

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



A Vision 2030 Flagship Project



**April 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>	92.58%	80-120
VCI-3month	74.69	>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	1.1 Litre	Above 0.88 of a Litre
Livestock deaths (from drought)	No death	No death
<b>Access Indicators</b>	<b>Value</b>	<b>Normal</b>
Terms of Trade	91.3	Above 92
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	2.7	Below 5
Coping Strategy Index (CSI)	1.03	Below 8
Food Consumption (Acceptable FCS)	78.9%	Above 24.72%

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Rainfall amount and spatial distribution in April was normal. An average of 237mm was received and it was evenly distributed across all the livelihood zones. The Weather condition for April was wet and cold which was favourable for crop production, forage development and water sources. The status of water sources was good due to the ongoing long rains.
- Vegetation cover across the County was above normal an indication of good pasture and browse condition.
- The current biggest contributing factor to vulnerability of the county in term of food security in the month of April is Covid 19 which has disrupted market operation hence making prices of livestock to drop and that of food commodities outside the county to increase.

**Socio Economic Indicators (Impact Indicators)**

**Production Indicators**

- Livestock body condition was good and improving. Food Stock at households' level was stable but the situation may deteriorate due to disruption of market operations, 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 the month of April was normal and stable.

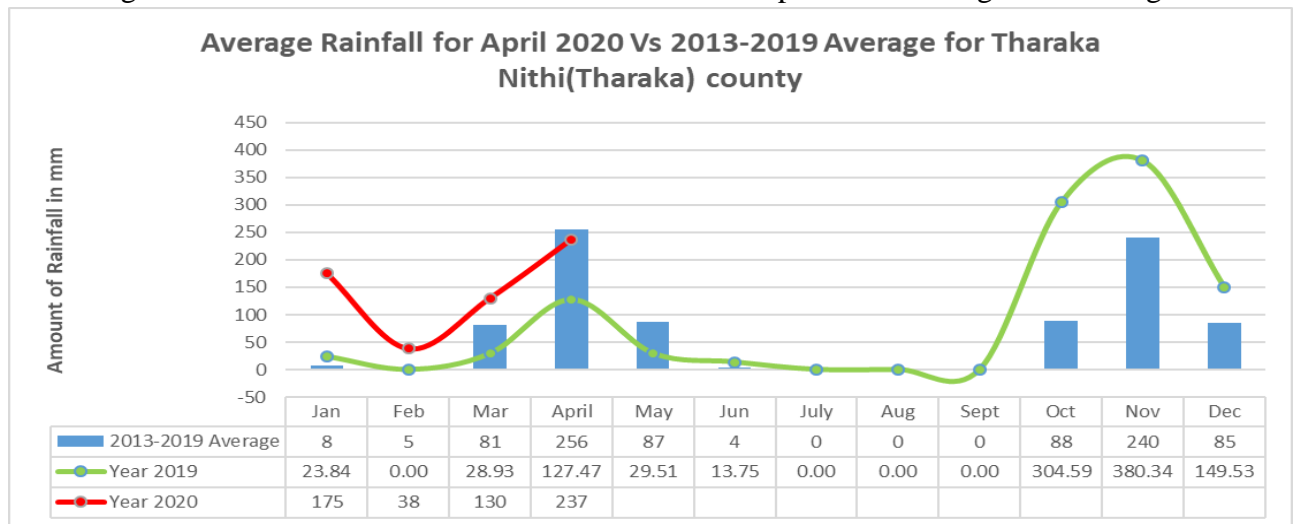
**Seasonal Calendar**

<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

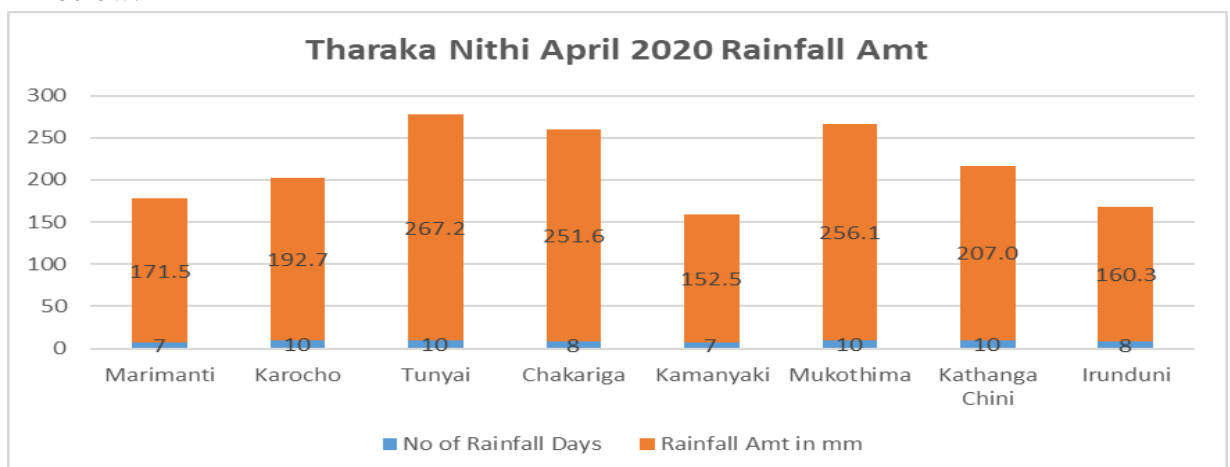
- Seasonal forecast from the Kenya Metrological departments states that near average to above average rainfall is expected in the Eastern region to the 4<sup>th</sup> week of May.
- Rainfall onset was on the 1<sup>st</sup> week of March, with intensity increasing in the month of April. Spatial and temporary distribution was good with most farmers spraying their pulses which are at the flowering stage while the cereal crops such as millet and sorghum are at the knee stage of development.
- An average amount of 237mm of rains was received in April. This was normal compared to the long term average of 256mm.
- The figure 1 below shows the rainfall trend for 2020 compared to the long term Average.



**Figure 1 : Rainfall trend for 2020 Vs 2013-2019 Average**

### 1.1.1 Spatial and Temporal Distribution of Rainfall

- Rainfall received in the month of April was evenly distributed across all the livelihood zones. Tunnyai received the highest amount of rainfall of 267.2mm for 10 days, it was followed by Mukothima with 256.1mm for 10 days, Chakariga was third with 251.6mm for 8 days, Kathangachini received 207 mm for 10days, Karocho 192.7mm for 10days, Marimanti 171.5 mm for 7days, Irunduni 160.3mm for 8days while Kamanyaki received 152.5mm for 7 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 April was 74.69 from 84.91 in March which was indicating above normal vegetation greenness. Pasture and browse improved across all the livelihood zones due to the ongoing long rains.
- 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.

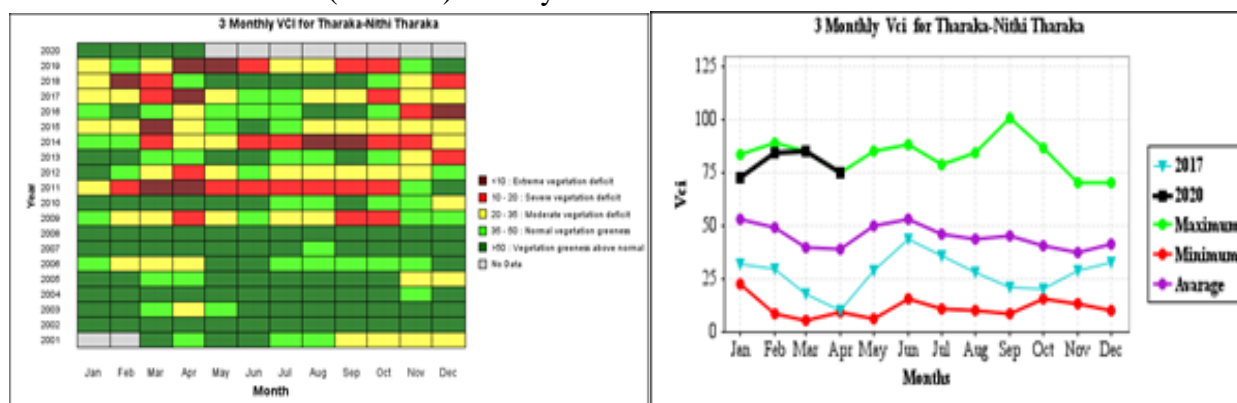


Figure 3(a): Matrix of VCI Classification

Figure 4(b): Chart of VCI Trend

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

ADMINISTRATIVE UNITS		VCI as at 31 <sup>st</sup> March 2020	VCI as at 30 <sup>th</sup> April 2020
County	County/Sub County		
Tharaka Nithi	County	83.7	80.09
	Tharaka	84.91	74.69
	Chuka Igambang'ombe	83.56	89.35
	Maara	80.11	86.05

### 2.2 Natural Vegetation and Pasture Condition

#### Pasture Condition

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

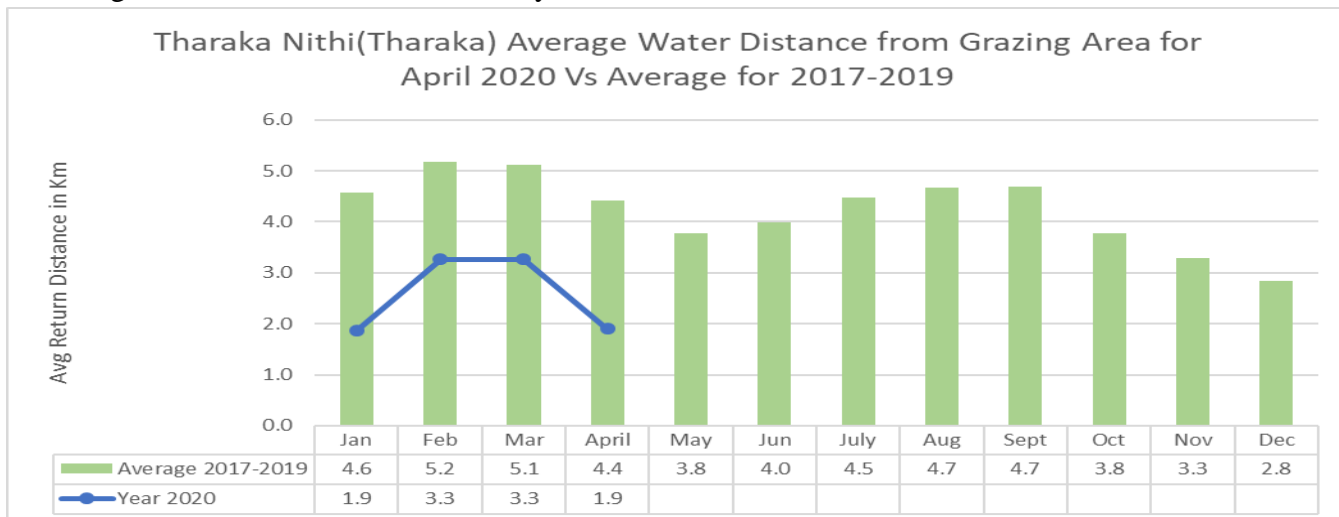
#### Browse Condition

- Browse condition in terms of quantity and quality was good across all the livelihood zones in the month of April and it continued to improve compared to that of the previous months.
- This improvement of browse was triggered by the onset of the long rains which has been persistent to the month of April.

#### Livestock Access

- Average return water distance from grazing area dropped from 3.3Km in March to 1.9Km in April. This was attributed to the ongoing long rain which recharged water sources leading to increased livestock access to water. The longest return water distance to grazing areas was recorded in the Mixed Farming Zone and Rain Fed Cropping Zone at 2 Km while the Marginal Mixed Farming Zone recorded the least grazing distance of 1.6 Km.

- The average return water distance to grazing areas was 56.82 percent lower than the long term average of 4.4 Km for this time of the year.

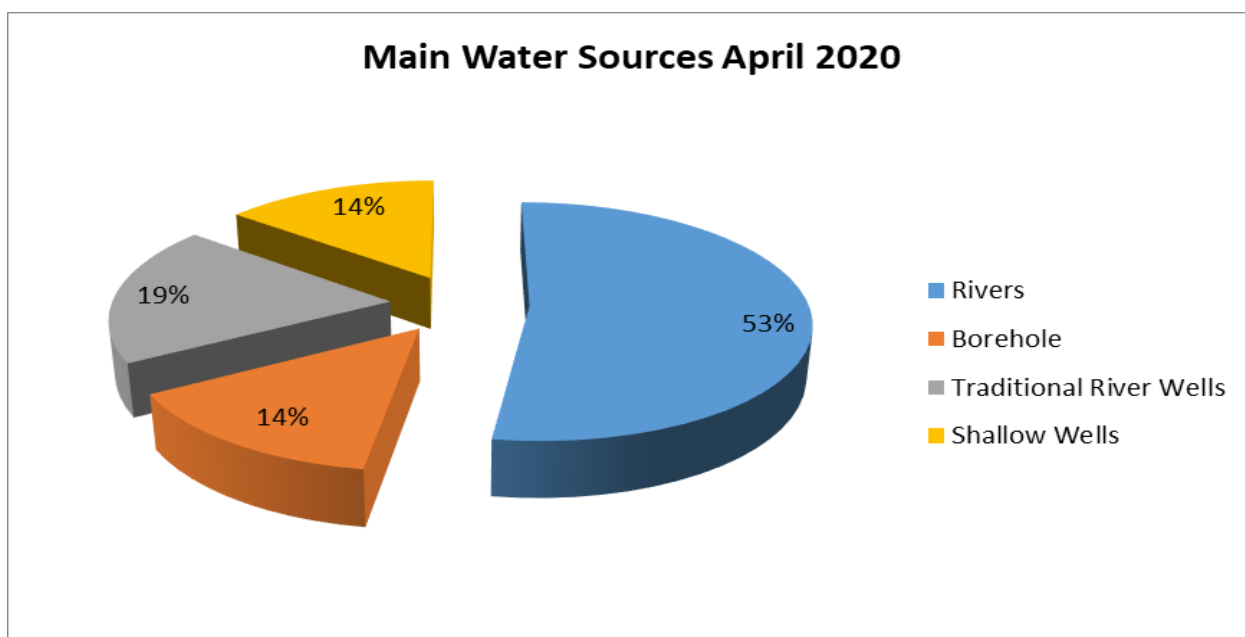


**Figure 5: Grazing Distance for Livestock**

## 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 for the month of April was: 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

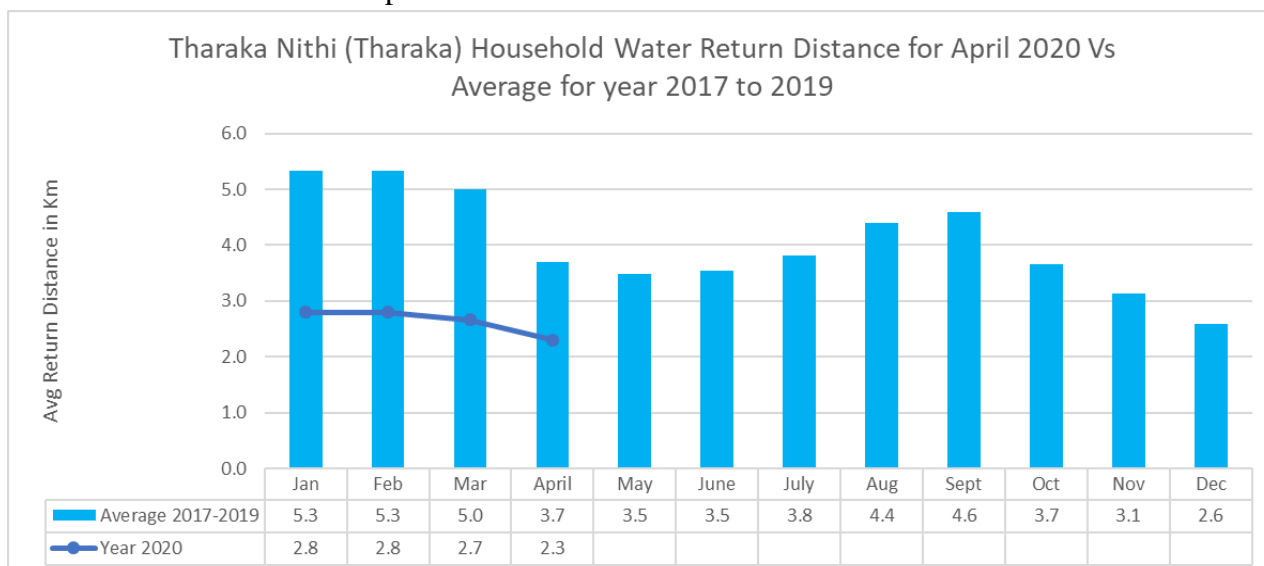
- The state of water sources for the month of April was within the normal range and the trend was stable. The water recharge level both for the surface and underground sources was at approximately 92.58%.
- The main challenge of water availability has increased contamination of water source in Rivers, 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 April was 2.3 Km from 2.7 Km in March which dropped due to recharge from the ongoing rainfall. Household return water distance in Marginal Mixed Farming Livelihood Zone was 3.4 Km, 2.6 Km in Mixed Farming Zone while the Rain Fed Zone had the least household distance of 1 Km.
- The average distance of household access to water was 37.84% lower than the long-term average of 3.7 Km for the month of April.



**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 April for cattle and shoats was rated at index 9 as per the livestock threshold scale below.

**Table 2: Livestock Body Condition categories**

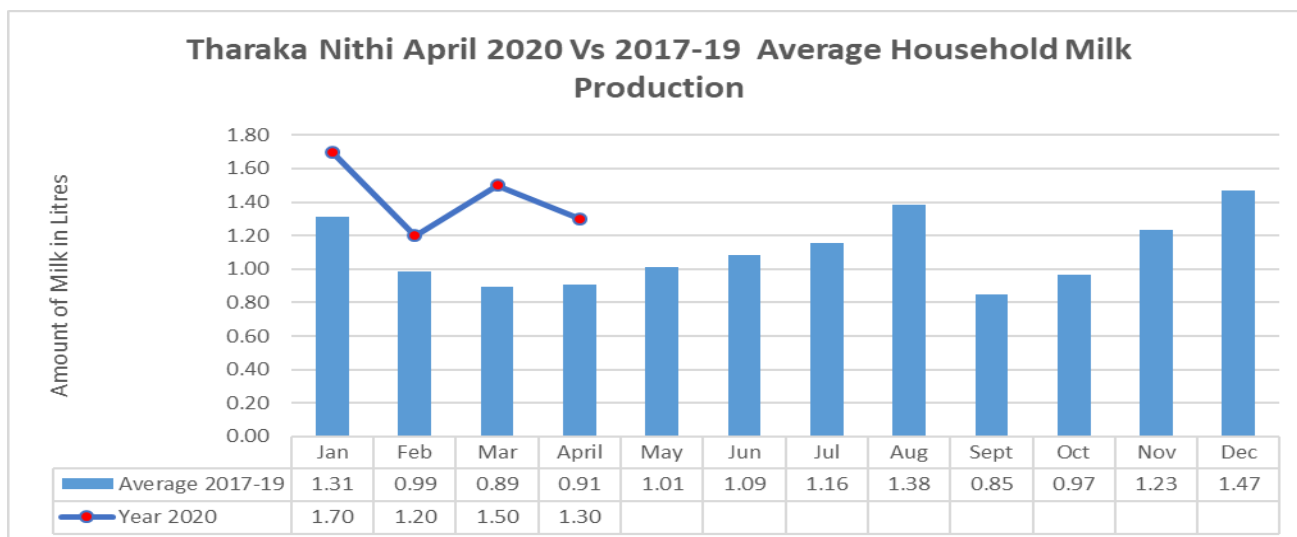
BODY CONDITIONS	SCORE	WARNING STAGE
Emaciated, little muscle left	1	Emergency
Very thin no fat, bones visible	2	
Thin fore ribs visible	3	Alert Worsening/Alarm
Borderline fore-ribs not visible. 12 <sup>th</sup> & 13 <sup>th</sup> ribs visible	4	Alert
Moderate. Neither fat nor thin	5	Normal/Alert
Good 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 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 and April.

##### 3.1.3 Milk Production

- Milk production decreased from 1.5litres in March to 1.3litres in April. Milk production was almost the same as of the previous month and it was higher than the long term average which was attributed to fair pasture and browse due to good weather condition from the ongoing long rains.
- All the livelihood Zones had an average production of more than a litre per household per day. Milk production per household was 42.86 percent higher than the 3-year average of 0.91 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

- Cereal crops like sorghum and millet are in the knee stage of development while pulses such as green grams and cow peas are in the flowering stage of development. Farming activities during the period under review was spraying of pulses and weeding.
- Condition of both cereal and pulses was good hence a good harvesting is expected.
- 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

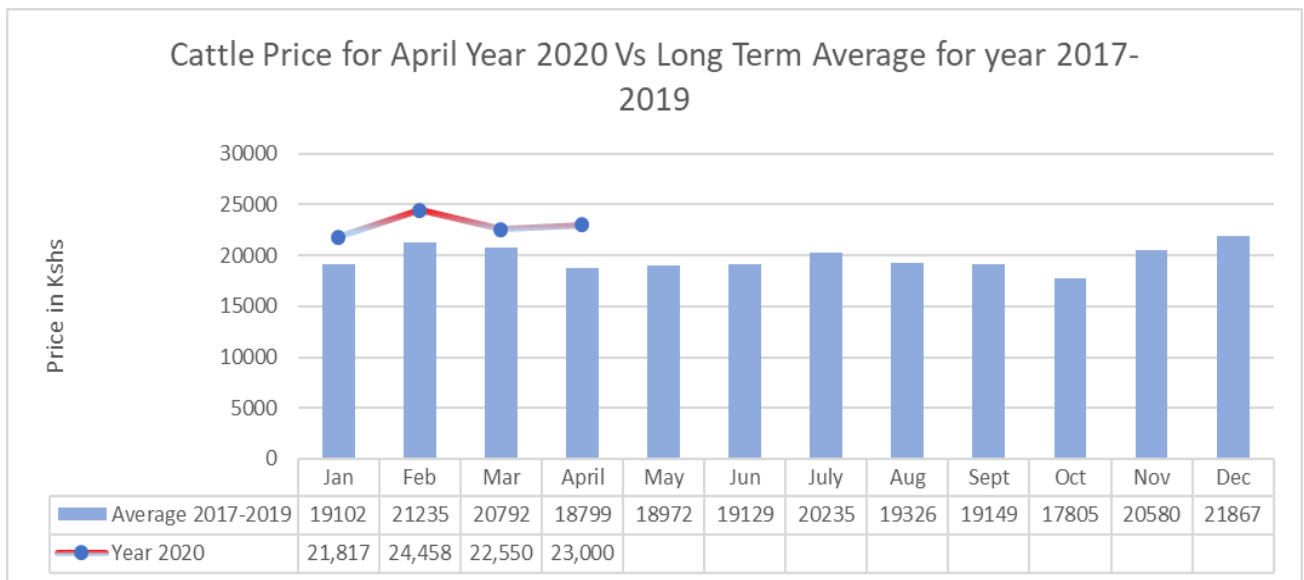
- There were reported cases of desert locust infestation in Maragwa, Kathanga Chini, Kathagani, Kathiriku, Karangare, Makithi and surrounding areas hence posing a threat to pasture, browse and crops.
- However, the situation was subdued due to multi-agency approach intervention ranging from ground mapping,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

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Prices

#### 4.1.1 Cattle Prices

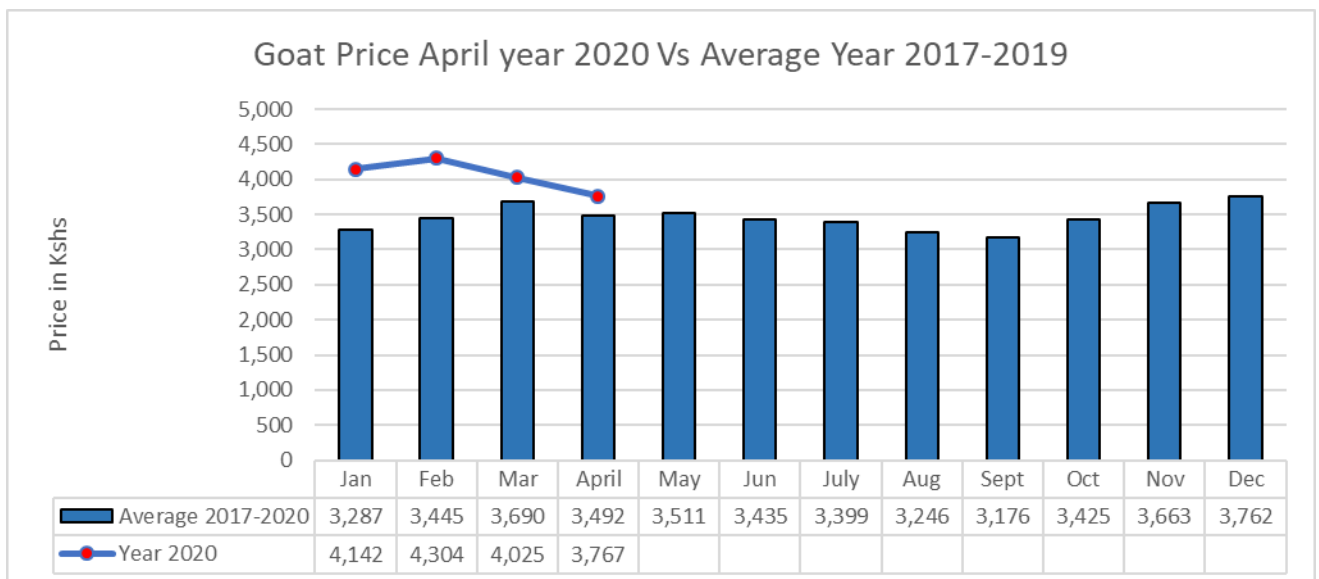
- The average cattle price increased from Kshs. 22,550 in March to Kshs. 23,000 in the month of April which was almost the same as of the previous month. Cattle price is expected to drop due to closure of livestock markets making sales to occur at farm gate price.
- The Mixed Farming livelihood Zone had the highest average price of Kshs 26,917; the Marginal Mixed Farming Zone had the price of Kshs 22,291.5; while the Rain Fed Cropping Livelihood Zone had the least price of Kshs 19,600. The current price was 22.35 percent higher than the three-year average of Kshs 18,799.



**Figure 9: Cattle Price Trend**

### 4.1.2 Goat Prices

- The average goat price decreased from Kshs 4,025 in March to Kshs 3,767 in the month of April. The decrease in price could be attributed to closure of livestock markets.
- The Rain Fed Cropping Livelihood Zone had the highest price of Ksh. 4,500; Marginal Mixed Farming Livelihood Zone recorded the price of Kshs 3,833.5 while the Mixed Farming Zone recorded the lowest price of Ksh. 3,717.
- The average goat price was 7.88 percent higher than the three-year average of Ksh 3,492.



**Figure 10 : Goat Price Trend**

### 4.2.1 Maize Prices at Market Level

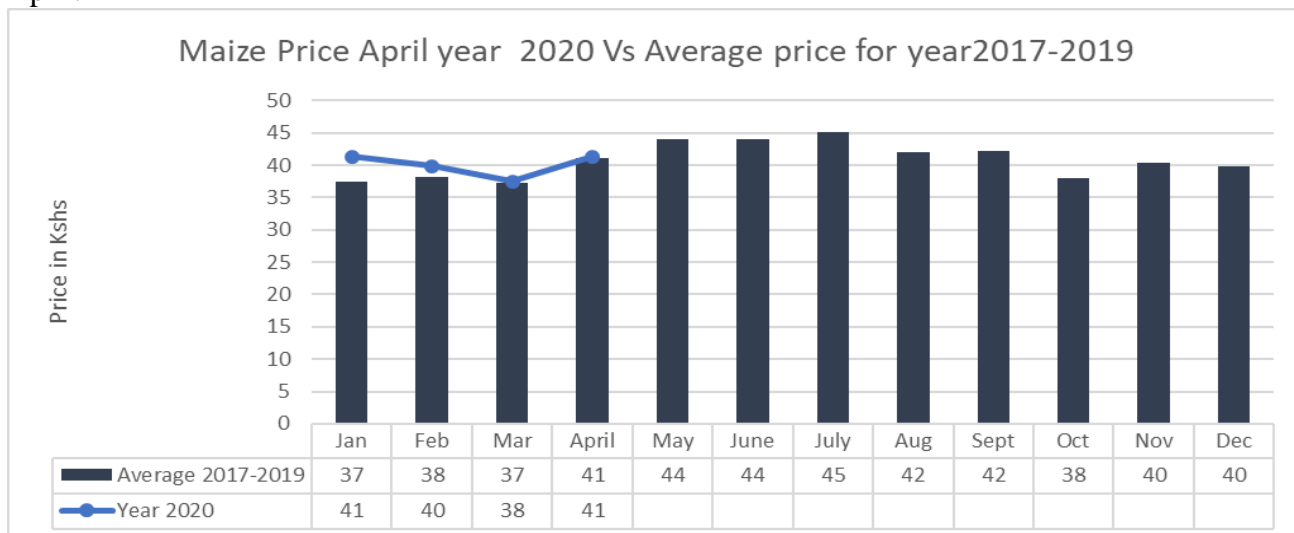
#### 4.2 Price of Cereals and Other Food Products

### 4.2.1 Maize Prices at Market Level

- The average market price of a Kilogram of maize increased from Kshs 38 per Kg in the month of March to Kshs 41 per Kg in the month of April which was almost the same as of the previous month. The increase in maize price was attributed to disruption of supplies from outside the county due to restriction of movement caused by covid 19 epidemic.



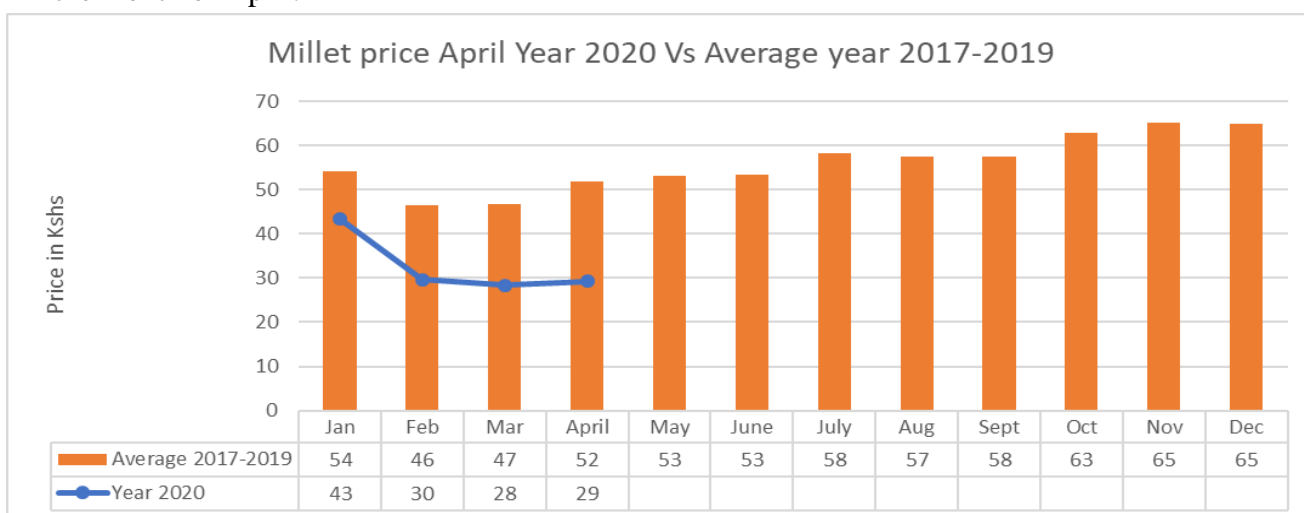
- Maize price was Kshs 42 per Kg in the Marginal Mixed Farming Livelihood Zone, Kshs 38 per Kg in in Rain Fed Livelihood Zone and Kshs 35 per Kg in the Mixed Farming Zone.
- The average maize price was the same as of the three-year average price of Kshs 41 per Kg in April.



**Figure 11: Maize Price Trend**

#### 4.2.2 Millet Price at Market Level

- The average market price of millet increased from Kshs 28 per Kg in March to Kshs 29 per Kg in April which was almost the same as of the previous month. Millet price is expected to remain stable till the next harvest due to adequate stocks in the county.
- The Rain Fed Livelihood Zone recorded the highest market price of Kshs 33/Kg, Mixed Farming Kshs 30 per Kg while Marginal Mixed Farming Zone recorded the least price of Kshs 25.5per Kg.
- The millet price was 44.23 percent lower than the long-term average price of Kshs.52 per Kg for the month of April.

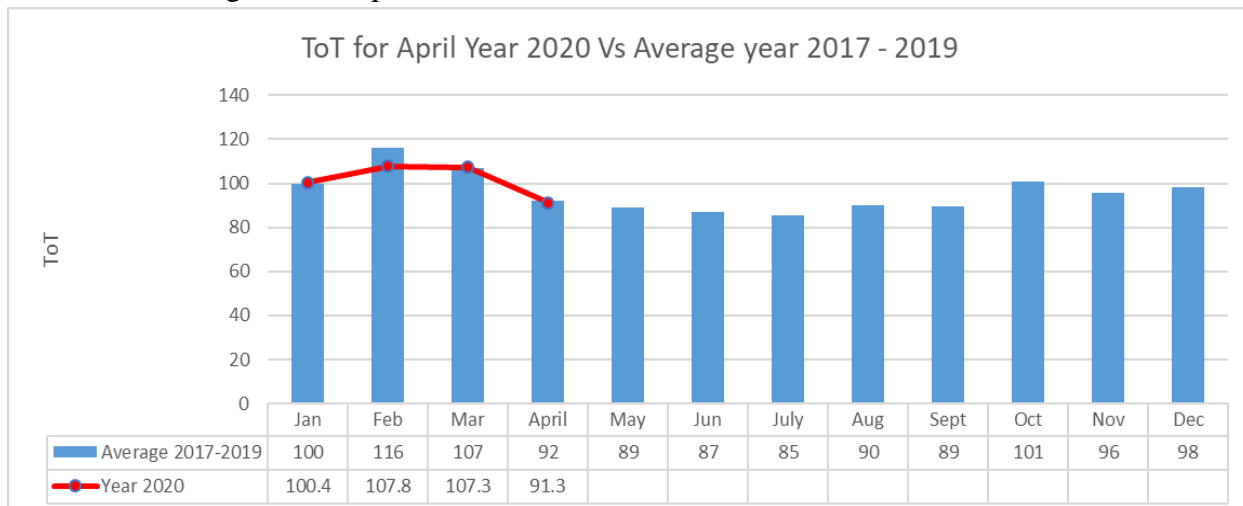


**Figure 12 : Millet Price Trend**

#### 4.2.3 Terms of Trade (ToT)

- The Terms of Trade decreased from 107.3 in March to 91.3 in April attributed to a drop in Goats price and an increase in maize price.
- The highest ratio was recorded in the Rain Fed Cropping Zone at 118.42; followed by Mixed Farming Zone at 106.2 while Marginal Mixed Farming Zone had the least term of trade ratio of 91.27.

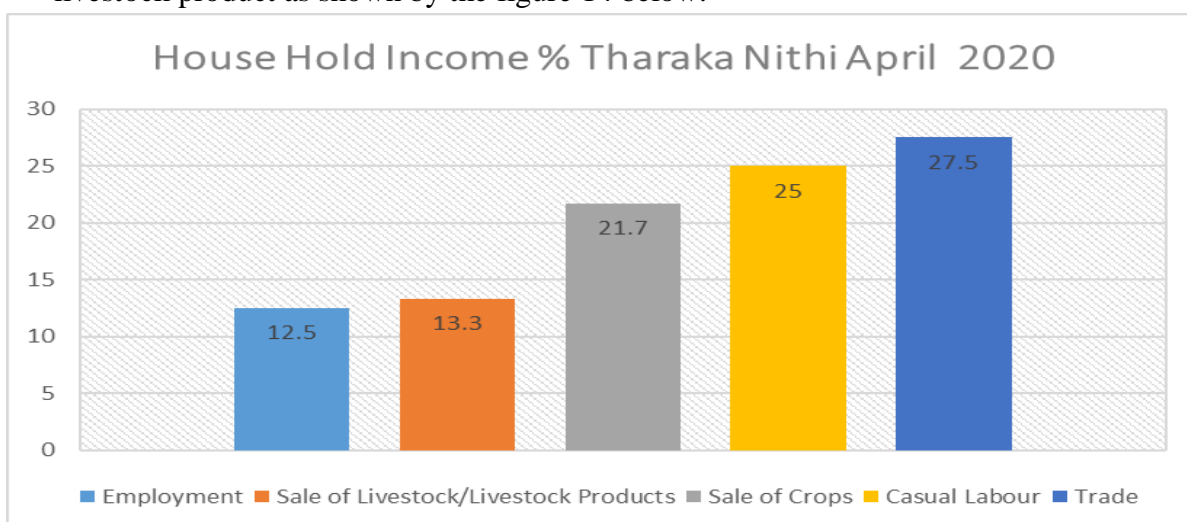
- The term of trade for the period under review was almost the same as the three year average value of 92 during the same period.



**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 April were: Petty trade, Casual labour, Sale of crops, Employment/wages and Sale of livestock and livestock product as shown by the figure 14 below.

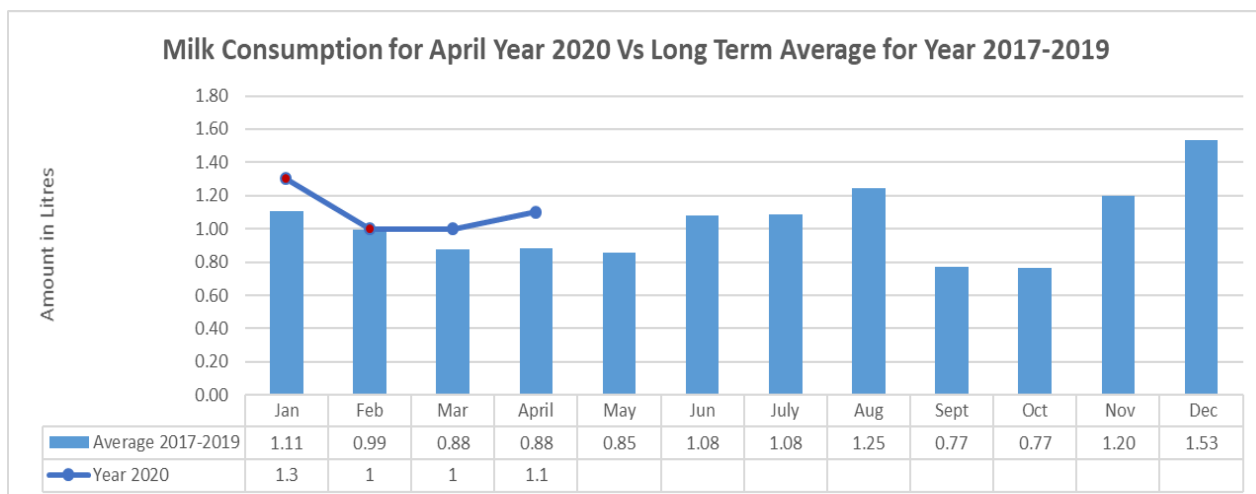


**Figure 14 : Tharaka Nithi Percentage Household Income**

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1.1 Milk Consumption

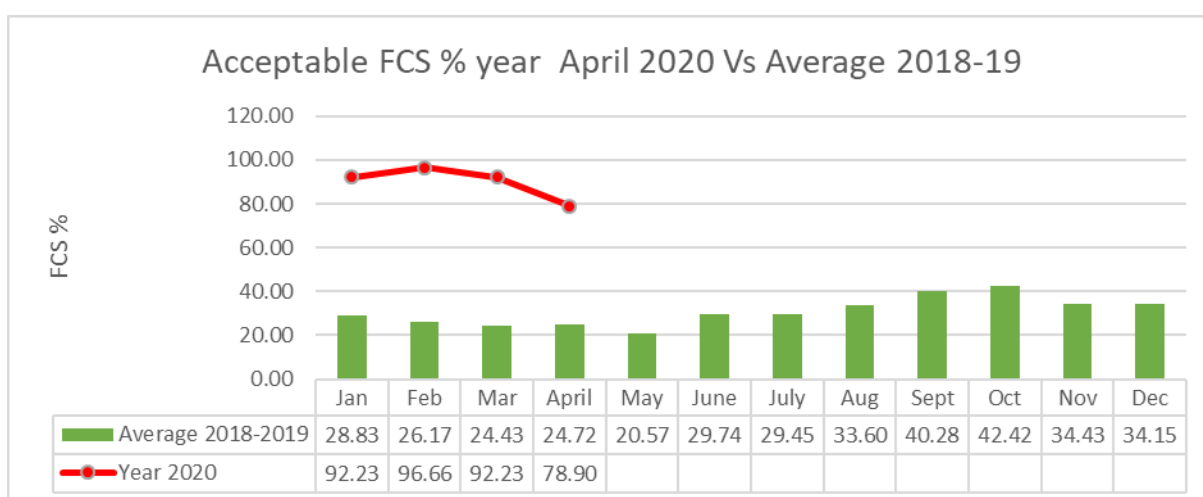
- The average milk consumption per household per day remained within the normal range in the month of April at 1.1 litre per household per day as of the previous month. Pasture and browse continue to improve due to the ongoing long rains.
- The average milk consumed was 25 percent higher than the 3-year average of 0.88 of a litre.



**Figure 15 : Milk Consumption Trend**

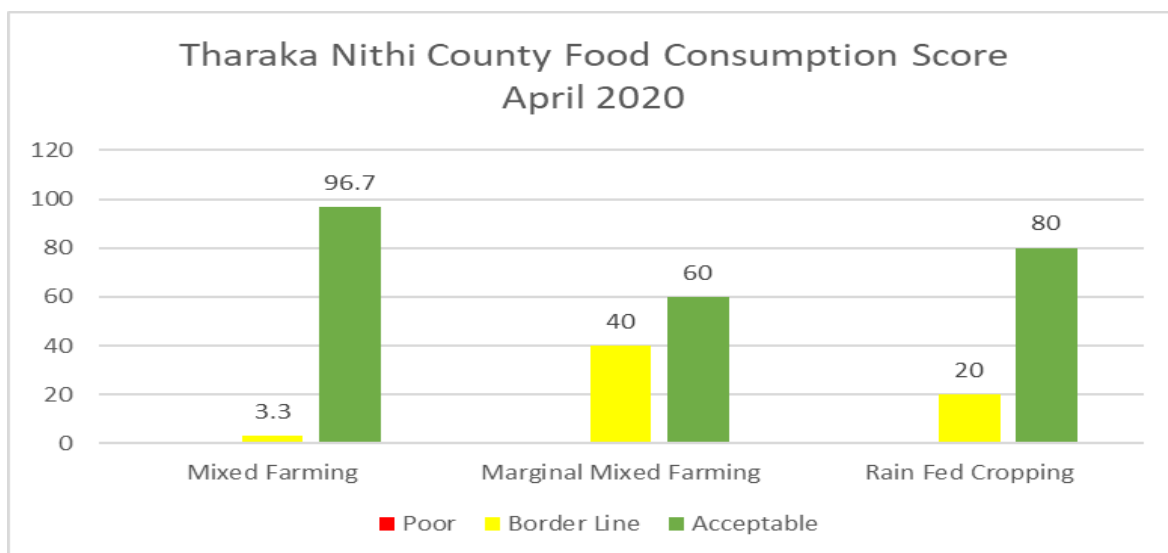
### 5.1.2 Food Consumption Score

- Proportion of households with acceptable Food Consumption Score decreased from 92.23% in March to 78.90% in April as shown by the graph in fig. 16 below.
- Despite the drop, Food Consumption Score, was still within the normal range. 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 Marginal Mixed Farming Zone at 40% followed by Rain Fed Cropping Livelihood Zone at 20% while negligible food stressed households were reported in the Mixed Farming Livelihood Zones at 3.3% 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
April	78.9	21.1	0	21.1

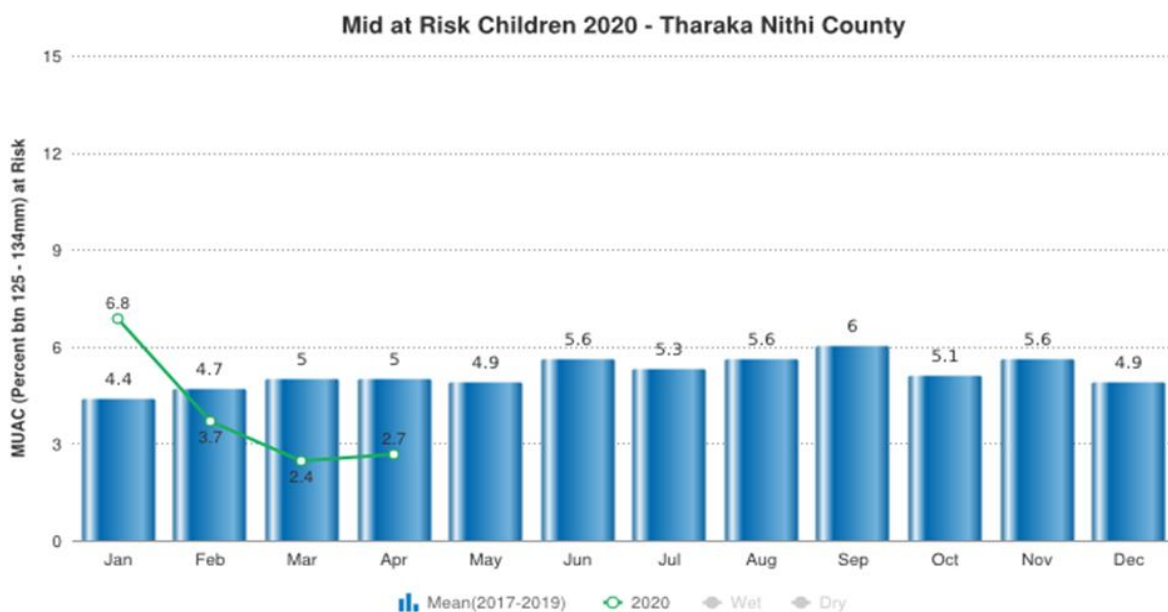
- The poor food consumption score implies household are not consuming staples and vegetables every day and rarely consuming protein rich food, borderline imply household are consuming staple, vegetable every day accompanied by oil and pulse a few times in a week while the acceptable imply households 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 increased from 2.4 percent in March to 2.7 percent in April which was within the acceptable range for April.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 5 percent.



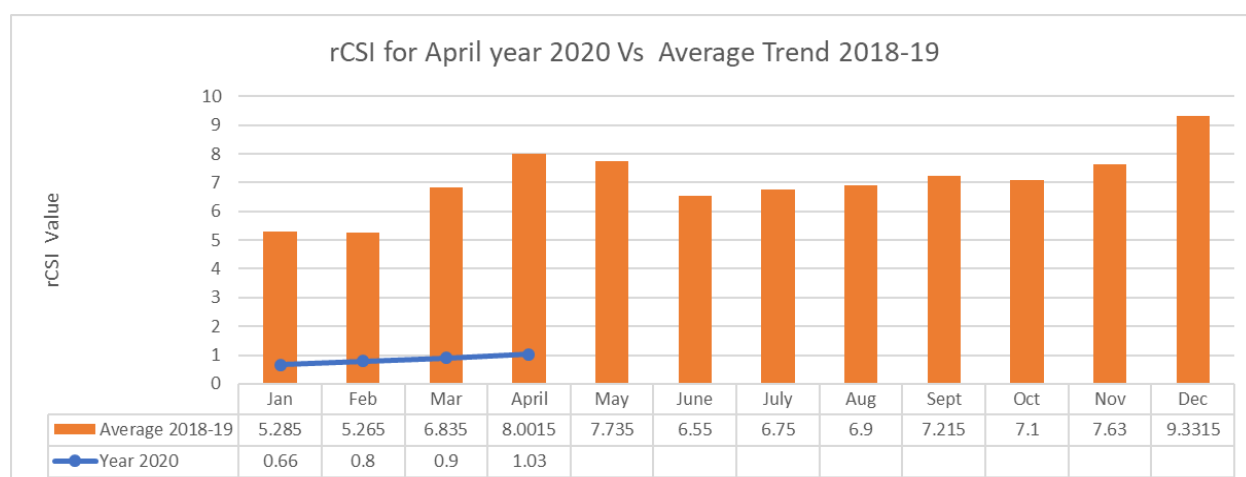
**Figure 18: MUAC Graphs**

### 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 0.9 in March to 1.03 in April 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 April.
- The CSI for April 2020 was lower than that of 2018-19 average for April 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 2.4 followed by 0.7 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 April 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**

- Training of desert locust scouts for prompt identification and reporting when need arises.
- 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..

#### **Livestock and veterinary**

- Livestock pasture development in Tharaka North and South sub counties.
- 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**

- Cereals crops were at the knee stage of development while pulses were at the flowering stage. Main farming activities were weeding and spraying of crops to control pests. Where planting was done in mid-February, farmers were scaring away birds to avoid them destroying cereal crops. Crop condition was good and good harvest is expected towards the end of May for pulses and the end of June for cereal crops.
- 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 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 ongoing long rains.
- Food Stocks at households' level is likely to remain stable and start improving from the next 1 months in all the livelihood zones due to harvesting of pulses beginning end of May.

- 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 within the county 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, Kiaramara, Muturu, Nchegei Rock Catchment	4,000 people, 500 cows, 2,000 goats, 1,000 sheep 200 donkeys
	Renovation of Earth Dams	Gankamba, Nyamboni, Kiaramara, 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