

# National Drought Management Authority

MERU (MERU-NORTH) COUNTY

DROUGHT EARLY WARNING BULLETIN FOR JANUARY 2021



A Vision 2030 Flagship Project



## JANUARY 2021 EW PHASE

## Early Warning Phase Classification



### 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. Pasture condition ranged from good to fair in the Rain fed and Mixed farming livelihood zones while in the Agro Pastoral livelihood zone the condition was fair to poor. Browse condition was good to fair across all the livelihood zones.

#### Socio Economic Indicators (Impact Indicators)

**Production Indicators:** Crops were at harvesting stage. Farmers expect below normal harvests. Livestock body condition was good for all species. There were no cases of reported livestock diseases. There were both internal and external livestock migrations.

**Access Indicators:** Average return distance to water sources for household and grazing areas significantly increased. Terms of Trade remained favorable. Milk consumption per HH per day slightly decreased.

**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.

| Livelihood Zone                                    | Phase                           | Trend                      |
|--|---------------------------------|----------------------------|
| Mixed Farming                                      | Normal                          | Stable                     |
| Agro - Pastoral                                    | Normal                          | Deteriorating              |
| Rain Fed Cropping                                  | Normal                          | Stable                     |
| <b>County</b>                                      | <b>Normal</b>                   | <b>Stable</b>              |
| <b>Biophysical Indicators</b>                      | <b>Value</b>                    | <b>Normal Range/ Value</b> |
| Rainfall (% of Normal)                             | 42                              | 80 - 120                   |
| VCI-3Month   | 62.04                           | 35 - 50                    |
| <b>Production indicators</b>                       | <b>Value</b>                    | <b>Normal</b>              |
| Maize Crop Condition                               | No crops                        | No crops                   |
| Livestock Body Condition for cattle                | Good                            | Good                       |
| Milk Production per HH/ day                        | 1.8                             | 1-2Litres                  |
| Livestock Migration Pattern                        | Internal and external migration | Normal                     |
| <b>Access Indicators</b>                           | <b>Value</b>                    | <b>Normal</b>              |
| Terms of Trade (ToT)                               | 137                             | 108                        |
| Milk Consumption per HH/ day                       | 1.2                             | 1.4 Litres                 |
| Return HHs distance to water sources               | 4.5                             | 7.7 Km                     |
| Water source return distance from grazing areas    | 7.1                             | 9.6 Km                     |
| Cost of water (20 litres)                          | Kshs 2.00-3.00                  | Kshs 3.00 - 5.00           |
| <b>Utilization indicators</b>                      | <b>Value</b>                    | <b>Normal</b>              |
| Nutrition Status, MUAC (% at risk of malnutrition) | G 98.6%,<br>Y= 1.4%             | 0                          |
| Copying strategy Index( CSI)                       | 15.6                            | <15                        |

|  |   |   |   |     |     |     |     |      |     |     |     |
|--|---|---|---|-----|-----|-----|-----|------|-----|-----|-----|
| <ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Increased HH Food Stocks</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Land preparation</li> </ul> | <ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk Yields Increase</li> </ul> | <ul style="list-style-type: none"> <li>Long rains harvests</li> <li>Increased HH Food Stocks</li> <li>A long dry spell</li> <li>Land preparation</li> <li>Kidding (Sept)</li> </ul> | <ul style="list-style-type: none"> <li>Short rains</li> <li>Planting/weeding</li> </ul> |     |     |     |     |      |     |     |     |
| 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 January was below normal.
- The rains received were erratic and poorly distributed across all the livelihood zones
- The sentinel rainfall stations recorded zero rainfall.

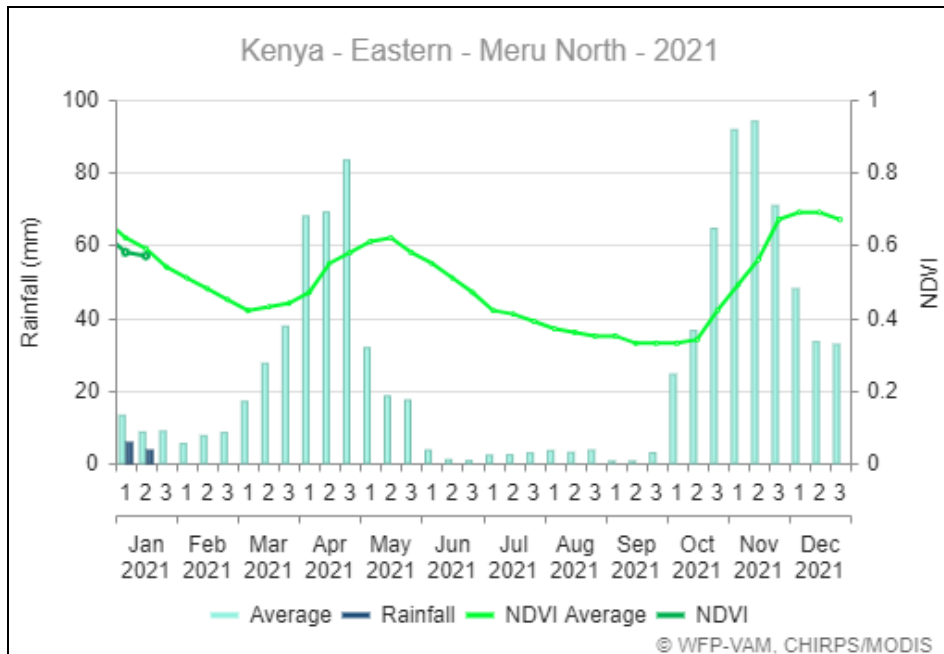


Figure 1: Rainfall estimates in Meru North

- 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 4.55 mm of rainfall in the Month of January compared to normal average amount of 10.8mm for the same period.
- Normalized Difference Vegetation Index (NDVI) for the first and second dekads were below 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)

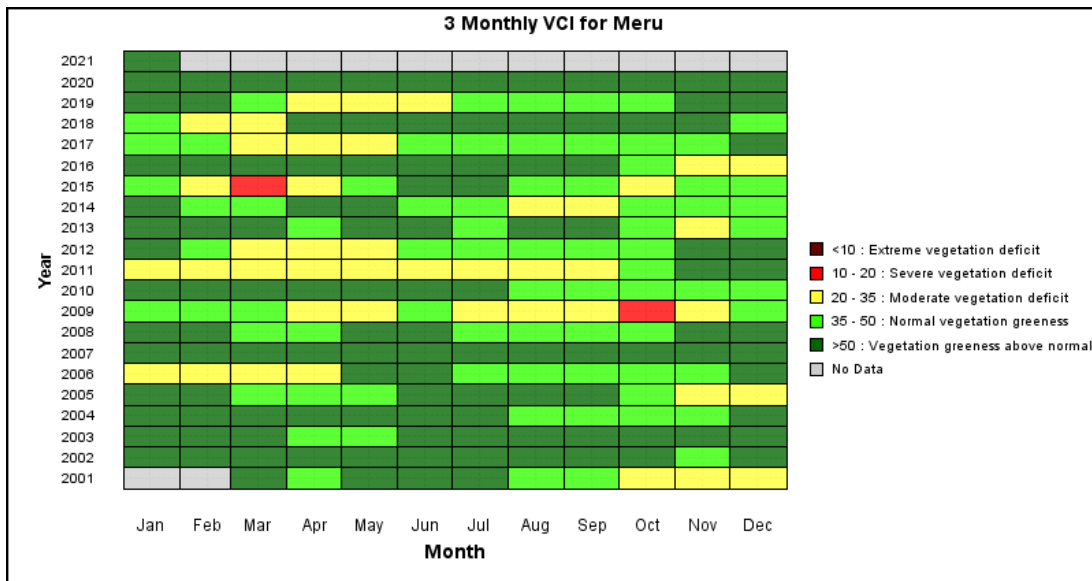


Figure 2: Three-monthly VCI for Meru County [Source: MODIS Data]

- 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.
- The combined 3-month Vegetation Condition Index (VCI) was at 57.5 compared to 63.03 recorded previous month of December.
- The 3-monthly vegetation condition index for Meru Igembe Central was at 65.64 Igembe North at 58.47, Tingania East at 50.24 while that of Tigania West was at 57.63.

### 2.1.2 Pasture Condition

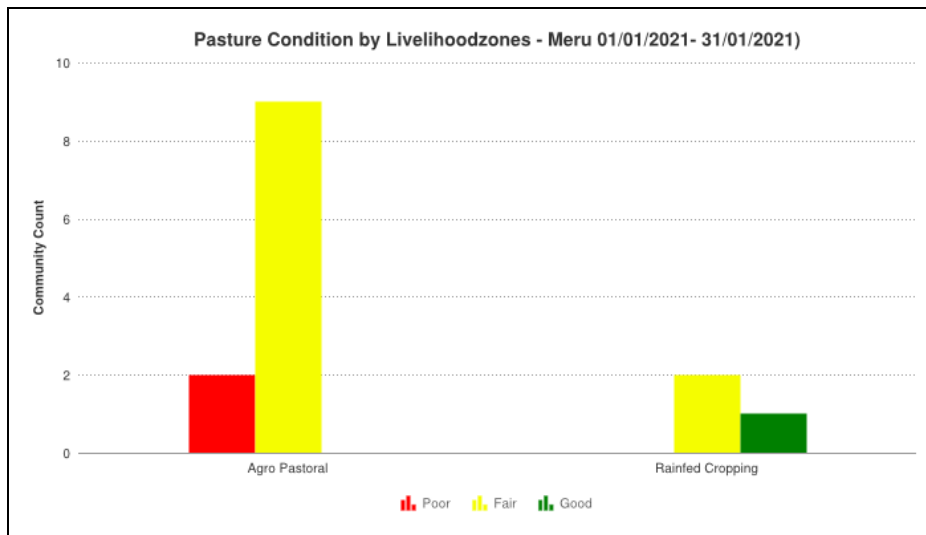


Figure 3: Pasture condition in Meru County

- The pasture condition ranged from good to fair in the Rain fed and mixed farming livelihood zones. In the Agro pastoral livelihood zones the condition was fair to poor. The Agro pastoral livelihood zones recorded poor condition in the areas of: Ndubai and Rikiau of Igembe Central and Ntululi in Tigania West.

- The deterioration was due to slow regeneration of pasture due to poor performance of the short rains.
- The pasture condition remains below normal at this time of the year and may deteriorate further as the dry spell sets in.
- The available pasture is estimated to last for 1-2 months in the mixed farming and rain fed livelihood zones, while in the Agro pastoral the pastures will not last more than a month.

**2.1.3 Browse**

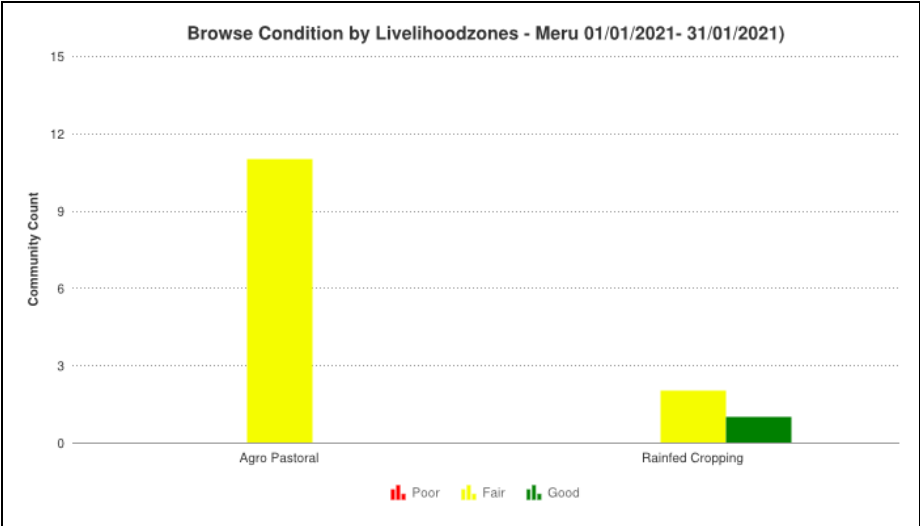


Figure 4: Browse condition in Meru County

- The browse condition was good to fair in the Rain fed and Mixed farming livelihood zones while in the Agro pastoral livelihood zone the condition was fair.
- The browse condition is below normal at this time of the year and is estimated to last for 2-3 months.

**2.2 WATER RESOURCE**

**2.2.1 Sources**

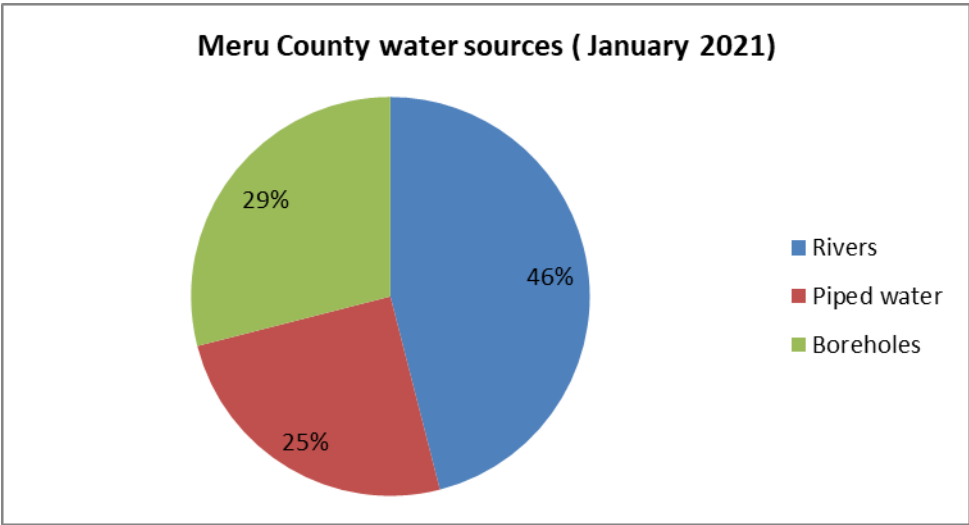


Figure 5: Water sources for Meru County

- From figure 5 shown above, the three main sources of water within the period under review were; rivers, boreholes and piped water. Other sources included; pans and dams, springs and shallow wells which were also relied upon as major water source during the review period. In the Agro pastoral livelihood zones in areas of Kachiuru in Igembe North, households relied on water trucking/ vendors as source of water.
- 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

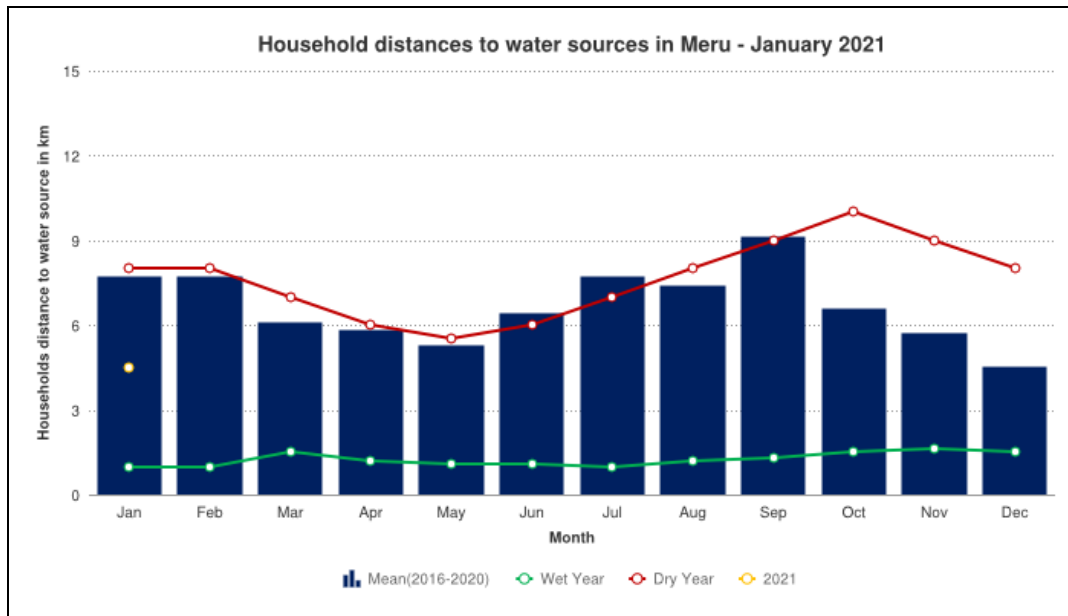


Figure 6: Household average distances to water sources

- From the figure {6} shown above, the average return distances to household water sources significantly increased to 4.5 kms compared to previous month 2.9 kms. The increase is attributed to drying up of water sources and breakages of boreholes.
- When compared to similar periods, the current household water distance of 4.5 km is 41.5 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. However in Kachiuru in Igembe North households where households depend on vendors, the average cost of 20 litre jerry can ranges between Kshs 30-Kshs 50.
- 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

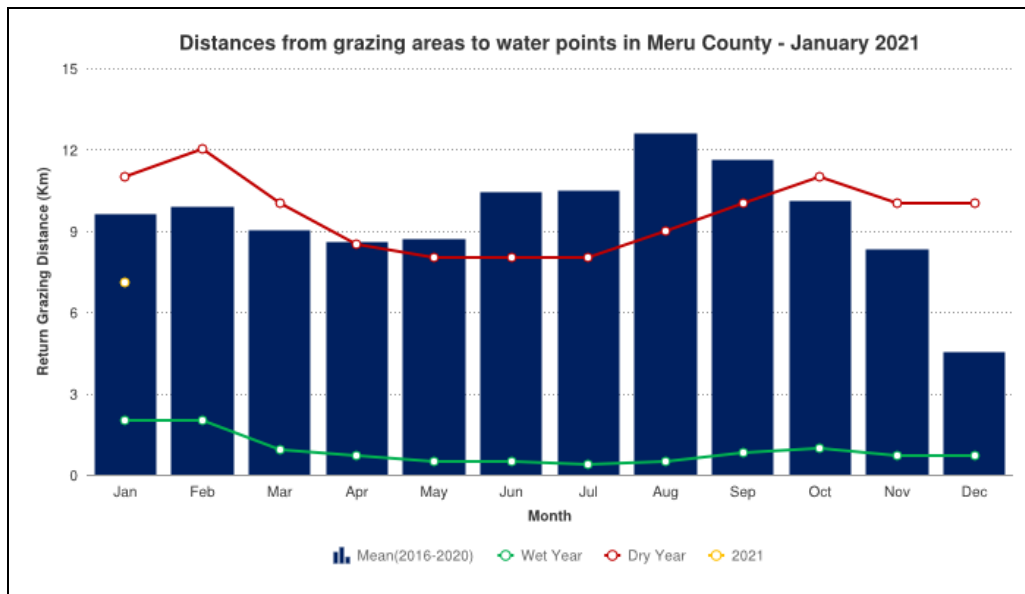


Figure 7: Livestock average return distances to water sources

- From (Figure 7) shown above, the average return distance to water source from grazing areas significantly increased to 7.7 km when compared to the preceding month's distance of 4.6 km.
- The increase was due to increased distances to grazing areas in search of pasture and drying up of water pans and dams.
- The watering frequency for livestock was on daily basis across all livelihood zones.
- The current average return distance to water sources was 26 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 livestock body condition is expected to remain good in both Mixed and Rain fed Livelihood zones as fodder is expected to last for the next 2 months. In addition, crop residues are available and supplements pasture. However in the Agro Pastoral the body condition is expected to deteriorate further occasioned by the dry spell and deteriorating pasture and browse condition.

#### 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 Livestock Migration

- There were internal and external migrations of livestock mainly cattle goats and camel within the reporting month.
- The migration was mainly from Isiolo Migration route Kinna- Kinanduba- Kisimani – Tharaka.

### 3.1.3 Milk Production

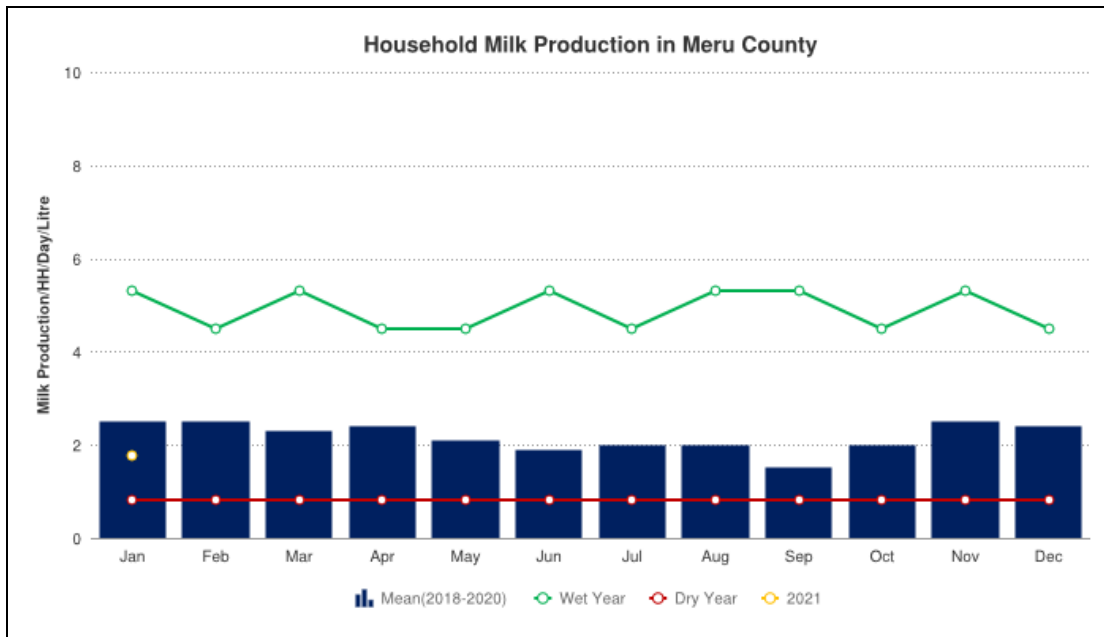


Figure 8: Household milk production in Meru North

- From the figure {8} shown above, the average daily milk production per household per day slightly decreased to 1.8 litres compared to the previous month at 2.4 litres. The decrease is attributed to deteriorating 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 1.8 litres is below normal the long term average milk production of 2.5 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

- Rain-fed crops were at harvesting stage across all the livelihood zones.
- The expected harvest will be lower than normal; this is because crop production was negatively affected by poor performance of the short rainfall across the livelihood zones. Areas facing little or no harvests 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

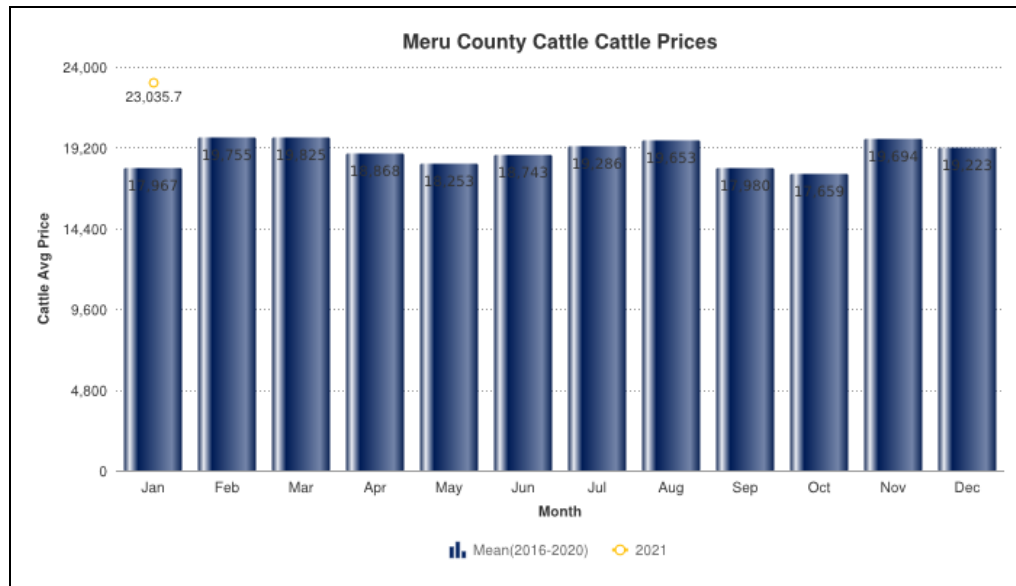


Figure 9: Average Market prices for cattle in Meru County

- From the figure (9) shown above, the average market price of three-year-old cattle for the month under review slightly increased to Kshs. 23,035 when compared to the preceding month of December price of Kshs. 21,420. The increase is attributed to low supply and high demand at the markets.
- When compared to similar periods, current cattle price of Kshs. 23,035 is above the long term price of Kshs. 18,260.

### 4.1.2 Goat Prices

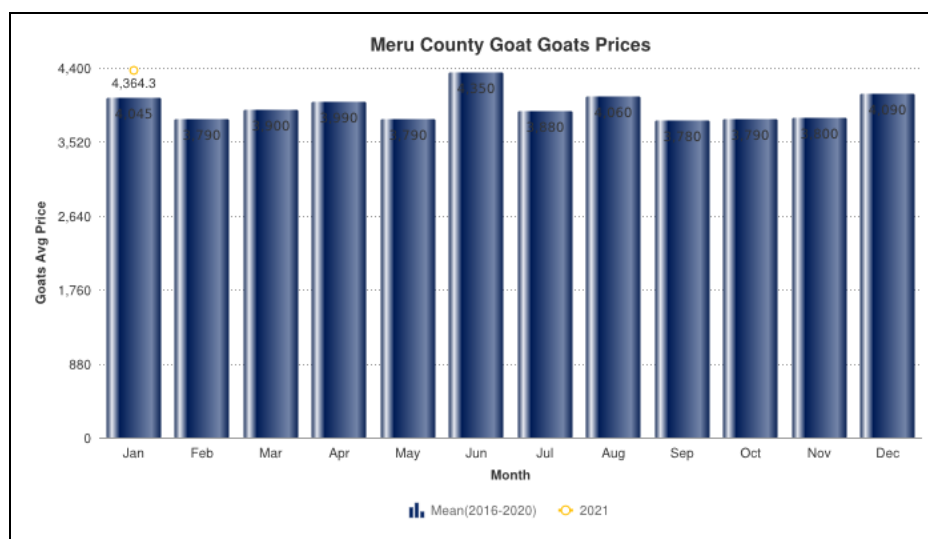


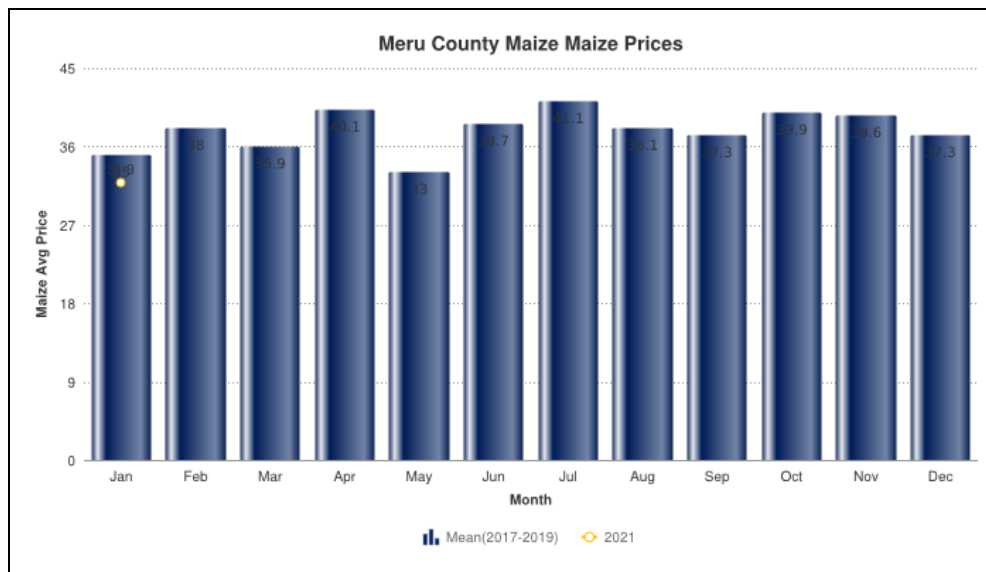
Figure 10: Average market prices for goats in Meru County



- The average market price of a two-year goat for the month under review slightly increased to Kshs. 4,364 when compared to the preceding month of December price of Kshs. 4113 as illustrated in the above figure (10).
- The increase is attributed to good body condition and high demand at the market with low supply.
- When compared to the long term average price of Ksh. 4,364, is above normal by seven percent.

## 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.32/kg across the livelihood zones when compared to the previous month's maize price of Kshs.30/kg.
- The stability is attributed to attributable to initial short rains harvests at household level thus replenishing the household stocks.
- The average market price is within the long term average price of Ksh. 35 at this time of the year.

### 4.2.2 Beans Prices

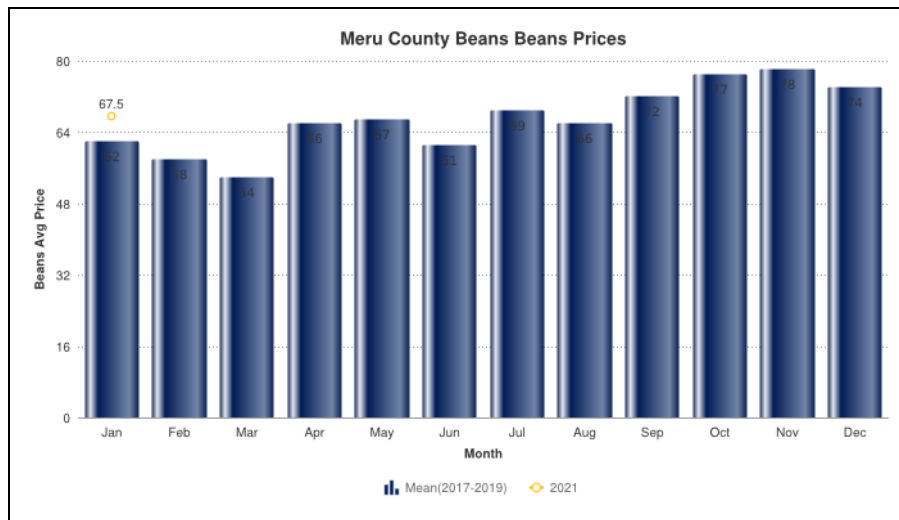


Figure 12: Average market prices for beans in Meru County

- From the figure {12} shown above, the average market price of a kilo of beans significantly decreased to Kshs 67 compared to previous month price of Kshs 77.
- The decrease is attributed to on-going harvest of pulses and high supply for the commodity in the market.
- The current average beans price is within the long term average price of Kshs. 62/kg.

#### 4.2 INCOME

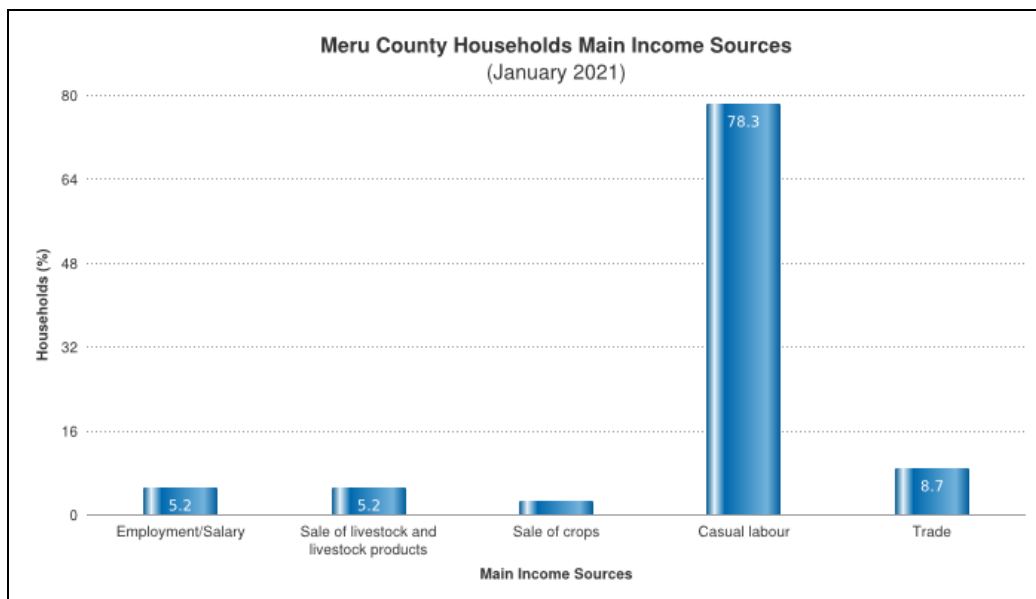


Figure 13: Sources of household income in Meru North

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

#### 4.4 TERMS OF TRADE

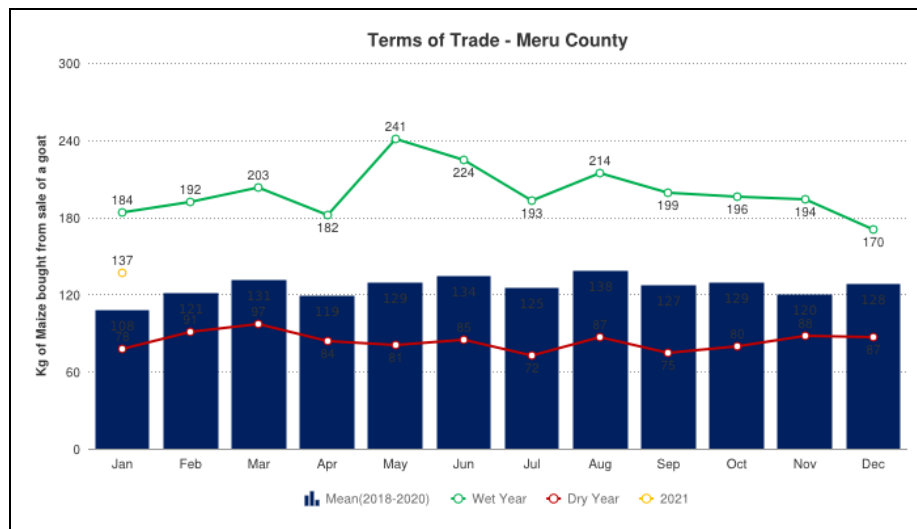


Figure 14: Terms of trade in Meru North

- The Terms of trade slightly increased to 137 kilograms of maize realised from a sale of goat compared to 135.6 kilograms recorded previous month as illustrated in the above figure 14.
- The increase is attributable to slight increase in goat prices while maize prices remained stable.
- The current terms of trade is 27 percent above the long term average terms of trade of 108 kilograms.

### 5. FOOD CONSUMPTION AND NUTRITION STATUS

#### 5.1 MILK CONSUMPTION

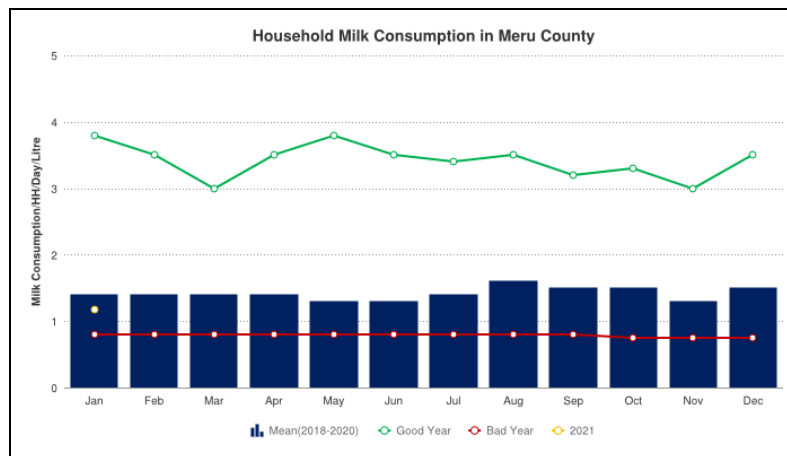


Figure 15: Average household milk consumption (l/hh/day)

- Milk consumption per household per day slightly decreased to 1.2 litres compared to previous month at 1.3 litres.
- The decrease was due to decrease in milk production at households.
- The current milk consumption was slightly below normal compared to long term average of 1.4 liters.

## 5.2 FOOD CONSUMPTION SCORE

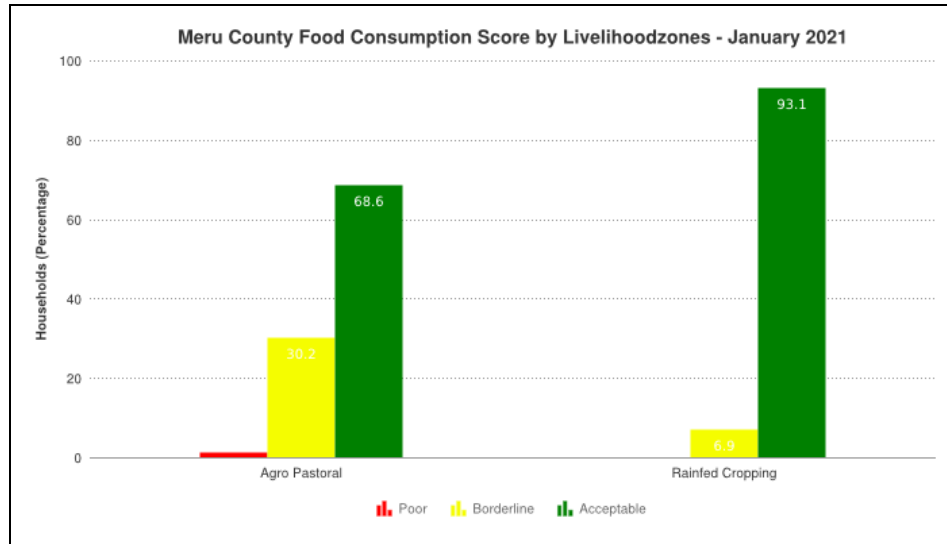


Figure 16: Household food consumption score

- Out of 120 households sampled from the sub counties, majority of the households averagely 75 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, 24 percent, were under borderline consumption score category, while one percent households under poor food consumption score.
- This was an improvement from previous month where nine percent were under poor food consumption score. The improvement is attributed to realised short rains harvests which have replenished households stocks.
- 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

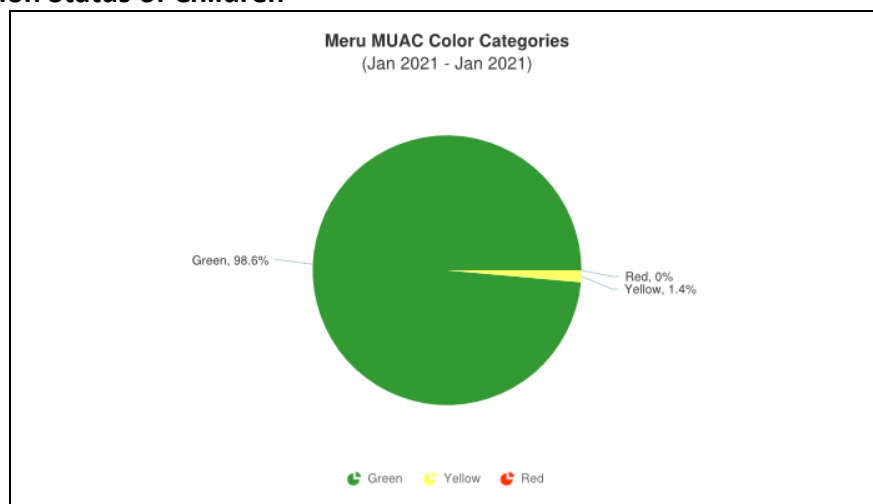
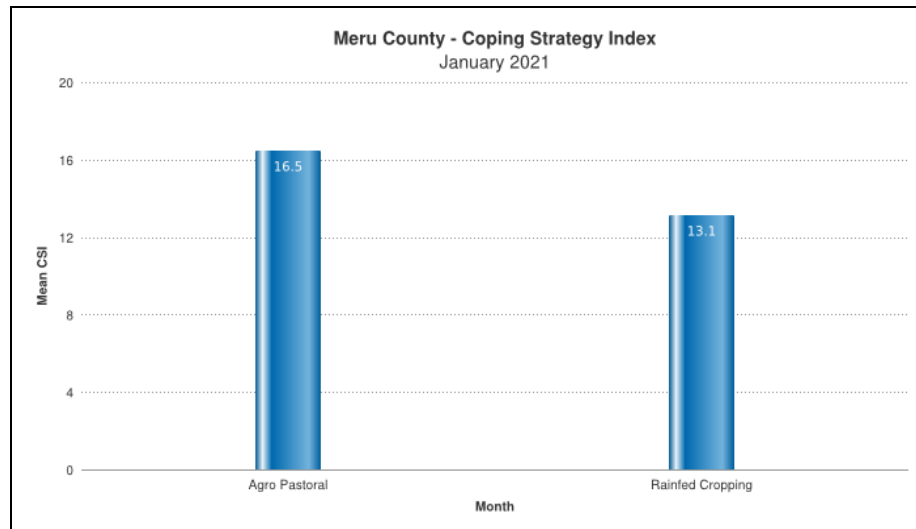


Figure 17: Children under five at risk of malnutrition in Meru County

- Out of the sampled children at risk of malnutrition 98.6% were at green and the rest 1.4%. This was an improvement from previous month where there were two children identified to be malnourished and 5.4% were at yellow. The improvement was attributed to referrals of the affected children to the health centres and frequent monitoring for the growth and the health of the children.

## 5.4 Coping Strategy Index



*Figure 18: Household coping in Meru North*

- Reduced consumption based coping strategy index (rCSI) for the month under review increased to 15.6 compared to previous month of December at 10.9. The index was within the long term average.
- Agro pastoral livelihood zone recorded a higher coping strategy index of 16.5 while Rainfed livelihood zone recorded a coping strategy index 13.1.
- 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 above normal at this time of the year.

### 6.1 Insecurity/ Conflict/ Human Displacement/ emerging issues

- There is herders' security tension in Ndumuru area of Igembe North with increasing livestock from neighbouring county isiolo in search of water and pasture.
- Invasion of locust in Igembe Central areas of Nkiyanga and Kagende; Tigania East areas of Kandembene and at Meru National park. The locusts have caused minimal destruction of crops and fodder. The ministry of Agriculture are doing Routine Surveillance to establish the destruction and spraying areas affected.

## 6.2 FOOD SECURITY PROGNOSIS

- The on-going harvest is expected to replenish the household stocks and likely improve food security at household level
- Livestock production is expected to reduce in the next three months as pasture/ browse and water availability will likely be a challenge for the households.
- Food commodity prices are expected to decrease due to decrease in demand occasioned by expected short rains harvest. However, with poor harvests realized after two months the prices are expected to increase.
- The nutritional status of the children under five will likely remain stable in the next 3 months occasioned by short rains harvests and reduced market prices of food commodities
- The favourable terms of trade will likely sustain the purchasing power for the households for the next 1-2 months.

## 6.3 On-going interventions

| SECTOR               | Intervention  | Implementer   | Beneficiaries  |
|----------------------|---|---|--|
| LIVESTOCK            | <ul style="list-style-type: none"> <li>• Routine livestock diseases surveillance</li> </ul>   | <ul style="list-style-type: none"> <li>• County Department of Livestock Production and Veterinary Services</li> </ul> | Livestock farmers from both sub counties   |
| HEALTH               | <ul style="list-style-type: none"> <li>• Routine Disease Surveillance</li> <li>• Routine disease surveillance on outbreak of Corona virus (COVID- 19).</li> <li>• Routine screening management of malnutrition at health facility level</li> <li>• Routine Vitamin A and Zinc Supplementation and deworming at health facility level</li> </ul> | <ul style="list-style-type: none"> <li>• County Department of Health Services</li> </ul>                              | <p>Mothers and children who visited health facilities in both sub counties</p> <p>Households and health facilities in targeted community areas</p> |
| AGRICULTURE          | <ul style="list-style-type: none"> <li>• Surveillance of the locusts and fall army worms</li> </ul>   | <ul style="list-style-type: none"> <li>• County department of Agriculture department</li> </ul>                       | Farmers  |
| WATER AND SANITATION | <ul style="list-style-type: none"> <li>• Repair of the broken boreholes</li> </ul>  | <ul style="list-style-type: none"> <li>• County government,</li> <li>• Other Stakeholders</li> </ul>                  | Households ,farmers  |

## 7. SECTOR RECOMMENDATIONS

| Sector                      | Recommended Activities  | Proposed Implementers  | Expected Outcome/Impact  |
|-----------------------------|---|--|--|
| <b>AGRICULTURE</b>          | <ul style="list-style-type: none"> <li>• Sensitization on improved farming methods</li> <li>• Capacity building on pest and diseases (Fall army worm and Locust)</li> <li>• Development of irrigation schemes</li> <li>• Capacity building on food storage</li> </ul>   | <p>County government</p> <p>Other Stakeholders</p>                         | <p>Reduced post-harvest losses due to poor storage</p>   |
| <b>LIVESTOCK</b>            | <ul style="list-style-type: none"> <li>• Disease surveillance and promotion of good and husbandry practices and silage making</li> <li>• Strategic vaccination of animals</li> </ul>  | <p>County government</p> <p>Other Stakeholders</p>                         | <p>Increased productivity</p> <p>Diversification of income</p> <p>Reduced outbreak of diseases</p>         |
| <b>WATER AND SANITATION</b> | <ul style="list-style-type: none"> <li>• Drilling and equipping of more boreholes</li> <li>• Desilting of earth dams.</li> <li>• Construction of new big dams and pans.</li> <li>• Repair of the broken boreholes</li> </ul>  | <p>County government,</p> <p>Other Stakeholders</p>                        | <p>Improved potable water accessibility and consumption</p>  |
| <b>HEALTH AND NUTRITION</b> | <ul style="list-style-type: none"> <li>• Provision of Personal Protective Equipment (PPE) at the hospital and at community level to curb spread of corona virus</li> <li>• Sensitization on COVID-19</li> <li>• Provision of commodities for management of various types of malnutrition at health facilities.</li> <li>• Sensitization on use and provision of water treatment chemicals to households.</li> </ul> | <p>County department of health</p> <p>NDMA</p> <p>Development partners</p> | <p>Management of malnutrition amongst under five children</p> <p>Reduced cases of water borne diseases</p> |