

**National Drought Management Authority  
THARAKA NITHI COUNTY (THARAKA)  
DROUGHT EARLY WARNING BULLETIN FOR JULY 2018**



A Vision 2030 Flagship Project



**JULY2018 EW Phase**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- The month of July was characterised by intervals of calm, cloudy and sunny weather condition with selective parts of the county receiving some showers of rainfall.
- No actual rainfall was recorded in all the rain gauge stations however, water level in rivers remained normal compared to the long term average. Vegetation cover across the County was normal with a reducing trend compared to the previous month.

**Socio Economic Indicators (Impact Indicators)**

**Production Indicators**

- The condition of pasture and browse was normal but it reduced slightly from that of the previous month. Livestock body condition for cattle and goats improved and it remained good due to presence of a variety of animal feeds especially from crop residue.
- Food Stock at households' level improved due to the ongoing long rain harvesting.

**Access Indicators**

- Livestock prices increased due to improved body condition while commodity prices reduced due to high supplies from the ongoing harvest. Grazing and household water distance increased from that of the previous month due to reduction of rainfall amount leading to less pasture compared to that of the previous month.
- Milk production and consumption improved from that of June.

**Utilization Indicators**

- Percentages of children at risk of malnutrition decreased from that of the previous month and remained within the normal range.
- Following all the above prevailing conditions, the overall drought phase in July remained Normal and the trend was improving.

**Early Warning Phase Classification**

|   | <b>EW PHASE</b>         | <b>TRENDS</b>          |
|---|-------------------------|------------------------|
| <b>Mixed Farming</b>                      | Normal                  | Stable                 |
| <b>Marginal Mixed Farming</b>             | Normal                  | Stable                 |
| <b>Rain Fed Livelihood Zone</b>           | Normal                  | Stable                 |
| <b>County</b>                             | Normal                  | Stable                 |
| <b>Biophysical Indicators</b>             | <b>Value</b>            | <b>Normal Ranges</b>   |
| <b>Rainfall % of Average</b>              | >80                     | 80-120                 |
| VCI-3month                                | 64.78                   | >35                    |
| Water Sources                             | Normal                  | Normal                 |
| <b>Production Indicators</b>              | <b>Value</b>            | <b>Normal Ranges</b>   |
| Livestock Migration Pattern               | No Migration            | No Migration           |
| Livestock Body Conditions                 | Good                    | Good                   |
| Milk Production                           | 1.7 Litre               | >1.06Litre             |
| Livestock deaths (from drought)           | No death                | No death               |
| <b>Access Indicators</b>                  | <b>Value</b>            | <b>Normal</b>          |
| Terms of Trade                            | 148                     | <80                    |
| Milk Consumption                          | 1.7 Litres              | >1.04Litre             |
| Water for Households                      | Normal                  | Normal                 |
| <b>Utilization indicators</b>             | <b>Value</b>            | <b>Range/Value</b>     |
| MUAC                                      | 2.1                     | <8.0                   |
| Coping Strategy Index (CSI)               | 1.6                     | <52                    |
| Food Consumption (Marginal Mixed Farming) | 98.3 Percent Acceptable | >80 Percent Acceptable |

**Seasonal Calendar**

|  |   |   |                                 |     |     |     |     |      |     |     |     |
|--|---|---|---------------------------------|-----|-----|-----|-----|------|-----|-----|-----|
| <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>▪ Kidding (Sept)</li> <li>▪ Increased HH Food Stocks</li> </ul> | Short rains<br>Planting/weeding |     |     |     |     |      |     |     |     |
| Jan  | Feb   | Mar   | Apr                             | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |

# 1.0 CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- No rainfall was recorded in the rain gauge stations for the month of July. However, light showers were received in parts of the county. This is normal at this time of the year compared to the long-term average.

### 1.1.1 Rainfall Station data

- The figure below shows the rainfall trend for 2018 compared to the long term Average.

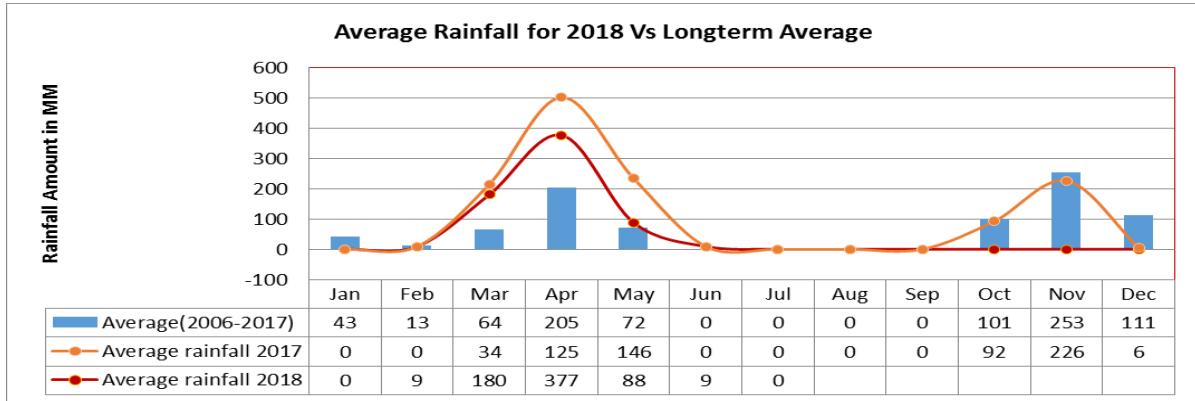


Figure 1: Average Rainfall for July 2018

### 1.1.3 Dekadal Distribution of Rainfall

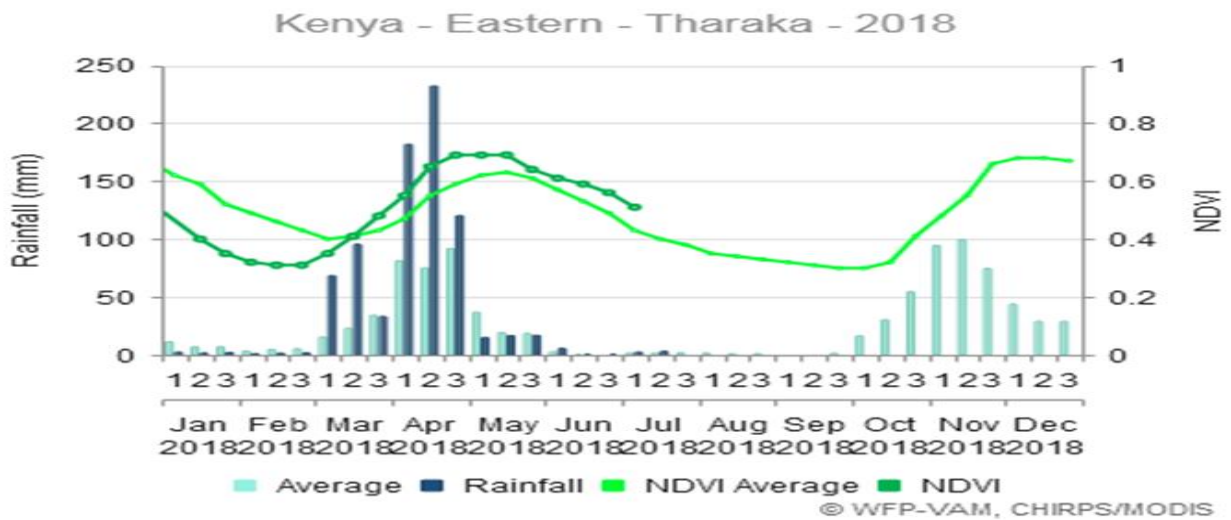


Figure 3: July 2018 Rainfall Distribution by Dekad

## 2.0 IMPACTS ON VEGETATION AND WATER

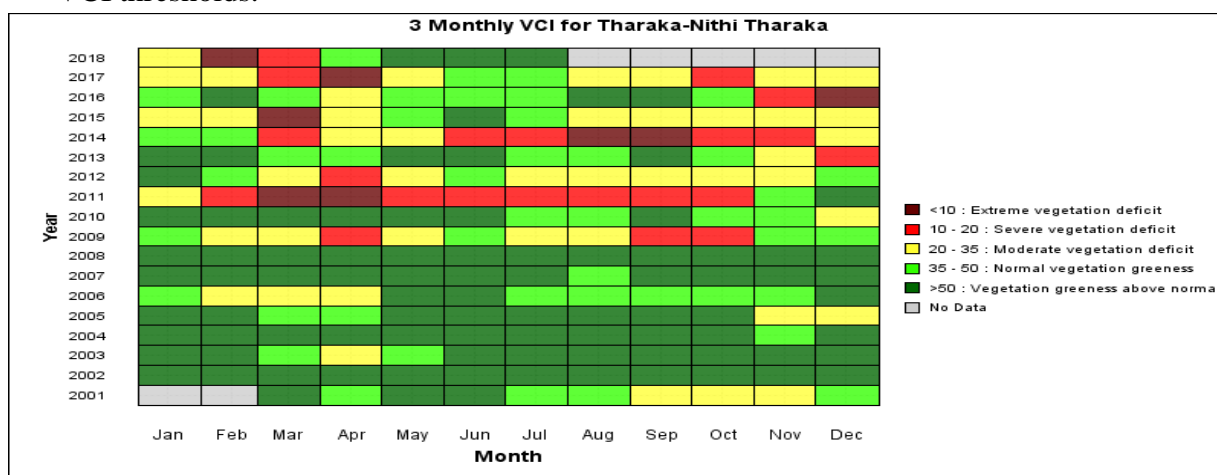
### 2.1 Vegetation Condition Index (VCI)

- The vegetation cover for Tharaka Nithi County in the month of July reduced slightly from that of the previous month and was normal compared to the long term average.

**Table 1: July 2018 VCI (3M)**

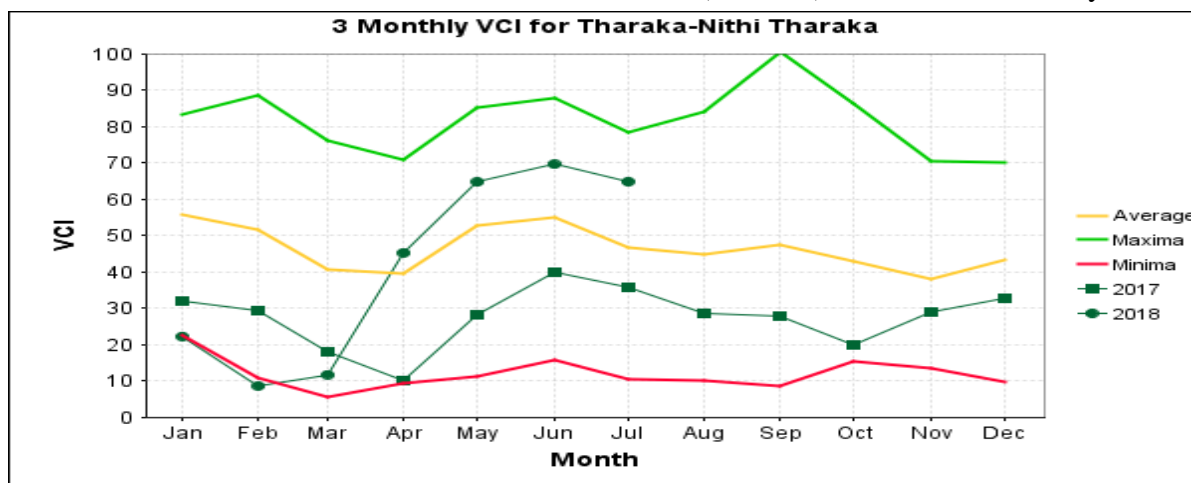
| ADMINISTRATIVE UNITS |                     | VCI as at 26 <sup>th</sup> June 2018 | VCI as at 31 <sup>st</sup> July 2018 |
|----------------------|---------------------|--------------------------------------|--------------------------------------|
| County               | County/Sub County   |                                      |                                      |
| Tharaka Nithi        | County              | 65                                   | 66.49                                |
|                      | Tharaka             | 69.5                                 | 64.78                                |
|                      | Chuka Igambang'ombe | 59.18                                | 69.99                                |
|                      | Maara               | 57.99                                | 67.71                                |

- The matrix below shows the vegetation condition for the month of July 2018 classified based on VCI thresholds.



**Figure 4: VCI Matrix for Tharaka Nithi (Tharaka)**

The chart below illustrates the VCI for Tharaka Nithi (Tharaka) for the month of July 2018.



**Figure 5 : VCI Trend for Tharaka Nithi (Tharaka)**

### 2.2 Natural Vegetation and Pasture Condition

#### Pasture Condition

- Pasture quantity and quality was good in July and it reduced from that of the previous month due to reduced rainfall. The pasture condition remained normal compared to the long term average.

## Browse Condition

- Browse condition in terms of quantity and quality was good and the condition remained as of the previous month. The browse condition for July was normal compared to the long term average.

## 2.3 Distance to Grazing Areas

- The average distance to grazing areas increased from 1.7Km in June to 1.83 Km in July. The increase in distance was attributed to a slight reduction in pasture and browse leading to longer grazing distances.
- The grazing distance for July was however shorter than that of the previous year and hence within the normal range. The longest return distance to grazing areas was recorded in the Marginal Mixed Farming Zone at 2.6Km, Mixed Farming livelihood zones at 1.9Km while in Rain fed Cropping, it was 1 Km.
- The distance to grazing areas was 41.94 percent lower than the long term average of 3.1 km for this time of the year.

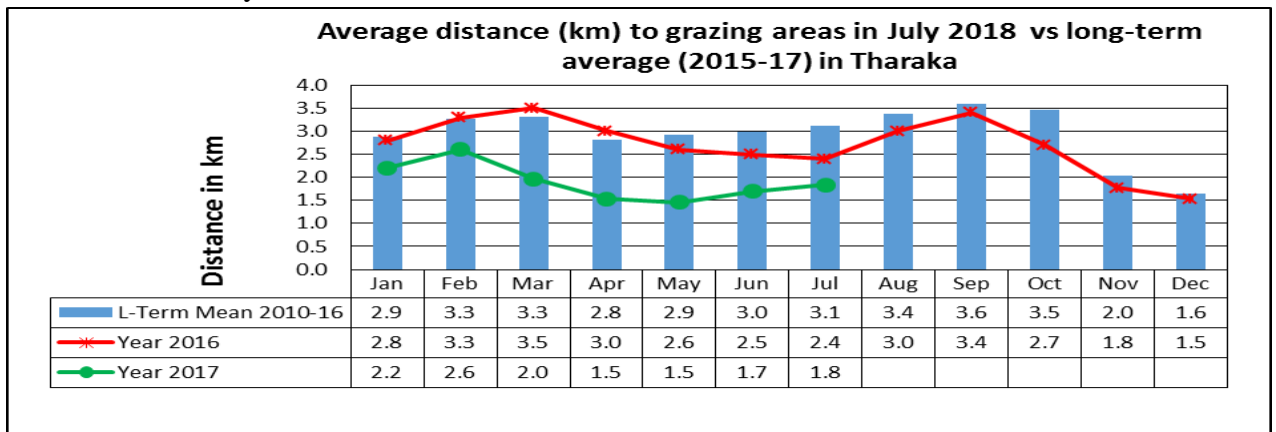


Figure 6: Grazing Distance for Livestock

## 2.2 Water Sources and Availability

### 2.2.1 Main Sources of Water

- The major sources of water for livestock and domestic use in Tharaka Nithi County were Rivers, Boreholes and Traditional river wells as shown by figure 7 below.

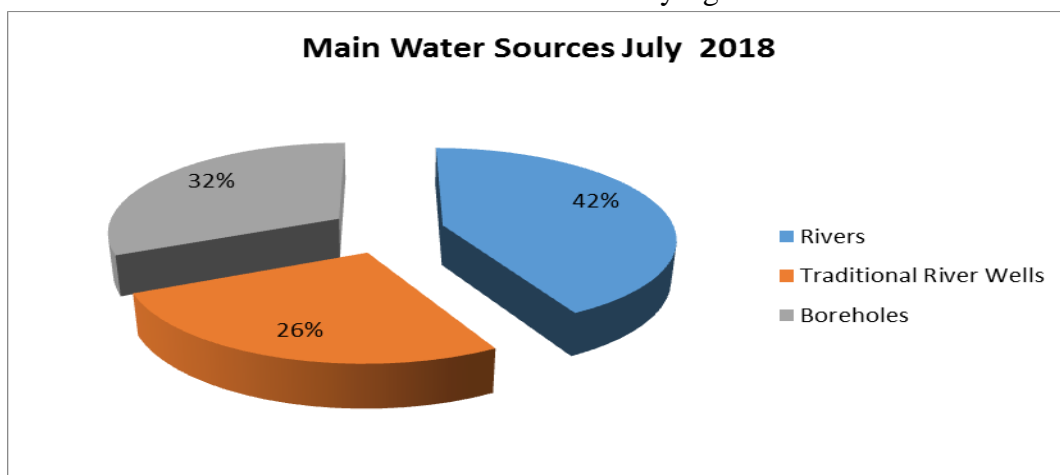


Figure 7: Main Water sources for July 2018

## State of Water Sources

- The state of water sources for the month of June was normal and stable as of the previous month. This was due to the persistent rains which was been experienced across the County. The status of water sources was ranked at index 5 in reference to the scale below:

**Table 2: State of Water Sources**

| INDEX | STATE OF WATER      | DESCRIPTION   |
|-------|---------------------|---|
| 1     | EMERGENCY.SITUATION | All main water sources have dried up; only few boreholes still yielding significant amounts   |
| 2     | STRONGLY INADEQUATE | Surface water sources have dried up while the underground water sources are yielding very little amounts of water. Breakages of boreholes contribute to worsen the situation. Acute water shortage in many areas within the livelihood      |
| 3     | INADEQUATE          | Surface water sources have dried up while the underground water sources are yielding modest amounts of water. Concentration of livestock around few water points contribute to spread communicable diseases and to degradation of rangeland |
| 4     | DECLINING           | The water availability is below normal for the period, but showing declining trends.  |
| 5     | NORMAL              | The water availability is normal for the period   |
| 6     | GOOD                | The water availability is above normal for the period   |

## 3.0 PRODUCTION INDICATORS

### 3.1 Livestock Production

#### 3.1.1 Livestock Body Condition

- Livestock body condition for both cattle and shoats was good across all the livelihood zones. This was attributed to good pasture and browse. For most livestock, current body condition can be rated at index 8 as per the threshold scale below.

**Table 2: Livestock Body Condition categories**

| 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. 12 <sup>th</sup> & 13 <sup>th</sup> 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 in fat  | 9     |                       |

### 3.1.2 Livestock Diseases and Migration

- There were no cases of Livestock in migration reported in the month of July. This was attributed to normal pasture and browse even in the neighbouring counties of Isiolo and Garissa.
- There were reported cases of Anaplasmosis for cattle in Kathanga chini location which led to few deaths. The main cause was feeding of livestock with dry crop residue without giving them sufficient water.
- There were widespread cases of poultry deaths due to Newcastle disease hence need for upscaling poultry vaccination and treatment.

### 3.1.3 Milk Production

- Milk production increased from an average of 1.5 litre per household per day in June to an average of 1.7litre per household per day in July.
- Marginal Mixed Farming livelihood zone had an average production of slightly above 1 litre while Mixed Farming and Rain Fed livelihood zone had an average milk production of less than a litre per household per day each.
- This was attributed good browse and pasture condition. Milk production per household was 60.38 percent higher than the 3-year average of 1.06 litre.

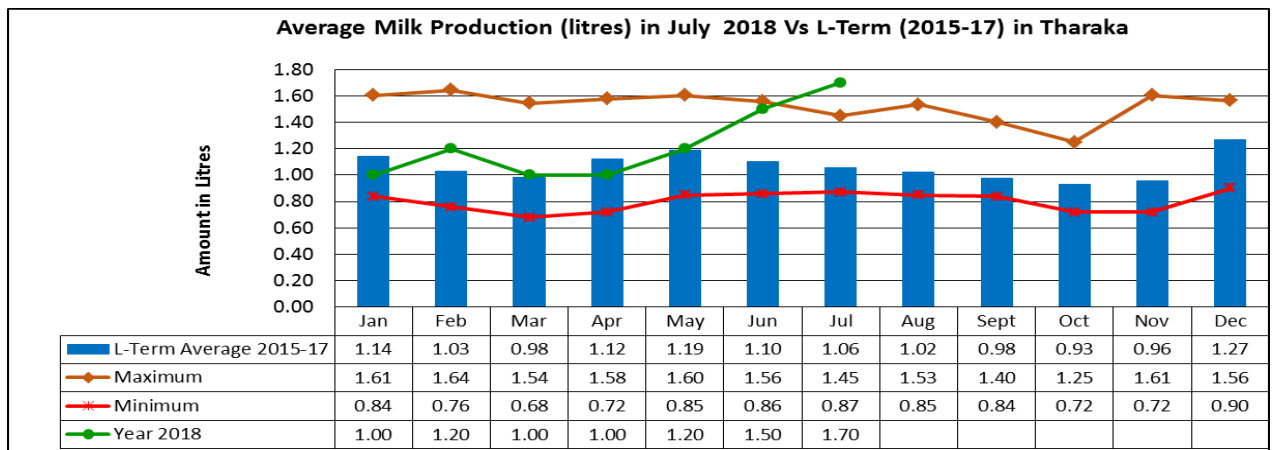


Figure 8: Milk Production Trend

## 3.2 Crop Production

### 3.2.1. Timeliness and Status of Crops

- Farming activities for the month under review was mainly harvesting and marketing of green grams, cow peas and pigeon peas. Sorghum, Millet and Maize.

### 3.2.2. Pests and Diseases

- Fall army worms were the major pests which were reported in the county during the month of May. This mainly occurred after the amount of rainfall reduced especially in the first and second week of May. There is need for mitigation measures to be put in place to avoid crop loses to pests in future.

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Prices

#### 4.1.1 Cattle Prices

- The average cattle price increased from Kshs. 23,325 recorded in the previous month to Kshs. 26,417 in the month of July. This was attributed to good body condition due to improvement in pasture.
- The Mixed Farming livelihood Zone had the highest average price of Ksh 35,833; Marginal Mixed Farming Livelihood Zone had the price of Ksh 21,125 while the Rain Fed Cropping Zone had the price of Kshs 21,400.
- The current price was 49.92 percent higher than the three-year average of Kshs 17,621.

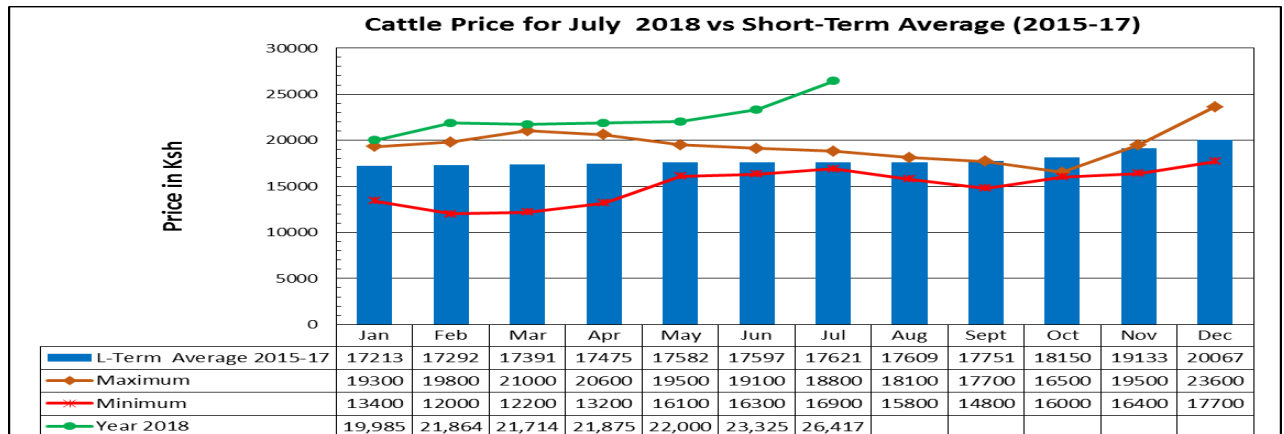


Figure 9: Cattle Price Trend

#### 4.1.2 Goat Prices

- The average goat price in July was Kshs. 4,588 and it remained almost the same as that of the previous month of June. This was attributed to fair body condition.
- The Marginal Mixed Farming Livelihood Zone had the highest price of Ksh. 5,000; Rain Fed Cropping Livelihood Zone the price was Kshs 4,200 while the Mixed Farming Zone recorded an average goat's price of Ksh. 4,150.
- The average goat price was 52.93 percent higher than the three-year average of Ksh 3,000.

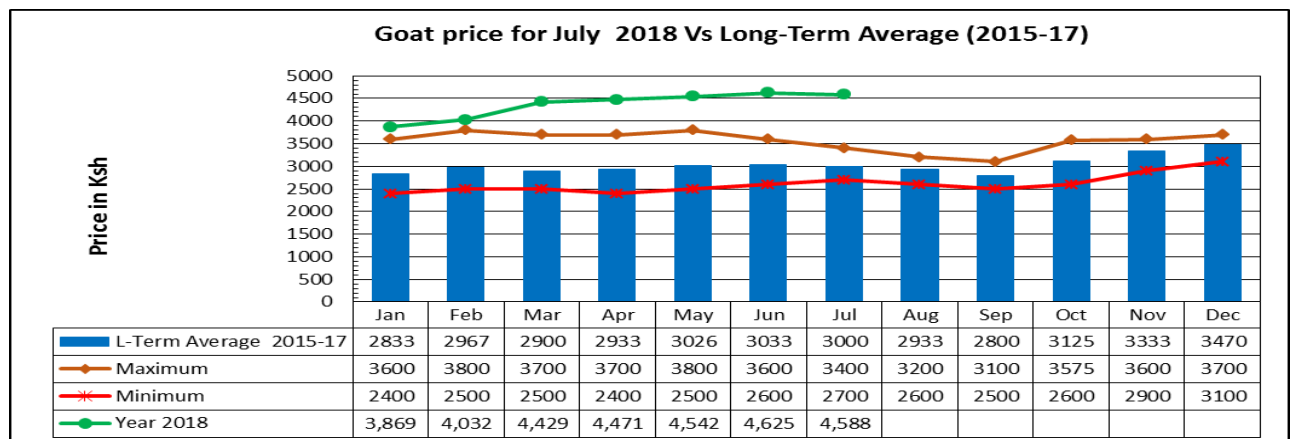


Figure 10: Goat Price Trend

## 4.2 Price of Cereals and Other Food Products

### 4.2.1 Maize Prices

- The average market price of a kilogram of maize in the month of July was Kshs 31 per Kg the same as that of the previous month of June. This was attributed to increased supplies of maize

from outside the county and also use of substitute crops for food such as pigeon peas, cow peas, and millet, sorghum and green grams due to the ongoing harvesting.

- The highest maize price was recorded in the Rain Fed Cropping Zone at a price of Kshs 35 per kg; Mixed Farming Livelihood Zone was Kshs. 30 per Kg while the Marginal Mixed Farming Zone recorded the lowest price of Kshs 28.5 per Kilogram.
- The average maize price was 22.5 percent lower than the three-year average of Ksh 40.

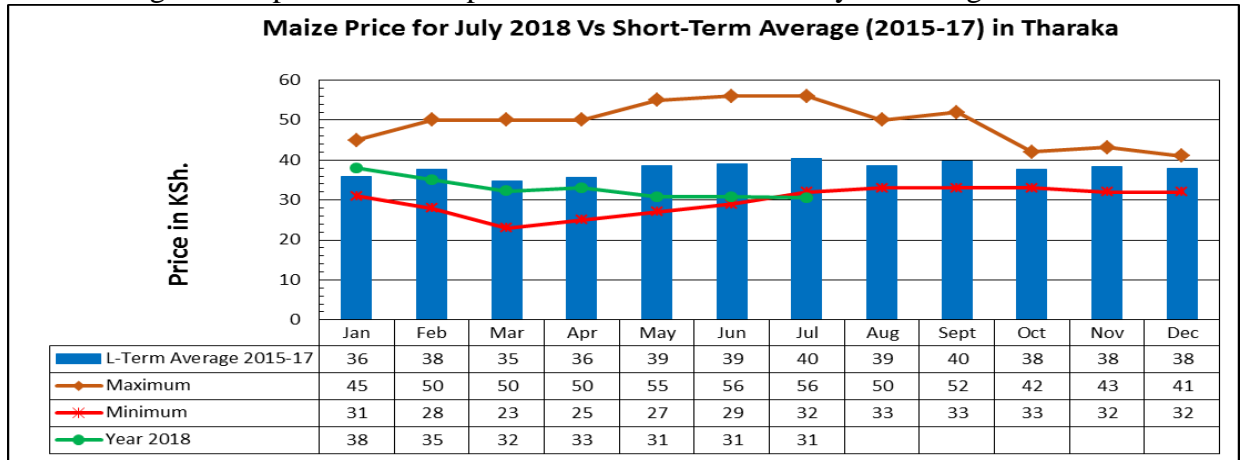


Figure 11: Maize Price Trend

#### 4.2.2 Millet Price at Market Level

- The average market price of millet increased slightly from Kshs 31 per Kg in June to Kshs 35 per Kg in July despite the ongoing long rain harvest. However, the price was still low and within the normal range.
- The Mixed Farming livelihood Zone recorded the highest market prices of Kshs 37/Kg, Marginal Mixed Farming recorded a price of Kshs 36.5/Kg while the Rain Fed Livelihood Zone recorded the least price of Kshs 32/Kg each.
- The millet price was 25.53 percent lower than the long-term average price of Kshs.47per Kg for the month of July.

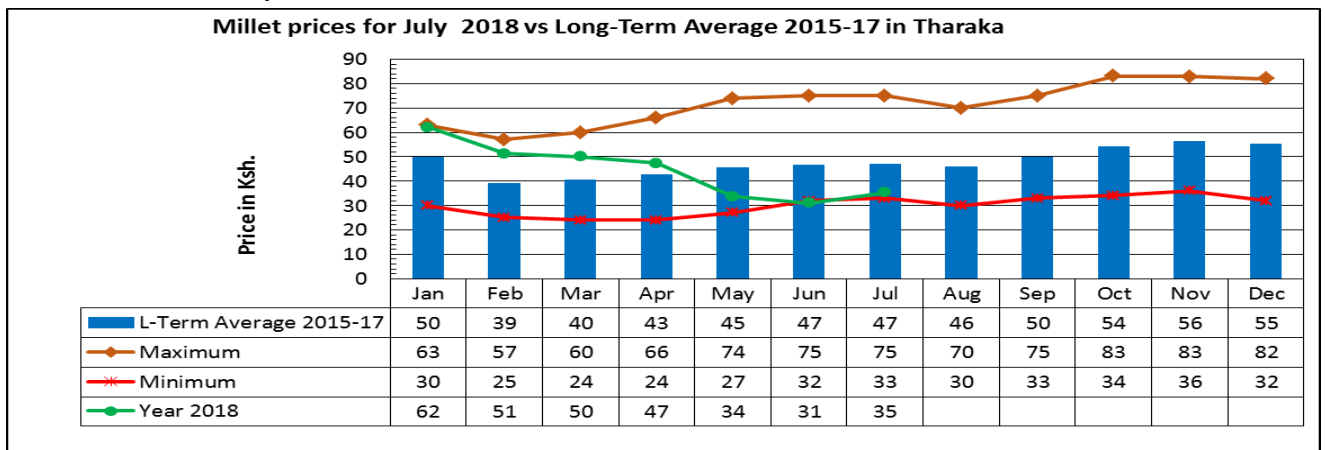


Figure 12 : Millet Price Trend

#### 4.2.3 Terms of Trade (ToT)

- The Terms of Trade in July was 148 and it remained almost the same as of the previous month due to high goat price and low maize price.
- The highest ratio was recorded in the Marginal Mixed Farming Zone at 175.44; followed by Mixed Farming Livelihood Zone at 138.33 while Rain Fed Cropping Livelihood Zone had a ToT of 120.



- The ToT for the period under review was 105.56 percent higher than the three year average value of 72 during the same period.

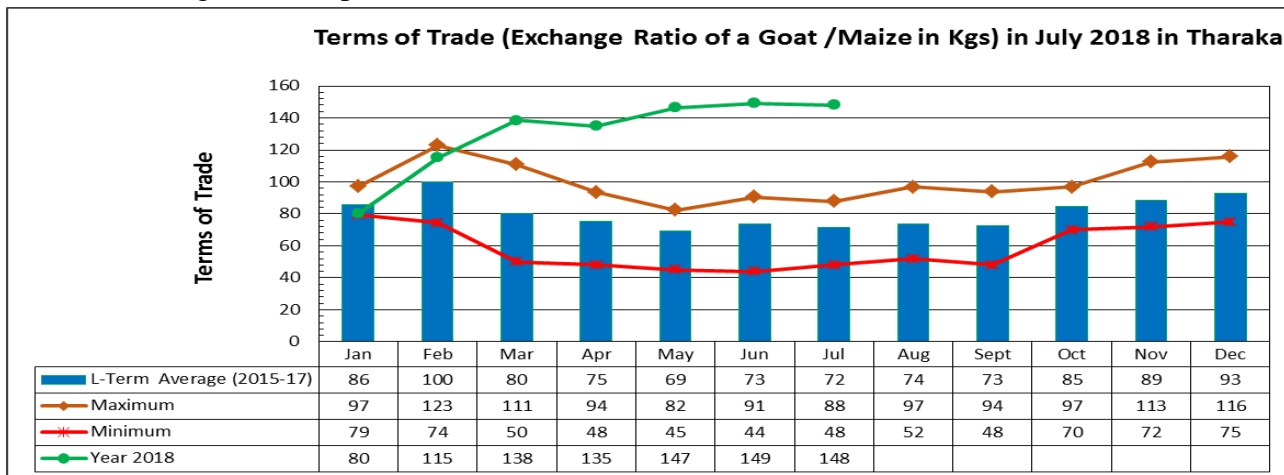


Figure 13: Term of Trade

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1.1 Milk Consumption

- The average milk consumption per household was 1.7 litre in the month of July which was the same as that of the month of June. This was attributed to fair pasture and browse. Milk consumption improved across all the livelihood zones compared to the long term average.
- The average milk consumed was 63.46 percent higher than the 3-year average of 1.04 litre per household per day.

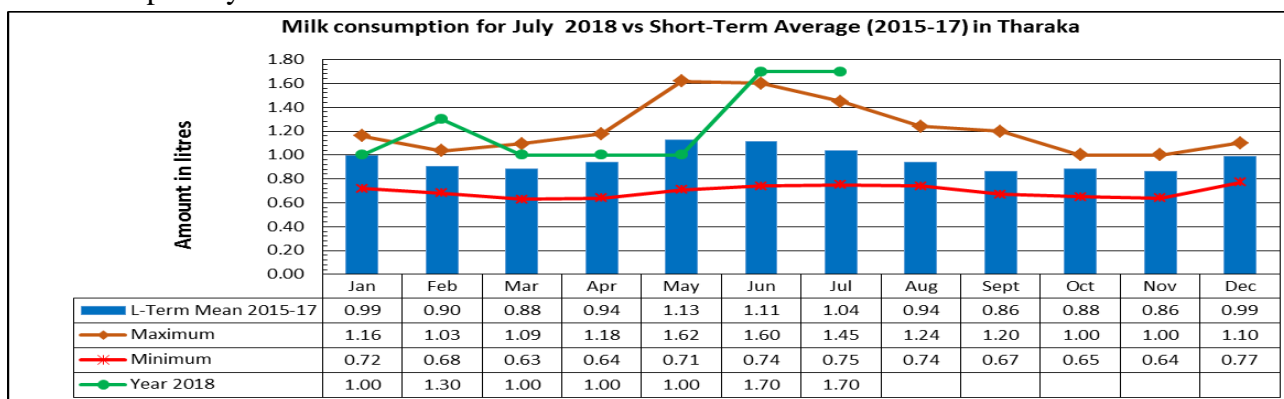


Figure 1: Milk Consumption Graph

### 5.1.2 Food Consumption Score

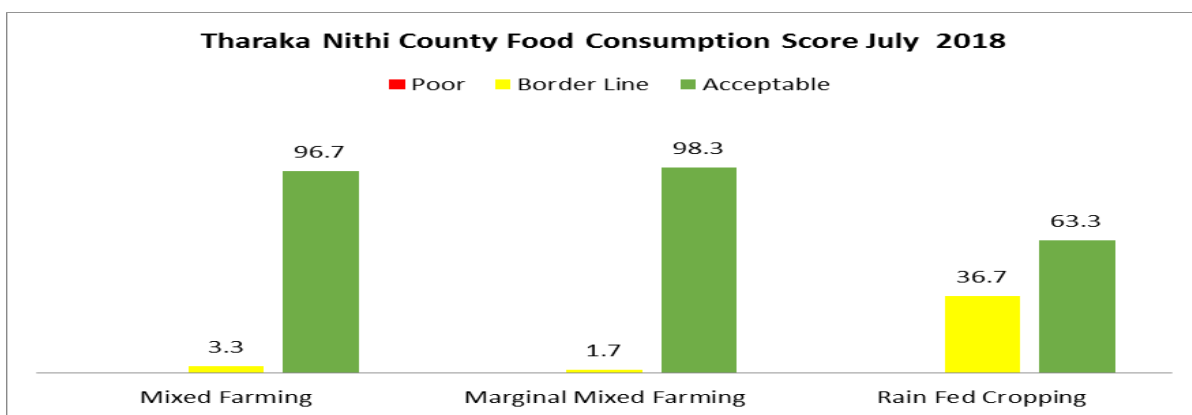


Figure 14: Food Consumption Score Chart

- Proportion of food insecure households with poor and borderline Food Consumption Score (FCS) reduced slightly from 16.67% in June to 13.9% in July. This was attributed to high stock at household level hence an increase in household access to food. A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 36.7%, followed by Mixed Farming Livelihood Zone at 3.3% while the majority of household in the Marginal Mixed Farming Livelihood Zone were food secure at 98.3%.

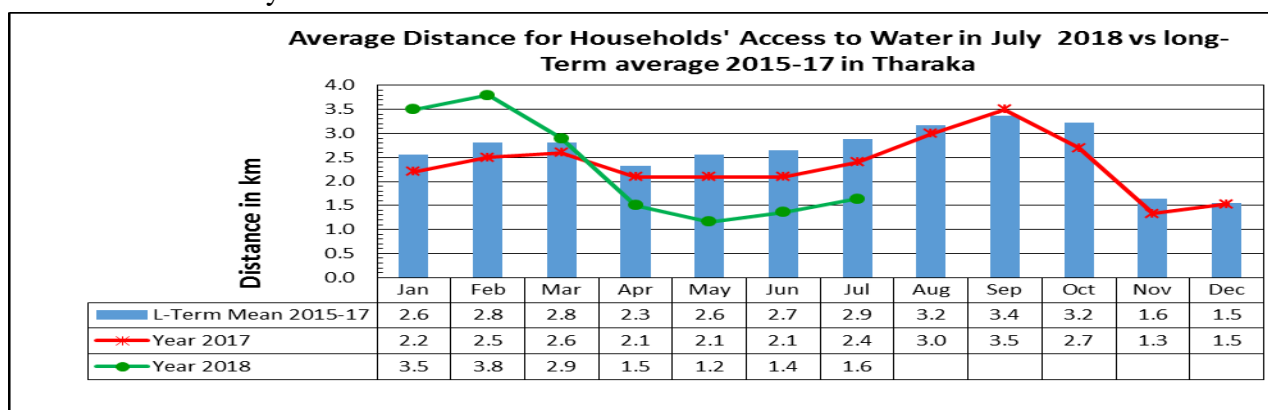
**Table 3: Average Food Consumption Score**

| Period        | Acceptable (%) | Borderline (%) | Poor (%) | Food Insecure HH (%) |
|---------------|----------------|----------------|----------|----------------------|
| December,2017 | 72.47          | 26.47          | 1.067    | 27.537               |
| January, 2018 | 66.1           | 27.23          | 6.53     | 33.76                |
| February,2018 | 60.97          | 36.8           | 2.17     | 38.97                |
| March         | 70.6           | 23.03          | 6.4      | 29.43                |
| April         | 82.23          | 16.67          | 1.1      | 17.76                |
| May           | 89.43          | 10.57          | 0        | 10.57                |
| June          | 83.33          | 15.56          | 1.1      | 16.67                |
| July          | 86.9           | 13.9           | 0        | 13.9                 |

- The poor food consumption score implies household are not consuming staples and vegetables every day and rarely consuming protein rich food, borderline imply household consuming staple, vegetable every day accompanied by oil and pulse a few times in a week while the acceptable imply households consuming staples, vegetables every day, and frequently accompanied by pulses.

### 5.1.3 Availability of Water for Household

- Average Household water distance increased from 1.4 Km in the month of June to 1.6 Km in the month of July. This was attributed to reduction in rainfall amount. The Marginal Mixed Farming livelihood Zone recorded an average distance of 2.4 Km, the Mixed Farming Livelihood Zone 1.9Km while Rain Fed zone had a distance of 0.6Km per household.
- The distance of household access to water was lower than the long-term average of 2.9 Km for the month of July.



**Figure 15 : Household Water Distance Graph**

## 5.2 UTILISATION INDICATORS

### 5.2.1 Health and Nutrition Status

#### 5.2.2 MUAC

- The proportion of children between 6 to 59 months at risk of malnutrition whose MUAC measurement was below 135 mm decreased from 2.7 percent in June to 2.1 percent in the month of July but it was within the normal range.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 8.0 percent.

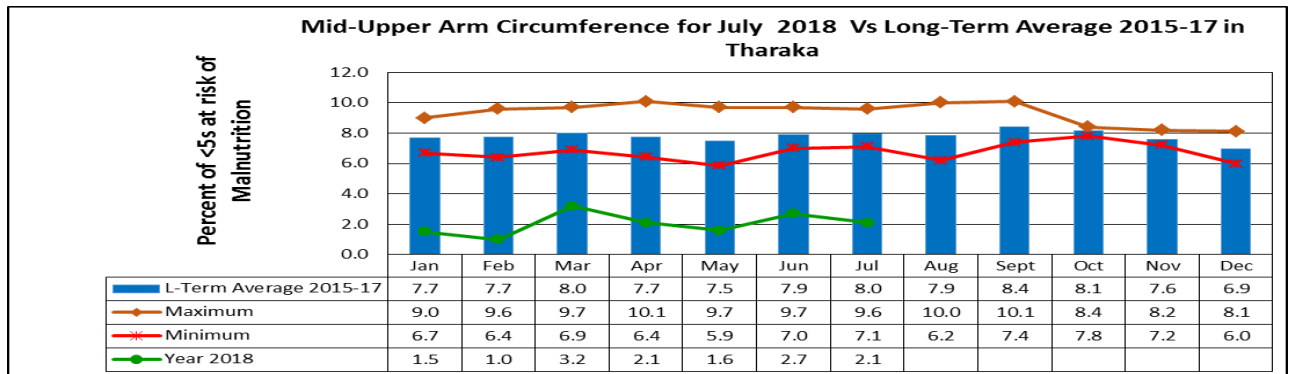


Figure 16: MUAC Graphs

#### 5.2.3 Health

- The prevalence of most common diseases for the general population in Tharaka Nithi County include diseases of the respiratory system, malaria, skin disease, urinary tract infections and rheumatism while those mainly affecting children under five years include: diseases of the respiratory system, pneumonia, malaria, intestinal worms and skin diseases.

#### 5.2.4 Coping Strategy Index

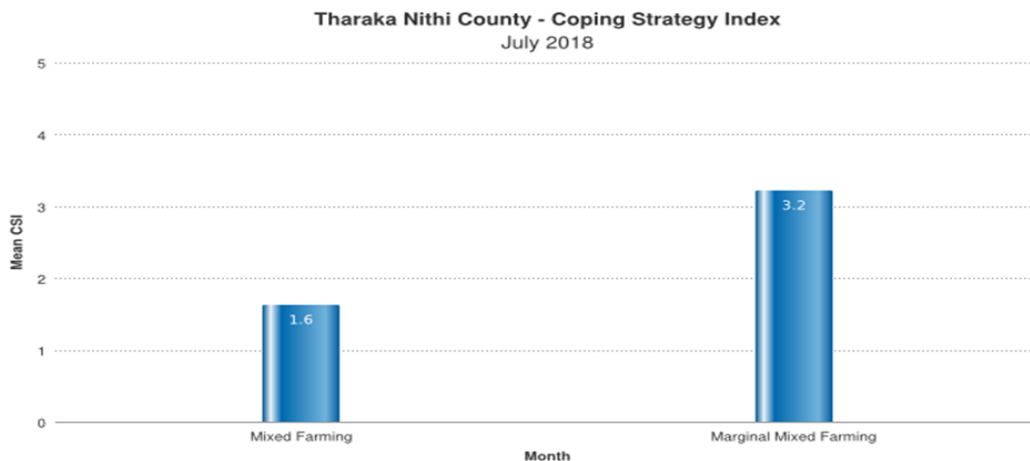


Figure 17: CSI Chart

- The Coping Strategy Index (CSI) was 1.6 in the month of July which was almost the same as that of June indicating low household stress due to lack of food or money to buy food during the month. CSI was also within the normal range.
- The highest CSI was recorded in the Marginal Mixed Farming zone at 3.2, followed by 1.6 for Mixed Farming Livelihood Zone while no CSI was recorded in the Rain Fed Livelihood Zone.

- The most commonly employed coping strategy mechanisms during the month of July were: - Obtaining of goods on credit, Reliance on less preferred and less expensive food.
- Some households employed livelihood based coping strategies such as sale of some household assets, spending of savings as well as borrowing of short term loans.

## 6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

### 6.1 Food Interventions

- The following food aid was distributed to schools by the Government through the office of the county Commissioner Tharaka North in the month of July.

#### Maize;

- 12 bags each to 5 primary schools amounting to 60 bags
- 10 bags each to 12 Secondary schools amounting to 120 bags
- 10 bags each to 7 Special schools amounting to 70 bags
- 50 bags were left as contingency amounting to 50 bags

#### Beans;

- 7 bags each to 5 primary schools amounting to 35 bags
- 5bags each to 12 Secondary schools amounting to 60 bags
- 5bags each to 7 Special schools amounting to 35 bags
- 20 bags were left as contingency amounting to 20 bags

### 6.2 Non-Food Interventions

Table 4: Non-food interventions

| Sub                     | Intervention  | Location  | No. of beneficiaries       | Implementers            | Cost       | Time Frame         |
|-------------------------|---|---|----------------------------|-------------------------|------------|--------------------|
| <b>Agriculture</b>      |   |   |                            |                         |            |                    |
|                         |   |   |                            |                         |            |                    |
| Tharaka North and South | Construction of a storage Structure   | Mukothima   | 10,000                     | County Government       | 45M        | By the end of 2018 |
|                         | Cereals Enhancement program   | all   | 9,000                      | MOA/KCEP                | 40M        | December 2019      |
|                         | Training on post harves management  | Mukothima & Gatunga   | 10,000                     | MoA, County Government  |            |                    |
|                         | Cushioning of farmers from exploitation by Traders through Purchase of Green grams. | all   | Farmers                    | County Government       |            | June-July 2018     |
|                         | Ward level Drought Contingency Planning   | 5 Wards: Chakariga, Marimanti, Nkodi, Mukothima and Gatunga | Residents and Stakeholders | NDMA, County Government | 1Million   | June 2018          |
|                         | Review of County Drought Contingency Planning                                       | all   |                            | NDMA, County Government | 0.5Million | June-July 2018     |

|                             |   |   |  |   |             |                               |
|-----------------------------|---|---|--|---|-------------|-------------------------------|
|                             | Promotion of conservation agriculture   | all   | 3,400 Famers   | MOA/FAO   | 20M         | December 2019                 |
|                             | ISPP  | all   | 4000   | FAO   | 20M         | December 2019                 |
| <b>Livestock</b>            |   |   |  |   |             |                               |
| Tharaka South and North     | [Rural livelihood]Improving local indigenous chicken  | Mukothima and Gatunga   | 250  | Upper-Tana ,Caritas of Meru and Livestock Production Office | 2.5 m       | From August 2017 continuous   |
|                             | Harvesting and storage of strategy livestock Feed.  | Tharaka south   | Livestock Farmers  | MoL   |             | June-July                     |
|                             | (Rural livelihood) Dairy farming – goats and cow  | Marimanti, Nkondi Chiakariga, Gatunga and Mukothima   | 210  | Upper-Tana ,Caritas of Meru and Livestock Production Office | Kshs. 2.5M  | From August 2017 (continuous) |
| <b>Water</b>                |   |   |  |   |             |                               |
| Tharaka North               | Keiranthi Earth Dam Project   | Kathanga Chini  | 1,660 HH<br>6,000 Goats<br>2,000 cattle<br>200 donkeys                   | NDMA  | 9.6m        | From Nov 2017 to March 2018   |
| Tharaka South and North     | Upgrading of 15 water facilities, construction of elevated tower for storage tanks and solar panels and a distribution line | Gatunga-3no. Marimanti-2 no., Chiakariga-3 no, Igambang'ombe -3, Mukothima-2no. Nkondi -2no | Gatunga-700, Mari- 450 Chiaka- 650 Igamba- 800 Mukothima-450 Nkondi -400 | County Government   | 5 Million   | 3 months                      |
| Tharaka South               | Irrigation scheme   | 6 sites in Nkondi Ward, I site in Chiakariga and 2 sites Marimanti                          | 7,200 Beneficiaries  | National Government and County Government and UTANRMP       | 450 Million | 24 Months                     |
| <b>Health and Nutrition</b> |   |   |  |   |             |                               |
| Tharaka South and North     | High impact nutrition programme   | All health facilities   | All children under 5 years, pregnant and lactation mothers.              | MOH   | 11m         | Continuous                    |
|                             | Management of Acute Malnutrition (IMAM)   | Health facilities   |  | MOH and NHP   | 2.3m        | Continuous                    |
|                             | Integrated Health Outreach,Deworming, Growth monitoring for the under 5 years   | All Health facilities   | All children under 5 years,  | MoH,NHP, Red Cross  |             | Continuous                    |
|                             |   |   |  |   |             |                               |

## **7.0 Food Security Prognosis**

- Food Stocks at households' level is normal and has continued to improve from that of the previous months due to the ongoing harvest. Long rain harvest is expected to be higher than the long term average. The stocks are likely to increase beginning June till the end of the harvesting season in the month of July.
- Markets operations are likely to improve till October hence improving the household economy. Commodity prices are likely to drop while livestock prices are most likely to improve due improved livestock body condition caused by sufficient pasture and supplementary feed from crop residue for livestock.
- Status of water sources is normal with household and Livestock watering distance being within normal ranges and the situation is likely to reduce until onset of the long rain mid-October.
- Pasture condition is good but the condition is likely to reduce however, increased feeding of livestock with crop residue is likely result to shorter grazing distance, increased milk production; improved livestock body condition and fair livestock prices for the next one month.
- Terms of Trade was still favourable to Livestock farmers compared to crop farmers due to higher livestock prices compared to the long term average and the situation is likely to continue for the next two months till mid-October.
- Households in the County are likely to remain Food sufficient for the next 3months.

## **8.0 Recommendations**

- Capacity building of farmers on post-harvest management to avoid contamination of cereal and post-harvest loses.
- Upscale vaccination of poultry to protect them against Newcastle disease.
- Provision of water treatment chemicals at household level and at piped water reservoirs to minimise the risk of water related diseases.
- Promote the establishment and management of livestock fodder to be used during dry season.
- Fencing and inlet preparation of four household water pans which were completed in December at Nthwa in Kamwathu by International Aid Services.
- Sensitisation and promotion of water treatment methods to avoid infection and spread of water related diseases.
- Upscale of Health and Nutrition outreach services on child monitoring,