

# National Drought Management Authority

TAITA TAVETA COUNTY

DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2019



A Vision 2030 Flagship Project



## DECEMBER 2019 EW PHASE



## Early Warning Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming: Food Crops/ Livestock	Normal	Stable
Mixed Farming: Food Crops/ Horticulture/Dairy	Normal	Stable
Mixed Farming: Irrigated Cropping/ Livestock/Food Crops	Normal	Stable
National Park	Normal	Stable
<b>County</b>	<b>Normal</b>	<b>Stable</b>
Biophysical Indicators	Value	Normal Range/ Value
Rainfall 3 Months Anomaly	184	80 – 120
VCI-3Month	98.4	35 – 50
Production indicators	Value	Normal
Crop Condition (maize)	Grain filling	Grain filling
Livestock Body Condition for cattle	Good	Good
Milk Production per HH/ day	3.3 Litres	3.3 Litres
Livestock Migration Pattern	Normal	Normal
Access Indicators	Value	Normal
Terms of Trade (Casual labour Vs maize prices)	68.0	55.5
Milk Consumption per HH/ day	1.0 Litres	1.3 Litres
Return HHs distance to water sources	2.2km	2.5 Km
Water source return distance from grazing areas	2.5km	3.0 Km
Cost of water (20 litres)	Kshs 3.00	< Kshs 5.00
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	0.0	<3.0

## Drought Situation & EW Phase Classification

### Biophysical Indicators

- The County recorded rainfall amount that was above normal and characterized by good temporal distribution and even spatial distribution across all livelihood zones.
- The county vegetation greenness condition was above the normal range (3 Months VCI 98.4).

### Socio Economic Indicators (Impact Indicators)

#### Production Indicators

- Early planted maize crop was at grain filling stage, beans and green grams were maturing for harvest both in the highlands and lowlands. Late planted maize was at flowering stage.
- Livestock body condition was good for all species across all livelihood zones.
- Average milk production per HH per day was normal.

#### Access Indicators

- Terms of Trade were above normal.
- Milk consumption per HH per day was normal.
- Return distances to water sources were below normal range.
- Distances to water sources from grazing areas were below normal.

#### Utilization Indicators

- The proportion of children at risk of malnutrition was within the normal range.

## Seasonal Calendar

<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> <li>Flash floods - Taveta</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> <li>Flash floods - Taveta</li> </ul>								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

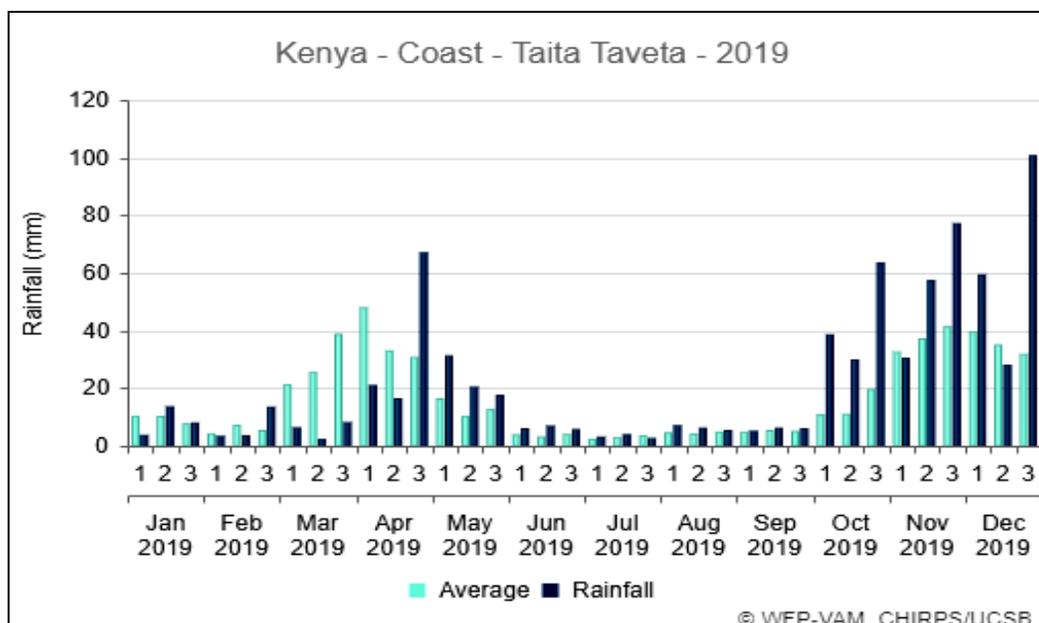
- The rains in the month under review were characterized by good temporal distribution and even spatial distribution. Amounts were relatively above normal and were characterised by moderate to high intensity as shown in the table below.

**Kenya Meteorological Department Rainfall Data**

No.	Rainfall Station	Livelihood Zone	Wet Days	Amount (mm)
1	Ngerenyi	Mixed farming: horticulture/dairy	6	203.4
2	Werugha	Mixed farming: horticulture/dairy	9	160.8
3	Wundanyi	Mixed farming: horticulture/dairy	8	142.6
4	Rukanga	Mixed Farming; food crop/livestock	9	169.0
5	Voi Meteorology Station	Mixed Farming; food crop/livestock	12	82.1

## 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- According to WFP-VAM, Climate Hazards Group InfraRed Precipitation with Station Data (CHIRPS) three months' rainfall anomaly was 184%.
- The estimated total precipitation for the month was 187.5 mm and above LTM by 77 percent plus well spread in time as indicated in the chart below;



## 1.3 OTHER EVENTS

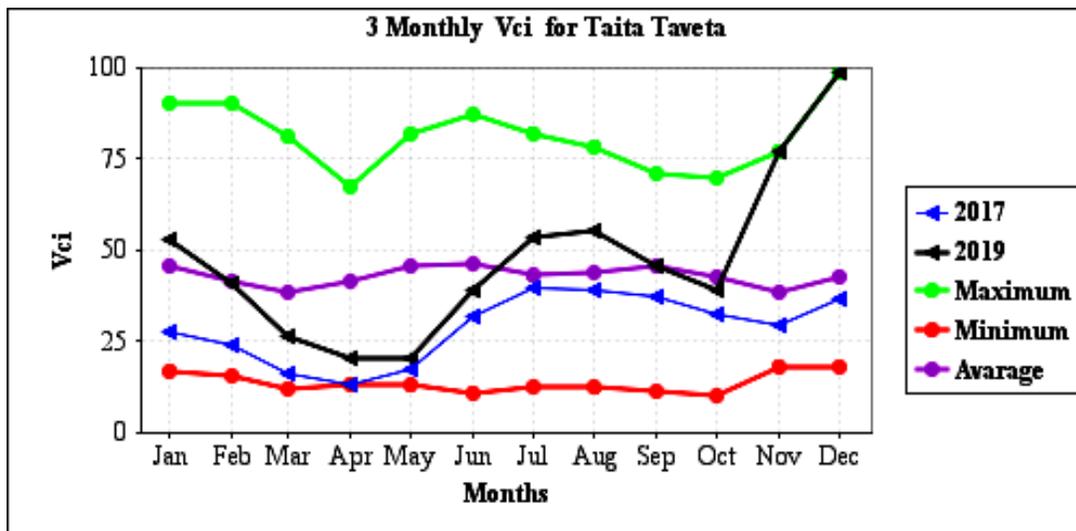
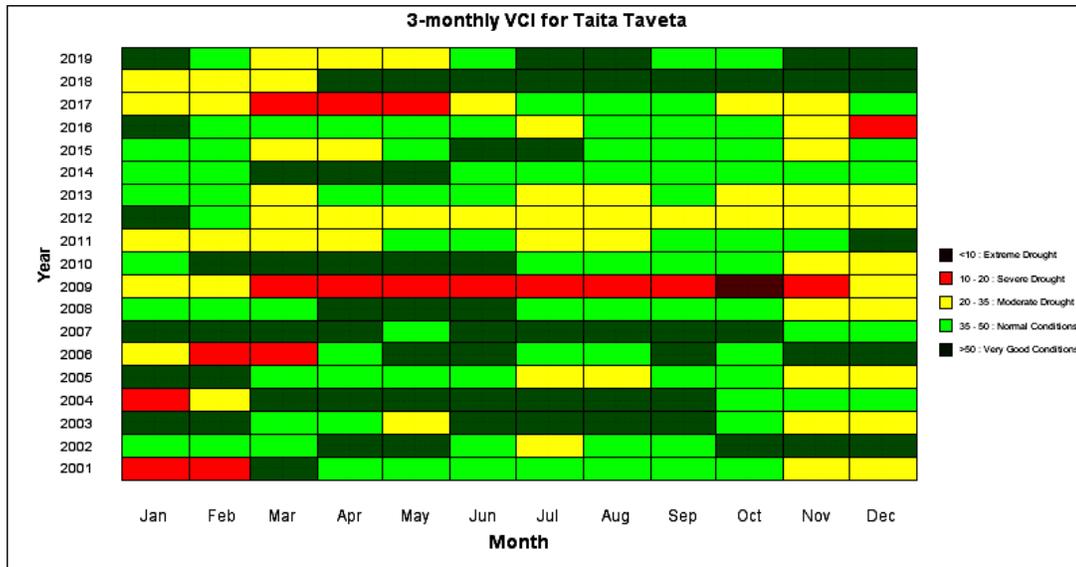
- The county experienced flash floods and mudslides during the first week of the month that affected 862 households across the county. The events claimed two lives, damaged 204 houses, claimed two lives, flooded 260 hectares of land under various crop enterprises and rendered roads impassable mainly in the highlands.

## 2. IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

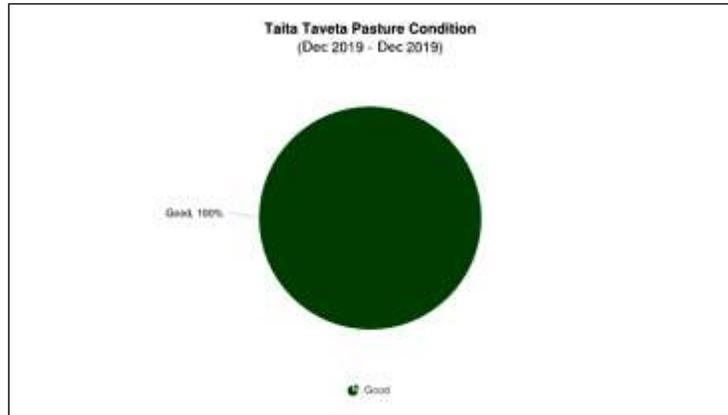
#### 2.1.1 Vegetation Condition Index (VCI)

- The vegetation greenness condition in the county was above the normal range as depicted by a three months' vegetation condition index (3M - VCI) of 98.4 and mainly attributed to sustained three months of wet weather (Figure below).
- All livelihood zones depicted vegetation greenness above normal.



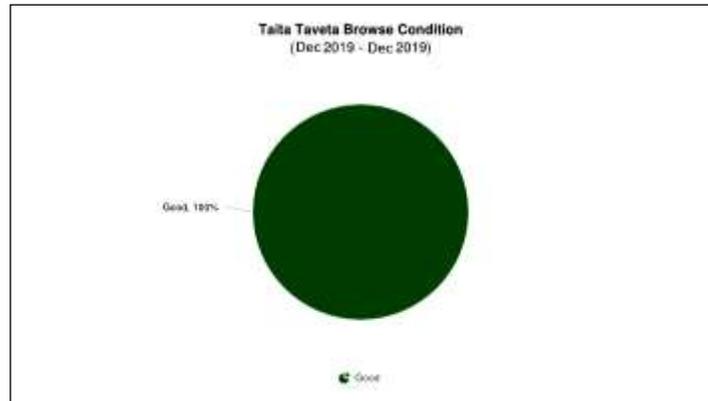
### 2.1.2 Pasture

- From community interviews 100 percent of the respondents reported pasture was good as a result of the short rains and that its condition was above normal.
- In comparison to the previous month, pasture condition improved.
- Available pasture is expected to last until the onset of long rains in March.
- Pasture condition was good in all livelihood zones.



### 2.1.3 Browse

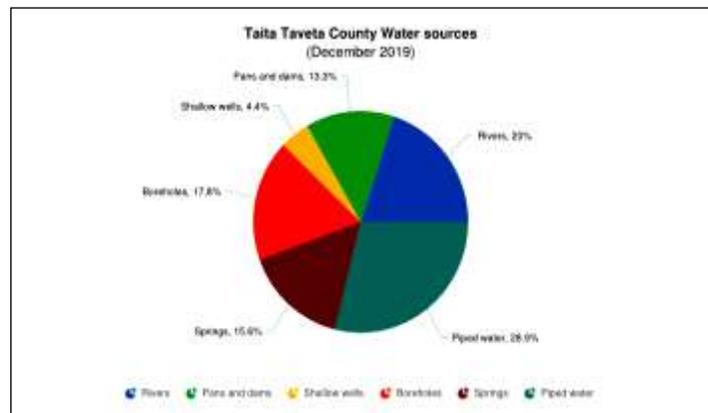
- From community interviews 100 percent of the respondents reported browse condition was good and above normal.
- Compared to the previous month, the browse condition improved due to above normal rains being experienced in the county.
- Available browse is expected to cater for livestock until the next rainy season.
- Browse condition was good in all livelihood zones.



## 2.2 WATER RESOURCE

### 2.2.1 Sources

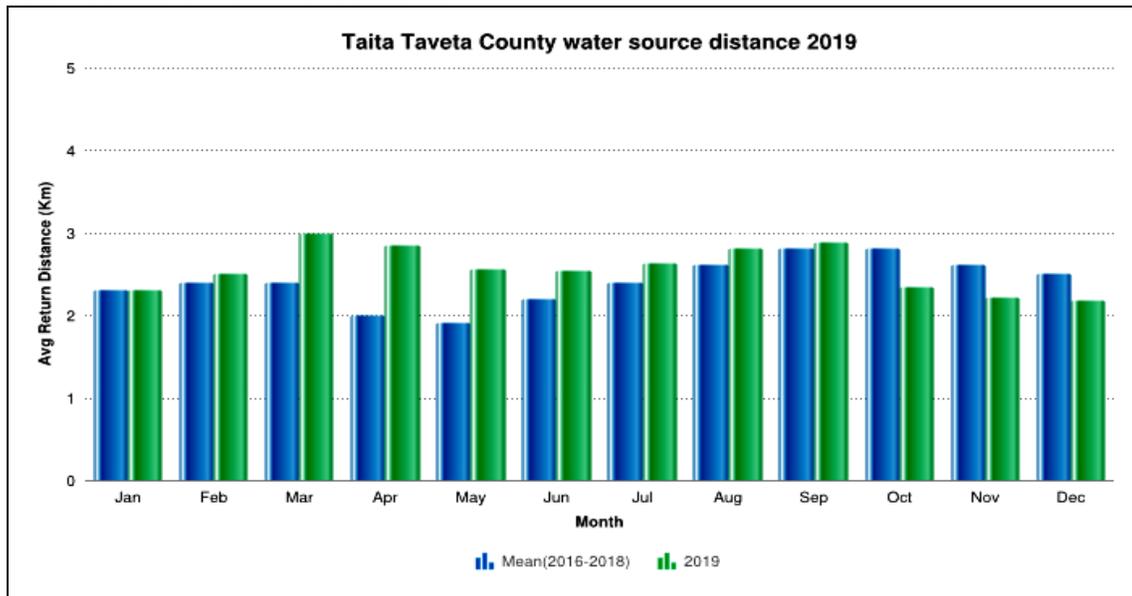
- The main sources of water currently in use by both human beings and livestock were piped water systems, rivers, boreholes and springs and were relied upon by 30, 20, 18 and 16 percent of the households respectively.
- Proportion of those using pans and dams increased by four percent while those using the other sources remained similar to the previous month.
- In comparison to previous month water situation remained stable due to the rains.



- In all livelihood zones water from the main sources is expected to cater for households until the next season.

### 2.2.2 Household Access and Utilization of Water

- The average return distance from households to main water sources remained at 2.2 km same as the previous month and below long term average by 12 percent as indicated in the graph below. This was due to recharge of water sources resulting from the rains received in the month under review.



n=21 Key Informants

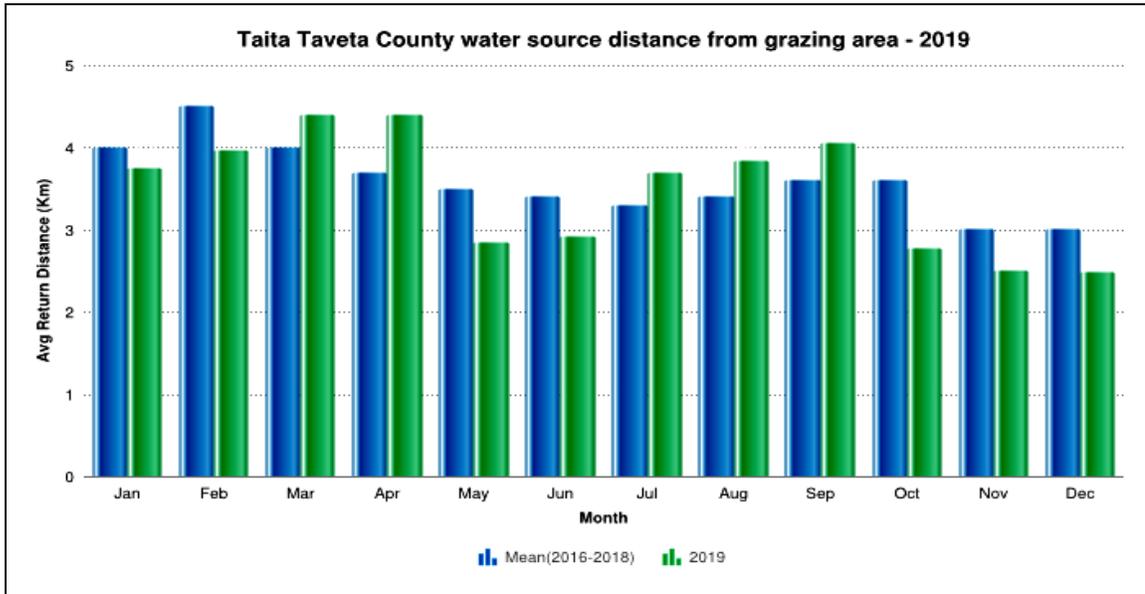
- The county average water consumption per person per day remained stable at 17 litres as posted in the previous month and was represented as follows; mixed farming: horticulture/ dairy livelihood zone at 21.0 litres, mixed farming: irrigated cropping/ livestock livelihood zone at 17.5 litres and mixed farming: food crops/ livestock livelihood zone at 12.5 litres.
- Proportion of households purchasing water was at 65 percent and price per 20 litre Jerry can ranged between Kshs 1 - 5 at source across all livelihood zones. Only two percent of households' interview purchased water from vendors at relatively low cost of Kshs. 5 - 15 due to water harvesting at household level plus recharging of shallow wells and pans and dams.
- An estimated 21 percent of the sampled households treated water before drinking where 81.4 percent practised water treatment chemicals, 14 percent boiling and five percent used filtration method compared to 88 and 11 percent that used water treatment chemicals and filtration methods posted in the previous month.
- Households treating water before drinking by livelihood zone was as follows; food crop/ livestock zone 25.6 percent, irrigated cropping/ livestock zone 100 percent and five percent in horticulture/ dairy zone.

### 2.2.3 Livestock Trekking Distance to Water Sources from Grazing Areas

- Current trekking average return distance from livestock grazing areas to main water sources remained at 2.5km, same as the previous month and below the long term

average by 17 percent as indicated in the graph below. The distance remained stable due to availability of water near grazing areas.

- In all livelihood zones, frequency of watering livestock remained normal; once per day in the lowlands and twice per day in the highlands.



n=21Key Informants

### 3. PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

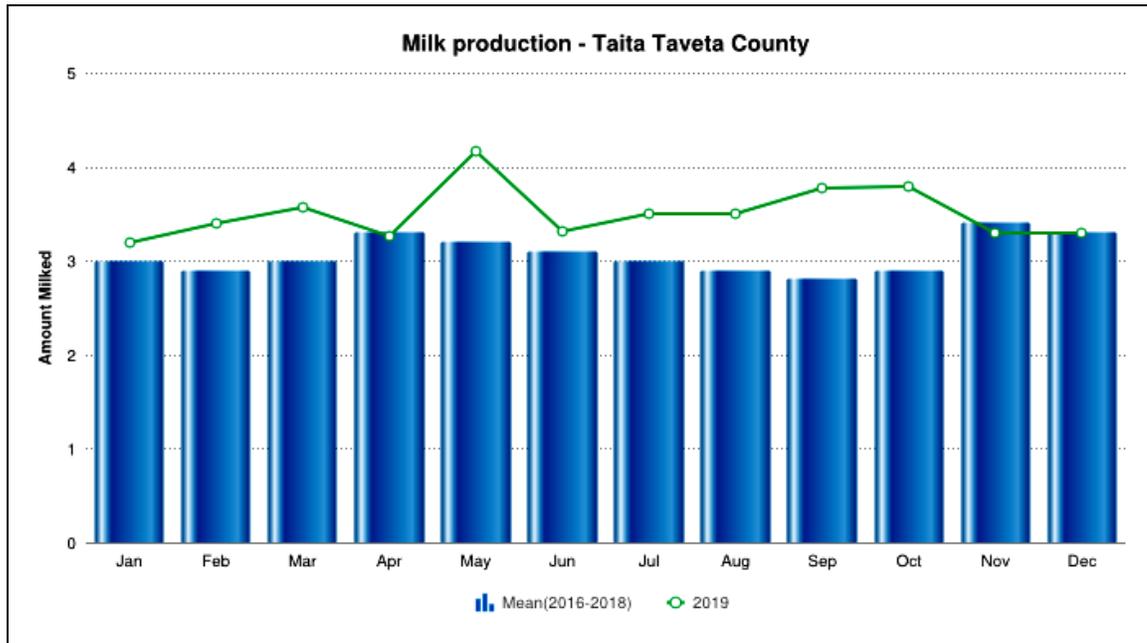
- Livestock body condition for all species was good across all livelihood zones and above normal compared to previous month.

##### 3.1.2 Livestock Diseases

- The county remained under quarantine in the month under review following outbreak of Foot and Mouth disease in September. Areas affected were Mwanda – Mghange, Wundanyi – Mbale and Wumingu/ Kishushe, Taita Sub County; Mwatate and Taveta Sub Counties and Kasigau Ward in Voi Sub County.

##### 3.1.3 Milk Production

- The average milk production (cow) per household remained stable at 3.3 litres as posted in the previous month.
- Low milk production in comparison to LTM in Mbogholi and Wumingu Wards is attributed to recovery effects occasioned by vaccination on FMD and LSD carried out in the month of November and December. In Wusi Ward drop in milk production was due to parturition period.



n=210 HHs

- Milk production in the month under review was similar to that of LTM.
- Mixed farming: horticulture/ dairy livelihood zone milk production was at 7.1 litres, in the mixed farming: irrigated cropping/ livestock livelihood zone at 3.9 litres and lowest at 1.9 litres in the mixed farming: food crop/ livestock livelihood zone.

### 3.2 RAIN-FED CROP PRODUCTION

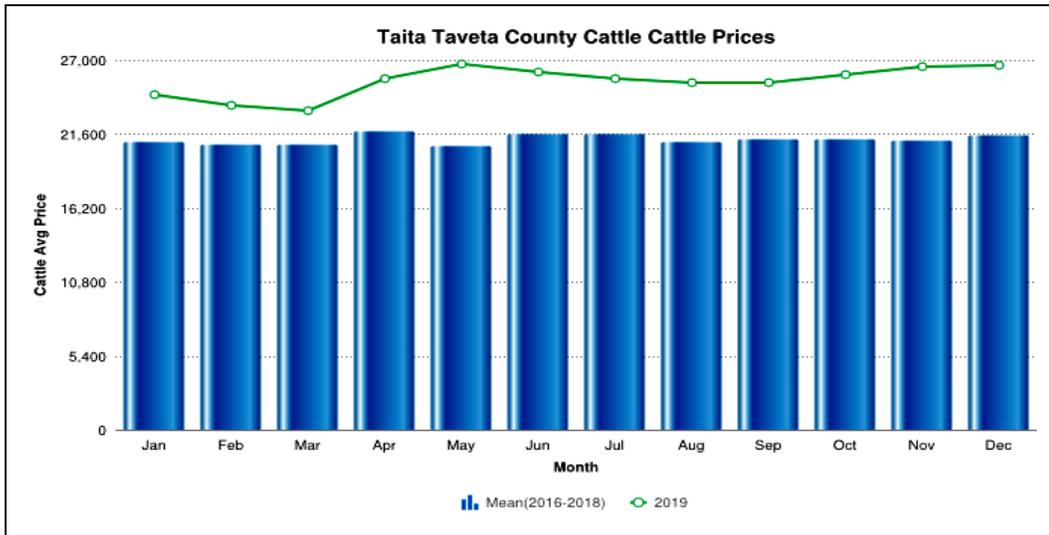
#### 3.2.1 Stage and Condition of food Crops

- The main crops planted were maize, beans, green grams, cowpeas and sorghum and were at various stages of growth. The maize crop was at the grain filling stage while beans, green grams and cowpeas ranged from pod formation to pod filling.
- Crops in the field are in good condition and farmers are expecting above normal harvest.
- Incidences of Fall Army Worms (FAW) infestation were reported both in the highlands and lowlands and farmers incurred huge expenses to purchase pesticides to contain the pest and minimise crop losses.
- In areas where landslides and mudslides were experienced crops were destroyed while others were washed away by flash floods.

## 4. MARKET PERFORMANCE

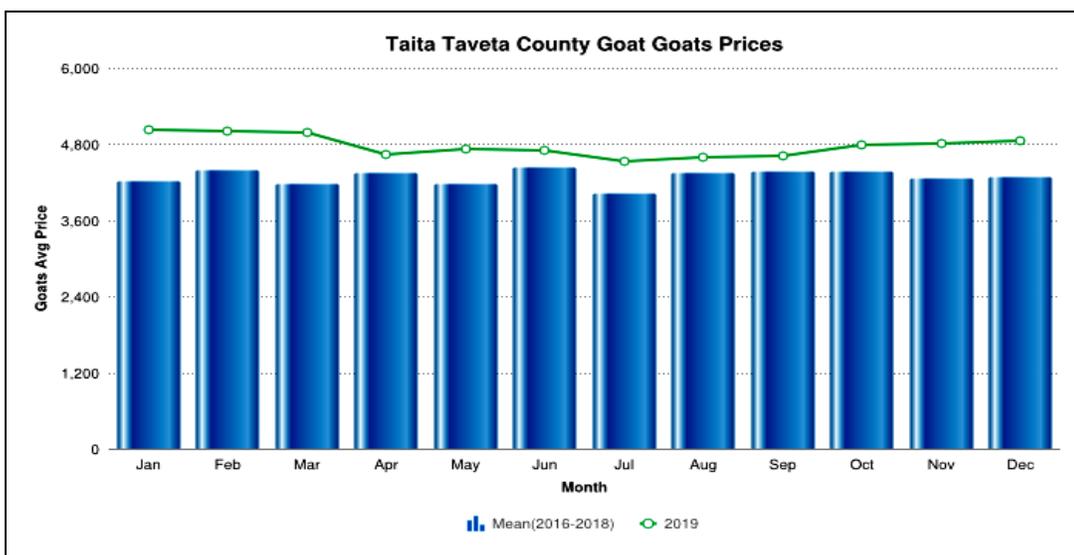
### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices



- The average market price of a three-year-old bull was on an upward trend at Kshs 26,619 compared to Kshs 26,524 the previous month. Good condition of forage resulted to good livestock body condition that contributed to the slight price increase as illustrated in the graph above.
- The highest prices were reported in the mixed farming: horticulture/ dairy at Kshs 32,000 and Kshs 26,000 in mixed farming/: food crop/livestock livelihood zone while lower prices were also reported in mixed farming: irrigated/livestock livelihood at Kshs 22,000.
- Compared to the long term mean, the county average price was higher by 24 percent.

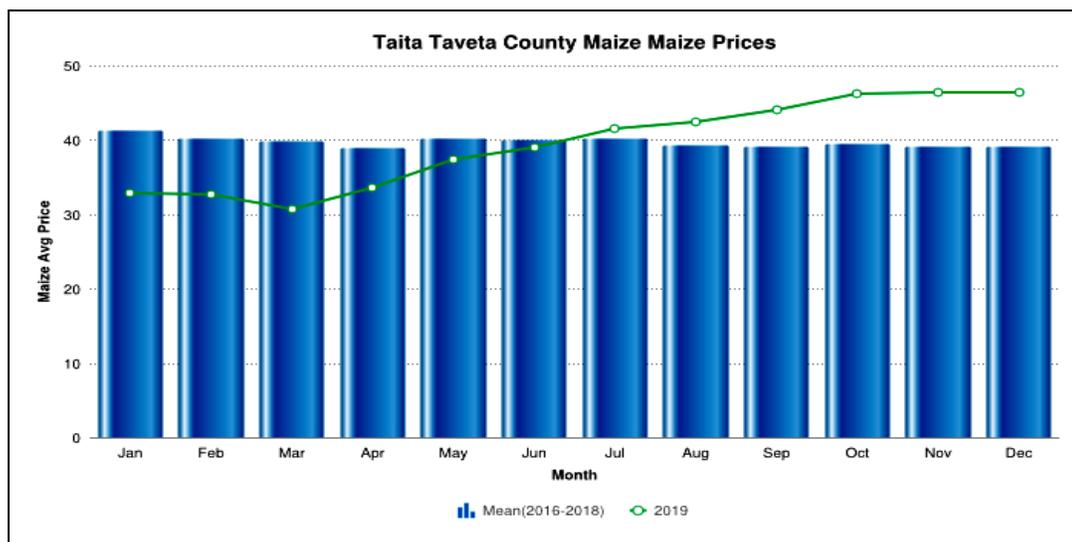
#### 4.1.2 Goat Prices



- The county average market price of a two-year-old goat remained stable at Kshs 4,800. Demand for goat meat during the festive season plus good forage condition ensured the good market prices for goats.
- The highest prices were reported in the mixed farming: horticulture/ dairy livelihood zone of Kshs 6,500 where farmers keep improved breeds that can withstand climatic conditions in the highlands, while lower prices of Kshs 4,700 and Kshs 4,000 were reported in mixed farming: food crop/ livestock livelihood zone and mixed farming: irrigated/livestock livelihood zone.
- Compared to long term mean, the average price was higher by 14 percent.

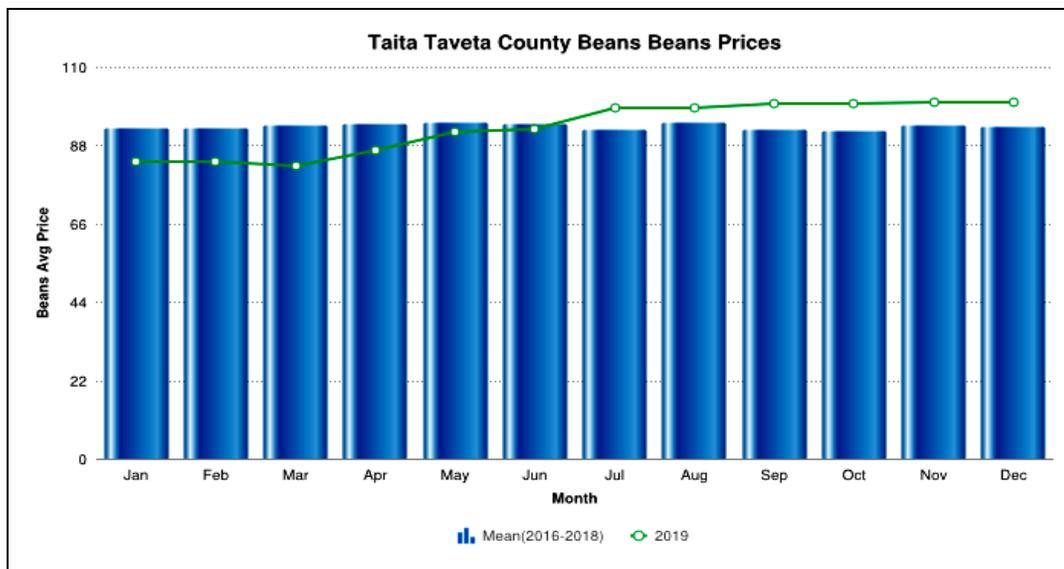
## 4.2 CROP PRICES

### 4.2.1 Maize



- The average market price of a kilo of maize remained at Kshs 46 as posted in the previous month and above the long term average by 19 percent.
- Above average prices were reported due to increased demand for the product given that most households have depleted their maize stocks. From household interviews 79 percent relied on markets and 21 percent on own production. In the irrigation zone more than 80 percent of the households relied on own production.
- Across the livelihood zones the highest prices were recorded in the mixed farming; food crops/ livestock livelihood zone (Ghazi, Rukanga and Chumvini markets) at Kshs 48.00 followed by horticulture/dairy livelihood zone (Wumingu market) at Kshs 45, while mixed farming: irrigated/livestock livelihood zone (Taveta Town) recorded a lowest price of Kshs 40.

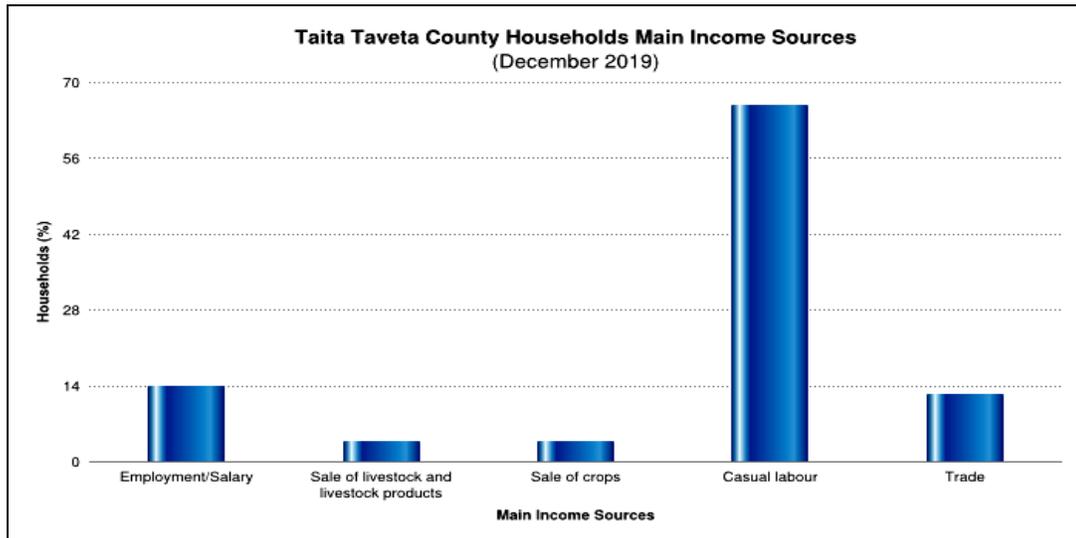
## 4.2.2 Beans



- The average market price of a kilo of beans remained at Kshs 100 compared to the previous month and above the long term mean by 7.5 percent. Above normal price was due to increased demand at the market level emanating from depleted bean stocks at household level where 70 percent of households interviewed relied on purchase of food while the remaining 30 percent relied on own production.
- Across the livelihood zones the price varied with the mixed farming: food crops/ livestock livelihood zone recording the highest price of Kshs 102 while mixed farming: irrigated/ livestock livelihood zone and mixed farming: horticulture/dairy livelihood zone recorded a price of Kshs 100 and Kshs.90 respectively.

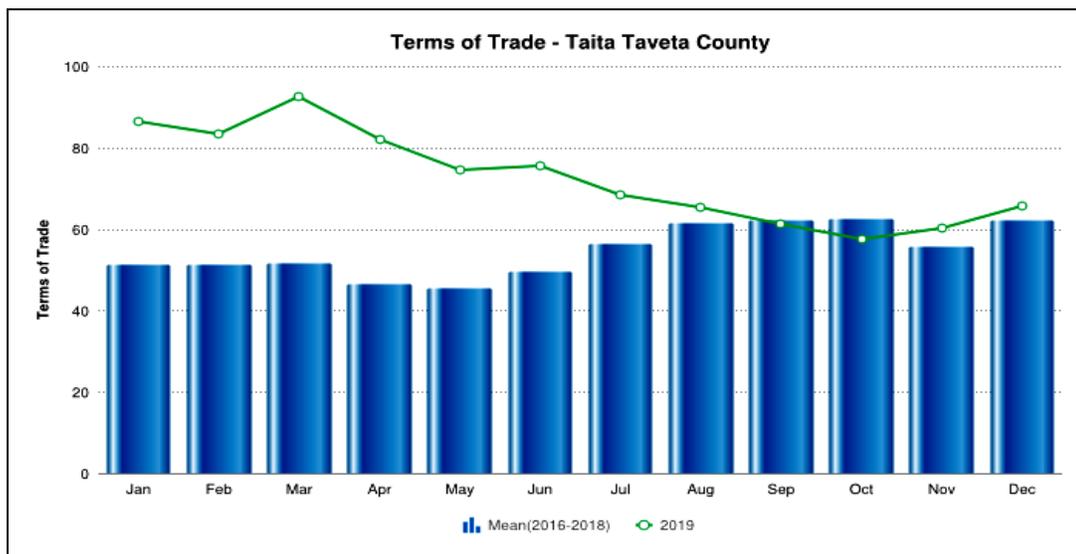
## 4.3 INCOME

- The main source of income was casual labour. Others included; trade, employment, and sale of livestock and livestock products and sale of crops at lower proportions. The average casual labour wage for the county for the month under review was Kshs. 3000.
- Compared to previous month sources of income remained relatively stable.
- Casual labour opportunities were available in the sisal and banana plantations, irrigation schemes, mining sector, herding, ranches, building sites, bush clearing on road reserves and town centres.



n=210HHs

#### 4.4 TERMS OF TRADE (CASUAL LABOUR VERSUS MAIZE PRICES)

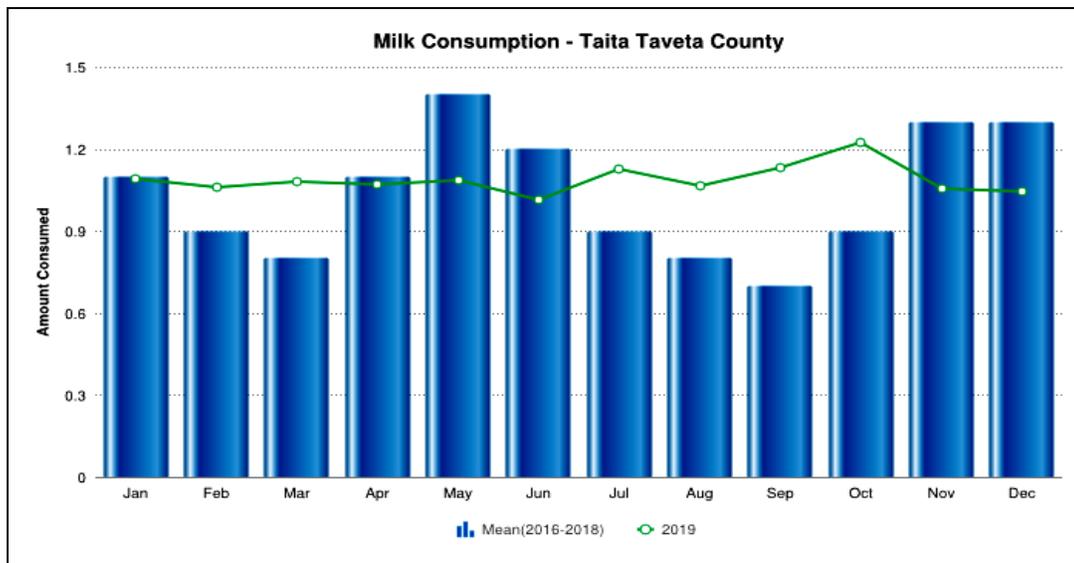


- The Terms of Trade (ToT) increased by 8 percent to 68 and above the long term mean by 23 percent.
- ToT ratio by livelihood zone were as follows; mixed farming: irrigated cropping/livestock livelihood zone recorded the highest at 87 due to high wages paid in the irrigation zone coupled with low maize prices, mixed farming: food crops/livestock livelihood zone at 59 and mixed farming: horticulture/ dairy livelihood zone at 58.

## 5. FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- Milk consumption per household per day remained at one litre as posted in the previous month and below the long term mean by 23 percent. The drop was as a result of outbreak of FMD and LSD and ongoing vaccination measures.

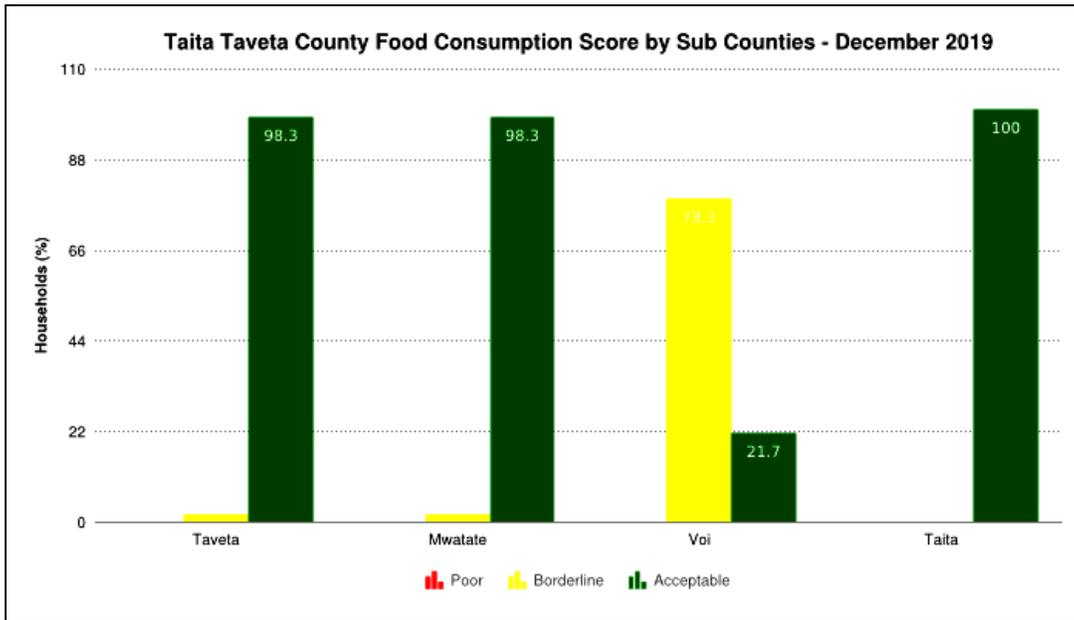


n=210 HHs

- Milk consumption per household per day in regard to livelihood zones; mixed farming: food crops/livestock (0.9 litres), mixed farming: horticulture/ dairy (1.0 litre) and mixed farming: irrigated cropping/livestock (1.1 litres).

## 5.2 FOOD CONSUMPTION SCORE

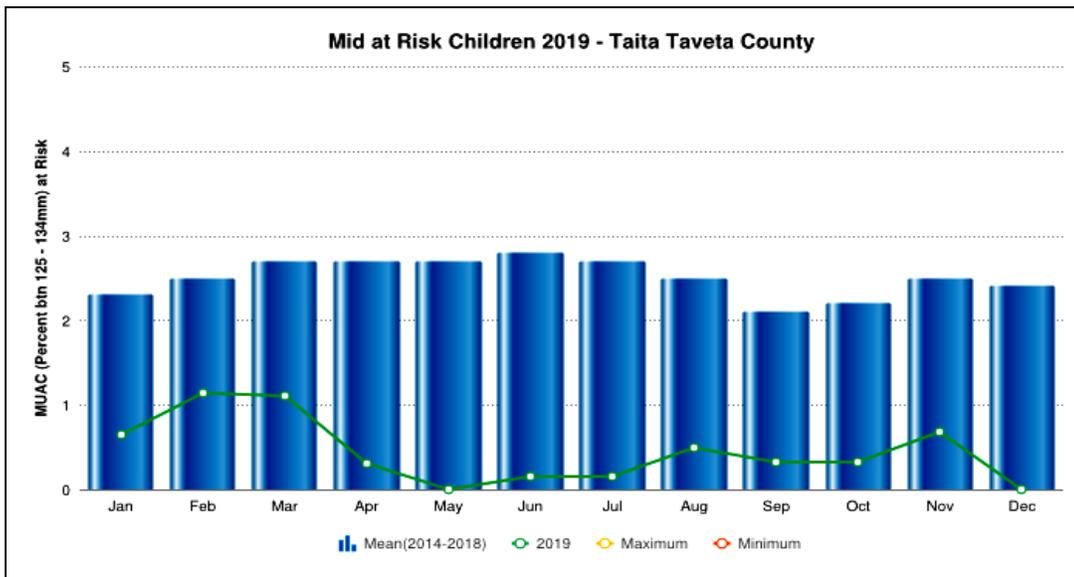
- The prevalence of households with acceptable, borderline and poor food consumption score (FCS) was at 76.7, 23.3 and 0.00 percent respectively and relatively stable compared to the previous month.
- Compared to a similar period in 2018 where prevalence was at 53.1, 44.9 and 2.0 percent for acceptable, borderline and poor FCS respectively, household consumption for the month under review was much better given that more households were in the acceptable food consumption category.
- The current mean food consumption score depicted an improving trend at 61.6 compared to 59.4 posted in the previous month.
- The mean FCS score was high in the mixed farming: irrigated cropping/ livestock livelihood zone recorded at 91.6 while mixed farming: horticulture/ dairy livelihood zone and mixed farming: food crop/ livestock livelihood zone recorded the lower values of 49.2 and 43.91 respectively. In all the zones, most households consumed three food groups i.e. maize, pulses and vegetables and in addition meat and milk was served during the seven days recall period.



n=210HHs

### 5.3 HEALTH AND NUTRITION STATUS

- A total of 595 children below five years were sampled for MUAC measurement where proportion of male and female was at 54 and 46 percent respectively.

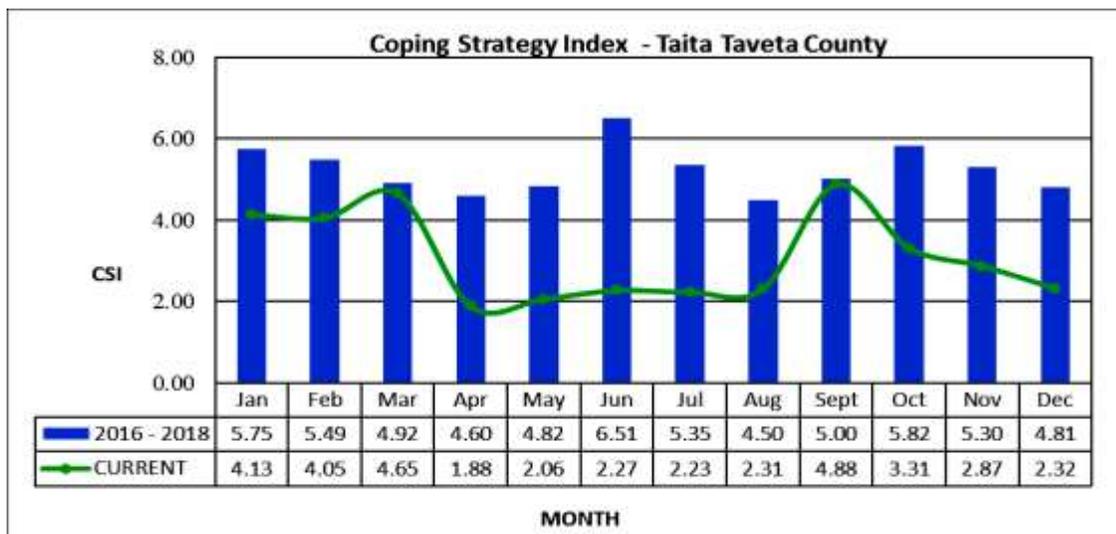


#### 5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition (125 – 134 mm) was at 0.0 percent compared to 0.7 percent reported in the previous month as illustrated in the graph above.
- No cases of GAM by MUAC (moderate 115-124mm) and (Severe<115) were recorded.
- The current proportion of MUAC (125 - 134) was lower than LTM by 100 percent.
- Across all livelihood zones nutrition status of children below five years remained good in the seven sampled sentinel sites.

## 5.4 COPING STRATEGIES

- The average Coping Strategy Index (CSI) decreased to 2.32 compared to 2.87 posted in the previous month and relatively same to the long term average. This positive adjustment in consumption based coping strategies was due to own production of green leafy vegetables and a smaller proportion harvested pulses.
- Generally, most sampled households employed consumption based coping strategies that were within the normal range.
- The current CSI indicate that households were coping less compared to similar period last year where CSI was at 3.91.
- Highest CSI was recorded in mixed farming: horticulture/dairy livelihood at 3.13 while in the food crop/ livestock livelihood zone at 2.7. None of the consumption based coping strategies were employed by households in the mixed farming: irrigated cropping/ livestock livelihood zone.
- The graph below show trend of consumption based coping strategy index in the county.



n=210HHs

## 6. CURRENT INTERVENTION MEASURES (ACTION)

### 6.1 FOOD AND NON FOOD INTERVENTIONS

#### 6.1.1 Sectoral

Intervention	Activities	Implementers
<b>Agriculture and Livestock Sector</b>		
Enhancing food security	<ul style="list-style-type: none"> <li>Farmer capacity building on pest and disease control e.g. Fall army worm which is a major threat in maize production and Tuta absoluta in tomatoes</li> <li>Trainings on climate smart agriculture technologies for increased productivity and resilience to climate change risks</li> </ul>	Department of Agriculture, Livestock, Fisheries & Irrigation
Improved livestock health and nutrition	<ul style="list-style-type: none"> <li>Vaccination of LSD and FMD</li> </ul>	Department of veterinary services
<b>Health and Nutrition Sector</b>		
Improved health and nutrition of the community	<ul style="list-style-type: none"> <li>Vitamin A supplementation through community growth monitoring centres</li> <li>Distribution of Nutrition commodities to all facilities through KEMSA</li> </ul>	Department of Health and Nutrition
<b>Multi-Sectoral</b>		
Flood risk coordination	<ul style="list-style-type: none"> <li>Flood risk assessment undertaken and report submitted to head quarter</li> </ul>	County Steering Group

## 7. EMERGING ISSUES

### 7.1 Insecurity/ Conflict/ Human Displacement

- No major cases of human wildlife conflict were reported in the month under review.

### 7.2 Migration

- No cases of in migration were reported in the month under review.

### 7.3 FOOD SECURITY PROGNOSIS

- The rains performed well and farmers are expecting above normal harvests of maize, beans, cowpeas and green grams.
- Household own production will see prices on a downward trend in the markets due to decreased demand.
- Household's purchasing power is expected to improve due to reduced expenditure on food stuff.
- Good forage condition is anticipated to cater for livestock till onset of long rains. Livestock production is expected to improve plus prices of all livestock species are projected to remain stable due to good body condition.

- Water availability and accessibility is projected to be good and distances to remain relatively shorter than normal.
- Minimal consumption based coping strategies are expected to be employed as households continue to harvest.
- Food consumption patterns will improve due to own production and enhanced purchasing power to afford other foods such as milk, meat, eggs and fruits.
- Availability of casual labor opportunities and wage rates in the farms are likely to increase and make terms of trade more favorable.

## **8. RECOMMENDATIONS**

### **Agriculture and Livestock Sector**

- Post-harvest management
- Intensify campaigns on pasture harvesting
- Livestock disease surveillance

### **Health and Nutrition**

- Household level water treatment and storage to increase access to safe drinking water.

### **Multi-Sectoral**

- Provision of food and non food assistance to those displaced by floods, landslides and mudslides.
- Resettlement of the displaced 56 families from Tanzania village housed at IDPs camp in Voi primary school.