

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



A Vision 2030 Flagship Project



**AUGUST 2018 EW Phase**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- The month of August was characterised by intervals of dry, cloudy, sunny and cold weather condition.
- No actual rainfall was recorded in all the rain gauge stations in August which made the trend of water sources to reduce although the water level still remained normal compared to the long term average. Vegetation cover across the County was normal but the trend reduced slightly compared to that of 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 harvest which commenced in the month of June.

**Access Indicators**

- Livestock prices reduced due to overdependence of livestock sales for income due to low commodity prices. Grazing and household water distance increased from that of the previous month due to absence of rainfall, leading to less pasture compared to that of the previous month. Milk production increased while consumption reduced from that of July due to use of substitute feed like porridge.

**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 August remained Normal with a stable trend.

**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	63.76	>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	1.8 Litre	>1.02Litre
Livestock deaths (from drought)	No death	No death
<b>Access Indicators</b>	<b>Value</b>	<b>Normal</b>
Terms of Trade	160	<80
Milk Consumption	1.5 Litres	>0.94Litre
Water for Households	Normal	Normal
<b>Utilization indicators</b>	<b>Value</b>	<b>Range/Value</b>
MUAC	1.6	<7.9
Coping Strategy Index (CSI)	2	<52
Food Consumption (Marginal Mixed Farming)	95 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 Planting/weeding								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1.0 CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- No actual rainfall was recorded in the rain gauge stations for the month of August, the weather condition was however, characterised by a culmination of sunny, cloudy and cold condition which was normal at this time of the year in comparison 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.

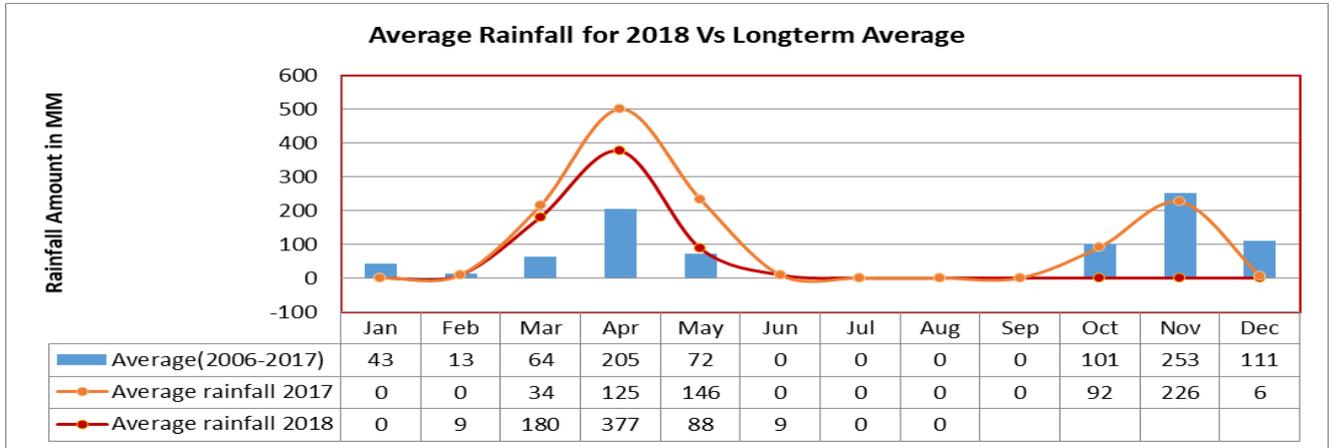


Figure 1: Average Rainfall for August 2018

### 1.1.3 Dekadal Distribution of Rainfall

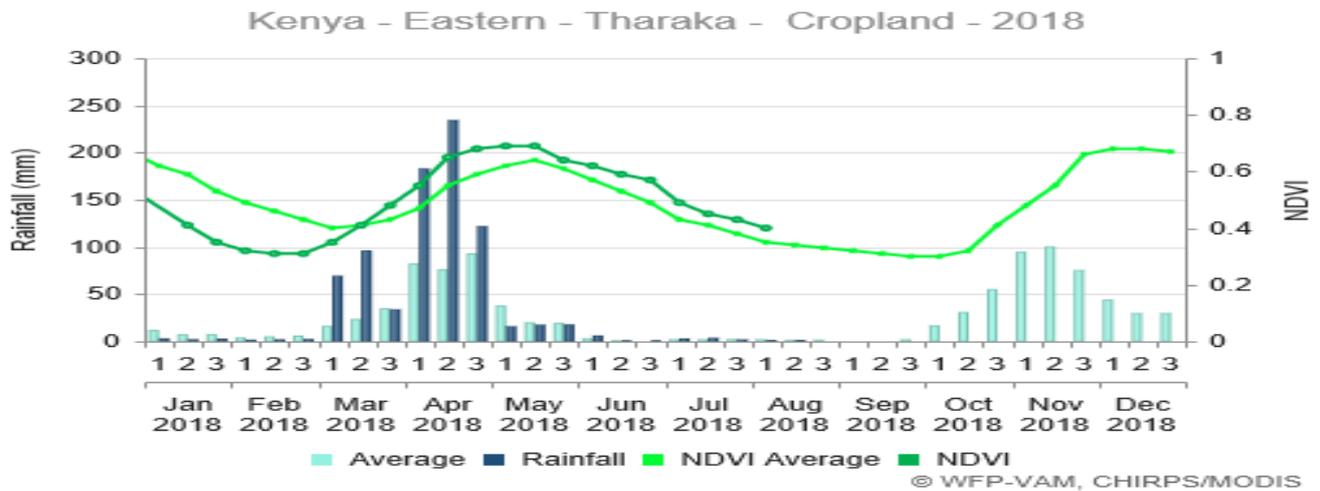


Figure 2: August 2018 Rainfall Distribution by Dekad

## 2.0 IMPACTS ON VEGETATION AND WATER

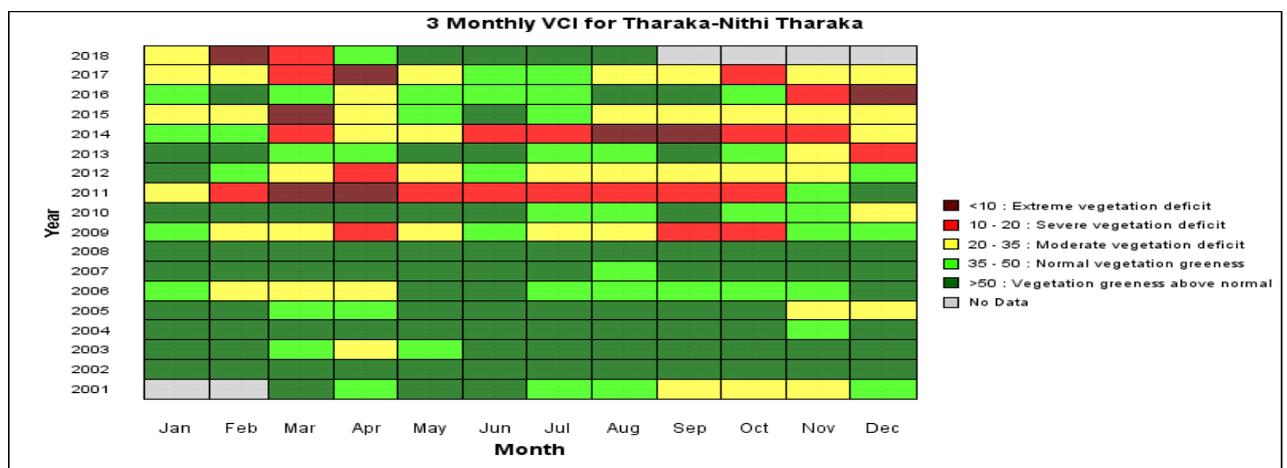
### 2.1 Vegetation Condition Index (VCI)

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

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

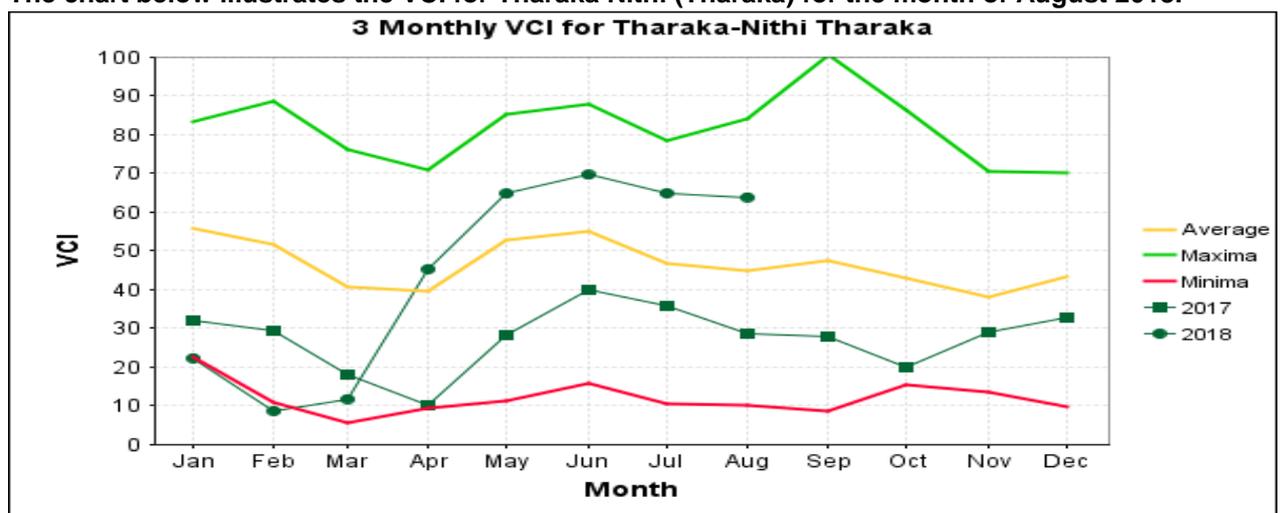
ADMINISTRATIVE UNITS		VCI as at 31 <sup>st</sup> July 2018	VCI as at 31 <sup>st</sup> August 2018
County	County/Sub County		
Tharaka Nithi	County	66.49	69.8
	Tharaka	64.78	63.76
	Chuka Igambang'ombe	69.99	79.79
	Maara	67.71	76.94

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



**Figure 3: VCI Matrix for Tharaka Nithi (Tharaka)**

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



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

## 2.2 Natural Vegetation and Pasture Condition

### Pasture Condition

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

## 2.3 Distance to Grazing Areas

- The average distance to grazing areas was unchanged in August at 1.83 Km as of the previous month. Despite being a slight reduction in pasture and browse in the county, crop residue supplemented livestock feed leading to constant grazing distance.
- The grazing distance for August 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 2.5Km, Mixed Farming livelihood zones at 1.8Km while in Rain Fed Cropping, it was 1 Km.
- The distance to grazing areas was 47.06 percent lower than the long term average of 3.4 km for this time of the year.

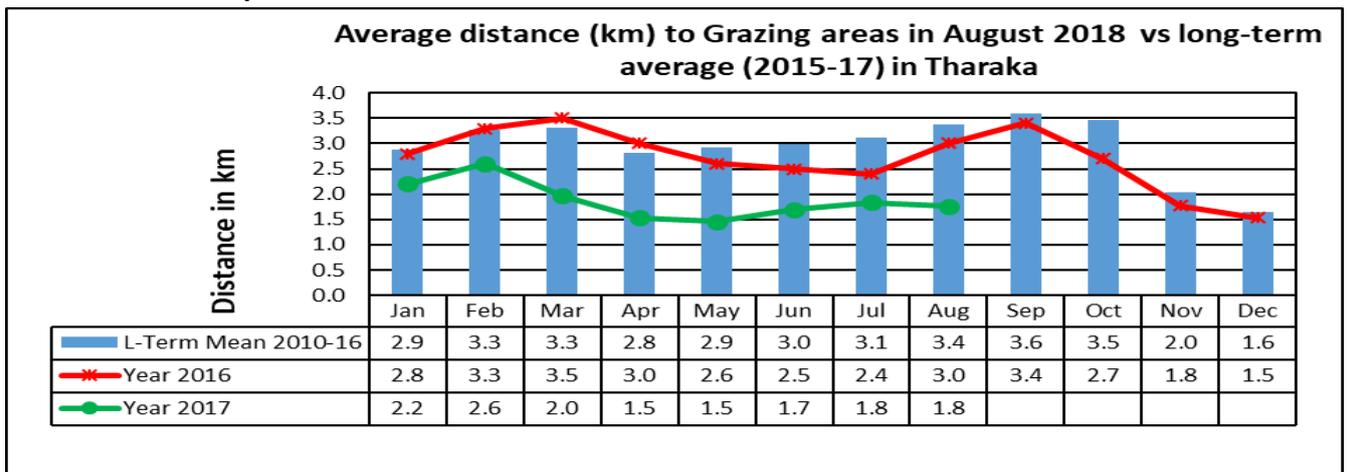
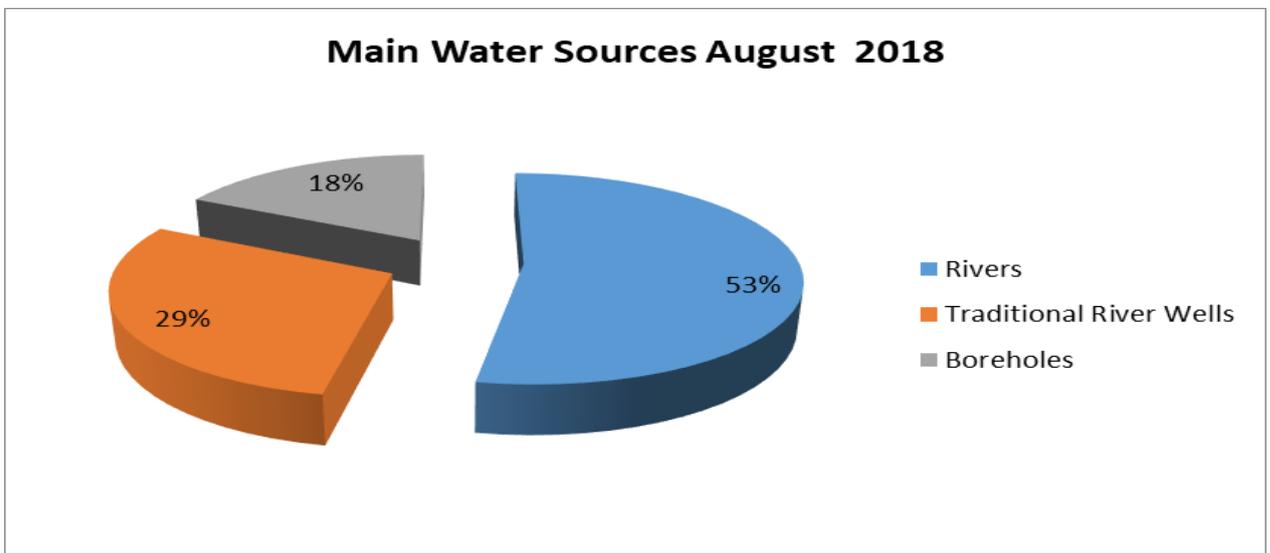


Figure 5: Grazing Distance for Livestock

## 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, Traditional River wells and Boreholes as shown by figure 7 below.



**Figure 6: Main Water sources for August 2018**

### State of Water Sources

- The state of water sources for the month of August was normal but the trend was reducing compared to that of the previous month.
- This was due to absence of rainfall 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, browse and plenty of crop residues which supplemented pasture and browse both for cattle and shoats. For most livestock, current body condition can be rated at index 7 as per the threshold scale below.

**Table 2: Livestock Body Condition categories**

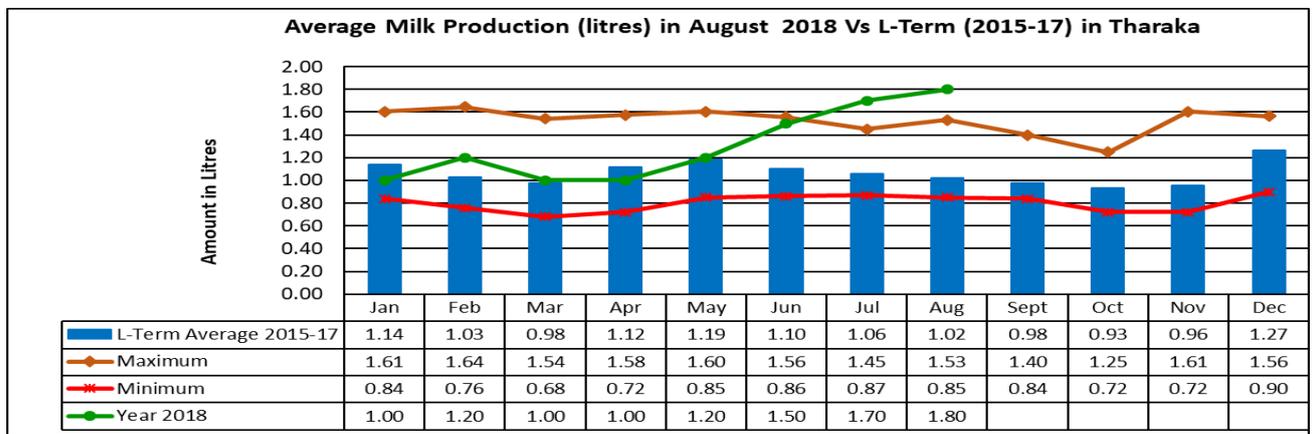
<b>BODY CONDITIONS</b>	<b>SCORE</b>	<b>WARNING STAGE</b>
<b>Emaciated, little muscle left</b>	<b>1</b>	<b>Emergency</b>
<b>Very thin no fat, bones visible</b>	<b>2</b>	
<b>Thin fore ribs visible</b>	<b>3</b>	<b>Alert Worsening/Alarm</b>
<b>Borderline fore-ribs not visible. 12<sup>th</sup> &amp; 13<sup>th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

##### 3.1.2 Livestock Diseases and Migration

- There were no cases of Livestock in migration reported in the month of August. 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 1.7 litre per household per day in July to an average of 1.8 litre per household per day in August.
- 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, pasture condition and presence of livestock feed supplements. Milk production per household was 76.47 percent higher than the 3-year average of 1.02 litre.



**Figure 7: 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, pigeon peas, sorghum, millet and maize.

#### 3.2.2. Pests and Diseases

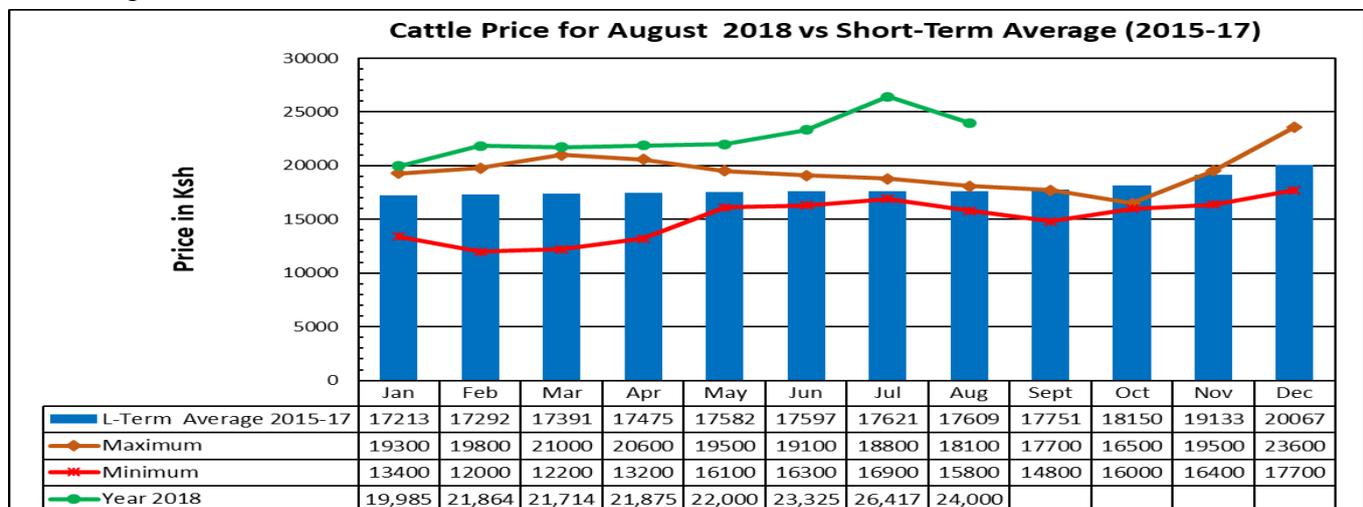
- No cases of crop pests or diseases were reported in the county during the month of August.
- However, there is need for mitigation measures to be put in place to avoid crop losses to pests in future especially due to fall army worms which is a perennial problem.

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Prices

#### 4.1.1 Cattle Prices

- The average cattle price decreased from Kshs. 26,417 recorded in the previous month to Kshs. 24,000 in the month of August. This was attributed to overdependence of livestock for income due to low commodity prices leading to decrease in price.
- The Mixed Farming livelihood Zone had the highest average price of Ksh 32,333; Rain Fed Cropping Zone had a price of Kshs 24,000 while the Marginal Mixed Farming Livelihood Zone had a price of Ksh 19,833.5. The current price was 36.29 percent higher than the three-year average of Kshs 17,609.



**Figure 8: Cattle Price Trend**

### 4.1.2 Goat Prices

- The average goat price decreased from Kshs. 4,588 in July to Kshs 4,296 in August. This drop in price was attributed to overdependence of livestock for income due to low commodity prices leading to decrease in goat's price.
- The Marginal Mixed Farming Livelihood Zone had the highest price of Ksh. 5,333.5; Rain Fed Cropping Livelihood Zone recorded the price of Kshs 3,500 while the Mixed Farming Zone recorded an average goat's price of Ksh. 3,017.
- The average goat price was 46.47 percent higher than the three-year average of Ksh 2,933.

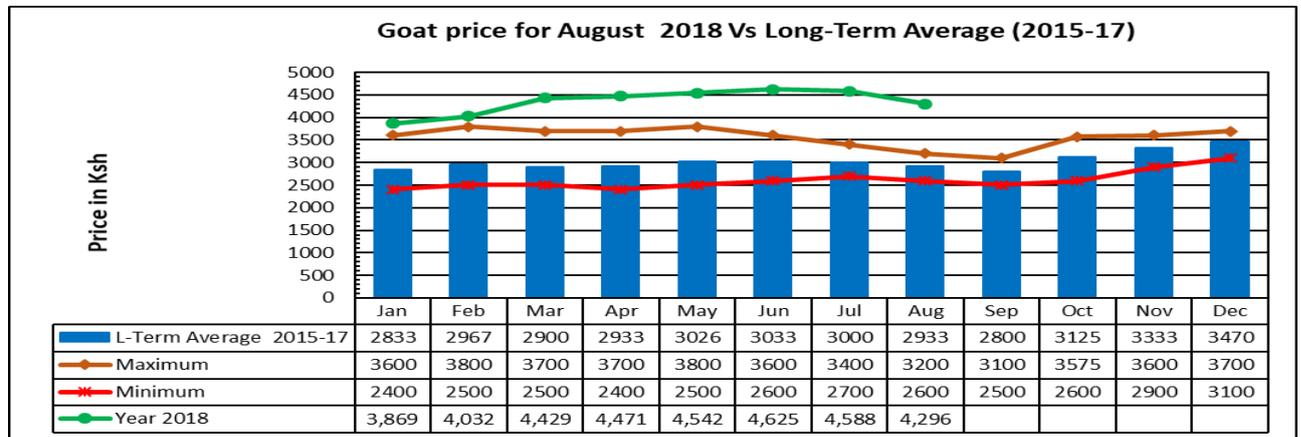


Figure 9: Goat Price Trend

## 4.2 Price of Cereals and Other Food Products

### 4.2.1 Maize Prices

- The average market price of a kilogram of maize decreased from Kshs 31 per Kg in July to Kshs 27 in August. This was attributed to increased supplies of maize from outside and in some parts of the county. The use of substitute crops for food such as pigeon peas, cow peas, millet, sorghum and green grams from the ongoing August harvest also contributed to low maize price.
- The highest maize price was recorded in the Rain Fed Cropping Zone and Mixed Farming Livelihood Zone at Kshs. 30 per Kg while the Marginal Mixed Farming Zone recorded the lowest price of Kshs 23.5 per Kilogram.
- The average maize price was 30.77 percent lower than the three-year average of Ksh 39.

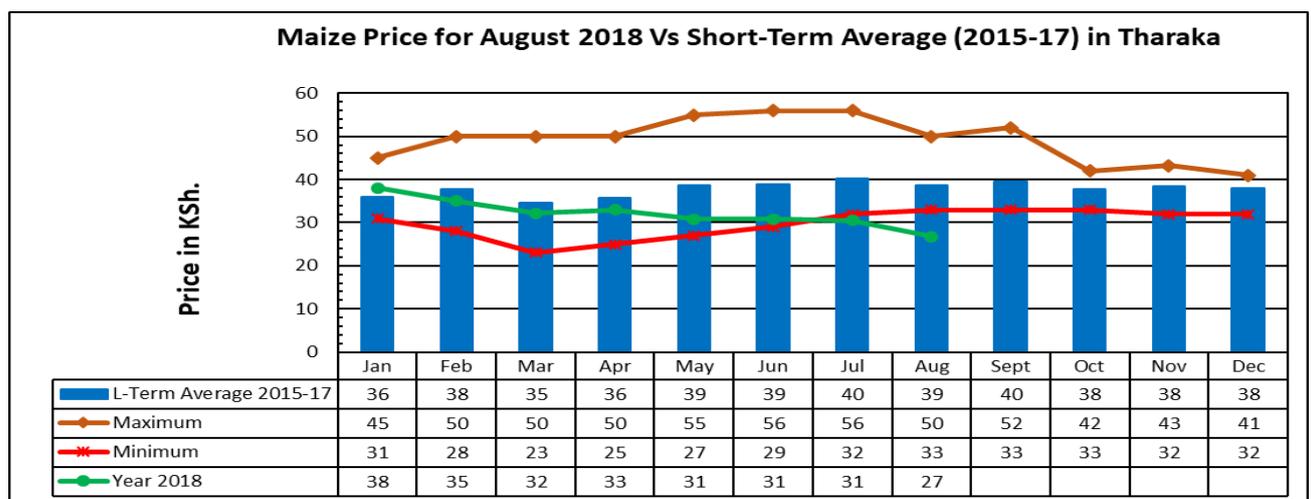


Figure 10: Maize Price Trend

### 4.2.2 Millet Price at Market Level

- The average market price of millet decreased from Kshs 35 per Kg in July to Kshs 29 per Kg in August due to the ongoing long rain harvest which increased their supplies.
- The Mixed Farming livelihood Zone recorded the highest market prices of Kshs 35/Kg, Marginal Mixed Farming recorded a price of Kshs 25/Kg while the Rain Fed Livelihood Zone recorded the least price of Kshs 30/Kg each.
- The millet price was 36.96 percent lower than the long-term average price of Kshs.46 per Kg for the month of August.

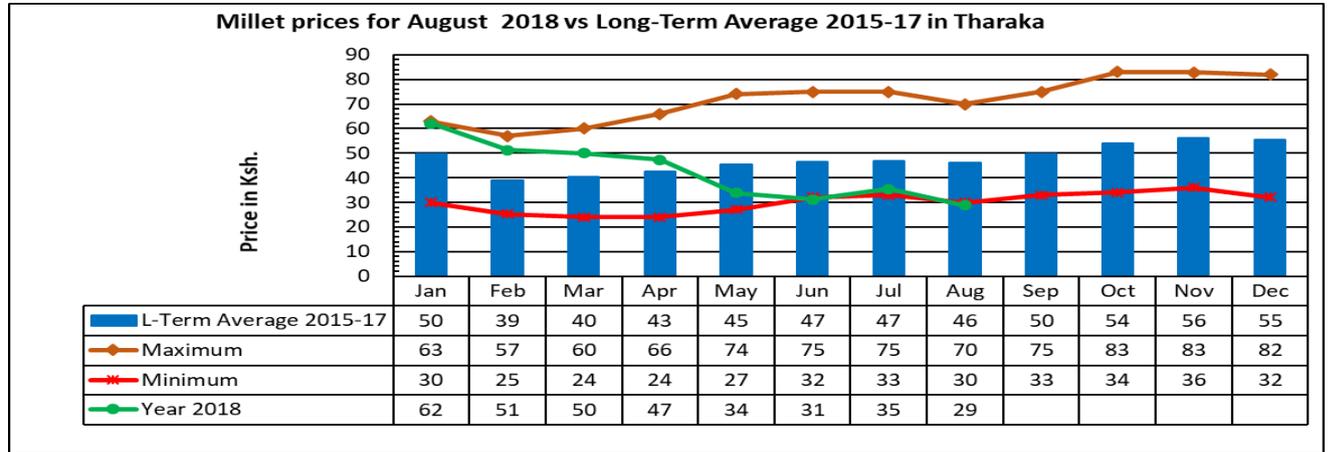


Figure 11 : Millet Price Trend

### 4.2.3 Terms of Trade (ToT)

- The Terms of Trade increased from 148 in July to 160 in August due to high goat price and low maize price.
- The highest ratio was recorded in the Marginal Mixed Farming Zone at 226.96; followed by Rain Fed Cropping Livelihood Zone at 116.67 while Mixed Farming Livelihood Zone had a ToT of 100.57.
- The ToT for the period under review was 116.22 percent higher than the three year average value of 74 during the same period.

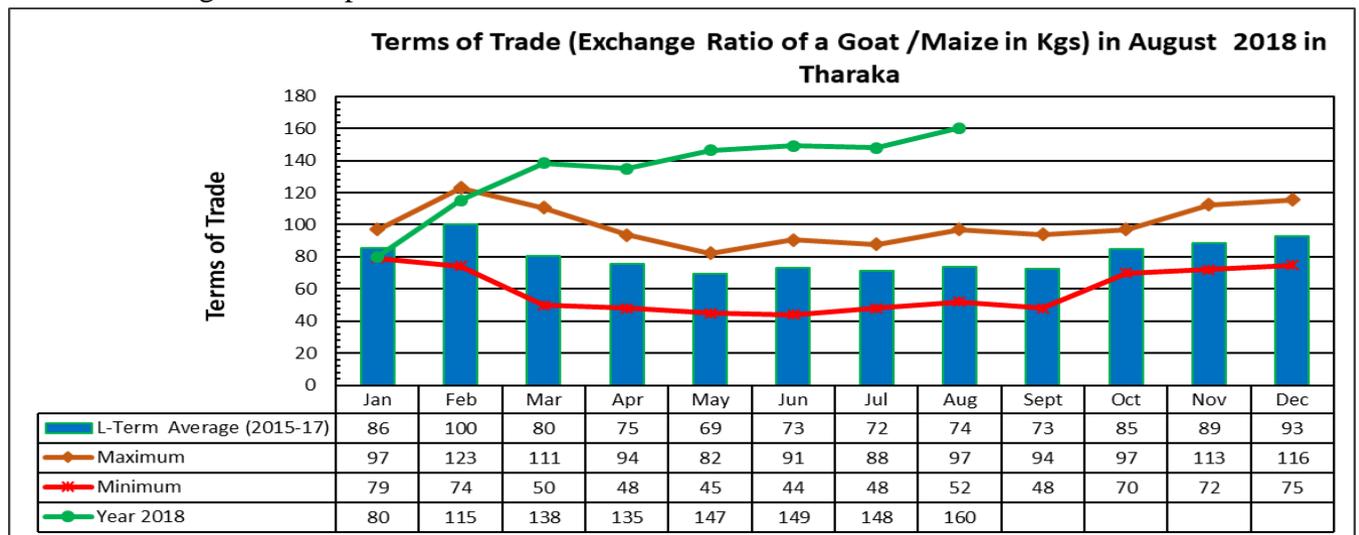


Figure 12: Term of Trade

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1.1 Milk Consumption

- The average milk consumption per household was 1.5 litre in the month of August from 1.7litre per household in July which was a decrease from that of the month of July. This was attributed to use of substitute food such as millet porridge from the long rain harvest. However, milk consumption was higher across all the livelihood zones compared to the long term average.
- The average milk consumed was 59.57 percent higher than the 3-year average of 0.94 litre per household per day.

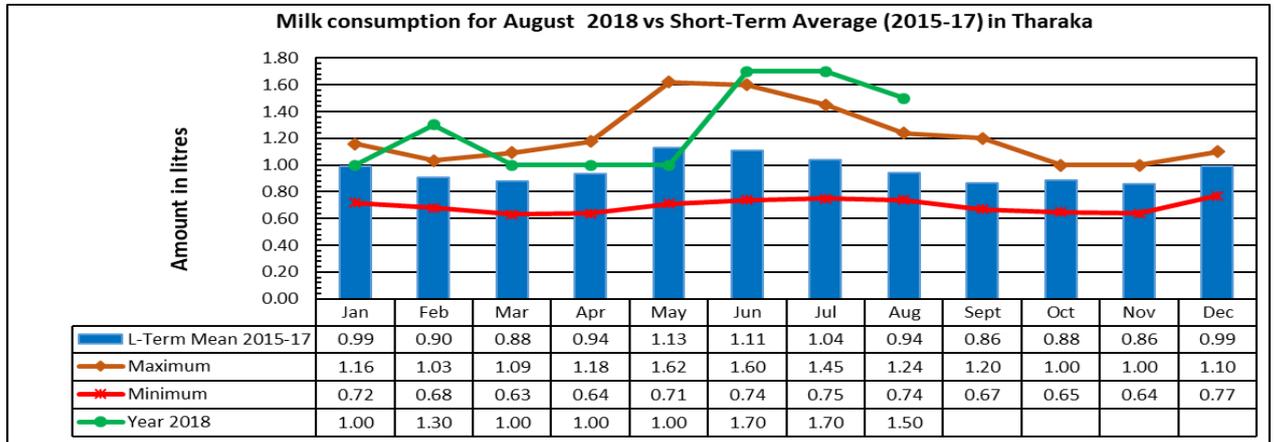


Figure 13 : Milk Consumption Trend

### 5.1.2 Food Consumption Score

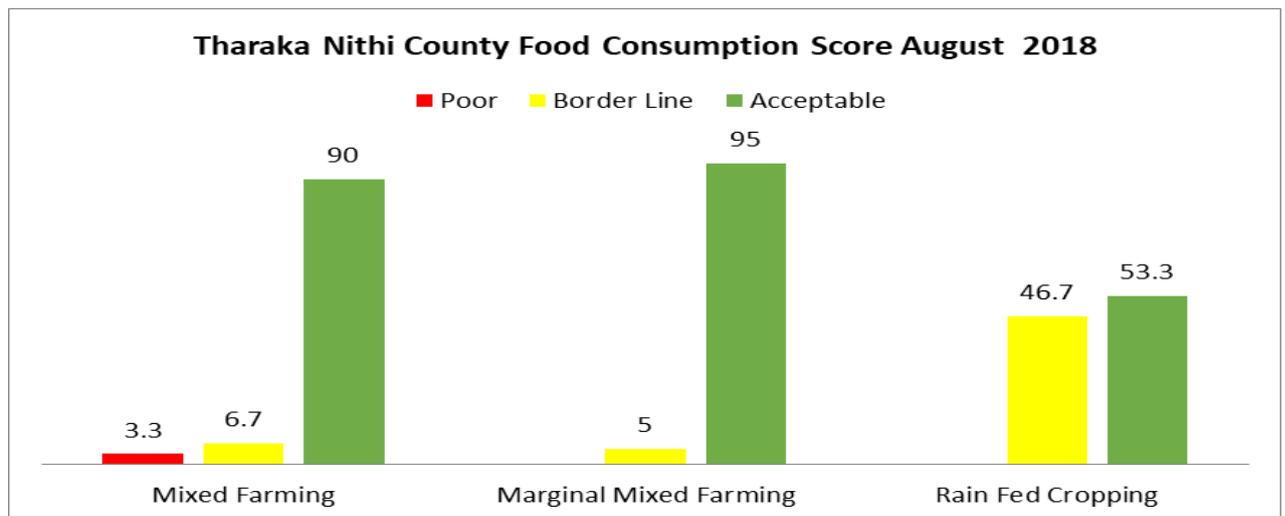


Figure 14: Food Consumption Score Chart

- Proportion of food insecure households with poor and borderline Food Consumption Score (FCS) reduced slightly from 13.9% in July to 20.57% in August. Despite high stock at household level increase in food insecure households could be attributed to low income due to low cash crop prices hence undermining affordability of food and other basic human needs at household level.
- A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 46.7%, followed by Mixed Farming Livelihood Zone at 5% while the majority of household in the Marginal Mixed Farming Livelihood Zone were food secure at 95%.

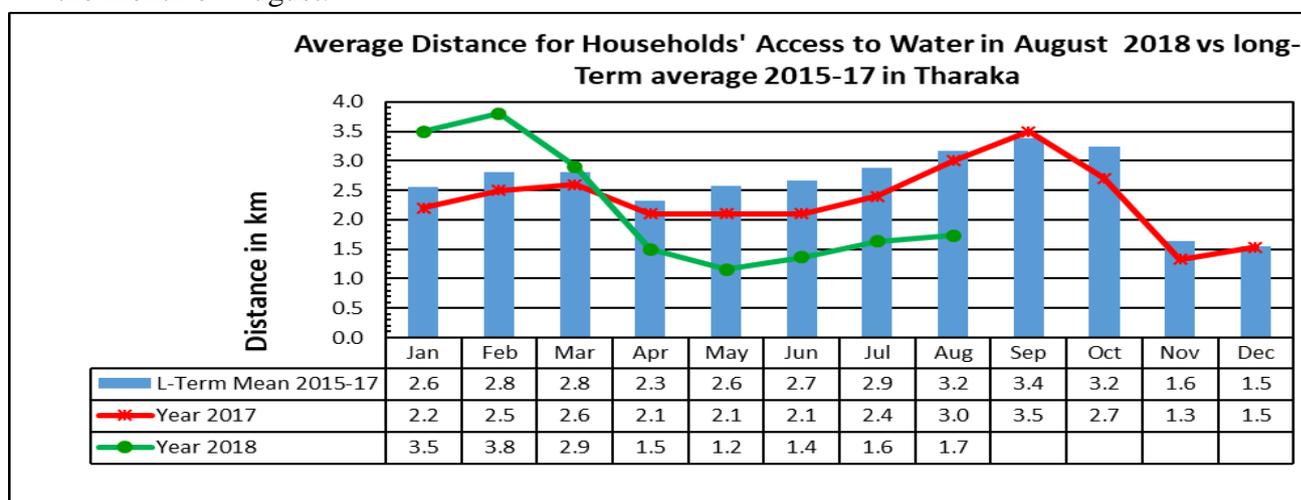
**Table 3: Average Food Consumption Score**

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	13.90
August	79.43	19.47	1.1	20.57

- The poor food consumption score implies household are not consuming staples and vegetables every day and rarely consuming protein rich food, borderline imply household are 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 1.6 Km in the month of July to 1.7 Km in the month of August. This was attributed to absence rainfall in most parts of the county. The Marginal Mixed Farming livelihood Zone recorded an average distance of 2.6 Km, the Mixed Farming Livelihood Zone 2Km 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 3.2 Km for the month of August.



**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 2.1 percent in July to 1.6 percent in the month of August due to plenty of food especially for children at household level.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 7.9 percent.

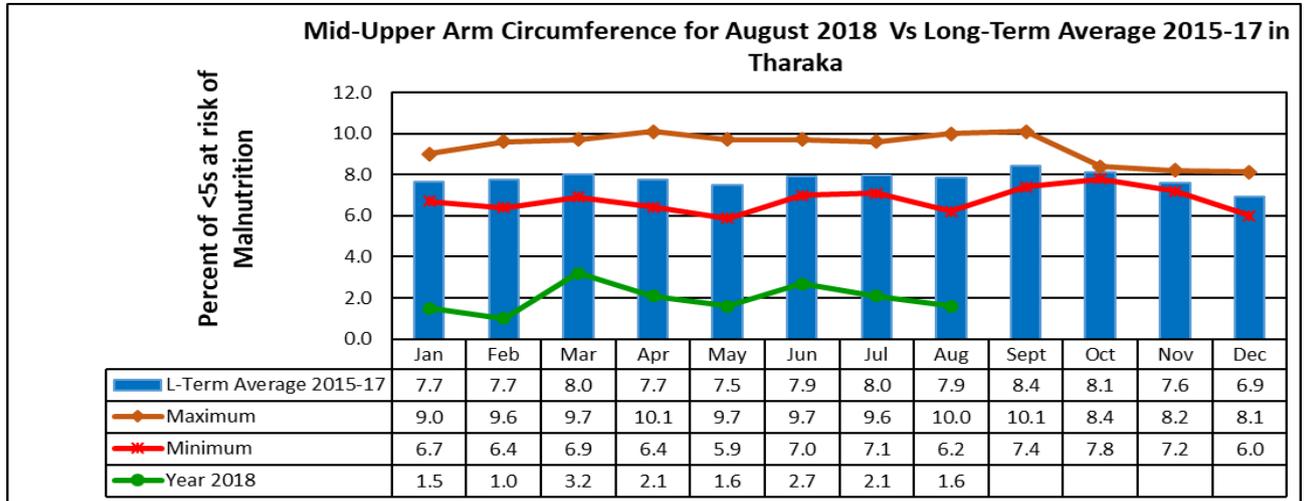
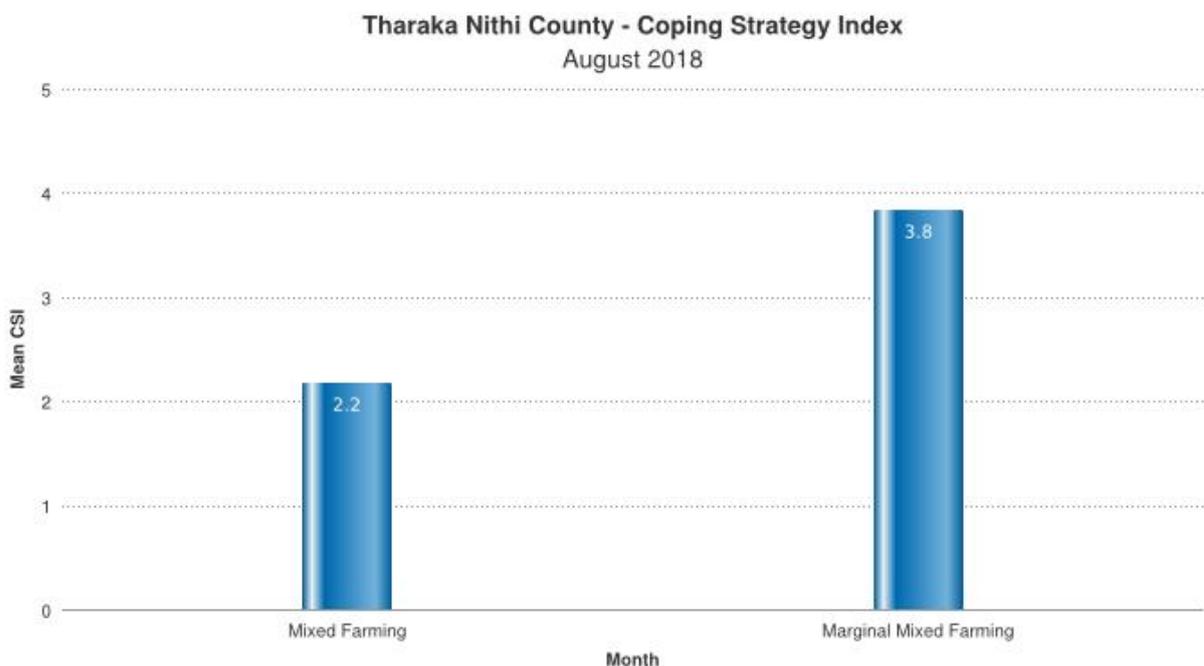


Figure 16: MUAC Graphs

#### 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 increased from 1.6 in the month of July to 2 in August which was almost the same as that of July indicating low household stress due to lack of food or money to buy food during the month of August. CSI was also within the normal range.
- The highest CSI was recorded in the Marginal Mixed Farming zone at 3.8, followed by 2.2 in the 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 August 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**

<b>Sub</b>	<b>Intervention</b>	<b>Location</b>	<b>No. of beneficiaries</b>	<b>Implementers</b>	<b>Time Frame</b>
<b>Agriculture</b>					
Tharaka North and South	Construction of a storage Structure	Mukothima	10,000	County Government	By the end of 2018
	Cereals Enhancement program	all	9,000	MOA/KCEP	December 2019
	Training on post-harvest 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, Nkondi, Mukothima and Gatunga	Residents and Stakeholders	NDMA, County Government	June 2018
	Review of County Drought Contingency Planning	all		NDMA, County Government	June-July 2018
	Promotion of conservation agriculture	all	3,400 Farmers	MOA/FAO	December 2019
	ISPP	all	4000	FAO	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	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	From August 2017 (continuous)
<b>Water</b>					
Tharaka North	Keiranthi Earth Dam Project	Kathanga Chini	1,660 HH 6,000 Goats 2,000 cattle 200 donkeys	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	3 months
Tharaka South	Irrigation scheme	6 sites in Nkondi Ward, 1 site in Chiakariga and 2 sites Marimanti	7,200 Beneficiaries	National Government and County Government and UTANRMP	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	Continuous
	Management of Acute Malnutrition (IMAM)	Health facilities		MOH and NHP	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 August.
- 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 losses.
- 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,