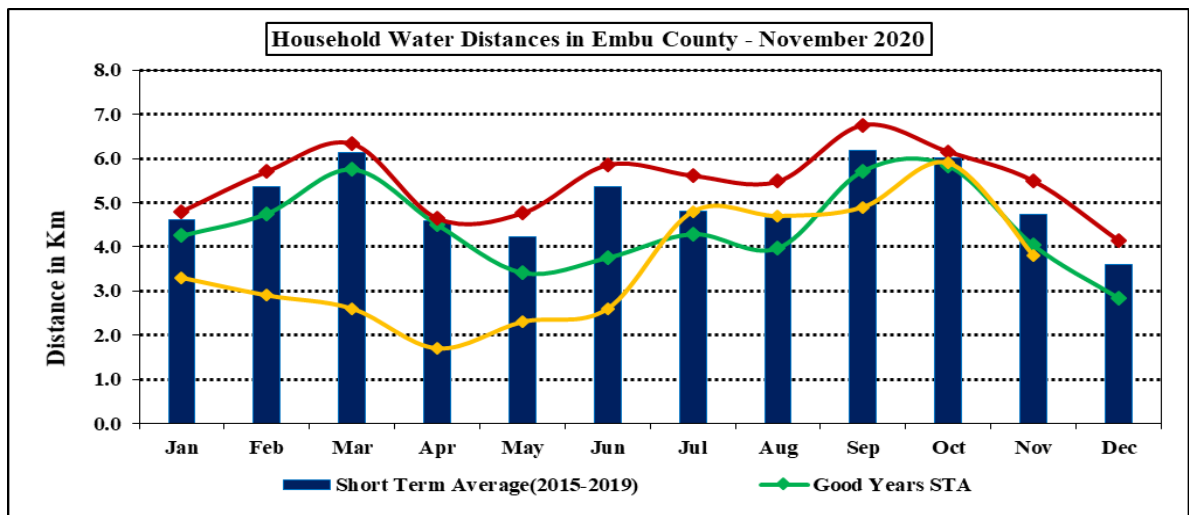


Figure 6: Household average distances to water sources

- The average household return distance to water sources drastically reduced by 51 percent from 5.9 km in the month of October to 3.9 km in November .
- The decrease in distance can be attributed to recharge of water sources which has drastically reduced the trekking distances by households. The short rains have offered multi sources of water and which are close from roof catchment water ,traditional wells, shallow wells and piped water where present since water rationing has ceased.

- Mixed farming livelihood households average trekking distances were lower by 62 percent at 2.05 compared to the mixed farming livelihoods that trekked for an average of 5.35 km.
- The recorded average return distance to water sources for households lower by 17.5 percent compared to the short term average of 4.73 km .

2.2.3 Livestock access to water from grazing areas

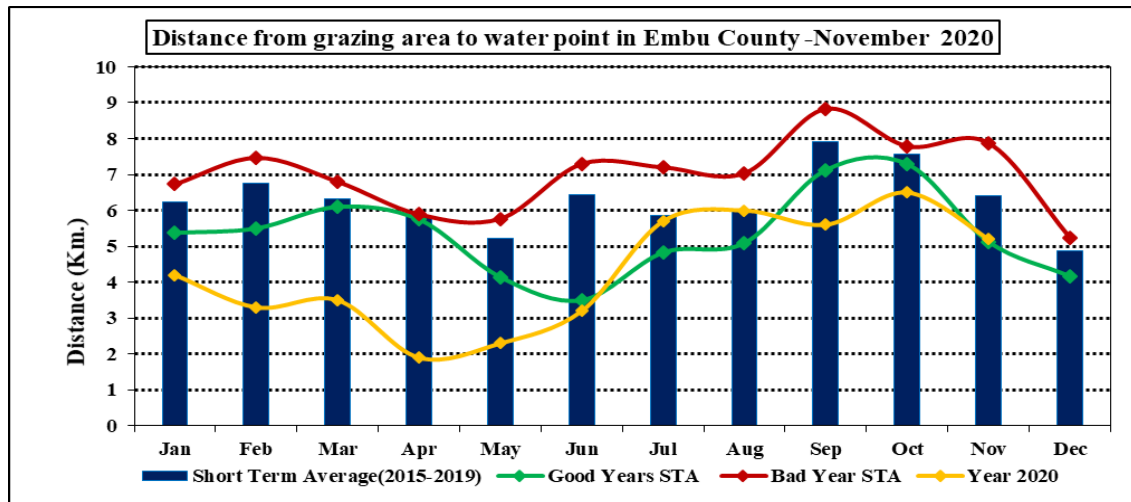


Figure 7: Livestock average return distances to water sources

- The average return distance to water sources from grazing areas reduced by 25 percent from 6.5 km in the month of October to 5.2 km in November.
- The decreased was attributed to recharge of surface water sources across all livelihoods and improved pasture leading to livestock moving to areas of wetlands and areas closer to water sources.
- Average livestock trekking distance in the marginal mixed livelihood was higher at 7.85 Km compared to the mixed farming livelihood zone at 2.6 km.
- The current average return distance was 18.8 percent lower compared to the short term average distance of 6.4 km and closely same as the good year STA 4.13 km.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The body condition for cattle remained were poor to fair and shoats good across all livelihood zones during the month.
- The livestock body condition for cattle improved from last month while that of shoat was good due to regeneration of pasture due to the continuous short rains.
- In the mixed farming livelihood zones shoats condition was good while the cattle body condition range was fair to good. In the marginal mixed livelihood zones shoats body condition was good while the cattle body condition ranged poor to fair
- The body condition for both large and small stock is expected to improve during this rainy season occasioned by availability of pasture and water.

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

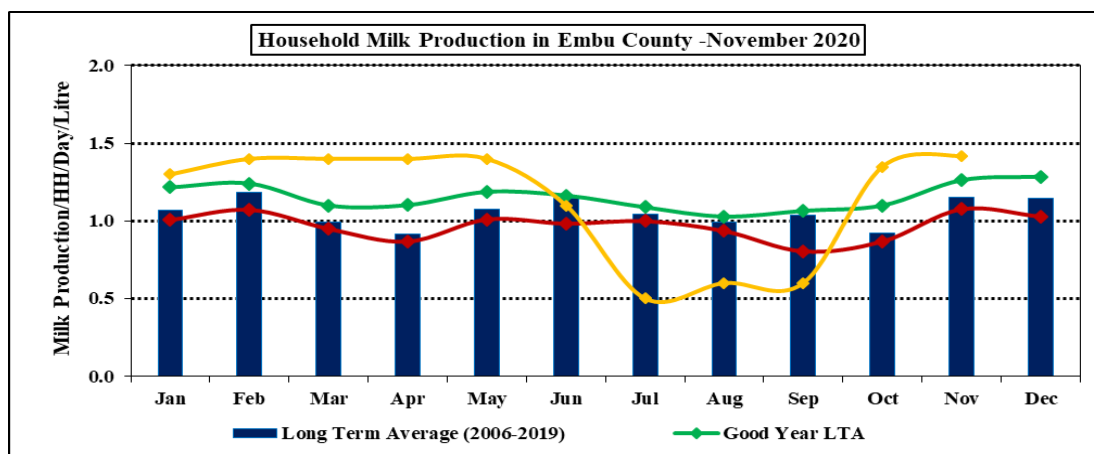


Figure 8: Milk production in Mbeere North and South sub counties

- The average household daily milk production increased by 5 percent from 1.35 October to 1.42 in November.
- The increase was attributed to the improvement of pasture conditions and reduced trekking distances due to the short rains.
- Increase in milk production is expected to improve if the current conditions continue
- The milk produced as significantly lower than the good year short term average of 1.48 litres and higher by 58 percent compared to the short term average of 0.9.

3.2 Rain-Fed Crop Production

3.2.1 Stage and Condition of food Crops

- Main crops planted during this season include beans, maize, green grams and cowpeas. The crops are in various stages of development. In the mixed farming livelihood, the early planted beans which have already flowering are suffering from nitrogen leeching while maize is at knee height level. In the marginal mixed farming livelihood zone late planted, while early planted maize is near knee length and beans at 3 leaf stage. Across both livelihood zones crop condition is at good.
- Some farmers across the mixed farming livelihoods were conducting 2nd weeding for early planted crops.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Market Prices for Cattle

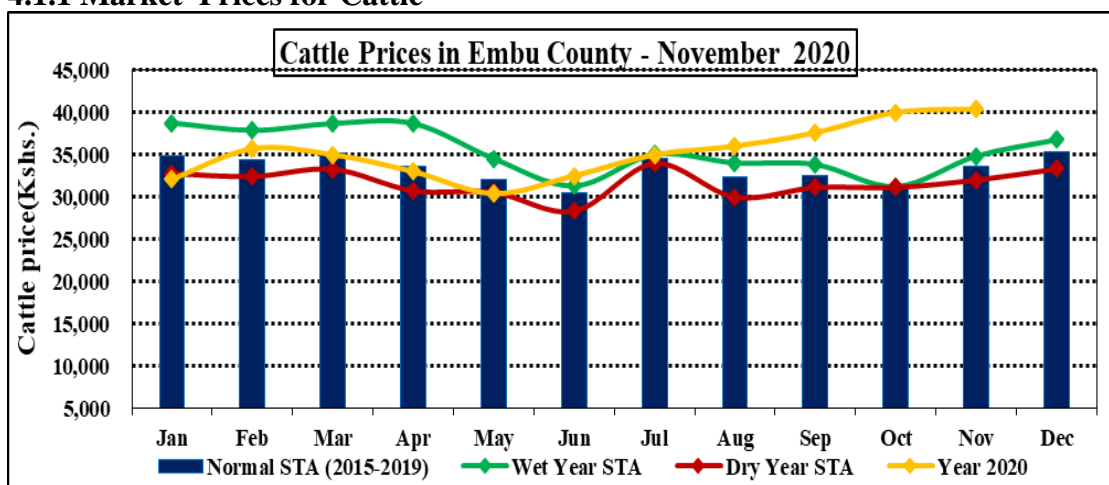


Figure 9: Average Market prices for cattle in Mbeere sub counties

- The average price of a medium size mature bull increased marginally from Ksh 40,000 in the month of October to Ksh 40,363 in November.
- The continuous increase in average cattle price is due to reduced market supply attributed to destocking and catalyzed by farmers speculation for higher prices during the short rains period when body conditions will improve significantly.
- Ishiara and Kiritiri livestock market both recorded Ksh 36,00 while Makutano livestock market recorded the highest average cattle price of Ksh 52,000.
- The average price recorded in November higher by 20 percent compare to the normal short term average price of Ksh 33,526 and higher than by 16 percent compared to the wet year short term average price of Ksh 34,823.

4.1.2 Goats Prices

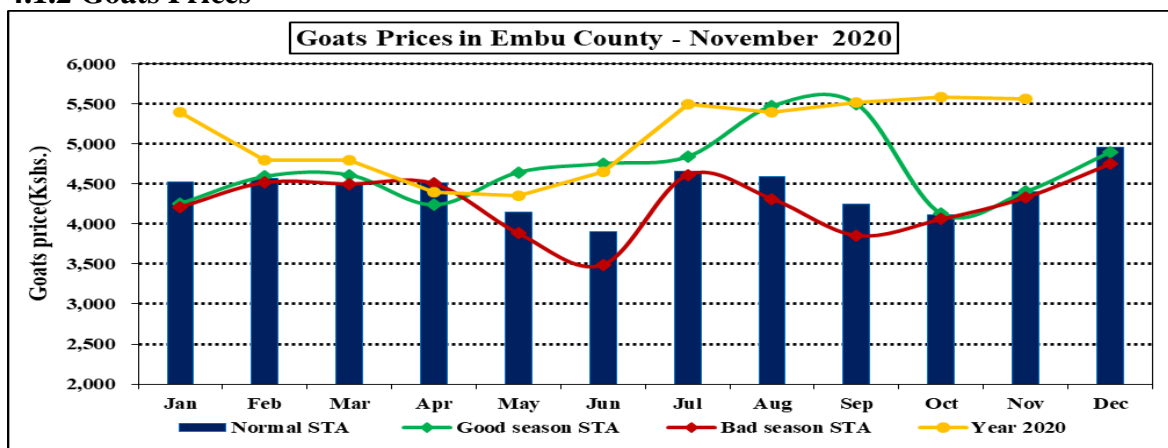


Figure 10: Average market prices for goats in Mbeere sub counties

- The average market price for a medium sized two-year goat remained stable as compared to the previous month at Ksh 5,500 in the month of November.
- The stability is attributed to stable good body conditions in both livelihood zones and the approaching festive periods.
- Makutano livestock market in recorded average price of Ksh 5,800, Kiritiri and Ishiara livestock markets recorded an average price of Ksh. 5,500 and Ksh. 5,580 respectively.
- The average price in October was 25% higher compared to both the normal short term average and good year short term average at of Ksh 4,400.

4.2 FOOD PRICES

4.2.1 Maize Prices

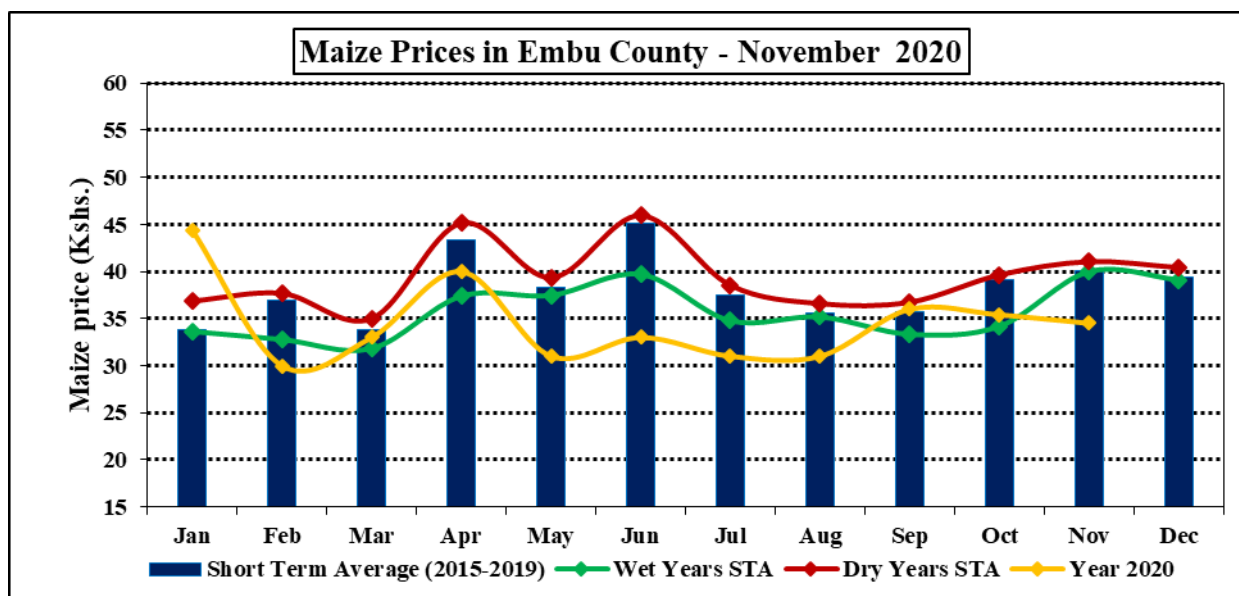


Figure 11: Average market prices for maize in Mbeere sub counties

- The average market price for maize remained stable at Ksh 35 per kilogram.
- The stability in maize prices is attributable maize stocks held by households especially in the mixed farming zone and millet stock held by majority of the households in the marginal mixed farming zone thus less dependence on market supply.
- makutano cereals market recorded highest price of Ksh. 41 per kilogram of maize while Ishiara market recorded an average price of Ksh.30 per kilogram and Makutano cereals market recorded average price of Ksh. 39 per kilogram of maize.
- The average maize price was 12.5 percent lower compared to the short term average of Ksh 40.

4.2.2 Posho (Local Maize Meal)

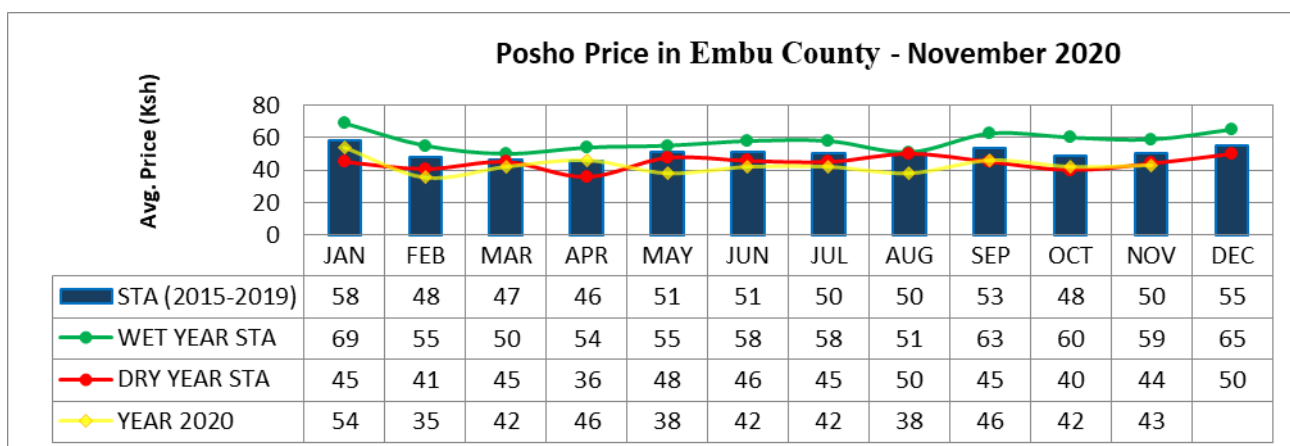


Figure 12: Average market prices for Posho in Mbeere sub counties

- The average price of *posho* remained stable in the month under review at Ksh 43 per kilogram.
- The stability can be attributed to the stability in maize prices in the major markets within Mbeere sub counties
- The recorded '*posho*' price was 14 percent lower compared to the short term average price of Ksh 50 per kilogram.

4.2.3 Beans Prices

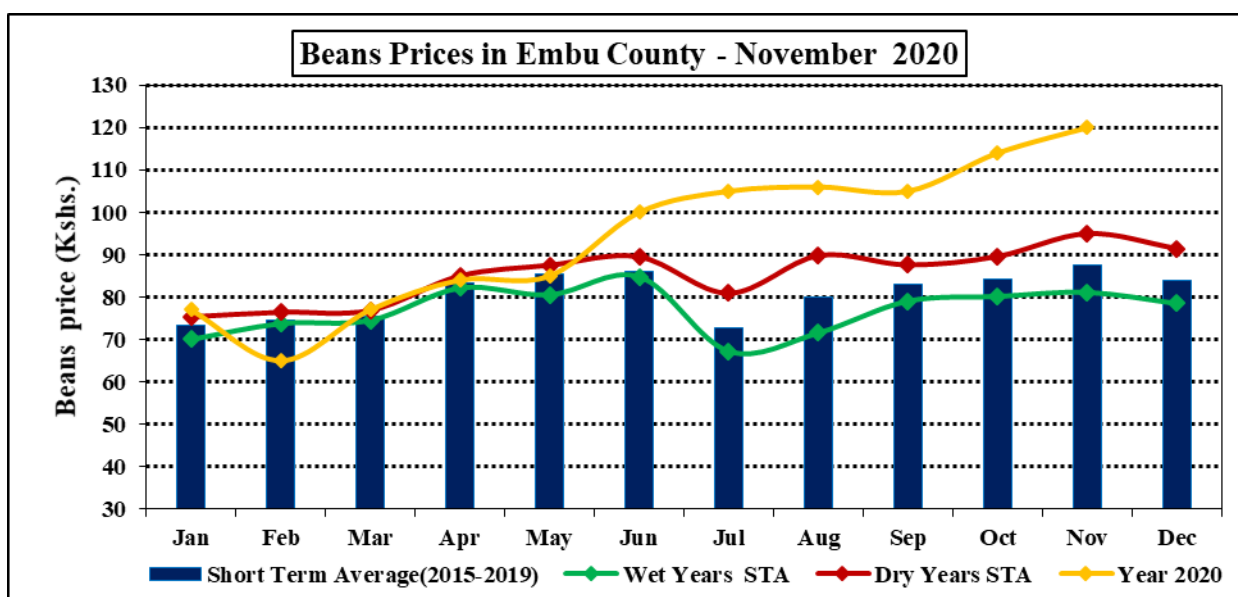


Figure 13: Average market prices for beans in Mbeere sub counties

- The average price of beans increased by 5 percent from to Ksh 114 per kilogram in October to Ksh 120 in the month of November .
- The increase in beans price trend will continue during this period till harvesting period due to increased reliance on the market by households. This is because the beans stocks are running low since they were used as seedlings and for daily consumptions by households.
- ishiara market recorded the highest beans price at 123 per kilogram while Kiritiri and Makutano markets respectively recorded average price of Ksh. 117 and Ksh. 118 respectively for one kilogram of beans.
- The recorded average price of beans 40 % higher than the short term average price of Ksh 87 per kilogram.

4.2.4 Green Grams Prices

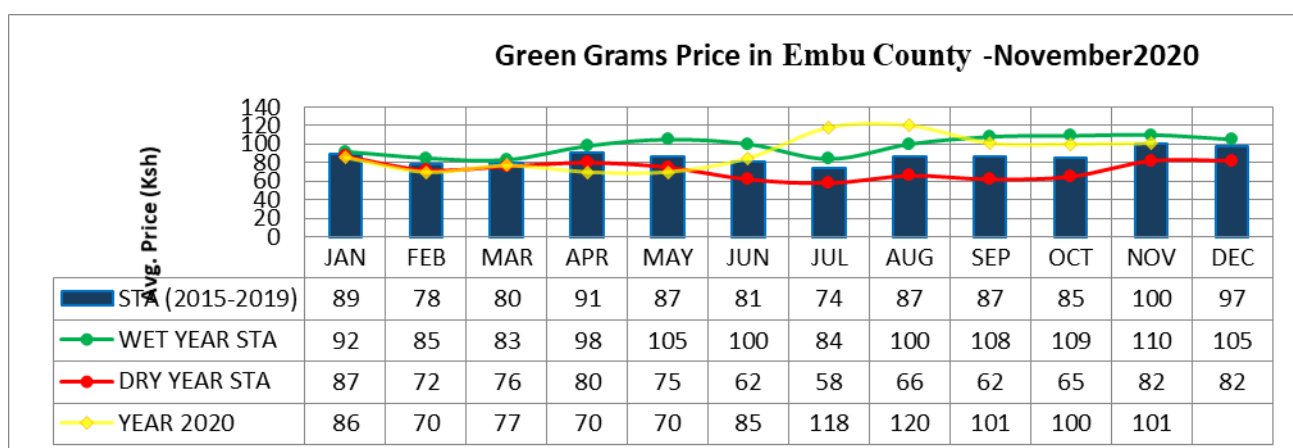


Figure 14: Average market prices for green grams in Mbeere sub counties

- The average price of green grams remained stable in the month of November as compared to the previous month at Ksh 101 per kilogram.
- The stably high price is attributable to depleting stocks in the households.
- The average price recorded was is similar to the short term average though 8 percent below the wet year short term average of Ksh 110 .

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.

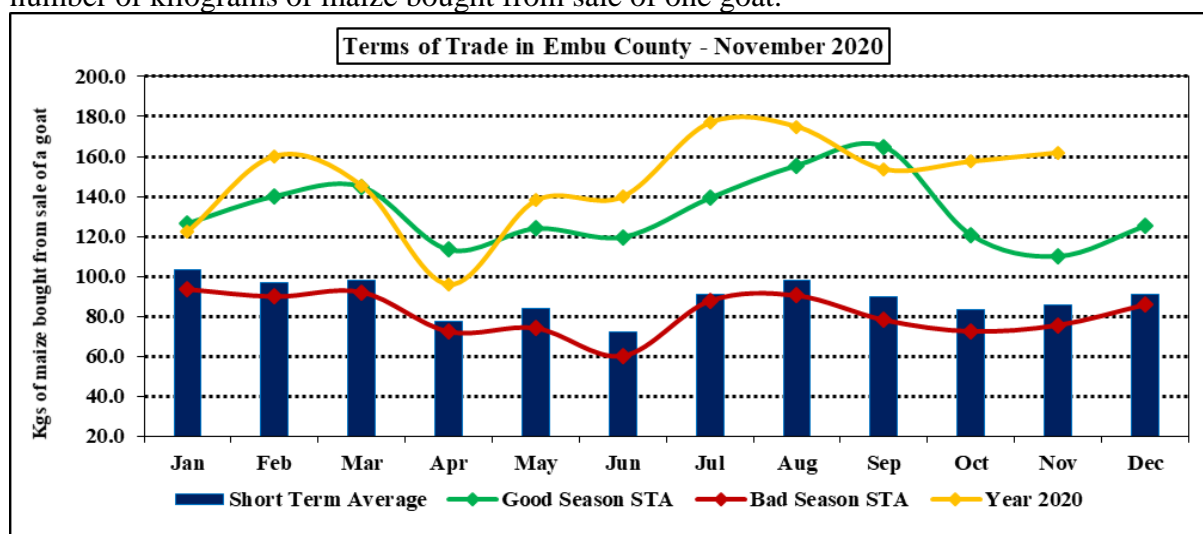


Figure 15: Terms of trade in Mbeere sub counties

- The Terms of trade increased by 3 percent from 158 kilograms of maize bought from sale of one goat in the month October to 162 kilograms of maize bought from sale of one goat in the month November.
- The stability can be attributed to stability in both goat and maize prices during the month under review.
- The Terms of Trade recorded in the month was 57.3 percent higher compared to the good year short term average of 110.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

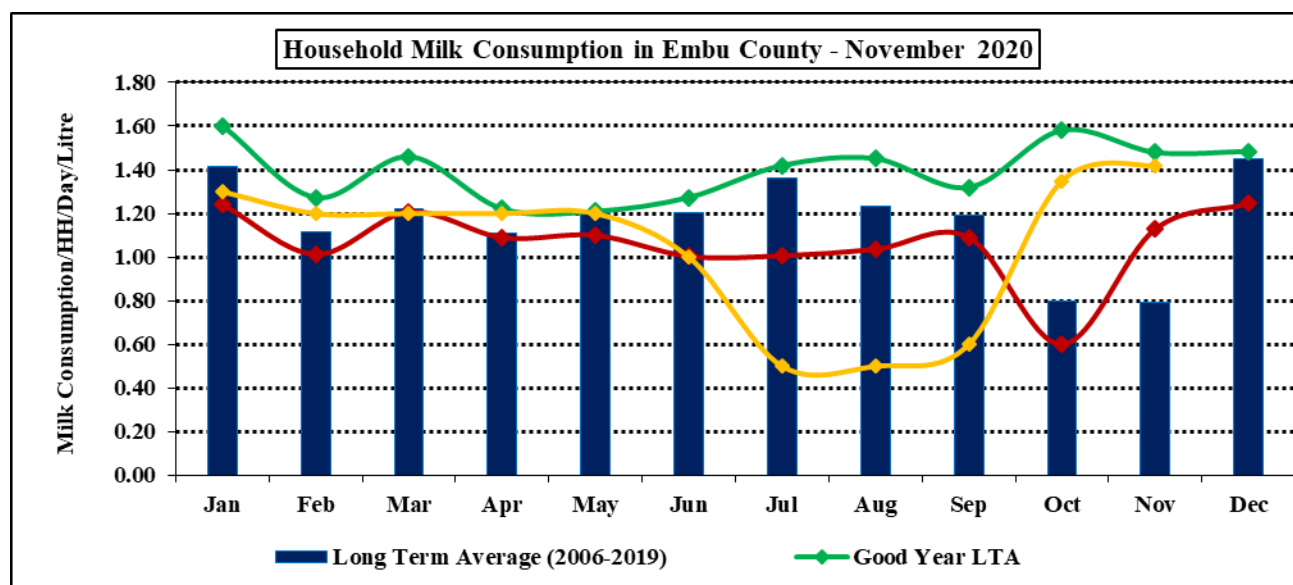


Figure 16: Household milk consumption in Mbeere North and South sub counties

- The average household milk consumption increment was by 5 percent from 1.35 litre in October to 1.42 litres in November.
- The increment in household consumption was due to increased milk production due pasture conditions and reduced trekking distances due to the short rains.
- Households consumed all milk produced .
- The milk produced as significantly lower than the good year short term average of 1.48 litres and higher by 80 percent compared to the short term average of 0.79 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.

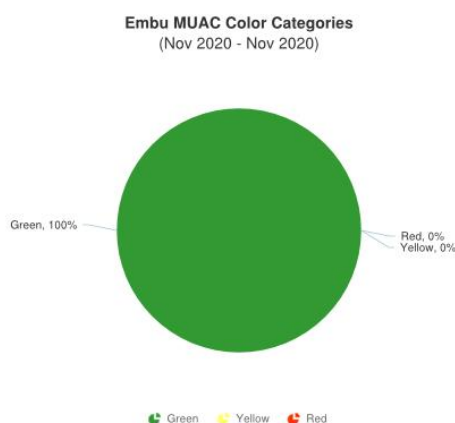


Figure 17: Nutritional status of sampled children in Mbeere sub counties(n=317)

- All sampled children recorded normal MUAC measurements (measurements at the green band).
- This can be attributed to the improved feeding habits for children at household level whereby children to took three meals per day.

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.

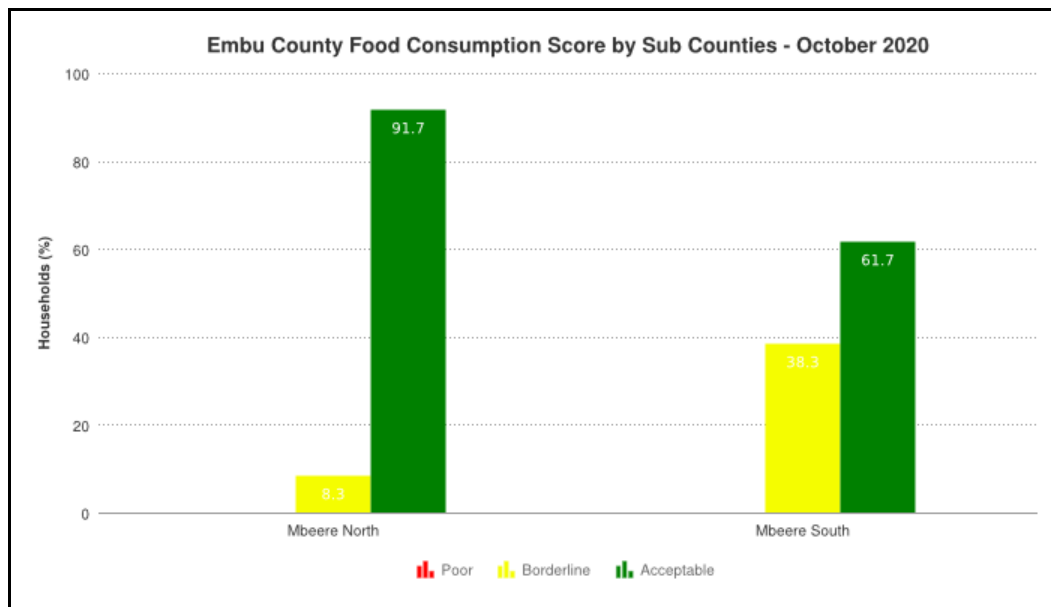


Figure 18: Household food consumption

- The proportion of households in the month of November stood at 87.5 percent acceptable and 12.5 percent at borderline. This was an improvement on the food consumption score compared to last month which stood at 77 percent at acceptable and 23 percent.
- The short rains have enabled growth of indigenous and exotic vegetable and agricultural economical activities has offered a variety of food for households.
- Mixed farming livelihood zones households had a better food consumption score at 96.6 percent acceptable and 3.4 percent borderline while households in marginal mixed farming livelihood zones scored 78.3 percent acceptable and 21.7 percent borderline due to 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.

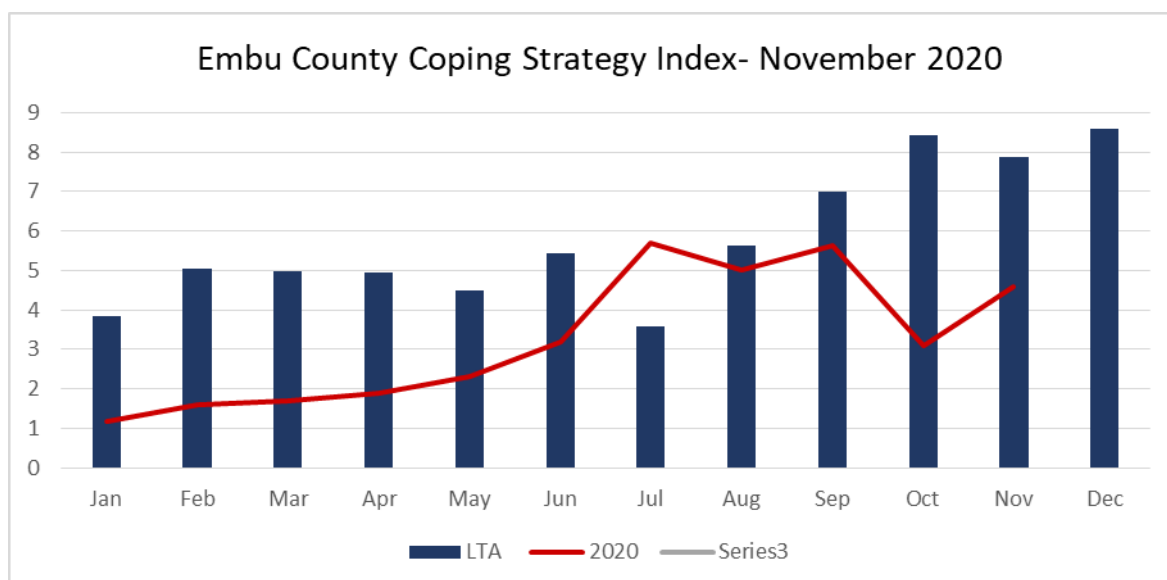


Figure 19: Coping Strategy Index

- The mean coping strategy index increased by 30 percent from 3.21 in the month of October to 4.59 in the month of November .
- The increase of the households coping can be attributable to various factors .Households are reducing expenses in the household to prepare for the festive periods and coshuion for next year.majority of the households haven’t recovered from the corona pandemic losses.
- Mixed farming livelihood zone houses maintained a stable coping strategy index of 2.5 compared to last and lost than the marginal mixed farming livelihood zonez houses which was 6.5 and had increased from in October .
- The recorded coping strategy index was 41 percent lower than the long term average of 7.8.

5.5 Implication of the above Indicators to Food Security

- The short rains recharged various water sources and has led to reduced trekking distances for both households and livestock across both livelihood zones.
- The improvement of pasture and browse condition have led to the improvement on the body condition of livestock.
- The increment in milk production led to increased amounts of milk consumed in the household.
- The stability in maize and goat prices led to stable terms of trade for households hence the improved purchasing power.
- The increase in demand for pulses for planting led to increased demand and hence increased market prices.
- The availability of agricultural labour provided the income for the households to purchase food and non-food items thereby impacting positively on household food security.

6.0 CURRENT INTERVENTION MEASURES

6.1 Food Interventions

No food interventions were reported in the month under review across both sub counties.

6.2. Non-Food Interventions

Intervention	Implementer	Status of implementation	Beneficiaries
Livestock disease surveillance	Embu County government	Routine	Both sub counties

<ul style="list-style-type: none"> • Routine Human Disease Surveillance • Routine health and nutrition interventions to children, pregnant and lactating mothers • Community MUAC monitoring and referral 	Embu County government NDMA	Routine	Targeted groups in both sub counties Targeted households in both sub counties
Construction of water harvesting structures at household level (ponds with cemented interiors)	Order of St. Augustine Ishiara Parish	ongoing	53 households in Kamarandi Ndurumori and Iriatune locations in Mbeere North sub county
Small holder solar irrigation project-using water from River Muthonga	Order of St. Augustine Ishiara Parish	Ongoing	120 households in Kamarandi and Muthanthara sub locations in Mbeere North sub county
Capacity building on agro-ecological farming practices-focused on reduced use of pesticides	Order of St. Augustine, Ishiara Parish	Ongoing	3,000 farmers in Kamarandi Ndurumori and Iriatune locations in Mbeere North sub county

7.0 Food Security Prognosis (Three months)

- The prices of food commodities in the market will remain high as households are relying on the market since food stocks are depleting till early harvests are realised as from early December.
- The ongoing rains have recharged the surface and ground water sources, distances to water sources for households and livestock are reducing. The distance is expected to remain low during the entire OND period.
- The ongoing rains will likely lead to availability of vegetables for households within one month thereby affecting positively on household nutrition for the entire OND period.
- The regeneration of pasture is likely to impact positively on body conditions for livestock and consequently improve milk production and livestock market prices for the entire OND period.

8.0 SECTOR RECOMMENDATIONS

Sector	Recommended Activities	Target area	Proposed Implementer
AGRICULTURE	<ul style="list-style-type: none"> • Extension to farmers on Pest management • Capacity building of farmers on good agronomical practices for the vegetative stages of crop development 	On demand basis	County Department of Agriculture
LIVESTOCK AND VETERINARY	<ul style="list-style-type: none"> • Pasture re-seeding. • Mass De-worming of livestock. 	Both sub counties	County Department of Livestock Production and Veterinary services Other stakeholders

PUBLIC HEALTH AND NUTRITION	Procurement and distribution of water treatment chemicals.	Both sub counties	County Department of Health services Other stakeholders
INFRASTRUCTURE	<ul style="list-style-type: none"> • Construction of classrooms to facilitate social distancing when schools re-open • Setting up hand washing facilities in public schools in schools 	Both sub counties	County Department of Early Education Ministry of Education (MOE) Other stakeholders