

**National Drought Management Authority
THARAKA NITHI COUNTY (THARAKA)
DROUGHT EARLY WARNING BULLETIN FOR APRIL 2019**



A Vision 2030 Flagship Project



APRIL 2019 EW Phase

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of April was mainly hot and dry in the 1st and 2nd dekad. Most of the rainfall was received in the 3rd dekad. An average of 127.47 mm of rainfall was received during the last week of April in most of the rain gauge stations. The rainfall received was still below the normal range of 80-120% of the long term average.
- The 3months cumulative vegetation cover across the County reduced from that of the previous month and it was below the long term average portraying an extreme vegetation deficit.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition of pasture and browse was below normal and it reduced from that of the previous month. Livestock body condition reduced from that of the previous month due to reduction in pasture and browse.
- Food Stock at households' level was low with a reducing trend due to diminishing stock from the short rains harvest.

Access Indicators

- Livestock prices decreased while commodity prices increased and in some instances remained the same. Grazing distance and household water distance increased from that of the previous month.
- Milk production and consumption decreased due to low TLU's coupled by hot and dry condition which was unfavourable for high milk yield.

Utilization Indicators

- Percentages of children at risk of malnutrition increased from that of the previous month due to low food stock at Household level.
- Following all the above prevailing conditions, the overall drought phase in April was still at alert with a deteriorating trend.

Early Warning Phase Classification

	EW PHASE	TRENDS
Mixed Farming	Alert	Deteriorating
Marginal Mixed Farming	Alert	Deteriorating
Rain Fed Livelihood Zone	Alert	Deteriorating
County	Alert	Deteriorating
Biophysical Indicators	Value	Normal Ranges
Rainfall % of Average	58.21%	80-120
VCI-3month	9.04	>35
Water Sources	Below Normal	Normal
Production Indicators	Value	Normal Ranges
Livestock Migration Pattern	No Migration	No Migration
Livestock Body Conditions	Fair to poor	Good
Milk Production	1 Litre	Above 0.97Litre
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	94	Above 89.2
Milk Consumption	1 Litres	Above 0.88Litre
Water for Households	Normal	Normal
Utilization indicators	Value	Range/Value
MUAC	2.9	Below 6.3
Coping Strategy Index (CSI)	7.93	Below 8.07
Food Consumption (Acceptable FCS)	68.33%	Above 82.23%

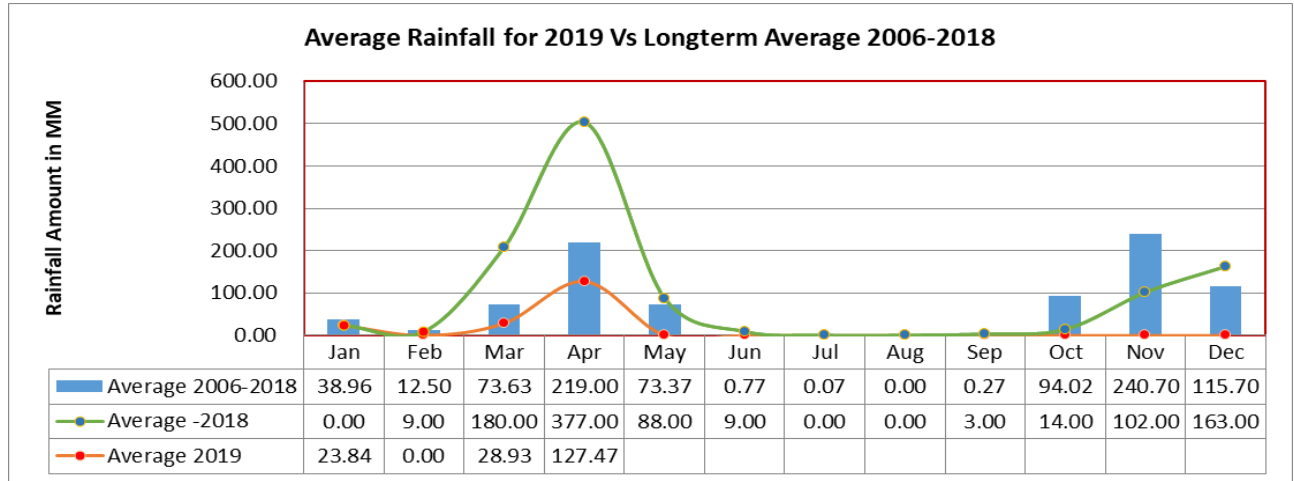
Seasonal Calendar

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

1.0 CLIMATIC CONDITIONS

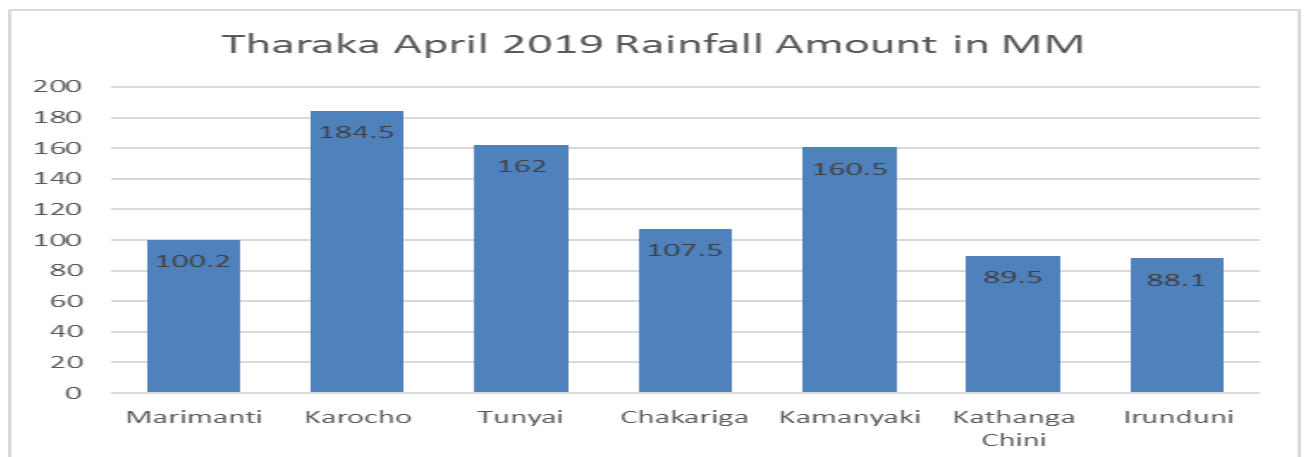
1.1 RAINFALL PERFORMANCE

- Onset of rainfall was on the last week of March (28th of March), however, its continuation was very inconsistent. The month of April was characterised by hot and dry weather condition in the 1st, 2nd and 3rd week with rainfall been received in few areas for an average of 2 days.
- Most of the rainfall in the month of April was received during the 4th week. An average of 127.47mm of rainfall was recorded which was 41.79% below the long term average of 219mm.
- The figure below shows the rainfall trend for 2019 compared to the long term Average.



1.1.1 Spatial and Temporal Distribution of Rainfall

- All the rain gauge stations across the county received rainfall during the month of April, however, the temporal distribution was poor since rainfall was only received during the first week and the last week of the month in the Rain Fed and Mixed Farming Zones (Tunyai, Thiiti, Mukothima, Karocho and parts of Marimanti Ward. In the Marginal Mixed Farming Zones, (Chakariga, Kamanyaki and Kathanga Chini) rains were only received during the last week of April.
- The rainfall were distributed as follows: Marimanti received 100.2mm for 7 days, Karocho received 184.5mm for 4 days, Tunyai received 162mm for 5 days, Chakariga received 107.5mm for 3 days, Kamanyaki received 160.5mm for 4 days, Kathanga Chini received 89.5 mm for 3 days while Irunduni area received 88.1mm for 3 days.
- On average, most of the areas received rainfall for a period of 4 days during the last week of April. The spatial distribution of the rainfall received is as shown in the graph below:



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 9.04 which was indicating an extreme vegetation deficit.
- The vegetation cover for April was below normal compared to that of the long term average.

Table 1: April Vs March 2019 VCI (3M)

ADMINISTRATIVE UNITS		VCI as at 25 th March	VCI as at 29 th April 2019
County	County/Sub County		
Tharaka Nithi	County	40.91	25.99
	Tharaka	24.47	9.04
	Chuka Igambang'ombe	61.68	45.79
	Maara	67.85	55.7

- The matrix below shows the vegetation condition for the month of April 2019 classified based on VCI thresholds.

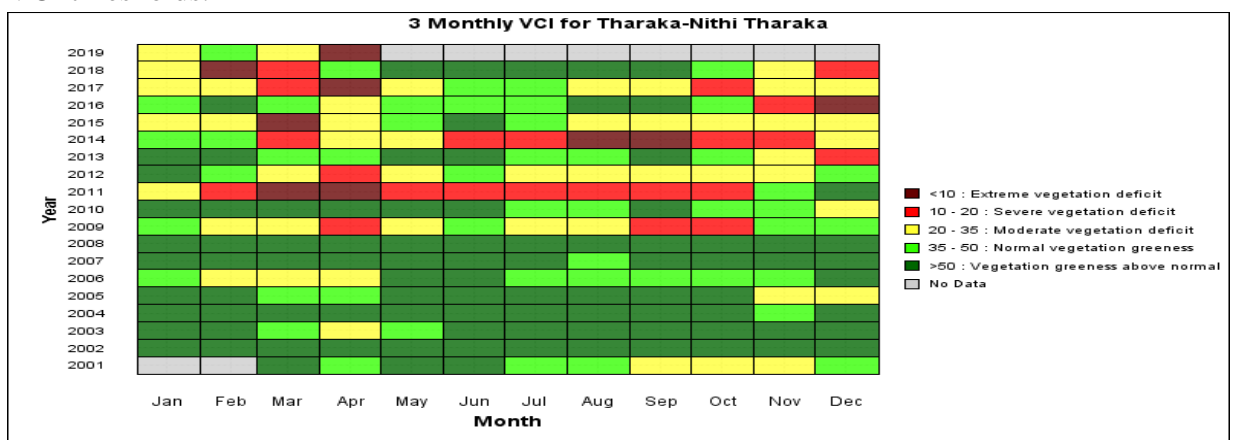


Figure 1: VCI Matrix for Tharaka Nithi (Tharaka)

The chart below illustrates the VCI for Tharaka Nithi (Tharaka) for the month of April 2019.

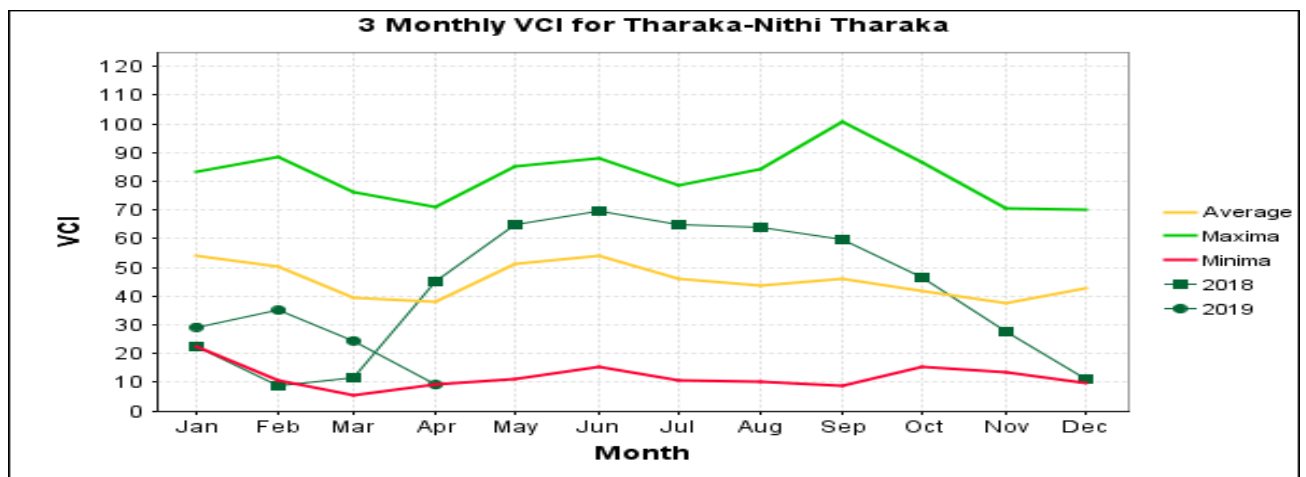


Figure 2: VCI Trend for Tharaka Nithi (Tharaka)

2.2 Natural Vegetation and Pasture Condition

Pasture Condition

- Pasture quantity and quality was poor across all the Livelihood zone during the month of April.

- Pasture condition decreased from that of the previous month in selective areas due to the dry weather condition experienced during the month.

Browse Condition

- Browse condition in terms of quantity and quality was poor across all the livelihood zones in the month of April and it decreased compared to that of the previous month. The browse condition for April was below normal compared to that of the long term average.

2.3 Distance to Grazing Areas

- The average distance to grazing areas in the month of April was almost the same as of the previous month. This was due to poor pasture and browse due to depressed rainfall over time. The longest distance to grazing areas was recorded in the Marginal Mixed Farming Zone at 3.7Km, Mixed Farming livelihood zones at 1.7Km while in Rain Fed Cropping Zone, it was 1 Km.
- The distance to grazing areas was however 8.70 percent lower than the long term average of 2.3 Km for this time of the year.

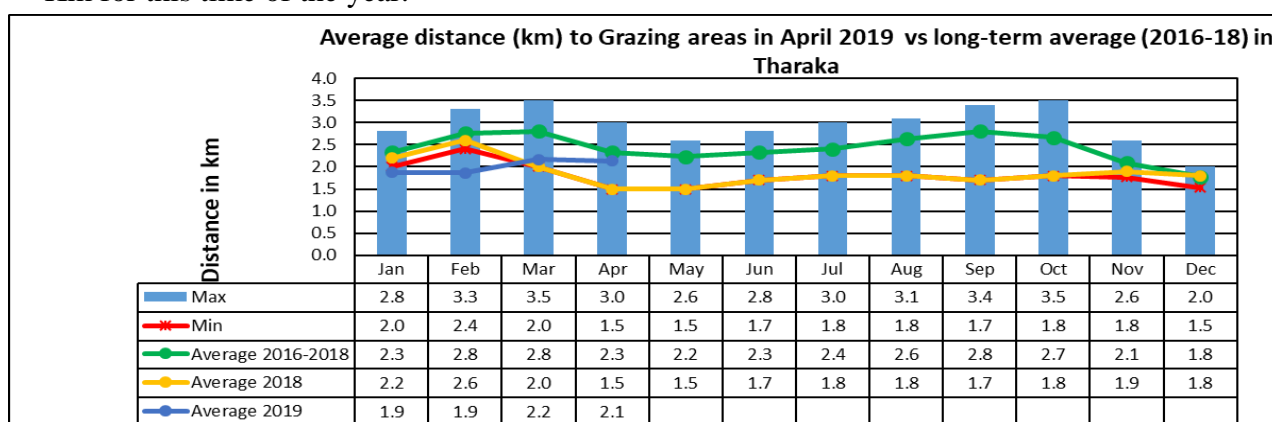


Figure 3: Grazing Distance for Livestock

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

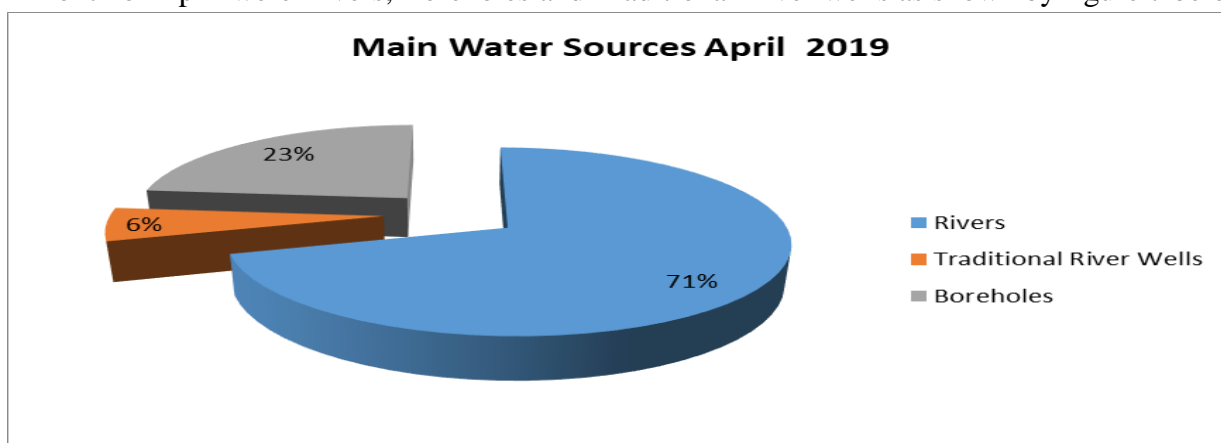


Figure 4: Main Water sources Tharaka Nithi County

State of Water Sources

- The state of water sources for the month of April was below normal and the trend reduced from that of the previous month. Decline of the status of water sources in the Marginal Mixed Farming

Zone whereby about 5 shallow wells have broken down in parts of Gatunga Ward in Kathanga Chini location.

- The status of water sources remained at index 3 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 cattle was poor to fair while that for shoats was fair across all the livelihood zones. Cattle body condition was attributed to poor pasture while that for shoats was also attributed to poor to fair browse.
- The Livestock body condition in April for cattle was rated at index 3 while that for shoats was rated at index 4 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 th & 13 th 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 April. However, suspected cases of Foot and Mouth Disease (FMD) was reported in Kamanyaki, Contagious Pleuropneumonia (CPP) deaths in goats and Newcastle Disease (NCD) in chicken in the months of February.

3.1.3 Milk Production

- Milk production in the month of April remained the same as of the previous month at 1 litre per household per day. This was still low and could be attributed to poor pasture and drop in the livestock TLUs' per household.
- Marginal Mixed Farming livelihood zone had an average production of 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. Milk production per household was 3.09 percent higher than the 3-year average of 1litre per household per day.

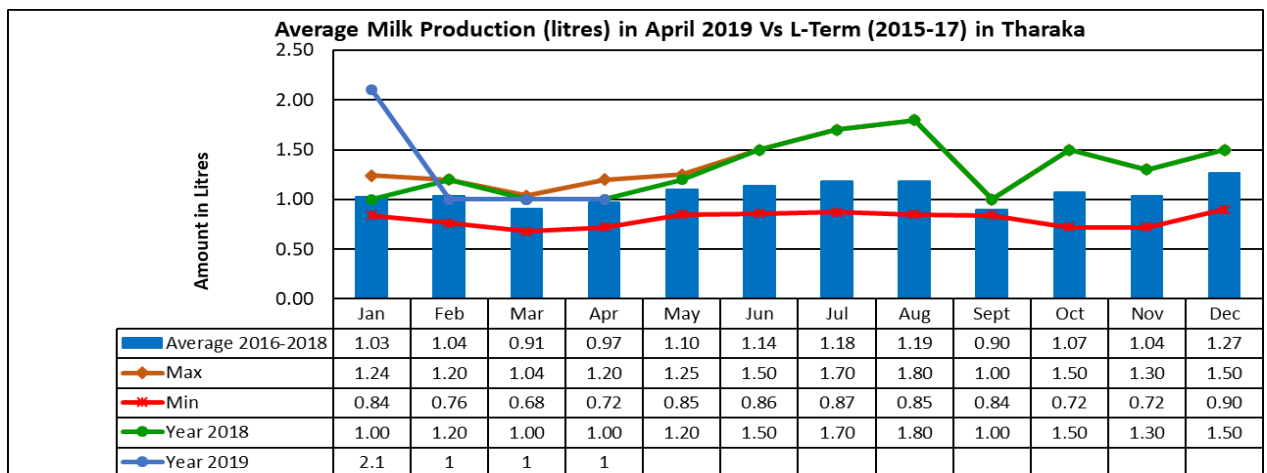


Figure 5: Milk Production Trend

3.2 Crop Production

3.2.1. Timeliness and Status of Crops

- Farming activities for the month under review was planting and weeding of sorghum, millet, green grams, maize and cow peas.

3.2.2. Pests and Diseases

- Minimal cases of crop pests and diseases were reported in the county during the month of April

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- The average cattle price decreased from Kshs. 23,958 in the month of March to Kshs. 18,457 in the month of April. The decrease in cattle price could be attributed to poor pasture leading to a decrease in cattle body condition and average price.
- The Mixed Farming livelihood Zone had the highest average price of Ksh 28,833; Rain Fed Cropping Zone had a price of Kshs 20,000 while the Marginal Mixed Farming Livelihood Zone had the lowest price of Ksh 12,500. The current price was 5.41 percent lower than the three-year average of Kshs 19,513.

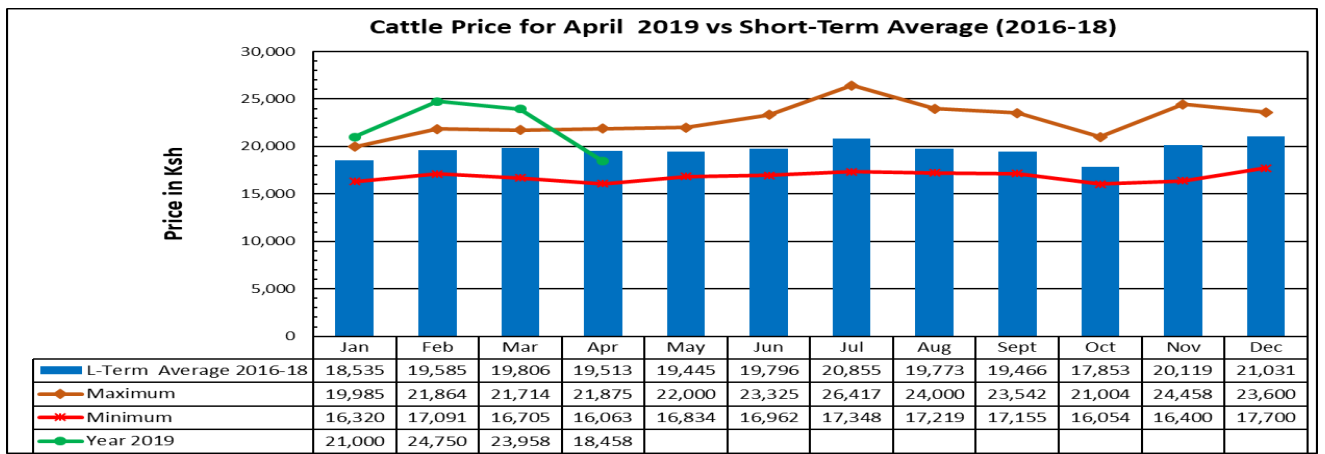


Figure 6: Cattle Price Trend

4.1.2 Goat Prices

- The average goat price decreased from Kshs 4,142 in March to Kshs 3,604 in the month of April. This decrease in price could be attributed to poor browse quantity and quality leading to reduction in body condition and thus a decrease in goats' average price.
- The Marginal Mixed Farming Livelihood Zone had the highest price of Ksh. 4,000; Rain Fed Cropping Livelihood Zone recorded the price of Kshs 3,500 while the Mixed Farming Zone recorded the lowest price of Ksh. 2,917.
- The average goat price was 2.27 percent lower than the three-year average of Ksh 3,524.

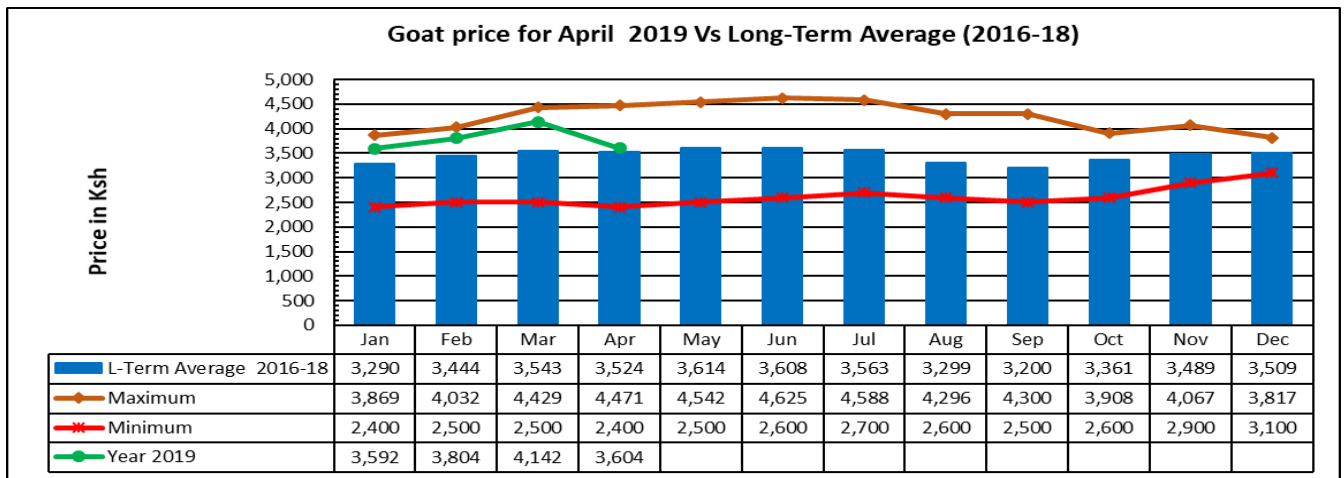


Figure 7: Goat Price Trend

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 30 per Kg in March to Kshs 40 per Kg in the month of April. The increase in Maize price could be attributed to diminishing stock from the short rain harvest in parts of the Rain fed and Mixed Farming Zone within the county and outside the county.
- Maize price was Kshs 35 per Kg in the Mixed, Kshs 40 per Kg in Marginal Mixed Farming Zone and 47 per Kg in Rain fed livelihood zones. The average maize price was 11.11 percent higher than the three-year average of Ksh 36 per Kg.

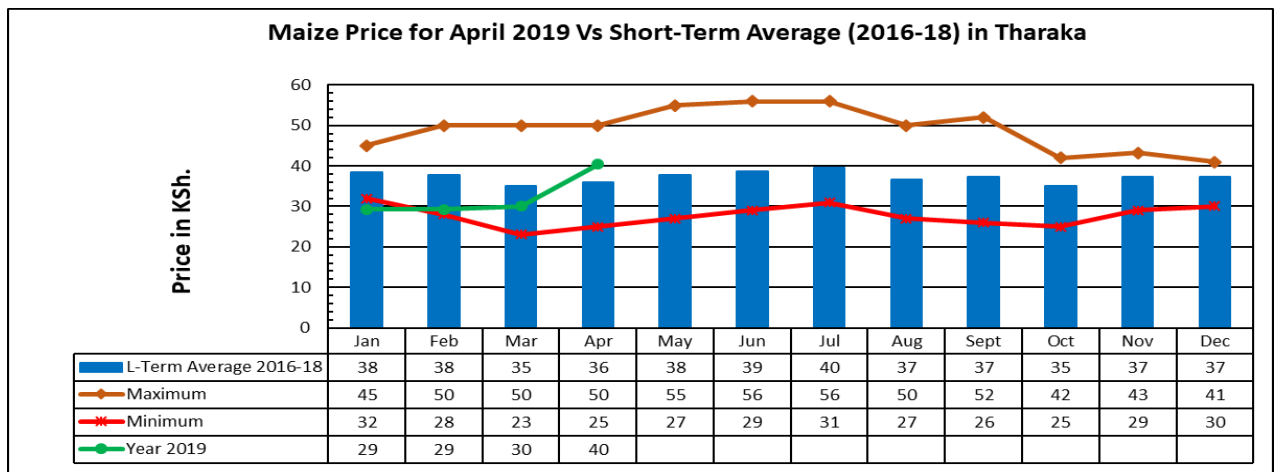


Figure 8: Maize Price Trend

4.2.2 Millet Price at Market Level

- The average market price of millet increased from Kshs 30 per Kg in March to Kshs 43 per Kg in April due to diminishing stocks from the short rain harvest.
- The Rain Fed Zone recorded the highest market price of Kshs 50/Kg, Marginal Mixed Farming livelihood Kshs 45 per Kg while Mixed Farming Zone recorded the price of Kshs 30 per Kg.
- The millet price was 6.52 percent lower than the long-term average price of Kshs.46 per Kg for the month of April.

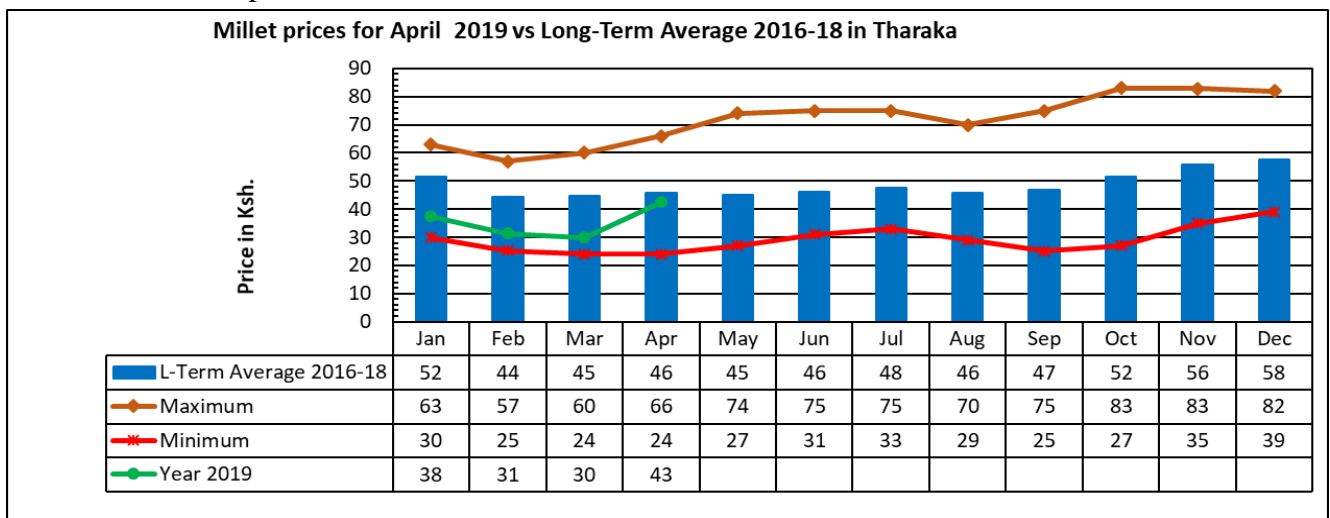


Figure 9 : Millet Price Trend

4.2.3 Terms of Trade (ToT)

- The Terms of Trade decreased from 132.2 in March to 94 in April due to an increase in maize price against an average decrease in goat price recorded during the month of April.
- The highest ratio was recorded in the Marginal Mixed Farming at 100; followed by Mixed Farming Livelihood Zone at 83.34 while Rain Fed Cropping Zone had a ToT of 74.47.
- The ToT for the period under review was 5.38 percent higher than the three year average value of 89.2 during the same period.

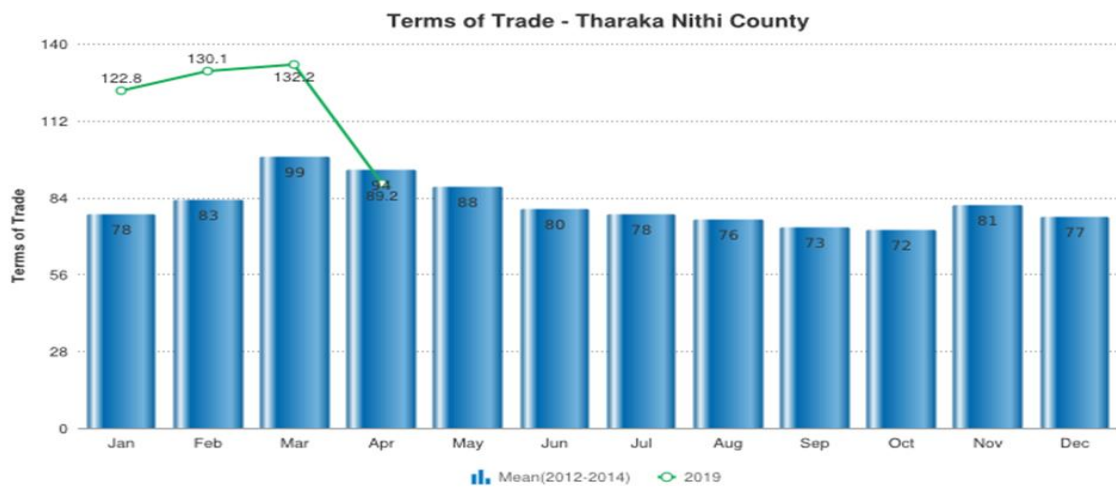


Figure 10: Term of Trade

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1 Milk Consumption

- The average milk consumption was low and it was 1 litre per household per day in the month of April the same as the previous month of March. Low milk consumption could be attributed to decrease in the number of TLUs' per household.
- The average milk consumed was 13.64 percent higher than the 3-year average of 0.88 litre.

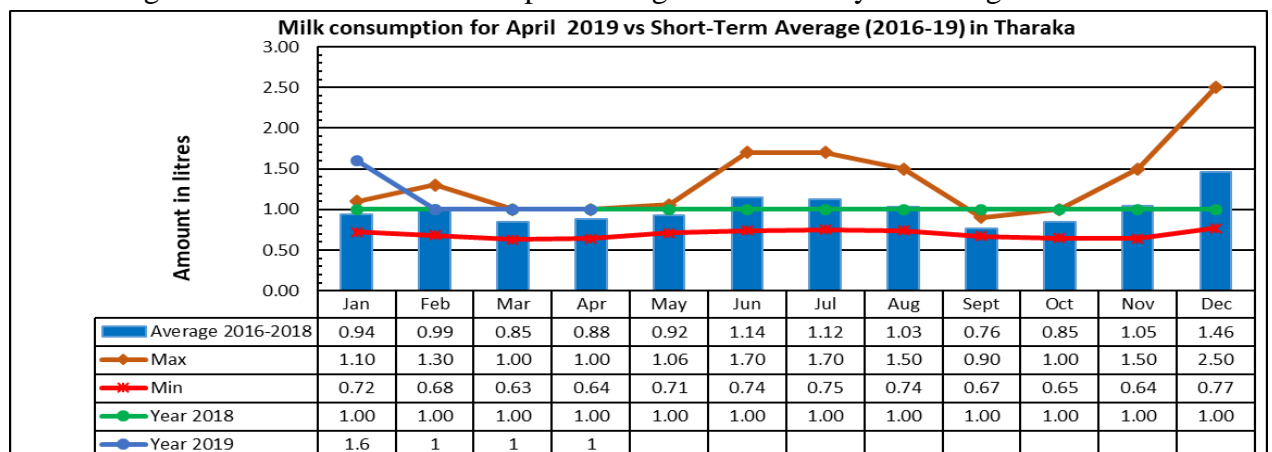


Figure 11 : Milk Consumption Trend

5.1.2 Food Consumption Score

Proportion of households with acceptable Food Consumption Score decreased from 80.57% in March to 68.33% in April as shown by the graph below. The decrease in this trend was attributed to increased difficulty in obtaining food in some areas where there was total crop failure especially at farm gate level within the county and the diminishing stock from the short rains harvest.

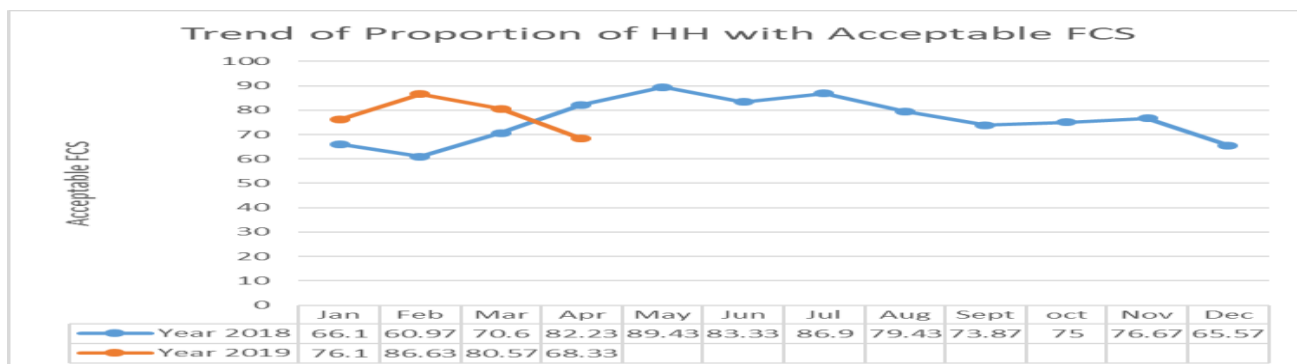


Figure 12: Trend of the Proportion of HHs with Acceptable FCS

- A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 70%, 13.3% in Mixed Farming and 11.7% in the Marginal Mixed Farming Livelihood Zone.

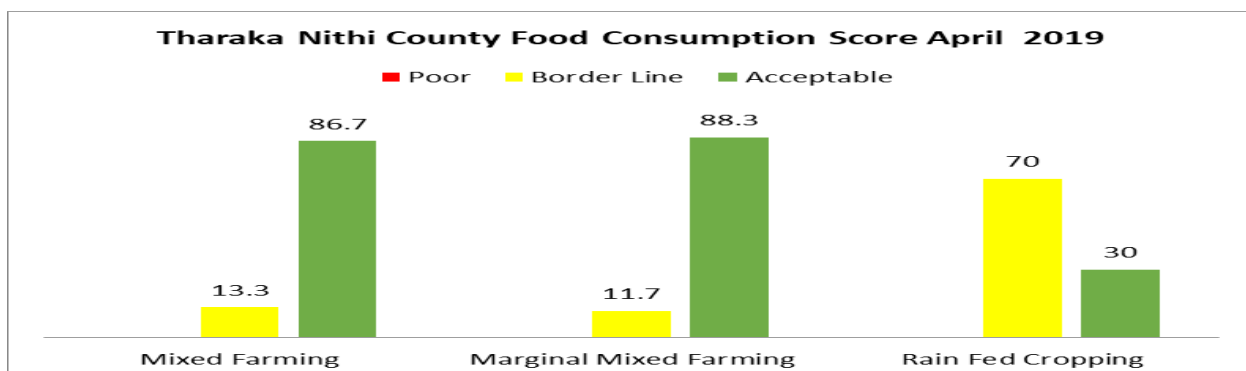


Figure 13: Food Consumption Score Chart

Table 3: Average Food Consumption Score

Period	Acceptable (%)	Borderline (%)	Poor (%)	Food Insecure HH (%)
January 2019	76.1	23.9	0	23.9
February 2019	86.6	13.4	0	13.4
March 2019	80.57	16.67	2.77	19.43
April 2019	68.33	31.67	0	31.67

- 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 decreased from 2.0 Km in the month of March to 1.9 Km in the month of April which was almost the same as of the previous months. Access to water by households was undermined by reduced rainfall and breakages of hand pumps especially in Kathangachini location and drying up of some dams and water pans. Acute water shortage was also witnessed in Chakariga and most schools in Maragwa location.
- In some instances, there has been malfunctioning of solar powered shallow wells and vandalism and stealing of the solar equipment hence need for proper sensitisation.

- Household water distance was in Marginal Mixed Farming Livelihood Zone 3.8 Km, Mixed Farming livelihood Zone recorded an average distance of 2.4 Km while Rain Fed zone had a distance of 0.6 Km per household.
- The distance of household access to water was higher than the long-term average of 1.8 Km for the month of April.

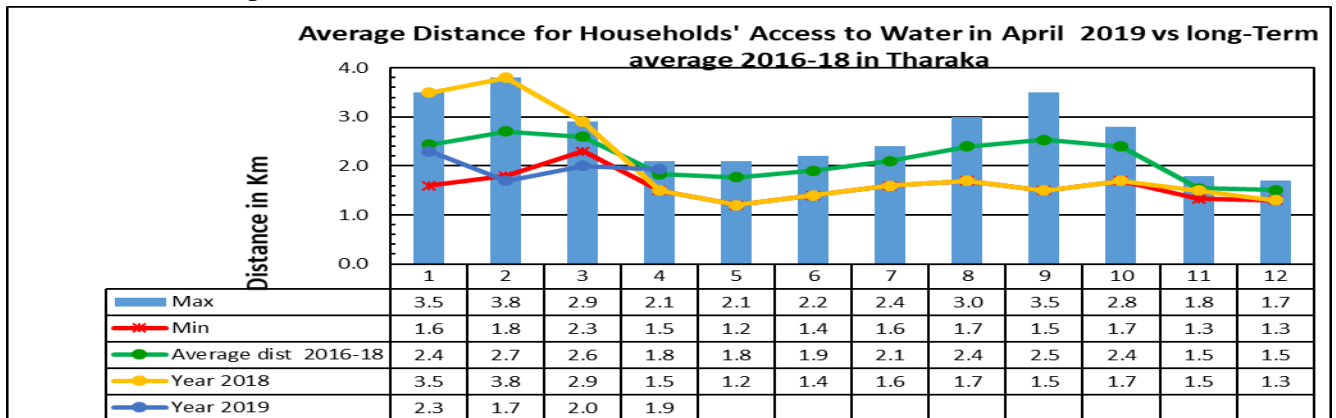


Figure 14 : Household Water Distance Graph

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 increased from 2 percent in March to 2.9 percent in April which was attributed to diminishing food stock at household level.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 6.3 percent.

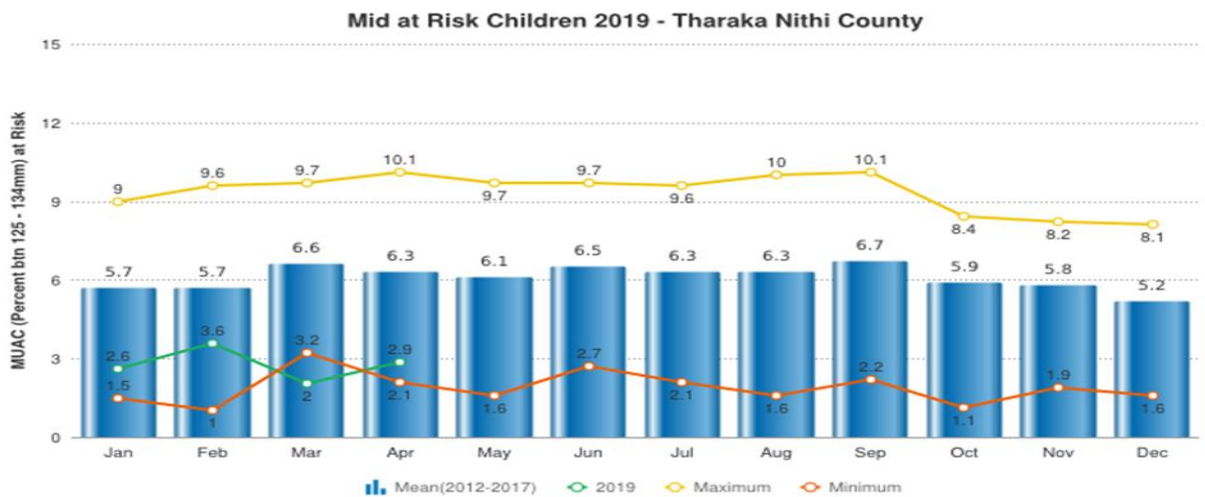


Figure 15: MUAC Graphs

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.

- Cases of Anthrax were reported in Karimba village in Maara Sub County where approximately 30 people were affected.

5.2.4 Coping Strategy Index

- The Coping Strategy Index (CSI) increased from 7 in March to 7.93 in April which was attributed to an increase in the level of household stress due to lack of food or money to buy food during the month of April. The CSI for April was almost the same as the 2018 average for April. The drought situation is at alert and the condition is most likely to become worse. This should be of great concern since the harvest was below the long term average.

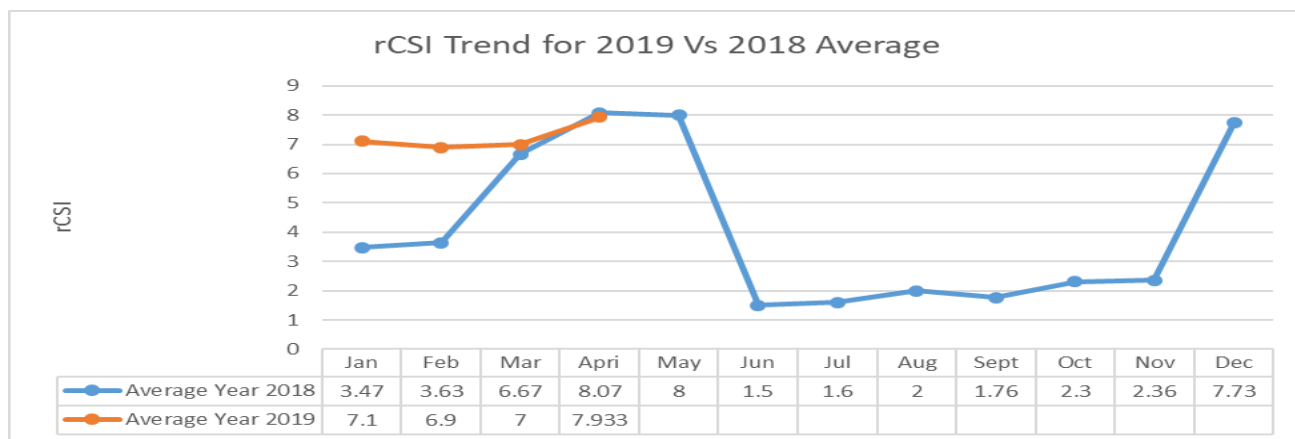


Figure 16 : Trend of CSI

- The highest CSI was recorded in the Marginal Mixed Farming zone at 22 followed by 1.2 in the Mixed Farming Zone while the Rain Fed Livelihood Zone recorded the least CSI of 0.6.
- 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

6.1 Food Interventions

1. 300 bags of 50Kg of maize and 150 bags of 50kg were distributed in schools and vulnerable households of the 7 locations of Tharaka North Sub County from the ministry of Special Program through the Office of Deputy County commissioner Tharaka North.
2. 300 bags of 50Kg of maize and 150 bags of 50kg were distributed in schools and vulnerable households of the 14 locations of Tharaka South Sub- County from the Ministry of Special Program through the Office of Deputy County commissioner Tharaka South.

6.2 Non-Food Interventions

Table 4: Non-food interventions

Ongoing Interventions

Intervention	Objective	Specific Location	Activity target	Cost	No.of beneficiaries	Implementat ion Time Frame	Implementation stakeholders
Agriculture							

Sector							
Distribution of 1,968Kg of sorghum and 976 Kg of green grams relief seeds to farmers in Tharaka North Sub County	Promote production of sorghum and green grams in Tharaka North Sub County	Gatunga,Kanjo ro,Kathanga chini, Maragwa, Gikingo,Thiiti, Ntoroni	Farmers in Tharaka North Sub County.	-	Farmers in Tharaka North Sub county	March to April 2019	County Government through Dpt. of Agriculture
Distribution of 2,000 Kg of sorghum and 940Kg green grams relief seeds to farmers in Tharaka South Sub County	Increase production of sorghum and green grams	All Locations in Marimanti, Chakariga and Nkondi ward	Farmers in Tharaka South Sub County.	-	Farmers in Tharaka South Sub county	March to April 2019	County Government through Dpt. of Agriculture
Promotion of conservation agriculture	Promotion of drought tolerant crop varieties and water harvesting technologies for improved productivity and profitability	Tharaka North	Households	10M	1,700 Farmers	December 2020	MOA/FAO
Cereals enhancement program	Promotion of input usage for Higher crop productivity	Tharaka North Tharaka South	Households	20M	4,500 (1,577 Under e-voucher)	December 2021 December 2019 To be extended	MOA/KCEP
Conservation Agriculture	Improved crop productivity and profitability	Tharaka South	All areas	2M	1,700	December 2018	MOA/FAO
Improved Smallholder Productivity and Profitability	Improved crop productivity and profitability	Tharaka South	Households	5M	2000	December 2019	FAO/MoA
Grain storage	Reduce post-harvest losses and maximize profit of cereals	6,200	Gikingo	20M	2.0M	2yrs	MOA
Livestock Sector							
Dairy farming – goats and cow	To improve production and availability of milk	Tharaka South	Household	2.1 M	70	1year(up to June, 2019)	Upper-Tana & Livestock Production Office
Goats upgrading for milk and meat	To increase income at household level and nutrition diversity	Tharaka North	Household	2.1 M	360	July 2018- June 2019	Upper Tana (UTaNRMP), and Livestock Department

Upgrading of local chicken	To increase income at household level and nutrition diversity	Tharaka North	Household	2.1 M	400	July 2018-June 2019	Upper Tana (UTaNRMP,) Caritas of Meru and Livestock Department
Water Sector							
Construction of Manduru earth dam Gatunga Ward	Improve water availability	Tharaka North	Household	5M	2,000	June-August 2018	GoK/ WSTF
Rehabilitation of Ura-Kathangachini water project	Improve water availability	Tharaka North	Household	4M	2,000	June-August 2018	County Government
Rehabilitation of Kamacabi water project	Improve water availability	Tharaka North	Household	4M	2,000	June-August 2018	County Government
Extension of water pipe line from Marimanti to Maragwa	Improve water availability	Tharaka North	Household	4M	1,000	2017-2018 FY	GoK Through WSTF and County Government
Re-construction of Kaibonce concrete dam	Improve water availability	Tharaka South	Household	4M	2,000	1 month	Kenya Climate Smart Agricultural programme
Training community KCSAP concept to know strength, resources & the gaps.	Improve water availability	Tharaka South	Household	2M	500	1 month	Kenya Climate Smart Agricultural programme
Health & Nutrition							
Transforming health system-Universal health coverage	Reproductive maternal neonatal and adolescents	All wards-Tharaka South and North	All health facilities	20M	PLW, and Under 5	Continuous	MOH, World Bank
Vitamin A Supplementation	Improved Vitamin A coverage	All wards-Tharaka South and North	All health facilities	3M	Children under 2 years	Continuous	MOH
High impact nutrition programme	Management of malnutrition	All wards-Tharaka South and North	All health facilities	11M	All children under 5 years, pregnant and lactation mothers.	Continuous	MOH
IYCN Interventions (EBF and Timely Intro of complementary Foods)	Improved < 5 nutrition	All wards-Tharaka South and North	All health facilities	2M	PLW	Continuous	MOH
Management of Acute Malnutrition (IMAM)	Management of malnutrition	All wards-Tharaka South and	All health facilities	2.3 m	All children under 5 years	Continuous	MOH

		North					
Education							
Homegrown School meals programme	Improved enrolment and retention	All wards	68 schools	15M	17,801 pupils	Continuous	MOE
Expanded school meals programme	Management of malnutrition	All wards	37 schools	7M	8,008 Pupils	Continuous	IAS (International Aid Services)

7.0 Food Security Prognosis

- Food Stocks at households was fast depleting across all the livelihood zones and was low due to poor short rain harvest. The trend is likely to reduce till June when the next harvest is expected.
- Currently weeding of farms is ongoing in most Livelihood Zones.
- Markets operations are likely to fluctuate depicting different trends for livestock and crops. Commodity prices are high and are likely to increase in the next 1 months due to diminishing stocks from the short rains harvests while livestock prices are most likely to increase for the next 1 months due to improved pasture and browse from the expected long rains season.
- Status of water sources is below normal with household and Livestock watering distance being outside the normal ranges but the situation is likely to improve for the next 1 month if the rains continues leading to increase in volume of water from rivers upstream.
- Pasture condition is poor but the condition may improve in the next 1 months should the rains continue resulting to shorter grazing distance, improved milk production; good livestock body condition and increased livestock prices.
- Terms of Trade decreased significantly in favour of crop farmers compared to crop farmers and the trend is likely to continue till the next harvest season in June.
- Households in the County are likely to remain Food stressed till the next harvest in June.

8.0 Recommendations

- Activate the drought contingency plan and start implementing some drought contingency activities to cushion vulnerable households against drought.
- Capacity building on improved farming technologies and conservation agriculture.
- Mass Vaccination of Cattle against Foot and Mouth Disease (FMD), goats against Contagious Caprine Pleuropneumonia (CCPP) and Chicken against New Castle Disease (NCD).
- Upscale of Health and Nutrition outreach services on child monitoring.
- Capacity building of community members on Disaster Risk Reduction measures.
- Sensitisation and promotion of water treatment methods to avoid infection and spread of water related diseases.
- Upscale vaccination of poultry to protect them against Newcastle disease.
- Community Sensitization on the importance of sustainable water use, DRR measures, controlled grazing and proper stocking rate.