National Drought Management Authority
TANA RIVER COUNTY
DROUGHT EARLY WARNING BULLETIN FOR JULY 2018

A Vision 2030 Flagship Project

JULY EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicator

The County is currently experiencing Normal vegetation conditions in EWS classification.

Rainfall:

- The county received normal rainfall amount in the month at 7.2mm. However, the Tana delta region of county continued to suffer from floods of the last rain season. Floods have not yet receded completely in some villages.
- **The vegetation condition.** The 3-month VCI indicates that the County is currently experiencing an above normal vegetation greenness at 79.95. The values slightly decreased when compared to the previous month where the VCI was at 87.42. All the Sub Counties continues experiencing above normal vegetation greenness.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Most livestock have remained in the hinterlands of the county. A few herds reported to have started to migrate towards the delta region.
- The browse and pasture condition in the county remains good.
- The livestock body condition for both grazers and browsers are also good.
- Milk production at household level is slightly reduced to 4 litres compared to that of the last month where the amount was at 5.4 litres. The milk production is above the normal average of 3.5 litres.

Access indicators

- The average milk consumption in the county slightly reduced at 2.4 litres compared to the last month which was at 3litre. Milk consumption is currently above the normal 2012-2017 average of 2.35.
- The average livestock distance to the water sources remained below the normal at 6.1 km in this month. When compared to the last month where it was at 4.5 km. The return distance slightly increased.

Utilization indicators

The percentage of children under the risk of malnutrition in this month was at 14% compared to that of June which was at 14.3%. The poor nutritional status is attributed to poor milk production and consumption and also the lack of enough food in the household.

Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Pastoral	Normal	Stable
Marginal Mixed Farming	Normal	Stable
Mixed Farming	Normal	Stable

Biophysical Indicators	Value	Normal ranges
rainfall amount	7.2 mm	>10.4mm
3-Month VCI	79.95	>35
State of water sources	2	5

Production indicators	Value	Normal ranges
Livestock Migration Pattern	Normal	Normal
Livestock Body Conditions	Good	Good
Milk production	4 litres	>3.5 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)	73	71
Milk Consumption	2.4 litres	>2.35Litres
Average return distance to the water sources	6.1km	7.4 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	14%	<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

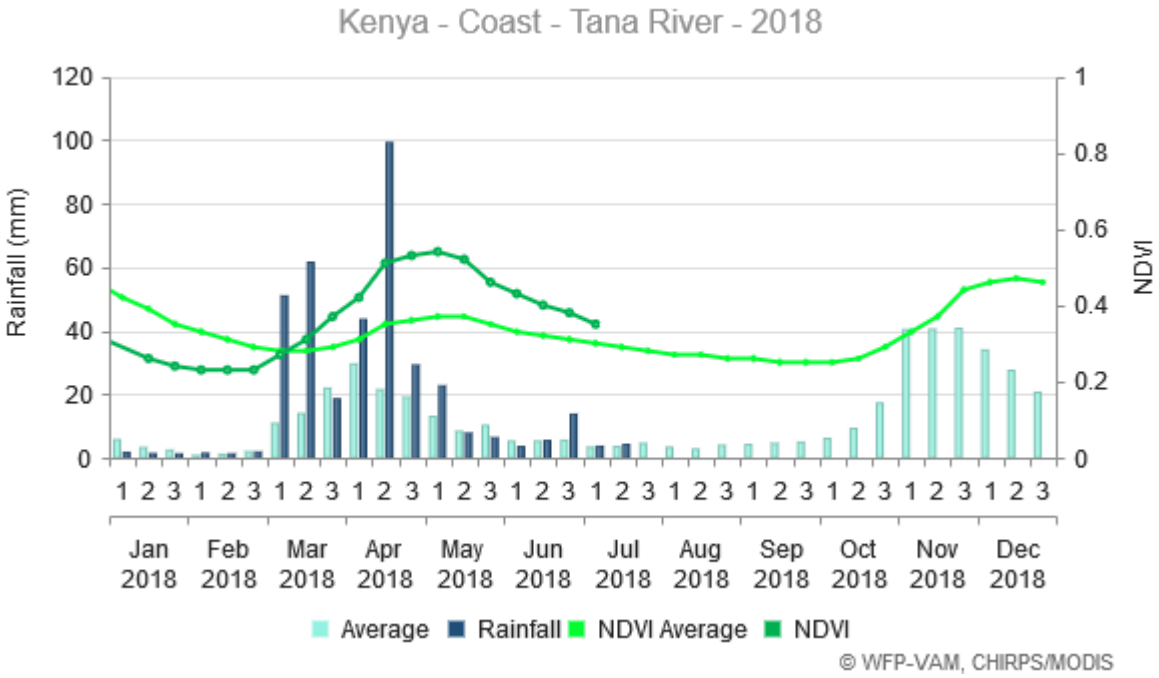


Fig. 1. The graph above shows the rainfall amounts received during the month of July and also the NDVI trend comparing both to the long term averages.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- Below Normal off- seasonal showers was received in this month. The county received an average rainfall of 2.5 mm in this month, slightly below the long term average of 3.7 mm.
- The county received 3.5mm, 4.1mm and 0.0mm during the first, second and third dekad respectively.
- The graph above shows the rainfall amounts received in July and compares it to the long term averages.
- The county received normal amounts during the first and second dekad of this month as shown in the graph above.

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 79.95 by the end of July. The VCI slightly reduced when compared to that of June which stood at 87.42.
- The above normal conditions in the VCI is attributed to the good performance of the past seasonal rains and also the light off seasonal shower experienced 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;

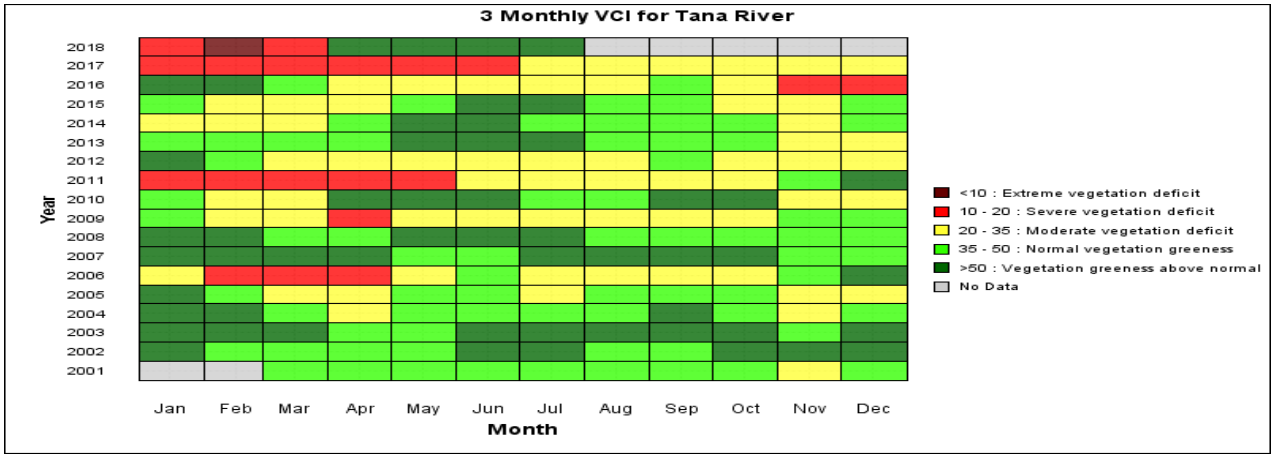


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

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

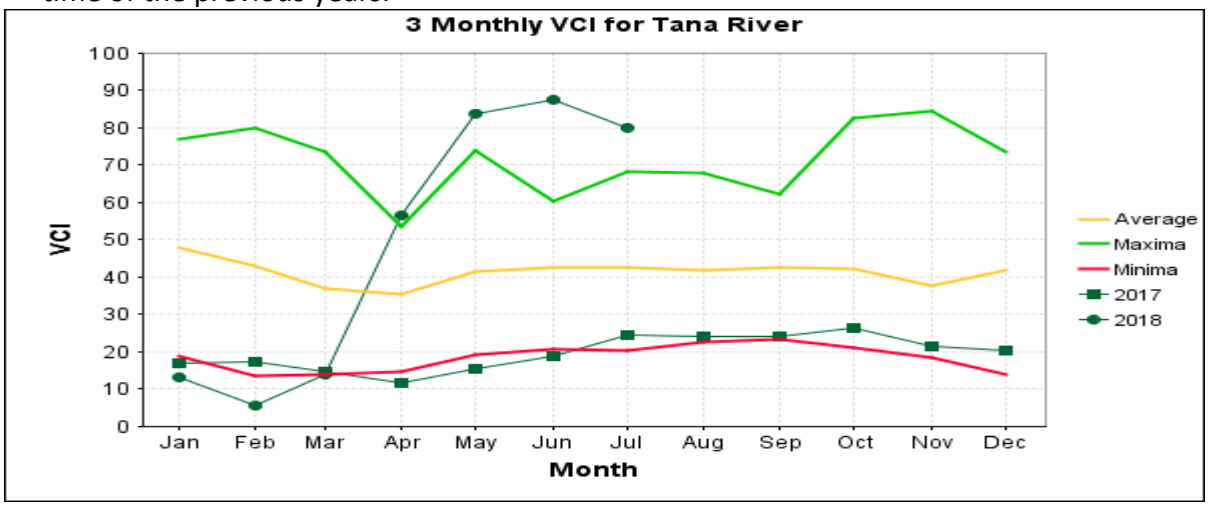


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Sub county VCI

All the sub counties in Tana River County; Bura, Galole and Garsen sub counties are experiencing an above normal vegetation greenness. There was a slight improvement in vegetation greenness in Bura Sub County in this month when compared to that of June. The VCI in Galole reduced in this month.

Bura

The 3-month Vegetation cover for Bura is currently at 105.58 compared to last month's VCI of 104.16, the vegetation conditions have remained stable and is currently way above the normal.

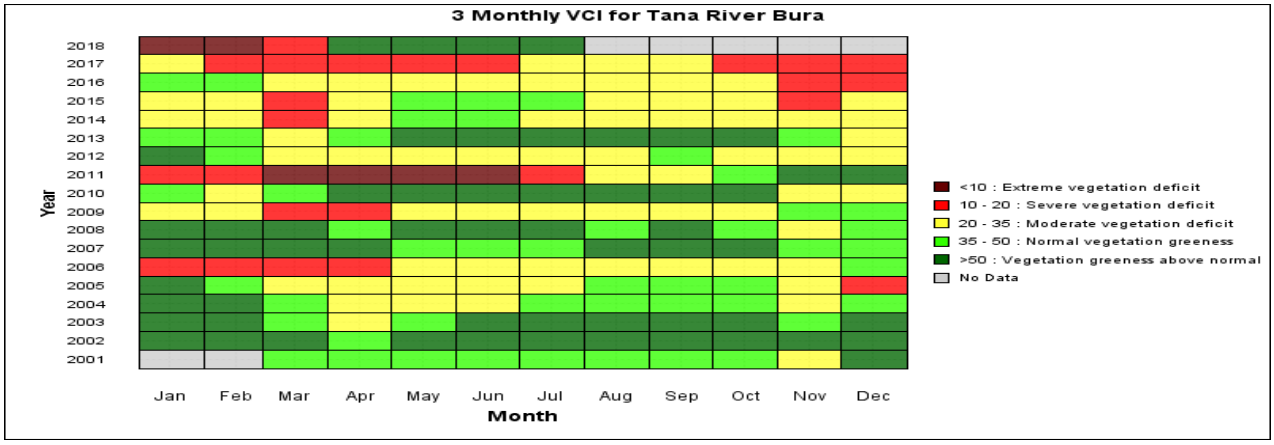


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Galole

The 3-month Vegetation cover for Galole is currently at 75.92 compared to last month's VCI of 86.55. As shown in the matrix below, an above normal vegetation greenness is also being experienced in this sub county.

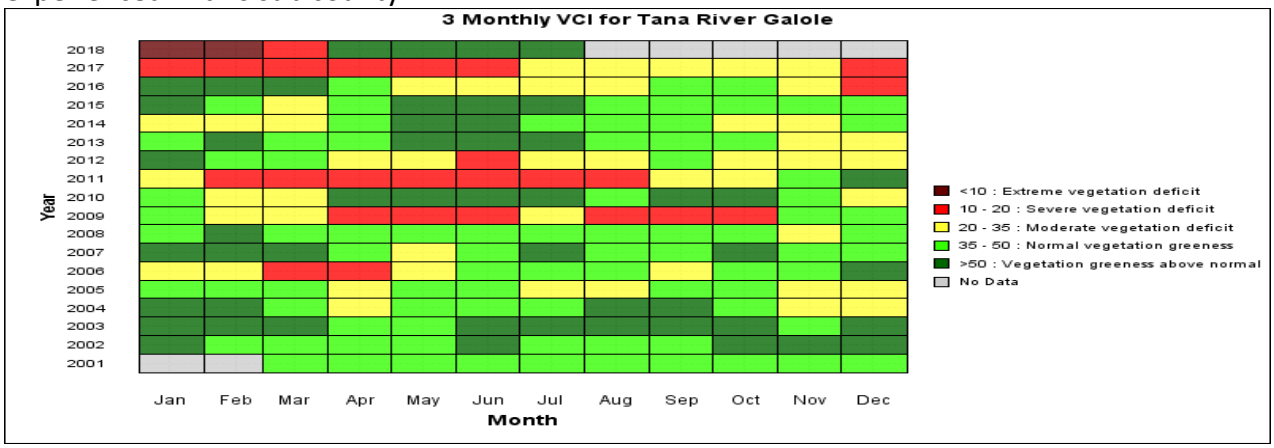


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Garsen

The 3-Month VCI for Garsen is currently at 60.72 compared to last month's VCI of 73.76. The VCI in this sub county decreased in this month.

The VCI of 60.72 still indicates that the sub-county is still experiencing an above normal vegetation greenness in this month.

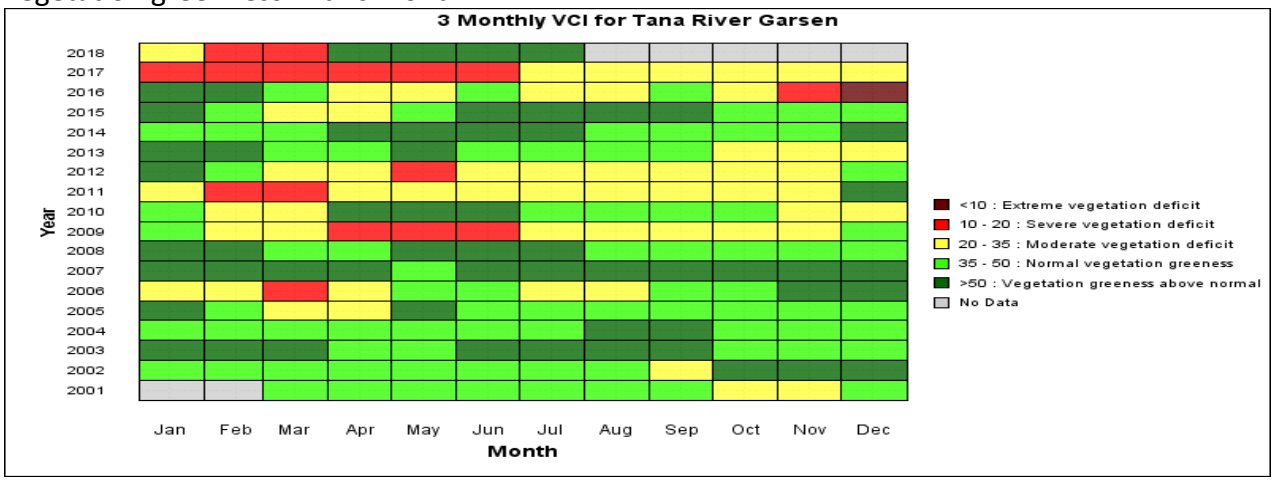


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

2.1.2 Pasture

- The pasture quality and quantity remains good in the county in this month.
- This is due to the good rainfall amounts that was received all over the county during the past seasonal rains.
- 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 also good compared normal at this time of the year.
- The overall browse conditions in the county is good and can sustain the livestock for 2 month.

2.2 WATER RESOURCE

2.2.1 Sources

- The communities within the pastoral livelihood zone depend on seasonal rivers bed, 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 long rains season recharged all the major water sources and all the livelihood zones can access enough water for the household and livestock use.

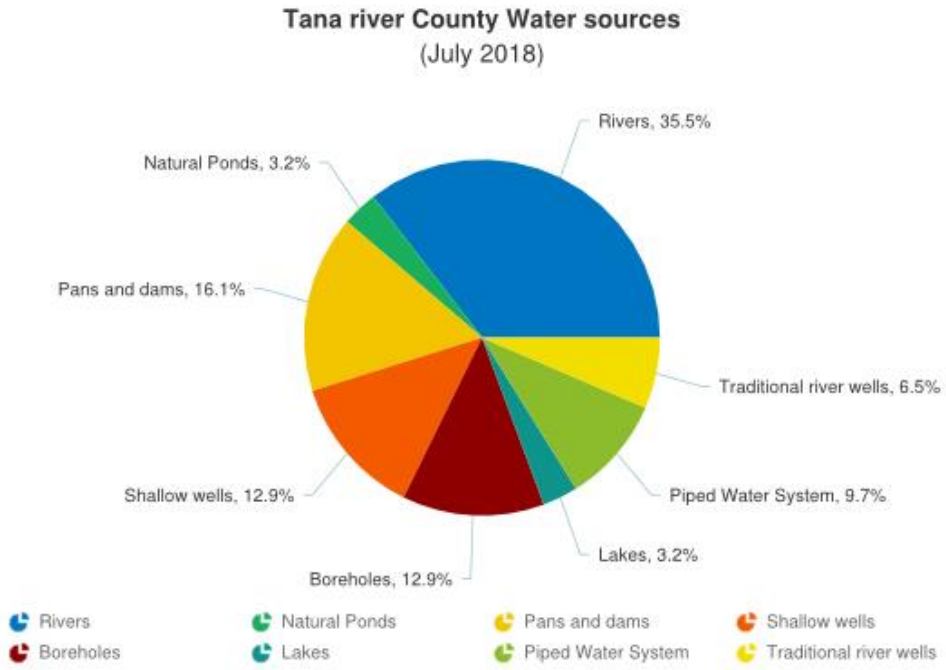
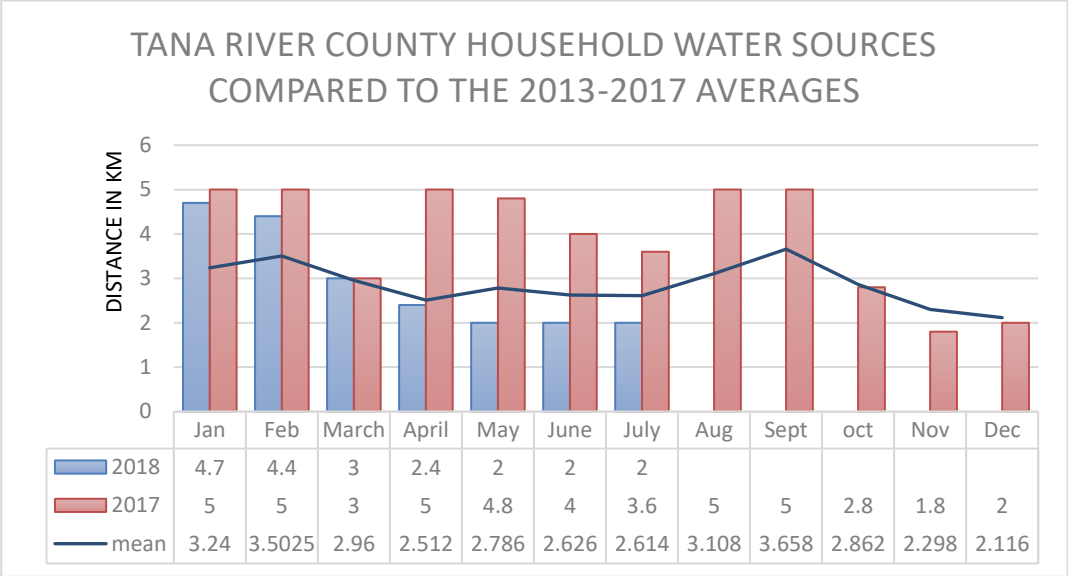


Fig 7. This pie chart shows the different water sources in the county for this month.

2.2.2 Household water access and Utilization

- The average return distance from the households to the main water sources in July was 2 kilometres.
- In comparison to June, the distance covered by the households to the main water source remained stable 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 domestic needs.
- All the water pans in the county have enough water, from the MAM rainfall, and can sustain all the livelihood zones more than one month.

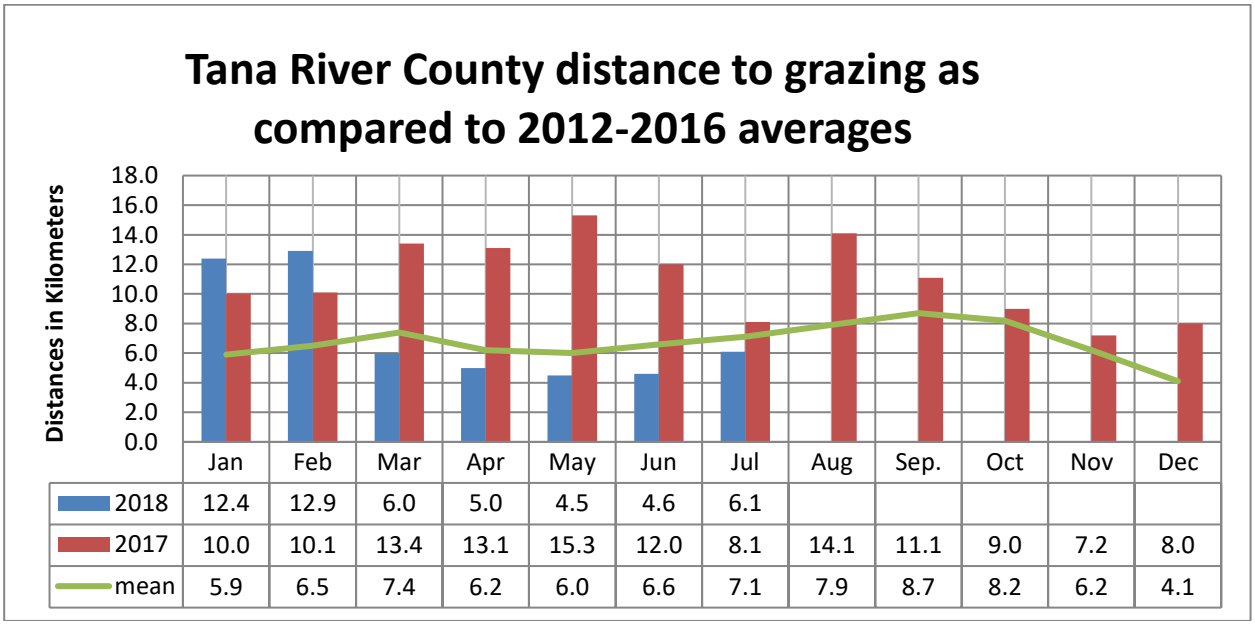
- The households within mixed livelihood zones take approximately 30 minutes to reach water points compared to households within Pastoral livelihood zones which take up to 1.5 hours to water points.
- The current distances are shorter than the normal during this time of the year.



	Jan	Feb	March	April	May	June	July	Aug	Sept	oct	Nov	Dec
2018	4.7	4.4	3	2.4	2	2	2					
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 July was 6.1 kilometres. .
- In comparison to June where the livestock covered 4.6 kilometres, the distances covered by the livestock increased in this month.
- The distance covered by livestock to access water remains below the same time in 2018 and the long term average.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec
2018	12.4	12.9	6.0	5.0	4.5	4.6	6.1					
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 current Livestock body conditions of the browsers and grazers remains good. This is attributed to the availability of sufficient browse and pasture for the livestock and also the shorter distance covered from the grazing area to the water sources.

3.1.2 Livestock migration

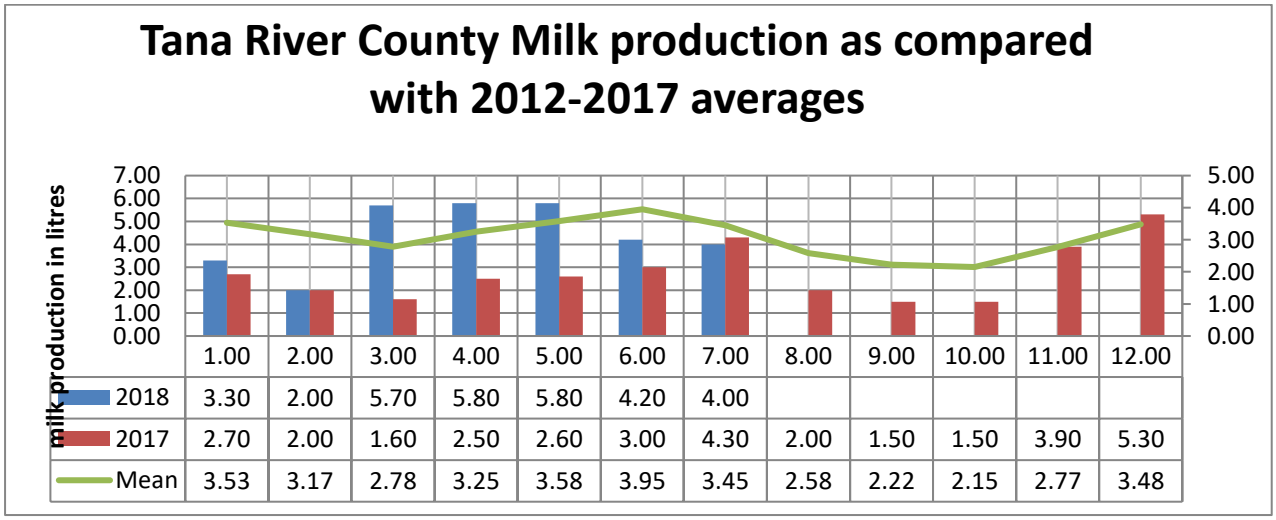
- Most of the Livestock are have remained in the pastoral livelihood zone of the county during this month but few herds were reported to have migrated towards Tana Delta.

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.
- The Garsen region is worst in all the sub-counties in terms of Disease outbreak. There are cases of CCPP and Trypanosomiasis continuously reported in this sub county.
- Parasitic infestation cases are also prevalent, especially fleas, mites and ticks in all livestock species.
- Suspected cases of Rift Valley Fever (RVF) were reported in Tana Delta. One case of the same was confirmed in this region. More blood samples were collected and the results of the investigations (Lab) have proofed negative.

3.1.4 Milk Production

- On average the milk produced per household within Tana River County was 4 litres in the month of July. The amounts slightly reduced in this month when compared to the month of June which was at 4.2 litres. This is attributed to the fact that the livestock are in the breeding season.
- In comparison to the long term mean, the current average in milk production is above normal average during this time of the year.



	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
2018	3.30	2.00	5.70	5.80	5.80	4.20	4.00					
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	3.53	3.17	2.78	3.25	3.58	3.95	3.45	2.58	2.22	2.15	2.77	3.48

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

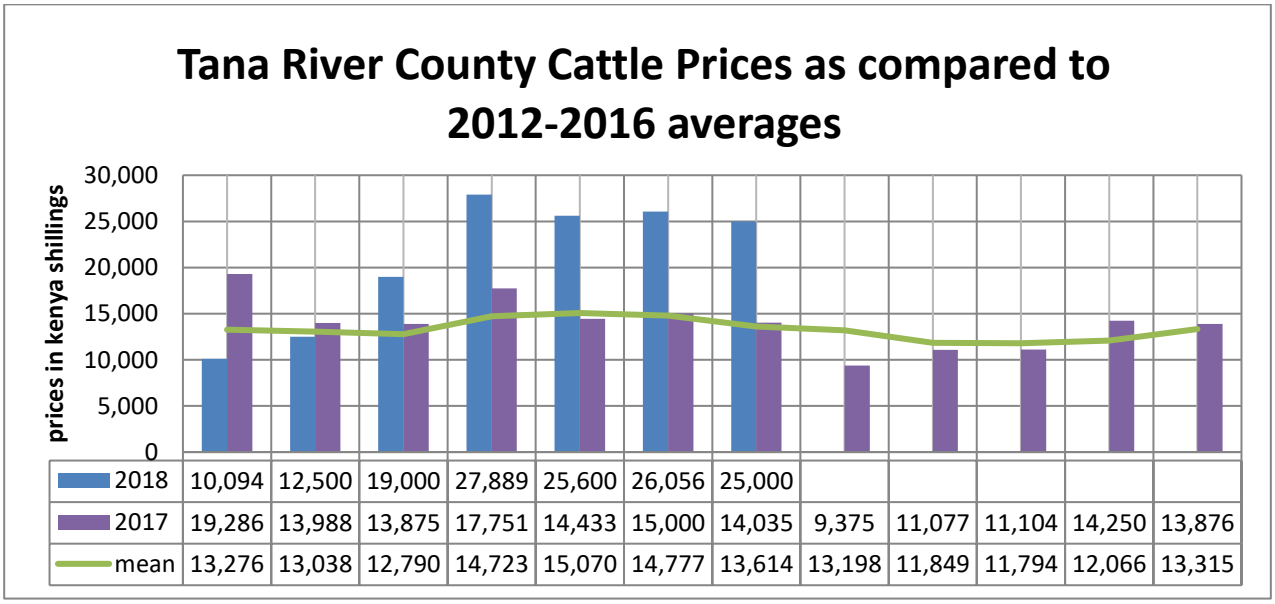
- Most of the crops on farms along river Tana are now knee high. The farmers planted on the flood plain after the flood waters receded.
- While the crops on irrigation farm are at the flowering and fruiting stage.
- The irrigating farmers have reported infestation by stalk borers.
- Currently, there 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 July was KES.25000. In comparison to the month of June, where the price of a 3 year old mature bull was KES. 26056, the prices slightly reduced in this month.
- The slight decrease in the prices is attributed to the market dynamics and improved livestock body condition and the increased numbers of livestock availed for sale in markets.
- The current cattle price of KES. 25000 is above the normal at this period of the year as shown on the graph below.

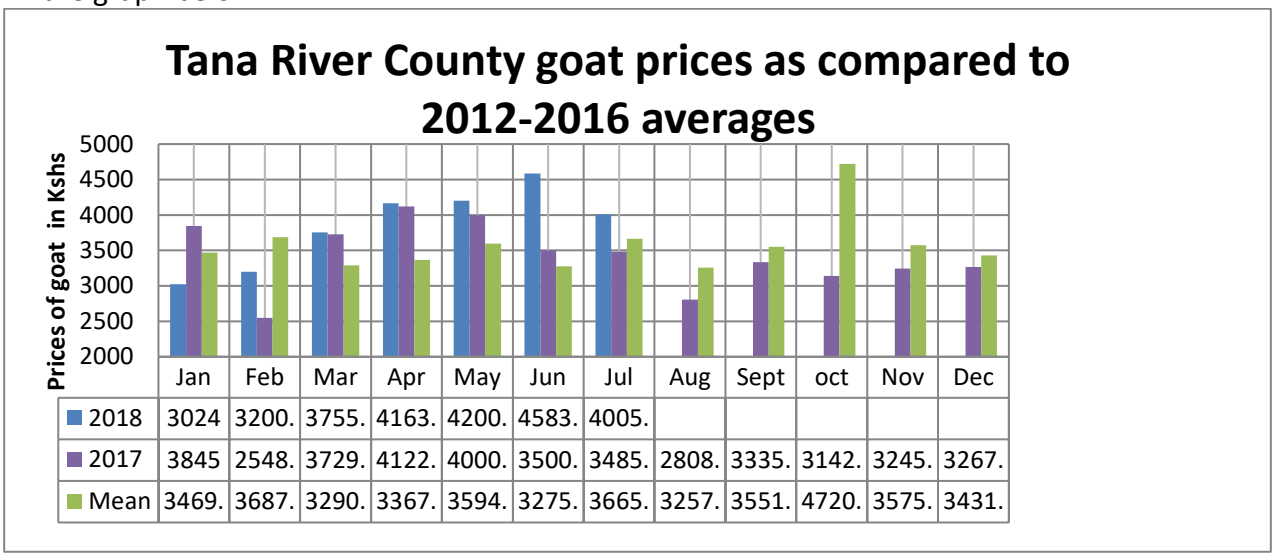


2018	10,094	12,500	19,000	27,889	25,600	26,056	25,000					
2017	19,286	13,988	13,875	17,751	14,433	15,000	14,035	9,375	11,077	11,104	14,250	13,876
mean	13,276	13,038	12,790	14,723	15,070	14,777	13,614	13,198	11,849	11,794	12,066	13,315

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

4.1.2 Goat Prices

- The average price of a medium size goat in the month of July was KES.4005. In comparison to the month of June where the average price of a medium size goat was Ksh. 4583. The prices in this month also slightly decreased. The price variability is attributed to the market dynamics.
- The current goat price of KES.4005 is above the normal at this period of the year as shown on the graph below.

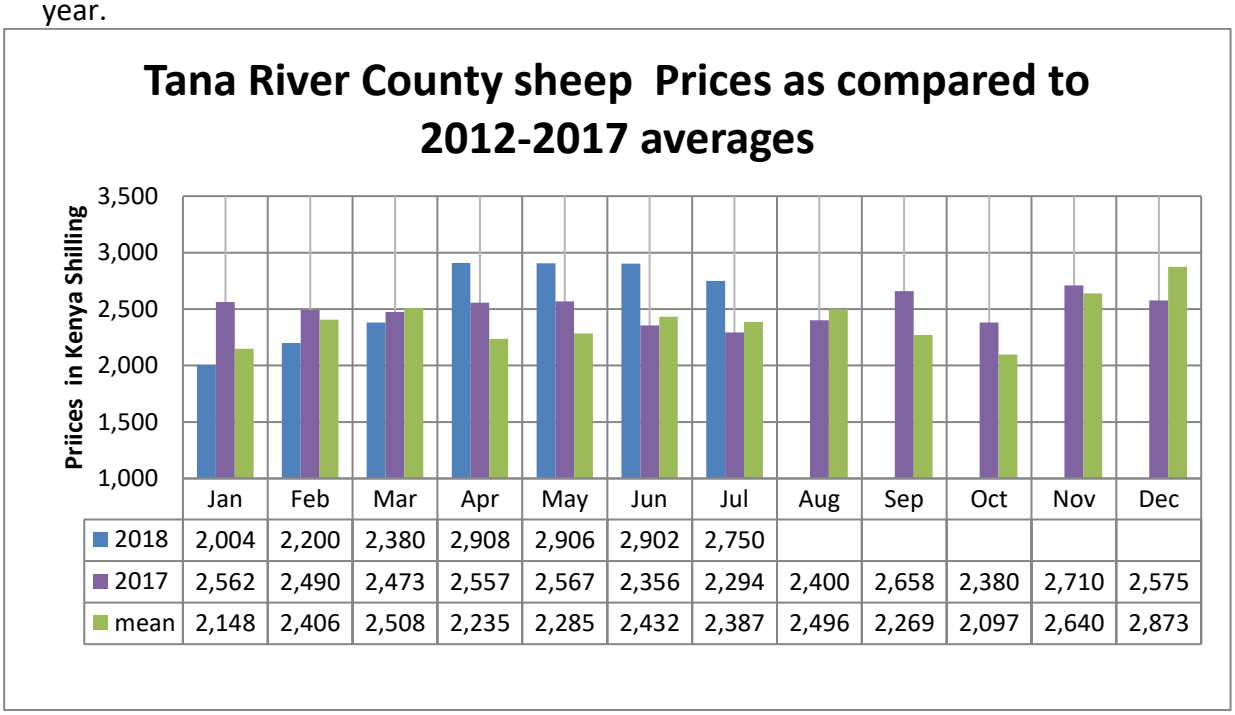


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2018	3024	3200.	3755.	4163.	4200.	4583.	4005.					
2017	3845	2548.	3729.	4122.	4000.	3500.	3485.	2808.	3335.	3142.	3245.	3267.
Mean	3469.	3687.	3290.	3367.	3594.	3275.	3665.	3257.	3551.	4720.	3575.	3431.

Fig 12*n=450 Households*

4.1.3 Sheep Prices

- The average farm gate price of a sheep in the month of July was Kshs.2750. The prices slightly reduced in this month when compared to that of the month of June which was at Ksh. 2902. This is attributed to the market dynamics and the increased numbers of livestock availed for sale in markets.
- Compared to the mean of 2012-2017, the current price is above the normal at this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	2,004	2,200	2,380	2,908	2,906	2,902	2,750					
2017	2,562	2,490	2,473	2,557	2,567	2,356	2,294	2,400	2,658	2,380	2,710	2,575
mean	2,148	2,406	2,508	2,235	2,285	2,432	2,387	2,496	2,269	2,097	2,640	2,873

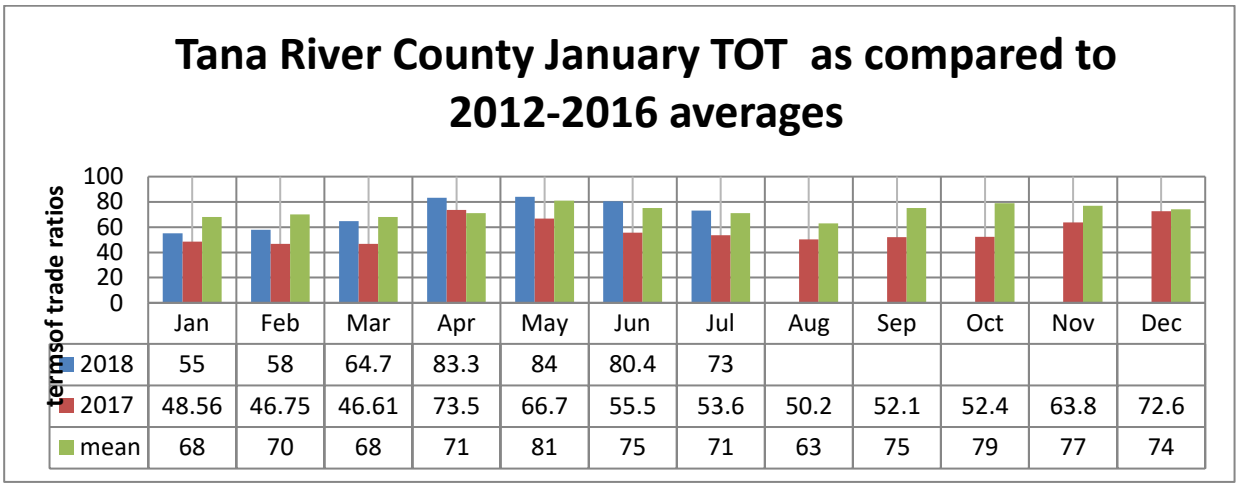
Fig 13*n=450 Households*

4.1.4 Milk Prices

Currently milk is retailing at an average of Kshs.60 per litre. The prices slightly increased in this month when compared to the month of June which recorded a price of Ksh 55 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 73 Kg of maize for a goat. Compared to the month of June which recorded an average of 80, the terms of trade decreased in this month. The current terms of trade is above the long term mean of 71 Kg for a goat.



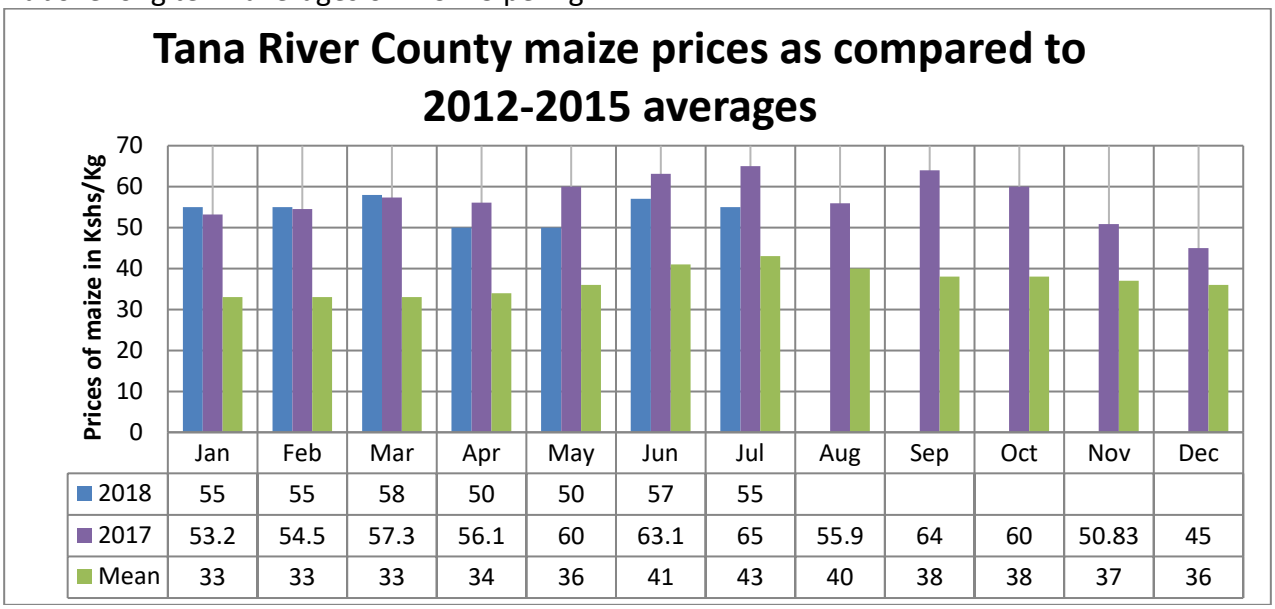
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	55	58	64.7	83.3	84	80.4	73					
2017	48.56	46.75	46.61	73.5	66.7	55.5	53.6	50.2	52.1	52.4	63.8	72.6
mean	68	70	68	71	81	75	71	63	75	79	77	74

Fig 13*n=450 Households*

4.2 CROP PRICES

4.2.1 Maize

- The average maize market price per kilogram for the month of July was KES. 55.
- When compared to the month of June, where the average price per kilogram of maize was KES.57, maize prices slightly decreased by the end of July. This is attributed to the market dynamics and other food relief activities that are on-going in the county.
- In comparison to the average maize price at this time of the year, the current maize prices are above long term averages of KES. 43 per kg.



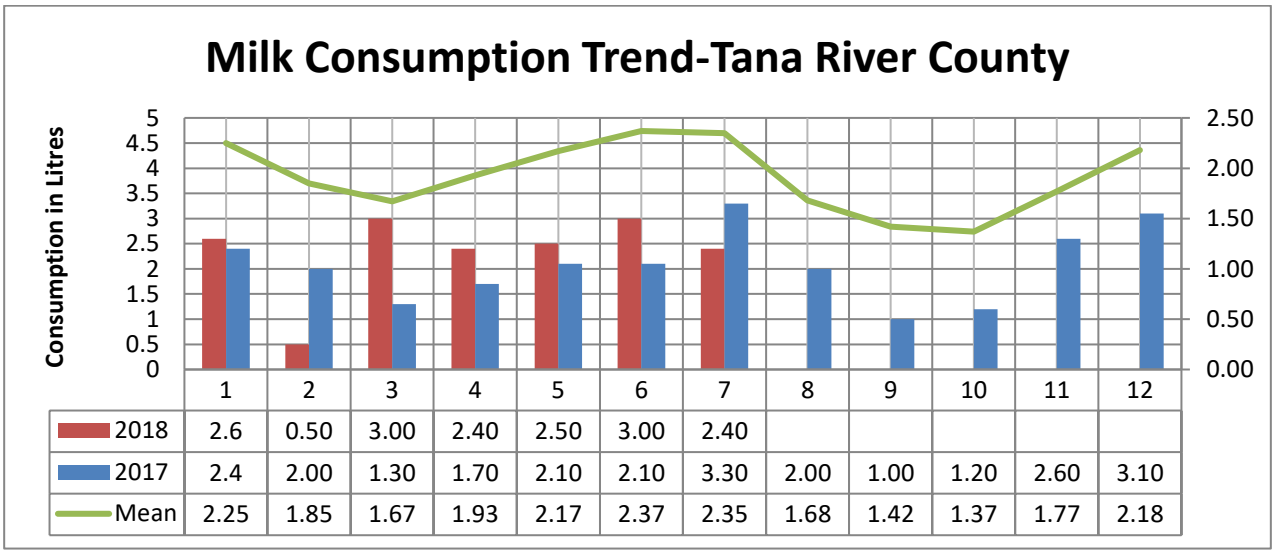
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	55	55	58	50	50	57	55					
2017	53.2	54.5	57.3	56.1	60	63.1	65	55.9	64	60	50.83	45
Mean	33	33	33	34	36	41	43	40	38	38	37	36

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

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- On average the milk consumed per household was 2.4 litres in the month of July.
- In comparison to the month of June, where the average milk consumed per household was 3 litre, the milk consumption also slightly reduced.
- In comparison to a normal year, the current milk consumption rate per household is above normal at this time of the year.



	1	2	3	4	5	6	7	8	9	10	11	12
2018	2.6	0.50	3.00	2.40	2.50	3.00	2.40					
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	2.25	1.85	1.67	1.93	2.17	2.37	2.35	1.68	1.42	1.37	1.77	2.18

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

5.2 FOOD CONSUMPTION SCORE

- The percentage of households with poor food consumption score in the county in June was 33.2% while those with border line score were 31.9% and with acceptable at 34.3%.
- The pastoral livelihood zone has the highest proportions of households with poor FCS at 60.7% and while the mixed livelihood zone has the lowest in the acceptable category at 0%.
- Tana delta has the highest in the acceptable category at 83.3%

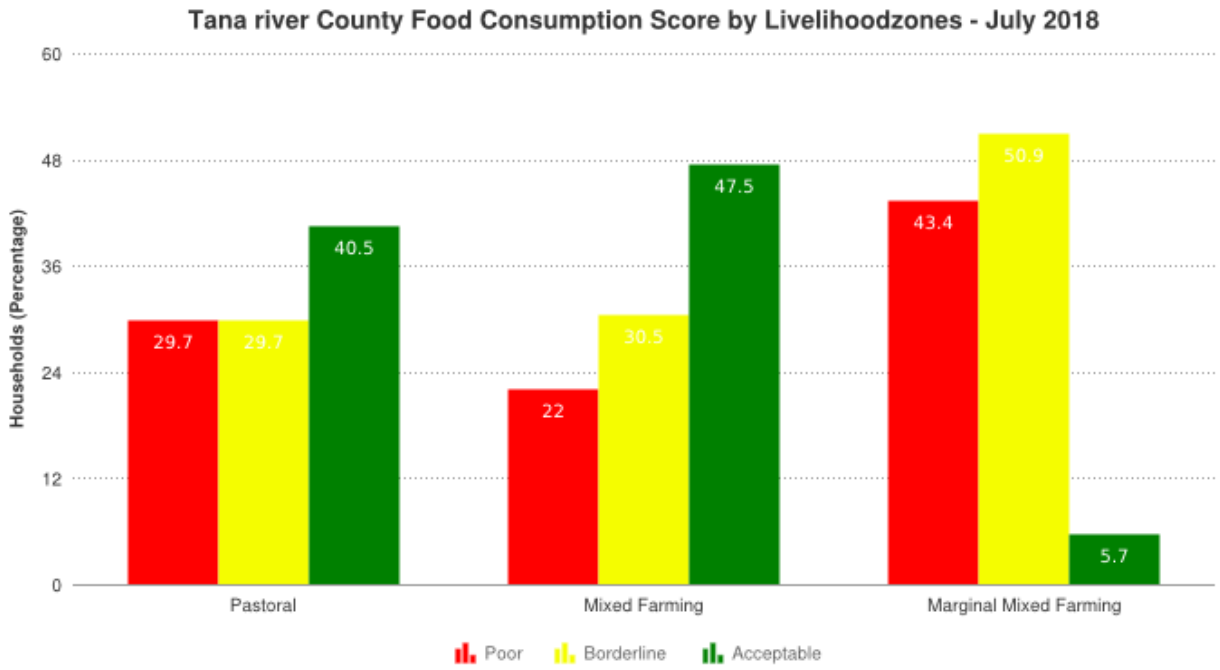


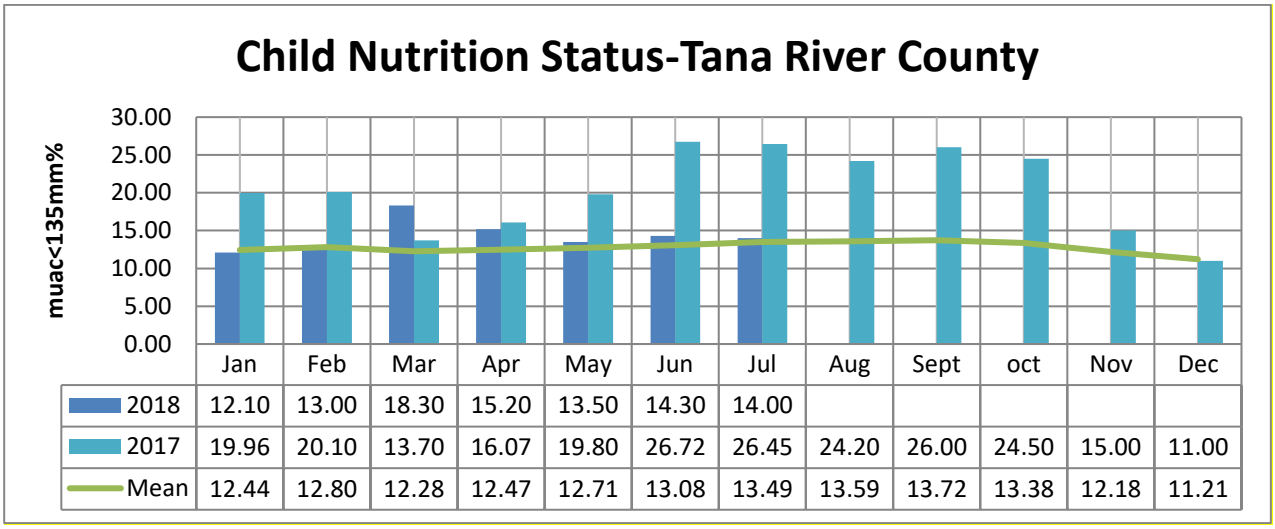
Fig 16. This figure show the food consumption score in the 3 livelihood zones of Tana River County

- 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 40.5percent, 29.7percent and 29.7percent respectively. In the marginal mixed livelihood zone, proportion of households who were within the acceptable, borderline and poor food consumption scores were 5.7percent, 50.9percent and 43.4percent respectively. In the mixed livelihood zone, the proportions of the households were 47.5pecent, 30.5percent and 22percent respectively.
- The mean food consumption score for the month under review was 30.01 across the livelihood zone hence was within the borderline food consumption score group from the month of March to July.
- Food consumption score was better in the mixed livelihood zone than marginal mixed and the pastoral livelihood zone with a mean of 33.05, 28.1, and 24.7 respectively.
- Hence households in the mixed livelihood zone were more food secure than those in the marginal mixed and pastoral livelihood zone. This is attributed to the availability of more fish meat harvested from the flood waters. The household in the mixed livelihood zone consume enough fish for their daily food, thus resulting to a higher food consumption score.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 MUAC

- The percentage of children under the risk of malnutrition within the month of July was at 14% compared to that of June which was at 14.3%.
- The number of the children under the risk malnutrition slightly decreased but still has remained high. This is attributed to the low milk production and consumption and also reduced food availability in the household. Compared to long term averages of 13.08%, the current percentage is above normal at this time of the year.



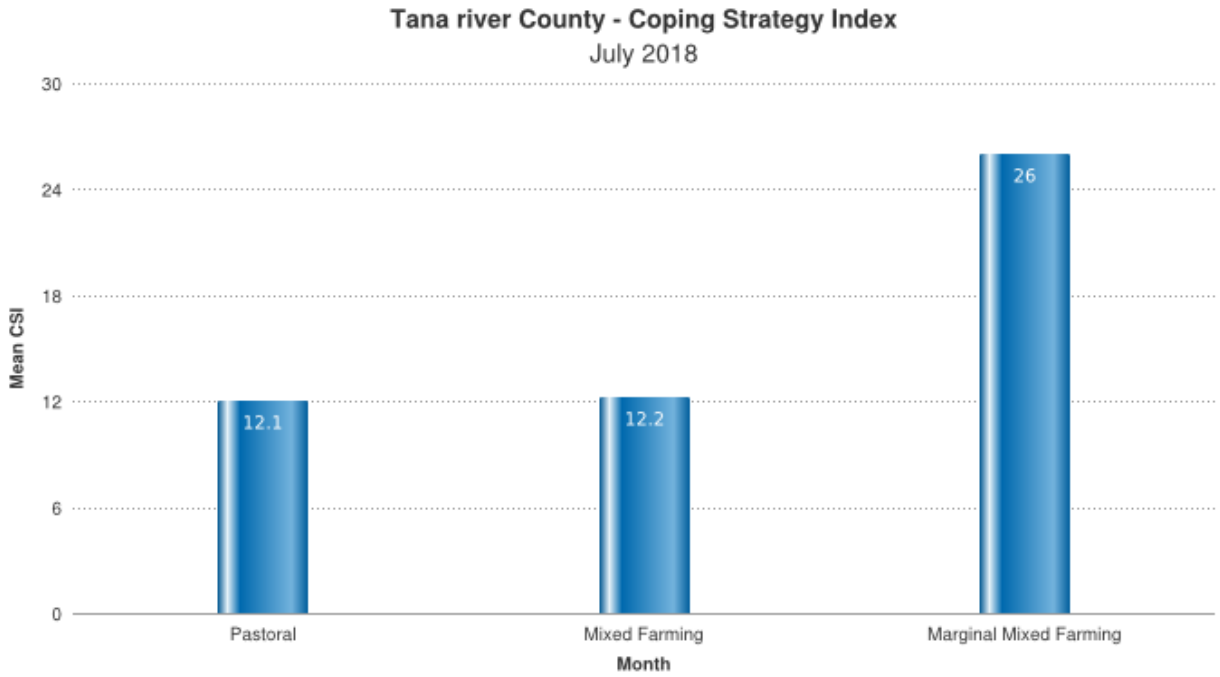
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2018	12.10	13.00	18.30	15.20	13.50	14.30	14.00					
2017	19.96	20.10	13.70	16.07	19.80	26.72	26.45	24.20	26.00	24.50	15.00	11.00
Mean	12.44	12.80	12.28	12.47	12.71	13.08	13.49	13.59	13.72	13.38	12.18	11.21

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.
- Suspected case of cholera were reported in Tana north. No new incidences of cholera have been reported during the month under review.

5.4 COPING STRATEGIES



- The coping strategy index for the month under review was at 16.7.
- Compared to the month of June where, the CSI for the county was at 16.07, the CSI slightly increased.
- When compared across the livelihood zones, coping strategy index for Pastoral, mixed and marginal mixed livelihood zones were 12.1, 12.2 and 26 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;
  - 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, reduced frequency of consumption and portion size of meals.

6. CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- General food distribution by the county government in early August
- Distribution of NFI's by the NGO(World Vision, KRCS, IOM, Samaritan Purse)Restocking exercise of 200H/H each given 10 Goats by RPLRP
- Distribution of seeds and NFIs by German-Agro Action.
- 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
- Construction of a water pan by the coast water services and partners
- Repair of water bowser by NDMA
- Countywide deworming exercise in all schools.
- Development of Ward CP's and revision of county CP.

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.

The flood water have remind on most farms and villages in the county, mainly in Tana Delta. Most infrastructures that were destroyed by the floods have not been rehabilitated. There are over 127 flood displaced camps county wide.

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. The situation was further worsen by the resent flood.
- 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.
- 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.