

**NATIONAL DROUGHT MANAGEMENT AUTHORITY
TANA RIVER COUNTY
DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2017**



A Vision 2030 Flagship Project



DECEMBER EW PHASE

Drought Status: **ALARM**



Mipango ya kukabiliana na ukame

Drought Situation & EW Phase Classification

Biophysical Indicator

The County is currently experiencing severe vegetation deficit.

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 pastoral region in the hinterlands has barely received these downpours.

- The vegetation condition.** The 3-month VCI indicates that the County is currently experiencing severe vegetation deficit recording a VCI of 20.02. The values slightly decreased when compared to the values of the previous month where the VCI was at 21.14. The vegetation condition remains poor in the county.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Most of the livestock in Tana River County have remained in Tana Delta and along River Tana. Minimal migration of livestock away from the delta region due to the experienced OND rains was reported.
- Pasture and browse conditions remains poor.
- Livestock body condition also remains poor.
- Milk production at household level slightly increased to 5.3 litres compared to the last month where the amounts was at 3.9.

Access indicators

- Milk consumption at household level slightly increased to 3.1 litres compared to the last month where it was at 2.6 litre. Milk consumption remains below normal.
- The average livestock distance to the water sources remains above normal at 8 km compared to the last month where it was at 7.2 km. The return distance remains high compared to the normal distance of 6.2 km.

Utilization indicators

The percentage of children under the risk of malnutrition in this month was at 11% compared to that of November which was at 15%. The improvement in nutritional status is attributed to a slight improvement in 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)	4.4 mm	>27.2mm
3-Month VCI	20.02	>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	3.9 litres	>58.34 Litres
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)	72.6	74
Milk Consumption	3.1 litres	>39Litres
Average return distance to the water sources	8 km	4.1 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	11%	<12(%)

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

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
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BIO-PHYSICAL INDICATORS

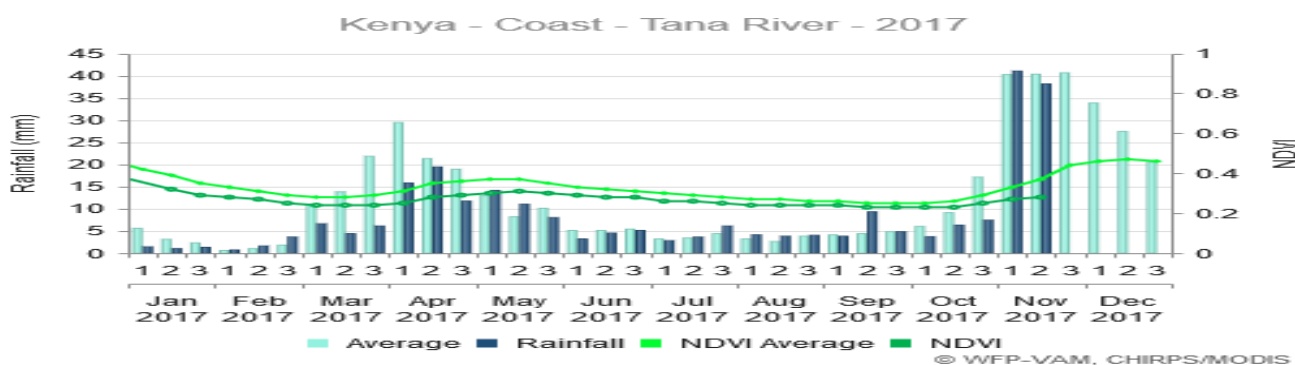
1. CLIMATIC CONDITIONS

1.1 Rainfall performance

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

Rainfall situation data

- The cessation of the OND rains was experienced during the second dekad of this month. The onset of the rains was late and the cessation was experienced earlier than expected. The county received poor rainfall amounts and the spatial and temporal distribution was also poor and the pastoral region in the hinterlands has barely received these downpours.
- The county received an average of 4.4 mm of rain in this month. Much of these showers were experienced in Tana Delta within the first and second dekad of this month.
- The third dekad of the month remained virtually dry
- The graph below shows the rainfall amounts received in the month and compares it to the normal averages.



1.3 AGRICULTURAL DROUGHT

- The 3-M Vegetation Condition Index indicates that the county is experiencing moderate vegetation deficit recording a VCI of 20.02 by the end December as Compared to the month of November which stood at 21.14. The VCI decreased in this month and this is attributed to the poor performance of the seasonal rains received during the season. In comparison to same time in the previous years, the vegetation conditions are below the normal average.
- The county experienced a continued severe vegetation conditions in the months of January up to June in this year. After which moderated drought conditions were experience up this month.
- Due to the poor performance of the OND rains, the county vegetation conditions depicts a worsening trend.
- The matrix below show the vegetation condition for this month;

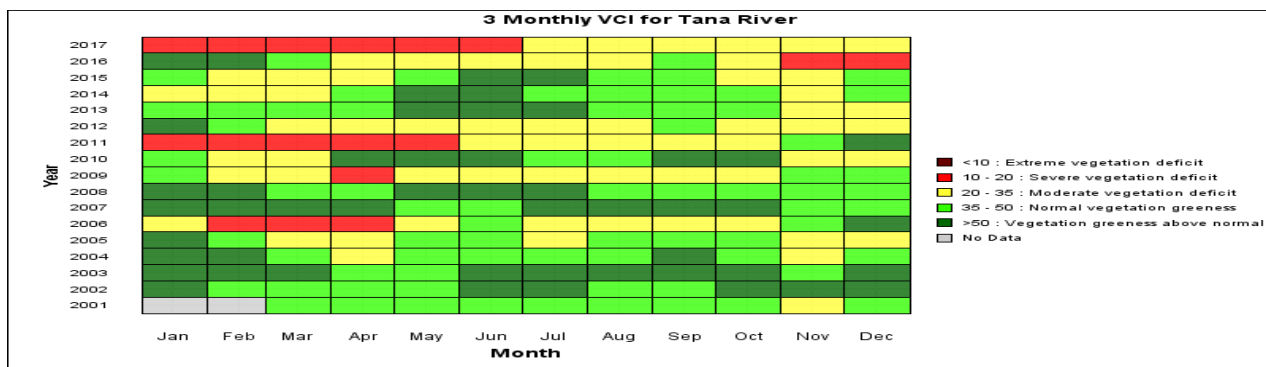


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The graph below show the 3-month VCI trend for December and compares it to the same time in 2016 values; the long term average, the maxima and minima.
- In this month, the VCI depicts a decreasing trend and this is attributed to the continued drought conditions experienced in the county and also the poor performance of the short rains in the county.

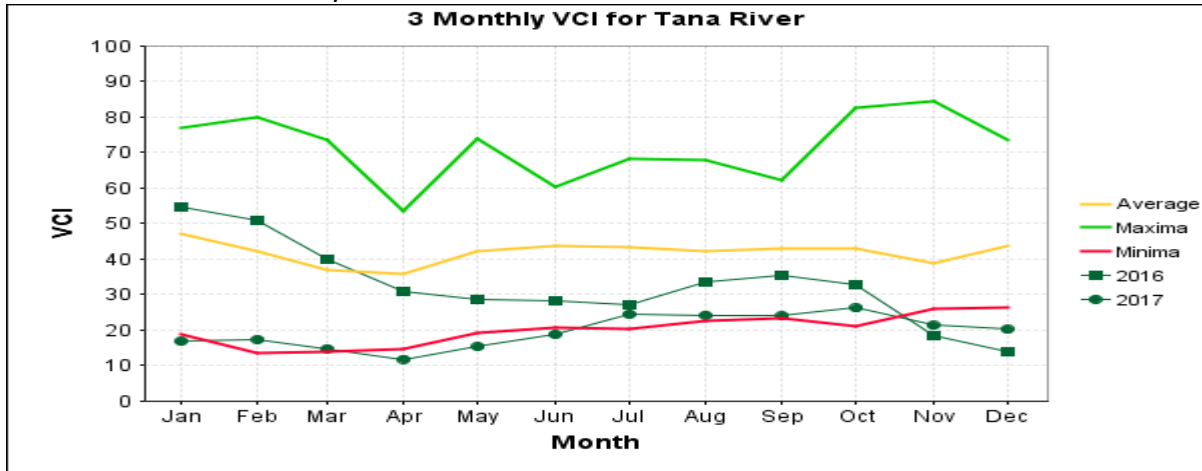


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Sub county VCI

Bura and Galole sub counties are currently experiencing severe vegetation deficit while Garsen Sub County is experiencing moderate vegetation deficit.

Bura

The 3-month Vegetation cover for Bura (Tana North Sub County) is currently at 12.58 compared to last month's VCI of 14.7. Bura Sub County has continuously experienced severe vegetation conditions in the months of October, November and December. The vegetation condition is showing a worsening trend in this month. The VCI of 12.58 in this month still indicates severe vegetation deficit within Bura sub-county.

As shown in the matrix below, this sub county never recovered from the 2016 OND rains.

Severe drought conditions were experienced from the February up to June, and from the poor rains received during the long rains this year, the sub county remained in moderate vegetation condition in July, August and September. Currently severe vegetation deficit were experienced in October, November and December.

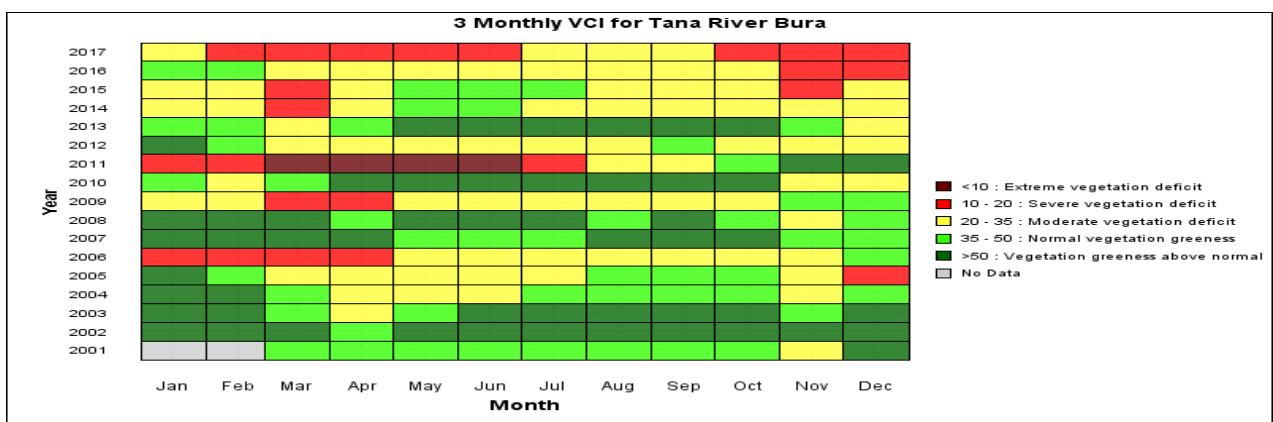


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Galole

The 3-month Vegetation cover for Galole is currently at 16.31 compared to last month's VCI of 21.89. The vegetation condition significantly decreased in this month when compared to the previous month. The VCI of 16.31 indicates severe vegetation deficit within Galole sub-county.

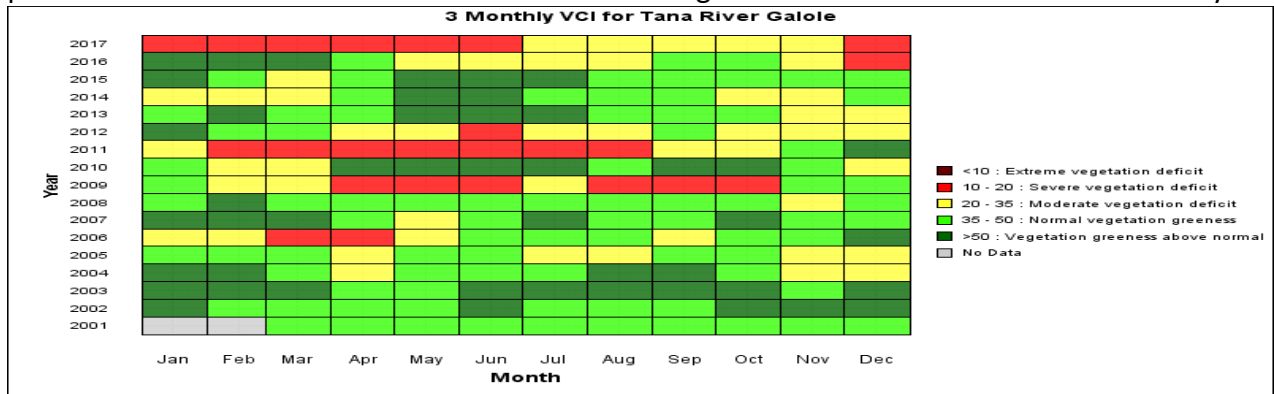


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Garsen

The 3 Month VCI for Garsen is currently at 28.66 compared to last month's VCI of 26.13. The VCI in this sub county slightly increased in this month. The VCI of 28.66 indicates that the sub-county continues experiencing moderate vegetation deficit in this month. This is attributed to the fact that this region continued to receive some off seasonal showers during the dry spell and the vegetation greenness slightly improved with the small amount of rains received during the OND rains.

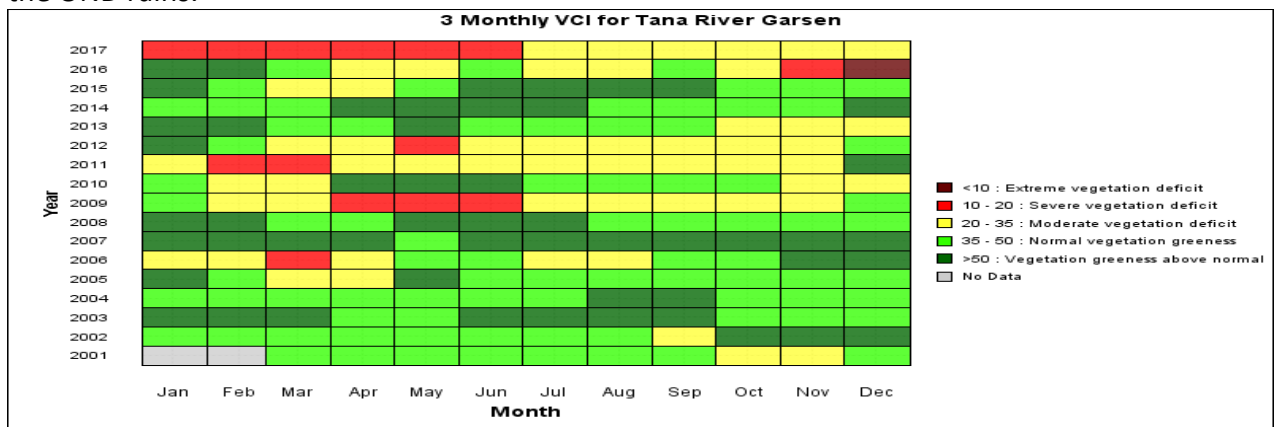


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

1.3 Field Observations (Pasture and Browse Conditions)

Quality

- The pasture and browse quality in the county is currently poor. The county received negligible amounts of the seasonal rains when compared to the normal.
- The browse and pasture conditions in Tana North and mainly the hinterland is very poor; this region barely received the OND seasonal rains. The browse condition in these regions also remains poor.
- In Tana Delta, the pasture and browse qualities are currently fair. This region also received poor amount of rains but a slight improvement was noted and this is attributed to the fact that this region received small amounts of the coastal off seasonal showers during the dry spell.

- Generally the browse quality and conditions are somehow better when compared to that of the pasture in the county.
- These conditions remained below the normal compared to this time other years.

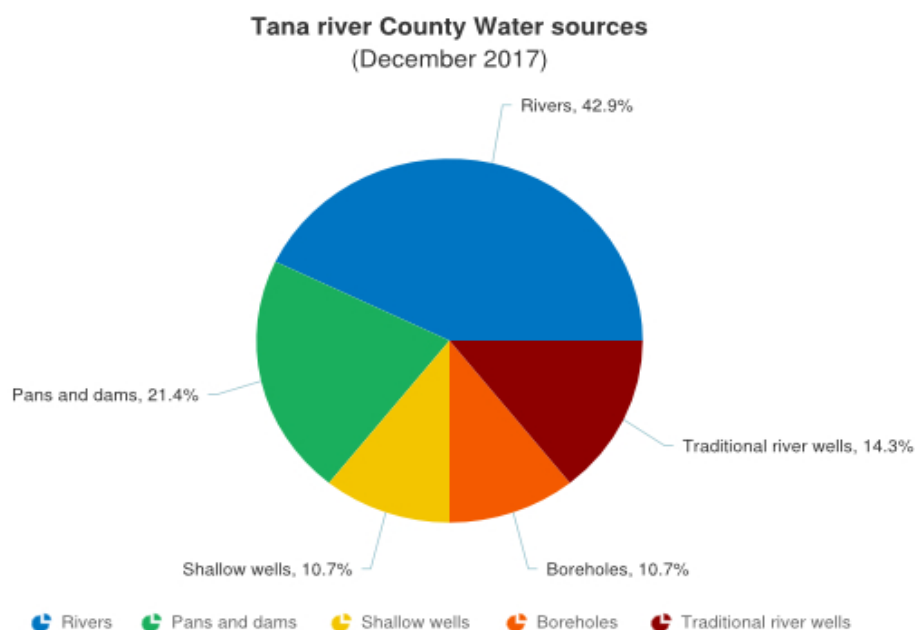
Quantity

- The quantity of Pasture and browse within the County is currently very poor compared normal at this time of the year.
- In the pastoral zone, pasture is expected not to last for more than a month compared to normal duration of 3months, while browse is expected to last for 1 month compared to normal duration of 4months.
- In the marginal and marginal mixed zones the pasture is expected to last for 1 month compared to a normal situation of 3 months, while 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.

1.4 WATER RESOURCE

1.4.1. Sources

- Most of the communities within the pastoral, Marginal mixed and the Mixed farming livelihood zones depend on River Tana, traditional wells 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.



1.4.2. Household access to Water

- The average return distance from the households to the main water sources in December was 2 kilometres.
- In comparison to November where distance covered from the households to the main water sources was 1.8 Kilometres. The distances slightly increased in this month.

- Most of the H/H in the pastoral livelihood zones depends on the traditional wells and pans for their water needs.
- Most of water pans in the hinterlands of the county are still dry and the communities depend of 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 4 hours to water points.
- The current distances are above normal in this season of the year.

1.4.3. Livestock access to water

- The average distances covered by livestock from the grazing areas to main water sources in the month of December were 8 kilometres. .
- In comparison to the month of November where the livestock covered 7.2 kilometres, the distances covered by the livestock slightly increased in this month compared to the normal. This is attributed to the small amounts of rains received during the OND rains.
- 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.

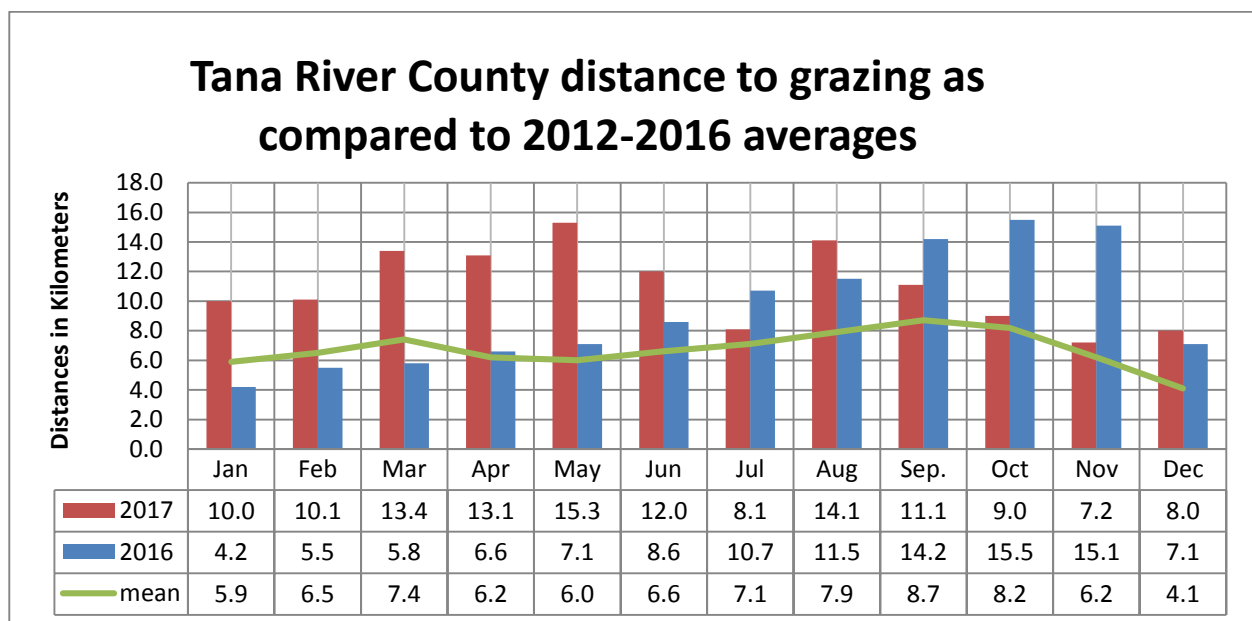


Fig 8 n=450 Households

SOCIO-ECONOMIC INDICATORS

2.0 PRODUCTION INDICATORS

2.1.1 Livestock Migration Patterns

- Most of the animals especially the bovines have migrated towards the riverine areas and others to Tana delta Sub County.

2.1.2 Livestock Body Condition

- Livestock body condition for cattle remains poor and in all livelihood zones while that of goats and camel is fair. In the pastoral zone, browse and pasture amounts are poor (Tana north and Galole sub counties) and water trekking distances has also increased.

- In the mixed and marginal mixed zones the animal body condition is also fair.

2.1.3 Livestock Diseases

The most prevalent diseases in Tana River County are vector borne like Trypanosomiasis, tick borne diseases, heart water and Babesiosis and Helminthiasis. Fleas and ticks infestation has been evident in most stock.

2.1.4 Milk Production

- On average the milk produced per household within Tana River County was 5.3 litres in the month of December. The amounts slightly increased in this month when compared to the month of November which was also at 3.9 litres.
- In comparison to the long term mean, the current average in milk production is below normal average during this time of the year.

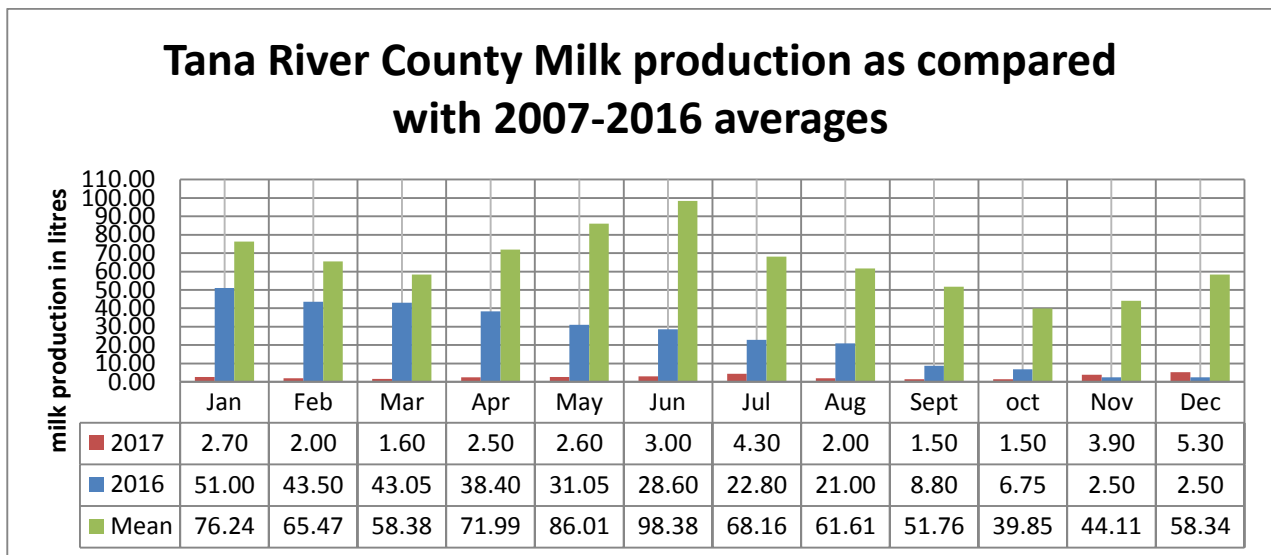


Fig 10n=450 Households

2.1.5 Livestock deaths

- No livestock death has been reported in this month.

2.2 Rain fed Crop Production

- The main crops grown under rain fed production are maize, green grams, cowpeas and water melon. Other major crops include mangoes, bananas and tomatoes.
- Most of the rain fed farms have been planted but from the poor performance of the rains, crop conditions are poor.
- The little acreage was achieved this time in mixed, marginal mixed farming zone whereas in the pastoral livelihood zone the land have been prepared in expectation of the OND rains.
- 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.

2.2.1 Stage and Condition of food Crops

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) have maize crops on the farms and the crops have germinated and are now knee high.

The rained fed farms are have planted and the crops are at the germination stage.

ACCESS INDICATORS

3.1 Livestock Prices

3.1.2 Cattle Prices

- The average price of a mature 3 year old bull in the month of December was Ksh. 13, 876. In comparison to the month of November, where the price of a 3 year old mature bull was Ksh. 14,250, the prices in slightly increased in this month.
- The price is attributed to the market dynamics.
- The current cattle price of Ksh. 13,876 is above normal at this period of the year as shown on the graph below.

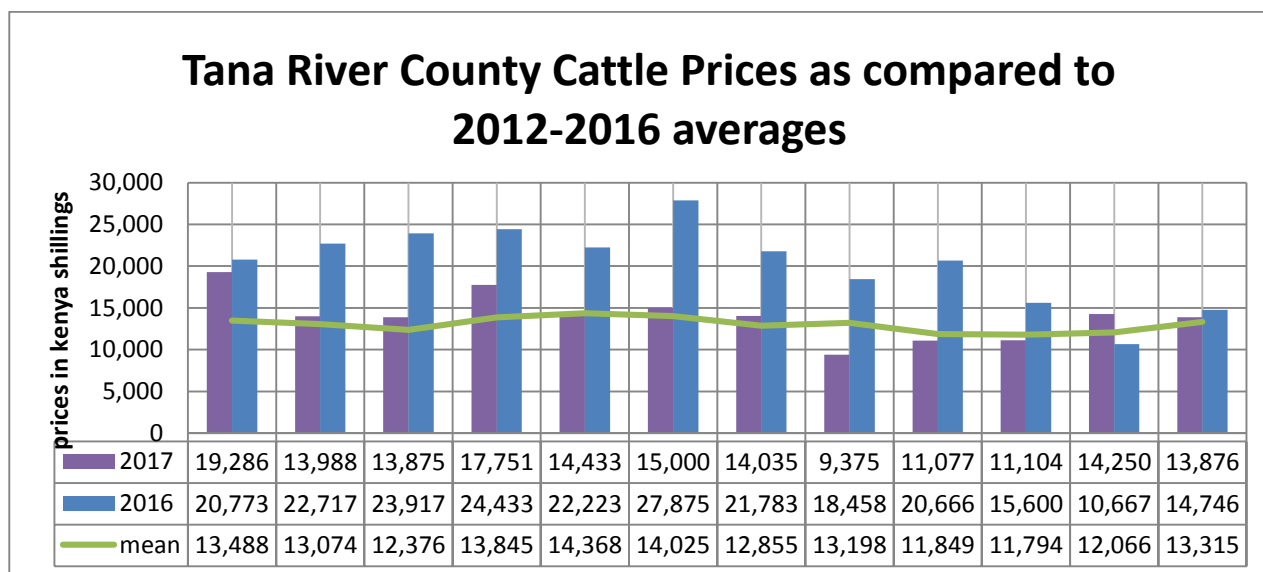


Fig 11n=450 Households

3.1.3 Goat Prices

- The average price of a medium size goat in the month of December was Kshs.3267. In comparison to the month of November where the average price of a medium size goat was Ksh. 3245. The prices in December remained stable. The price variability is attributed to the market dynamics.
- The current goat price of Ksh.3267 remains below the normal at this period of the year as shown on the graph below.

Tana River County goat prices as compared to 2012-2016 averages

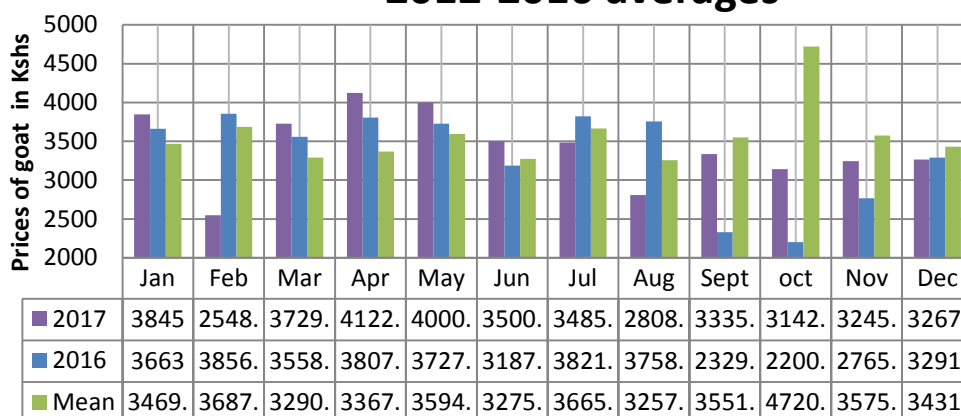


Fig 12n=450 Households

3.1.4 Sheep Prices

- The average price of a sheep in the month of December was Kshs.2, 575. The prices slightly decreased in this month when compared to that of the month of November which was at Ksh.2710. 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.

Tana River County sheep Prices as compared to 2012-2016 averages

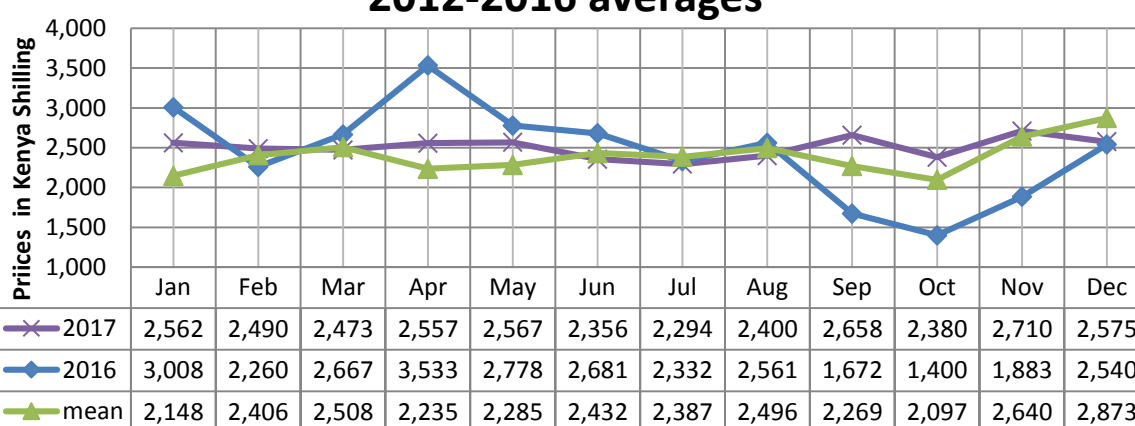


Fig 13n=450 Households

3.1.5 Milk Prices

Currently milk is retailing at an average of Kshs.63 per litre. The prices slightly decreased in December as compared to the month of November which recorded a price of Ksh 65 per litre. This milk price remains above the average prices recorded during this time of the year.

3.1.6 Terms of Trade

Currently the terms of trade are 72.6 Kg of maize for a goat. Compared to the month of November which recorded an average of 63.8, the terms of trade increased in this month. The current terms of trade is below the long term mean of 74 Kg for a goat.

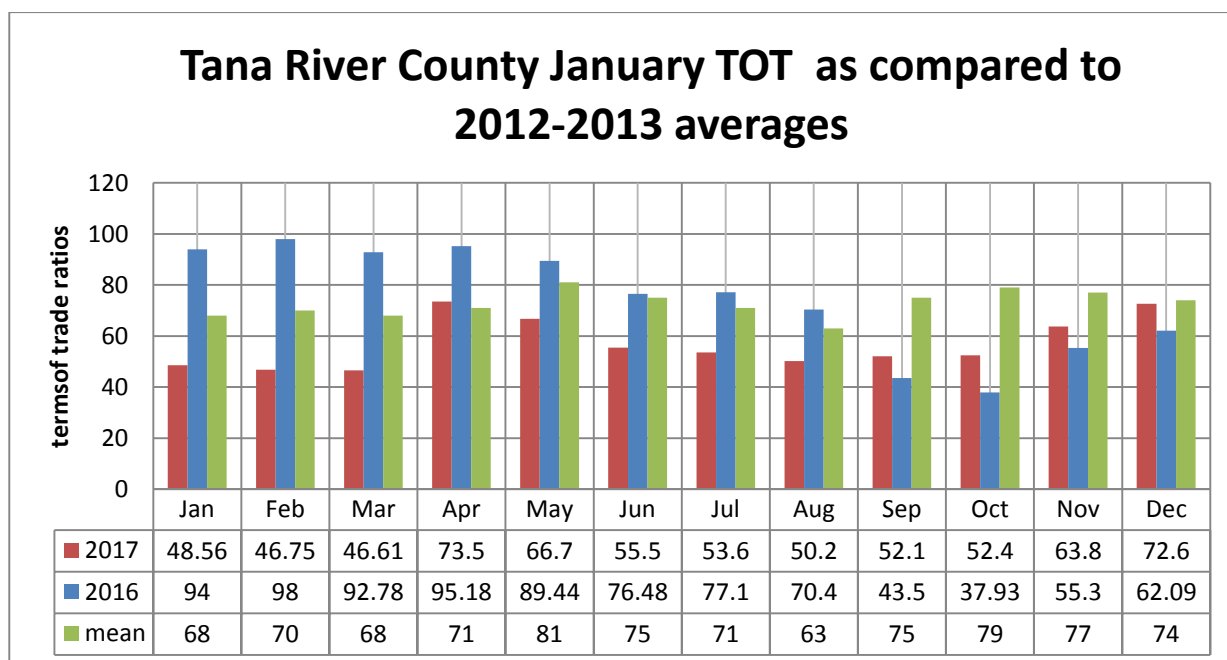


Fig 14n=450 Households

3.2 Price of cereals and other food products

3.2.1 Maize

- The average maize price per kilogram for the month of December was Ksh 45.
- When compared to the month of November, where the average price per kilogram of maize was Kshs.50.83, maize prices slightly decreased by the end of December. 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 35 per kg.

Tana River County 2016 maize prices as compared to 2012-2016 averages

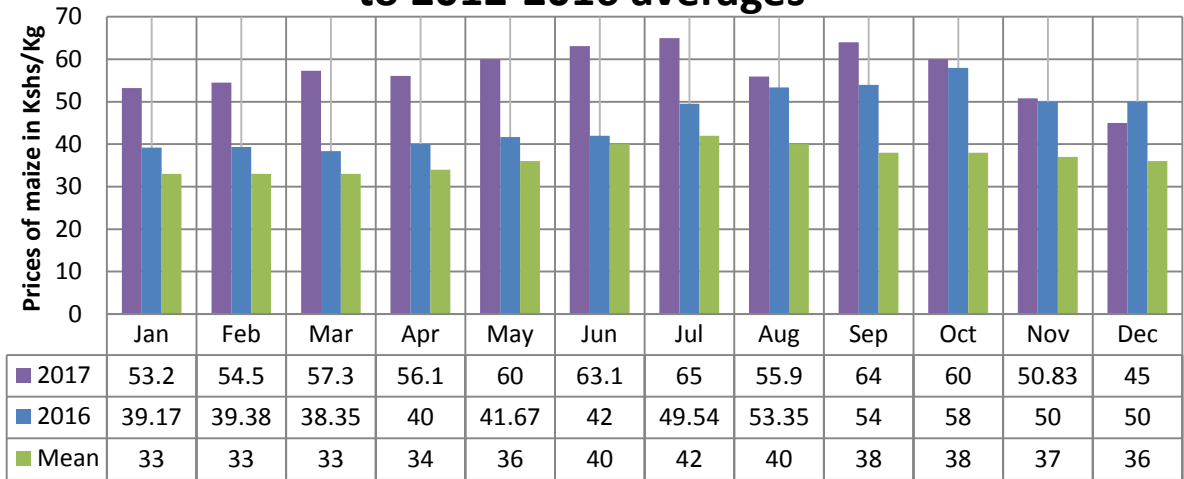


Fig 15 *n=450 Households*

3.3 Access to Food and Water

3.3.1 Availability of milk for household consumption

- On average the milk consumed per household was 3.1 litres in the month of December.
- In comparison to the month of November, where the average milk consumed per household was 2.6 litre, the milk consumption slightly increased but still remained poor.
- In comparison to a normal year, the current milk consumption rate per household is below normal at this time of the year.

Milk Consumption Trend-Tana River County

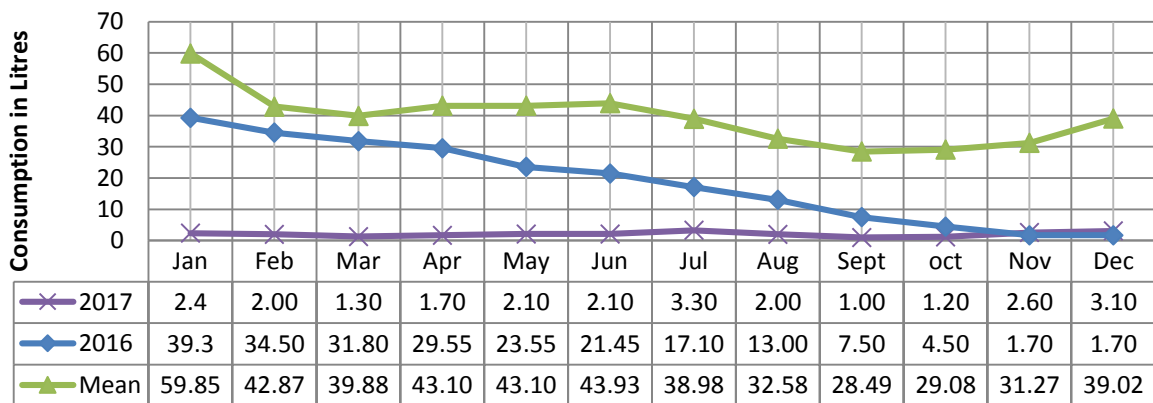


Fig 16 *n=450 Households*

UTILISATION INDICATORS

4.1 Health and Nutrition Status

4.1.1 MUAC

- The percentage of children under the risk of malnutrition within the month of December was at 11% compared to that of November which was at 15%.
- The number of the children under the risk malnutrition reduced and still 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 11%, the current percentage is normal at this time of the year.

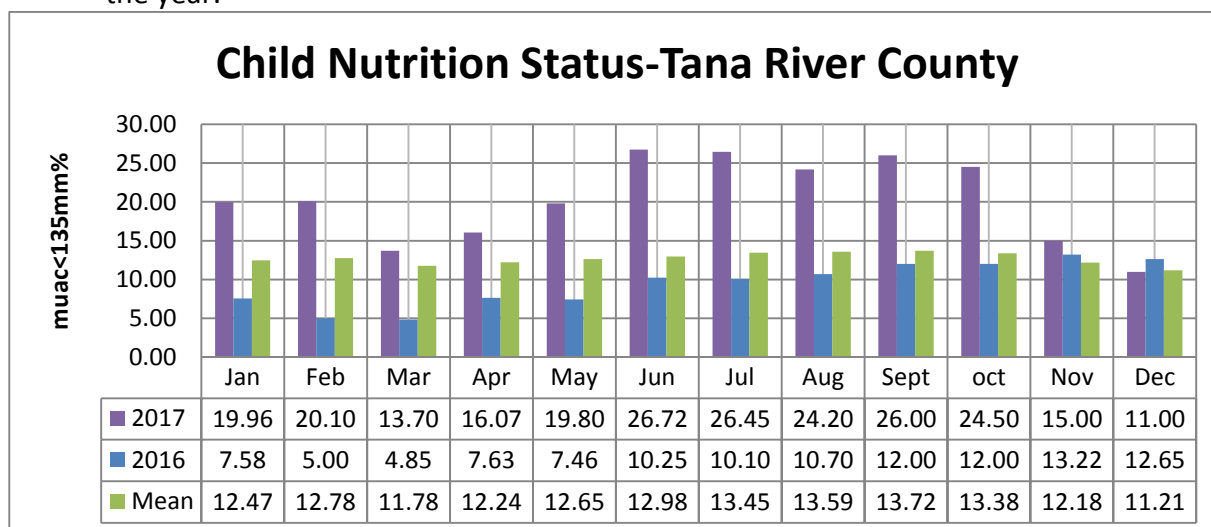


Fig 17n= 2,255 Children

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.

Current Interventions and Recommendations

5.1 Non-food interventions

- Medical and preventive health outreach by NDMA/NDCF.
- Medical outreach of hard to-reach-areas are being undertaken by NDMA supported through National drought contingency fund(NDCF)
- Repair, maintenance and servicing of NDMA water bowser.
- Coordination and monitoring of drought response activities.
- Security surveillance, peace building, conflict resolution and management initiatives by the OOP, KRC, UNDP Peace Committees.
- Coordination of on-going activities by NDCF/NDMA.

5.2. 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. FFA activities include irrigation for crop production, range reseeding and rehabilitation, tree planting and construction of water pans.
- Some public primary schools and an equivalent number of ECD centres 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 56,427 vulnerable people -by GOK.

Emerging Issues

6.1 Insecurity/Conflict/Human Displacement

- Tensions in Tana Delta are on the rise due to the increased in-migration of livestock as result of poor pasture in pastoral areas.
- Continuous peace meetings need to be conducted in order to maintain peaceful coexistence between the farmers and the pastoralists.

6.2 Other Shocks and Hazards

6.3 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.

7.0. Recommendations for Action

Recommendations by the County Steering Group/Kenya Food Security.

- Peace building and community dialogues.
- 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.
- 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 laghas. Action: CSG, Ministry of Water and Other Partners