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

A Vision 2030 Flagship Project

MAY EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicator

The County is currently experiencing severe vegetation deficit. This is as a result of poor seasonal long rains. Generally, vegetation cover in the county is poor.

Rainfall:

- The average rainfall received in this month was fair. The county received an average of 34.17 mm which is normal for this time of the year. The long rains cessation occurred in the second dekad of this month and much of the rainfall was received in the first and second dekad of this month.
- **The vegetation condition.** The 3-month VCI indicates that the County continues to experience severe vegetation deficit recording a VCI of 15.17. A slight improvement was noted compared to the values of the previous month where the VCI was at 12.78. The vegetation condition remains poor in the county.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Most of the livestock in Tana River County migrated to and remain in Tana Delta and the neighbouring counties (Lamu and Kitui County). The other stocks have remained in the hinterlands of Waldena, Assa and Lakole.
- Pasture and browse conditions remains poor.
- Livestock body condition also remains poor.
- Milk production at household level slightly improved but remained below the normal range at 2.6 litres compared to the last month's which was at 2.0 litres.

Access indicators

- Milk consumption at household level slightly increased to 2.1litres compared to the last month where it was at 1.7litres. Milk consumption remains below normal.
- The average livestock distance to the water sources remains above normal at 15.3 km compared to the last month where it was at 13.1km. The return distance remains high compared to the normal distance of 6.2km.

Utilization indicators

The percentage of children under the risk of malnutrition within in May increased to 19.8 compared to that of April which was at 16.07. The poor nutritional status is attributed to low milk production and poor agricultural production in the livelihood zones.

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)	34.17 mm	>30.8mm
3-Month VCI	15.17	>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	2.6 litres	>86Litres
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)	66.7	81
Milk Consumption	2.1	>43.1Litres
Average return distance to the water sources	15.3km	6.0 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	19.8%	<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

BIO-PHYSICAL INDICATORS

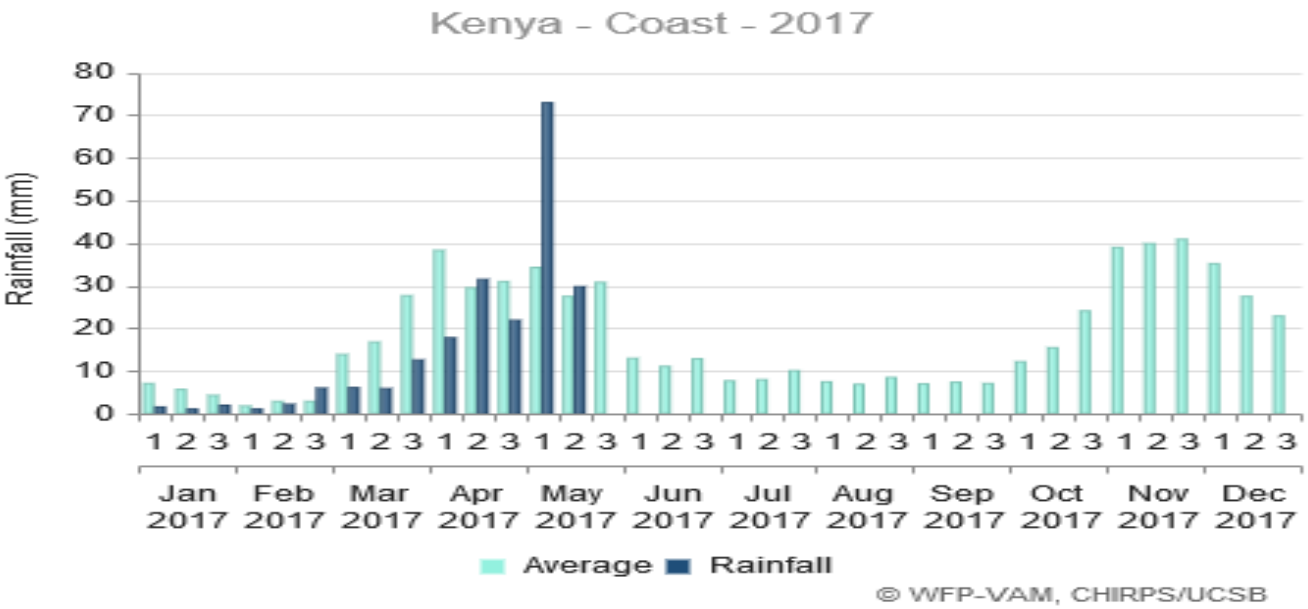
1. CLIMATIC CONDITIONS

1.1 Rainfall performance

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

Rainfall situation data

- Fair rainfall amounts were received in this month.
- The on-set of the long rains were delayed and the first rain was received in the county in the 2nd week of April. The long rains cessation is occurred within the second dekad of May. No rainfall was experienced in the third dekad of May.
- On average the county received 34.17 mm of rain in this month. In the first dekad, the county received 72.8 mm of rain, the second dekad recorded 29.7 mm and the third dekad recorded 0.00 mm. Fair rainfall amounts were received in the first dekad of May but the distribution and continuation was poor making lesser improvements on the many livelihoods (pastoral and agro-pastoral).
- This rains were mostly received in different regions of Tana River and Tana Delta Sub County. It was reported to have rained in areas like Hola, Nanighi, Makere, Haroresa, Wenje, Kipini and Garsen. Regions like Bangale, Buwa, Hakoka and Hola hardly receive any rainfall in this month
- The graph below shows the rainfall amounts received and compares it to the normal averages.
- The rains received in May were slightly above the normal average of 31 mm.



1.3 AGRICULTURAL DROUGHT

- The3-M Vegetation Condition Index indicates that the county is experiencing severe vegetation deficit recording a VCI of 15.17 by the end May as Compared to the month of April which stood at 12.78.
- In comparison to same time previous years, the vegetation conditions are below the historical minimum**.**
- The matrix below show the vegetation condition for this month;
- The county has continuously experienced severe vegetation deficit in all the months of this year.

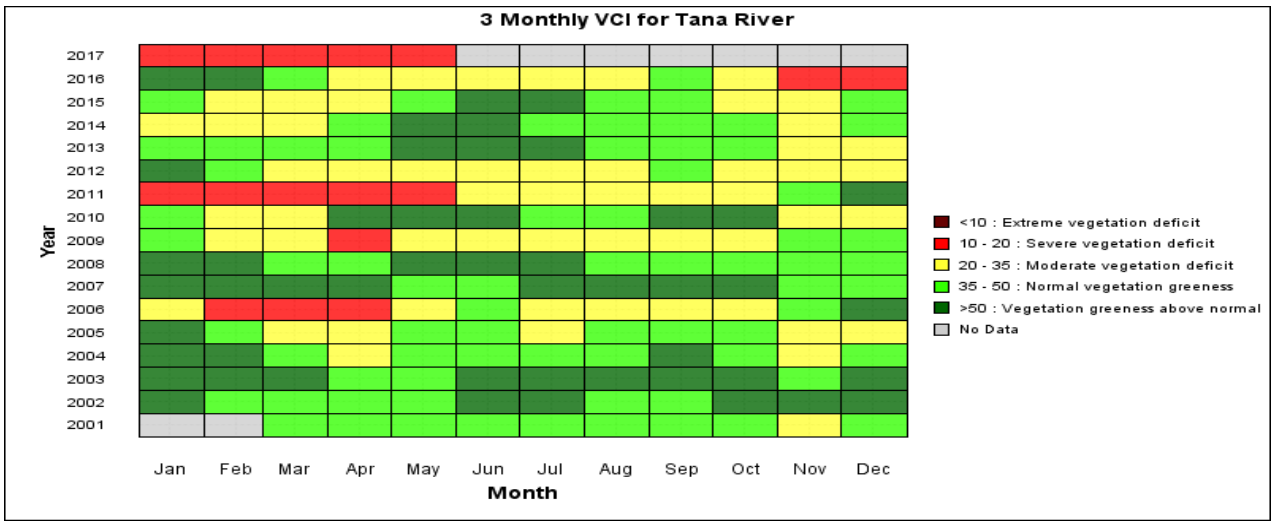


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The graph below show the 3-month VCI trend for May and compares it to the same time in 2016 values; the long term average, the maxima and minima.
- The vegetation condition in this month shows the county vegetation condition in May was 25% below the minima and 42% below the average.
- The county has recorded a below average vegetation greenness from November 2016 up to this month and as shown in the chart below.
- The county also recorded a VCI below the minima in the months of November and December in 2016, and in January, April and May in 2017. This is attributed to the poor performance of both the short and long rains in Tana River County.

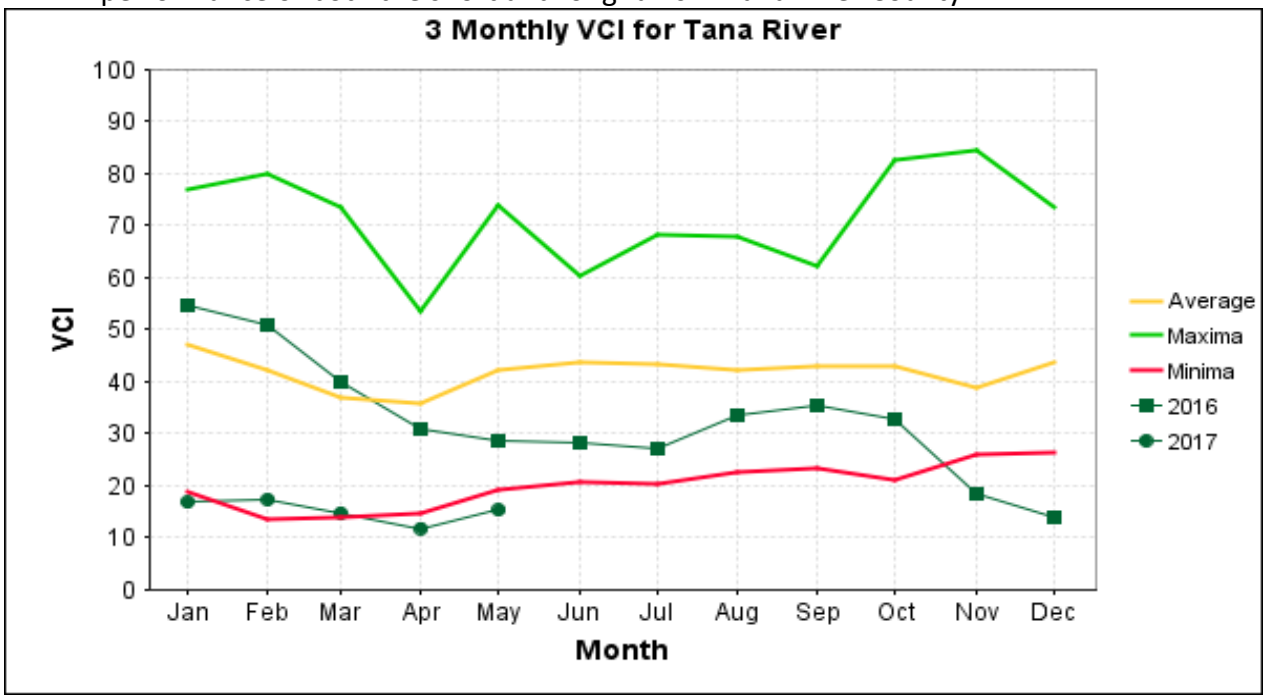


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Sub county VCI

All the three Sub Counties (Bura, Garsen and Galole) are experiencing severe vegetation deficit in this month.

Bura

The3-month Vegetation cover for Bura (Tana North Sub County) is currently at 17.08 compared to last month's VCI of 11.49. The vegetation condition is showing an improving trend in this month. The VCI of 17.08 still indicates severe vegetation deficit within Bura sub-county.

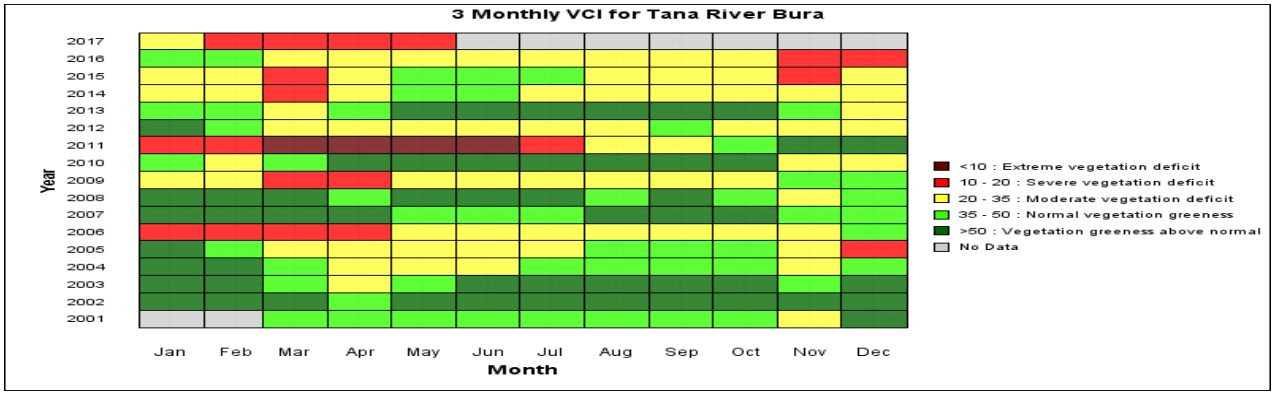


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Galole

The3-month Vegetation cover for Galole is currently at 15.36 compared to last month's VCI of 13.15. The vegetation condition slightly improved in this month when compared to the previous month. The VCI of 15.36 still indicates severe vegetation deficit within Galole sub-county.

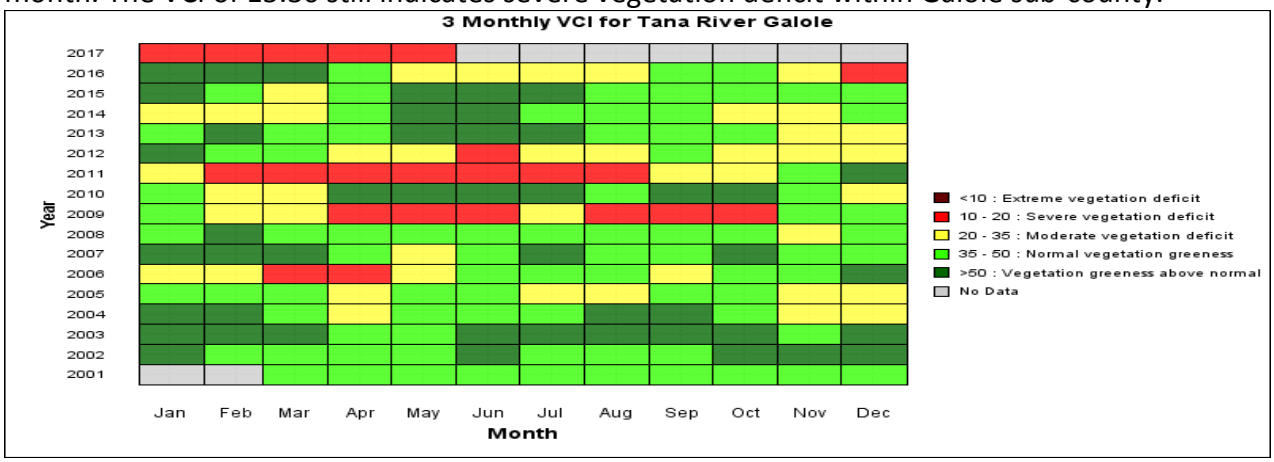


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

Garsen

The 3 Month VCI for Garsen is currently at 13.44 compared to last month's VCI of 13.65. The VCI in this sub county depicts a worsening trend in this month. This VCI of 13.44 indicates that this sub-county continues to experience severe vegetation deficit in this month.

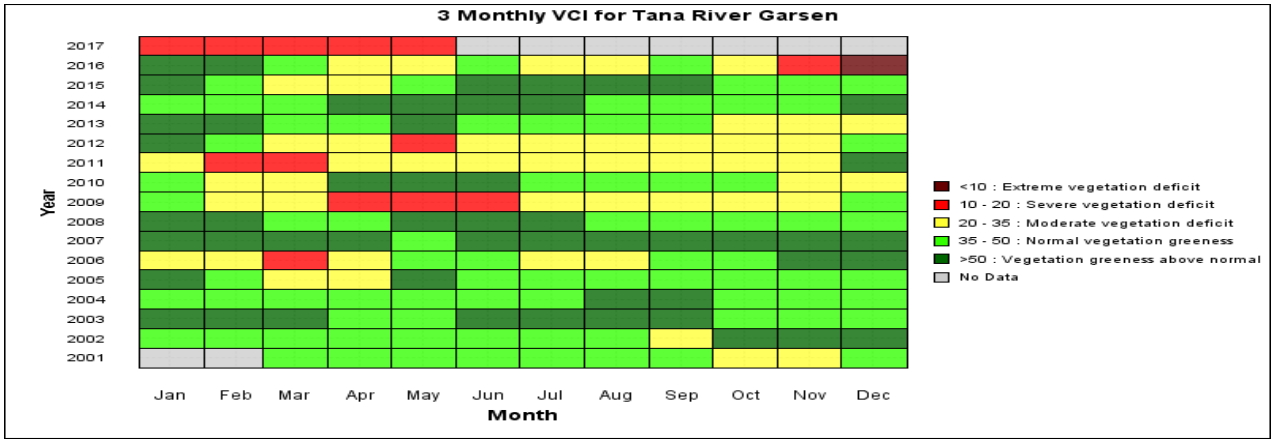


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

1.3Field Observations (Pasture and Browse Conditions)

Quality

- The pasture and browse quality in the county remains poor. This is attributed to the poor rainfall amounts and distribution in space and time. The rainfall interval days during this season was 2-3 weeks. High solar intensity were experienced in this interval days and this conditions greatly contributed to poor pasture regeneration in the county.
- The browse quality is fair in compared to the pasture.
- This conditions are below the normal during this time of the year.

Quantity

- The quantity of Pasture and browse within the County is currently below historical normal at this time of the year.
- 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 Marginal mixed and the Mixed farming livelihood zones depend on natural rivers, pans and dams for domestic and livestock water consumption.
- Settlements along River Tana are less water stressed, whereas, water scarcity is still there in the hinterland (pastoral livelihood zone).
- The households in the pastoral livelihoods zones are covering longer distances to fetch water as compared to the normal and this situation is expected to worsen with the poor performance of the Long rains.

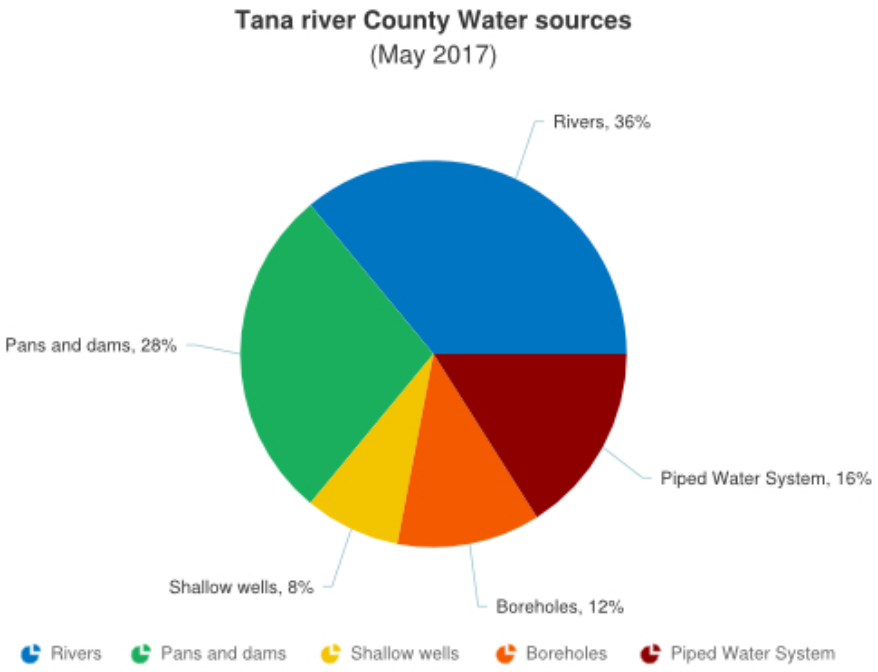


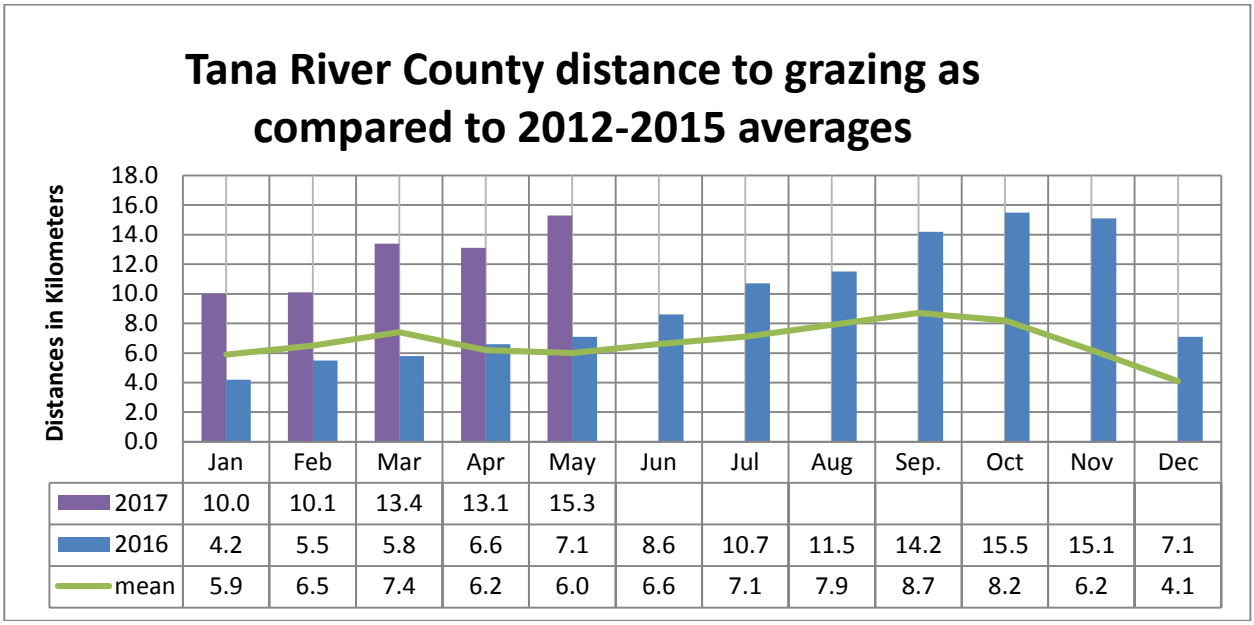
Fig 7.the figure above shows the different water sources in the county by the end of May 2017. The main community water sources in the county are Natural River, pans and the piped water system.

1.4.2. Household access to Water

- The average return distance from the households to the main water sources in May was 4.8 kilometres.
- In comparison to April where distance covered from the households to the main water sources was 5 Kilometres. The distances remained stable shows a reducing trend in this month.
- Most of the H/H in the pastoral livelihood zones depend on pans and dams for their water needs.
- The households within mixed livelihood zones take approximately 2 hours to reach water points compared to households within Pastoral livelihood zones which take 3 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 May was 15.3 kilometres. .
- In comparison to the month of April where the livestock covered 13.1 kilometres, the distances covered by the livestock remains high and shows increasing trend in this month.
- This is attributed to the lesser rainfall amounts received during the season and also its poor distribution in space and time that lead to reduced pasture regeneration in different regions of the county.
- Most of the dams have not been recharged to the normal and the communities mostly depend on River Tana and this water pans to provide water to the livestock.
- The distances covered by livestock to access water remains above the mean at this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec
2017	10.0	10.1	13.4	13.1	15.3							
2016	4.2	5.5	5.8	6.6	7.1	8.6	10.7	11.5	14.2	15.5	15.1	7.1
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 8 ***n=450 Households***

SOCIO-ECONOMIC INDICATORS

2.0 PRODUCTION INDICATORS

2.1.1 Livestock Migration Patterns

- Most of the livestock from Tana River County migrated to and remained in Tana Delta and Lamu County around Pangani, Mukunumbi and Koreni.
- Other stock still graze in the hinterlands of Waldena, Assa kone, Tsavo national park, and Lakole while others have moved to Asako, El-rar, Mitiboma close to Meru national park.

2.1.2 Livestock Body Condition

- Livestock body conditions remains poor with a score of 4 *(Borderline fore-ribs not visible 12th & 13th ribs visible)* within the all the livelihood zones whereas some herds within Marginal and Pastoral livelihood zones ranges at 3 with *thin fore ribs visible*.
- Livestock body condition of the grazers; cattle and sheep is poor at the score of 4 while that of goat and camel is fair. This is attributed to the lesser pasture amounts available in the county.
- Livestock in pastoral livelihood cover longer distance to pasture and water sources.

BODY CONDITIONS	SCORE	WARNING STAGE
Emaciated, little muscle left	1	Emergency
Very thin no fat, bones visible	2	
Thin fore ribs visible	3	Alert Worsening/Alarm
Borderline fore-ribs not visible. 12th & 13th ribs visible	4	Alert
Moderate. neither fat nor thin	5	Normal/Alert
Good smooth appearance	6	
Very Good Smooth with fat over back and tail head	7	Normal
Fat, Blocky. Bone over back not visible	8	
Very Fat Tail buried and in fat	9	

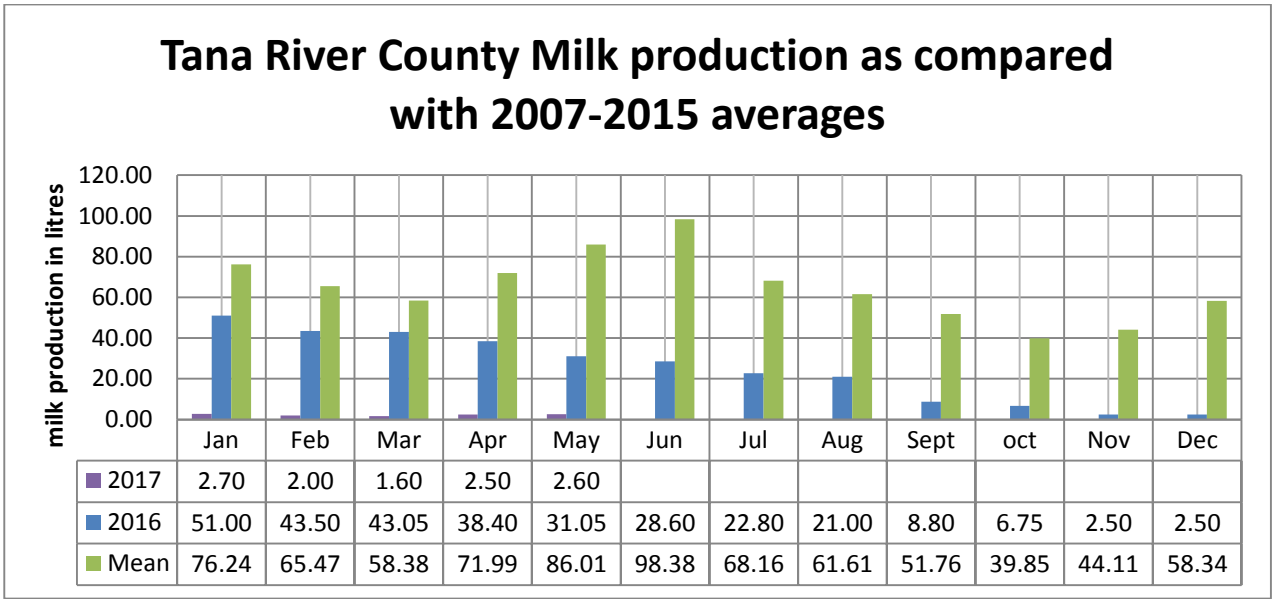
Fig 9

2.1.3Livestock 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 2.6 litres in the month of May. The amounts remained stable in this month when compared to the month of April which was at 2.5 litres.
- In comparison to the long term mean, the current average in milk production is below normal average during this time of the year.
- This is attributed to the poor livestock body condition and also unavailability of pastures and browse for the livestock besides the longer distance they trek in search of pasture and water.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2017	2.70	2.00	1.60	2.50	2.60							
2016	51.00	43.50	43.05	38.40	31.05	28.60	22.80	21.00	8.80	6.75	2.50	2.50
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 Drought related Livestock death was reported 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.
- The little acreage achieved this time was in mixed, marginal mixed farming zone whereas in the pastoral livelihood zone no planting/cultivation was done because there were no 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 Nanighi and Wenje/Makere regions along the River Tana planted maize, cowpeas and green grams. This food crops are reported to be a knee high in Nanighi and Makere regions. In most parts of the delta, the crops have just germinated.

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 May was Kshs.14, 433. In comparison to the month of April, where the price of a 3 year old mature bull was Ksh.17, 571, the prices in May slightly reduced.
- The decrease in the cattle prices is attributed to market dynamics.
- The current cattle price of Kshs.14, 433 is normal at this period of the year as shown on the graph below.

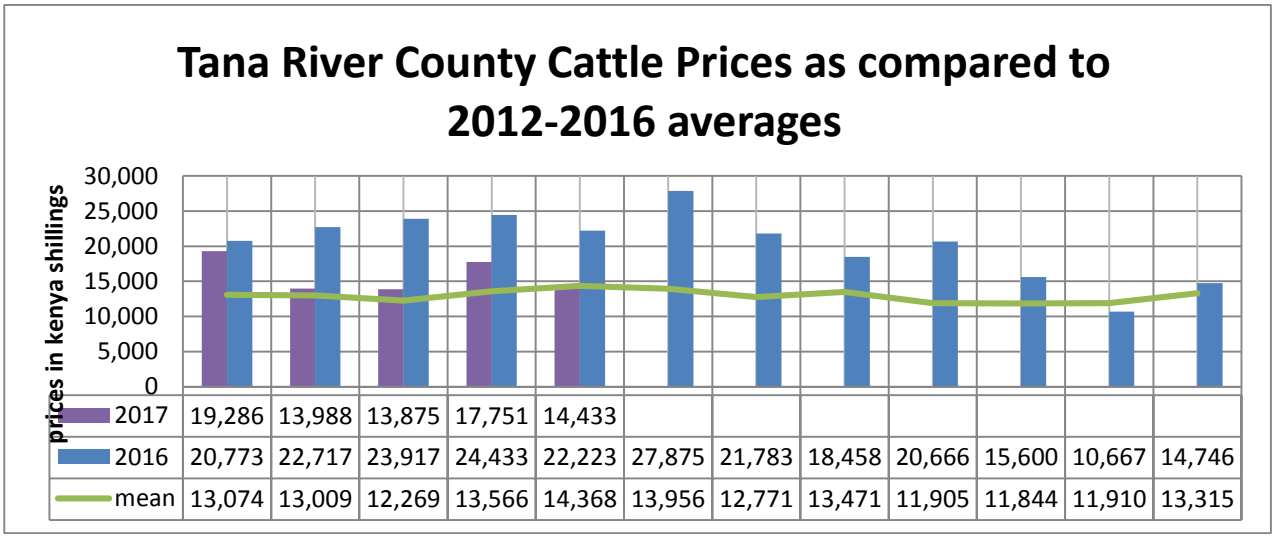


Fig 11***n=450 Households***

3.1.3 Goat Prices

- The average price of a medium size goat in the month of May was Kshs.4, 000. In comparison to the month of April where the average price of a medium size goat was Ksh. 4, 122. The prices in May remained stable. The price variability is attributed to the market dynamics.
- The current goat price of Ksh. 4, 000 is above the normal at this period of the year as shown on the graph below.

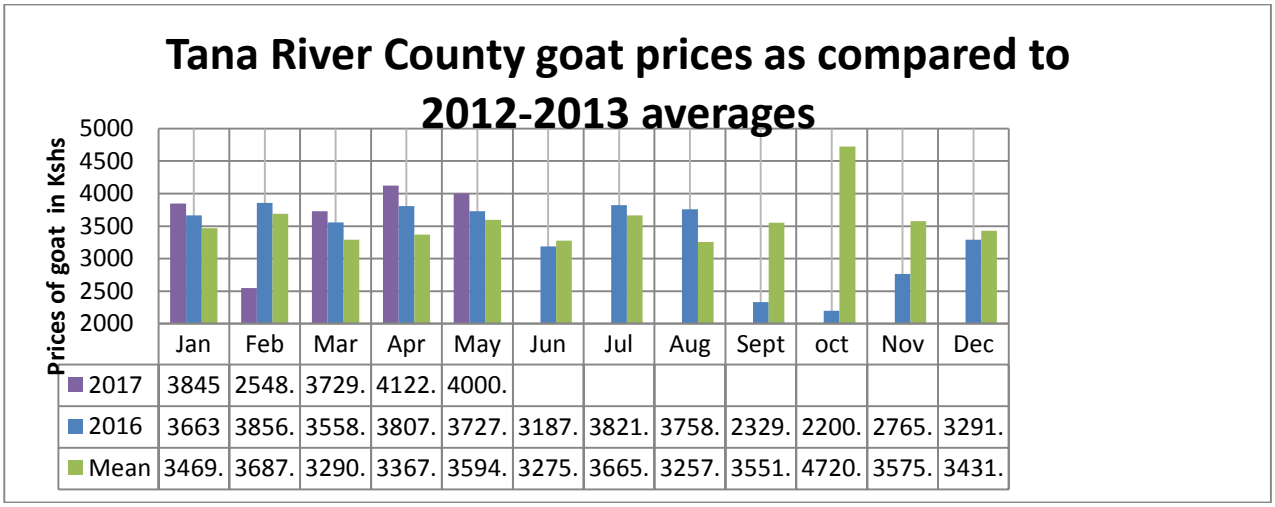
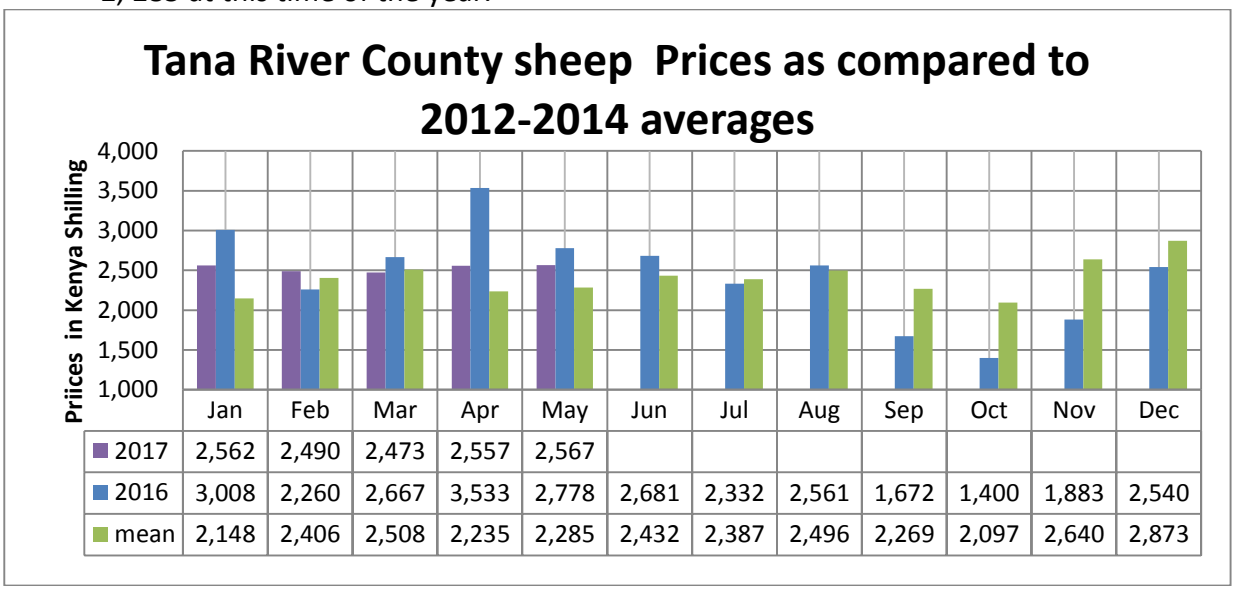


Fig 12*n=450 Households*

3.1.4 Sheep Prices

- The average price of a sheep in the month of May was Kshs.2, 567. The prices remained stable in May when compared to that of the month of April which was at Ksh.2, 557.
- Compared to the mean of 2012-2015, the current price is above the normal prices of 2, 285 at this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	2,562	2,490	2,473	2,557	2,567							
2016	3,008	2,260	2,667	3,533	2,778	2,681	2,332	2,561	1,672	1,400	1,883	2,540
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

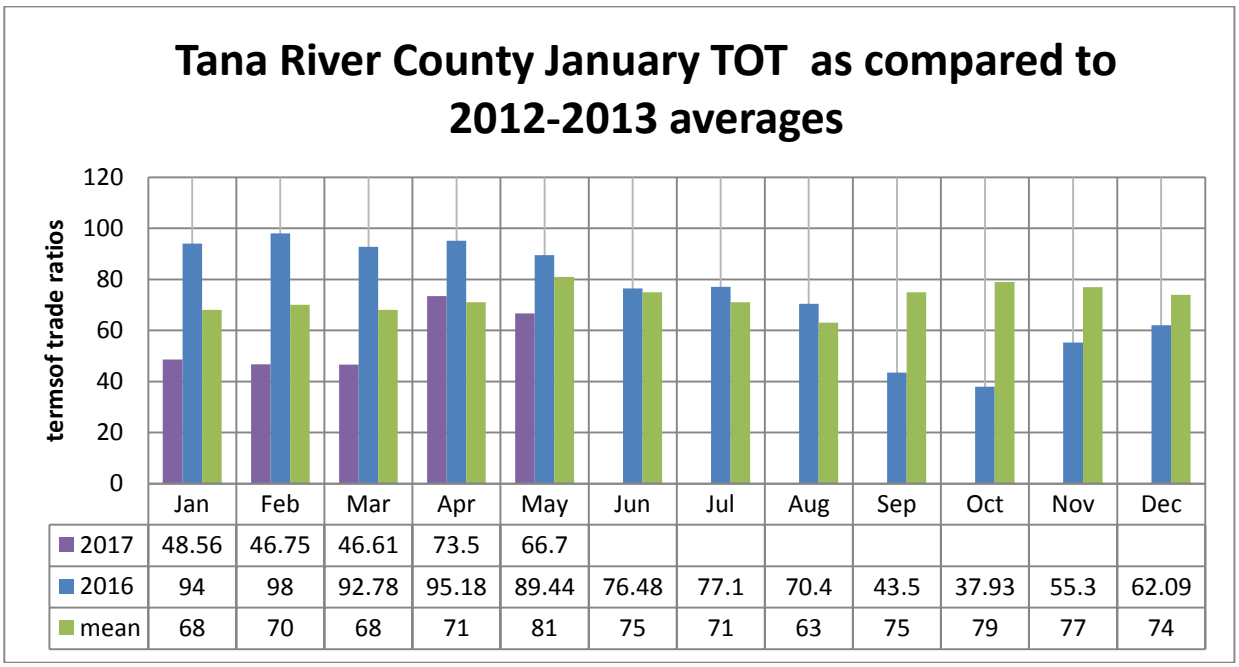
Fig 13*n=450 Households*

3.1.5 Milk Prices

Currently milk is retailing at an average of Kshs.80 per litre. The prices remained stable in May as compared to the month of April which recorded a price of Ksh 80 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 66.7Kg of maize for a goat. Compared to the month of April which recorded an average of 73.5, the terms of trade slightly reduced in May. The current terms of trade is above the long term mean of 81 Kg for a goat.



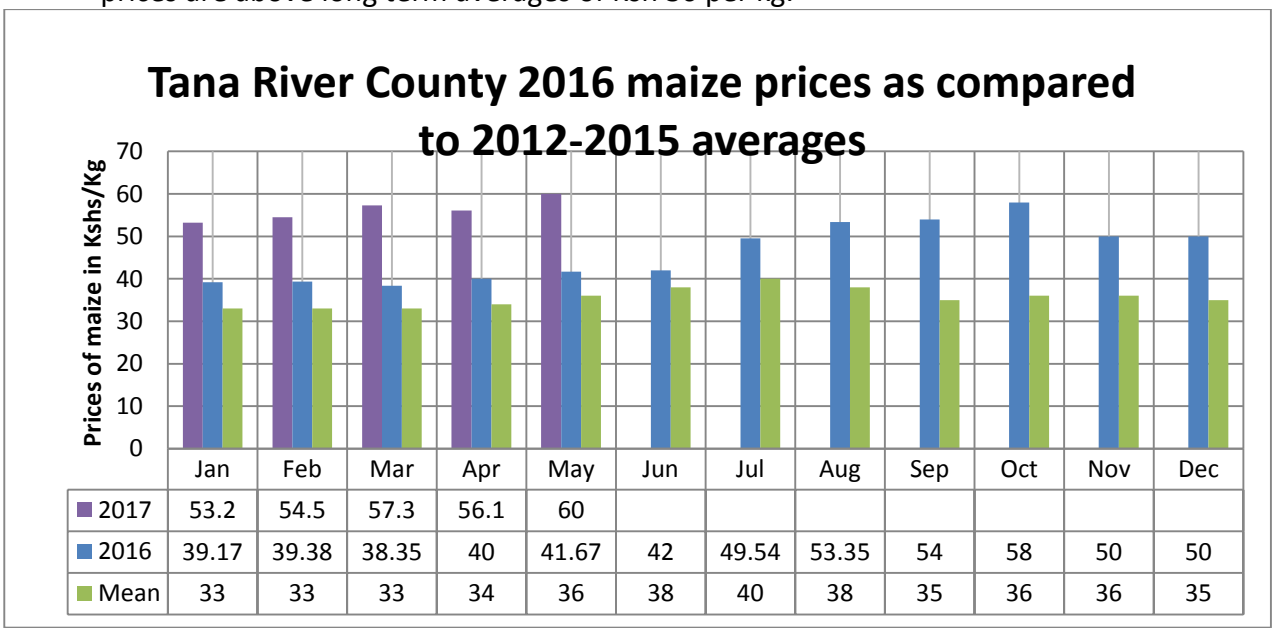
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	48.56	46.75	46.61	73.5	66.7							
2016	94	98	92.78	95.18	89.44	76.48	77.1	70.4	43.5	37.93	55.3	62.09
mean	68	70	68	71	81	75	71	63	75	79	77	74

Fig 14*n=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 May was Kshs.60.
- When compared to the month of April, where the average price per kilogram of maize was Kshs.56.1, maize prices increased by the end of May. This is attributed to the fact that lesser maize stocks are available at the markets.
- The communities do not have any stocks due to the poor harvest from the last season.
- In comparison to the average maize price at this time of the year, the current maize prices are above long term averages of Ksh 36 per kg.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	53.2	54.5	57.3	56.1	60							
2016	39.17	39.38	38.35	40	41.67	42	49.54	53.35	54	58	50	50
Mean	33	33	33	34	36	38	40	38	35	36	36	35

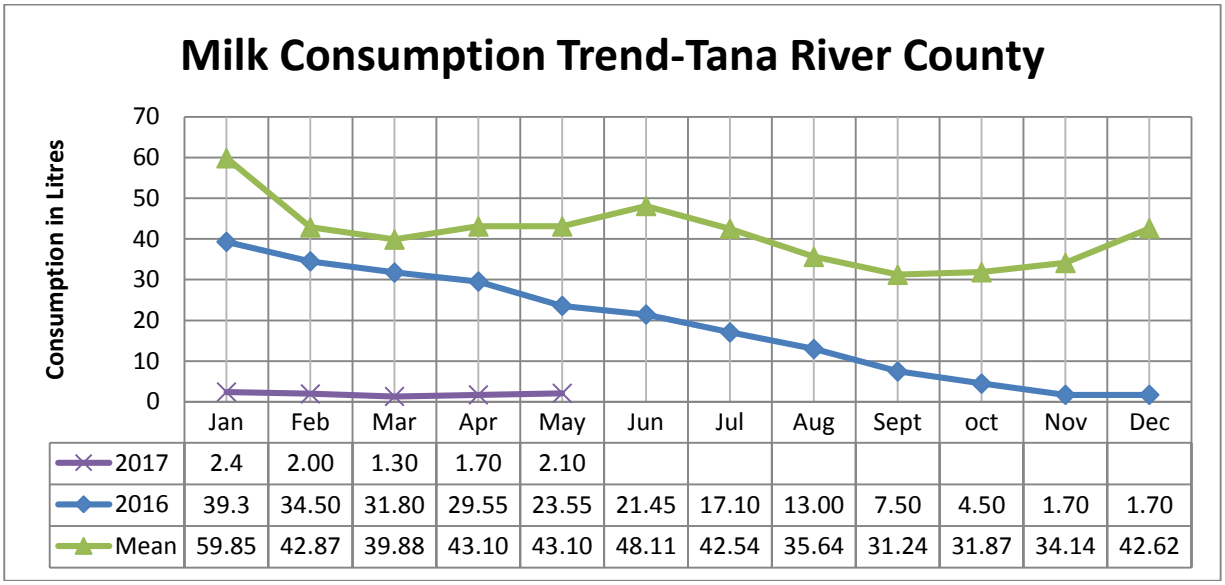
Fig 15 ***n=450 Households***

3.3 Access to Food and Water

3.3.1 Food Consumption score

3.3.2 Availability of milk for household consumption

- On average the milk consumed per household was 2.1 litres in the month of May.
- In comparison to the month of April, where the average milk consumed per household was 1.7litres, the milk consumption shows an increasing trend by the end of May.
- Meanwhile, water and pasture availability is not sufficient and the livestock are away from the households in search of water and pasture.
- 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
2017	2.4	2.00	1.30	1.70	2.10							
2016	39.3	34.50	31.80	29.55	23.55	21.45	17.10	13.00	7.50	4.50	1.70	1.70
Mean	59.85	42.87	39.88	43.10	43.10	48.11	42.54	35.64	31.24	31.87	34.14	42.62

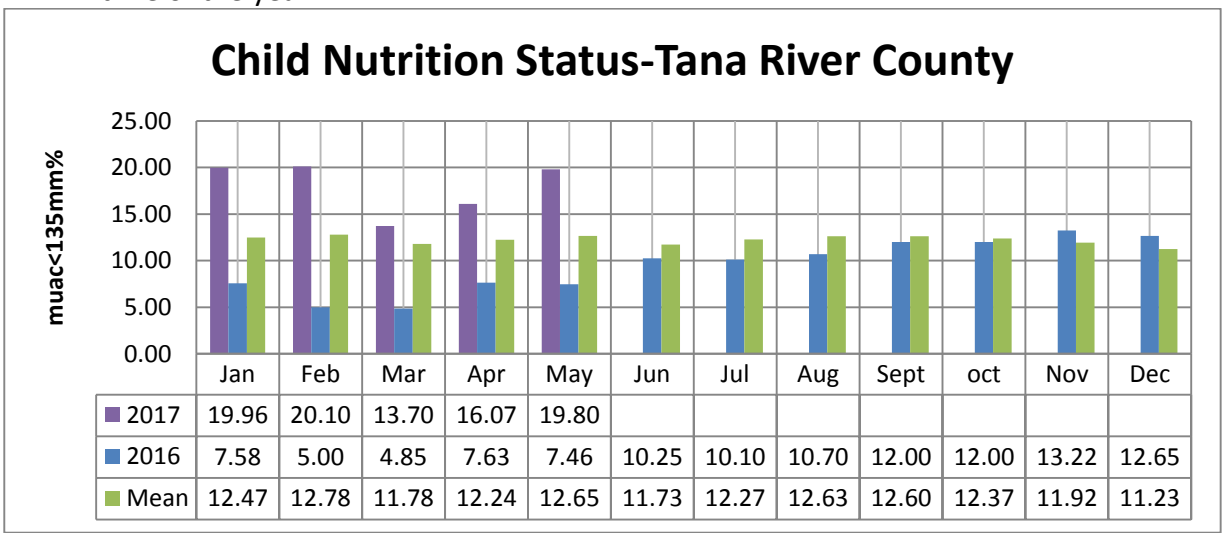
Fig 16 ***n=450 Households***

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 May increased to 19.8 compared to that of April which was at 16.07.
- The increase in the number of the children at the risk malnutrition is attributed to the low milk production and consumption and also poor agricultural production.
- Compared to long term averages of 12%, the current percentage is above normal at this time of the year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
2017	19.96	20.10	13.70	16.07	19.80							
2016	7.58	5.00	4.85	7.63	7.46	10.25	10.10	10.70	12.00	12.00	13.22	12.65
Mean	12.47	12.78	11.78	12.24	12.65	11.73	12.27	12.63	12.60	12.37	11.92	11.23

Fig 17***n= 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

- Distribution of livestock feeds(drought pellets) by NDMA/DCF
- Water trucking to provide water to schools and health facilities
- Destocking (750 shoats and 500 cattle)- on going
- Provision of supplementary livestock feeds by NDMA/NDCF.
- Provision of Food for Fees (Bursary) by NDMA/NDCF.
- Medical and preventive health outreach by NDMA/NDCF.
- Peace building and community dialogues 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

- Cases of conflicts have been reported among pastoralists in Waldena, Kiariakungu and Kalkacha. 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 and the heavy presence of security officers have suppressed the situation.

6.2 Other Shocks and Hazards

- In the regions that have received rains, pastoralists continue to lose many of their livestock's which were weakened by the drought. This massive deaths are as a result of sudden change in the environmental conditions.

- Human-wildlife conflict has also been reported in areas bordering the Tsavo East National Park, where elephants are searching for water and pasture.

6.3 Migration

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 situation in all the livelihood zones have worsened.

7.0. Recommendations for Action

Recommendations to County Steering Group/Kenya Food Security Meeting.

- Enhance relief food distribution in areas affected by drought.-Distribution of NFI to the affected households.
- Destocking, livestock offtake, Feed supplementation and establishment of feed reserves.
- Disease surveillance, vaccination and deworming
- 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.
- Disease surveillance within the areas affected by drought and the continuation of malaria control initiatives to undermine the prevalence rates.
- Enhance support to small scale irrigation activities through provision of water pumps and restocking of vulnerable families to improve food security at household level.
- Continue with disease control initiatives to undermine the prevalence rates.
- Enhance access to water during the drought period for both domestic and household use.
- Construction of shallow wells and boreholes, Construction of pans and major dams along the laghas. Action:CSG,Ministry of Water and Other Partners