

**National Drought Management Authority**  
**THARAKA NITHI COUNTY (THARAKA)**  
**DROUGHT EARLY WARNING BULLETIN FOR MARCH 2020**



A Vision 2030 Flagship Project



**March 2020 EW Phase**

**Drought Status: NORMAL**



**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>	160%	80-120
VCI-3month	84.91	>35
Water Sources	Above 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	1.5Litre	Above 0.89 of a Litre
Livestock deaths (from drought)	No death	No death
<b>Access Indicators</b>	<b>Value</b>	<b>Normal</b>
Terms of Trade	107.3	Above 107
Milk Consumption	1 Litres	Above 0.88 of a Litre
Water for Households	Normal	Normal
<b>Utilization indicators</b>	<b>Value</b>	<b>Range/Value</b>
MUAC	2.4	Below 5
Coping Strategy Index (CSI)	0.9	Below 6.83
Food Consumption (Acceptable FCS)	92.23%	Above 24.43%

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Onset of the long rains was on the 1<sup>st</sup> week of March. Average amount of 130mm was received which was normal. The Weather for March was wet and cold. Status of water sources was good.
- Vegetation cover across the County was above normal an indication of good pasture and browse condition. However, the biggest threat to food security in Tharaka Nithi County was infestation of dessert locust in Gatunga Ward but the situation has being managed by multi-stakeholder interventions and the process is still ongoing.
- The current biggest contributing factor to vulnerability of the county in term of food security in the month of March is Covid 19 which has disrupted market operation hence making prices of livestock to drop.

**Socio Economic Indicators (Impact Indicators)**

**Production Indicators**

- Livestock body condition was good and improving. Food Stock at households' level was good and stable but the situation may deteriorate due to market, production, business and transport uncertainty.

**Access Indicators**

- Livestock prices dropped due to poor market operation while food commodity prices portrayed a downward trend. Household water distance was within the normal range due to good status of both surface and underground water sources. Milk production and consumption was normal which led to low malnutrition cases.

**Utilization Indicators**

- Percentages of children at risk of malnutrition decreased due to improved food availability and accessibility at Household level.
- Following all the above prevailing conditions, the overall drought phase in March was normal and stable.

**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

- Rainfall onset was on the 1<sup>st</sup> week of March, with intensity increasing during the 2<sup>nd</sup> week. Spatial and temporary distribution was good with most farmers planting during the 2<sup>nd</sup> week.
- Seasonal forecast from the Kenya Metrological departments states that near average to above average rainfall is expected in the Eastern region to the 4<sup>th</sup> week of May.
- An average amount of 130mm of rains was received in March. This was normal compared to the long term average of 81mm.
- The figure 1 below shows the rainfall trend for 2020 compared to the long term Average.

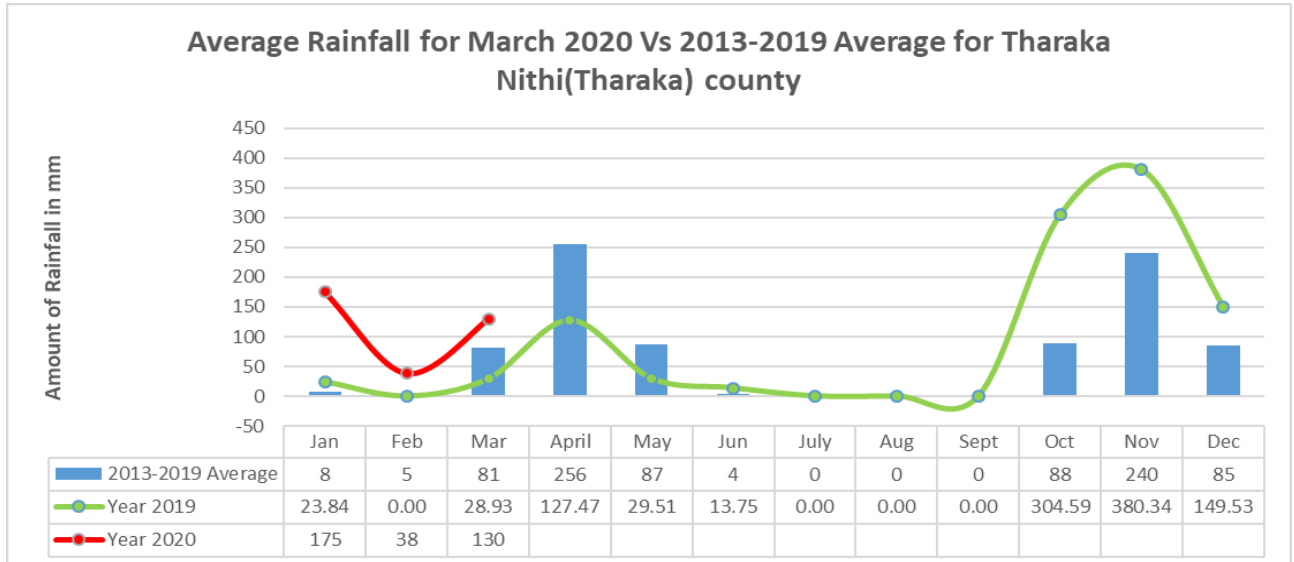


Figure 1 : Rainfall Trend for the year 2020 Vs 2013-2019 average

### 1.1.1 Spatial and Temporal Distribution of Rainfall

- Rainfall received in the month of March was evenly distributed across all the livelihood zones. Chakariga received the highest amount of rainfall of 158.4mm for 10 days, it was followed by Marimanti with 147.5mm for 7 days, Tunyai was third with 139.2mm for 10 days, Kamanyaki received 124.7mm for 4 days, Mukothima 110.9mm for 10 days, Kathangachini 100.4mm for 5 days, Karocho 90.46mm for 6 days while Irunduni received 38.52mm for 5 days.
- The total amount of rainfall received per the rain gauge station is as shown by the figure 2 below.

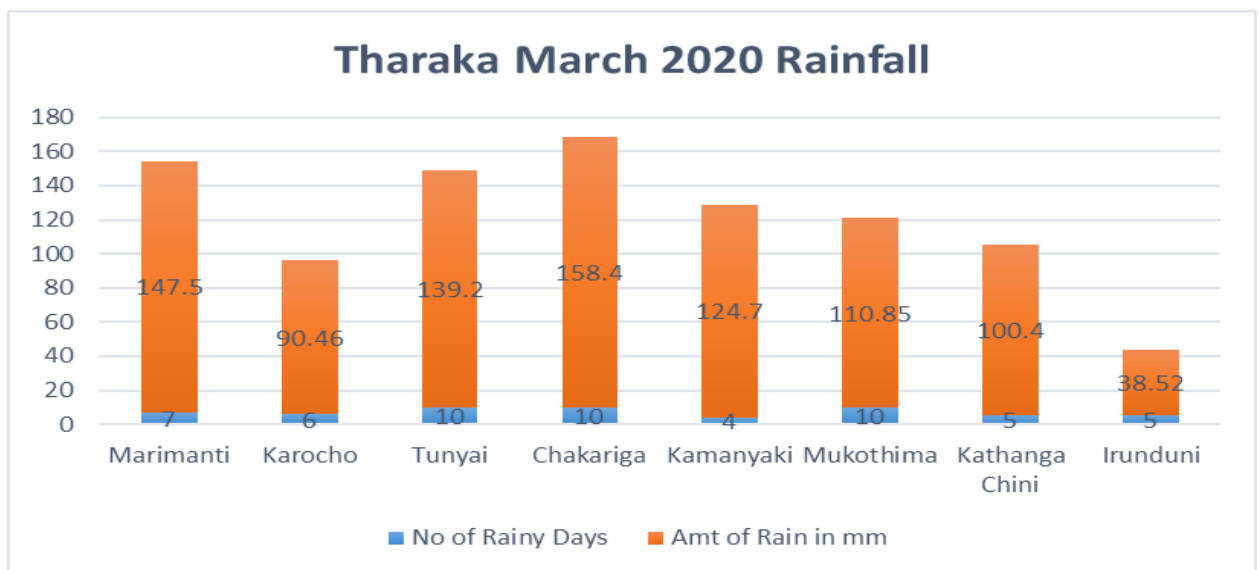


Figure 2 : Rainfall Amount per the Rain gauge station

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 Vegetation Condition Index (VCI)

- The cumulative 3 month vegetation cover for Tharaka Nithi County (Tharaka) for the month of March was 84.91 from 84.12 in February which was indicating above normal vegetation greenness. Pasture and browse improved across all the livelihood zones due to onset of the long rains in March.
- The matrix in figure 1(a) below shows vegetation cover classification based on the drought phases while figure 1(b) shows the trend of vegetation cover in terms of vegetation condition index for Tharaka Nithi (Tharaka) County.

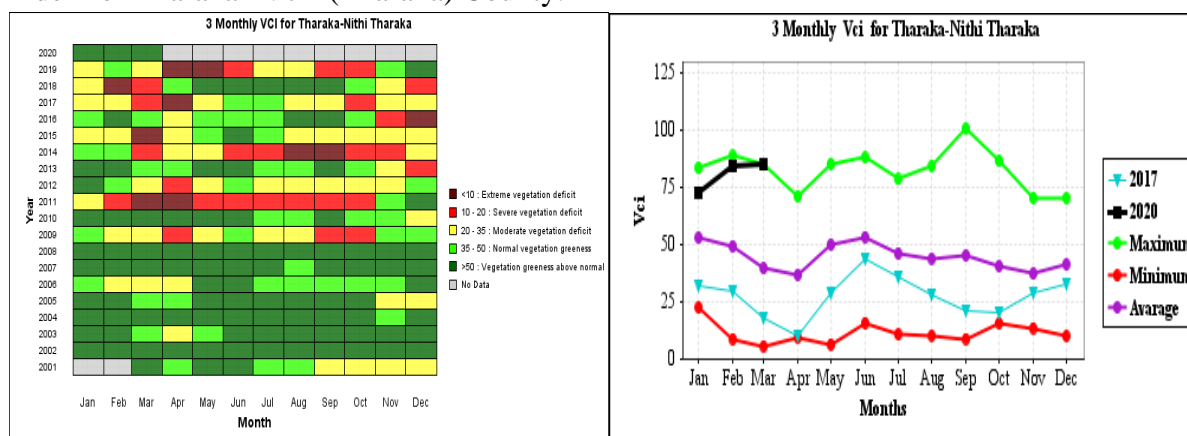


Figure 3(a): Matrix of VCI Classification

Figure 4(b): Chart of VCI Trend

Table 1: March 2020 Vs February 2020 VCI (3M)

ADMINISTRATIVE UNITS		VCI as at 29 <sup>th</sup> February 2020	VCI as at 31 <sup>st</sup> March 2020
County	County/Sub County		
Tharaka Nithi	County	77.01	83.7
	Tharaka	84.12	84.91
	Chuka Igambang'ombe	67.41	83.56
	Maara	66.07	80.11

### 2.2 Natural Vegetation and Pasture Condition

#### Pasture Condition

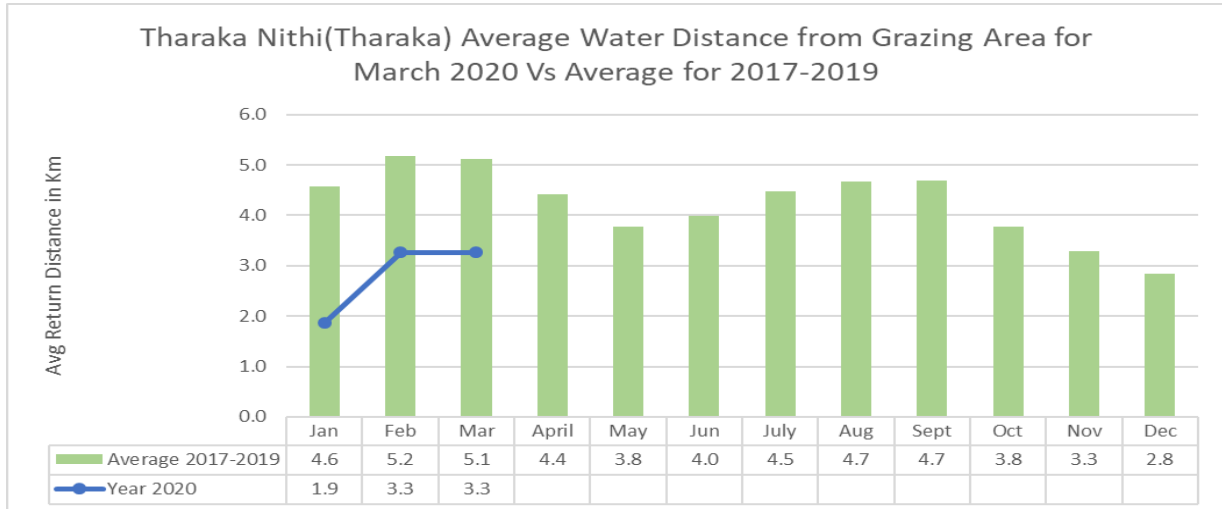
- Pasture quantity and quality was good across all the Livelihood zone in March was good with an improving trend.
- Pasture condition improved from that of the previous month due to the onset of the long rains in March.

#### Browse Condition

- Browse condition in terms of quantity and quality was good across all the livelihood zones in March and it continued to improve compared to that of the previous months.
- This improvement of browse was triggered by the off season rainfall and the onset of the long rains on March.

## Livestock Access

- Average return water distance from grazing area was 3.3Km in March the same as February. This was attributed to early onset of the long rain which maintained livestock access to water within the normal range. The longest return water distance to grazing areas was recorded in the Marginal Mixed Farming Zone had a distance of 5.4 Km, Rain Fed Cropping Zone at 2 Km while the Mixed Farming Zone recorded the least grazing distance of 2.4 Km.
- The average return water distance to grazing areas was 35.29 percent lower than the long term average of 5.1 Km for this time of the year.

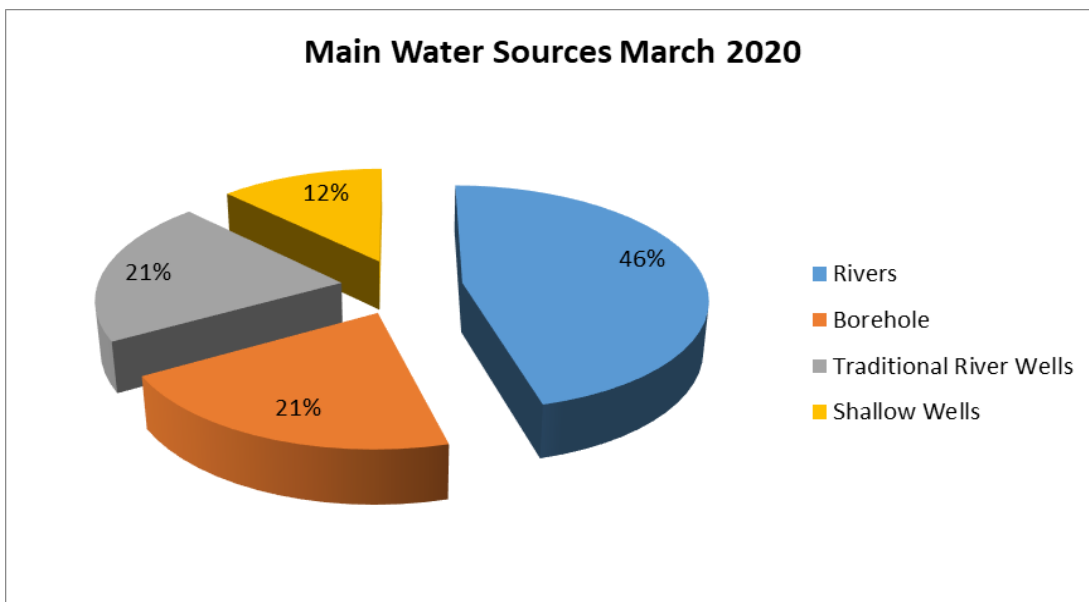


**Figure 5: Grazing Distance for Livestock**

## 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, Boreholes, Traditional River wells and shallow wells as shown by figure 4 below.



**Figure 6: Main Water sources Tharaka Nithi County**

### 2.2.2 State of Water Sources

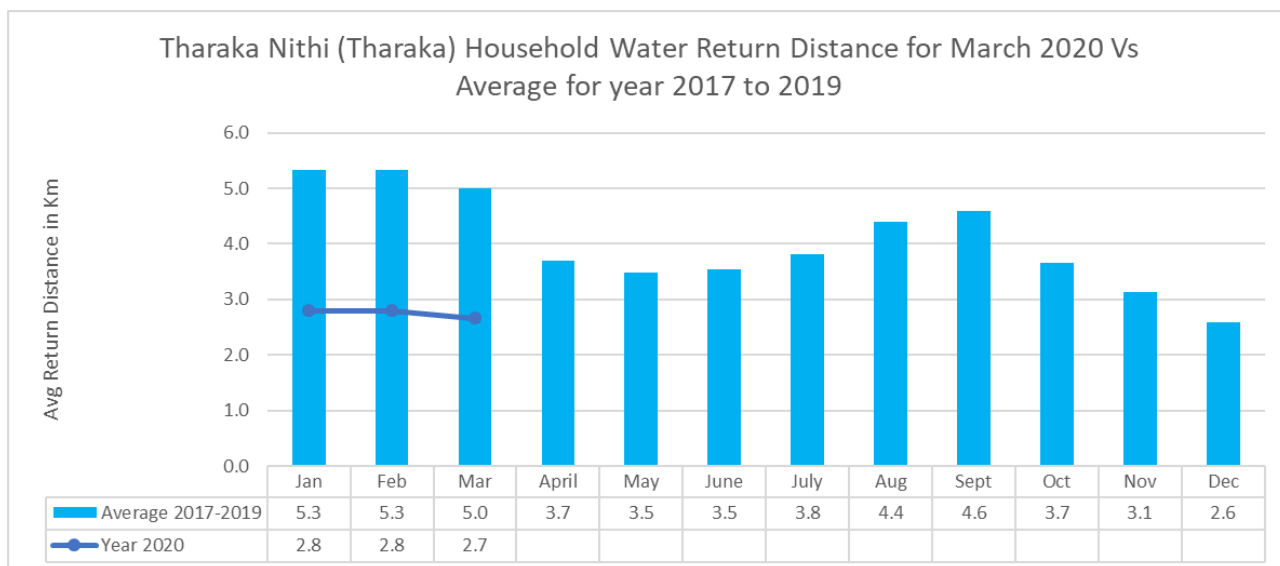
- The state of water sources was above normal and the trend was stable as of the previous months. The water recharge level both for the surface and underground sources was within the normal range of 80 to 100%.
- The main challenge of water availability has increased contamination of water source in Rivers, Piped water system, pans and dams hence need to intensify on water treatment.
- Status of water sources across all the Livelihood Zones could be ranked as good which is at index 6 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

### 2.2.3 Household Water Access

- Average Household water return distance in March was 2.7 Km from 2.8 Km in February which remain almost the same as of the previous month. Household return water distance in Marginal Mixed Farming Livelihood Zone was 3.6 Km, 3.2 Km in Mixed Farming Zone while the Rain Fed Zone had the least household distance of 1.2 Km.
- The average distance of household access to water was 46 % lower than the long-term average of 5.0 Km for the month of March.



**Figure 7: Household Water Distance**

### 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.
- The fair to good livestock body condition was attributed to fair pasture and browse condition across most of the livelihood Zones and the situation was improving.
- The Livestock body condition in March for cattle and shoats was rated at index 9 as per the livestock threshold scale below.

**Table 2: Livestock Body Condition categories**

BODY CONDITIONS	SCORE	WARNING STAGE
<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>	

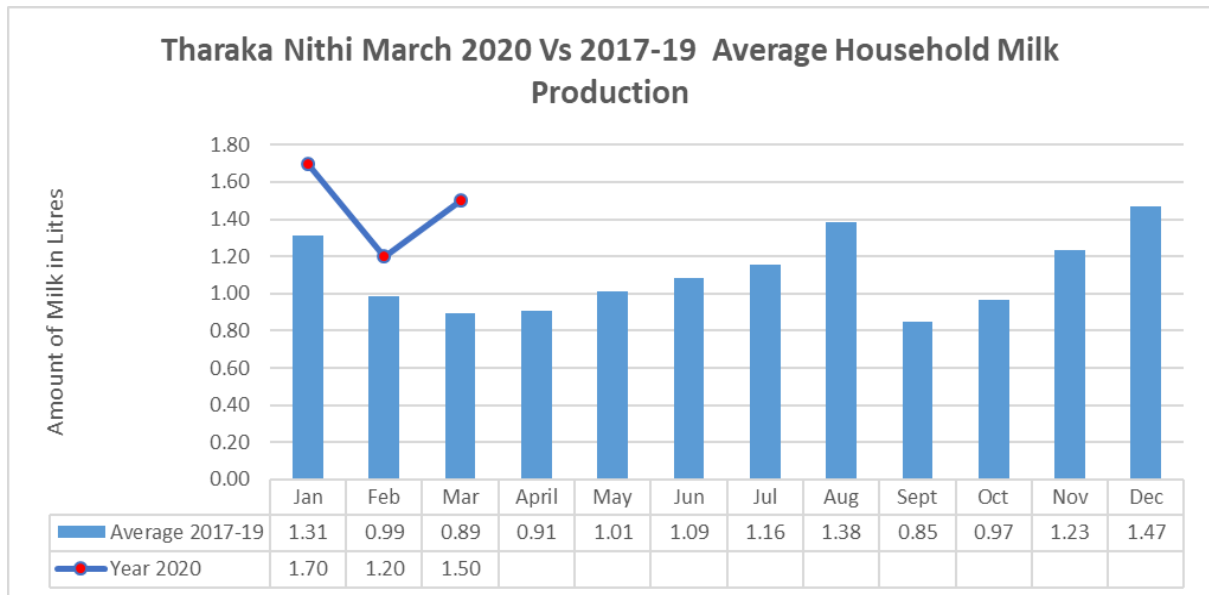
##### 3.1.2 Livestock Diseases and Migration

There were no cases of Livestock migration and diseases. However, there were reported cases of LSD in Mukothima, Marimanti and Chiakariga wards. Cases of CPP in goats were reported in Kathangachini location in the month of March.

##### 3.1.3 Milk Production

- Milk production increased from 1.2litres in February to 1.5litres in March. Increased milk production was attributed to fair pasture and browse due to good weather condition from the short rains and the subsequent onset of the long rains.

- All the livelihood Zones had an average production of more than a litre per household per day. Milk production per household was 68.54 percent higher than the 3-year average of 0.89 litre per household per day for this time of the year.



**Figure 8 : Milk Production Trend**

## 3.2 Crop Production

### 3.2.1. Timeliness and Status of Crops

- Most of the farmers were in the process of planting and doing land preparation. Planting was done on the 1<sup>st</sup> and 2<sup>nd</sup> week of March while for some it was still ongoing till the 1<sup>st</sup> week of April. Crops planted during this season were cereals and pulses.
- Pulses grown were green grams, cowpeas and pigeon peas while cereal crops were Millet, Sorghum and maize across all the livelihood.

### 3.2.2. Pests and Diseases

- There were reported cases of desert locust infestation in Maragwa, Kathanga Chini, Kathagani, Kathiriku, Karangare, Makithi and surrounding areas hence posing a threat to pasture, browse and crops.
- However, the situation was subdued due to multi-agency approach intervention ranging from ground mapping, community sensitisation, surveillance, monitoring, coordination meeting to ground and ariel spraying.

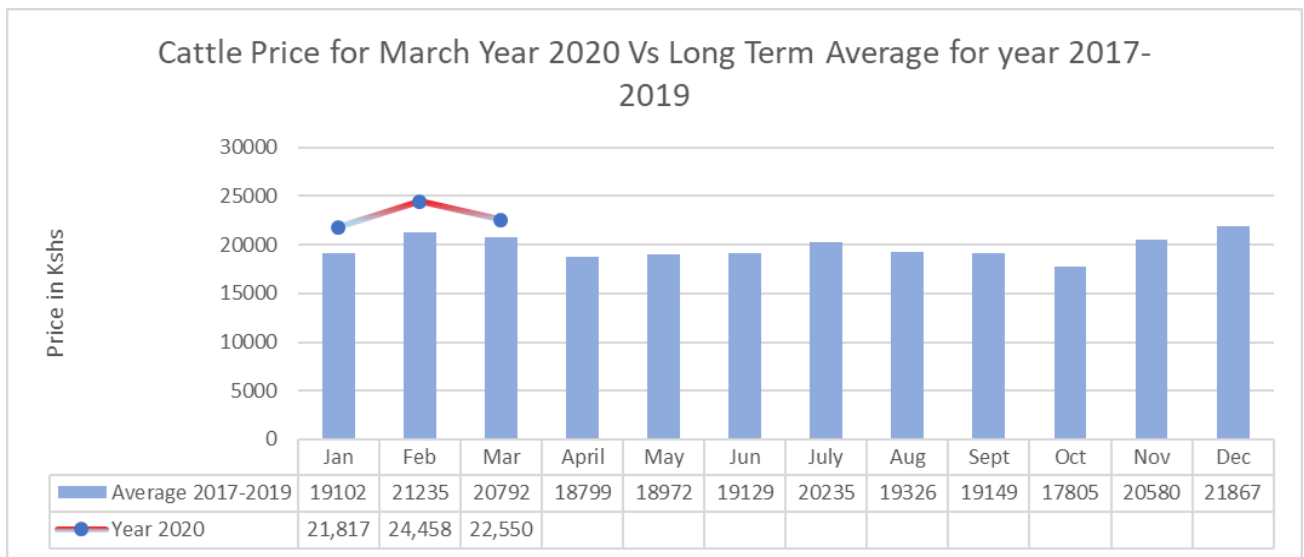
## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Prices

#### 4.1.1 Cattle Prices

- The average cattle price decreased from Kshs. 24,458 in February to Kshs. 22,550 in the month of March due to closure of livestock markets which led to a drop in cattle price.
- The Mixed Farming livelihood Zone had the highest average price of Kshs 25,333; the Marginal Mixed Farming Zone had the price of Kshs 23,334; while the Rain Fed Cropping Livelihood Zone had the least price of Kshs 18,200. The current price was 8.5 percent higher than the three-year average of Kshs 20,792.

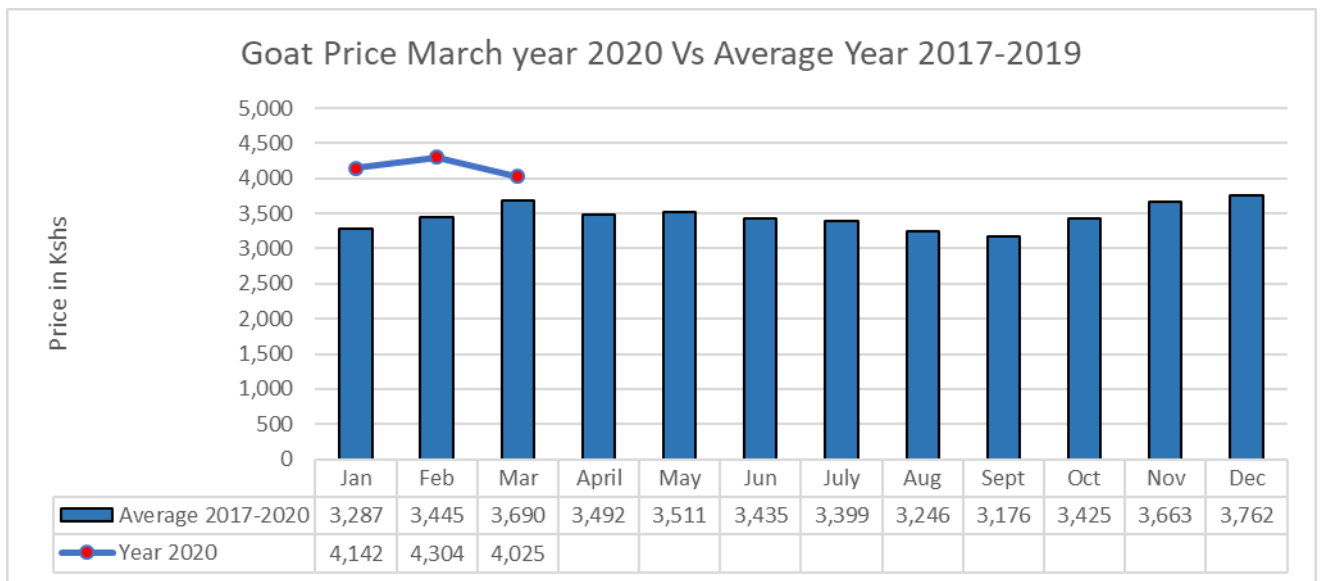




**Figure 9: Cattle Price Trend**

### 4.1.2 Goat Prices

- The average goat price decreased from Kshs 4,304 in February to Kshs 4,025 in the month of March. The decrease in price could be attributed to closure of livestock markets.
- The Rain Fed Cropping Livelihood Zone had the highest price of Ksh. 5,000; Mixed Farming Livelihood Zone recorded the price of Kshs 3,767 while the Marginal Mixed Farming Zone recorded the lowest price of Ksh. 3,667.
- The average goat price was 9.1 percent higher than the three-year average of Ksh 3,690.



**Figure 10 : Goat Price Trend**

### 4.2.1 Maize Prices at Market Level

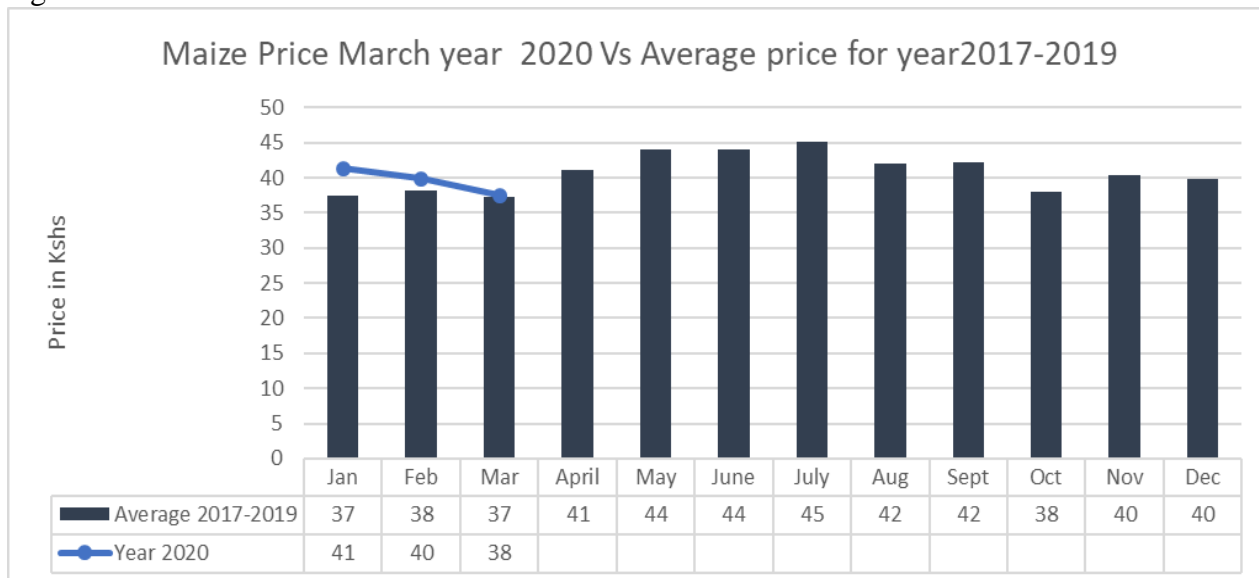
#### 4.2 Price of Cereals and Other Food Products

### 4.2.1 Maize Prices at Market Level

- The average market price of a Kilogram of maize decreased from Kshs 40 per Kg in the month of February to Kshs 38 per Kg in the month of March which was almost the same as of the previous month. The drop in maize price was attributed to use of substitute crops from the ongoing short rain harvest.
- Maize price was Kshs 43.5 per Kg in the Marginal Mixed Farming Livelihood Zone, Kshs 35 per Kg in in Rain Fed Livelihood Zone and Kshs 30 per Kg in the Mixed Farming Zone.



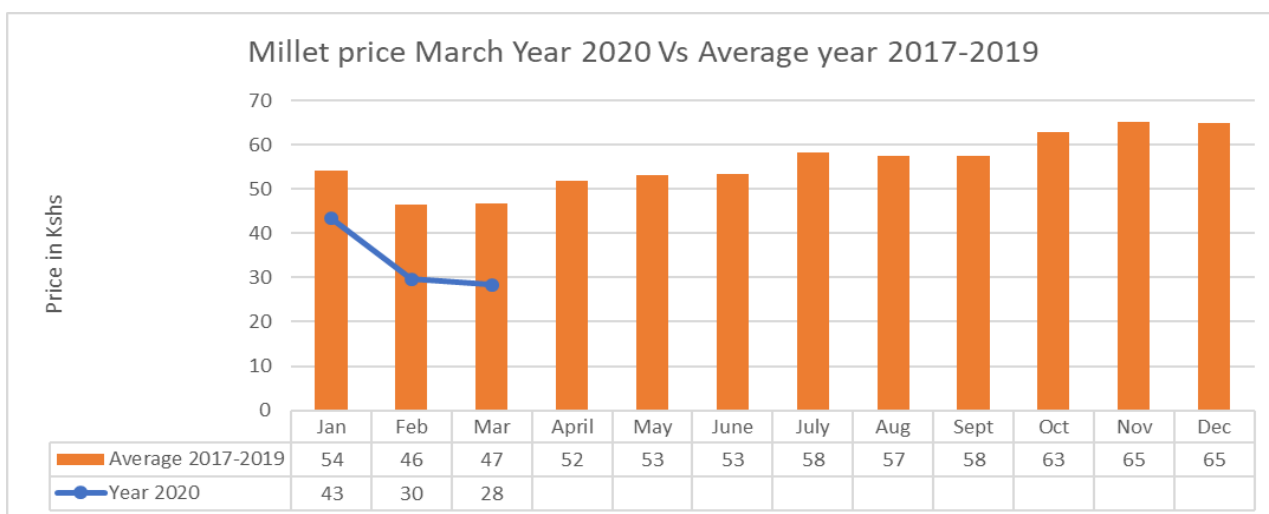
- The average maize price was 2.7 percent higher than the three-year average price of Kshs 37 per Kg in March.



**Figure 11: Maize Price Trend**

#### 4.2.2 Millet Price at Market Level

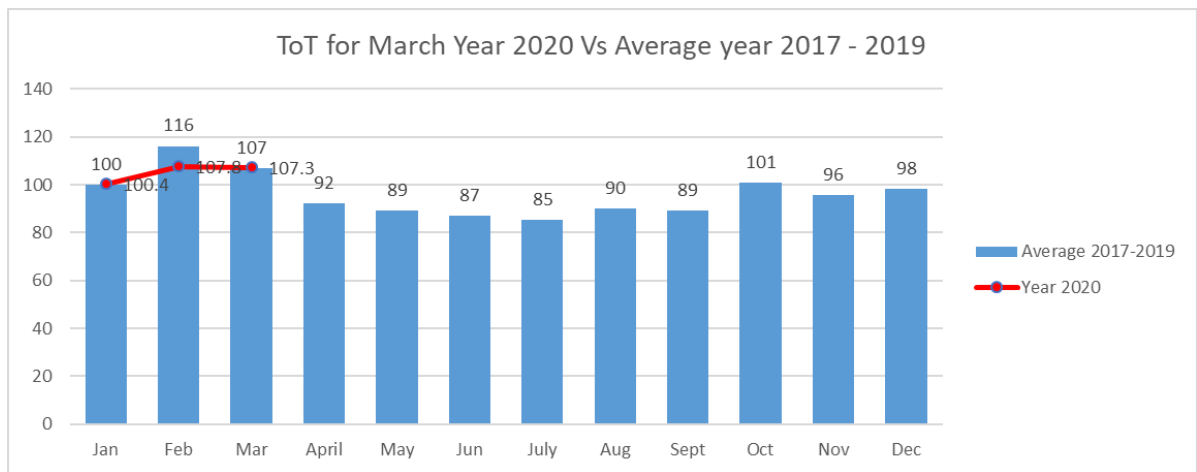
- The average market price of millet decreased from Kshs 30 per Kg in February to Kshs 28 per Kg in March increased millet supply hence a drop in price.
- The Rain Fed Livelihood Zone recorded the highest market price of Kshs 35/Kg, Mixed Farming Kshs 30 per Kg while Marginal Mixed Farming Zone recorded the least price of Kshs 24 per Kg.
- The millet price was 40.43 percent lower than the long-term average price of Kshs.47 per Kg for the month of March.



**Figure 12 : Millet Price Trend**

#### 4.2.3 Terms of Trade (ToT)

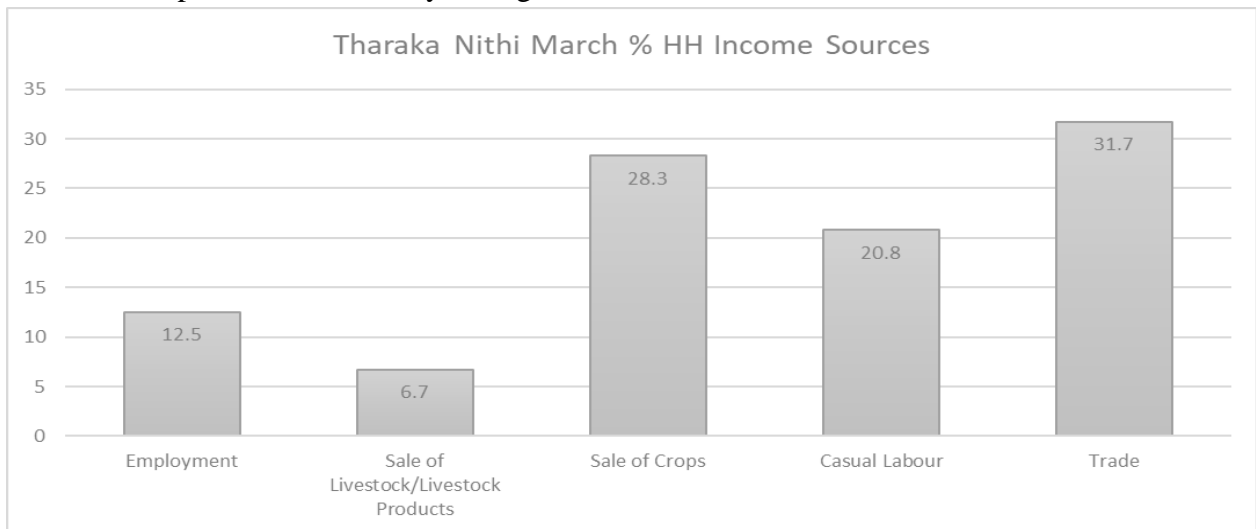
- The Terms of Trade decreased from 107.8 in February to 107.3 in March but was almost the same as of the previous month.
- The highest ratio was recorded in the Rain Fed Cropping Zone at 142.86; followed by Mixed Farming Zone at 125.57 while Marginal Mixed Farming Zone had the least term of trade ratio of 84.3.
- The term of trade for the period under review was the same as the three year average value of 107 during the same period.



**Figure 13: Term of Trade**

#### 4.2.4 Income sources

- The main sources of income for households in Tharaka Nithi County for the month of March were: Sale of crops, petty trade, Employment/wages, casual labour and sale of livestock and livestock product as shown by the figure 14 below.

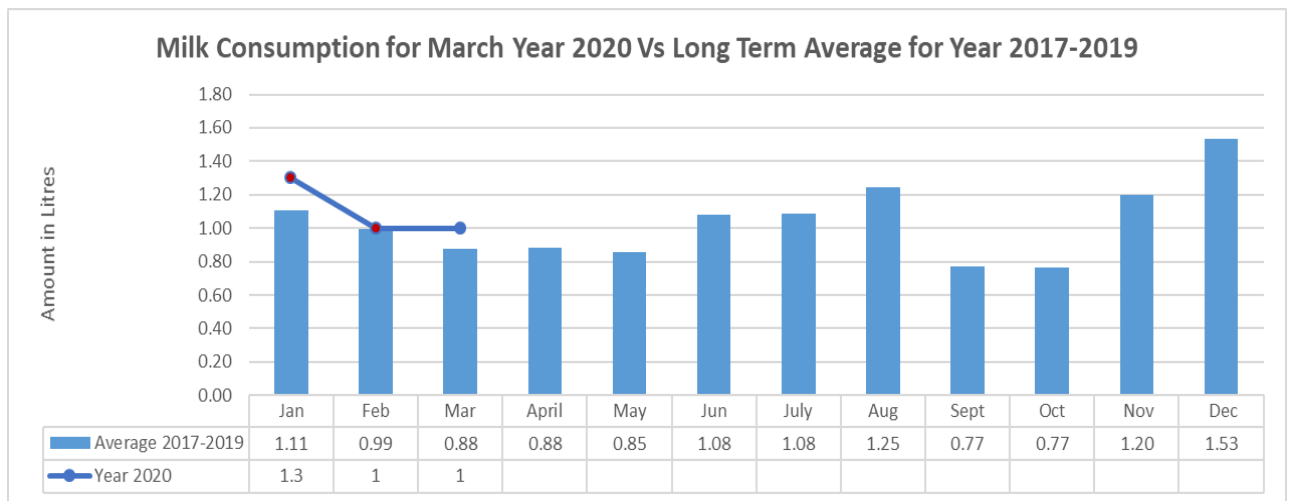


**Figure 14 : Tharaka Nithi Percentage Household Income**

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1.1 Milk Consumption

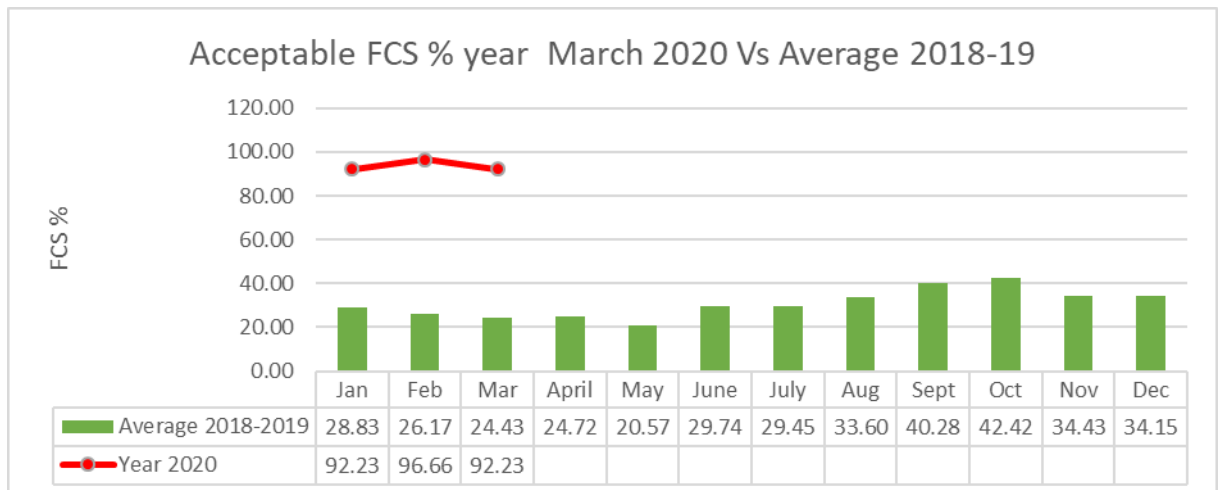
- The average milk consumption per household per day remained within the normal range in the month of March at 1 litre per household per day as of the previous month .Pasture and browse continue to improve due to onset of the long rains during the 1<sup>st</sup> week of March.
- The average milk consumed was 13.64 percent higher than the 3-year average of 0.88 of a litre.



**Figure 15 : Milk Consumption Trend**

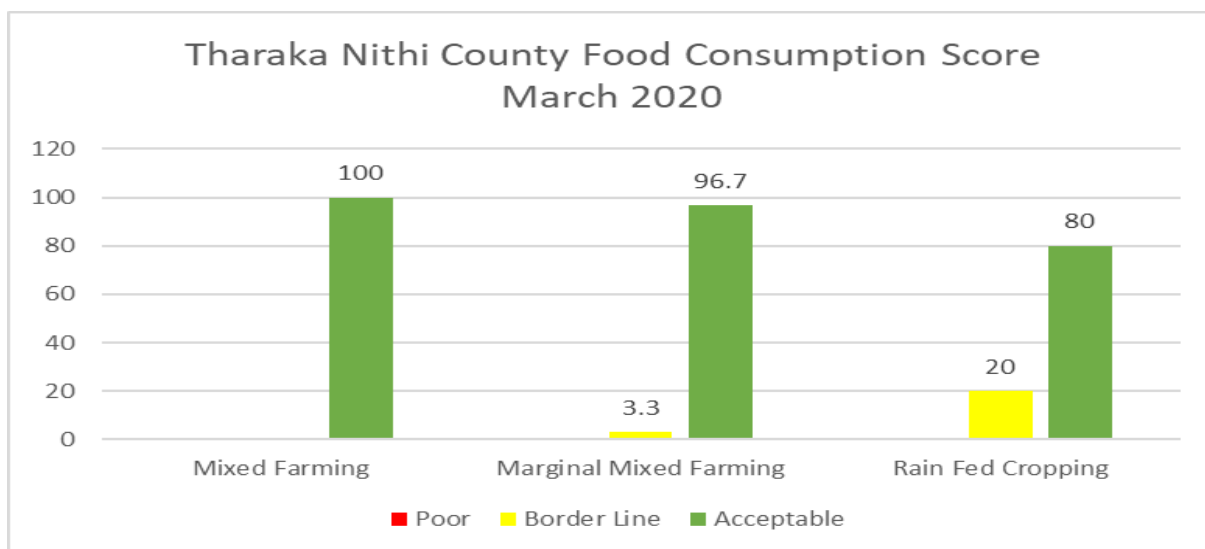
### 5.1.2 Food Consumption Score

- Proportion of households with acceptable Food Consumption Score decreased from 96.66% in February to 92.23% in March as shown by the graph in fig. 16 below.
- The high Food Consumption Score was attributed to availability of food stocks at household level hence good household food security and diversity.



**Figure 16: Trend of the Proportion of HHs with Acceptable FCS**

- A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 20% while negligible food stressed households were reported in the Marginal Mixed Farming and Mixed Farming Livelihood Zones as shown by figure 17 below.



**Figure 17: Food Consumption Score Chart**

**Table 3: Average Food Consumption Score**

Period	Acceptable (%)	Borderline (%)	Poor (%)	Food Insecure HH (%)
January 2019	92.23	7.77	0	7.77
February	96.67	3.33	0	3.33
March	92.23	7.77	0	7.77

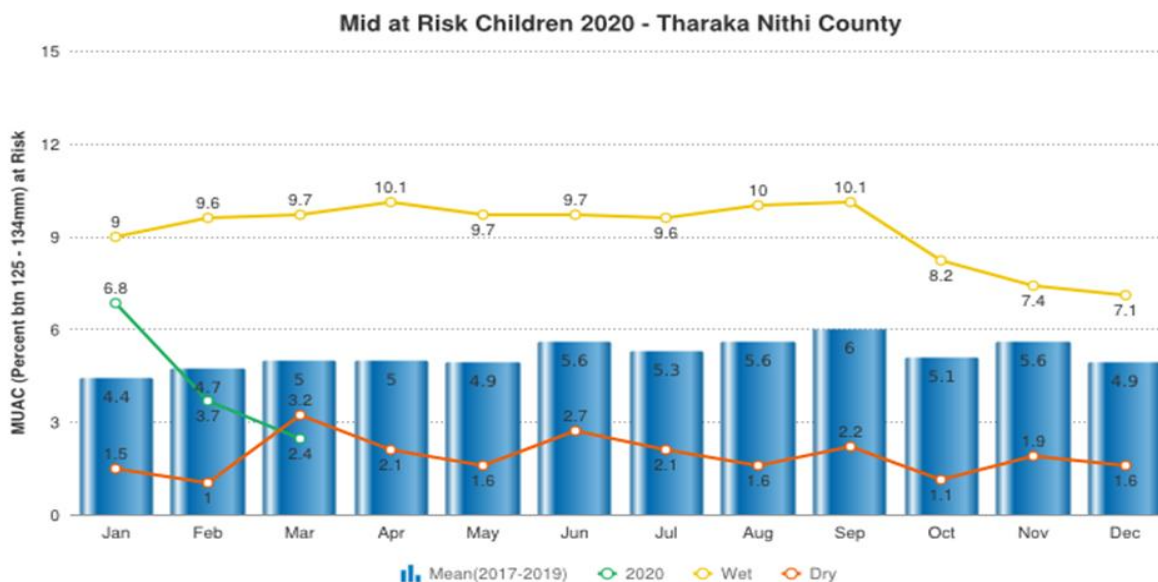
- The poor food consumption score implies household are not consuming staples and vegetables every day and rarely consuming protein rich food, borderline imply household are consuming staple, vegetable every day accompanied by oil and pulse a few times in a week while the acceptable imply households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

## 5.2 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 3.7 percent in February to 2.4 percent in March which was attributed to improvement in household food security.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 5 percent.



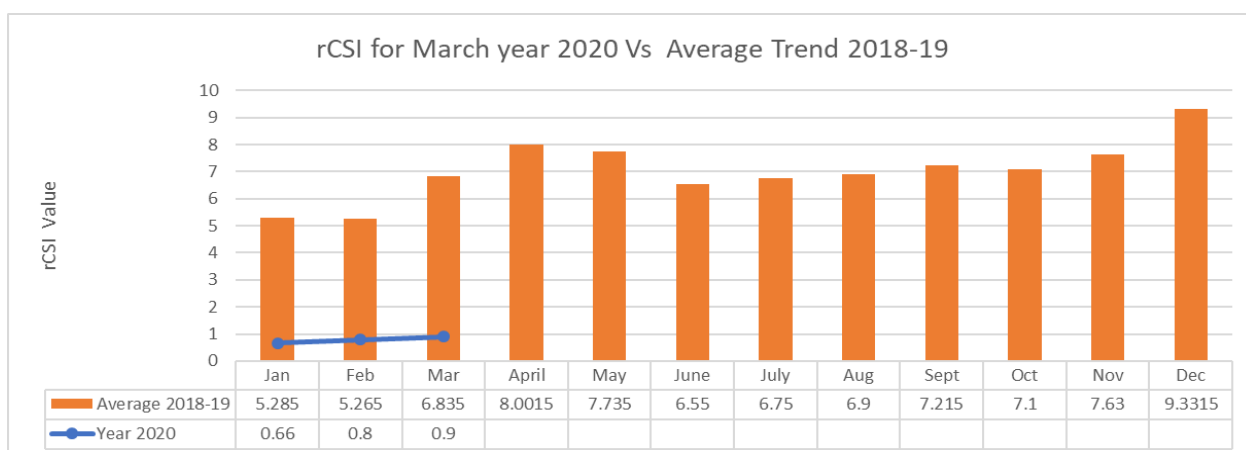
**Figure 18: MUAC Graphs**

### 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

- The Coping Strategy Index (CSI) increased from 0.8 in February to 0.9 in March which was almost the same as of the previous month. The low CSI indicated low household stress to obtain food or money to buy food during the month of March.
- The CSI for March 2020 was lower than that of 2018-19 average for March which further indicates less difficulty in obtaining food in 2020 during the same period.



**Figure 19 : Trend of CSI**

- The highest CSI was recorded in the Marginal Mixed Farming zone at 2.1 followed by 0.6 in the Mixed Farming Zone while the Rain Fed Livelihood Zone recorded the least CSI.
- The most commonly employed coping strategy mechanisms during the month of March 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**

### **Ongoing Interventions**

#### **Agriculture Sector**

- Waving of tariffs and cess on all food products entering and leaving the county to caution farmers, retailers and consumers against the effect of Covid 19.
- Sensitisation of farmers on locust behaviour and management.
- Sensitisation of farmer on safety precautions and on farm, pasture and browse use before, during and after spraying of locust infested areas during control.
- Locust control through ground spraying in Maragwa, Kathangachini, Makithi, Kathiriku and the surrounding areas of Tharaka North Sub- County.
- Coordination meetings and update of locust invasion in Tharaka Nithi County by various stakeholders.
- Monitoring, surveillance, mapping and reporting of the migration of hoppers and their laying beds for prompt action.

#### **Livestock and veterinary**

- Artificial insemination by the veterinary department at a subsidised price to farmers.
- Dairy farming of goats and cow by Upper Tana Natural Resource Management Programme and Livestock Department.
- Goats upgrading for milk and meat by Upper Tana Natural Resource Management Project.
- Upgrading of local chicken by Upper Tana Natural Resource Management Project.

#### **Water**

- Construction of Manduru earth dam in Gatunga Ward.
- Rehabilitation of Ura- Kathangachini and Kamacabi water project by the county Government and Water Trust Fund Agency.
- Extension of water pipe line from Marimanti to Maragwa by Water Services Trust Fund (WSTF).
- Re-construction of Kaibonce concrete dam by Kenya Climate Smart Agricultural programme.

### **6.2 Food Security Prognosis**

- Crops had been harvested by farmers while few farmers were finalising harvesting. Crop yield was good and majority of farmers have household stocks which could last them for the next 1 month should livelihood activities continue normally.
- There was disruption of market activities due to closure of markets indefinitely while trying to implement the government directive of social distancing in order to limit the effects of Covid 19. This has affected livestock and cash crop prices making them to drop while food commodities prices from outside the county is likely to increase due to restriction and uncertainty of transport system which might affect supply.
- Rainfall received was above the long term average therefore, status of water sources was above normal with household and Livestock watering distance being within the normal ranges and the situation is likely to improve or remain the same due to sufficient recharge from the onset of the long rains in the 1<sup>st</sup> week of March.

- Food Stocks at households' level is likely to remain stable in the next 1months in all the livelihood zones till end of April.
- Markets operations are likely to worsen for livestock despite presence of pasture and browse due to disruption of market in an effort to reduce Covid 19 while prices of food commodities from outside the market is likely to increase or remain the same for the next 1 month.
- Pasture condition is fair and the condition is likely to improve leading to shorter grazing distance, increased milk production; good livestock body condition till April.
- Increased milk production is likely to lead to high milk consumption hence low malnutrition level amongst the under 5years.
- Terms of Trade is fair and is likely to reduce significantly in favour of crop farmers and the trend is likely to continue for the next 1month.
- Households in the County are likely to be Food sufficient in the next 1 months but the situation may worsen due to the effect of Covid 19 which might negatively affect income and food availability.

## 7.0 Recommendations (February to May 2020)

- The county Government and different stakeholders should prepare to concentrate on Response towards locust control, management of effects of Covid 19 and other preparedness activities geared towards resilience to propel household towards food security.

Sector	Intervention	Target areas hotspot (Wards/Villages)	Beneficiaries
Agriculture	Provision of subsidised certified planting materials to farmers	Tharaka North and South sub counties	Farmers
	Provision of subsidised fertilizers to farmers	Tharaka North and South sub counties	Farmers
	Support farmers with certified locust control chemicals	Maragwa and Kathangachini locations	6,000
	Capacity Building and sensitisation of Farmers about Locust Management	Maragwa and Kathangachini locations	6,000
	Support Ground spraying of locusts by trained personel and Farmers	Maragwa and Kathangachini locations	6,000
Water	Water harvesting and Storage	Kamanyaki, Maragwa, Mukothima Kathangachini locations and all the other locations.	County wide
	Capacity building of Wruas & Surveillance of Rivers to stop illegal water abstractions	Lower Thangatha, Upper Thangatha (Part of Gatunga Ward and Mukothima Ward)	2,000 People
	Repair of Rock Catchments	In Gatunga Ward: Mukuruti Kanyi, Manduru, Kiararama, Muturu, Nchegeni Rock Catchment	4,000 people, 500 cows, 2,000 goats, 1,000 sheep 200 donkeys
	Renovation of Earth Dams	Gankamba, Nyamboni, Kiararama, Manduru and Ngaani	5,000 people 1,000 cows 10,000 goats 500 donkeys



	Restocking for cattle	Gatunga Market, Kathangachini, Chakariga Market	10,000 people
	Vaccination of Goats and sheep against CCPP	Marimanti ward, Kithigiri, Kibienga, Nkondi ward Kereria, Gachugini	30,000 shoats
	Vaccination of Goats and sheep against sheep & goat pox	Kamanyaki, Kathangachini, Chakariga, Marimanti	35,000 shoats
	Vaccination of dogs against Rabies	Gatue ward, Mukothima ward	1000 dogs
Health and Nutrition	Provision of hand sanitisers, phase masks and installation of hand washing equipment at strategic high risk areas.	Tharaka North and Tharaka South Sub county.	Tharaka North and South residents
	Proper sensitisation and enforcement of covid 19 prevention standards in social places, restaurants, hotels, shops and businesses.	Tharaka North and Tharaka South Sub county.	Tharaka North and South residents
	Provision of food supplement for malnourished children and mothers	Tharaka North and South	20 facilities each receiving 2 bags of 90kg fortified Health supplements.
Coordination	Conduct 7 CSG meetings at county and Sub County level	Tharaka North & South	40 members