

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



A Vision 2030 Flagship Project



MARCH 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)	229	80-120
VCI-3 Month	97.1	>50
Forage condition	Good	Good
Production Indicators	Value	Normal
Crop Condition (maize)	No crop	No crop
Livestock Body Condition	Good	Good
Milk Production (litres/per hh/day)	1.4	>1.0
Livestock Migration Pattern	None	None
Livestock deaths	None	None
Access Indicators	Value	Normal
Terms of Trade	146	98-145
Milk Consumption (litres/per hh/day)	1.2	>1.2
Households distance to water (km)	2.6	<6.1
Livestock return distance to water (km)	3.5	<6.3
Utilization Indicators	Value	Normal
% at risk (MUAC)	6.3	5.0-7.0
Coping Strategy Index	1.7	1-10
Food consumption Score (acceptable)	74%	>35.5%

Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall: early onset of long rains season in both sub counties. The distribution was good and even.

Vegetation Condition: The vegetation condition improved further and remained above normal.

Water sources: the sources are normal and water expected to last for 4-6 months.

Socio Economic Indicators (Impact Indicators)

- **Production indicators:** long rains season planting and land preparation was ongoing during the month. Livestock body condition was good for all species across both the livelihood zones and milk production remained stable at 1.4 litres per household per day.
- **Access indicators:** average return distance to water sources for both households and livestock decreased further due to the onset of the long rains. The prices of cereals slightly increased in March occasioned by high demand in the urban centres due to panic purchases. The Terms of Trade decreased marginally due to increase in maize price. Milk consumption remained stable too.
- **Utilization Indicators:** the proportion of children under five years at the risk of malnutrition significantly increased in the month due to increased farming activities leading to poor feeding practices for the under five. The coping strategy index was stable due to availability of food at households. Majority of the households had acceptable food consumption (74%) though there was slight increase of those in borderline category (25%).

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, Mbeere region received above normal rainfall.
- Early onset of the long rains season was reported in both sub counties in the first dekad of March as compared to the normal onset of the third and fourth dekad of March.

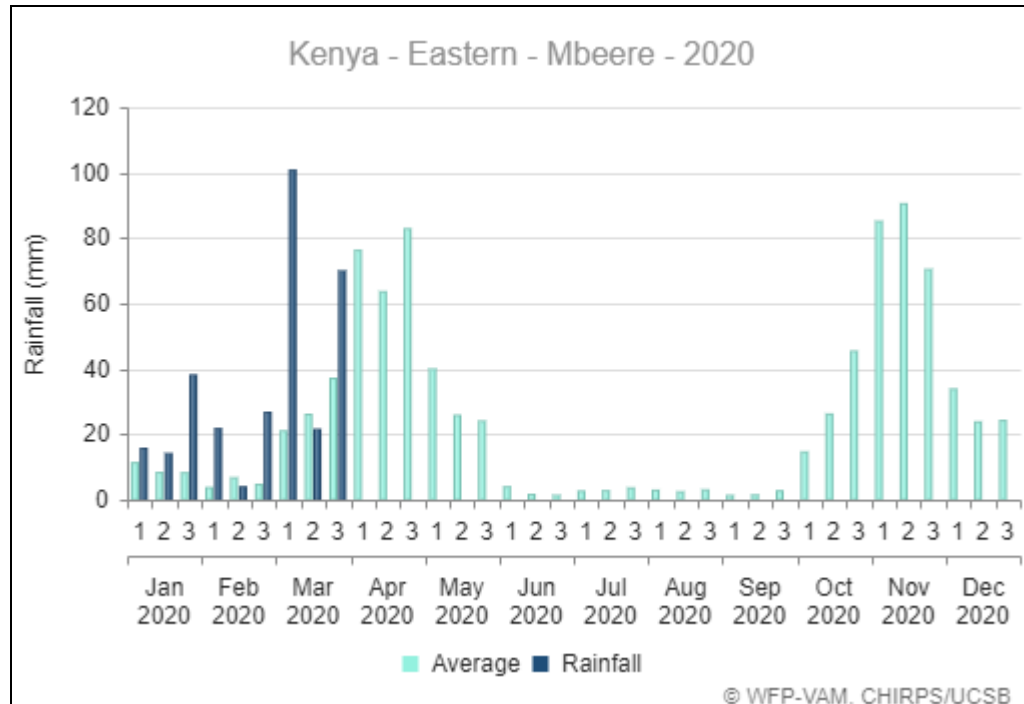


Figure 1: Rainfall estimates in Mbeere North and South Sub Counties

- The dekadal distribution of the rains was good and continuous for the three dekads in March.
- An average of 100.6mm of rain was received in the first dekad, 21.4 mm in the second dekad while an average of 69.8mm of rains was received in the third dekad.

1.2 Amount and Distribution of Rainfall

- According to satellite monitoring, the two sub counties received an average of 63.9 mm of rainfall in March compared to normal average amount of 28.0 mm for the same period.
- The spatial distribution of the rains experienced in the month under review was even across both marginal mixed farming and mixed farming livelihood zones.
- According to sentinel rain gauge stations data, the Mbeere South sub county received cumulative rainfall amount of 253.3 mm while Mbeere North sub county received 193.8 mm in March.
- Rainfall was recorded in both livelihood zones for an average of 15 days.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The vegetation condition improved further and remained above normal in March. The good condition of vegetation is attributable to the early onset of the long rains season.
- The combined 3-month Vegetation Condition Index (VCI) improved from 85.5 recorded in the previous month of February to 97.1 in the current month.
- The 3-monthly vegetation condition index for both sub counties remained above normal while the three-month vegetation index for Mbeere South Sub County remained higher at 99.5 compared to Mbeere North sub-county which recorded 94.7.

2.1.2 Pasture Condition

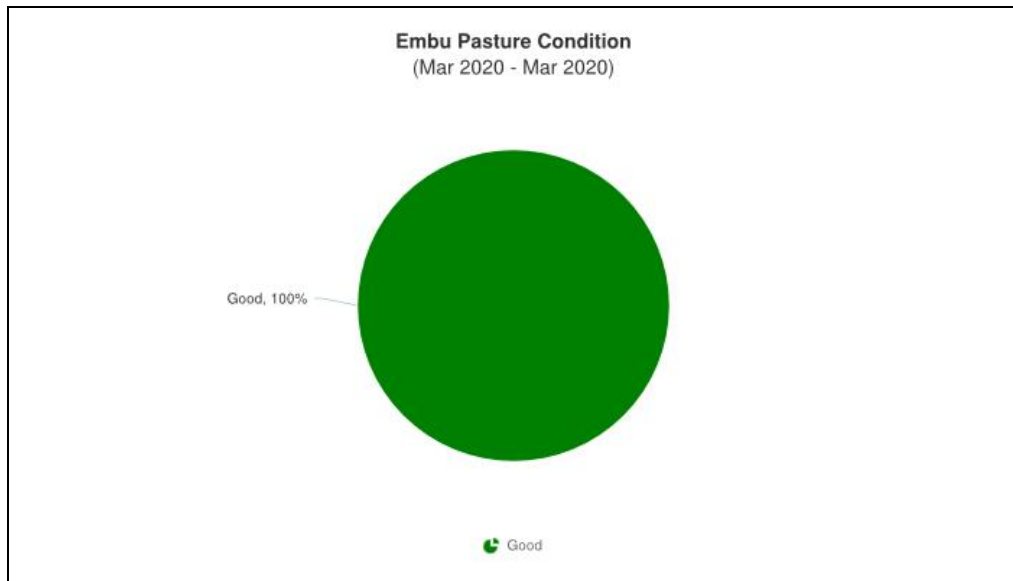


Figure 3: Pasture condition in Mbeere South and North sub counties

- The pasture condition improved further to good across both sub counties.
- The improvement in pasture condition is attributable to continuous regeneration occasioned the onset of the season rains.
- The pasture condition is normal at this time of the year and is expected to last for 3-6 months in both livelihood zones.

2.1.3 Browse Condition

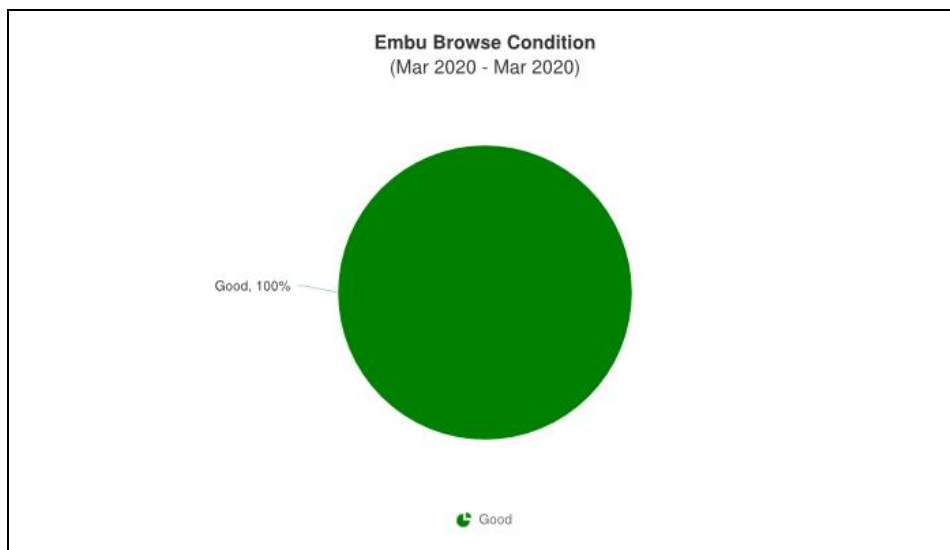


Figure 4: Browse condition in Mbeere North and South sub counties

- The browse condition remains good across both livelihood zones
- The good condition is attributed to continuous regeneration occasioned the ongoing season rains
- The browse condition is above normal at this time of the year occasioned enhanced short season rains and the early onset of the long rains.
- The available browse is expected to last for 4 to 6 months in both livelihood zones.

2.2 WATER RESOURCE

2.2.1 Water Sources

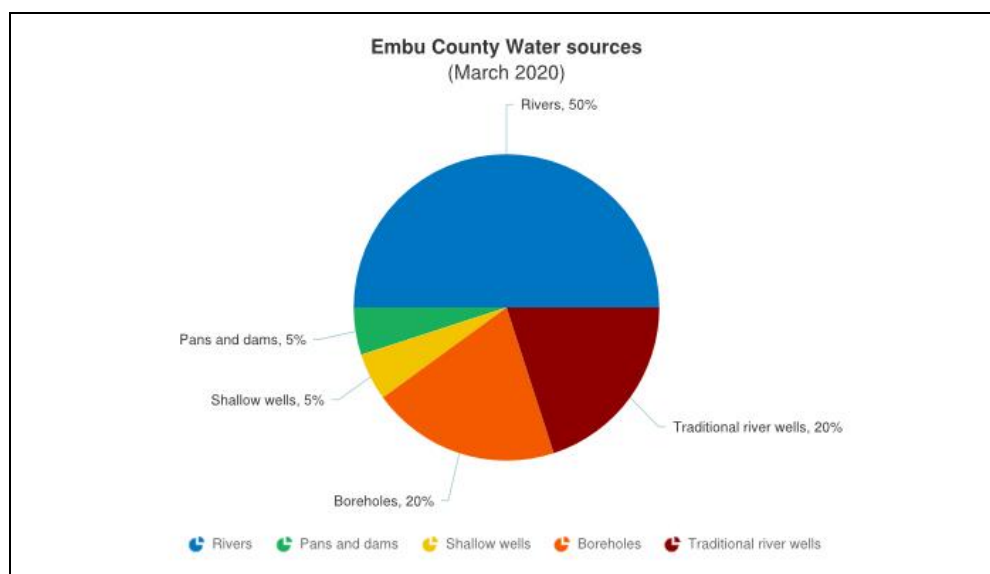


Figure 5: Water sources for Mbeere North and South sub counties

- The main water sources for both livestock and domestic use across the two livelihood zones remain as rivers, shallow wells and traditional river wells, boreholes and water pans.
- Half of the sampled households depended on rivers, others relied on traditional river wells and boreholes while a smaller proportion reported using water from pans and shallow wells.
- The proportion of households that used water pans and shallow wells remained low as roof water harvesting and storage continued at households across both livelihood zones.

2.2.2 Household Water Access and Utilization

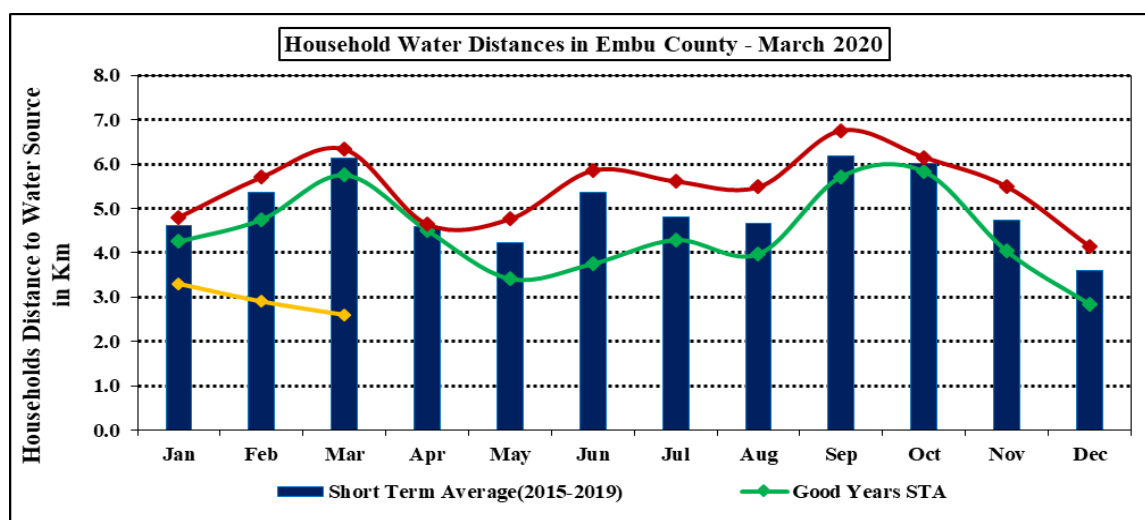


Figure 6: Household average distances to water sources

- The average household return distance to water sources decreased by 10 percent from 2.9 km in February to 2.6 km in March.
- The decrease in distance is attributable to recharge of all surface water sources due to early onset of long rains and the presence of seasonal springs, shallows wells and roof catchment and storage in both livelihood zones.
- Households in the marginal mixed farming livelihood zone trekked for average distance 1.7 km compared to 1.5 km for households in mixed farming zone to access water sources. The variation in average distance covered across livelihood zones was due availability of pipeline network in mixed farming zone and the variation in household water harvesting and storage.

- The average return distance to water sources in February was 58% lower than the long-term average distance of 6.13 km at this time of the year.
- Out of 120 sampled households, 49% do not practise any household water treatment while the remaining percentage uses chemicals in treatment of drinking water.

2.2.3 Livestock access to water from grazing areas

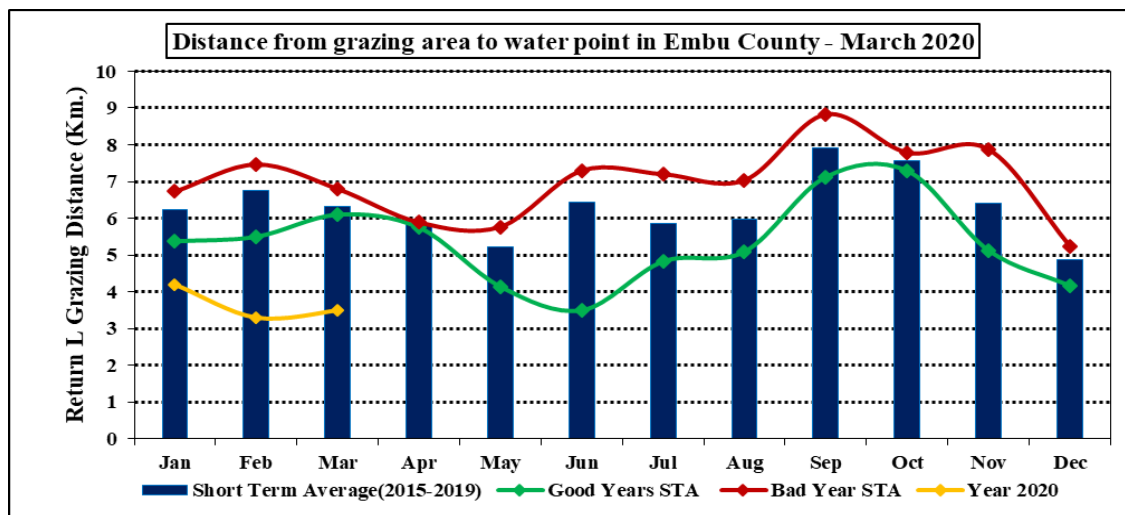


Figure 7: Livestock average return distances to water sources

- The average return distance to water sources from grazing areas remained stable compared to the previous month at 3.5 km.
- The stability is attributable to recharge of livestock water pans closer to households and the utilization of water from roof catchment.
- Livestock in the marginal mixed farming livelihood zone trekked for an average distance of 1.5 km compared to those in mixed farming livelihood zone at 2.1 km.
- The current watering frequency for livestock in both livelihood zones is on daily basis.
- The recorded average distance of is 45% lower than the long-term average distance for livestock watering in both sub counties.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The body condition for both small and large stock is currently good in both livelihood zones
- The good body condition of animals is attributable to continuous forage regeneration occasioned by the enhanced and prolonged short season rains coupled with the early onset of the long rains season.
- The livestock body condition is above normal at this time of the year.

3.1.2 Livestock Diseases

- No livestock diseases were observed in both livelihood zones
- The county department of veterinary services continues with routine disease surveillance.

3.1.3 Milk Production

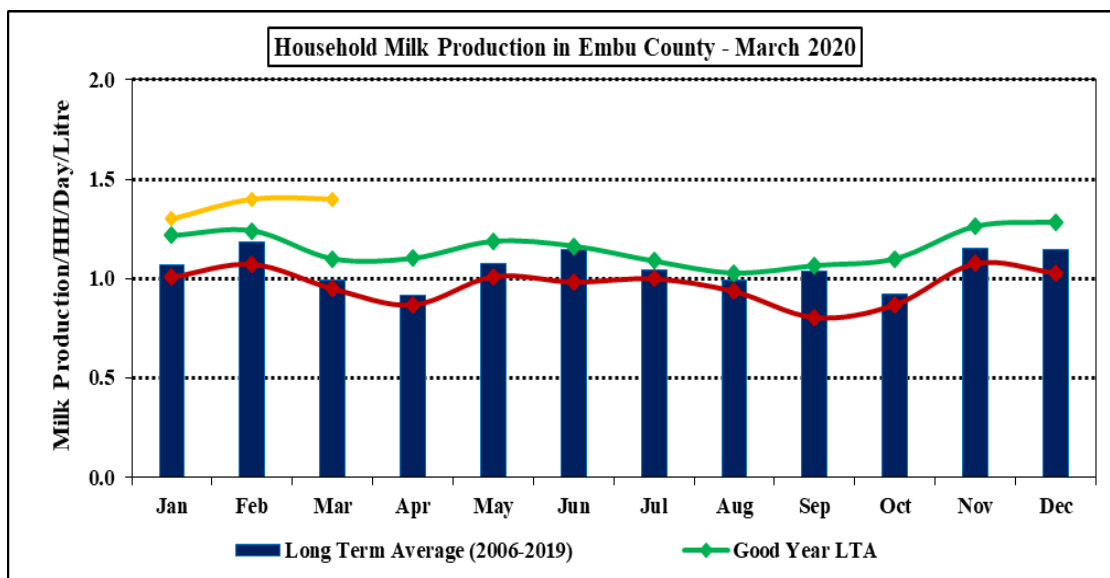


Figure 8: Household milk production in Mbeere sub counties

- The average daily household milk production remained stable compared to the previous month to 1.4 litres produced per day.
- The reduction in milk production is attributable to lush pasture condition as regeneration continues occasioned by the ongoing rains across both livelihood zones.
- Households in mixed farming zone produced an average of 1.3 litres of milk per day while those in marginal mixed farming zone produced 1.1 litre of milk per day.
- The differentiation in household milk production across the livelihood zones is due to improved breed and good husbandry practices in mixed farming zone as compared to the marginal mixed farming zone.

3.2 Rain-Fed Crop Production

3.2.1 Stage and Condition of food Crops

- Long season planting and land preparation was ongoing across both livelihood zones
- Some early planted mize crops in the mixed framing zone was in the germination stage.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

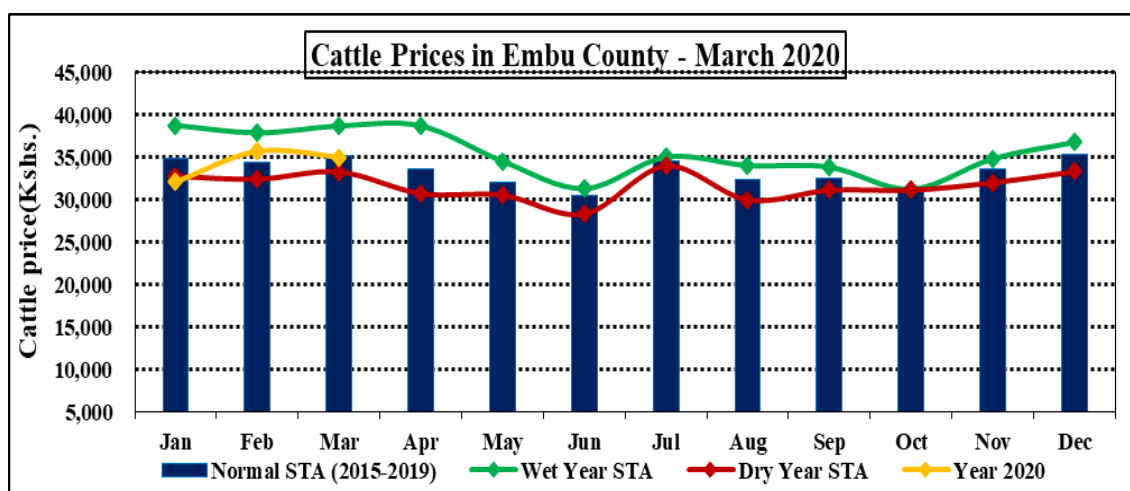


Figure 9: Average Market prices for cattle in Mbeere sub counties

- The average price of a mature medium size bull remained stable in the reporting month compared to previous month at Ksh 35,000.

- The stability is attributable to the current good livestock body condition due to the availability of pasture and water at shorter average distances.
- Makutano livestock market in the mixed farming zone recorded the highest average price for cattle of Ksh. 44,500 while Ishiara and Kiritiri markets in marginal mixed farming zone recorded Ksh 30,600 and Ksh 30,000 respectively.
- Makutano market is a terminal market served with animals from the urban areas of Kirinyaga Muranga and Garissa counties.
- The average price recorded during the month under review comparable to the 5-year average price and only 11% lower than the highest price ever recorded in the wet years across both livelihood zones.

4.1.2 Goats Prices

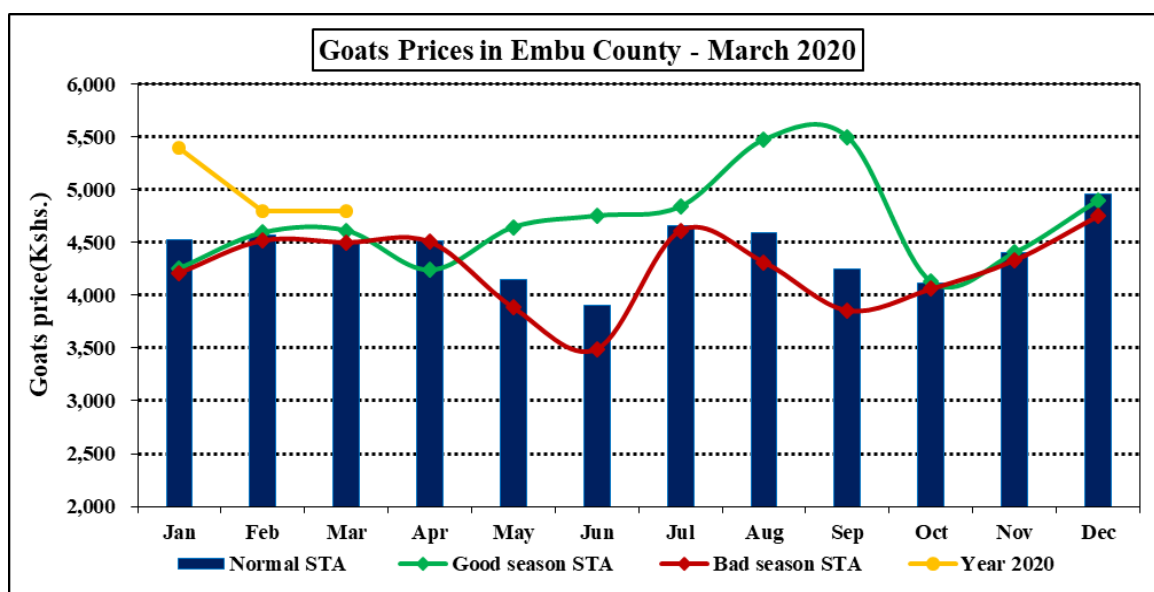


Figure 10: Average market prices for goats in Mbeere sub counties

- The average market price for a medium sized two-year goat remained stable at Ksh. 4,800 in the current month as compared the previous month of February.
- The stability is attributable to current good body condition for small stock and the reluctance of the households to sell off goats due food availability in households due to replenishment of stocks from the short rains harvest.
- Makutano livestock market in mixed farming zone recorded average price of Ksh. 5,400, while Ishiara and Kiritiri livestock markets in marginal mixed farming zone recorded Ksh. 4,800 and Ksh. 4,100 respectively.
- This variation in prices across the markets is due to differentiation in breed and the traded volumes.
- Makutano market is a terminal market served with animals from the urban areas of Kirinyaga, Muranga and Garissa counties.
- The current price is seven percent higher than the normal three-year average price and slightly above the good season price average in the county at this particular time of the year.

4.2 FOOD PRICES

4.2.1 Maize Prices

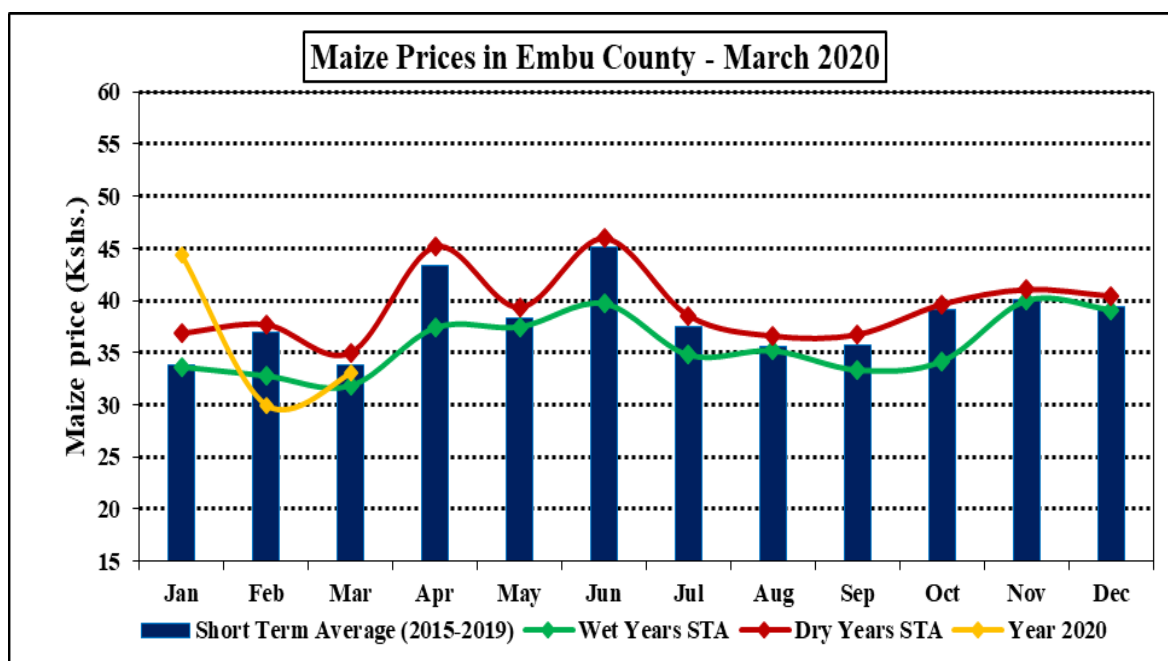
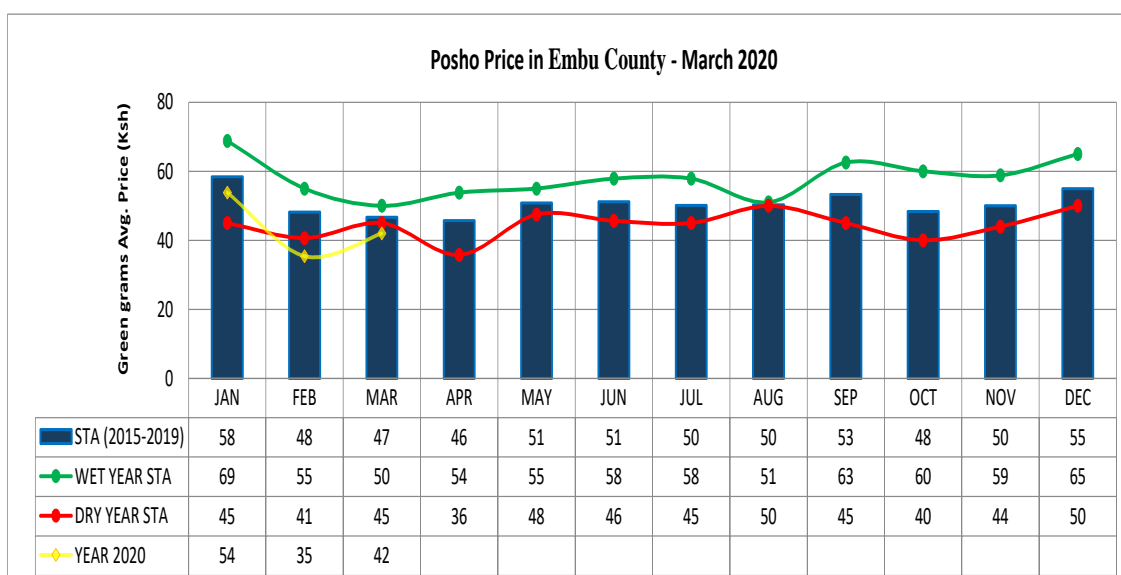


Figure 11: Average market prices for maize in Mbeere sub counties

- The average market price for maize marginally increased in the month of March as compared to the previous month to Ksh 33 per kilogram.
- The increase is attributable to increased demand occasioned panic purchase associated with the recent pandemic and the associated increased cost of transport for traders.
- One kilogram of maize retailed at Ksh. 38 in Kiritiri while in Makutano and Ishiara cereal markets the average price stood at Ksh. 34 and Ksh. 25 respectively.
- The recorded average maize price is comparable to the 5-year average price and six percent lower than the highest price recorded in the dry years in the county in a similar month.

4.2.2 Posho (Local Maize Meal)



- The average price of 'posho' across both livelihood zones increased by 20% from Ksh. 35 per kilogram recorded in previous month to Ksh. 42 in the current month.
- The increase in 'posho' price is attributable to increase in maize price across both sub counties hence increased cost.
- The price of 'posho' was higher in the marginal mixed farming zone at 45 compared to the price of Ksh. 40 recorded in the mixed farming zone.
- The recorded average 'posho' price is 11 percent lower than the five-year average of Ksh 47.

4.2.3 Beans Prices

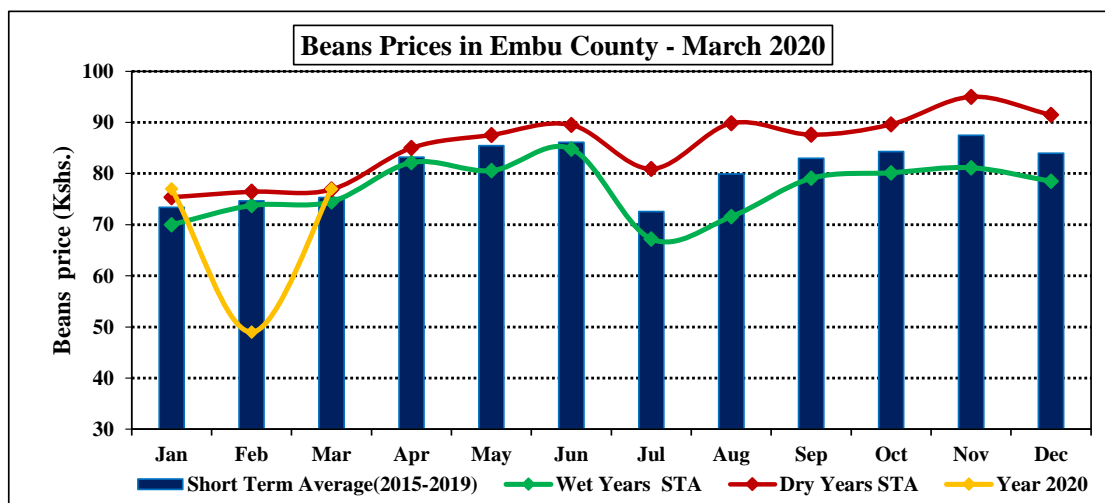


Figure 12: Average market prices for beans in Mbeere sub counties

- The average price of beans increased by 57 % from Ksh. 49 per kilogram recorded in the previous month to Ksh. 77 in the month under review.
- The increase is attributable to panic purchase of beans associated with the recent pandemic and the associated increase in transportation costs for traders.
- One kilogram of beans retailed at Ksh 87 in Makutano cereals market while in Kiritiri and Ishiara cereals markets, the prices stood at Ksh. 75 and Ksh. 71 respectively.
- The recorded average price was only nine percent lower than the dry years short term average price.

4.2.4 Green Grams Prices

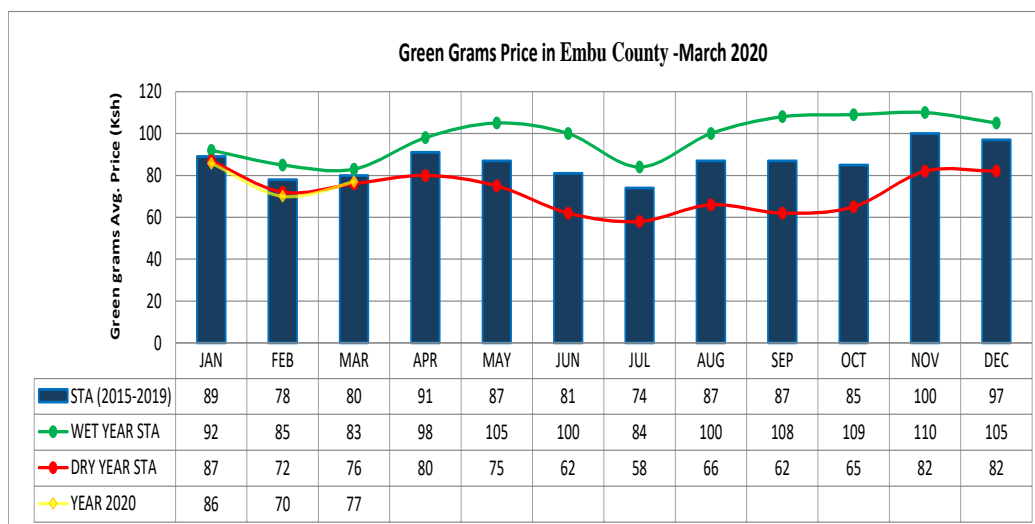


Figure 13: Average market prices for green grams in Mbeere sub counties

- The average price of green grams increased by 10 percent in the month under review compared to the previous month price to Ksh. 77.
- The increase in price is attributable increased demand from households for planting purposes and for food stocking purposes as prices are projected to increase further if the effects of the pandemic continue.
- One kilogram of green grams retailed at Ksh 85 in Makutano cereals market while the prices stood, at Ksh. 70 and Ksh. 80 in Kiritiri and Ishiara cereals markets respectively.
- The current average price is comparable to the short-term average of Ksh 80 per kilogram.

4.3 Household Income

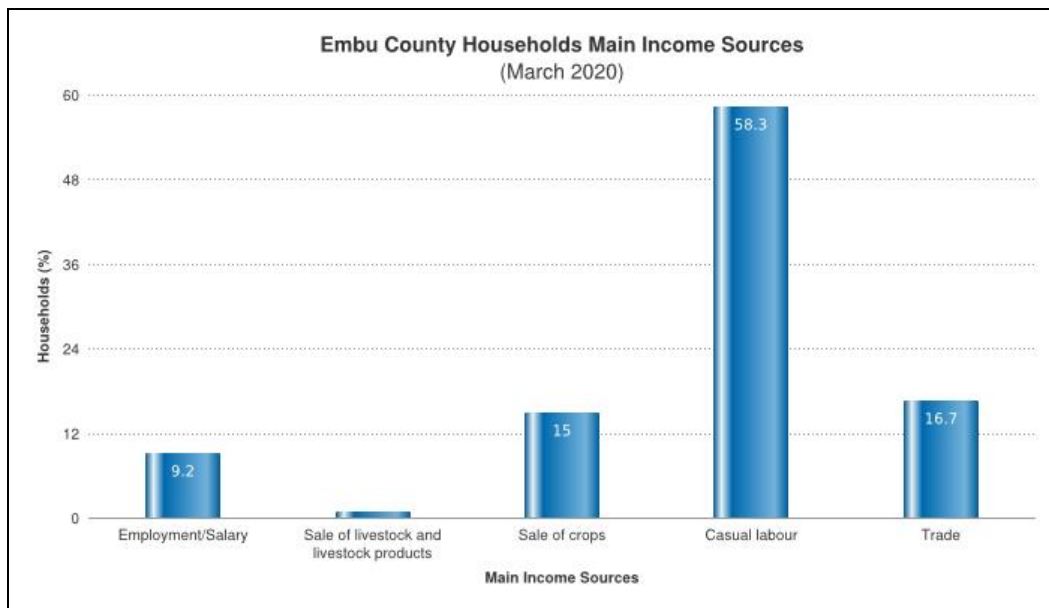


Figure 14: Sources of household income in Mbeere sub counties

- Households in both sub counties drew their income from; casual labour, trade, formal employment, sale of crops and sale of livestock and livestock products as shown in the bar graph above.
- The proportion of households that depended on casual labour was high due to increased agricultural activity related to land preparation and long rains planting.
- The main sources of income for households remain normal at this time of the year.

4.4 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.

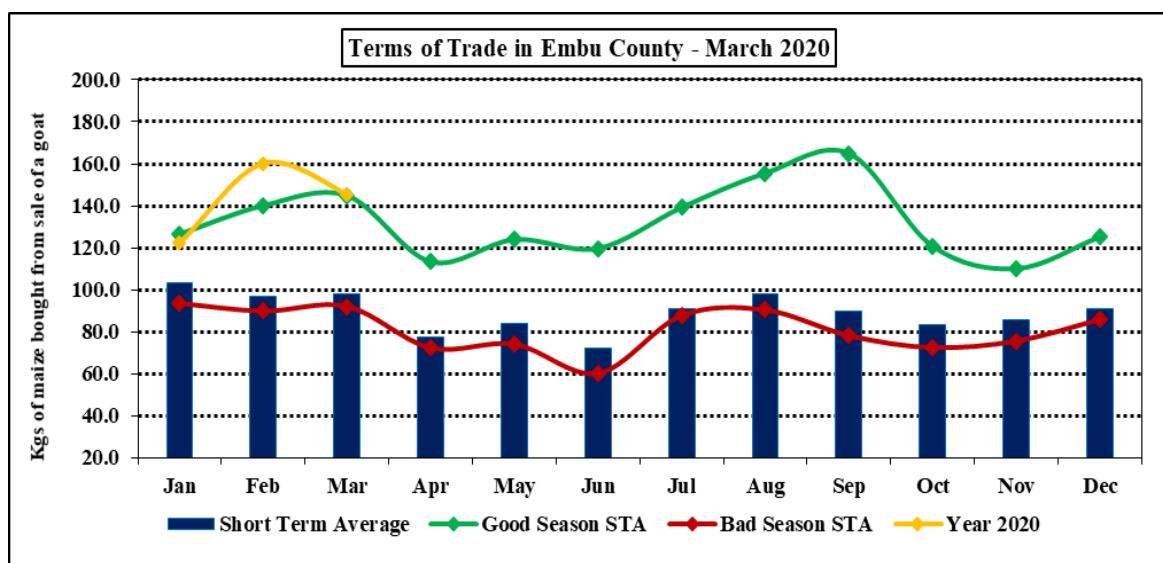


Figure 15: Terms of trade in Mbeere sub counties

- The Terms of Trade (goat price versus maize price) decreased from 160 kilograms of maize bought from sale of one goat in the month of February to 146 kilograms of maize bought from sale of one goat.
- The decrease is attributable to marginal increase maize price and stability in goat prices

- Mbeere North Sub County recorded higher terms of trade in the month of March at 159 kilograms for sale of one goat as compared to Mbeere South Sub County with 153 kilograms of maize for sale of one goat.
- The differentiation across the livelihood zones is attributable to differences in the market prices of livestock and cereals in major markets of Ishiara, Kiritiri and Makutano.
- The current terms of trade are 48% higher than the recorded long-term average TOT and equivalent to the average terms of trade recorded in good seasons in Mbeere Sub Counties.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

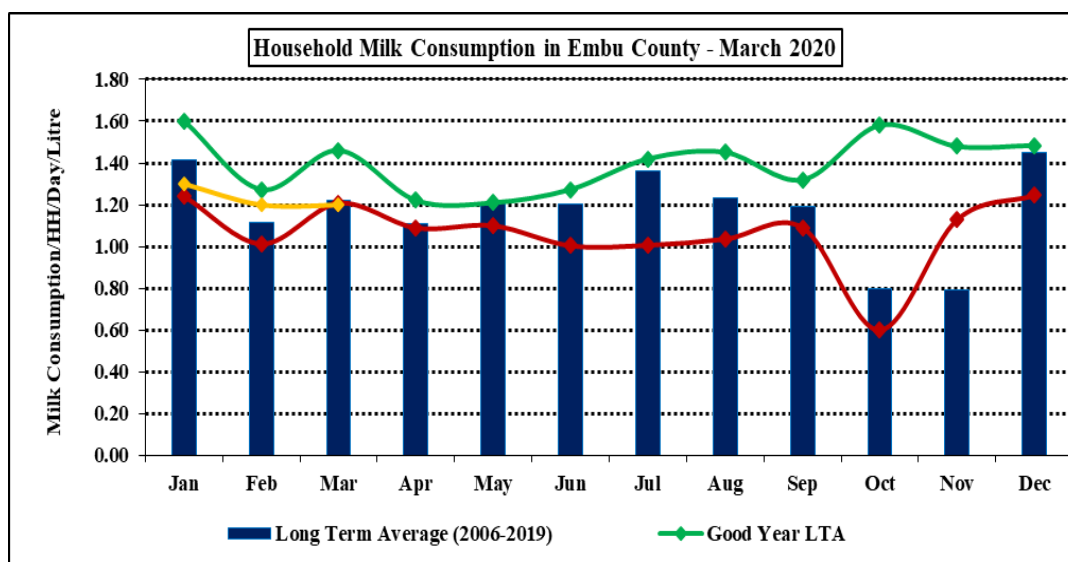


Figure 16: Average household milk consumption (l/hh/day)

- Milk consumption remained stable compared to March at 1.2 litres consumed at household level per day.
- The stability in milk consumption is attributable to stability in milk production occasioned by improved livestock body condition and availability of pasture and water.
- Households in mixed farming livelihood zone consumed 1.2 litres daily as compared to 1.0 litre consumed daily by households in marginal mixed farming zone.
- The current average milk consumption is equivalent to the normal long-term average milk consumption in Mbeere sub counties.

5.2 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.

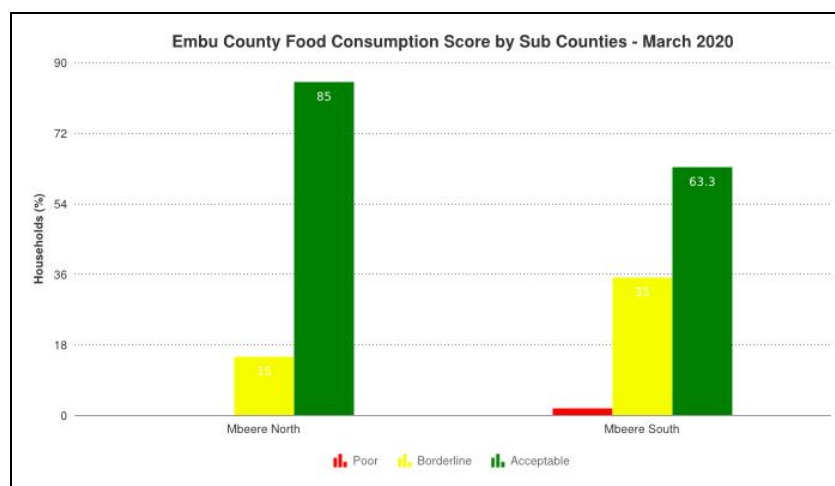


Figure 17: Household food consumption score

- 74 % of the sampled households had acceptable food consumption, 25% of the households in borderline consumption while a proportion of 1 percent of the households had poor food consumption
- The proportion of households in acceptable food consumption category decreased by 15% compared to the previous month due to shifting of households into borderline food consumption occasioned increased sale of food stocks to purchase farm inputs.

5.3 Health and Nutritional Status

5.3.1 Nutritional Status of Children

The Mid Upper Arm Circumference (MUAC) measurement in assessment of nutritional status for children detects cases of those at risk of malnutrition and those with acute malnutrition.

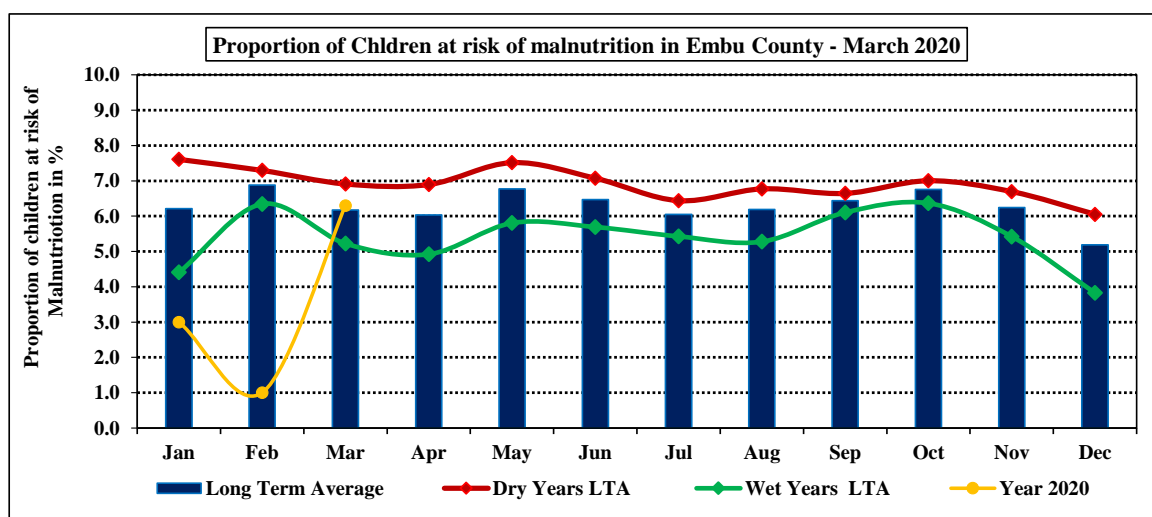


Figure 18: Proportion of under five at risk of malnutrition and MAM in Mbeere sub counties [n=460]

- The proportion of the sampled children at risk of malnutrition increased from 1.0 recorded in the previous month of February to 6.3 in the month under review.
- The increase in proportions of children at risk of malnutrition is attributable to poor feeding practices of children as parents spend more time in the farms
- The proportion of children at risk of malnutrition in the month under review is equivalent to the long term average in Mbeere sub counties.

5.2.2 Human Health

- Cases of diarrhoea, fever with breathing difficulties and malaria were reported amongst the children across both sub counties.
- The County government intensified surveillance in the wake of the global pandemic COVID-19 disease.

5.4 Coping Strategy Index

The Coping Strategy Index is derived from the strategies that households adopt when they lack food or money to buy food.

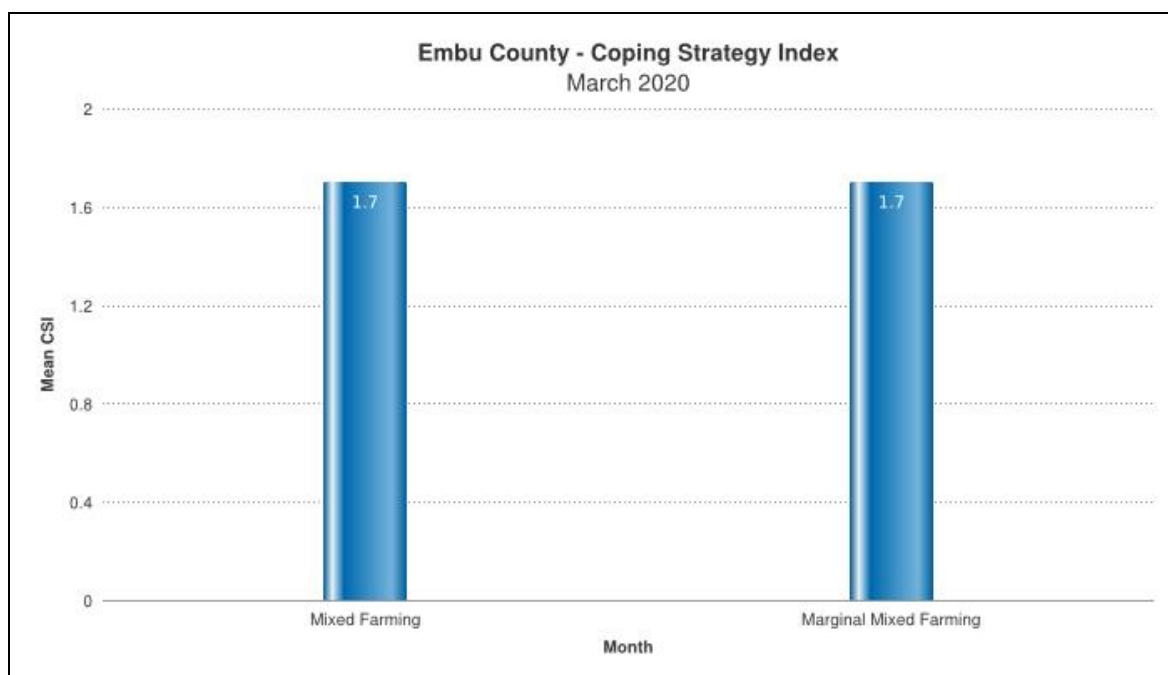


Figure 19: Household coping in Mbeere sub counties

- The mean coping strategy index remained stable compared to the previous month at 1.7 in the month of February.
- The stability is attributable to availability of food at households across both livelihood zones.
- Both mixed farming livelihood zone and marginal mixed farming livelihood zone recorded a coping strategy index 1.7.
- The households in both livelihood zones engaged in consumption based coping strategies during the month under review.
- The recorded coping strategy index was normal in both livelihood zones at this time of the year

5.4.1 Implication of the above Indicators to Food Security

- The availability of stocks continue to cushion households from engaging in severe coping strategies in both sub counties.
- The sustained good livestock body condition during the month under review led stability in livestock prices and hence sustained high purchasing power of households.
- The increase in agricultural activity related to long rains season planting and land preparation increased household casual labour income and therefore improved purchasing power.
- The early onset of long rains continue to impact positively on water availability and access for both households and livestock by way of reduced distances to water sources.

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	Beneficiaries
<ul style="list-style-type: none"> Routine Promotion of good animal husbandry practices Routine livestock diseases surveillance 	County Department of Livestock Production and Veterinary Services	Livestock keepers in both sub counties
<ul style="list-style-type: none"> Routine Human Disease Surveillance Routine screening and management of malnutrition at health facility level Routine Vitamin A and Zinc Supplementation and deworming at health facility level Iron Folate Supplementation for pregnant women at health facilities Community MUAC monitoring for the acute and moderate malnutrition 	County Department of Health Services NDMA	Mothers and children who visited health facilities in both sub counties Households in sampled sentinel areas
<ul style="list-style-type: none"> Taking stock of food reserves 	National government	County-wide–response to COVID 19 pandemic
<ul style="list-style-type: none"> Intensified human disease surveillance and pre-positioning 	County government	County-wide–response to COVID 19 pandemic

7.0 EMERGING ISSUES

- Locust swarms continue to invade grasslands and farmlands in both livelihood zones.
- Disruption in market operations and increased food commodity prices brought about by the current global COVID-19 pandemic.

7.2 Food Security Prognosis (Three months)

- The presence of locusts in the county may cause invasion on long rains seson planted crop nad forage which may significantly reduce productivity of crops and livestock.
- Food commodity prices are expected to increase in the wake of disrupted market operations and panic purchase of food commodities by households.
- The terms of trade may reduce further for the next 3 months occasioned by expected increase in market prices of maize prices in both sub counties.
- The average distance trekked by both livestock and households is likely to remain low for the next three months due to current recharge levels and the ongoing long rains.
- The ongoing long rains will likely sustain good forage condition and hence positively impact on livestock body condition across both livelihood zones.

8.0 SECTOR RECOMMENDATIONS

Sector	Recommended Activities	Proposed Implementers	Expected Outcome
AGRICULTURE	Rehabilitation of food storage facilities and pre-positioning for food stocks	Embu County government National government Other stakeholders	Boosting food reserves in preparation to cushion vulnerable households from adverse effects of COVID 19
LIVESTOCK	Treatment of weak animals Multi- vitamin injection De-worming of livestock Livestock Spraying	County Department of Veterinary services Other stakeholders	Reduced mortalities Improved animal health Vector control
WATER AND SANITATION	Repair water pipeline system in Mbeere North and South sub counties. Water treatment at the reservoirs	County Department of Water EMBE EMBEWASCO	Increased Water availability and improved quality
HEALTH AND NUTRITION	Capacity building of community health workers and rural medical staff Pre-positioning of medical supplies in response to ongoing global pandemic Sensitization on sanitation and hygiene including proper hand washing practice Sensitization on proper feeding practices for the children under five	Embu County government National government Other stakeholders NDMA	Increased capacity to deal with pandemic emergency Curb spread of corona virus Improved children health