

# National Drought Management Authority

## TANA RIVER COUNTY

### DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2018



A Vision 2030 Flagship Project



#### DECEMBER EW PHASE

Drought Status: **ALERT**



Maandalizi ya mapema

#### Drought Situation & EW Phase Classification

##### Biophysical Indicator

The County is experiencing Moderate vegetation deficit in this month.

##### Rainfall:

- The cessation of the seasonal rains was experienced in the second dekad of this month. The onset of the rains was late and the cessation came earlier than expected. Poor rainfall amounts were received. The spatial and temporal distribution was also poor.
- The vegetation condition.** The 3-month VCI shows that the County is experiencing moderate vegetation deficit in this month recording 28.8. A decrease of 29.3% was recorded in this month when compared to the previous month where the VCI was at 40.72. The VCI decreased in Bura and Galole Sub County. Bura and Galole sub counties are currently at severe vegetation deficit while Garsen Sub County is at Normal Vegetation greenness

##### Socio Economic Indicators (Impact Indicators)

##### Production indicators

- Most of the livestock are currently migrating towards the Delta regions of the county (Kipini and Assa region) where good rains were received.
- The pasture condition in the county is poor while the browse condition is fair.
- The livestock body condition for both grazers and browsers are fair.
- Milk production at household level slightly increased to 2.3 litres compared to that of the last month where the amount was at 2 litres.

##### Access indicators

- The average milk consumption in the county slightly increased to 1.8 litres compared to the last month which was at 1.6 litre. Milk consumption is currently below the normal 2012-2017 average of 2.18.
- The average livestock distance to the water sources is currently above the normal at 6.7 km. When compared to the last month where it was at 6 km. The return distance increased in this month.

##### Utilization indicators

The percentage of children under the risk of malnutrition in this month was at 12.2% compared to that of November which was at 13.5%. The decrease is attributed to the increase in milk production and consumption by the household and also the interventions by the different sectors.

#### Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Pastoral	ALERT	WORSENING
Marginal Mixed Farming	ALERT	WORSENING
Mixed Farming	NORMAL	STABLE

Biophysical Indicators	Value	Normal ranges
rainfall amount	37.6 mm	>27.23 mm
3-Month VCI	28.8	>35
State of water sources	2	5

Production indicators	Value	Normal ranges
Livestock Migration Pattern	Normal	Normal
Livestock Body Conditions	Fair	Good
Milk production	2.3 litres	>3.48 Litres
Livestock deaths (from drought)	No death reported	No death
Crops area planted (%)	20%	67% of LTA

Access Indicators	Value	Normal ranges(LTA)
Terms of Trade (ToT)	94.3	74
Milk Consumption	1.8 litres	>2.18 Litres
Average return distance to the water sources	6.7 km	4.1 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	12.2%	<11.29(%)

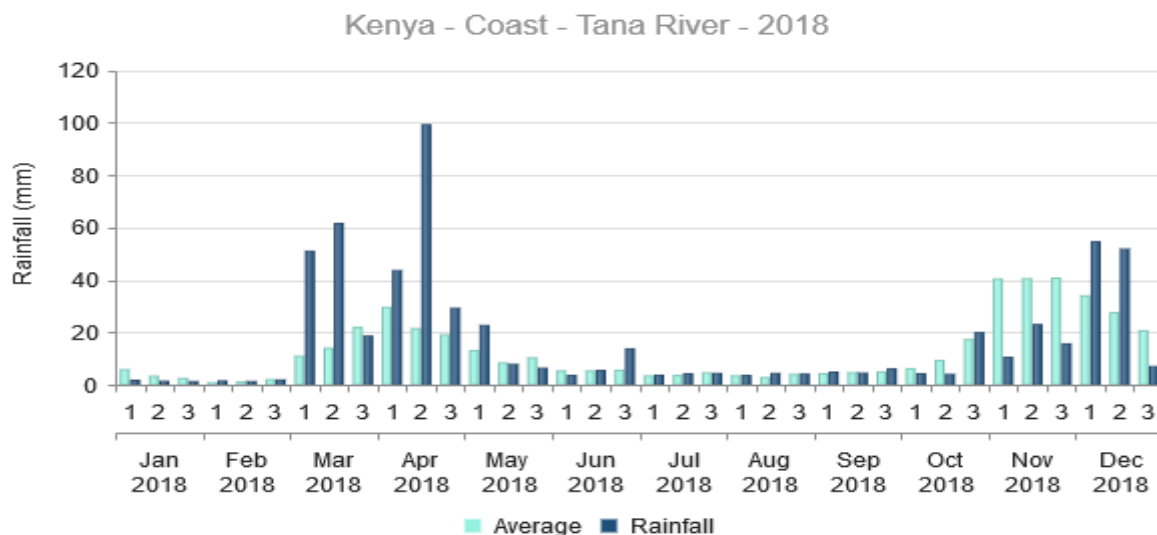
<ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Increased HH Food Stocks</li> <li>Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>Long rains harvests</li> <li>A long dry spell</li> <li>Land preparation</li> <li>Increased HH Food Stocks</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

### 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The cessation of the OND rains was early. It occurred during the second dekad of this month.
- An average rainfall of 37.6 mm was received and this is fair when compared to the long term average of 27.23 mm.
- The county received 54.4mm, 51.6mm and 6.8 mm during the first, second and third dekad of the month respectively.
- The graph below shows the rainfall amounts received in this month and compares it to the long term averages.



© WFP-VAM, CHIRPS/UCSB

Fig. 1. The graph above shows the rainfall amounts received during the month of December.

## 2. IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

- The 3-M Vegetation Condition Index indicates that the county is experiencing moderate vegetation deficit recording a VCI of 28.8 by the end of December. The VCI has reduced in this month when compared to that of November which stood at 40.72.
- The VCI reduced by 29.3% in this month. The county vegetation condition has been deteriorating from June up to this month.
- The matrix below shows the vegetation condition in the county;

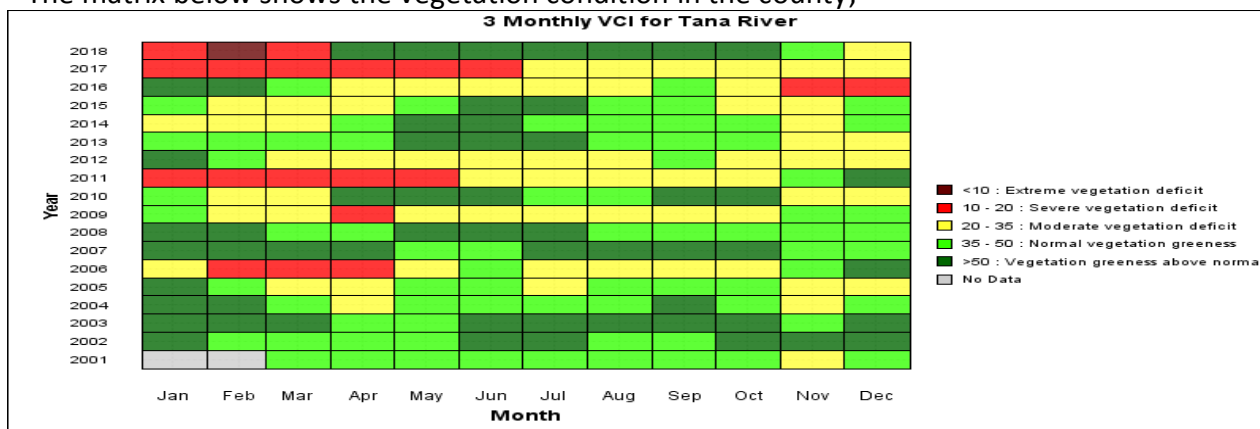


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The chart below further reveals the 3-month VCI trend for this month and relates it to the VCI values in 2017, the long term average, the maxima and minima.
- The current County VCI is currently 60% below the maxima and 30.9% above the average recorded in the same time of the previous years.
- The Chart below shows that the vegetation condition is on a constant reducing trend from June up to this month.

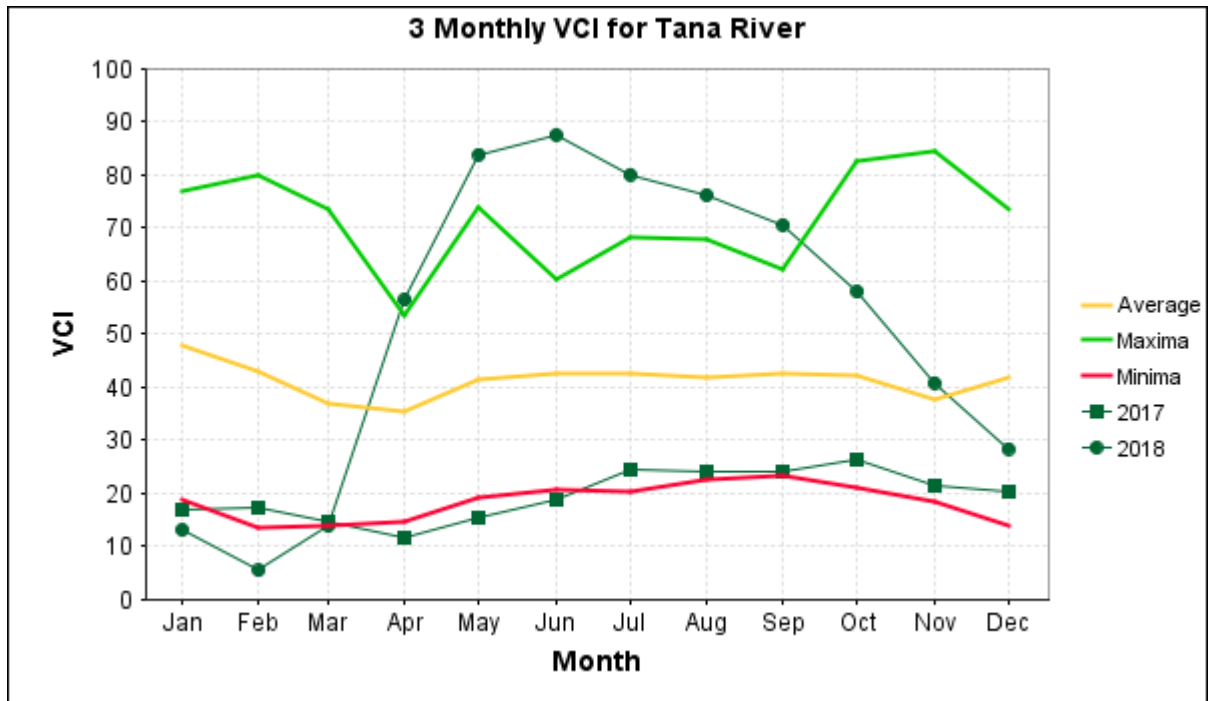


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

### Sub county VCI

Bura and Galole sub counties are presently experiencing severe vegetation deficit while Garsen Sub County is in the Normal vegetation greenness category. The Overall County and sub counties VCI depicts a sharp reducing trend in this month.

#### Bura

The 3-month VCI for Bura is currently at 19.24 compared to last month's VCI of 47.54, the vegetation conditions continues to deteriorate in this month. The current vegetation condition is severe compared to the same time in the previous records.

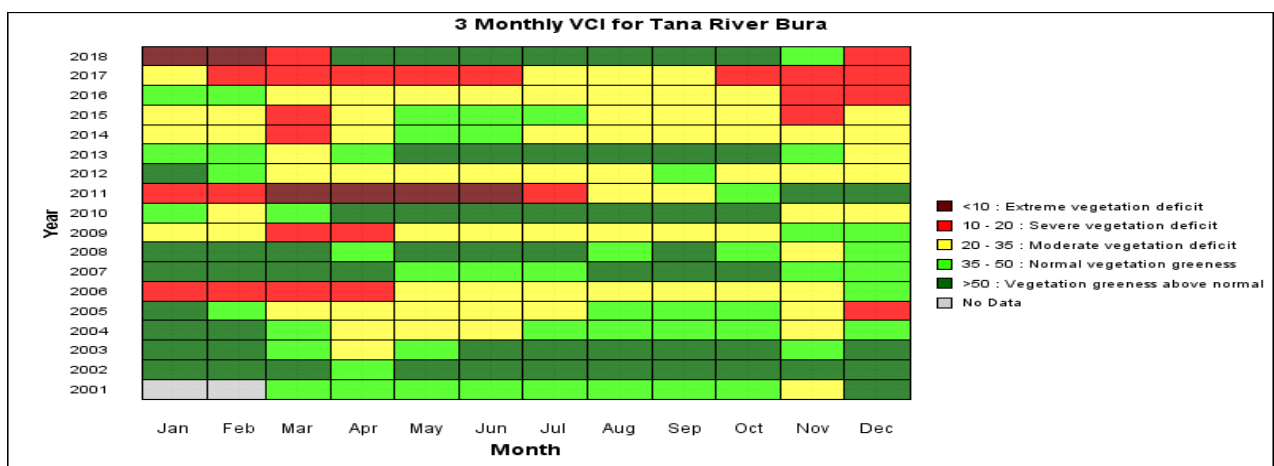


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

### Galole

- The 3-month Vegetation cover for Galole is currently at 17.42. Compared to last month's VCI of 31.77, the VCI for this sub county is also on a reducing trend recording a 36.7% decrease.
- As shown in the matrix below, this sub county is currently experiencing severe vegetation deficit.

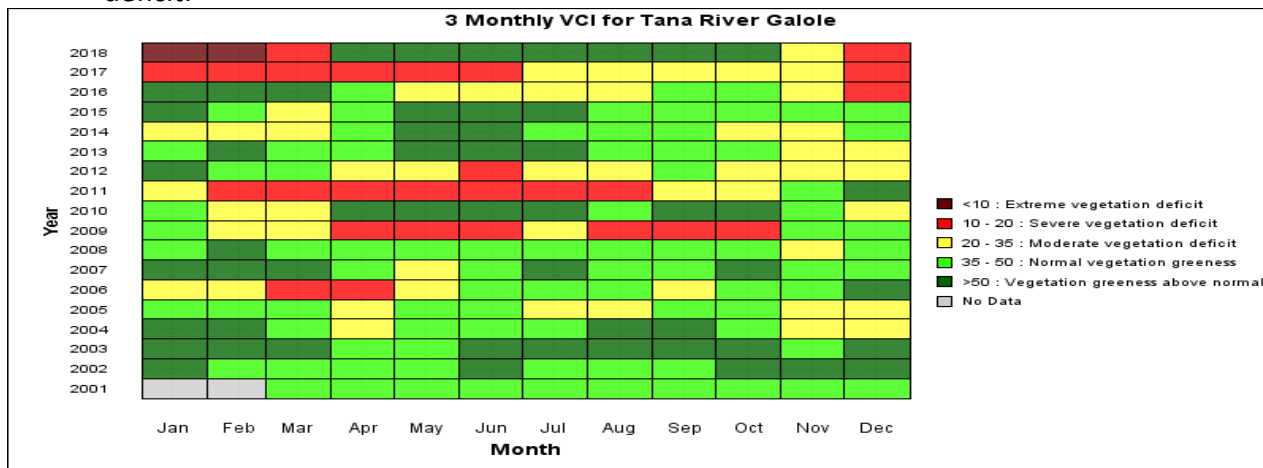


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

### Garsen

- The 3-Month VCI for Garsen is currently at 42.7 compared to last month's VCI of 40.54. The VCI in this sub county slightly increased in this month.
- The VCI of 42.7 indicates that the sub-county is experiencing normal vegetation greenness in this month.

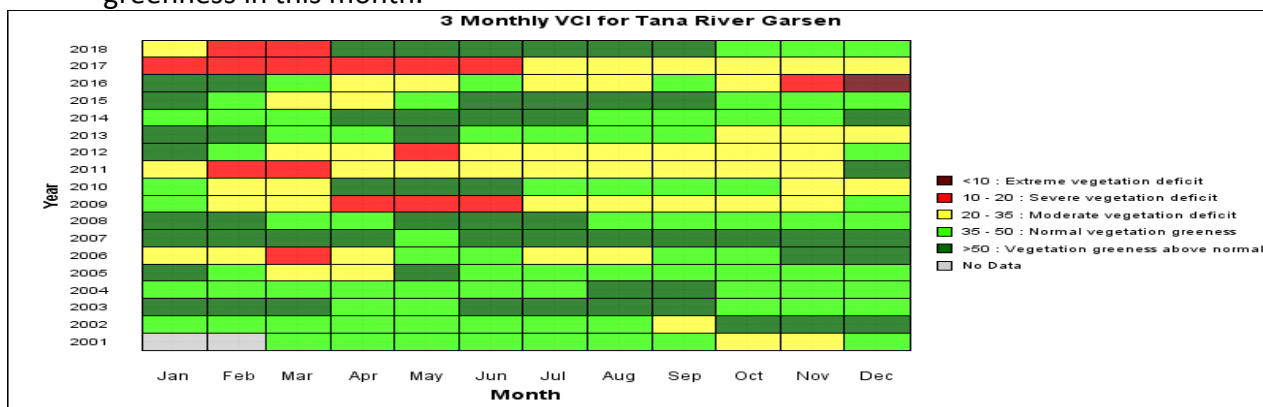


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

### 2.1.2 Pasture

- The current pasture quality and quantity is poor in the county. Pasture condition along the riverine region and the delta region (Assa) is generally fair when compared to that of the mainland of Bura and Galole Sub County.
- The pasture conditions in the pastoral livelihood region is poor and continues to deteriorate.
- Generally the pasture quality and quantity is currently below normal when compared to the same time of the past years and is expected to sustain the livestock for only 1 month.

### 2.1.3 Browse

- Browse condition is fair across the livelihood zones. When compared to similar period, browse condition is normal.
- The overall browse quality and quantity in the county is also fair and can sustain the livestock for 2 month.

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- The major water sources in the county are River Tana, pans and shallow wells.
- Communities within the pastoral livelihood zone depend on pans, shallow well and borehole while Marginal mixed and the Mixed farming livelihood zones depend on River Tana and boreholes for domestic water use.
- The water pans in the pastoral region have recharged from the OND seasonal rains. The water amounts in these pans are lesser when compared to the normal, this is due to the poor performance of the rains.
- The pie chart below show the percentages for the population that depend on the different water sources in the county

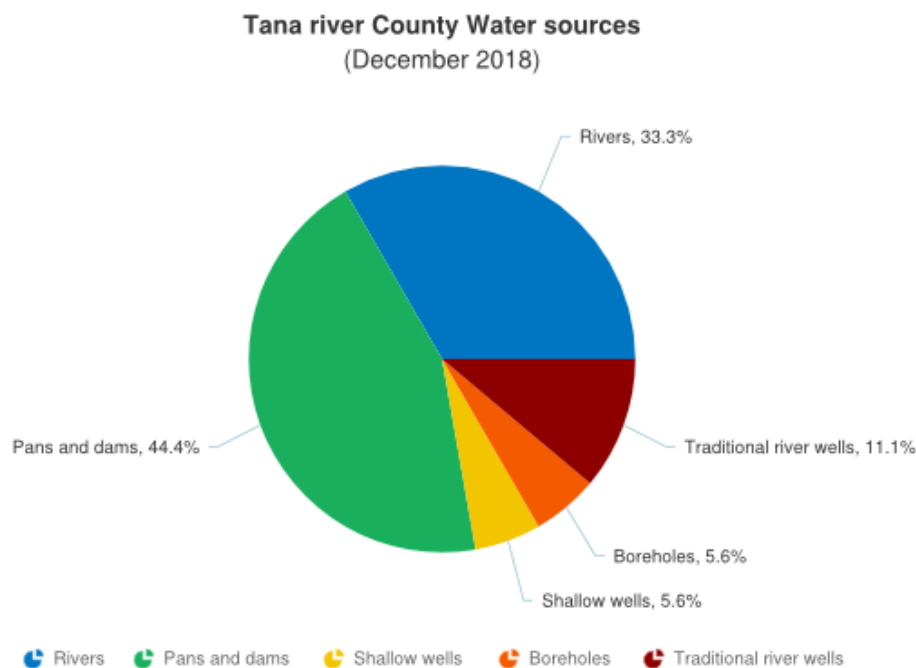
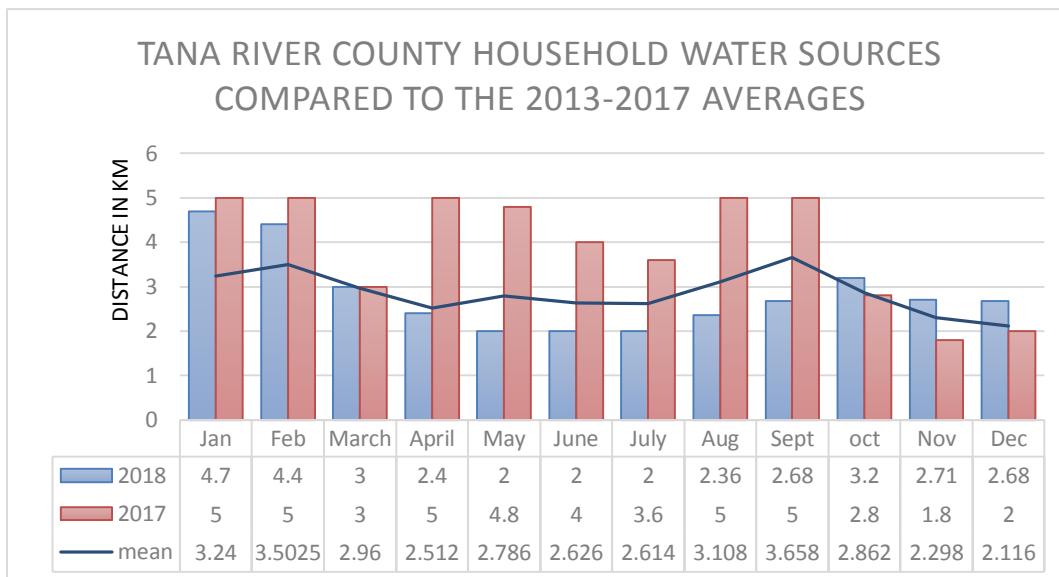


Fig 7. This pie chart shows the different water sources in the county for this month.

### 2.2.2 Household water access and Utilization

- The average return distance from the households to the main water sources in December was 2.68 kilometres.
- In comparison to November, where the distance was 2.71 km, the households distance to the main water source remained stable in this month.
- Households in the pastoral livelihood zones majorly depends on the pans, shallow wells and traditional river wells for their domestic needs.
- The households within mixed livelihood zones take approximately 45 minutes to reach water points compared to households within Pastoral livelihood zones which take up to 1 hour 30 minutes to water points.
- The current distances are above the normal during this time of the year.



### 2.2.3 Livestock access

- The average distance covered by livestock from the grazing areas to main water source in December was 6.7 kilometres. .
- In comparison to November where the livestock covered 6 kilometres, the distances covered by the livestock slightly increased in this month.
- The distance covered by livestock to access water is currently above the normal when compared to the long term average and shorter when compared to the same time in 2017.

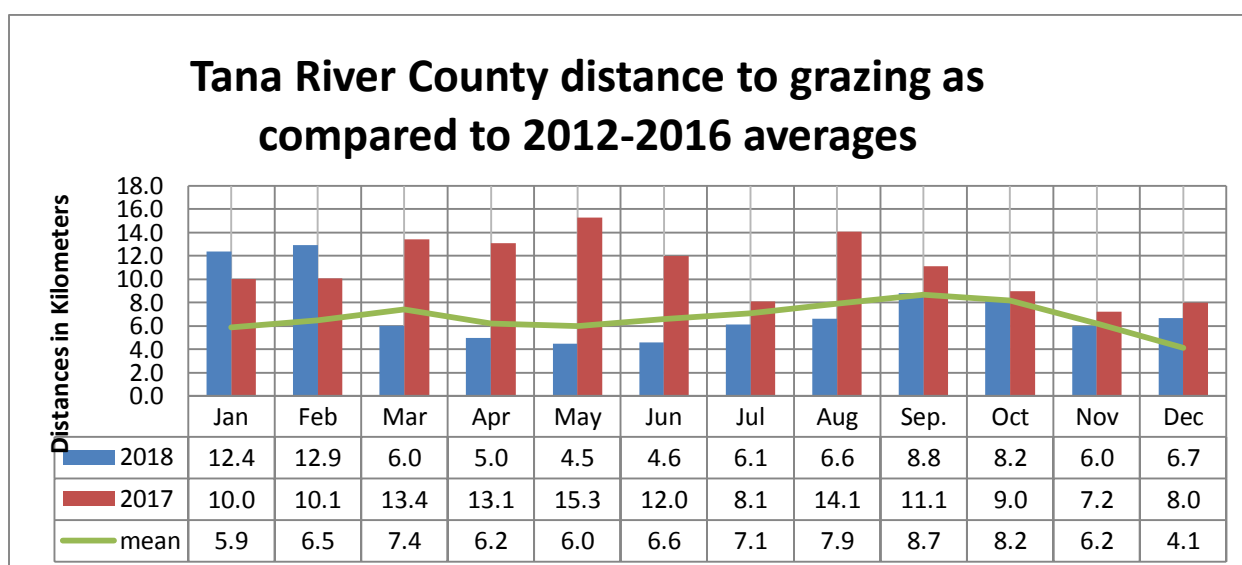


Fig 9 n=450 Households

## 3.0 PRODUCTION INDICATORS

### 3.1 LIVESTOCK PRODUCTION

#### 3.1.1 Livestock Body Condition

- The current Livestock body conditions of the browsers remains good. This is attributed to the good quality and quantity of browse. The body conditions for the grazers is fair, these is attributed to the poor pasture quality and quantity. The performance of seasonal OND rains was poor did not regenerate enough pasture to sustain the livestock throughout the dry period.

### 3.1.2 Livestock migration

- Most of the Livestock are currently migrating to the delta region (Kipini and Assa region) in Tana delta Sub County. This is attributed to the fact that good rains were received in this region during the month.

### 3.1.3 Livestock Diseases

- The most common vector borne diseases are Trypanosomiasis both for cattle and camels in the Delta and in other regions; Heart water, Babesiosis and others such as Helminthiasis have also been reported. Fleas and ticks infestation has also been evidence in most herds of livestock.
- Garsen Sub county and the mainland of Galole and Bura sub county is the worst in all the county in terms of Disease outbreak. There are cases of CCPP and Trypanosomiasis continuously reported the county.
- In the delta region, Parasitic infestation cases are prevalent, especially fleas, mites and ticks in all livestock species.

### 3.1.4 Milk Production

- On average the milk produced per household within Tana River County is 2.3 litres in the month of December. The amounts slightly increased in this month when compared to the month of November which was also at 2 litres.
- In comparison to the long term mean, the current average in milk production is below the normal during this time of the year.

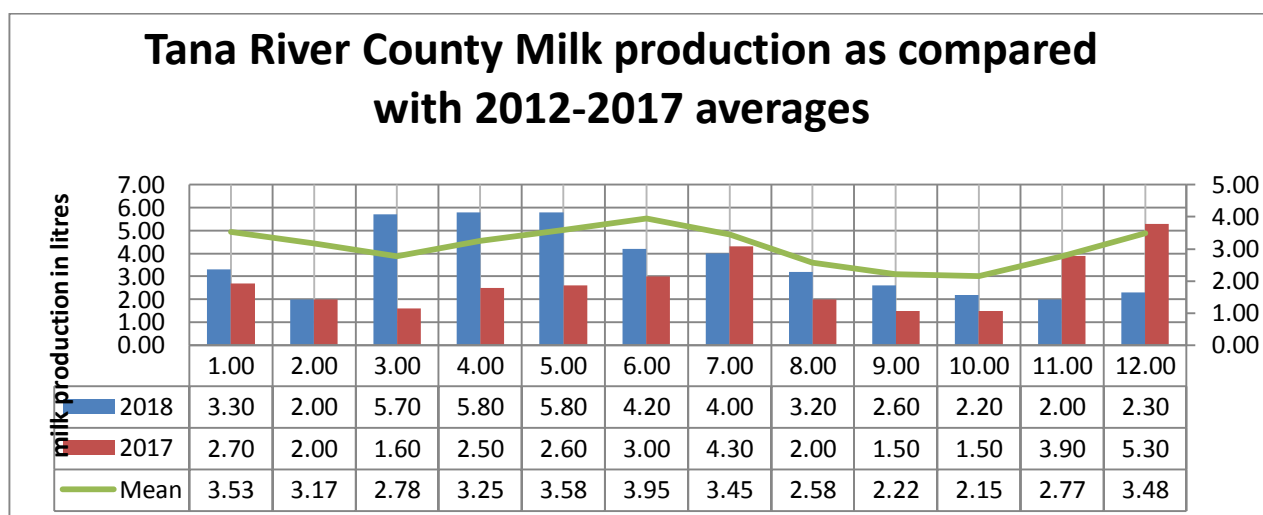


Fig 10n=450 Households

### 2.1.5 Livestock deaths

- No livestock death reported.

## 3.2 RAIN-FED CROP PRODUCTION

### 2.2 3.2.1 Stage and Condition of food Crops

- Most of the crops on farms in the marginal mixed and the mixed livelihood zone are at the knee high stage. The farmers in the rain fed farms have planted are expecting poor harvests due to the poor performance of the OND rains.
- Most of the households in the in the pastoral livelihood zone have no food stocks and they depend on purchased foodstuff and relief food.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- The average market price of a mature 3 year old bull in the month of December was KES.16,339. In comparison to the month of November, where the price was KES. 16792, the prices slightly decreased in this month.
- The decrease in the prices is attributed to the market dynamics.
- The current cattle price of KES. 16339 is above the normal at this period of the year as shown on the graph below.

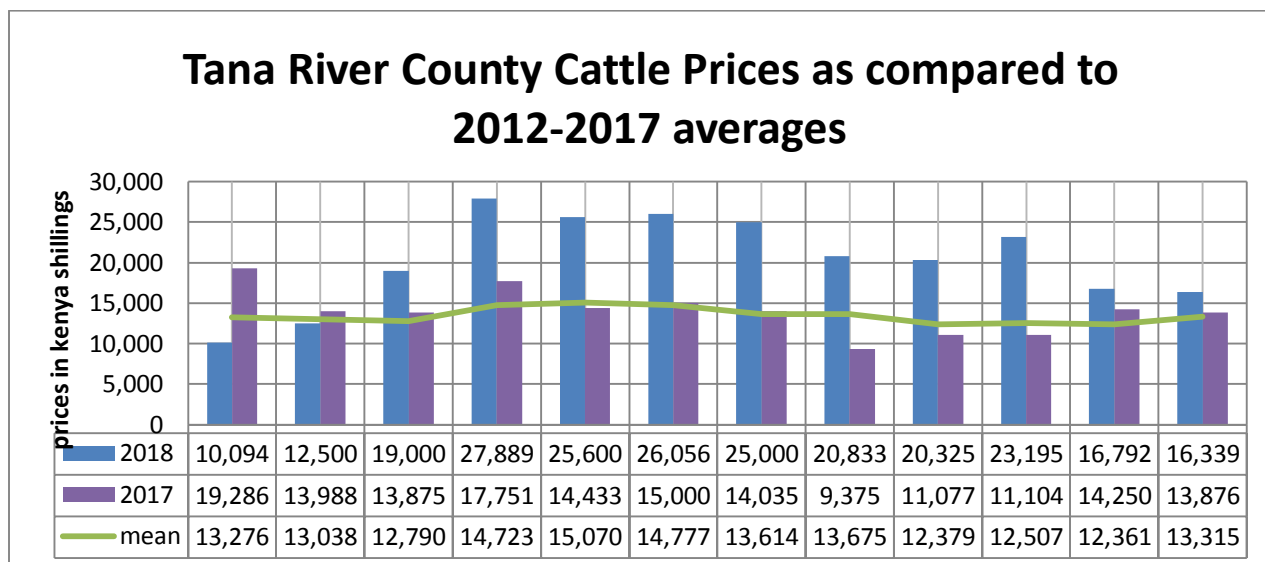


Fig 11n=450 Households

#### 4.1.2 Goat Prices

- The average price of a medium size goat in the month of December was KES.3962. In comparison to the month of November where the average price was Ksh. 4132.
- The prices in this month decreased in this month. The price variability is attributed to the market dynamics.
- The current goat price of KES.3962 is above the normal at this period of the year as shown on the graph below.

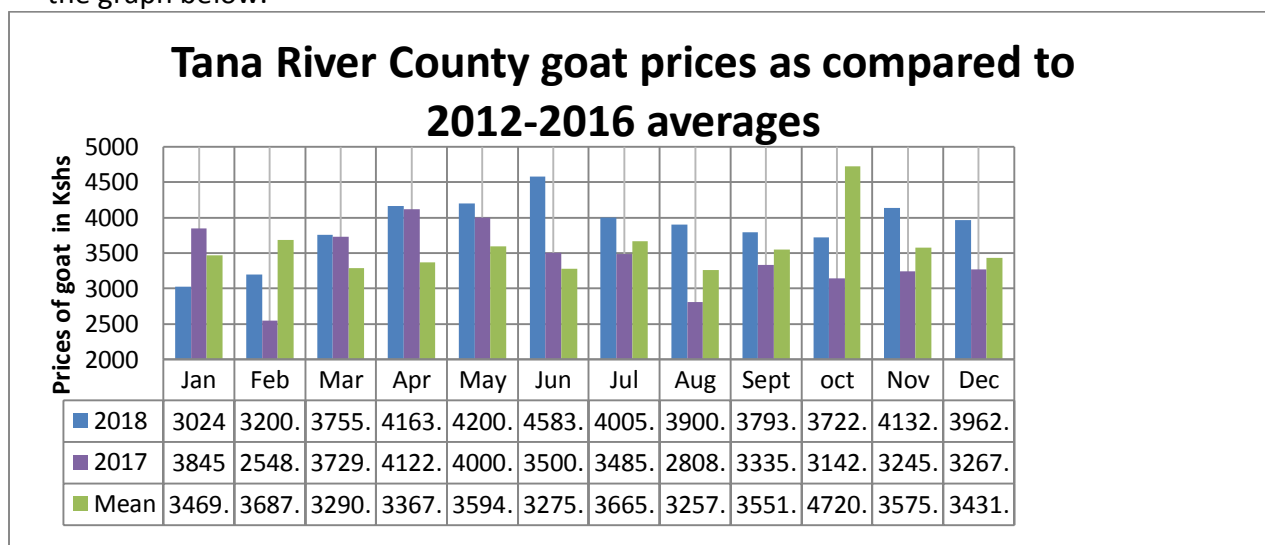


Fig 12n=450 Households



#### 4.1.3 Sheep Prices

- The average farm gate price of a sheep in the month of December was Kshs.2631. The prices reduced in this month when compared to that of the month of November which was at Ksh. 2703.
- This is attributed to the market dynamics.
- Compared to the mean of 2012-2018, the current price is above the normal at this time of the year.

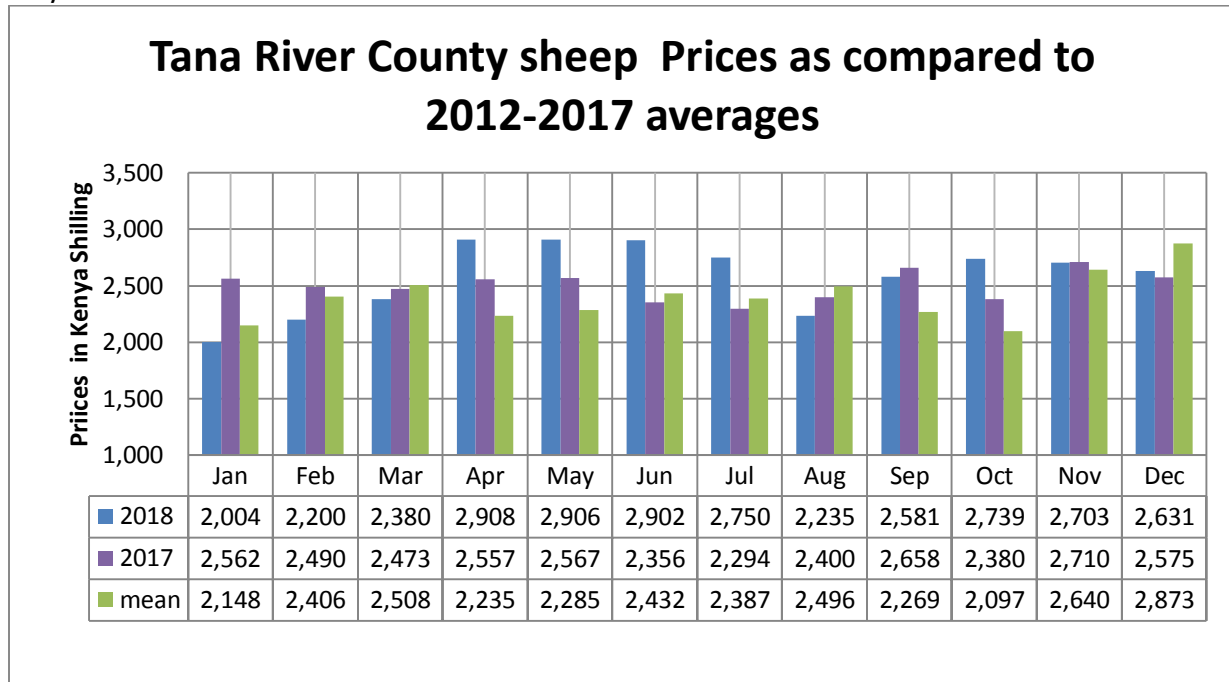


Fig 13n=450 Households

#### 4.1.4 Milk Prices

Currently milk is retailing at an average of Kes.75 per litre. The prices increased in this month when compared to the month of November which recorded a price of Ksh 70.63 per litre. This milk price remains above the average prices recorded during this time of the year.

#### 4.1.5 Terms of Trade

Currently the terms of trade are 94.3 Kg of maize for a goat. Compared to the month of November which recorded an average of 103.3, the terms of trade decreased in this month. The current terms of trade is currently above the long term mean of 74 Kg for a goat.

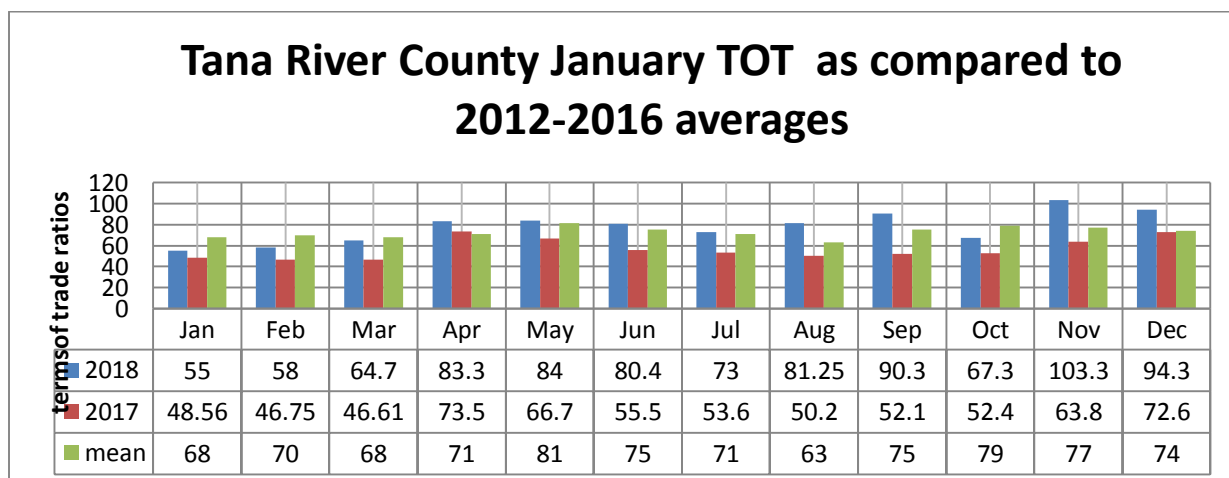


Fig 13n=450 Households

## 4.2 CROP PRICES

### 4.2.1 Maize

- The average maize market price per kilogram for the month of December was KES.42.
- When compared to the month of November, where the average price per kilogram of maize was KES. 39.2, maize prices slightly increased by the end of December.
- In comparison to the average maize price at this time of the year, the current maize prices are above long term averages of KES. 37 per kg.

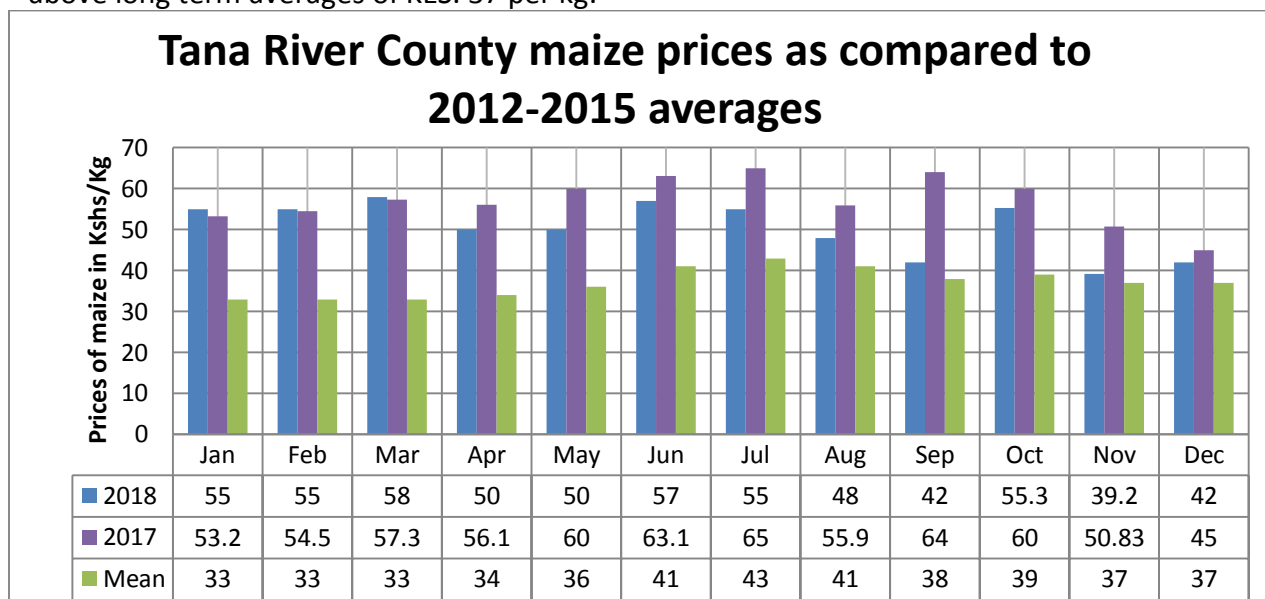


Fig 14 *n=450 Households*

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- On average the milk consumed per household was 1.8 litres in the month of December.
- In comparison to the month of November, where the average milk consumed per household was 1.6 litre. The milk consumption slightly increased in this month.
- In comparison to a normal year, the current milk consumption rate per household is below the normal at this time of the year.

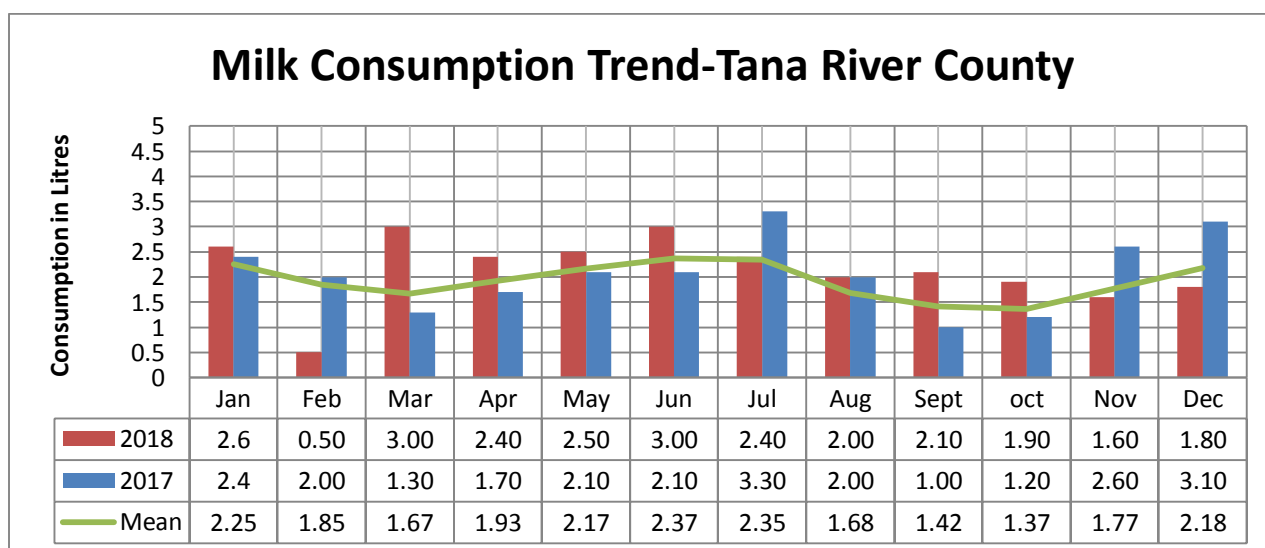


Fig 15 *n=450 Households*

## 5.2 FOOD CONSUMPTION SCORE

- The percentage of households with poor food consumption score in the county in November was 34.1% while those with border line score were 57.9% and with acceptable at 8.1%.
- The Marginal mixed livelihood zone has the highest proportions of households with poor FCS at 60.7% and the mixed livelihood zone recording the lowest in the acceptable category at 3.3%.
- Generally, the Pastoral livelihood zone recorded the highest percentage in the acceptable food consumption category. The marginal mixed and the pastoral Livelihood zones recorded the highest percentage in the poor Food consumption category.

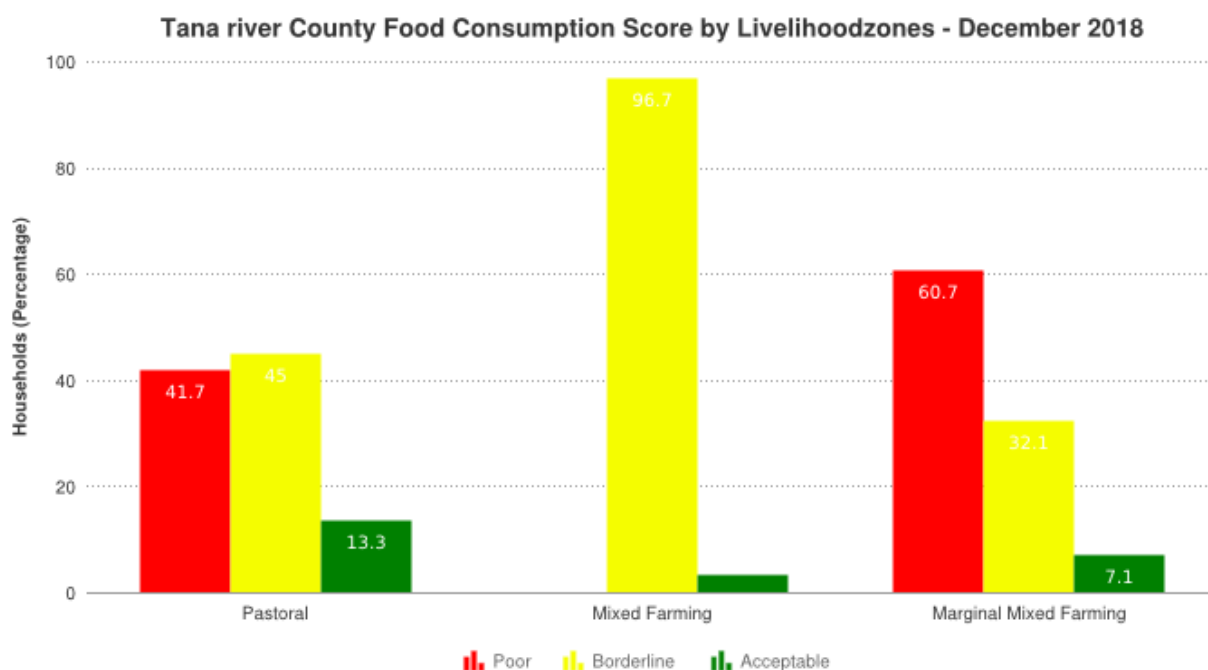


Fig 16. This figure show the food consumption score in the 3 livelihood zones of Tana River County

- From the figure shown above, proportion of households in the pastoral livelihood zone that were within the acceptable, borderline and poor food consumption score were 13.3 percent, 45 percent and 41.7 percent respectively. In the marginal mixed livelihood zone, proportion of households who were within the acceptable, borderline and poor food consumption scores were 7.1 percent, 32.1 percent and 60.7 percent respectively. In the mixed livelihood zone, the proportions of the households were 3.3 percent, 96.7 percent in the acceptable and borderline category.
- The mean food consumption score for the month under review was 28.46 across all the livelihood zones. When compared to that of November where the FCS was at 33.0, the overall county food consumption score decreased. The overall FCS in the county remains within the borderline food consumption score.
- The pastoral livelihood zone had a higher percentage of household who were in the acceptable category compared to those in the mixed and marginal mixed livelihood zone. This is attributed to the more meat and milk in this regions.

## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 MUAC

- The percentage of children under the risk of malnutrition within the month of December was at 12.2% compared to that of November which was at 13.5%.

- The number of the children under the risk malnutrition slightly decreased in this month. This is attributed to the availability of food stock in the household and also the fair purchasing power.
- Compared to long term averages of 11.29%, the current percentage is above the normal at this time of the year.

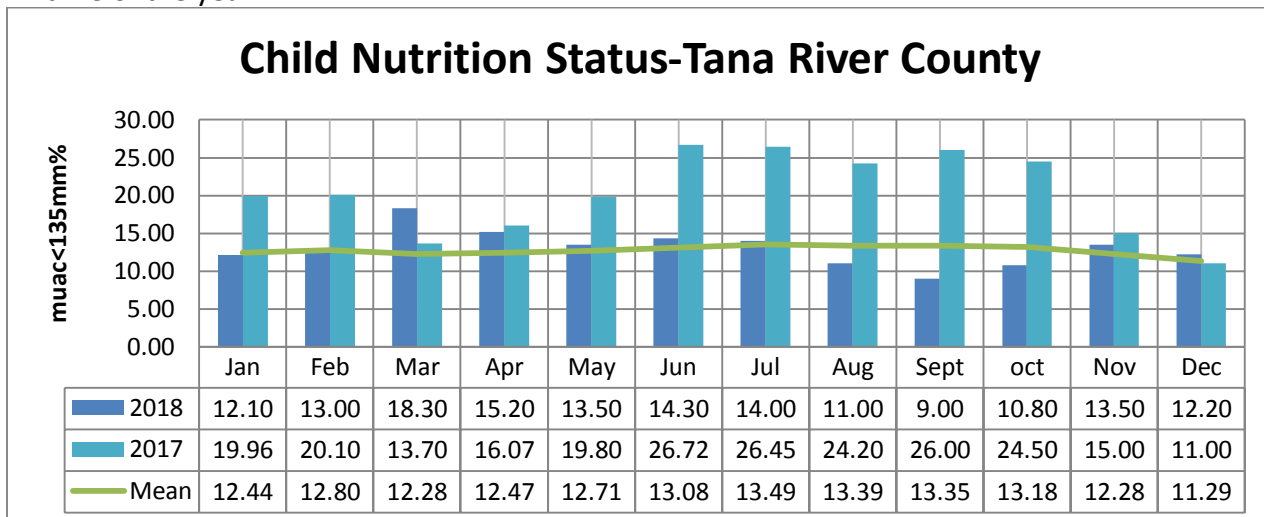
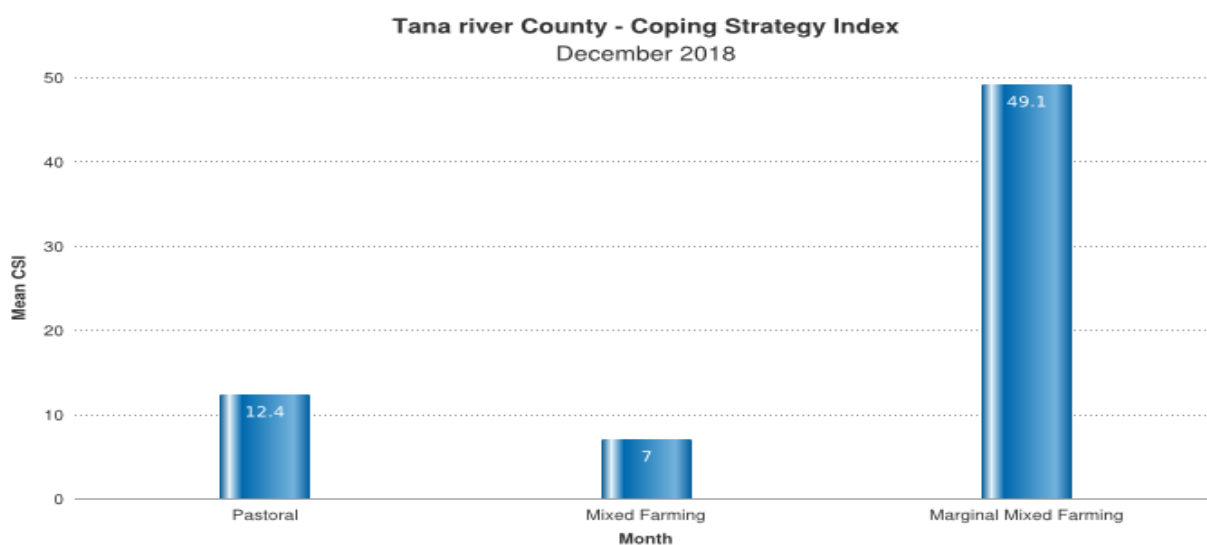


Fig 17n= 2,255 Children

### 5.3.2 Health

- The most prevalent disease in the general population was Upper Respiratory Tract Infection (URTI) as result of dust and wind.
- URTI was also the most prevalent disease among the under-fives followed by diseases of the skin, attributed to low sanitation and hygiene practices.
- Up to 60 percent of the population do not treat their drinking water. These are some of the factors which has led to the increase of diarrheal cases in the county.

### 5.4 COPING STRATEGIES



- The coping strategy index for the month under review was at 22.8.
- Compared to the month of November where, the CSI for the county was at 16.4, the CSI increased in this month.

- When compared across the livelihood zones, coping strategy index for Pastoral, mixed and marginal mixed livelihood zones were 12.4, 7 and 49.1 respectively hence households in marginal mixed livelihood zones employed more coping strategies than those in the mixed livelihood zone and pastoral livelihood zone.
- The graphs above show the mean coping strategy based on the livelihood zones.
- The coping strategies adopted by the marginal mixed livelihoods included;
  - Relief food
  - Livestock migration and herd splitting
  - Charcoal burning
  - sale of wood product
  - manual labour
- Consumption based coping strategies adopted by all households in the month under review were dependence on less preferred, reduced frequency of consumption and portion size of meals.

## **6. CURRENT INTERVENTION MEASURES**

### **6.1 NON-FOOD INTERVENTIONS**

- Distribution of water treatment chemicals, jerry cans and buckets by GAA
- Hay production through irrigation in food and agriculture project by Samaritans Purse International Relief.
- Construction of toilets and bathrooms in 22 villages in Tana Delta by GAA
- Countywide deworming exercise in all schools.
- General food distribution by the county government in early August
- Cash transfer programmes over 4000 by a consortium (WARDA, OXFARM, WASDA, ALDEF, and FARM AFRICA).
- Measles vaccination for children under 5 years by KRCS/UNICEF
- Repair of water bowser by NDMA
- Development of Ward CP's and revision of county CP.
- Restocking exercise of 200H/H each given 10 Goats by RPLRP

### **6.2 FOOD AID**

- FFA/Asset Creation that was targeting 45,900 beneficiaries in Tana delta and Tana river sub-counties, has ended and the start of a new programme called Sustainable Food Systems Programme is underway and to be rolled out soon
- Public primary schools are under regular School Meals Program - current primary enrolment stands at 59,419 pupils.
- Food aid in terms of cereals, pulses and oil for the general public targeting 10,000 H/H -by National Government.

## **7. EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement**

### **7.2 Food Security Prognosis**

- The infestation by the fall army worm significantly reduced the harvests from the long rains.
- The county received an above normal seasonal rains during MAM, This was after the recurrent failure of the seasonal rains for the past 3 years. The floods experienced during this the long rains and the infestation by the fall army worm and stalk borers has negatively affected food security situation in all the livelihood zones.

- Currently, the households have lesser food stocks and the prices of essential commodities are high, making it inaccessible to most households. This is attributed to the previous severe drought conditions followed by severe flooding from the past long rains and also the reduced harvests.

## **8. RECOMMENDATIONS**

- Enhance relief food distribution in areas affected from the previous drought hit areas.- Enhance support to large and small scale irrigation activities through provision seeds and fertilizers.
- Disease surveillance within the areas affected by floods and the continuation of malaria control initiatives to undermine the prevalence rates.
- Disease surveillance, vaccination and de-worming
- Conduct integrated outreaches and health promotion activities, Treatment of Cholera cases, water sampling and decontamination of surfaces, Active case finding and provision of food supplements
- Explore sustainable measures to overcome incidences of human/wildlife conflicts which have become a food insecurity threat across the livelihood zones.
- Enhance resettlement of flood victims.
- Support funding of resilience projects and programmes, for example, restocking, provision of seeds and farm inputs, and subsidized cost of veterinary drugs.