National Drought Management Authority

TANA RIVER COUNTY

DROUGHT EARLY WARNING BULLETIN FOR APRIL 2018

A Vision 2030 Flagship Project

APRIL EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicator

The County is currently experiencing alert and improving conditions according to EWS classification.

Rainfall:

- The county received very good rainfall amounts in this month. The county received an above average rainfall amount throughout this month at 57.13mm. The intensity, spacial and the temporal distribution was also good. Due to the heavy downpours the county is currently experiencing adverse effects of floods.
- **The vegetation condition.** The 3-month VCI indicates that the County is currently experiencing an above normal vegetation greenness at 56.3. The values sharply increased when compared to the previous month where the VCI was at 13.71. All the Sub Counties are currently experiencing above normal vegetation greenness.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Most of the livestock have moved away from Tana Delta towards the pastoral livelihood zone.
- The browse and pasture condition in the county is currently very good.
- The livestock body condition for the grazers is fair and recovering from the past dry spell while that of the browsers is currently good.
- Milk production at household level increased to 5.8 litres compared to that of the last month where the amount was at 5.7 litres.

Access indicators

- The average milk consumption in the county also increased to 3.2 litres compared to the last month which was at 3 litre. Milk consumption remains below the normal.
- The average livestock distance to the water sources remained below the normal at 5 km in this month. When compared to the last month where it was at 6 km. The return distance reduced.

Utilization indicators

The percentage of children under the risk of malnutrition in this month was at 15.2% compared to that of March which was at 18.3%. The poor nutritional status is attributed to the slight improvement in milk production and consumption and also the ongoing interventions

Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Pastoral	Alert	Improving
Marginal Mixed Farming	Alert	Improving
Mixed Farming	Alert	Improving

Biophysical Indicators	Value	Normal ranges
rainfall amount	57.13 mm	>15mm
3-Month VCI	56.3	>35
State of water sources	2	5

Production indicators	Value	Normal ranges
Livestock Migration Pattern	Normal	Normal
Livestock Body Conditions	Fair	Good
Milk production	5.8 litres	>58 Litres
Livestock deaths (from drought)	No death reported	No death
Crops area planted (%)	Nil	67%of LTA

Access Indicators	Value	Normal ranges(LTA)
Terms of Trade (ToT)	83.3	71
Milk Consumption	3.2 litres	>37 Litres
Average return distance to the water sources	5 km	7.4 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	15.2%	<12(%)

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

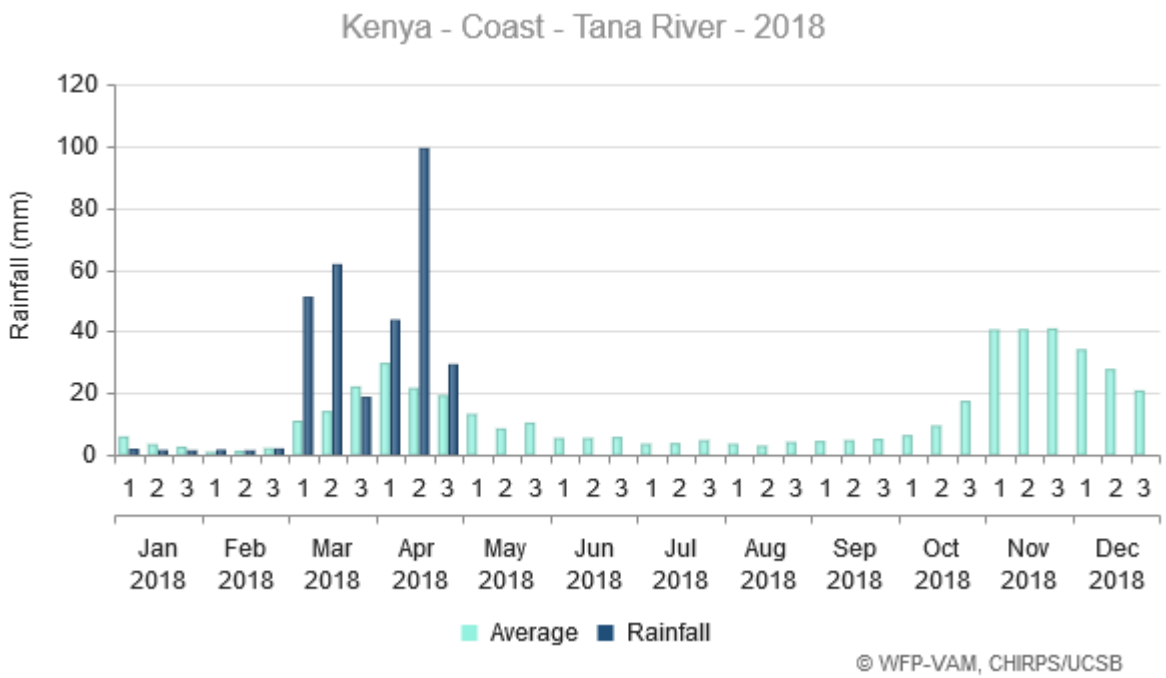


Fig. 1. The graph above shows the rainfall amounts received during the month of April and also the NDVI trend comparing both to the long term averages.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- Good rainfall amount was received in this month. The county received an above average rainfall in this month recording 57.13 mm above the long term average of 23.2mm.
- According to Kenya metrological department, the onset of the March-May 2018 long-rains started during 2nd week of April. However, several parts of the county received off seasonal rainfall during the first dekad of this month.
- The rainfall intensity was good, the spatial and temporal distribution was also very good. These rains were received all over the county.
- The graph above shows the rainfall amounts received in April and compares it to the normal averages.

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 an above normal vegetation greenness recording a VCI of 56.3 by the end this month. The VCI significantly improved when compared to that of March which stood at 13.71.
- The improvement in the VCI is attributed to the good rainfall amount received in the county during this month. In comparison to same time in the previous years, the vegetation conditions are above the normal average**.**
- The matrix below show the vegetation condition in the county;

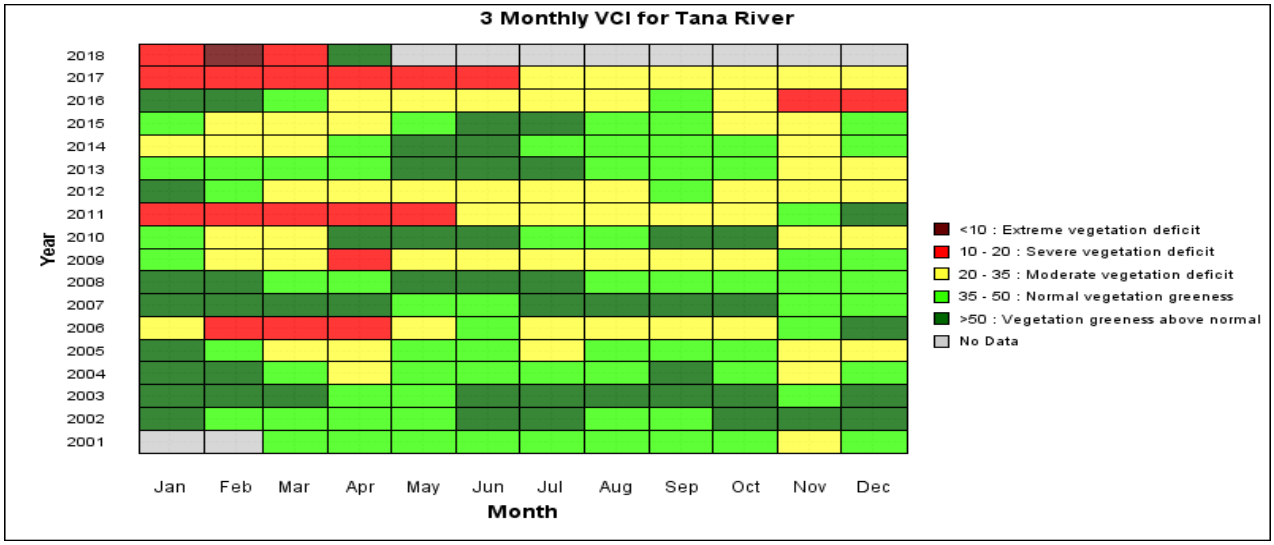


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The graph below further depicts the 3-month VCI trend for this month and compares it to the same time in 2017 values; the long term average, the maxima and minima.
- The current County VCI is just above the maxima when compared to the same time of the previous years.

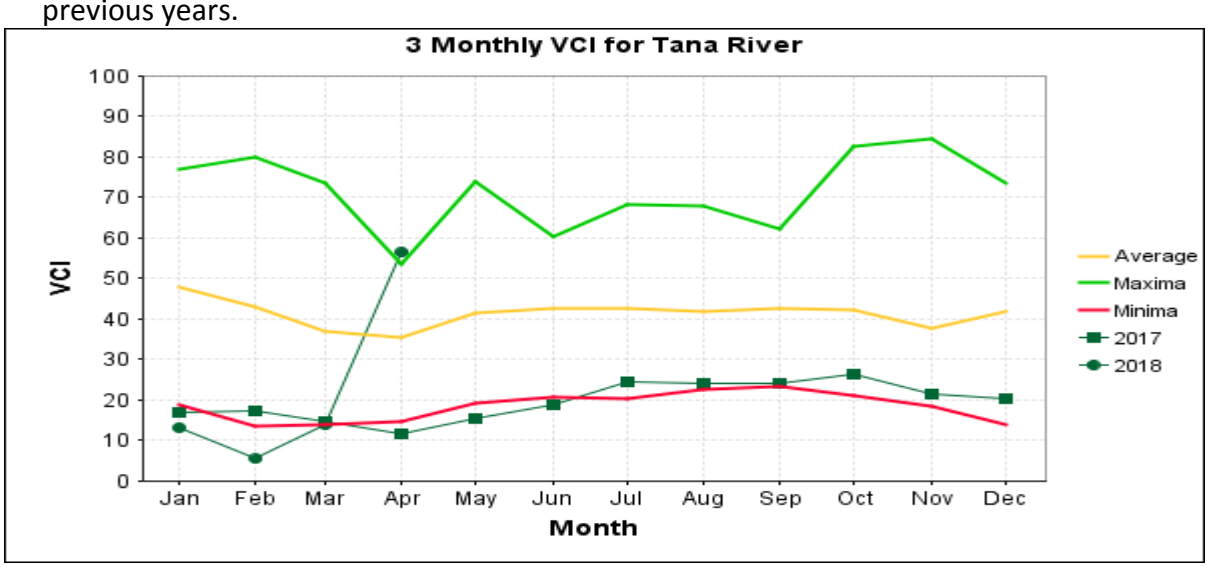


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Sub county VCI

All the sub counties in Tana River County; Bura, Galole and Garsen sub counties are currently experiencing an above normal vegetation greenness. There was a significant improvement in vegetation greenness in all the sub counties in this month when compared to that of March.

Bura

The 3-month Vegetation cover for Bura is currently at 50.97 compared to last month's VCI of 10.05, the vegetation conditions have greatly improved and is currently above the normal.

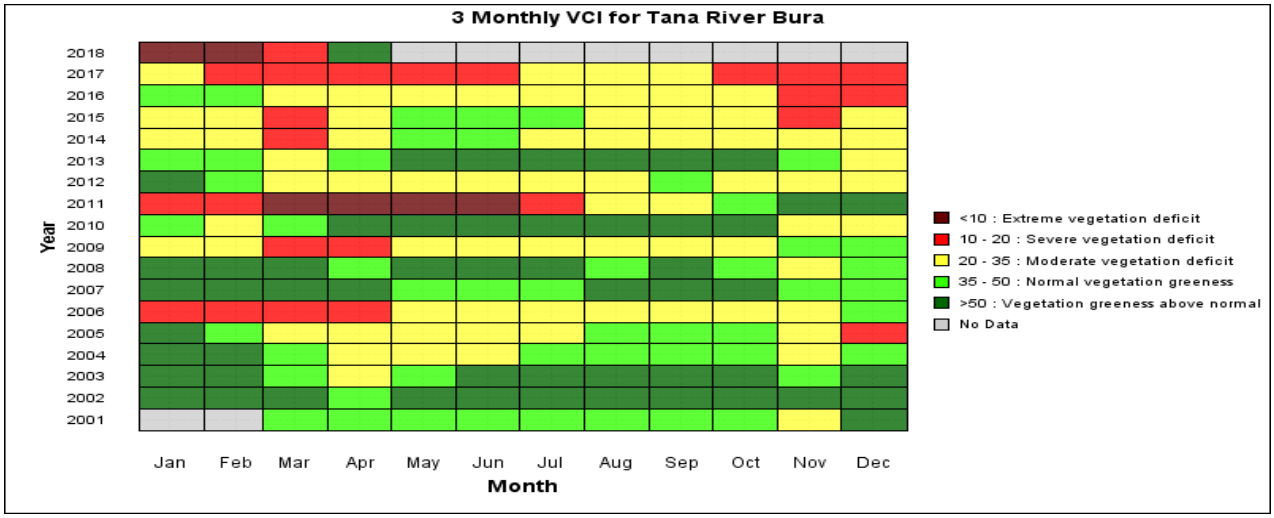


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Galole

The 3-month Vegetation cover for Galole is currently at 52.12 compared to last month's VCI of 10.57. As shown in the matrix below, an above normal vegetation greenness is being experienced in this sub county.

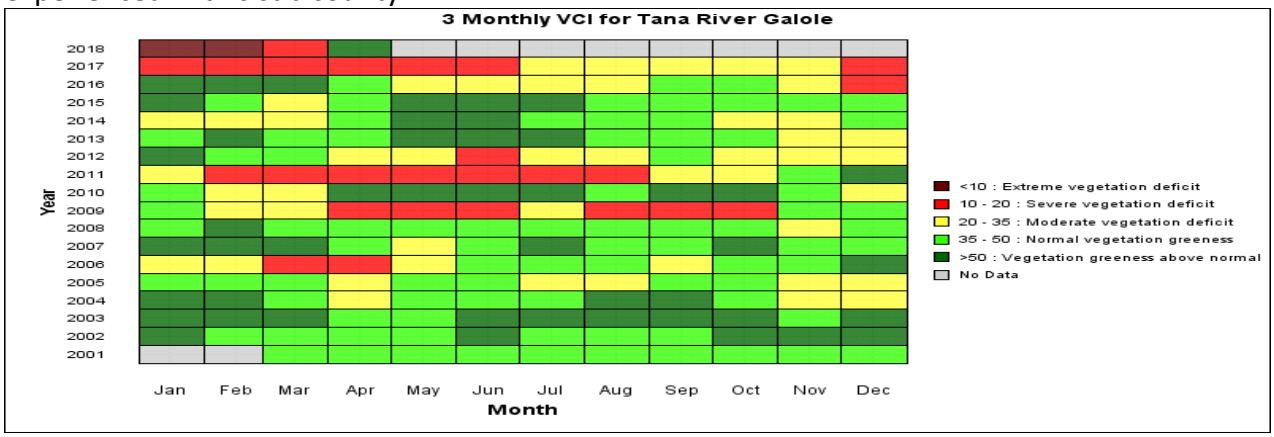


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Garsen

The 3-Month VCI for Garsen is currently at 63.43 compared to last month's VCI of 18.78. The VCI in this sub county also increased in this month. The VCI of 63.43 indicates that the sub-county is experiencing an above normal vegetation greenness in this month.

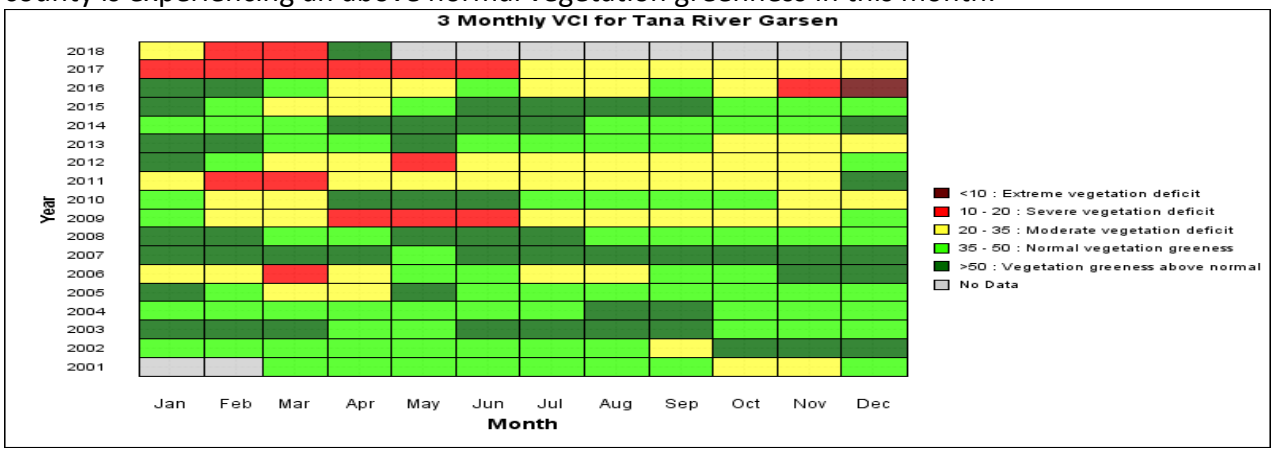


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

2.1.2 Pasture

- The pasture quality and quantity has improved and is good in the county.
- This is due to the good rainfall amounts that was received all over the county during the month.
- The pasture quality and quantity is currently above the normal when compared to the same time of the past years.

2.1.3 Browse

- The quantity and quality of browse within the County is currently good compared normal at this time of the year.
- The overall vegetation conditions in the county is good and can sustain the livestock for more than 2 month.

2.2 WATER RESOURCE

2.2.1 Sources

- The communities within the pastoral livelihood zone depend 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 rainfall received during the month has recharged all the major water sources and all the livelihood zones are no longer facing water stress.

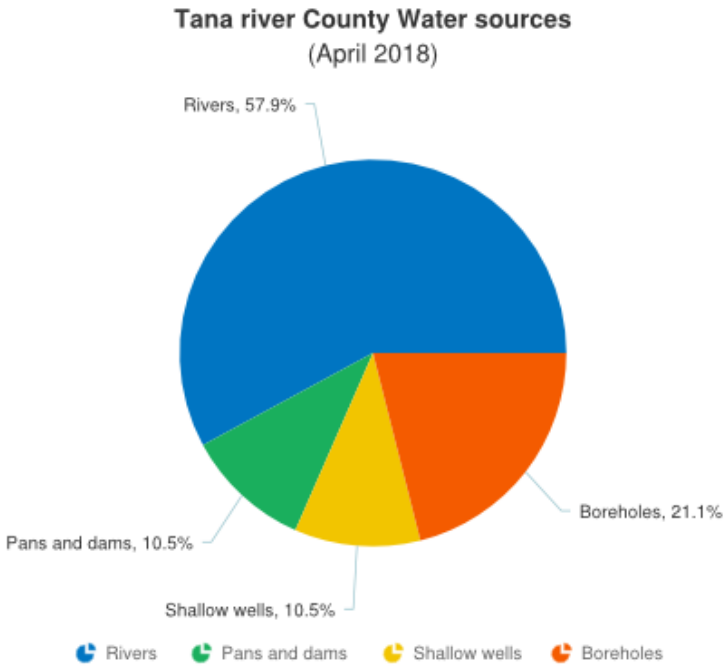
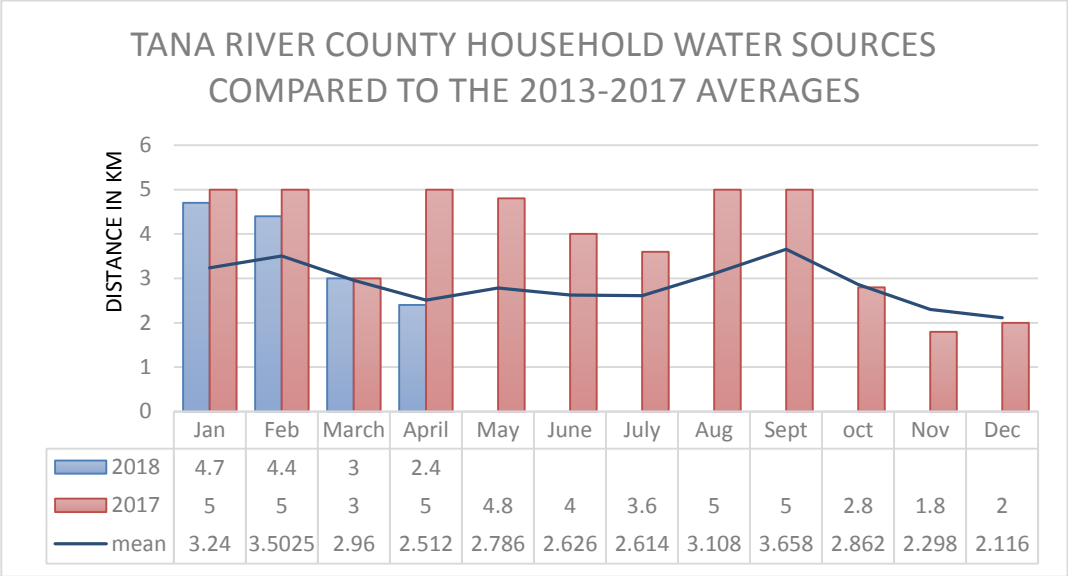


Fig 7. This pie chart shows the different water sources in the county for this month.

2.2.2 Household access and Utilization

- The average return distance from the households to the main water sources in April was 2.4 kilometres.
- In comparison to March where distance covered from the households to the main water sources was 3 Kilometres. The distances reduced in this month.
- Most of the H/H in the pastoral livelihood zones depends on the pans, shallow wells and traditional river wells for their water needs.
- All the water pans in the county have been replenished from the off seasonal rainfall received during this month.

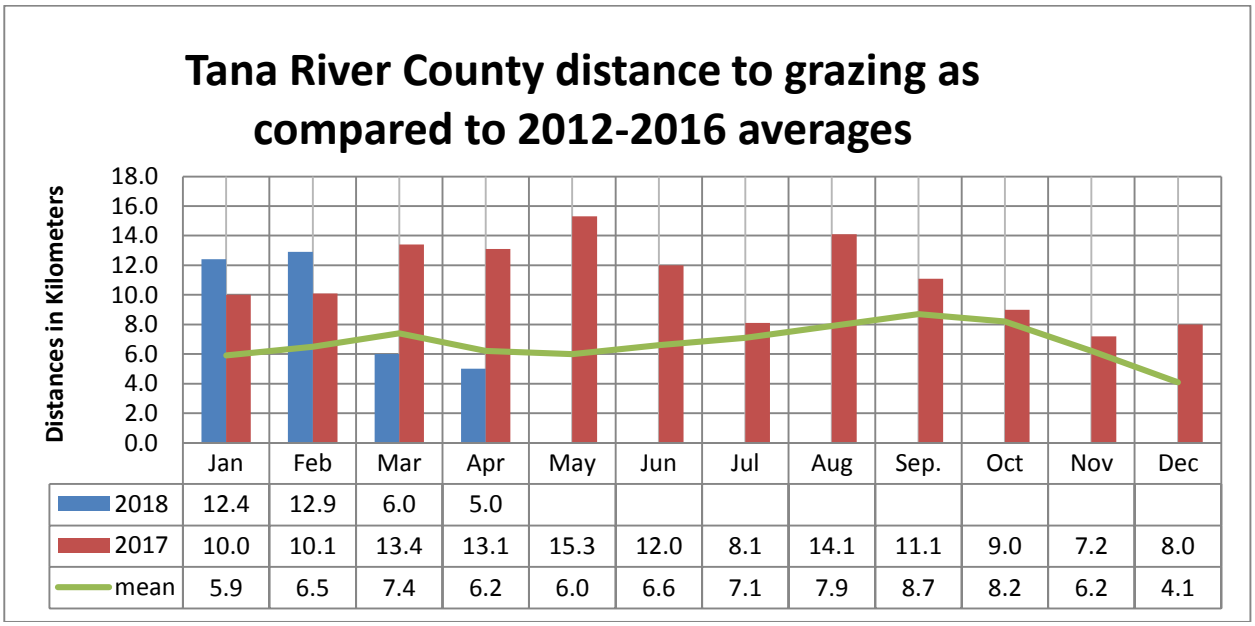
- The households within mixed livelihood zones take approximately 1 hours to reach water points compared to households within Pastoral livelihood zones which take up to 2 hours to water points.
- The current distances are normal in this season of the year.



	Jan	Feb	March	April	May	June	July	Aug	Sept	oct	Nov	Dec
2018	4.7	4.4	3	2.4								
2017	5	5	3	5	4.8	4	3.6	5	5	2.8	1.8	2
mean	3.24	3.5025	2.96	2.512	2.786	2.626	2.614	3.108	3.658	2.862	2.298	2.116

2.2.3 Livestock access

- The average distance covered by livestock from the grazing areas to main water source in April was 5 kilometres. .
- In comparison to March where the livestock covered 6 kilometres, the distances covered by the livestock reduced during this month. This is attributed to the replenishment of the major water sources from the received rains.
- The distance covered by livestock to access water is lesser when compared to the long term averages.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec
2018	12.4	12.9	6.0	5.0								
2017	10.0	10.1	13.4	13.1	15.3	12.0	8.1	14.1	11.1	9.0	7.2	8.0
mean	5.9	6.5	7.4	6.2	6.0	6.6	7.1	7.9	8.7	8.2	6.2	4.1

Fig 9 *n=450 Households*

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The Livestock body conditions of the browsers; Camels and goat is good while that of the grazers; cattle and sheep is fair and improving. This is attributed to the quick recovery of the shrubs after the initial rains and also the longer time period it takes for the pasture to regenerate and be of good quality for livestock consumption.

3.1.2 Livestock migration

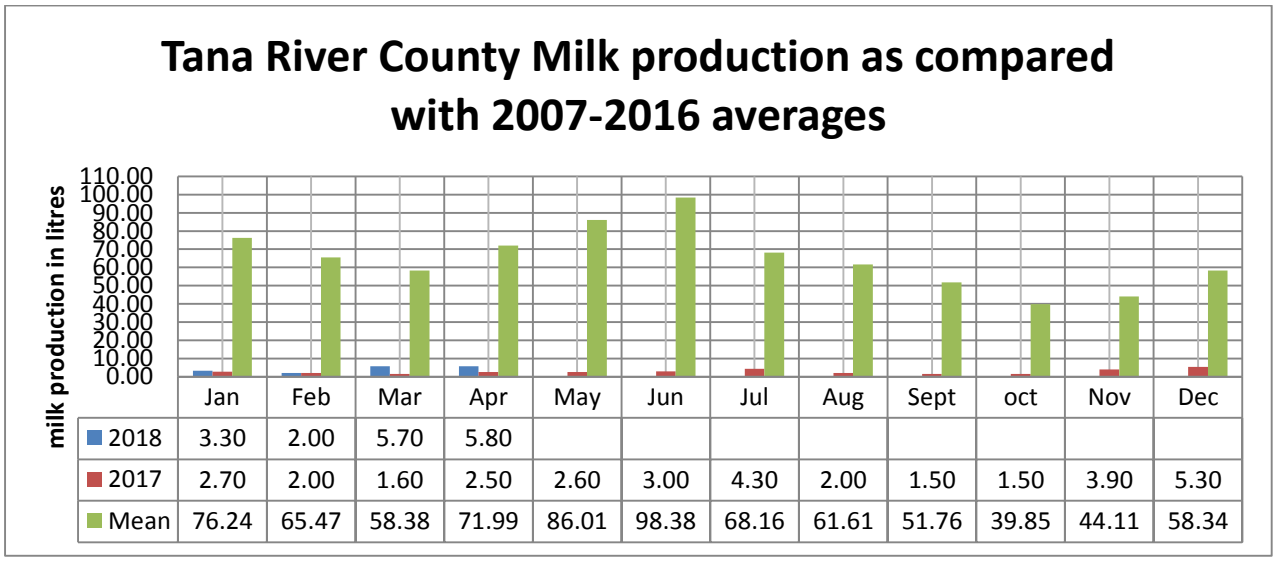
- Most of the Livestock have moved away from Delta region towards the hinterlands of the county. The herds are now closer to the household and this will improve the milk consumption at the household level. A few herds have not reached the household due the obstruction caused by the floods.

3.1.3 Livestock Diseases

- The most vector borne diseases are Trypanosomiasis both for cattle and camels in the Delta and in other regions; heart water and Babesiosis and others such as Helminthiasis have been reported. Fleas and ticks infestation has also been evidenced in most herds of livestock.
- The Delta region is worst in all the sub-counties in terms of Disease outbreak. There are cases of CCPP and Trypanosomiasis have been reported in this sub county.
- Parasitic infestation cases have emerged especially fleas, mites and ticks in all livestock species.
- The grazers are the most affected than browsers due to large number cattle at delta grazing fields thus overwhelming the carrying capacity.

3.1.4 Milk Production

- On average the milk produced per household within Tana River County was 5.8 litres in the month of April. The amounts remained slightly increased in this month when compared to the month of March which was at 5.7 litres.
- In comparison to the long term mean, the current average in milk production is still below normal average during this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2018	3.30	2.00	5.70	5.80								
2017	2.70	2.00	1.60	2.50	2.60	3.00	4.30	2.00	1.50	1.50	3.90	5.30
Mean	76.24	65.47	58.38	71.99	86.01	98.38	68.16	61.61	51.76	39.85	44.11	58.34

Fig 10***n=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

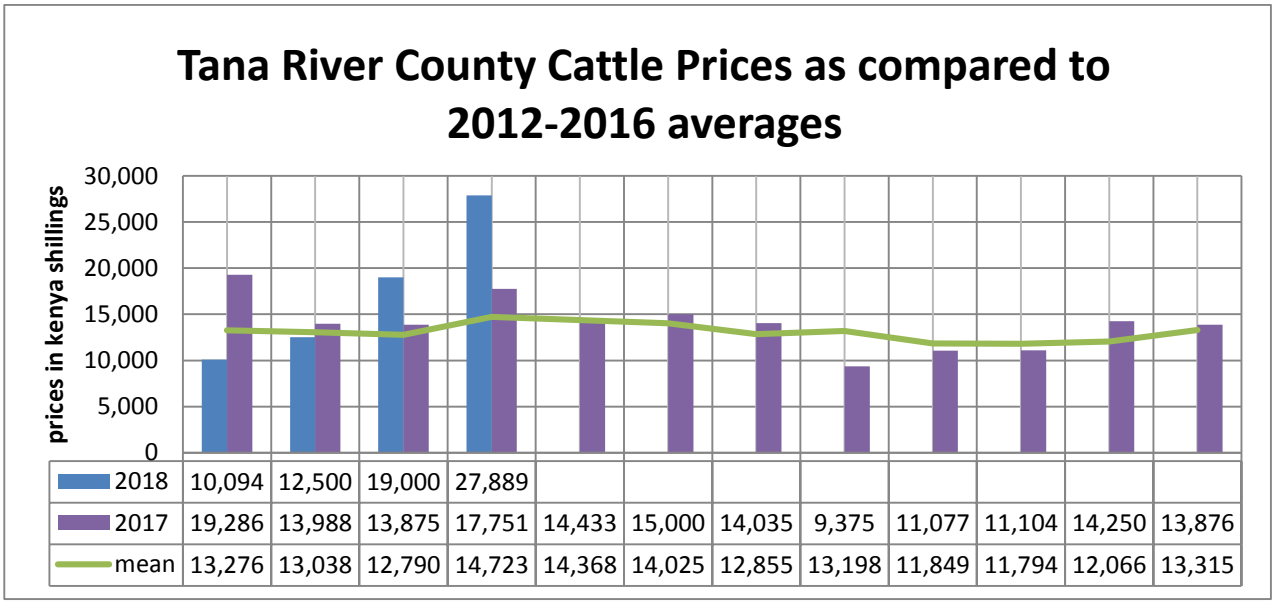
- Most of the farms crops have been swept away by the floods and the communities are now planting in the higher grounds and the rest are waiting for the flood waters to recede
- Currently, there are no food stocks available at the household level in all the livelihood zones and heavily depend on purchased foodstuff and relief food from KRCS, the county and national governments.

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 April was Ksh.27889. In comparison to the month of March, where the price of a 3 year old mature bull was Ksh. 19000, the prices increased in this month.
- The increase in the prices is attributed to the market dynamics.
- The current cattle price of Ksh. 27889 is above the normal at this period of the year as shown on the graph below.



2018	10,094	12,500	19,000	27,889								
2017	19,286	13,988	13,875	17,751	14,433	15,000	14,035	9,375	11,077	11,104	14,250	13,876
mean	13,276	13,038	12,790	14,723	14,368	14,025	12,855	13,198	11,849	11,794	12,066	13,315

Fig 11***n=450 Households***

4.1.2 Goat Prices

- The average price of a medium size goat in the month of April was Kshs.4163. In comparison to the month of March where the average price of a medium size goat was Ksh. 3755. The prices in this month increased. The price variability is attributed to the market dynamics.
- The current goat price of Ksh.4163 is above the normal at this period of the year as shown on the graph below.

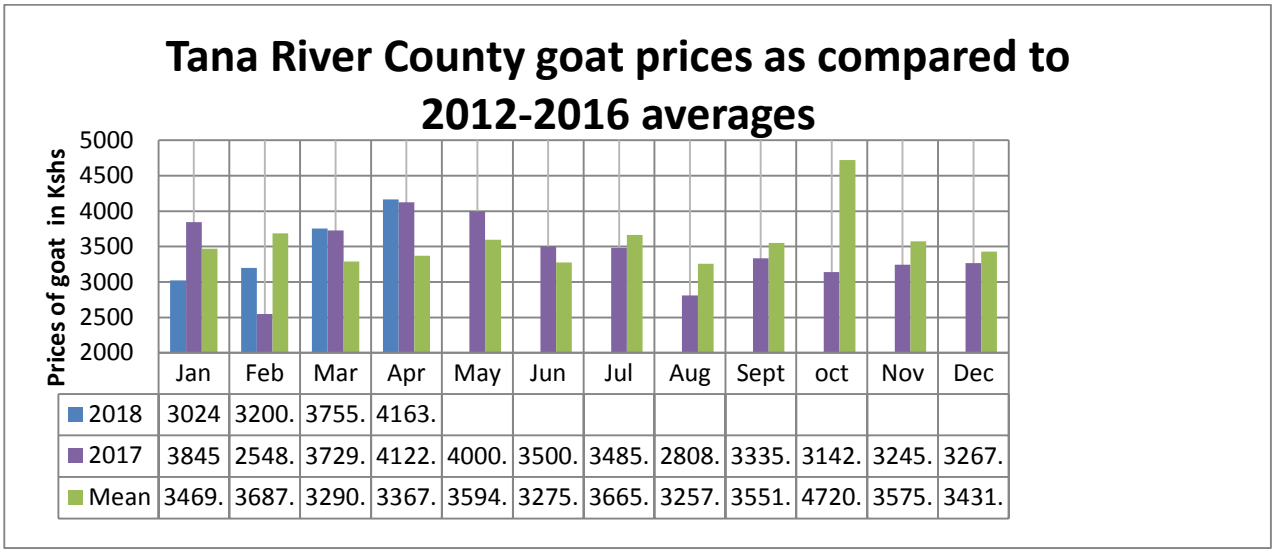


Fig 12*n=450 Households*

4.1.3 Sheep Prices

- The average price of a sheep in the month of April was Kshs.2908. The prices slightly increased in this month when compared to that of the month of March which was at Ksh. 2380. This is attributed to the market dynamics.
- Compared to the mean of 2012-2016, the current price is above the normal at this time of the year.

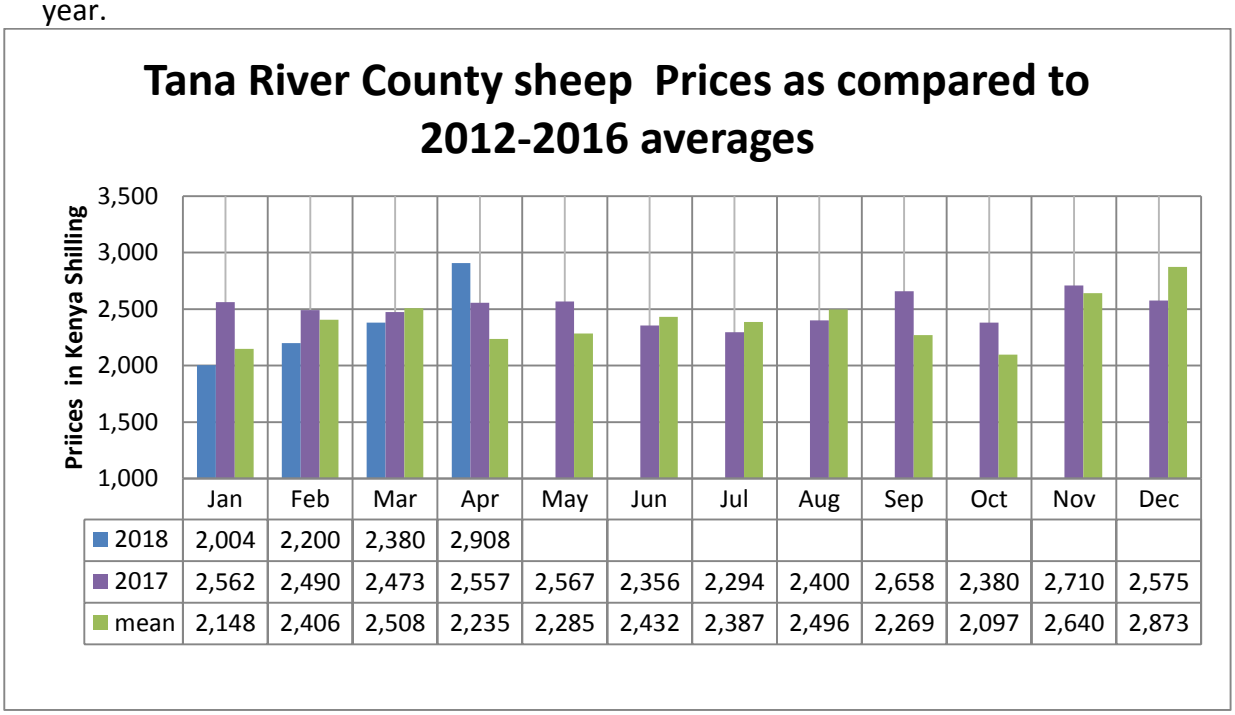


Fig 13*n=450 Households*

4.1.4 Milk Prices

Currently milk is retailing at an average of Kshs.64 per litre. The prices slightly reduced in this month when compared to the month of March which recorded a price of Ksh 75 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 83.3 Kg of maize for a goat. Compared to the month of March which recorded an average of 64.7, the terms of trade increased in this month. The current terms of trade is above the long term mean of 71 Kg for a goat.

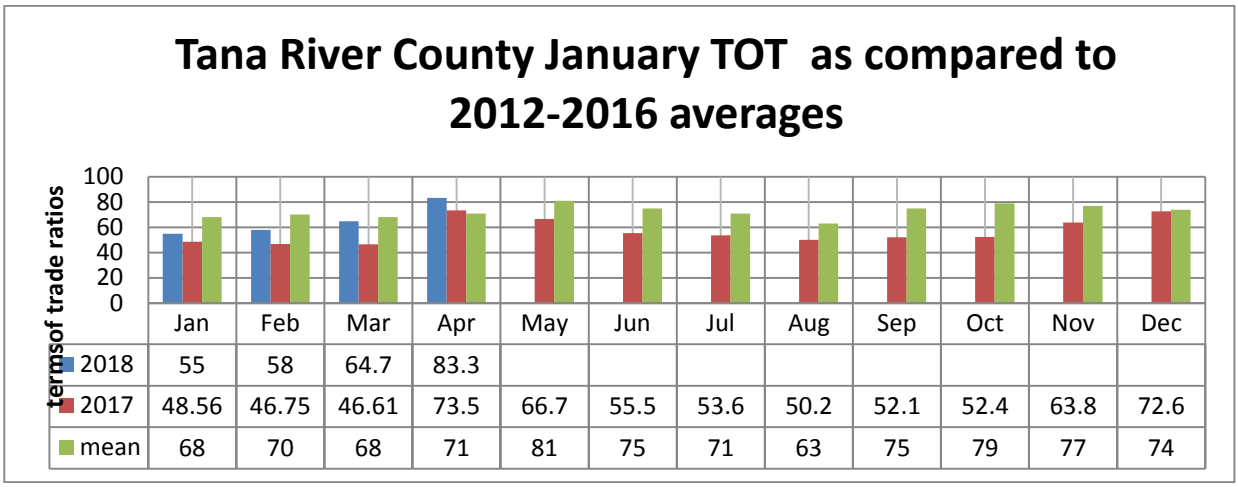


Fig 13*n=450 Households*

4.2 CROP PRICES

4.2.1 Maize

- The average maize market price per kilogram for the month of April was Ksh 50.
- When compared to the month of March, where the average price per kilogram of maize was Kshs.58, maize prices slightly decreased by the end of April. This is attributed to the market dynamics.
- In comparison to the average maize price at this time of the year, the current maize prices are above long term averages of Ksh 34 per kg.

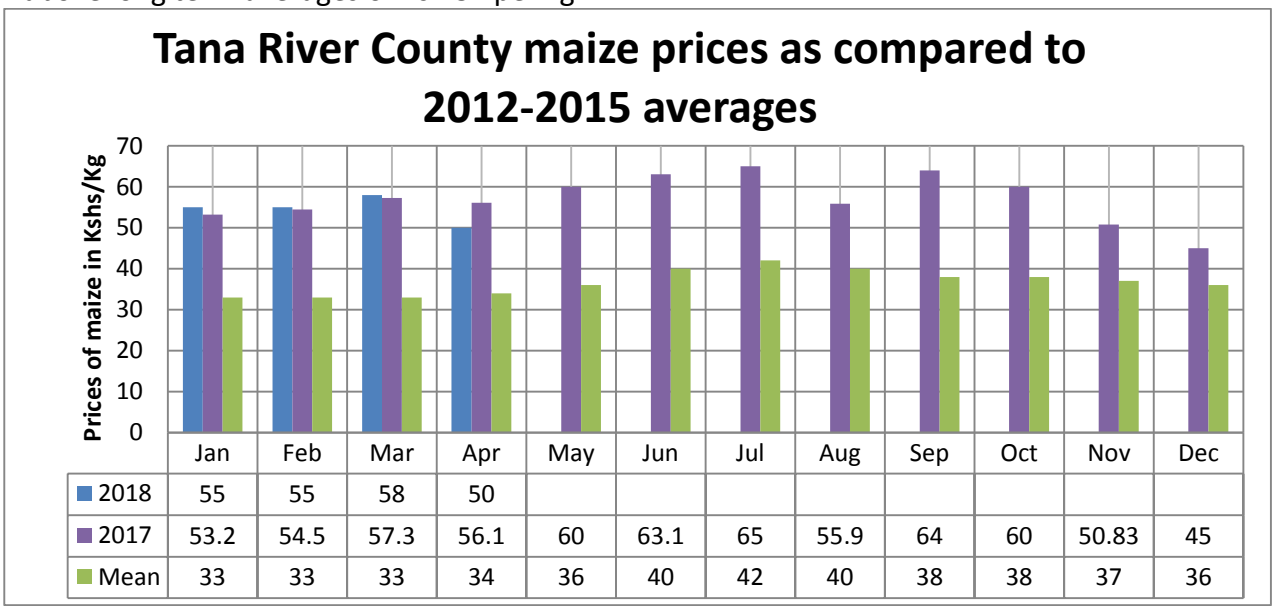
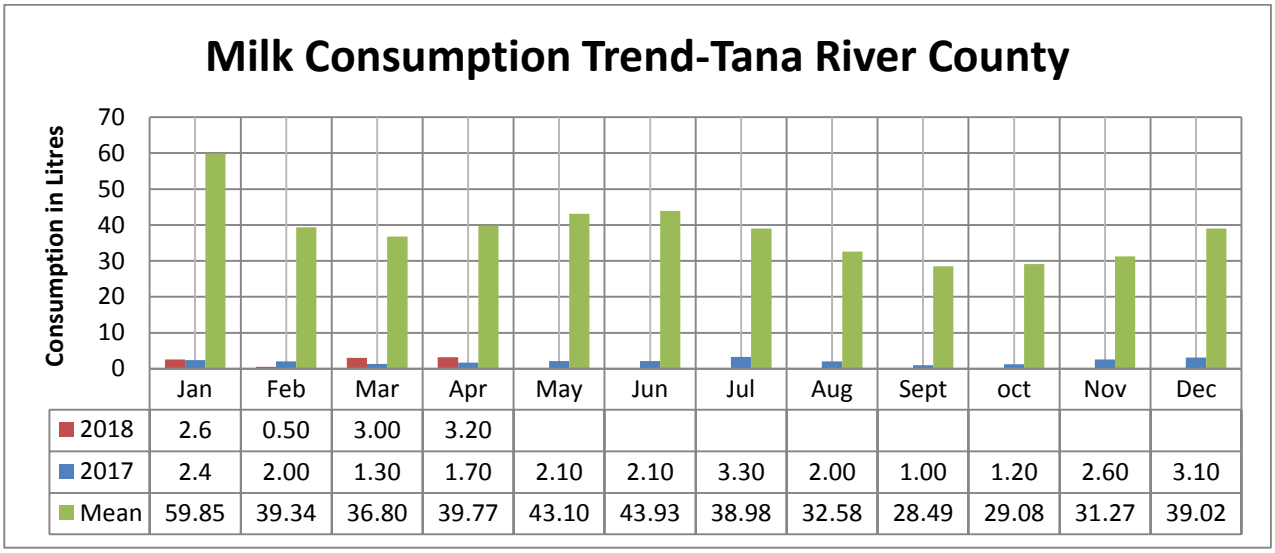


Fig 14 ***n=450 Households***

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- On average the milk consumed per household was 3.2 litres in the month of April.
- In comparison to the month of March, where the average milk consumed per household was 3 litre, the milk consumption also slightly increased in this month.
- In comparison to a normal year, the current milk consumption rate per household is below normal at this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2018	2.6	0.50	3.00	3.20								
2017	2.4	2.00	1.30	1.70	2.10	2.10	3.30	2.00	1.00	1.20	2.60	3.10
Mean	59.85	39.34	36.80	39.77	43.10	43.93	38.98	32.58	28.49	29.08	31.27	39.02

Fig 15 ***n=450 Households***

5.2 FOOD CONSUMPTION SCORE

- The percentage of households with poor food consumption score in the county in March was 32.1% while those with border line score were 37.7% and with acceptable at 30.2%.
- Tana River Sub County has the highest proportions of households with poor FCS at 55% and also the lowest in the acceptable category at 0%.
- Tana delta has the highest in the acceptable category at 58.3%

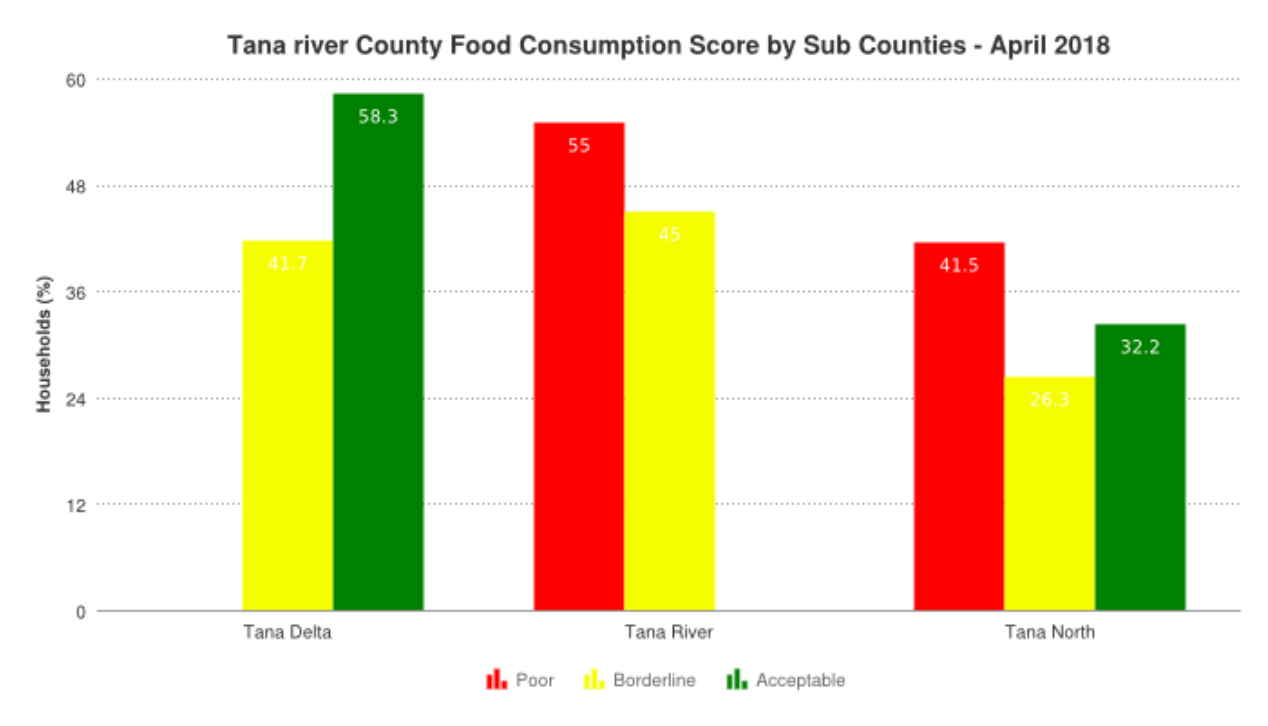


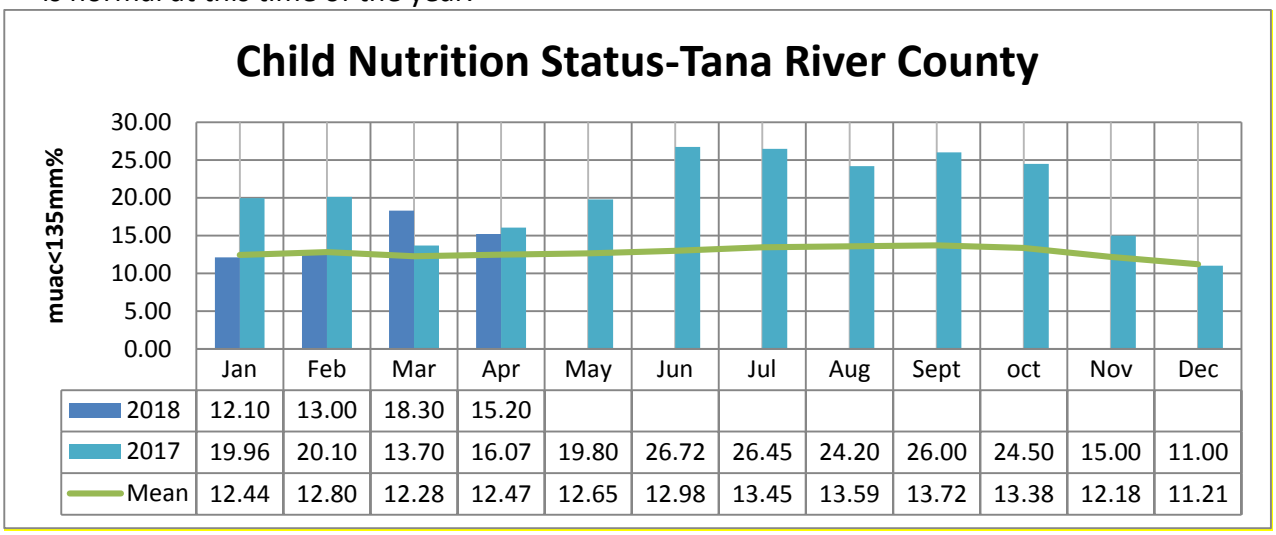
Fig 16. This figure show the food consumption score in the 3 sub counties of Tana River county

5.3 HEALTH AND NUTRITION STATUS

5.3.1 MUAC

- The percentage of children under the risk of malnutrition within the month of April was at 15.2% compared to that of March which was at 18.3%.

- The number of the children under the risk malnutrition slightly reduced but still has remained high. This is attributed to the poor milk production and consumption and also reduced food availability in the county. Compared to long term averages of 12.28%, the current percentage is normal at this time of the year.



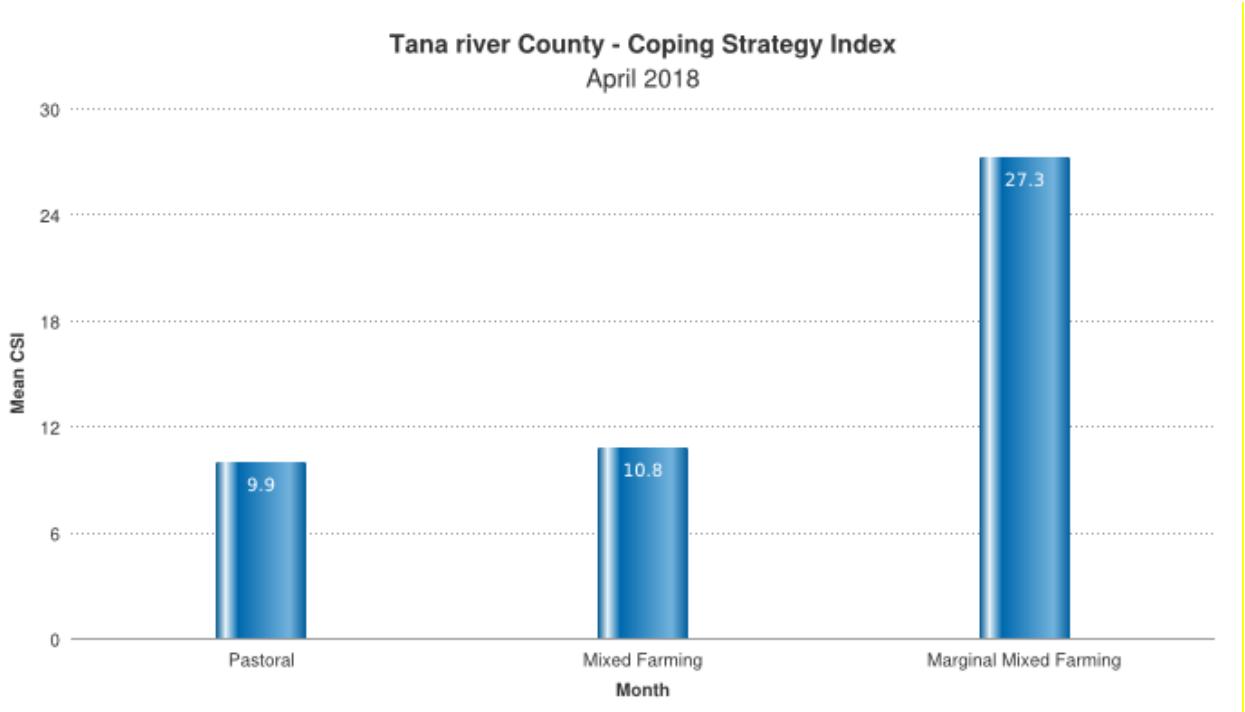
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2018	12.10	13.00	18.30	15.20								
2017	19.96	20.10	13.70	16.07	19.80	26.72	26.45	24.20	26.00	24.50	15.00	11.00
Mean	12.44	12.80	12.28	12.47	12.65	12.98	13.45	13.59	13.72	13.38	12.18	11.21

Fig 17***n= 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 80 percent do not treat their drinking water. These are some of the factors, which have 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 16.
- Compared to the month of March where, the CSI for the county was at 16.9, the CSI slightly reduced.
- When compared across the livelihood zones, coping strategy index for Pastoral, mixed and marginal mixed livelihood zones were 9.9, 10.8 and 27.3 respectively hence households in

marginal mixed livelihood zones employed more copping strategies than those in the mixed livelihood zone and pastoral livelihood zone.

- The graphs above show the mean copying strategy based on the livelihood zones.
- The copying strategies adopted by the mixed and marginal mixed livelihoods included;
  - Credit from petty traders.
  - Relief food
  - Livestock migration and herd splitting
  - While marginally mixed and mixed livelihood zone heavily depend on;
  - 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, less expensive food, reduced frequency of consumption and portion size of meals.

6. CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- Water trucking to institutions(schools and health facilities) by GAA/WHH during the dryspell
- Measles vaccination for children under 5 years by KRCS/UNICEF
- Cash transfer programmes to OVC by Catholic Relief services
- Construction of a water pan (Bulto Abarufa dam in Wayu Ward) by NDMA/KRDP
- Repair of water bowser by NDMA

6.2 FOOD AID

- FFA targeting 45,900 beneficiaries in Tana delta and Tana river sub-county, supplementation of feeding program in the entire county targeting PLWC, agricultural market access and linkage project (AMAL), school meal program(SMP) in all 161 primary schools, will also be responding to provide food and non-food items to 700 households in need who are displaced by the floods in the entire county through KRC
- SFP/OTP with FFA/GFD linkage being undertaken by GOK, MOH, IMC UNICEF in all operational health facilities across the County
- RED CROSS-FFA-targeting 21,939 people within Tana River, Tana Delta and Tana North. PRRO/Food for Assets - The New PRRO beneficiary target for the county is 34,320 out of whom 45,900 households will be under FFA while GFD is 4,900.
- 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

The ongoing floods from long rains have caused severe destruction of property and infrastructure in the county.

River Tana broke its banks and is currently flowing through the marginal mixed farms along its banks and has advanced to the homesteads of the communities living in the region.

The flash floods also collected large volumes of water flooding the hinterlands and cutting off the roads accessing this regions. The waters from the seasonal riverbed from Kitui county only worsened the situations in this region.

7.2 Food Security Prognosis

- Recurrent failure of the seasonal rains for the last 3 seasons has negatively affected food security situation in all the livelihood zones in the county.
- Currently, the households have no food stocks and the prices of essential commodities continues to increase, making it inaccessible to most households. This is attributed to the previous severe drought conditions followed by severe flooding from the ongoing long rains.

8. RECOMMENDATIONS

- Enhance relief food distribution in areas affected by floods and previous drought.-Distribution of NFI to the affected households.
- 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.