National Drought Management Authority

MERU (MERU-NORTH) COUNTY
DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2020

A Vision 2030 Flagship Project

DECEMBER 2020 EW PHASE

Drought Status: NORMAL

Shughuli za kawaida

Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall: Below normal average rains were recorded across the livelihood zones with erratic and unevenly distribution in terms of time and space.

Vegetation condition: Above normal greenness condition was recorded across all the livelihood zones with an exception of Tigania West which recorded normal vegetation greenness. Pasture condition ranged from good to fair across all the livelihood zones with areas of Ndulele in Tigania East recording poor condition. Browse condition was good to fair across all the livelihood zones.

Socio Economic Indicators (Impact Indicators)

Production Indicators: Crops are at poding/tussling and grain filling stage. Crop condition was fair to good in the Mixed farming and Rain fed livelihood zones while in the Agro pastoral the crop condition was poor. Livestock body condition was good for all species. There were no cases of reported livestock diseases.

Access Indicators: Average return distance to water sources for household remained stable while distances to grazing areas slightly increased. Terms of Trade remained favorable. Milk consumption per HH per day remained stable.

Utilization Indicators: Nutritional status of children below the age of five years was within the long term average. Household food consumption score fell within acceptable band while coping strategies employed by households slightly increased across the livelihood zones.

Early Warning Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming	Normal	Stable
Agro - Pastoral	Normal	Deteriorating
Rain Fed Cropping	Normal	Stable
County	Normal	Stable

Biophysical Indicators	Value	Normal Range/ Value
Rainfall (% of Normal)	45	80 - 120
VCI-3Month	62.04	35 - 50

Production indicators	Value	Normal
Maize Crop Condition	Fair	Good
Livestock Body Condition for cattle	Good	Good
Milk Production per HH/ day	2.4	1-2Litres
Livestock Migration Pattern	Normal	Normal

Access Indicators	Value	Normal
Terms of Trade (ToT)	135.6	81
Milk Consumption per HH/ day	1.3	1.4 Litres
Return HHs distance to water sources	2.9	8 Km
Water source return distance from grazing areas	4.6	12.3 Km
Cost of water (20 litres)	3.00	Kshs 3.00 - 5.00

Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	G 94.2%, Y= 5.4% R=0.4%	
Copying strategy Index(CSI)	10.9	<15

▪ Short rains harvests ▪ Increased HH Food Stocks ▪ Short dry spell ▪ Reduced milk yields ▪ Land preparation	▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase	▪ Long rains harvests ▪ Increased HH Food Stocks ▪ A long dry spell ▪ Land preparation ▪ Kidding (Sept)	▪ Short rains ▪ Planting/weeding

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- Rains received within the first and second dekad of the December was below normal.
- The rains received were erratic and poorly distributed across all the livelihood zones
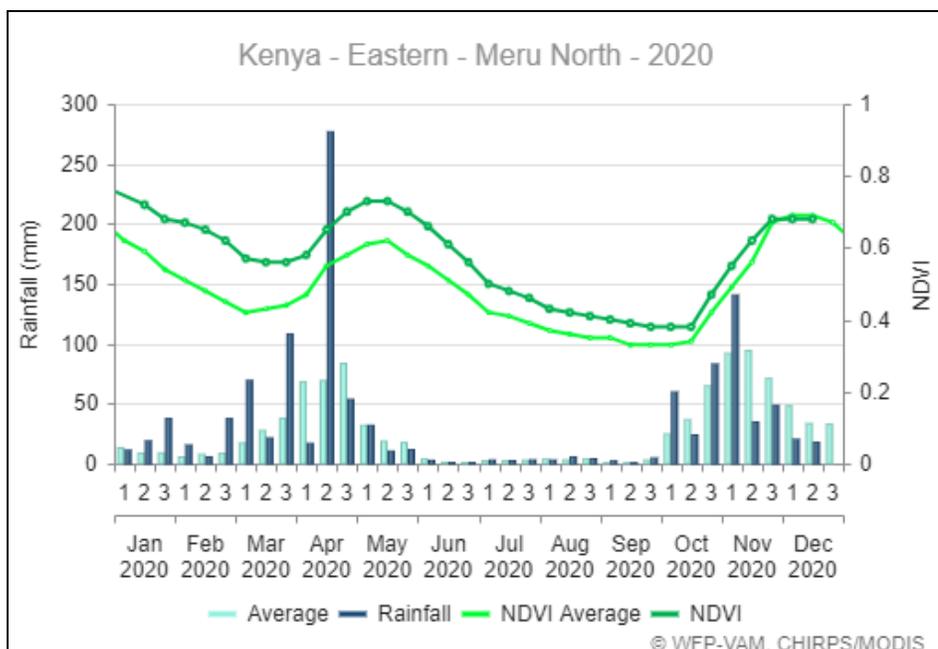- The sentinel rainfall stations also recorded below normal rainfall

Figure 1: Rainfall estimates in Meru North

- From the figure 1 shown above, dekadal rainfall for estimate (RFE) amounts for the first and second dekad was below normal when compared to their respective long-term averages. The County received an average of 18.8 mm of rainfall in the Month of December compared to normal average amount of 41.6 mm for the same period.
- Normalized Difference Vegetation Index (NDVI) for the first and second dekads were normal when compared to their respective long term dekadal NDVI values.

2. IMPACTS ON VEGETATION AND WATER
2.1 VEGETATION CONDITION
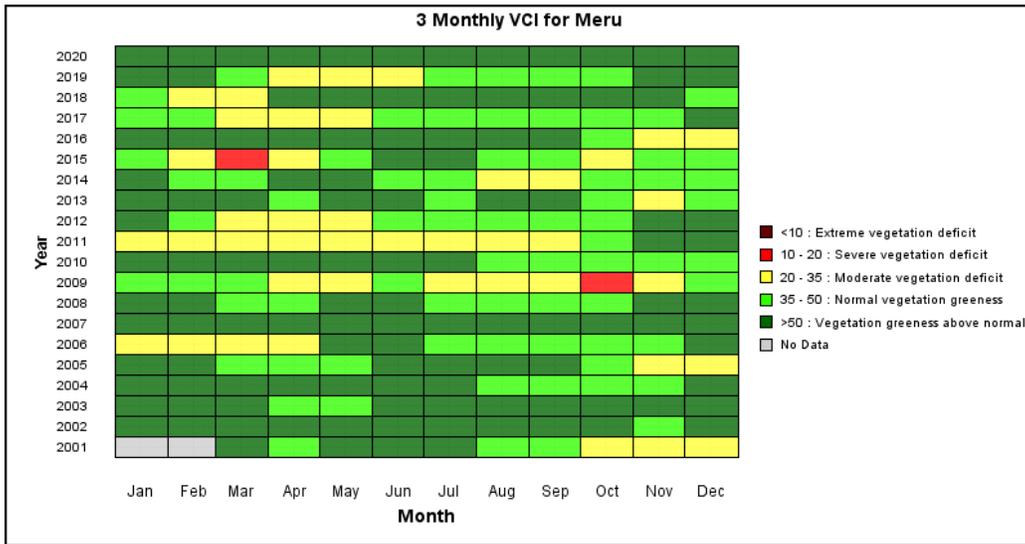### 2.1.1 Vegetation Condition Index (VCI)

Figure 2: Three-monthly VCI for Meru County [Source: MODIS Data]

- From the figure {2} shown above, the County vegetation condition in the month under review is within vegetation greenness above normal as depicted by a vegetation condition index (VCI).
- All Sub Counties depicted vegetation greenness above normal with an exception of Tigania West which depicted normal vegetation greenness.
- The combined 3-month Vegetation Condition Index (VCI) was at 62.04 compared to 56.94 recorded previous month of November.
- The 3-monthly vegetation condition index for Meru Igembe Central was at 67.3 Igembe North at 67.01, Tingania East at 50.35 while that of Tigania West was at 45.26.
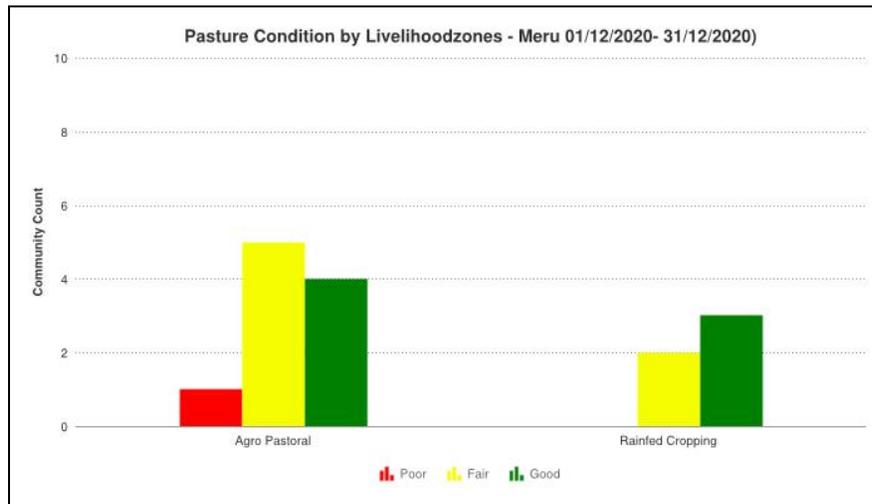
2.1.2   Pasture Condition

Figure 3: Pasture condition in Meru County

- The pasture condition slightly deteriorated to fair to good compared to good condition recorded in the month of November. The Agro pastoral livelihood zones recorded poor condition in the areas of : Ndubai and Rikiau of Igembe Central and Ntululi in Tigania West.
- The slight deterioration was due to slow regeneration of pasture due to poor performance of the short rains.

- The situation is expected to improve with the continuing on-going short rains.
- The pasture condition is below normal at this time of the year.
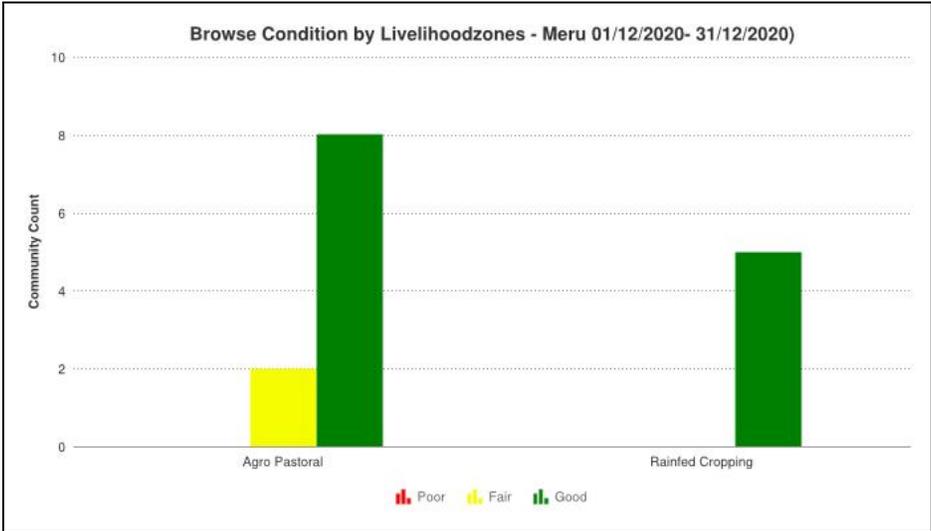
2.1.3 Browse

Figure 4: Browse condition in Meru County

- The browse condition was good in the Rain fed and Mixed farming livelihood zones while in the Agro pastoral livelihood zone the condition was good to fair.
- The browse condition is normal at this time of the year.

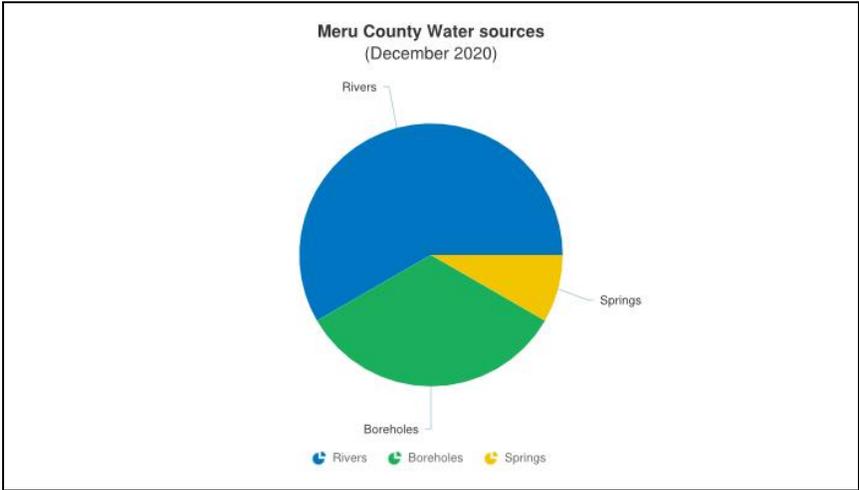## 2.2 WATER RESOURCE
2.2.1 Sources

Figure 5: Water sources for Meru County

- From figure 5 shown above, the three main sources of water within the period under review were; rivers, boreholes and springs. Other sources included; pans and dams, roof catchment and shallow wells which were also relied upon as major water source during the review period.

- The quality of water in boreholes was good while that of rivers and other surface sources was poor due to ground rain water run-off.
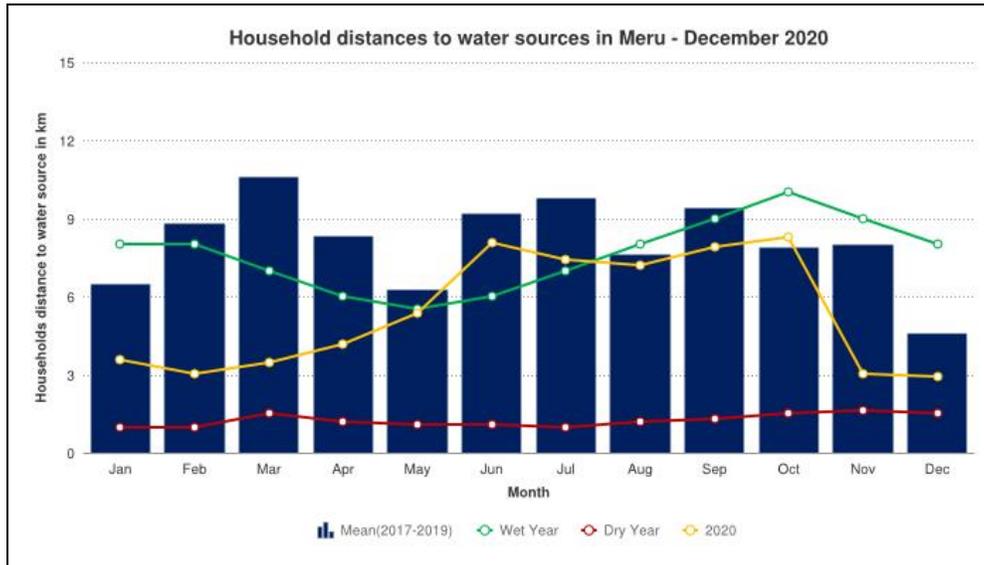
2.2.2 Household Access to Water

Figure 6: Household average distances to water sources

- From the figure {6} shown above, the average return distances to household water sources remained stable at 2.9 kms compared to previous month at 3.1 kms. The stability is attributed to recharged water sources and repair of broken boreholes.
- When compared to similar periods, the current household water distance of 2.9km is 64 percent shorter than the long term average.
- The current average water consumption across all livelihood zones is 15-20 litres per person per day which is normal.
- The average cost of 20 litre jerry can at water kiosks was ranging between Kshs 3.00 to Kshs 5.00 which is normal at this time of the year
- Based on key informant and households interviews, 45 percent of households treat water. Treatment of drinking water was by use of chemicals and boiling.

2.2.3 Livestock Trekking Distance to Water Sources from Grazing Areas
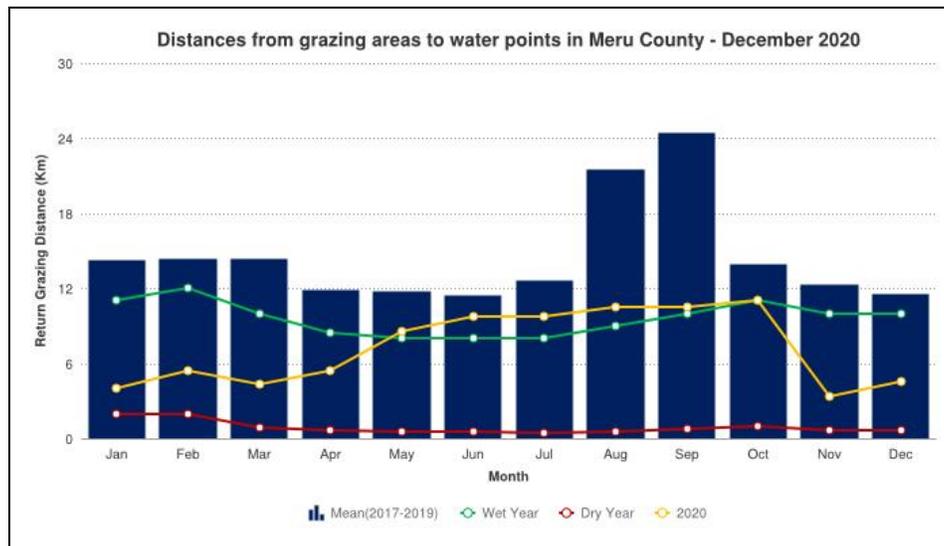
Figure 7: Livestock average return distances to water sources

- From (Figure 7) shown above, the average return distance to water source from grazing areas slightly increased to 4.6 km when compared to the preceding month's distance of 3.3 km.
- The slight increase was due to increased distances to grazing areas in search of pasture.
- The watering frequency for livestock was on daily basis across all livelihood zones.
- The current average return distance to water sources was 60 percent shorter than the long term average.

3.0 PRODUCTION INDICATORS
3.1 LIVESTOCK PRODUCTION
3.1.1 Livestock Body Condition
- The body condition of cattle and small stock was good across the livelihood zones. This is normal when compared to similar periods.
- The body condition of livestock is expected to remain good in the next three months due to the ongoing of the short rains, which supports regeneration of forage.

3.1.2 Livestock Diseases
- No livestock diseases were reported in the period under review
- Routine surveillance measures by the County government continued in the month under review.
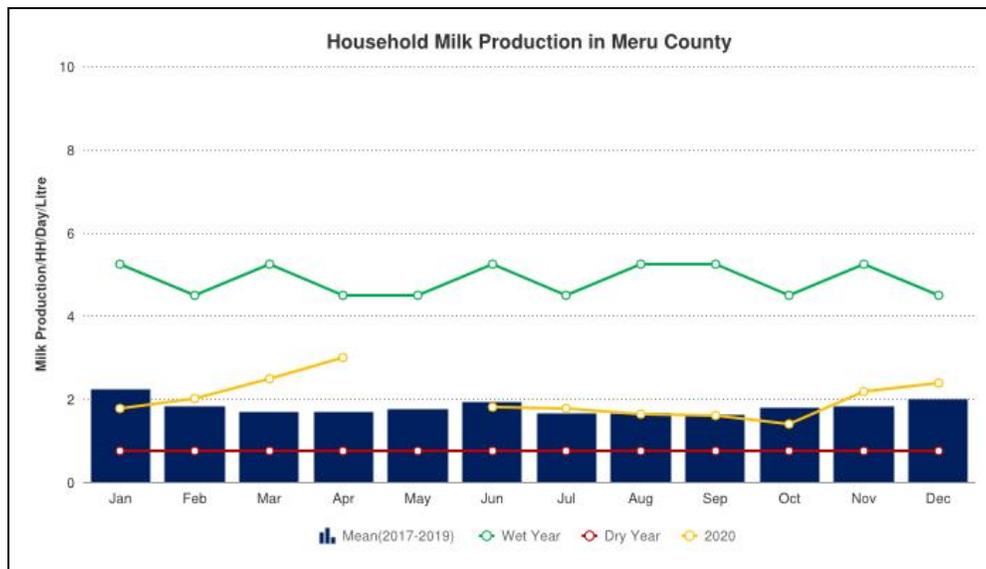
3.1.3 Milk Production

Figure 8: Household milk production in Meru North

- From the figure {8} shown above, the average daily milk production per household per day remained stable at 2.4 litres compared to the previous month at 2.2 litres. The stability is attributed to availability of pasture and browse condition.
- Milk production was high in Mikinduri Ward where cattle practice zero grazing and are of good breed.
- Current milk production of 2.4 litres is above normal the long term average milk production of 2 litres.
- Average milk price per litre at household level ranged from Ksh. 60.00- 80.00 which was normal at this time of the year.

3.2 RAIN-FED CROP PRODUCTION
3.2.1 Stage and Condition of food Crops
- Crops are at poding/ tussling and grain filling stage across all livelihood zones.
- Crop production was affected negatively across the livelihood zones due to poor performance of the rainfall. Crops condition was fair in the Rain fed and the Mixed farming livelihood zones; while in the Agro pastoral livelihood zones the crop production was fair to poor. Areas facing poor crops conditions include: Eastligh, Kalolone and Rikiau of Igembe Central; Ntululi in Tingania West.

4.0 MARKET PERFORMANCE
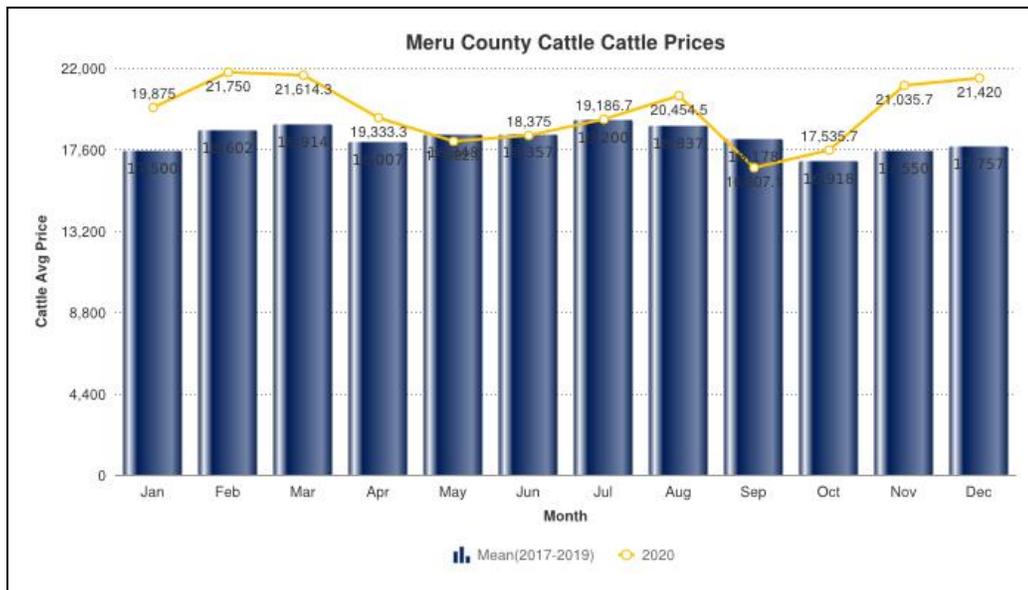### 4.1 LIVESTOCK MARKETING
4.1.1 Cattle Prices

Figure 9: Average Market prices for cattle in Meru County

- From the figure (9) shown above, the average market price of three-year-old cattle for the month under review remained stable at Kshs. 21,420 when compared to the preceding month of November at Kshs. 21,036

- When compared to similar periods, current cattle price of Kshs. 21,420 is above the long term price of Kshs. 17,757.
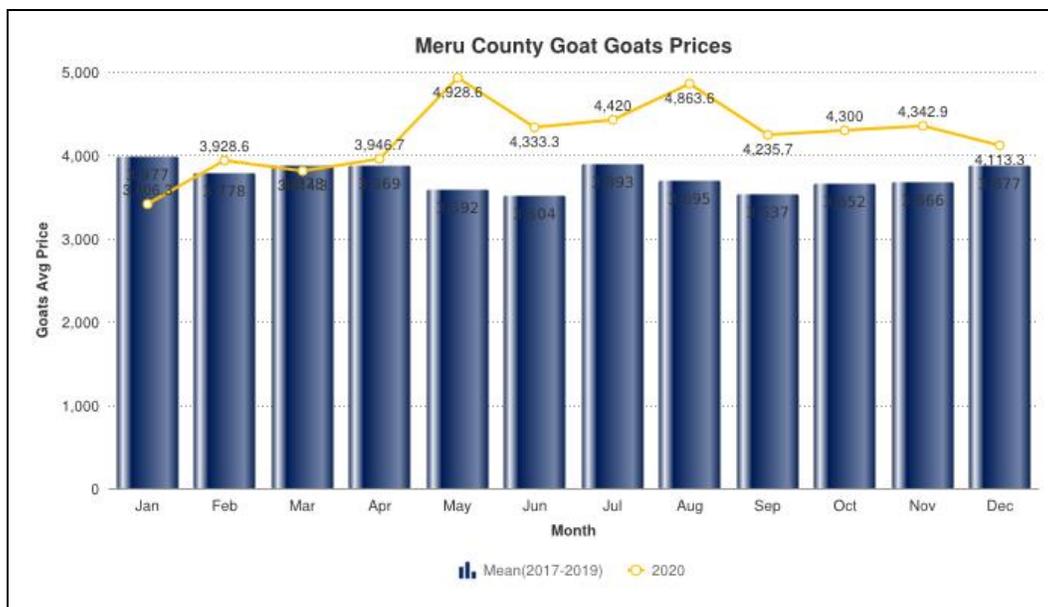
4.1.2 Goat Prices

Figure 10: Average market prices for goats in Meru County

- The average market price of a two-year goat remained stable at Kshs. 4,113 although in a decreasing trend when compared to the preceding month of November price of Kshs. 4,342 as illustrated in the above figure (10).

- When compared to the long term average price of Ksh. 4,113, current goat price is above normal by six percent.
- Above normal goat price was attributed to good body condition and high demand during the festive season across the livelihood zones.

4.2   CROP PRICES
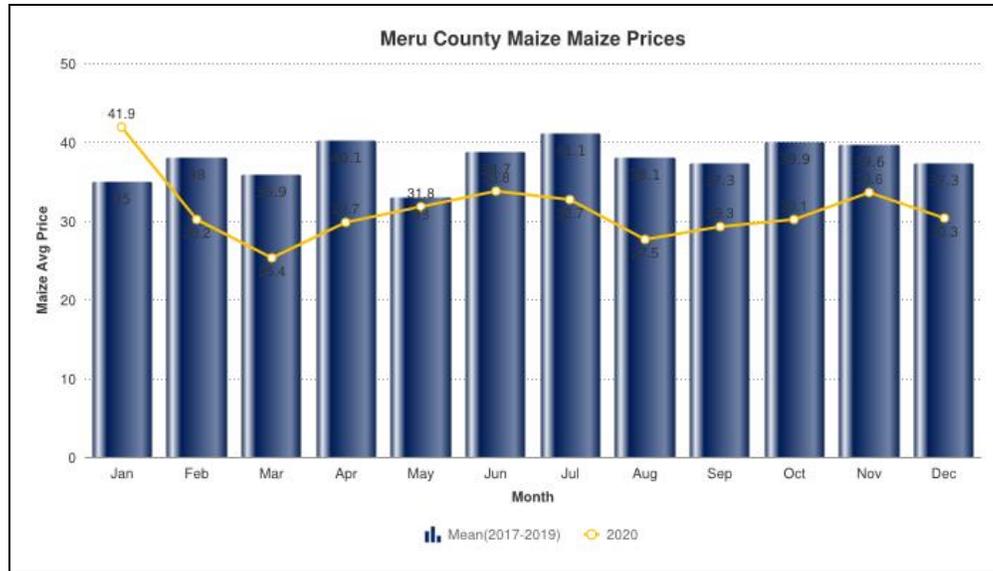### 4.2.1   Maize

Figure 11: Average market prices for maize in Meru County

- From the figure 11 shown above, the average market price of a kilo of maize remained stable at Kshs.30/kg across the livelihood zones when compared to the previous month's maize price of Kshs.33/kg.
- The stability is attributed to low demand of the maize at the local markets since it was festive season and also stability in market supply
- The average market price was 19.5 percent lower compared to the long term average at this time of the year.
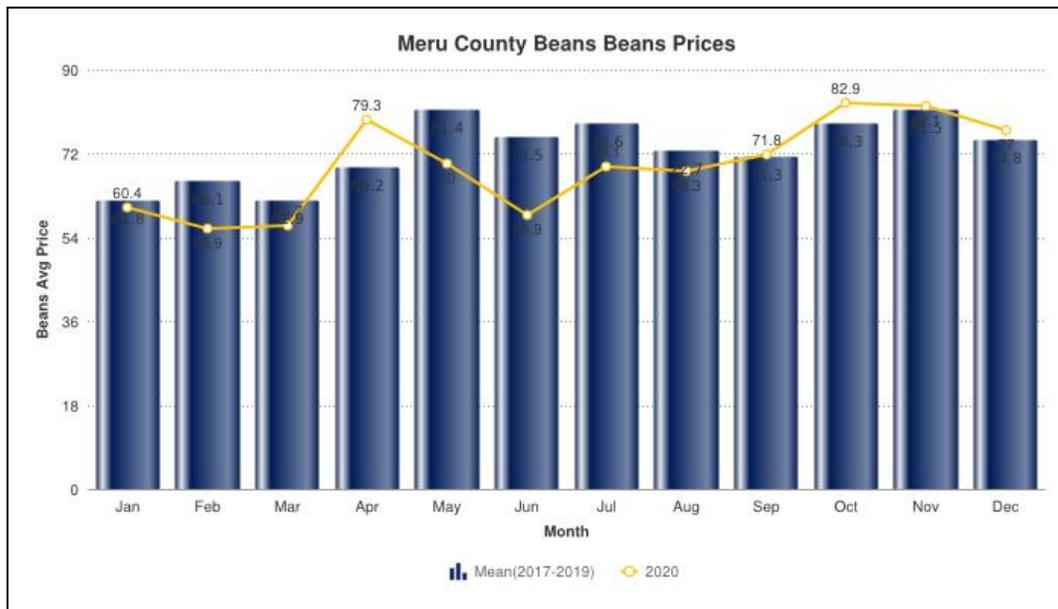
4.2.2   Beans Prices

Figure 12: Average market prices for beans in Meru County

- From the figure {12} shown above, the average market price of a kilo of beans slightly decreased to Kshs 77 compared to previous month price of Kshs 82.1
- The decrease is attributed to early harvesting of green beans and high supply for the commodity in the market.
- The current average beans price is within the long term average price of Kshs. 74.8/kg.
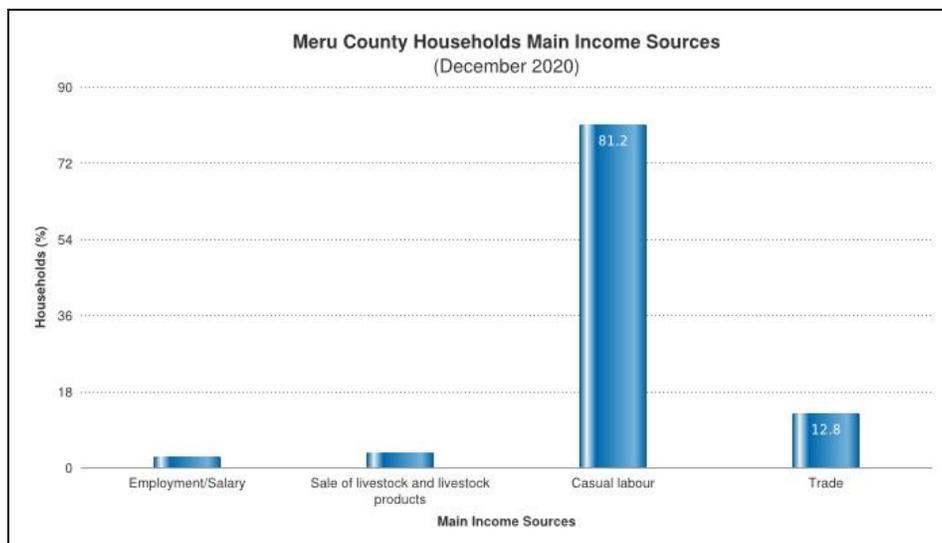
4.2 INCOME

Figure 13: Sources of household income in Meru North

- Households main source of income were; casual labour, sale of crops, trade, sale of livestock and livestock products and employment/salary. Casual labour was readily available due to weeding season.
- Households also depend on sale of *'Miraa''* which is considered as a major cash crop.
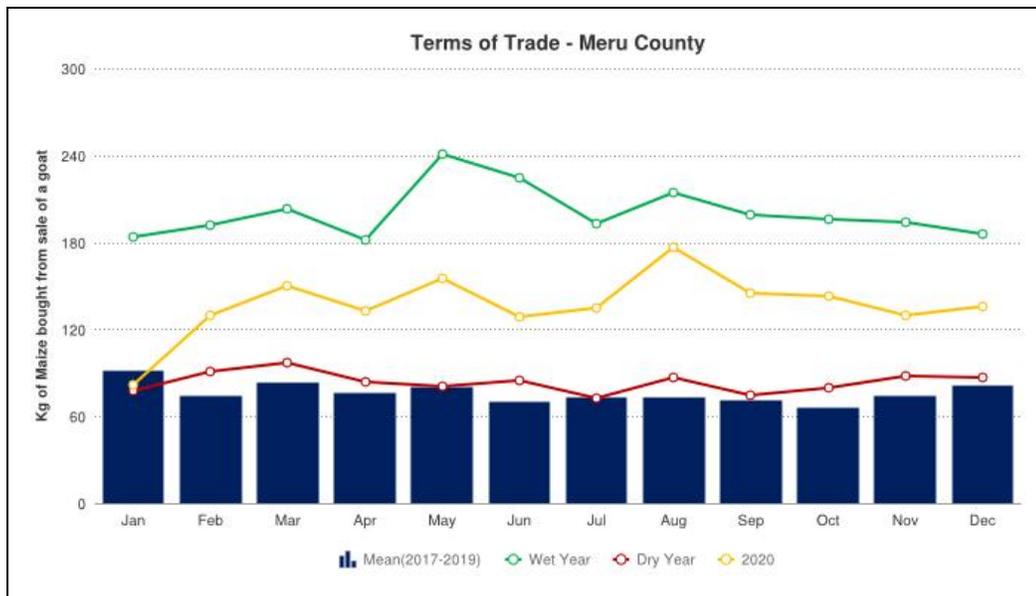
4.4   TERMS OF TRADE

Figure 14: Terms of trade in Meru North

- The Terms of trade slightly increased to 135.6 kilograms of maize realised from a sale of goat compared to 129.1 kilograms recorded previous month as illustrated in the above figure 14.
- The increase is attributable to stability in goat prices while maize prices slightly decreased.
- The current terms of trade is 67percent above the long term average terms of trade of 81 kilograms.

5.   FOOD CONSUMPTION AND NUTRITION STATUS
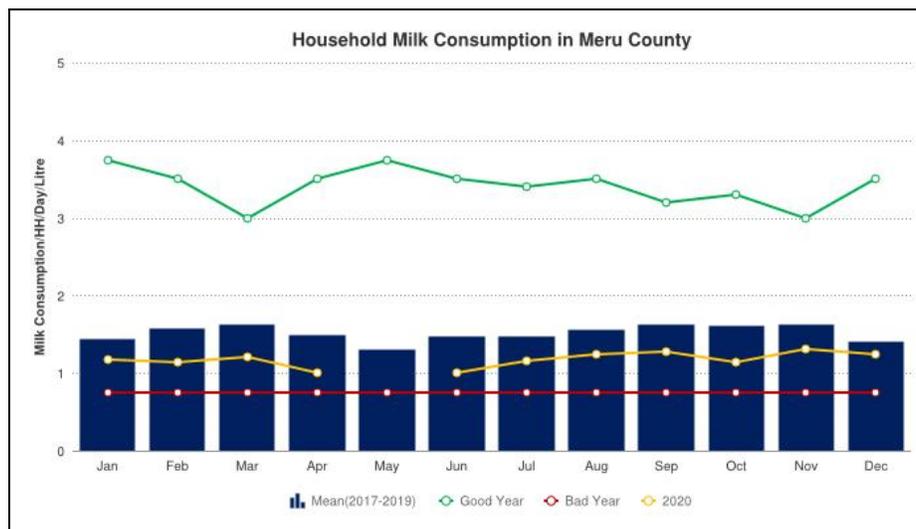## 5.1   MILK CONSUMPTION

Figure 15: Average household milk consumption (l/hh/day)

- Milk consumption per household per day remained stable at 1.3 litres compared to previous month at 1.3 litres.
- The current milk consumption is within the normal long term average of 1.4 liters.

5.2 FOOD CONSUMPTION SCORE

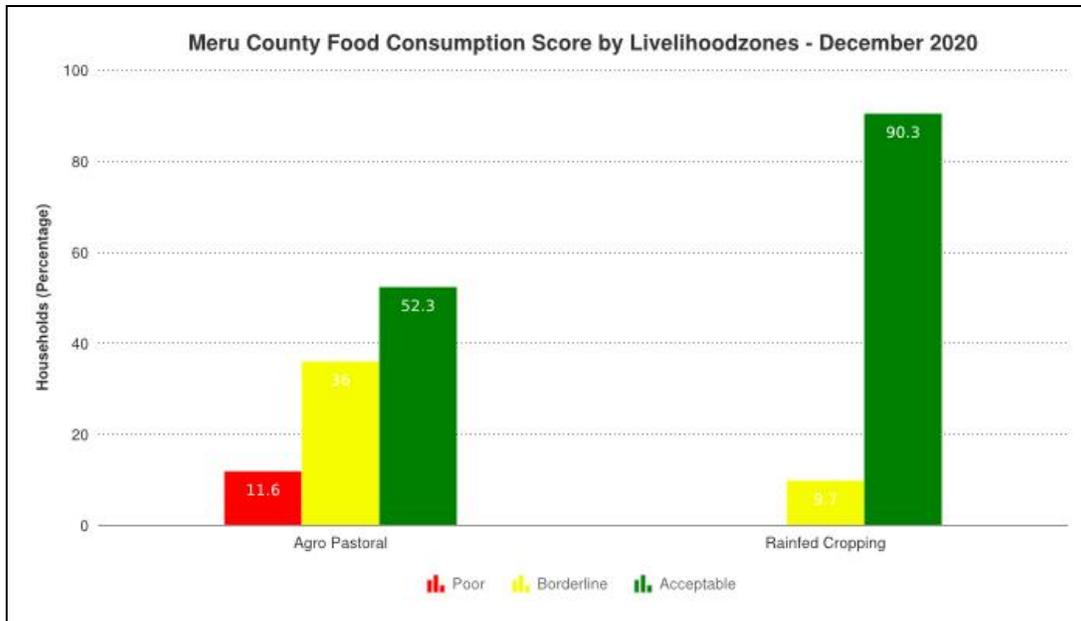**Meru County Food Consumption Score by Livelihoodzones - December 2020**

Figure 16: Household food consumption score

- Out of 120 households sampled from the sub counties, majority of the households averagely 62 percent were in the acceptable food consumption score category indicating that they were consuming an acceptable diet in terms of meal frequency, dietary diversity, nutritional value and amount. The rest of the households, 29 percent, were under borderline consumption score category, while nine percent households under poor food consumption score.
- The households on average consumed; grains and pulses for six to seven days, vegetables for an average of four days and fruits for five days now that it was mango season. Consumption of milk and meat was minimal.

5.3 HEALTH AND NUTRITION STATUS
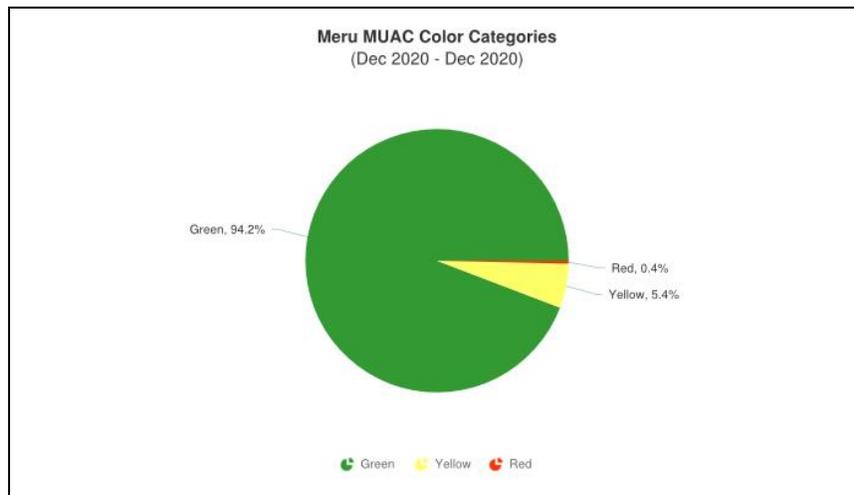### 5.3.1 Nutrition Status of Children

Figure 17: Children under five at risk of malnutrition in Meru County

- Out of the sampled children at risk of malnutrition 94.2% were at green 6.5% at yellow and 04 % at Red. Two children in Igembe Cental in areas of Kalimbeni were identified as malnourished and were referred to the nearest health centre for supplementary feeding and monitoring. Caregivers with children at yellow were advised on improved nutrition and were asked to monitor the growth and the health of the children. Referrals were also made to health centres for food supplementation for the under-fives with health deteriorating cases.
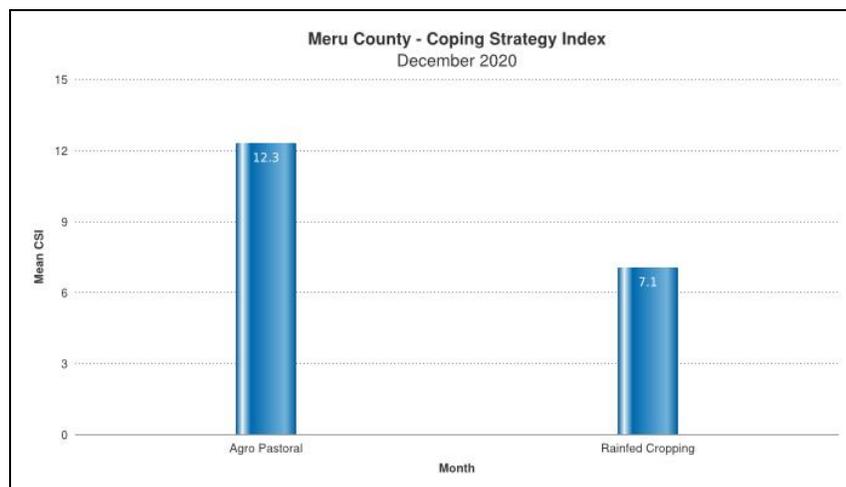
5.4 Coping Strategy Index

Figure 18: Household coping in Meru North

- Reduced consumption based coping strategy index (rCSI) for the month under review was at 10.9 compared to previous month of November at 8.5. The index is below the long term average.
- Agro pastoral livelihood zone recorded a higher coping strategy index of 12.3 while Rained livelihood zone recorded a coping strategy index 7.1.
- Notable reduced consumption based coping strategies employed by the households were; reduced portion size of meals and reliance on less preferred food in all the livelihood zones.
- The coping strategy index was normal at this time of the year.

6.1 **Insecurity/ Conflict/ Human Displacement**

- There were no reported conflicts within the reporting period.

6.2 **FOOD SECURITY PROGNOSIS**

- Due to depletion of household stocks, households across the livelihood zones will continue to depend on markets for food supplies however, the expected short rains harvest shall bring reprieve by replenishing the household stocks as from January.
- Early planted beans and cowpeas will continue to bring reprieve to the households in terms of vegetables within one to two months thereby affecting positively on household health and nutrition.
- The regeneration of pasture is likely to impact positively on livestock production and market prices.
- Food commodity prices are expected to remain high until the short rains harvests are realized due to increased demand occasioned by depleted household stocks.
- The nutritional status of the children under five will likely remain stable in the next 3 months occasioned by expected short rains harvests and reduced market prices of food commodities
- The terms of trade are also expected to remain favourable.

6.3 On-going interventions

SECTOR	Intervention	Implementer	Beneficiaries
LIVESTOCK	• Routine livestock diseases surveillance	• County Department of Livestock Production and Veterinary Services	Livestock farmers from both sub counties
HEALTH	• Routine Disease Surveillance • Routine disease surveillance on outbreak of Corona virus (COVID- 19). • Routine screening management of malnutrition at health facility level • Routine Vitamin A and Zinc Supplementation and deworming at health facility level	• County Department of Health Services	Mothers and children who visited health facilities in both sub counties Households and health facilities in targeted community areas
AGRICULTURE	• Surveillance of the locusts and fall army worms	• County department of Agriculture department	Farmers
WATER AND SANITATION	• Repair of the broken boreholes	• County government, • Other Stakeholders	Households ,farmers

7. SECTOR RECOMMENDATIONS

Sector	Recommended Activities	Proposed Implementers	Expected Outcome/Impact
AGRICULTURE	• Sensitization on improved farming methods • Capacity building on pest and diseases (Fall army worm and Locust) • Development of irrigation schemes • Supply farmers with seeds • Capacity building on food storage	County government Other Stakeholders	Reduced post-harvest losses due to poor storage
LIVESTOCK	• Disease surveillance and promotion of good and husbandry practices and silage making • Strategic vaccination of animals	County government Other Stakeholders	Increased productivity Diversification of income Reduced outbreak of diseases
WATER AND SANITATION	• Drilling and equipping of more boreholes • Desilting of earth dams. • Construction of new big dams and pans. • Repair of the broken boreholes	County government, Other Stakeholders	Improved potable water accessibility and consumption
HEALTH AND NUTRITION	• Provision of Personal Protective Equipment (PPE) at the hospital and at community level to curb spread of corona virus • Sensitization on COVID-19 • Provision of commodities for management of various types of malnutrition at health facilities. • Sensitization on use and provision of water treatment chemicals to households.	County department of health NDMA Development partners	Management of malnutrition amongst under five children Reduced cases of water borne diseases