

National Drought Management Authority

TANA RIVER COUNTY

DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2018



A Vision 2030 Flagship Project



FEBRUARY EW PHASE

Drought Status: **ALARM**



Mipango ya kukabiliana na ukame

Drought Situation & EW Phase Classification

Biophysical Indicator

The County is currently experiencing extreme vegetation deficit.

Rainfall:

- The county remained dry in the month of February. However good rainfall amounts were received all over the county during the first week of March.
- The vegetation condition.** The 3-month VCI indicates that the County is currently experiencing extreme vegetation deficit. The values significantly decreased when compared to the previous month where the VCI was at 12. Galole and Bura Sub County are experiencing extreme vegetation deficit.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Most of the livestock in Tana River County have remained in the Delta, Assa, Kone, Galana, Moa, Tsavo National park and also Chakama area in Malindi in Tana Delta and also along River Tana.
- Pasture and browse conditions is generally poor especially in the pastoral livelihood zones (the hinterland regions).
- The grazers (cattle and sheep) body condition is currently poor while the browser (camel and goats) condition is fair and on a worsening trend.
- Milk production at household level decreased to 2 litres compared to the last month where the amounts was at 3.3.

Access indicators

- Milk consumption at household level decreased to 0.5 litres compared to the last month which was at 2.6 litre. Milk consumption was below the normal.
- The average livestock distance to the water sources remained above normal at 12.9 km compared to the last month where it was at 12.4 km. The return distance remains high compared to the normal distance of 5.9 km.

Utilization indicators

The percentage of children under the risk of malnutrition in this month was at 13% compared to that of January which was at 12.1%. The poor nutritional status is attributed to poor milk production and consumption.

Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Pastoral	Alarm	worsening
Marginal Mixed Farming	Alarm	worsening
Mixed Farming	Alarm	worsening

Biophysical Indicators	Value	Normal ranges
rainfall (% of Normal)	0.53 mm	>7mm
3-Month VCI	5.33	>35
State of water sources	2	5

Production indicators	Value	Normal ranges
Livestock Migration Pattern	Not normal	Normal
Livestock Body Conditions	poor	Good
Milk production	2 litres	>76Litres
Livestock deaths (from drought)	Death reported	No death
Crops area planted (%)	Nil	67%of LTA

Access Indicators	Value	Normal ranges(LTA)
Terms of Trade (ToT)	58	68
Milk Consumption	0.5 litres	>60Litres
Average return distance to the water sources	12.9km	5.9 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	13%	<12(%)

<ul style="list-style-type: none"> Short rains harvests Short dry spell Reduced milk yields Increased HH Food Stocks Land preparation 	<ul style="list-style-type: none"> Planting/Weeding Long rains High Calving Rate Milk Yields Increase 	<ul style="list-style-type: none"> Long rains harvests A long dry spell Land preparation Increased HH Food Stocks Kidding (Sept) 	<ul style="list-style-type: none"> Short rains Planting/weeding
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Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

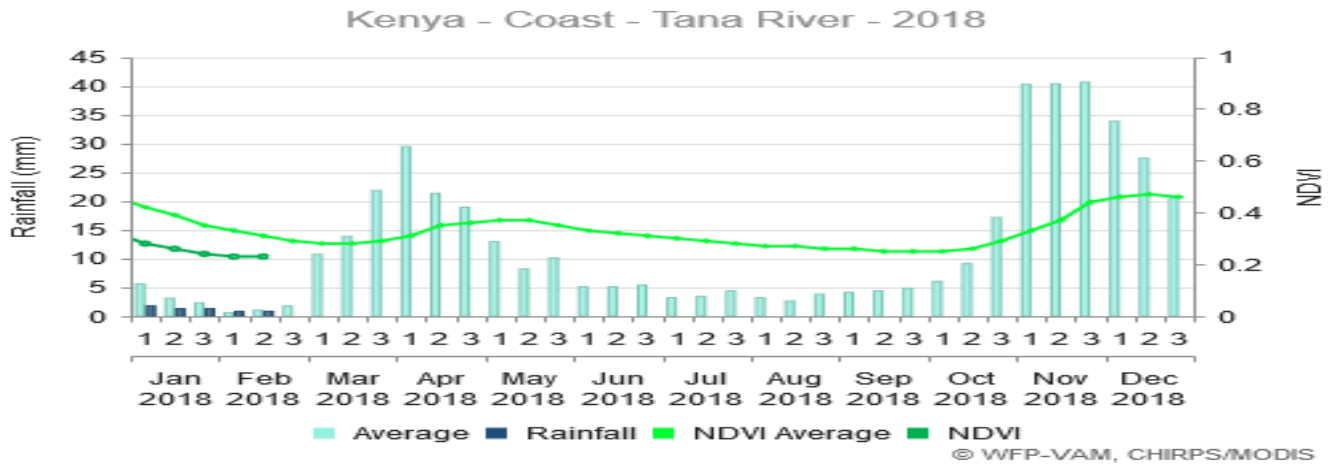


Fig. 1. The graph above shows the rainfall amounts received during the month of February and also the NDVI trend comparing both to the long term averages.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- No significant rain was received in this month. A negligible average of 0.53 mm was recorded.
- The graph above shows the rainfall amounts received in February 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 extreme vegetation deficit recording a VCI of 5.33 by the end February as Compared to the month of January which stood at 12.97. The VCI significantly decreased in this month and this is attributed to the ongoing extreme drought conditions in the county. In comparison to same time in the previous years, the vegetation conditions are way much below the normal average.
- The county current vegetation conditions depicts an extreme agricultural drought and is on a worsening trend.
- The matrix below show the vegetation condition for this month;

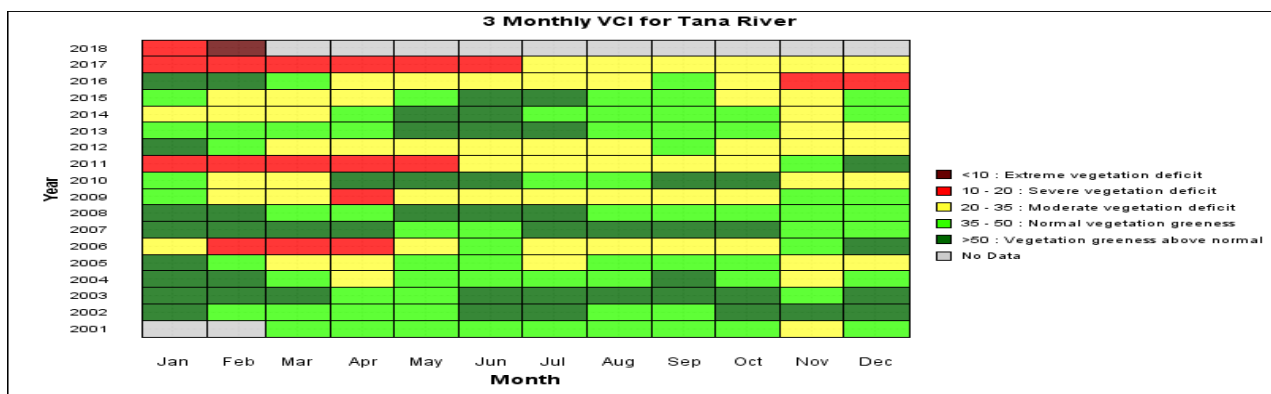


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The graph below show the 3-month VCI trend for February and compares it to the same time in 2017 values; the long term average, the maxima and minima.

- The current County VCI recorded a historical minimum when compared to the long term records of the averages and minimums.
- In this month, the VCI depicts a decreasing trend and this is attributed to the continued drought conditions experienced in the county.

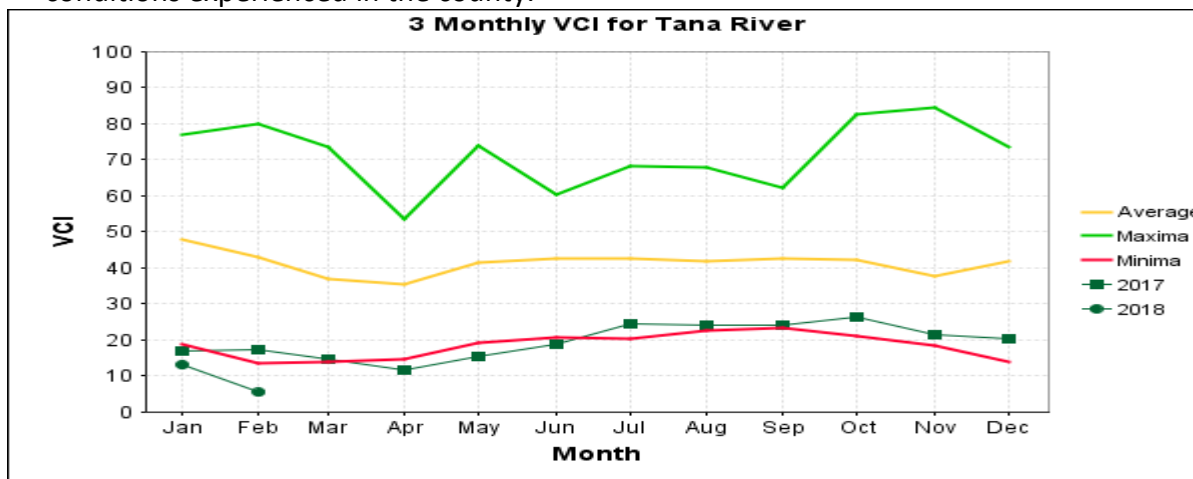


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Sub county VCI

Bura and Galole sub counties are currently experiencing extreme vegetation deficit while Garsen Sub County's VCI has sharply dropped to the severe vegetation deficit category.

Bura

The 3-month Vegetation cover for Bura (Tana North Sub County) is currently at 0.34 compared to last month's VCI of 6.03. The agricultural drought conditions in this sub county has remained below the historical minimum. Bura Sub County has continuously experienced severe vegetation conditions in the months of October November and December in 2017. The vegetation condition is still on a worsening trend. The VCI of 0.34 in this month still indicates extreme vegetation deficit within Bura sub-county.

As shown in the matrix below, this sub county has continuously faced persistent drought conditions since October 2016.

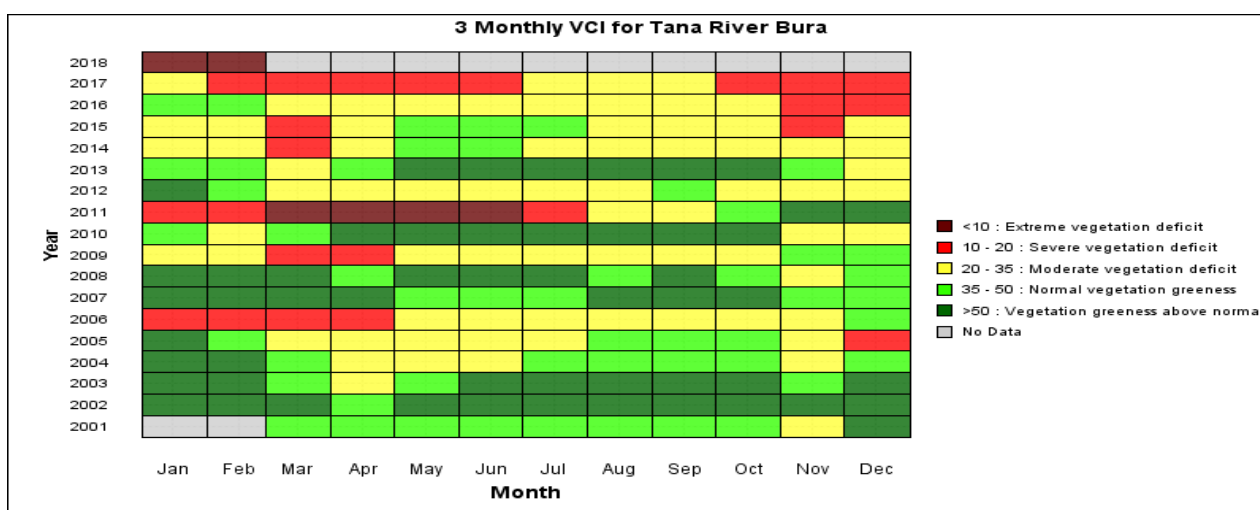


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Galole

The 3-month Vegetation cover for Galole is currently at -1.17 compared to last month's VCI of 5.77. The vegetation condition in this month recorded an all-time historical minimum. The

agricultural drought has worsen in this month when compared to that of January. The VCI of -1.17 indicates extreme vegetation deficit within Galole sub-county.

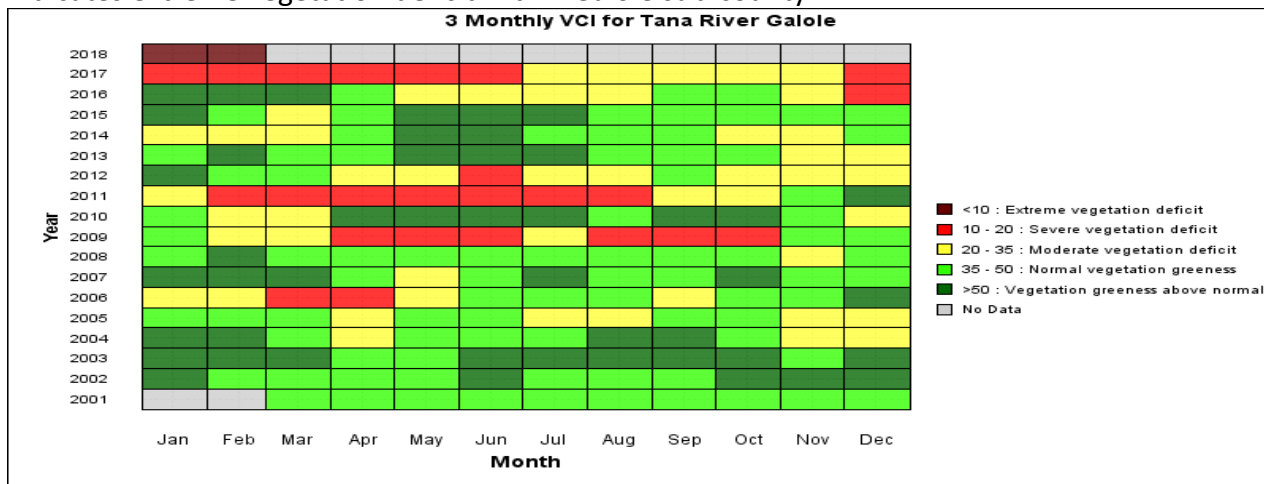


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Garsen

The 3-Month VCI for Garsen is currently at 13.63 compared to last month’s VCI of 23.36. The VCI in this sub county significantly decreased in this month. The VCI of 13.63 indicates that the sub-county is experiencing severe vegetation deficit in this month.

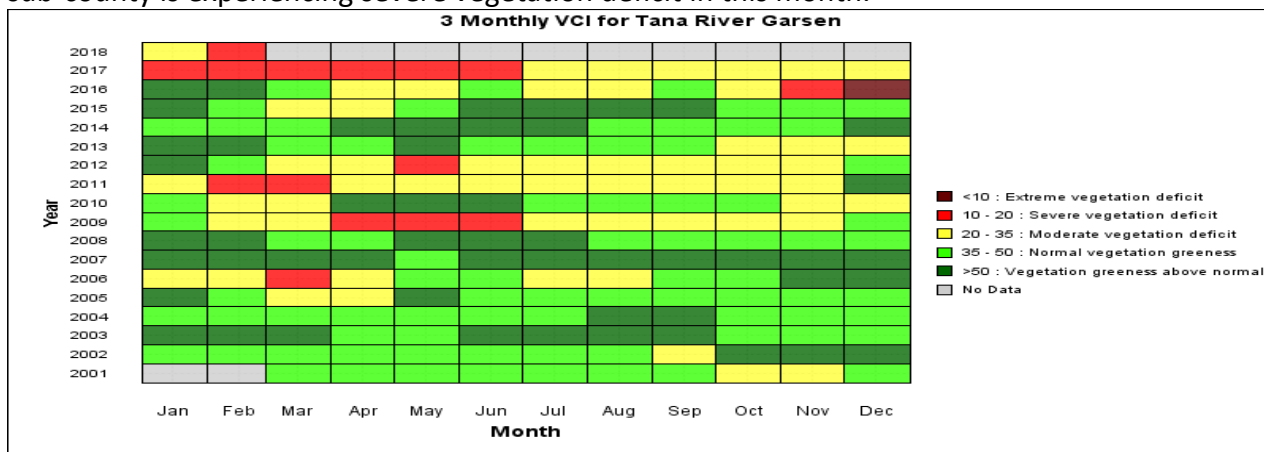


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

2.1.2 Pasture

- The pasture quality in the county has remained poor.
- The pasture conditions in Tana North and mainly the hinterland is very poor; this regions are experiencing very high temperatures of up to 45°C.
- In Tana Delta, the pasture qualities is also poor. This is attributed to the continued drought conditions in the county and also the increased livestock population in this area that is usually a fall back area during the drought periods.
- In the pastoral zone, pasture is expected not to last for more than a month compared to normal duration of 2 months.
- In the marginal and marginal mixed zones the pasture is expected to last for 1 month compared to a normal situation of 2 months.
- The pasture quality and quantity is below the normal compared to the same time of the past years.

2.1.3 Browse

- The quantity and quality of browse within the County is also very poor compared normal at this time of the year.
- The browse is expected to last for 1 month compared to normal duration of 3 months.
- In the marginal and marginal mixed zones the browse is also expected to last for 1 month compared to a normal situation of 4 months
- The overall vegetation conditions in the county are poor and cannot sustain the livestock for more than 1 month if the present conditions prevail.

2.2 WATER RESOURCE

2.2.1 Sources

- Most of the communities within the pastoral, Marginal mixed and the Mixed farming livelihood zones depend on River Tana, shallow wells, boreholes and pans for both domestic and livestock consumption.
- Settlements along River Tana are less water stressed, whereas, water scarcity is still a predicament in the hinterland (pastoral livelihood zone).
- The households in the pastoral livelihoods zones are covering longer distances to fetch water when compared to the normal.

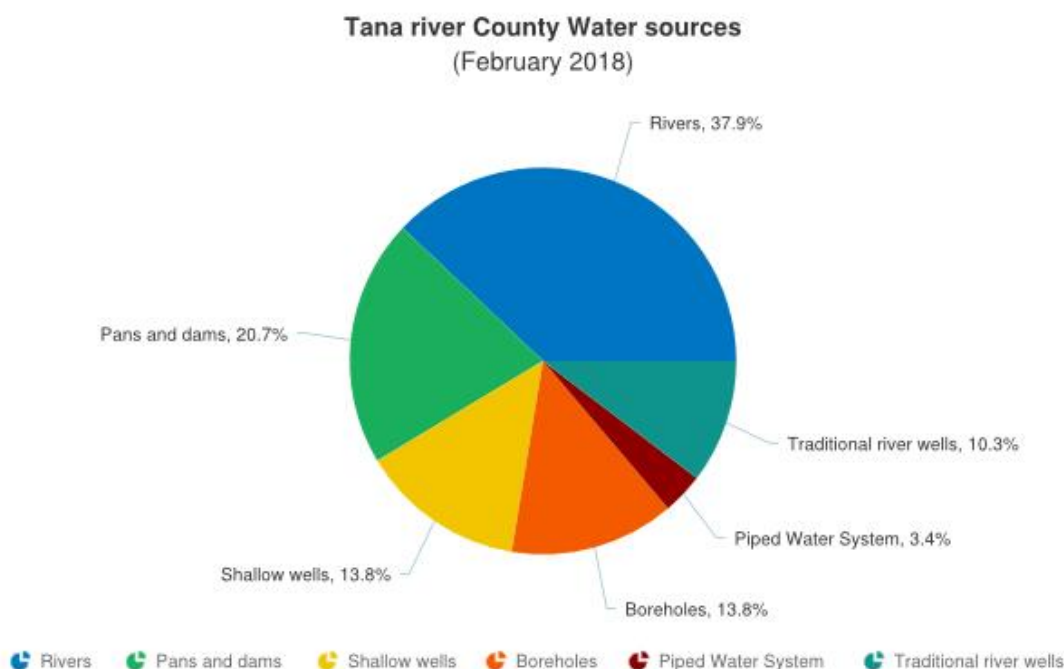
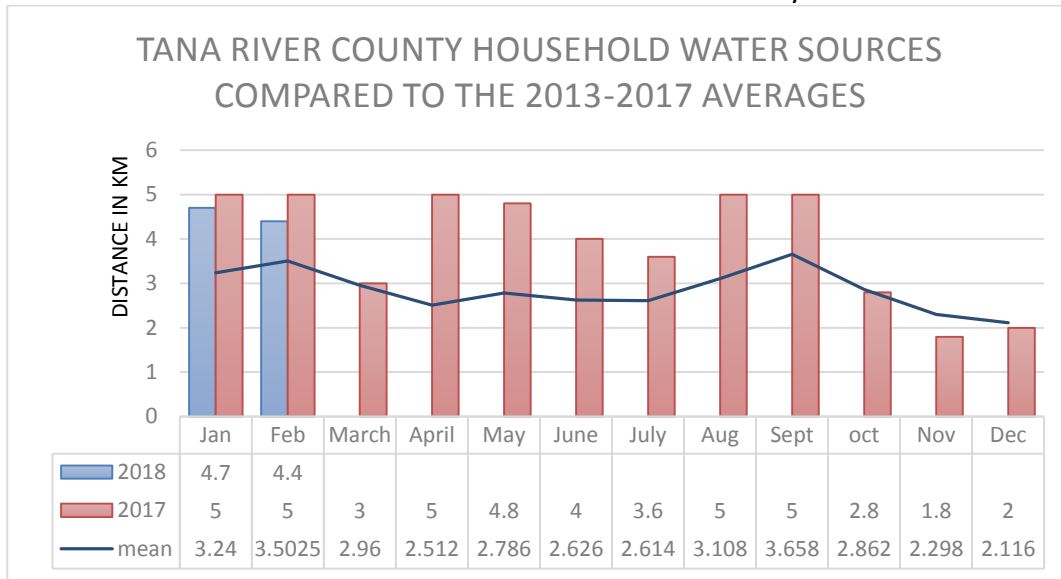


Fig 7. This pie chart shows the different water sources in the county

2.2.2 Household access and Utilization

- The average return distance from the households to the main water sources in February was 4.4 kilometres.
- In comparison to January where distance covered from the households to the main water sources was 4.7 Kilometres. The distances remained high in this month.
- Most of the H/H in the pastoral livelihood zones depends on the traditional wells and pans for their water needs.
- Due to the ongoing drought conditions most of water pans in the hinterlands of the county have remained dry during this month and the communities depend on Natural River, traditional wells and water trekking intervention.

- The households within mixed livelihood zones take approximately 2 hours to reach water points compared to households within Pastoral livelihood zones which take up to 5 hours to water points.
- The current distances are above normal in this season of the year.



2.2.3 Livestock access

- The average distance covered by livestock from the grazing areas to main water source in the month of February was 12.9 kilometres. .
- In comparison to the month of January where the livestock covered 12.4 kilometres, the distances covered by the livestock slightly increased in this month compared to the normal. This is attributed to the drying up of the main water sources due the ongoing drought conditions.
- Most of the communities mostly depend on River Tana, traditional wells and pans to provide water to the livestock.
- The distance covered by livestock to access water is above the mean at this time of the year.

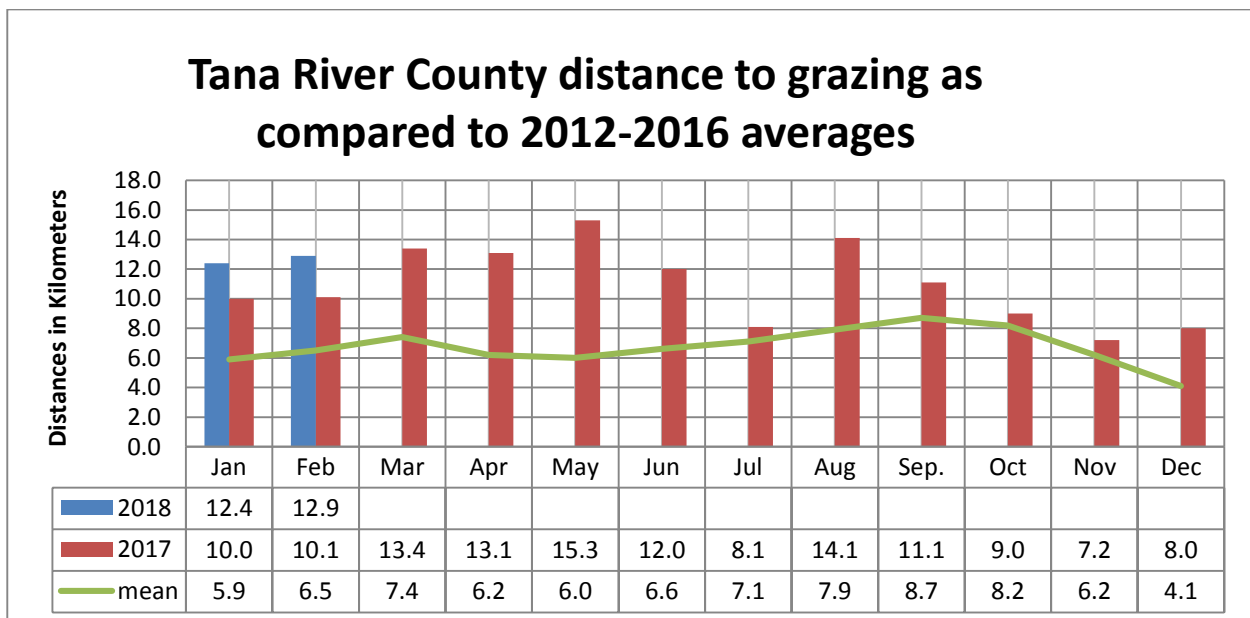


Fig 9 n=450 Households

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

Livestock body condition of Camels is good to fair, cattle and sheep is poor and is deteriorating at a high rate due to ongoing Drought conditions coupled with long trekking distances to and from water sources.

3.1.2 Livestock migration

Livestock has remained in the Delta, Assa, Kone, Galana, Moa, Tsavo National park and also Chakama area in Malindi. Most of this livestock are from Haroresa, Chifiri, Wayu, Waldena and Bangale. Some livestock as far as from Ndera location, Kotile and Masalani of Ijara Sub County are also in this region.

3.1.3 Livestock Diseases

The most vector borne diseases are Trypanosomiasis both for cattle and camels in the Delta and other parts followed by other vector borne diseases, heart water and babesiosis and others such as helminthiasis are likely to cause death as livestock body will be too weak to respond to drugs. Fleas and ticks infestation has been evidenced in most herds of livestock. There are few cases of emaciation in calves and lactating cattle due to mineral deficiency.

There are reported suspected cases of foot and mouth disease reported in Asa, kone, Masha and Kipini area. Thus active diseases surveillance by taking samples for investigation to confirm diagnosis is being done as a rapid response.

The Delta region is worst in all the sub-counties in terms of Disease outbreak. There are cases of CCPP which have been reported in the entire Tana Delta sub county and many cases of Trypanosomiasis. Parasitic infestation cases have emerged especially fleas, mites and ticks in all livestock species.

The grazers are the most affected than browsers due to overgrazing caused by 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 2 litres in the month of February. The amounts reduced in this month when compared to the month of January which was at 3.3 litres.
- In comparison to the long term mean, the current average in milk production is below normal average during this time of the year.

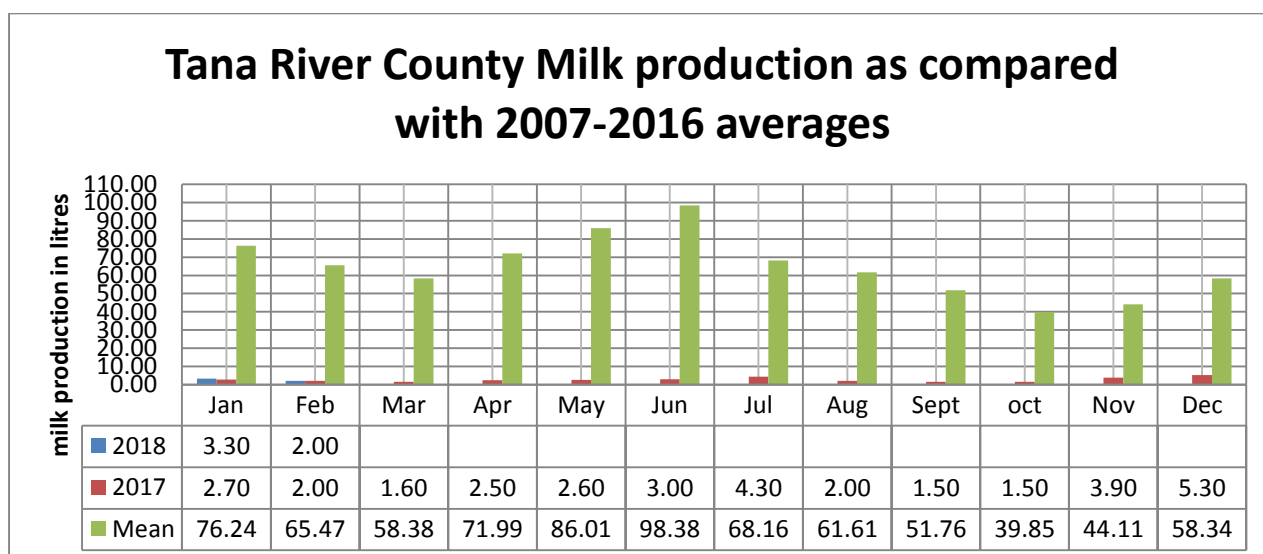


Fig 10n=450 Households

2.1.5 Livestock deaths

- Mortality of about 2% of cattle and 1% of sheep has been reported across the county due to drought.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- The main crops grown under rain fed production are maize, green grams, cowpeas and water melon. Other major crops include mangoes, bananas and tomatoes.
- The little acreage was achieved this time in mixed, marginal mixed farming zone.
- 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 the county and national governments.
- Subsistence farms in regions along the River Tana planted maize, cowpeas and green grams.
- Some irrigated farm lands along River Tana (Sala, Nanighi, Milalulu and Makere) are now tussling.
- The crops on the rain-fed farms have wilted due the poor performance of the past rains and also due to extreme day temperatures lack of moisture in the soil

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average price of a mature 3 year old bull in the month of February was Ksh.12500. In comparison to the month of January, where the price of a 3 year old mature bull was Ksh. 10,094, the prices slightly increased in this month.
- The poor prices is attributed to the livestock poor body condition and the slight increase is attributed to the market dynamics.
- The current cattle price of Ksh. 12500 is below the normal at this period of the year as shown on the graph below.

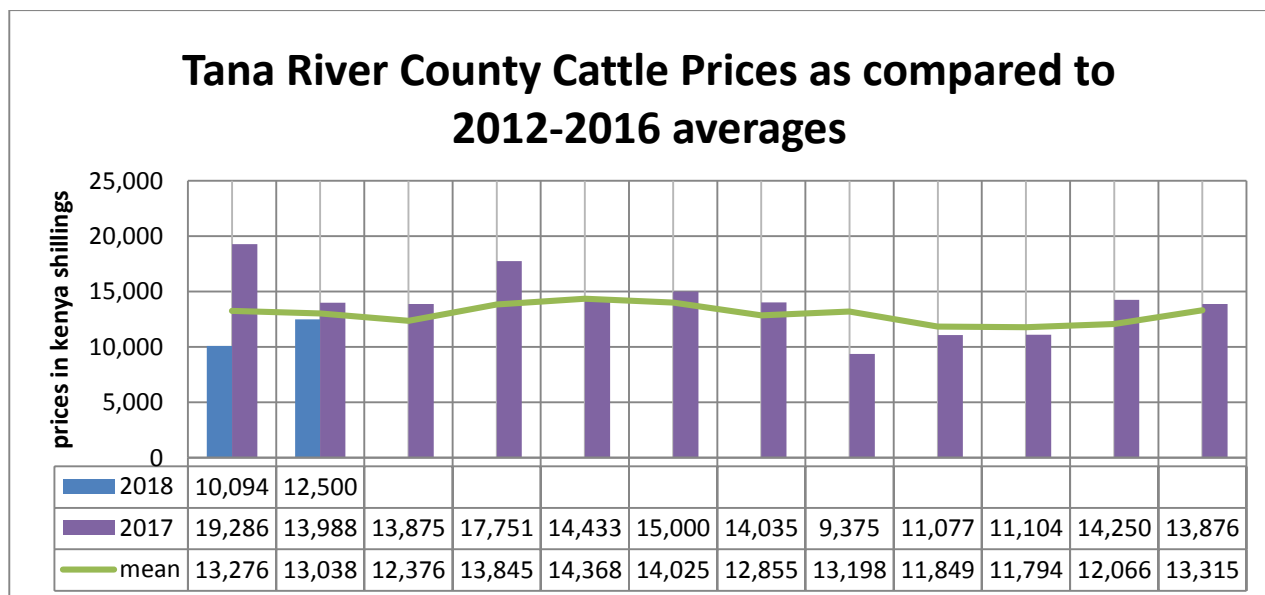


Fig 11n=450 Households

4.1.2 Goat Prices

- The average price of a medium size goat in the month of February was Kshs.3200. In comparison to the month of January where the average price of a medium size goat was Ksh. 3024. The prices in February was fair. The price variability is attributed to the market dynamics.
- The current goat price of Ksh.3200 remains below the normal at this period of the year as shown on the graph below.

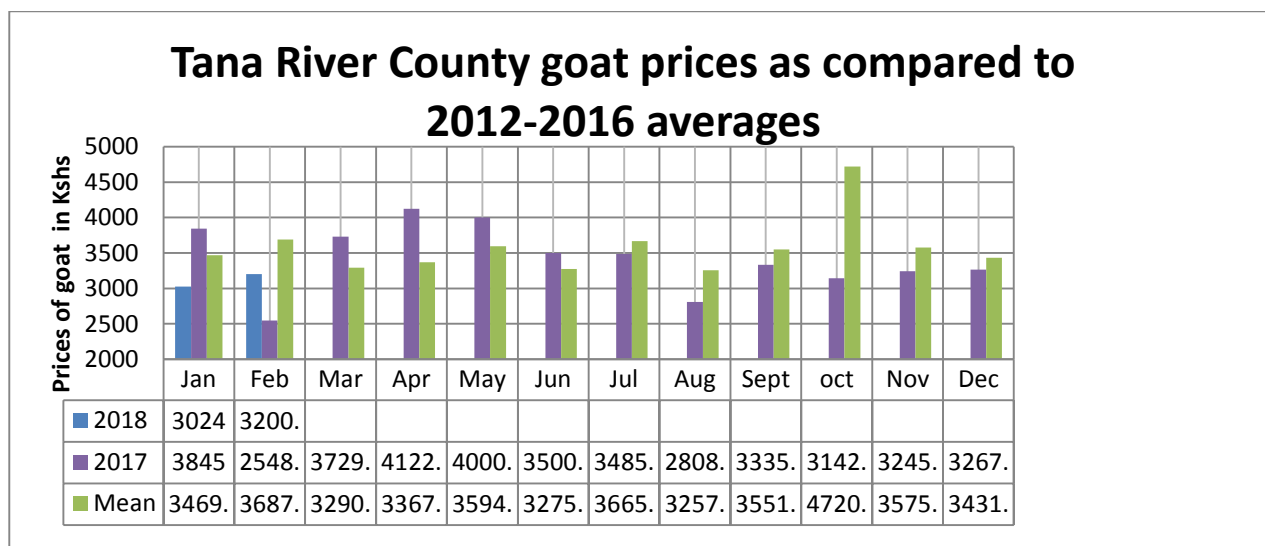


Fig 12n=450 Households

4.1.3 Sheep Prices

- The average price of a sheep in the month of February was Kshs.2,200. The prices slightly increased in this month when compared to that of the month of January which was at Ksh. 2,004. This is attributed to the market dynamics.
- Compared to the mean of 2012-2015, the current price is below the normal at this time of the year.

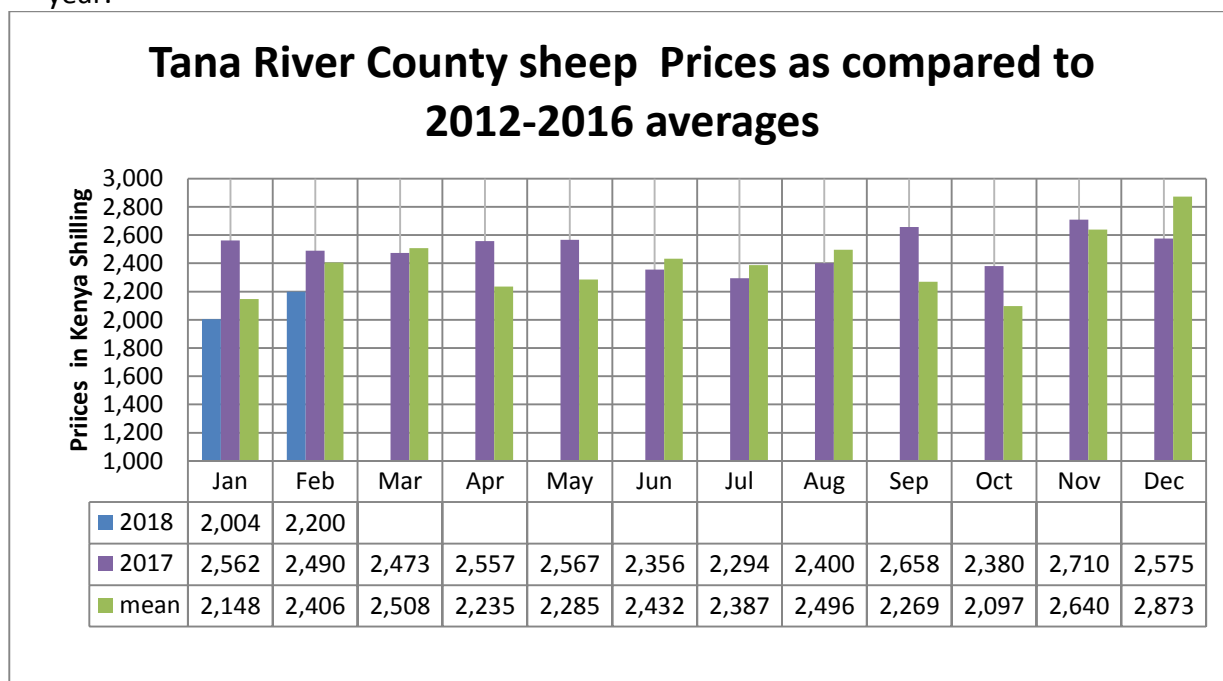


Fig 13n=450 Households

4.1.4 Milk Prices

Currently milk is retailing at an average of Kshs.80per litre. The prices increased in February when compared to the month of January which recorded a price of Ksh 70 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 58 Kg of maize for a goat. Compared to the month of January which recorded an average of 72.6, the terms of trade decreased in this month. The current terms of trade is below the long term mean of 70 Kg for a goat.

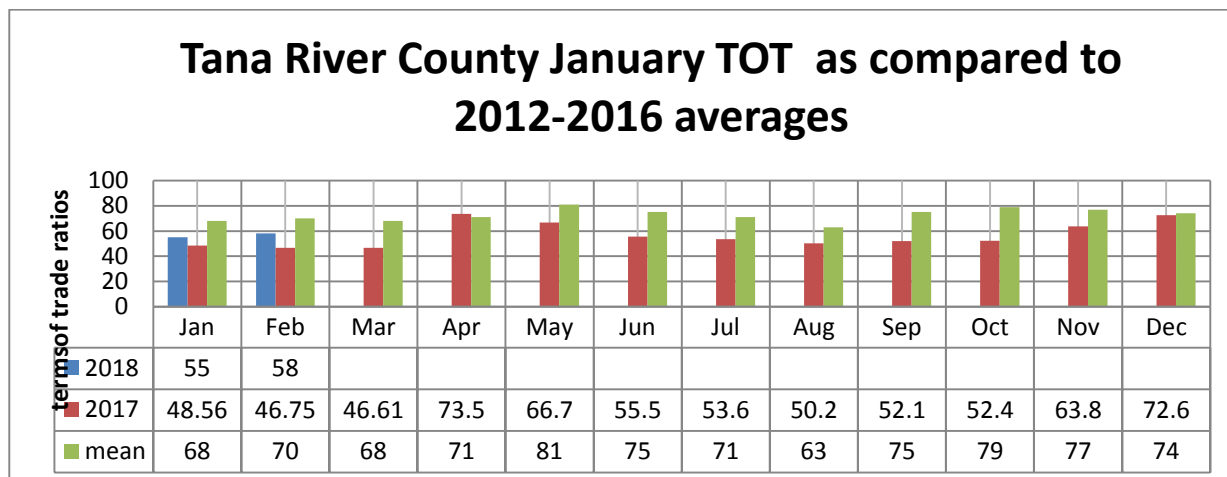


Fig 13n=450 Households

4.2 CROP PRICES

4.2.1 Maize

- The average maize price per kilogram for the month of February was Ksh 55.
- When compared to the month of January, where the average price per kilogram of maize was Kshs.55, maize prices remained stable by the end of February. 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 33 per kg.

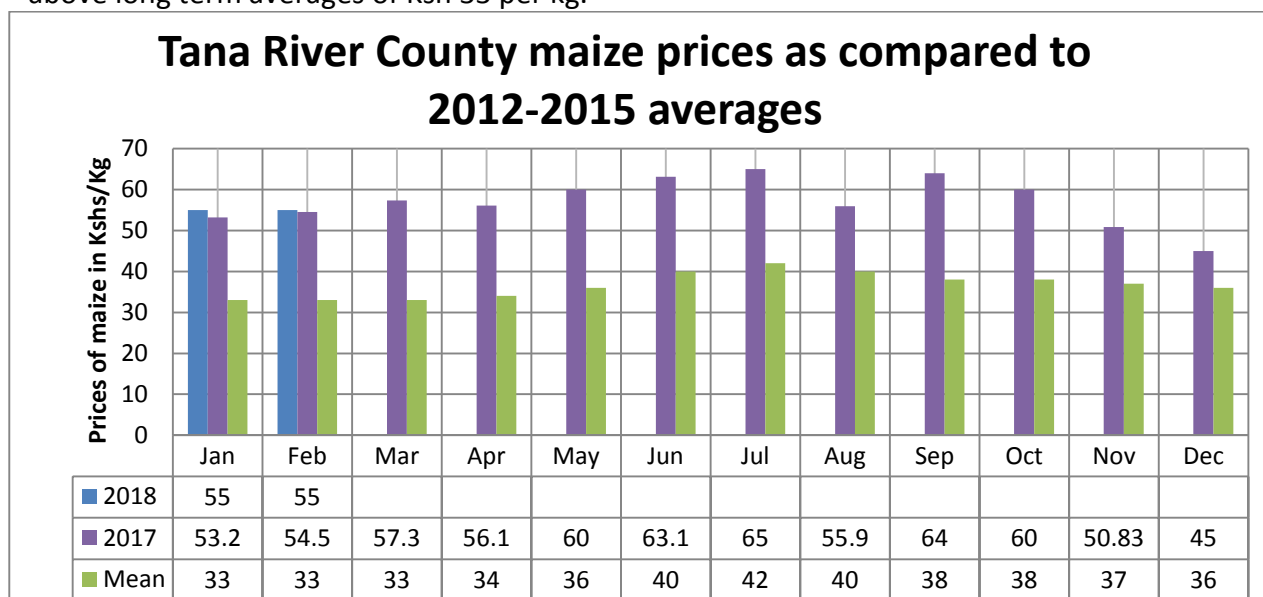


Fig 14 n=450 Households

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- On average the milk consumed per household was 0.5 litres in the month of February.
- In comparison to the month of January, where the average milk consumed per household was 2.6 litre, the milk consumption decreased and still remain poor.
- In comparison to a normal year, the current milk consumption rate per household is below normal at this time of the year.

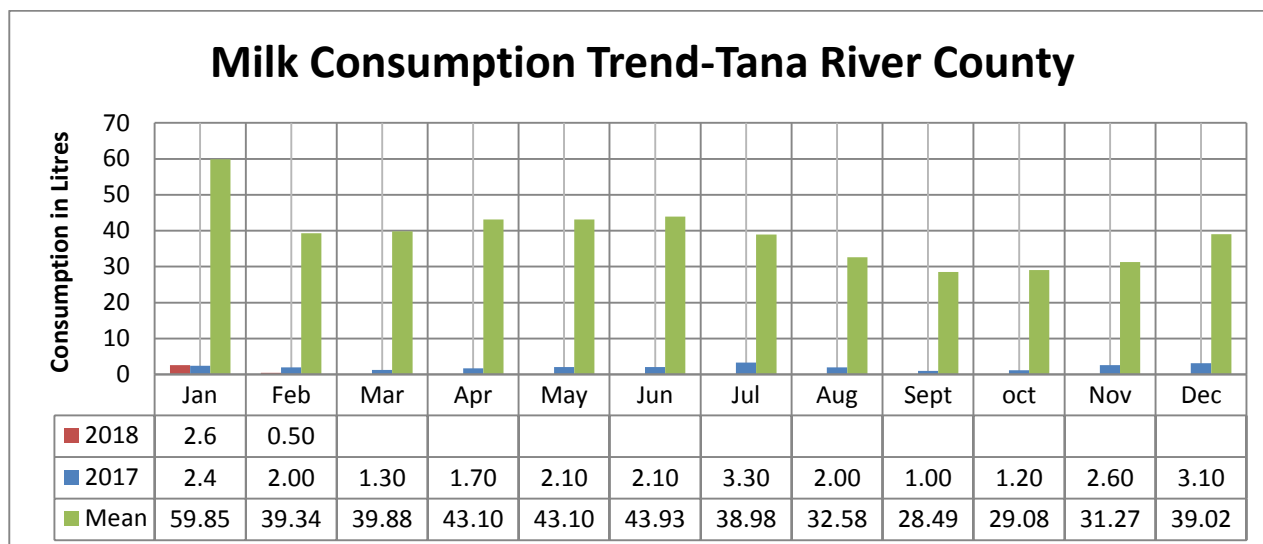


Fig 15 *n=450 Households*

5.2 FOOD CONSUMPTION SCORE

- The percentage of households with poor food consumption score in the county in February was 19% while those with border line score were 30.4% and with acceptable at 35%.
- Tana north Sub County has the highest proportions of households with poor FCS at 55.7% while Tana River has the lowest in the acceptable category at 0.5%.
- Tana delta has the highest in the acceptable category at 82.9%

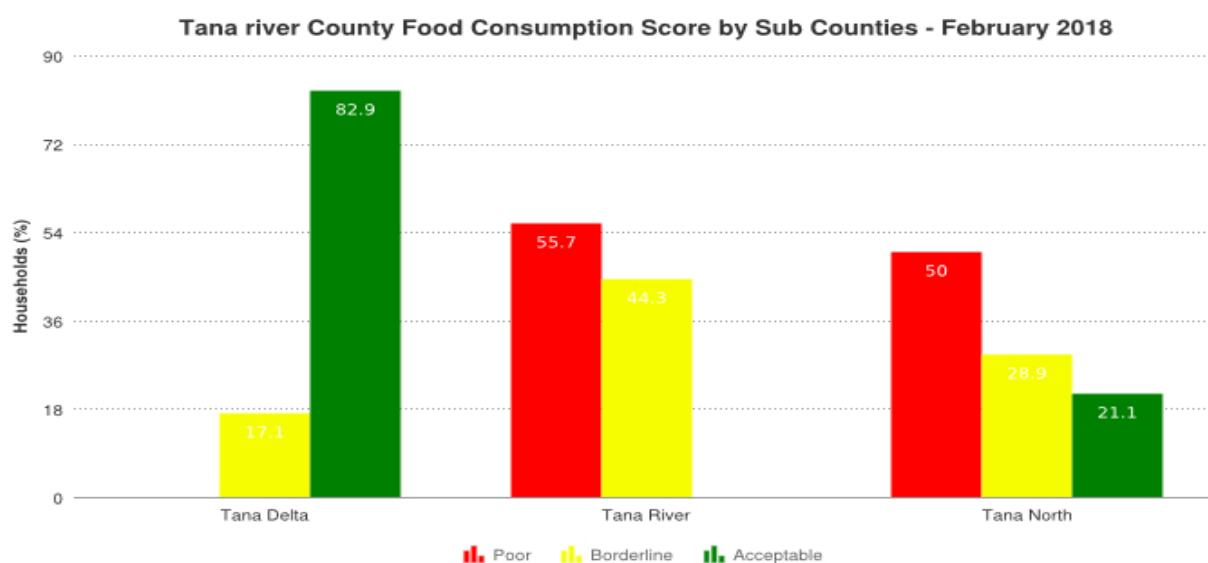


Fig 16. This figure show the food consumption score in the 3 sub counties of Tana River county

5.3 HEALTH AND NUTRITION STATUS

5.3.1 MUAC

- The percentage of children under the risk of malnutrition within the month of February was at 13% compared to that of January which was at 12.1%.
- The number of the children under the risk malnutrition slightly increased and has remained high and this is attributed to the poor milk production and consumption and also reduced agricultural production in the county.
- Compared to long term averages of 12.80%, the current percentage is normal at this time of the year.

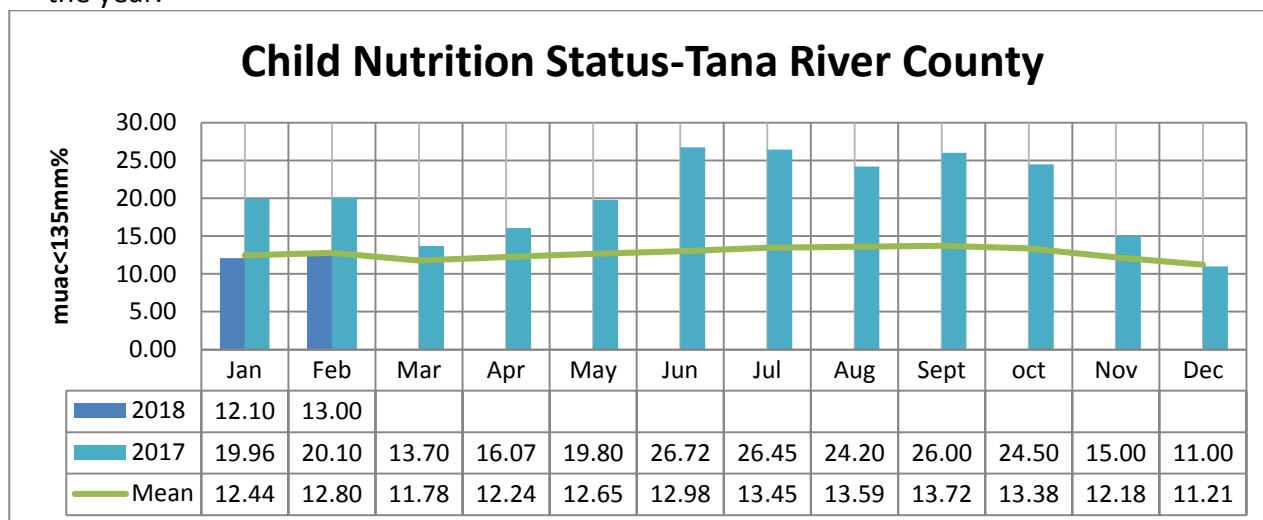
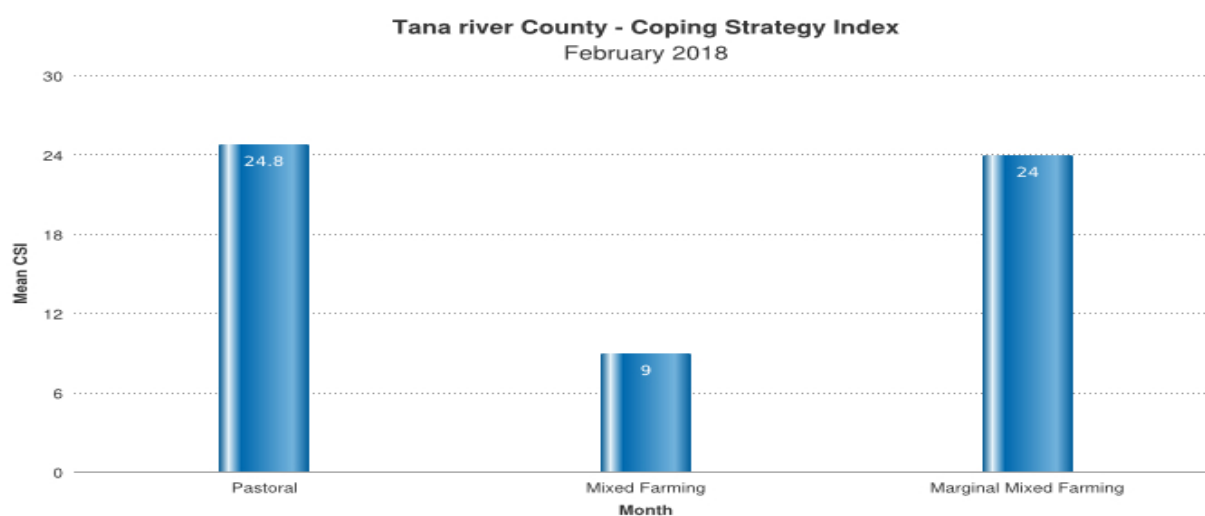


Fig 17n= 2,255 Children

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 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 19.3.

- Compared to the month of January where, the CSI for the county was at 26, the CSI reduced.
- When compared across the livelihood zones, coping strategy index for Pastoral, mixed and marginal mixed livelihood zones were 24.8, 9 and 24 respectively hence households in the Pastoral and marginal mixed livelihood zones employed more coping strategies than those in the mixed livelihood zone.
- The graphs above show the mean coping strategy based on the livelihood zones.
- The coping strategies adopted by the pastoralist 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 truck to institutions(schools and health facilities) by GAA/WHH
- 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

- Tensions in Tana North and Tana River sub counties along the Kitui border between communities from the two counties.
- Cholera outbreak was reported in Tana north Sub County. The Outbreak started on 24/1/2018 within Matagala Village spreading to neighbouring villages. Affected areas are Matagala, Dukanotu, and Bilbil and Bura

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.
- With scarce pasture and water and the past poor harvests in the county, households have no food stocks and the prices of essential commodities continues to increase, making it inaccessible to most households.
- The food security situations in all the livelihood zones have worsened.

8. RECOMMENDATIONS

- Enhance relief food distribution in areas affected by drought.-Distribution of NFI to the affected households.
- Enhance support to small scale irrigation activities through provision of water pumps and restocking of vulnerable families to improve food security at household level.
- Peace building and community dialogues.
- Disease surveillance within the areas affected by drought and the continuation of malaria control initiatives to undermine the prevalence rates.
- Destocking, livestock off-take, Feed supplementation and establishment of feed reserves.
- 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.
- Desilting of water pans, rehabilitation of shallow wells, pipeline extensions, water trucking.
- Construction of shallow wells and boreholes, Construction of pans and major dams along the *lagas*. Action: CSG, Ministry of Water and Other Partners

Continuous peace meetings need to be conducted in order to maintain peaceful coexistence between the farmers and the pastoralists