

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



A Vision 2030 Flagship Project



**AUGUST EW PHASE**

Drought Status: **ALARM**



Mipango ya kukabiliana na ukame

**Drought Situation & EW Phase Classification**

**Biophysical Indicator**

The County is currently experiencing moderate vegetation deficit.

**Rainfall:**

- No significant rains were received in this month. The county received off-seasonal showers along the coastal regions of Kipini and recorded an average of 3.9 mm which is normal for this time of the year.

- The vegetation condition.** The 3-month VCI indicates that the County is currently experiencing moderate vegetation deficit recording a VCI of 24.1. The values slightly reduced when compared to the values of the previous month where the VCI was at 24.31. The vegetation condition remains poor in the county.

**Socio Economic Indicators (Impact Indicators)**

**Production indicators**

- Most of the livestock in Tana River County have migrated to Tana Delta and the neighbouring counties (Lamu and Kitui County). The other stocks have remained along river Tana.
- Pasture and browse conditions remains poor.
- Livestock body condition also remains poor.
- Milk production at household level reduced and remained below the normal range at 2 litres compared to the last month's which was at 4.3 litres.

**Access indicators**

- Milk consumption at household level also reduced to 2 litres compared to the last month where it was at 3.3 litres. Milk consumption remains below normal.
- The average livestock distance to the water sources remains above normal at 14.1 km compared to the last month where it was at 8.1 km. The return distance remains high compared to the normal distance of 8 km.

**Utilization indicators**

The percentage of children under the risk of malnutrition in August remained high at 24.2 compared to that of July which was at 26.45. 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)	3.9 mm	> 4 mm
3-Month VCI	24.1	>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	>61 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)	50.23	63
Milk Consumption	2	>32.58 Litres
Average return distance to the water sources	14.1 km	8 km

Utilization indicators	Value	Normal ranges
MUAC(% at mid-risk of malnutrition)	24.2%	<12(%)

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

# BIO-PHYSICAL INDICATORS

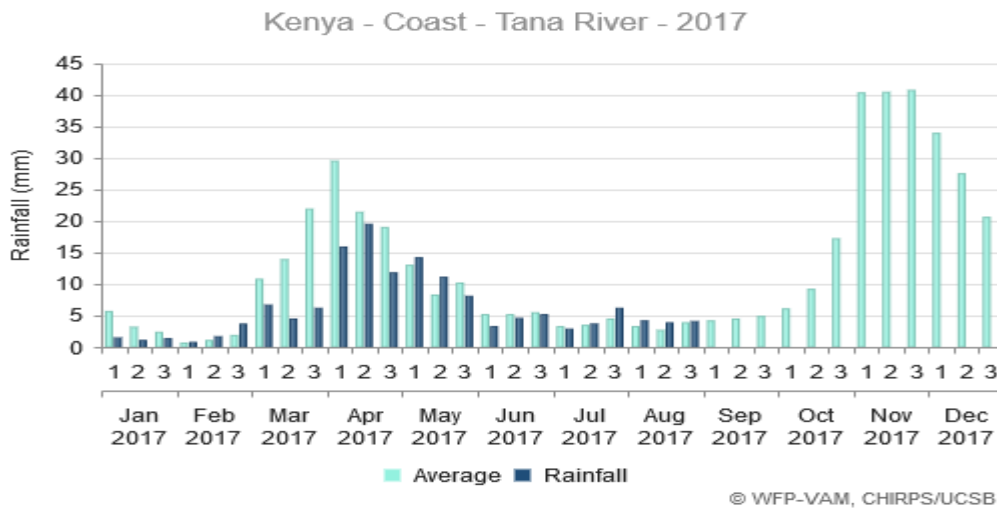
## 1. CLIMATIC CONDITIONS

### 1.1 Rainfall performance

### 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

#### Rainfall situation data

- No major rainfall was received in this month.
- The county received an off seasonal downpour in the coastal regions of Kipini recording an average of 3.96 mm of rain in this month. These showers were experienced in all the dekad of this month.
- The graph below shows the rainfall amounts received 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 24.1 by the end August as compared to the month of July which stood at 24.31. The VCI slightly reduced and this is attributed to the ongoing drought conditions. In comparison to same time previous years, the vegetation conditions are below the normal average.
- The matrix below shows the vegetation condition for this month;
- The county experienced moderate drought conditions in July and August after the continued severe vegetation deficit previously experienced in the months of January to June in this year.

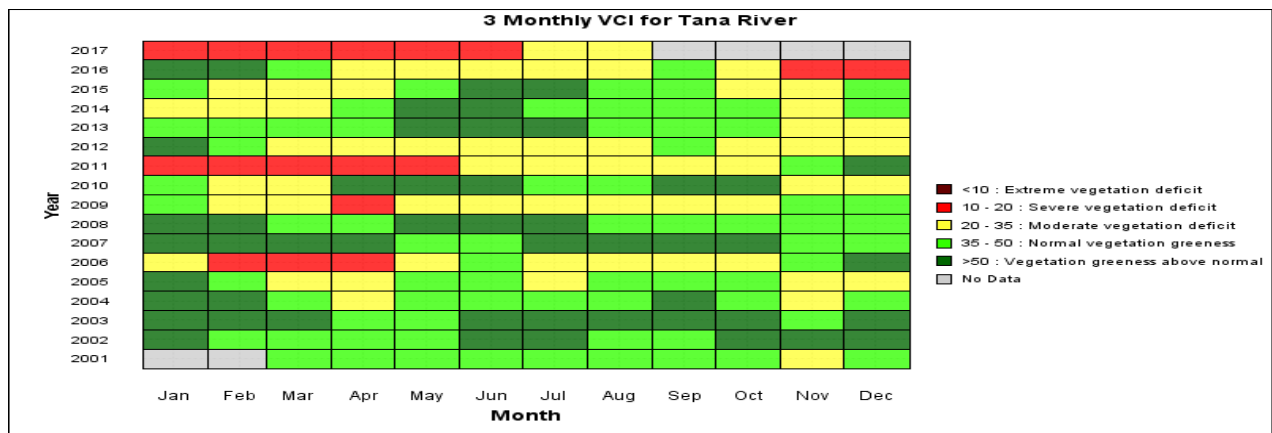


Fig. 2 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

- The graph below show the 3-month VCI trend for August 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 July was 26% below the 2016 value and 55.8 % below the average.
- The county recorded a VCI below the minima in the months of November and December in 2016, and in January, April, May and June in 2017. There was a slight improvement in July and August and this is attributed to the little rains received during the Long rains season and also the off seasonal rains received in Tana River County.

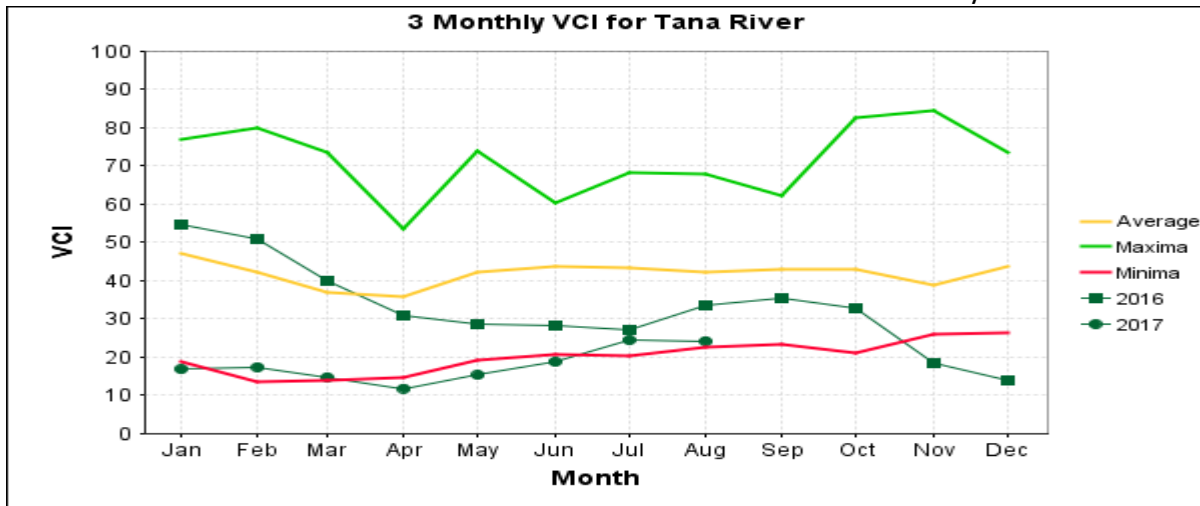


Fig. 3 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

### Sub county VCI

All the three Sub Counties (Bura, Garsen and Galole) are currently experiencing moderate vegetation deficit.

### Bura

The 3-month Vegetation cover for Bura (Tana North Sub County) is currently at 24.95 compared to last month's VCI of 24.71. The vegetation condition is showing an improving trend in this month. The VCI of 24.95 indicates moderate vegetation deficit within Bura sub-county.

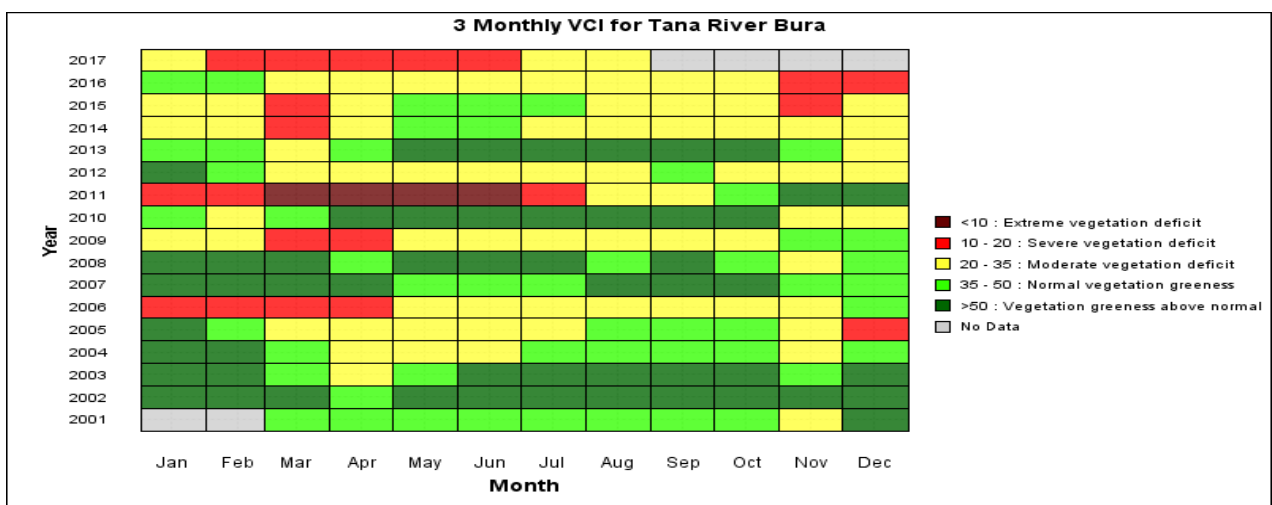


Fig. 4 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

## Galole

The 3-month Vegetation cover for Galole is currently at 22.91 compared to last month's VCI of 23.84. The vegetation condition slightly reduced in this month when compared to the previous month. The VCI of 22.91 indicates moderate vegetation deficit within Galole sub-county.

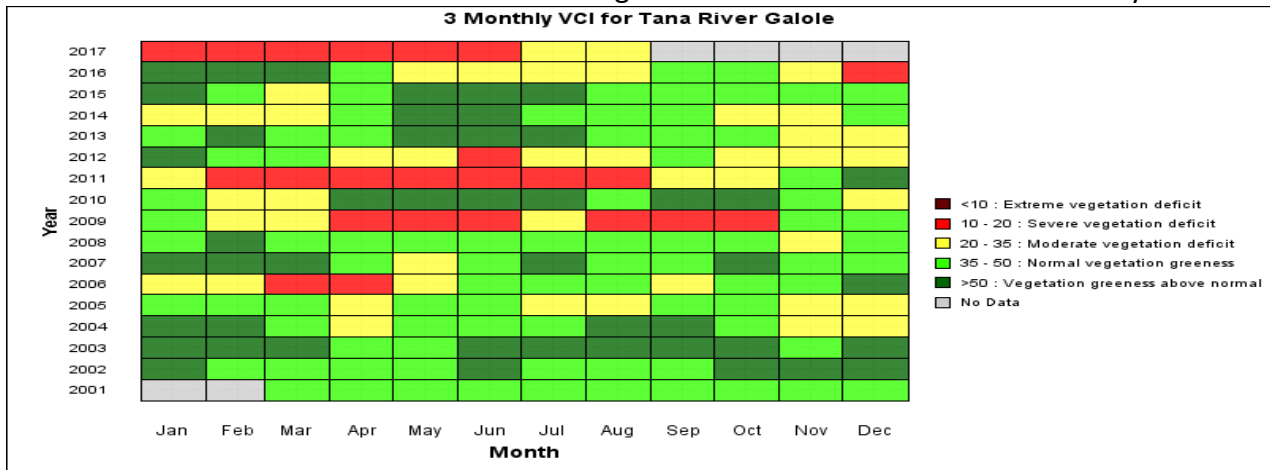


Fig. 5 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

## Garsen

The 3 Month VCI for Garsen is currently at 24.13 compared to last month's VCI of 24.25. The VCI in this sub county also slightly reduced in this month. The VCI of 24.13 indicates that the sub-county is experiencing moderate vegetation deficit in this month.

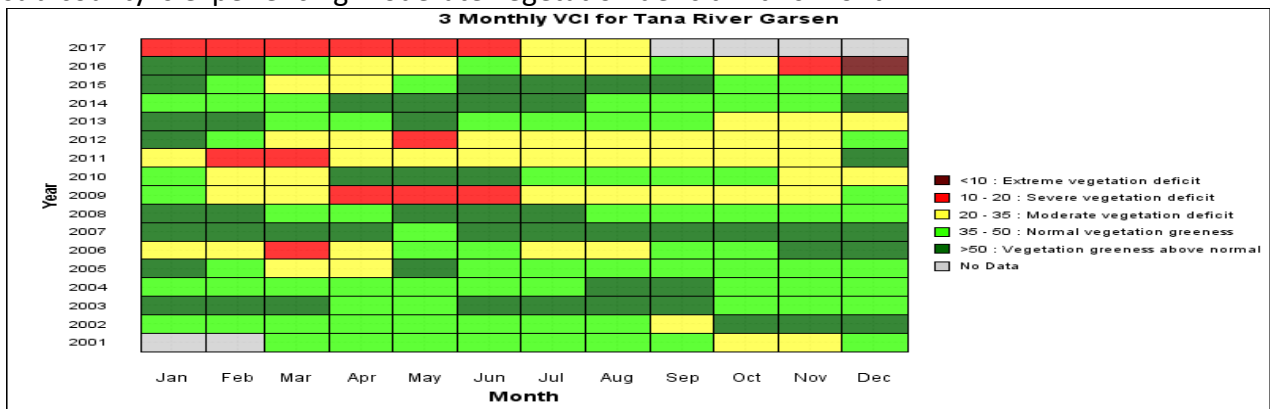


Fig. 6 Source: University of Natural Resources and Applied Life Sciences (BOKU), Institute of Surveying, Remote Sensing and Land Information

## 1.3 Field Observations (Pasture and Browse Conditions)

### Quality

- The pasture and browse quality in the county remains poor. The county received negligible amounts of the off seasonal downpours which could hardly sustain pasture regeneration.
- The browse and pasture conditions in Tana North and mainly the hinterland are very poor; this region is totally dry and cannot sustain the grazers. The browse condition is also poor.
- In Tana Delta region the qualities are currently fair due to the little showers experienced from the off seasonal showers received up to the third dekad of August.
- Generally the browse quality is fair compared to the pasture in the county.
- The browse and pasture condition in the delta region is already deteriorating due the high livestock influx rate
- Pasture and browse conditions remain 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.
- 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 4months, while browse is expected to last for 2 months compared to a normal situation of 3 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.
- Crop residues (straw) play a very crucial role in livestock food security since it can be stored for future use when pastures are not available. After the farmers harvest their crops, they negotiate and agree with pastoralists to cut and carry or even directly graze the animals on the farms. This temporarily supplements the natural pastures for the weakened animals.

## 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 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 on going drought conditions.

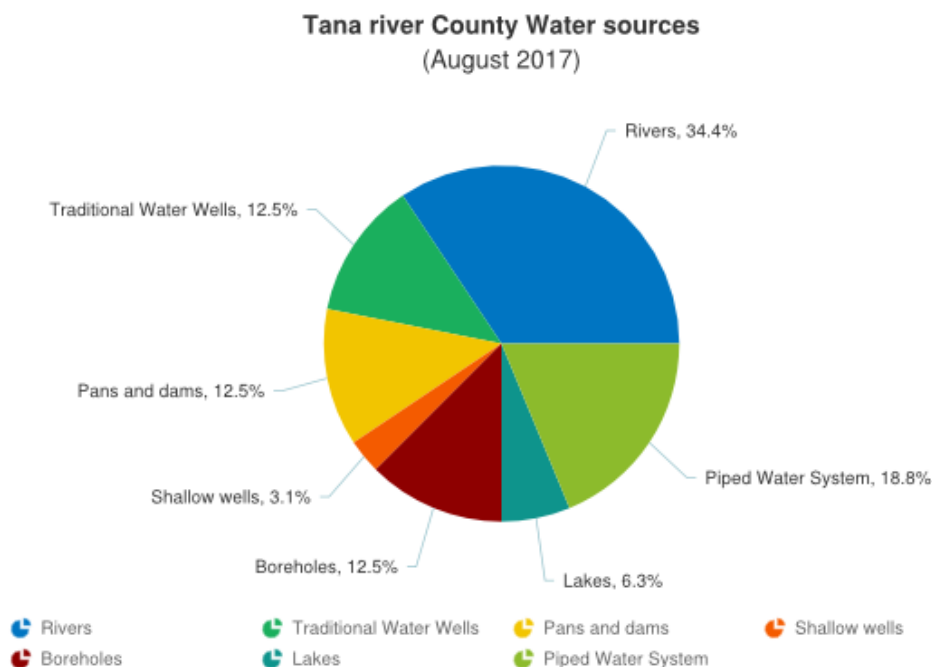


Fig 7.the figure above shows the different water sources in the county by the end of August 2017. The main community water sources in the county are currently; Natural River, piped water, traditional wells, pans and dams.

### 1.4.2. Household access to Water

- The average return distance from the households to the main water sources in August was 5 kilometres.
- In comparison to July where distance covered from the households to the main water sources was 3.6 Kilometres. The distances increased in this month.
- Most of the H/H in the pastoral livelihood zones depends on pans and dams for their water needs.
- The households within mixed livelihood zones take approximately 2-3 hours to reach water points compared to households within Pastoral livelihood zones which take 3-4 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 August were 14kilometres. .
- In comparison to the month of July where the livestock covered 8.1 kilometres, the distances covered by the livestock increased in this month compared to the normal.
- This is attributed to the drying up of the major water sources (pan) and the longer distances from the grazing fields to the available water sources.
- Most of the dams have dried up and the communities mostly depend on River Tana to provide water to the livestock.
- The distances covered by livestock to access water above the mean at this time of the year.

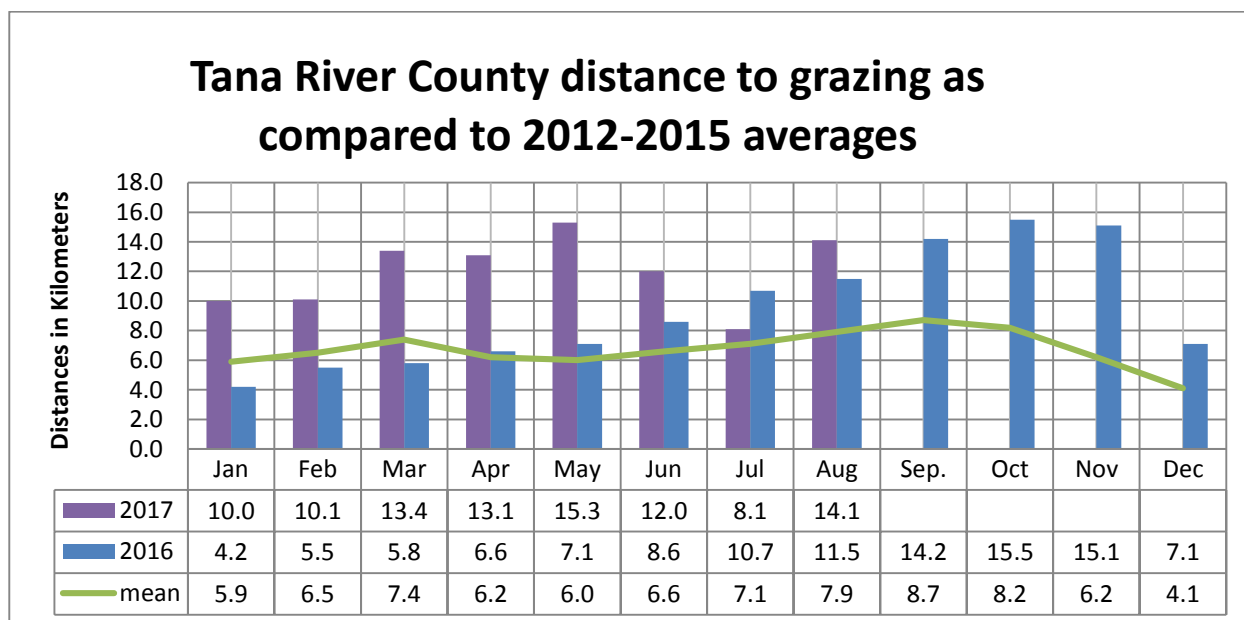


Fig 8 n=450 Households

## **SOCIO-ECONOMIC INDICATORS**

### **2.0 PRODUCTION INDICATORS**

#### **2.1.1 Livestock Migration Patterns**

- Most of the animals especially the bovines have and continue to migrate towards the delta region of Tana delta.
- Livestock influx has already been witnessed in Tana Delta region and this is expected to continue thus creating a likely conflict occurrence between the farmers and the pastoralists.
- Currently about 80% of cattle have migrated to Tana delta region and the trend is expected to continue into Lamu and Kilifi counties.
- The county is also a host of animals from North Eastern which are on Migration.

#### **2.1.2 Livestock Body Condition**

- Livestock body condition for cattle is poor in all livelihood zones in the county; while that of goats and shoats is fair start worsening in one month in the pastoral zone as browse reduces and water trekking distances increases.
- In the mixed and marginal mixed zones the animal body condition is fair but is expected to deteriorate if the current conditions prevail.
- Cattle are more vulnerable in the present conditions due to their feeding habits.
- The camels' body condition is fair across all livelihood zones in the County.
- The body conditions of all these livestock species are deteriorating at a high rate. This is attributed to the scarcity of pasture and the longer distances covered by livestock from the grazing area to the water source.
- Poor livestock body condition has led to reduced productivity hence reduced milk for consumption and for sale. This ultimately reduces household income. These conditions affect the milk prices thereby making it unaffordable to the poor households.

#### **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 2 litres in the month of August. The amounts decreased in this month when compared to the month of July which was at 4.3 litres.
- In comparison to the long term mean, the current average in milk production is below normal average during this time of the year.
- 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 search of pasture and water.

## Tana River County Milk production as compared with 2007-2015 averages

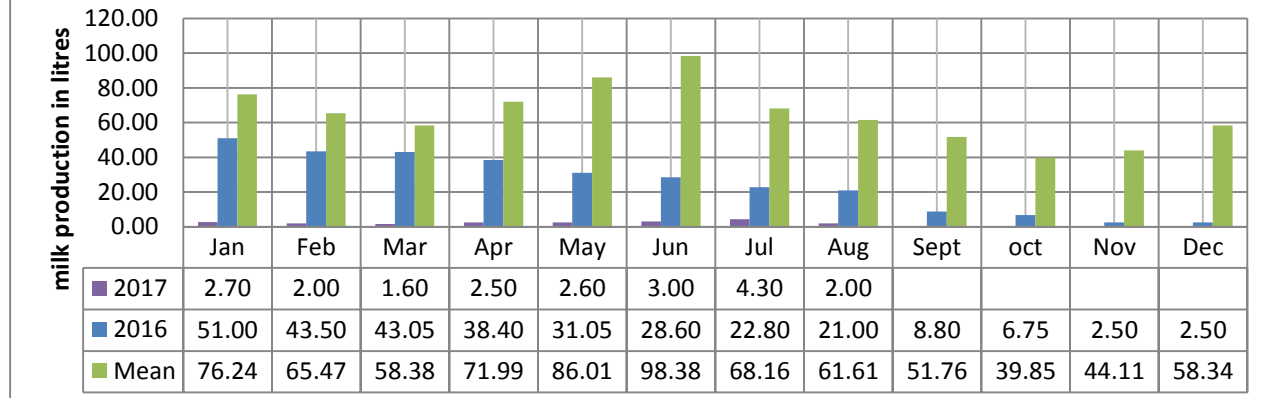


Fig 10n=450 Households

### 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.
- The little acreage was 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 regions along the River Tana planted maize, cowpeas and green grams. Crops are reported to be at the harvesting stage in Nanighi, Makere and Kipini regions.

## 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 August was Ksh. 9, 375. In comparison to the month of July, where the price of a 3 year old mature bull was Ksh.14, 035, the prices in July sharply decreased in this month.
- The decrease in the cattle prices is attributed to the poor livestock body condition.
- The current cattle price of Kshs.9, 375 is below normal at this period of the year as shown on the graph below.



## Tana River County Cattle Prices as compared to 2012-2016 averages

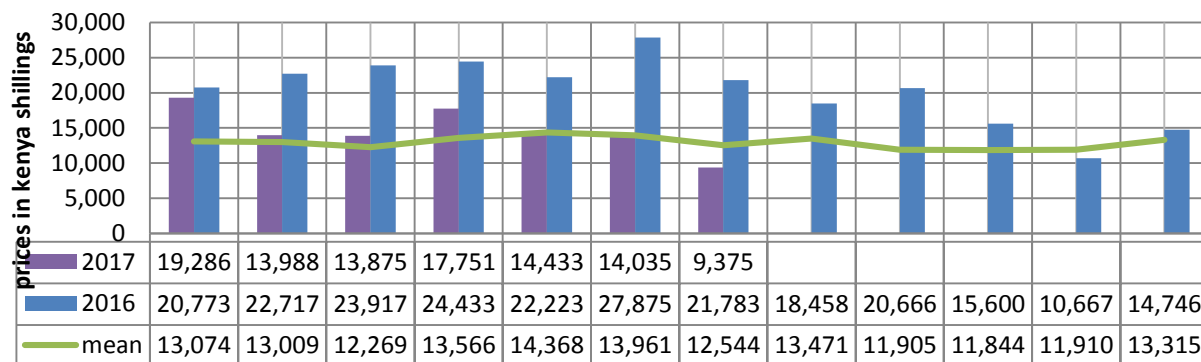


Fig 11n=450 Households

### 3.1.3 Goat Prices

- The average price of a medium size goat in the month of August was Kshs.2808. In comparison to the month of July where the average price of a medium size goat was Ksh. 3485. The prices in August decreased. The price variability is attributed to the market dynamics.
- The current goat price of Ksh.2808 remains below the normal at this period of the year as shown on the graph below.

## Tana River County goat prices as compared to 2012-2013 averages

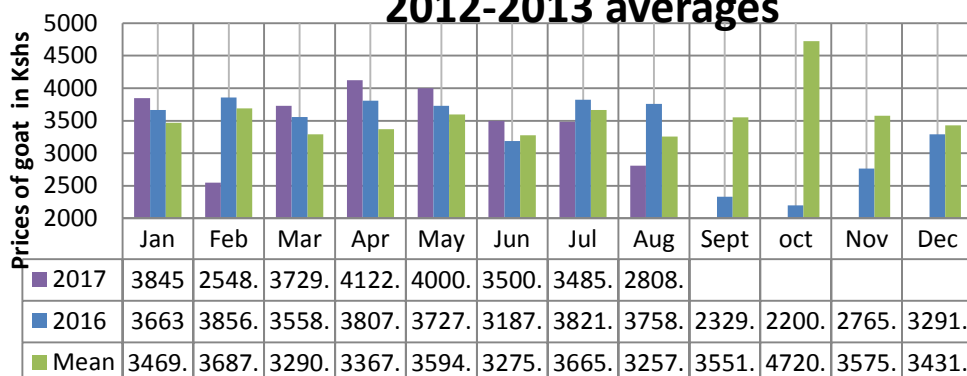
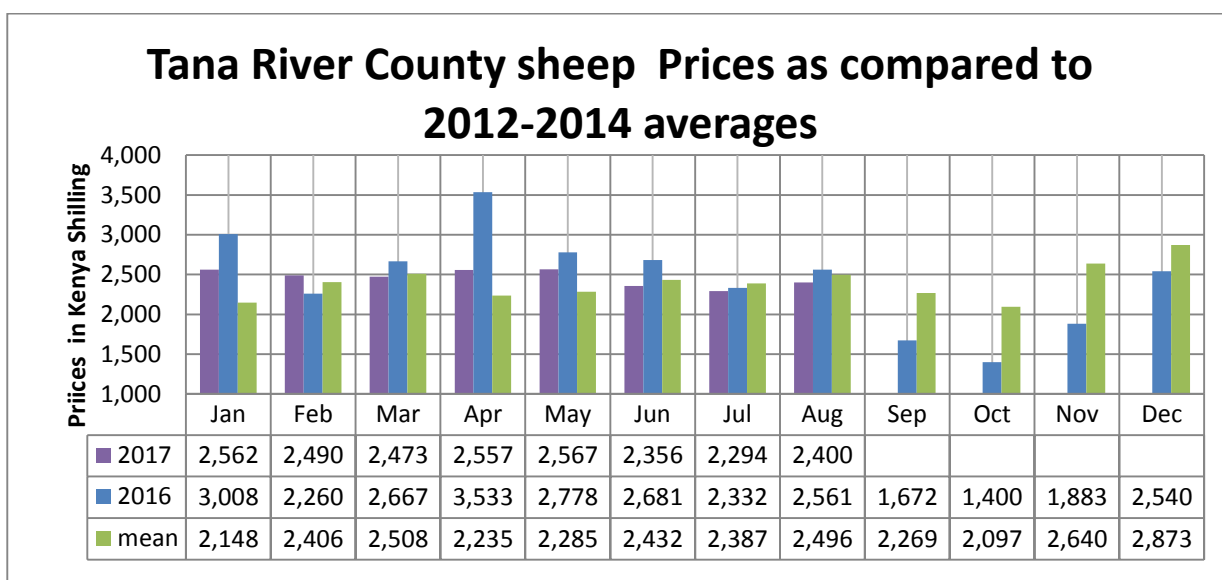


Fig 12n=450 Households

### 3.1.4 Sheep Prices

- The average price of a sheep in the month of August was Kshs.2, 400. The prices slightly increased in August when compared to that of the month of July which was at Ksh.2, 294. This is attributed to the market dynamics.
- Compared to the mean of 2012-2015, the current price is normal at this time of the year.



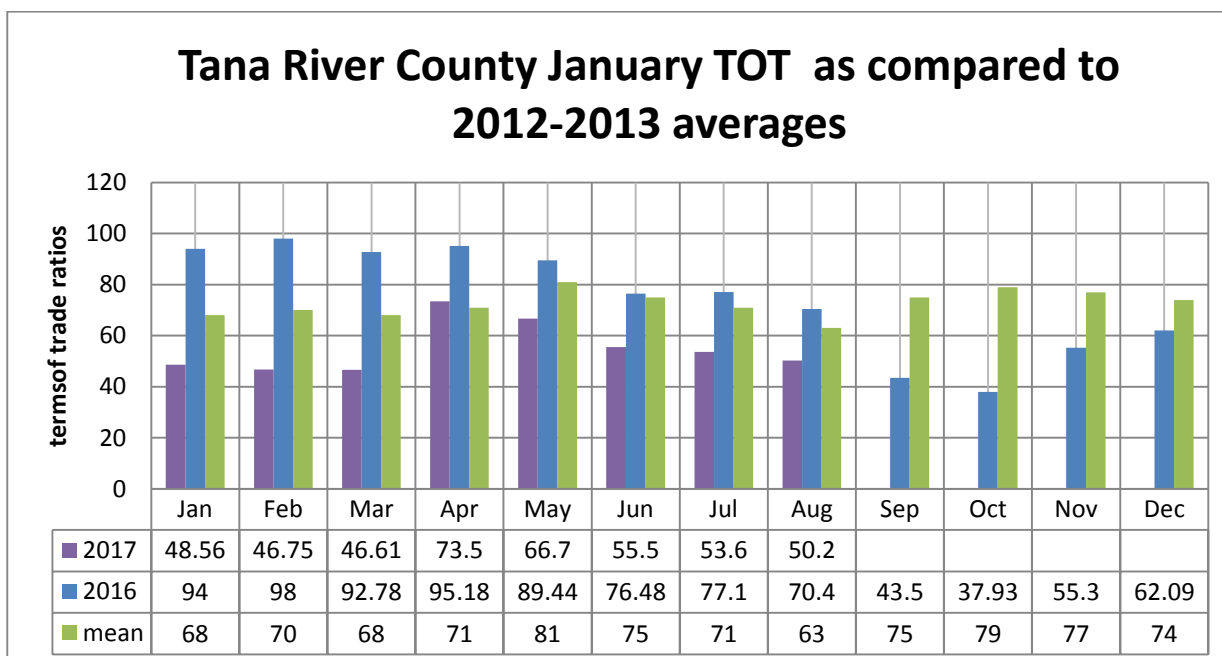
**Fig 13***n=450 Households*

### 3.1.5 Milk Prices

Currently milk is retailing at an average of Kshs.80 per litre. The prices increased in August as compared to the month of July which recorded a price of Ksh 70 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 50.2 Kg of maize for a goat. Compared to the month of July which recorded an average of 53.6, the terms of trade slightly decreased in this month. The current terms of trade is below the long term mean of 63 Kg for a goat.



**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 August was Kshs.55.9.
- When compared to the month of July, where the average price per kilogram of maize was Kshs.65, maize prices decreased by the end of August. This is attributed to the fact that some small amounts were harvested and more maize stocks are available at the markets.
- In comparison to the average maize price at this time of the year, the current maize prices are above long term averages of Ksh 40 per kg.

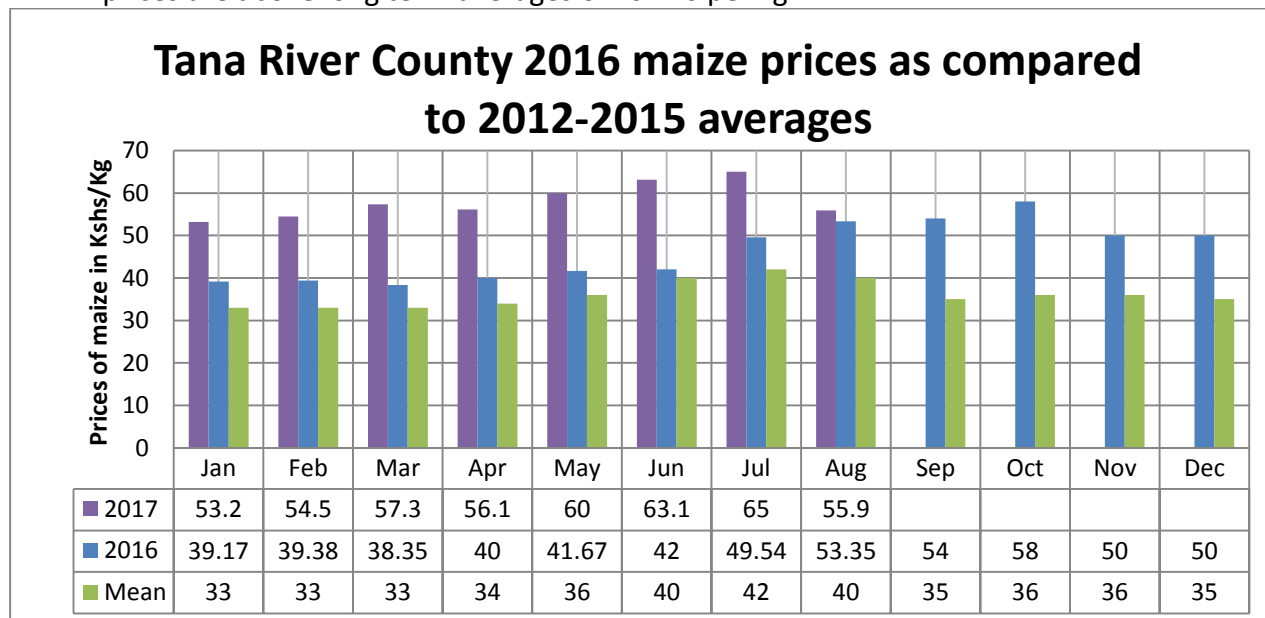


Fig 15 *n=450 Households*

### 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 litres in the month of August.
- In comparison to the month of July, where the average milk consumed per household was 3.3 litres, the milk consumption reduced.
- 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.

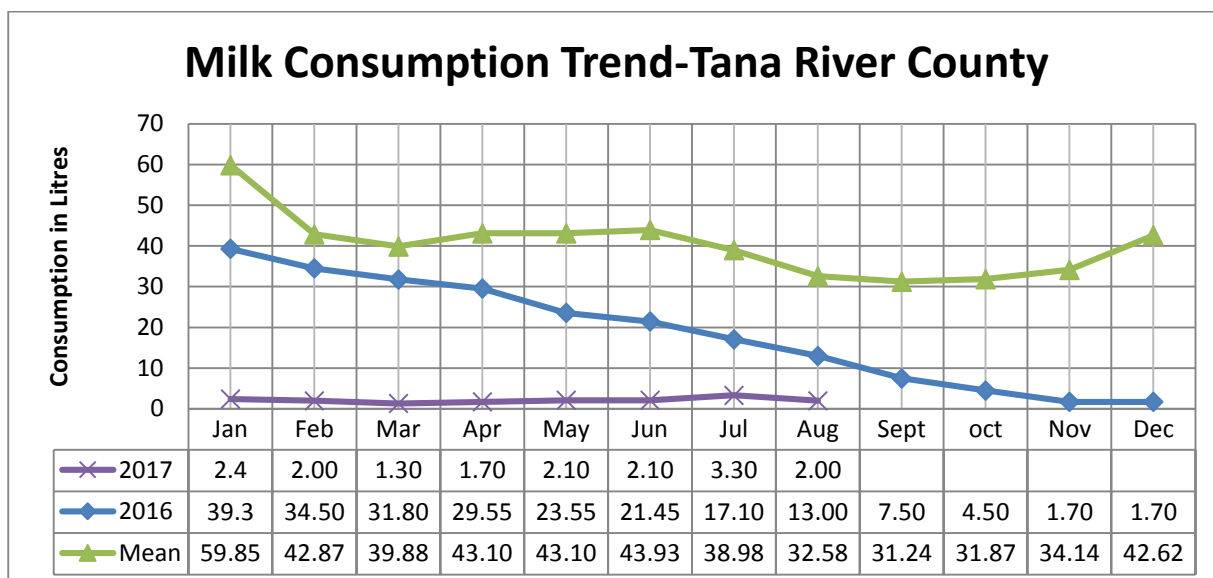


Fig 16 n=450 Households

## 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 August slightly reduced at 24.2 compared to that of July which was at 26.45.
- The high number of the children under the risk malnutrition is attributed to the poor milk production and consumption and also reduced agricultural production in the county.
- Compared to long term averages of 13.59%, the current percentage is above normal at this time of the year.

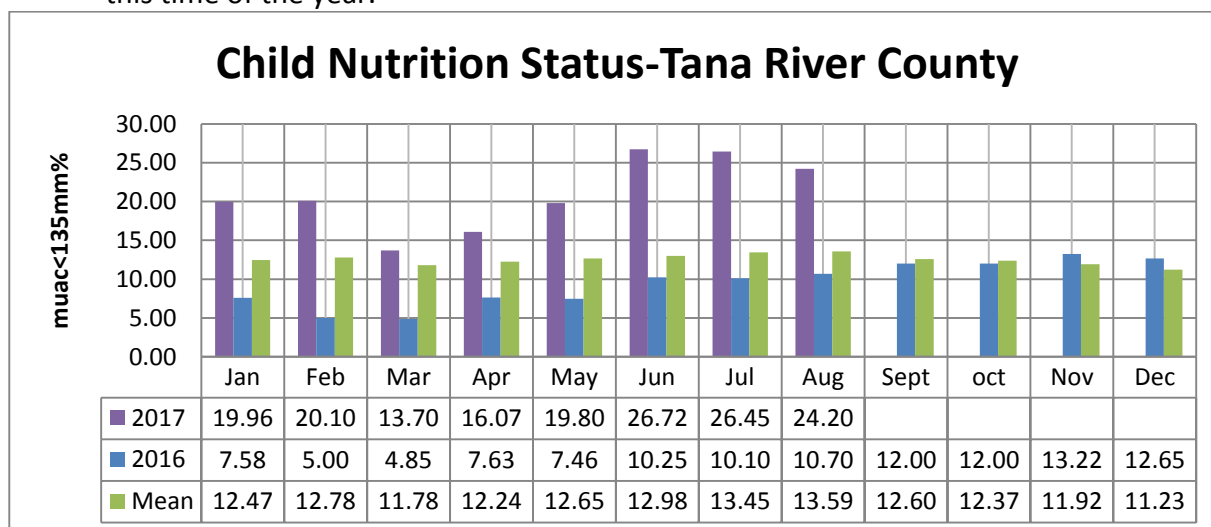


Fig 17n= 2,255 Children

## 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