

National Drought Management Authority
THARAKA NITHI COUNTY (THARAKA)
DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2021



A Vision 2030 Flagship Project



February 2021 EW Phase

Drought Status: NORMAL



Drought Situation & EW Phase Classification
Biophysical Indicators

- The weather condition during the month of February was dry and hot. An average Rainfall of 9.7mm was recorded during the month which was a normal occurrence during that time of the year. Status of water sources realised a slight decline but still remained normal due to the average cumulative rainfall received during the short rainy season.
- The overall vegetation cover across the County showed some improvement and it was normal, this was enhanced by the use of crop residue to supplement forage. Farming activities during this time of the year was harvesting and threshing. Crop yield was expected to drop by about 10 to 20% of the long term yield due to erratic short rains and Quelea birds/ locust infestation in some parts of the County.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- Livestock body condition was good while food stocks at household levels was improving due to the ongoing short rains harvest. Markets operation was normal both for commodities and Livestock and the trading volumes was normal.

Access Indicators

- Livestock prices were high while commodity prices were fairly stable due to good pasture condition and the ongoing harvesting.
- Household water distance was normal due normal status of water
- Milk production and consumption was within the normal range.

Utilization Indicators

- Following all the above prevailing conditions, the overall drought phase in February was normal with a mixed trend.

Early Warning Phase Classification

	EW PHASE	TRENDS
Mixed Farming	Normal	Stable
Marginal Mixed Farming	Normal	Stable
Rain Fed Livelihood Zone	Normal	Stable
County	Normal	Stable
Biophysical Indicators	Value	Normal Ranges
Rainfall % of Average	80%	80-120
VCI-3month	45.39	>35
Water Sources	Normal	Normal
Production Indicators	Value	Normal Ranges
Livestock Migration Pattern	No Migration	No Migration
Livestock Body Conditions	Fair	Good
Milk Production	1 Litre	Above 1.13 of a Litre
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	149.8	Above 118
Milk Consumption	0.8 Litres	Above 1.18 Litre
Water for Households	Normal	Normal
Utilization indicators	Value	Range/Value
Coping Strategy Index (CSI)	1.3	Below 3.78
Food Consumption (Acceptable FCS)	88.37%	Above 26.17%
MUAC	2	Above 2.8

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

- The month of February was characterised with hot and dry weather conditions. An average of 9.7mm of Rainfall was recorded during the month which was normal compared to the Long term average precipitation of year 2013 to 2020 for February of 8.9 mm.
- However, the precipitation condition for February 2021 was lower than that of the previous year of 2020 which was 38.8 mm. Figure 1 below shows the rainfall trend for 2021 compared to the long term average and that of the previous year of 2021.

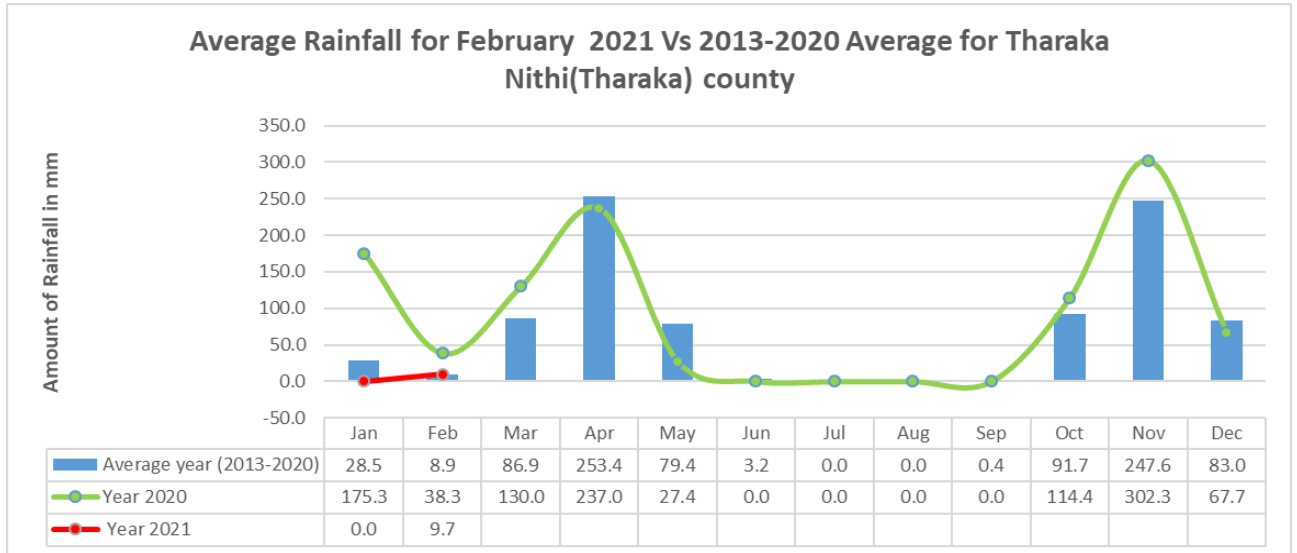


Figure 1 : Rainfall trend for 2021 Vs 2013-2020 Average

I
S

received in the month of February.

Chakariga received an amount of 25mm for 2 days; Marimanti received 14.7mm for 3 days; Tunyai received 13.9mm for 2 days; Karocho received 6.3mm for 1 day; Kamanyaki received 5.1mm for 1 day; Mukothima received 3.0mm for 1 day while Kathangachini and Irunduni did not receive any rainfall as shown by figure

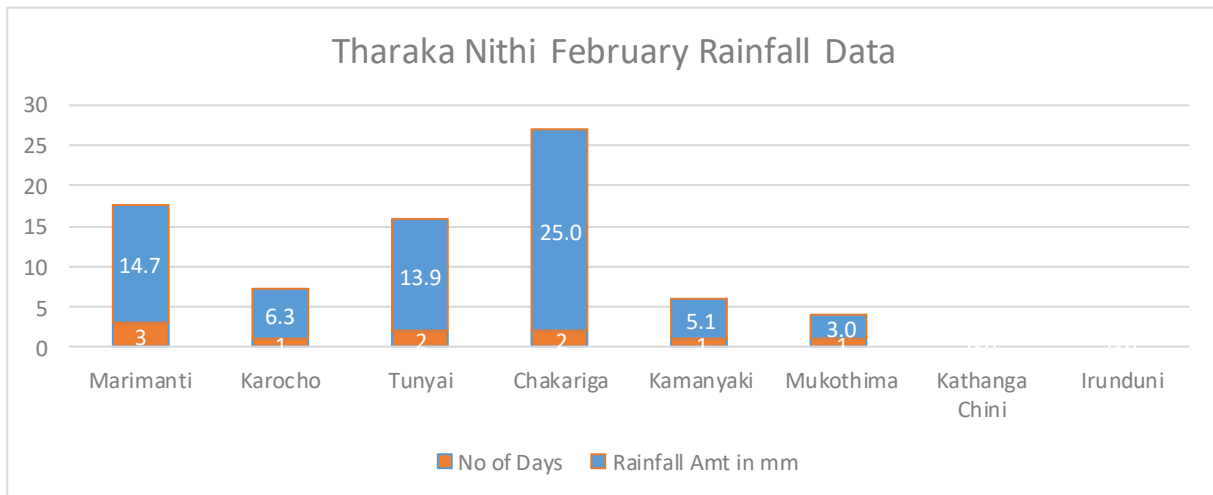


Figure 2 : Tharaka Nithi Rainfall Distribution

2.0 IMPACTS ON VEGETATION AND WATER

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 February was 45.39 from 49.27 in January indicating an overall normal vegetation greenness.
- However, some localized areas of the county such as parts of Gatunga ward in Tharaka North Sub-County such as Gaceuni, Kiamiramba, Mpuku, Nkiruni, Maragwa and parts of Kamarandi areas called Kathandeni which were heavily depressed by the Short rains still showed below normal vegetation cover.
- Pasture and browse remained normal across all the livelihood zones due to average performance of the short rains and light showers which were received in the month of February except for the above mentioned areas.
- The matrix in figure 2 below shows vegetation cover classification based on the drought phases while figure 3 shows the trend of vegetation cover in terms of vegetation condition index for Tharaka Nithi (Tharaka) County.

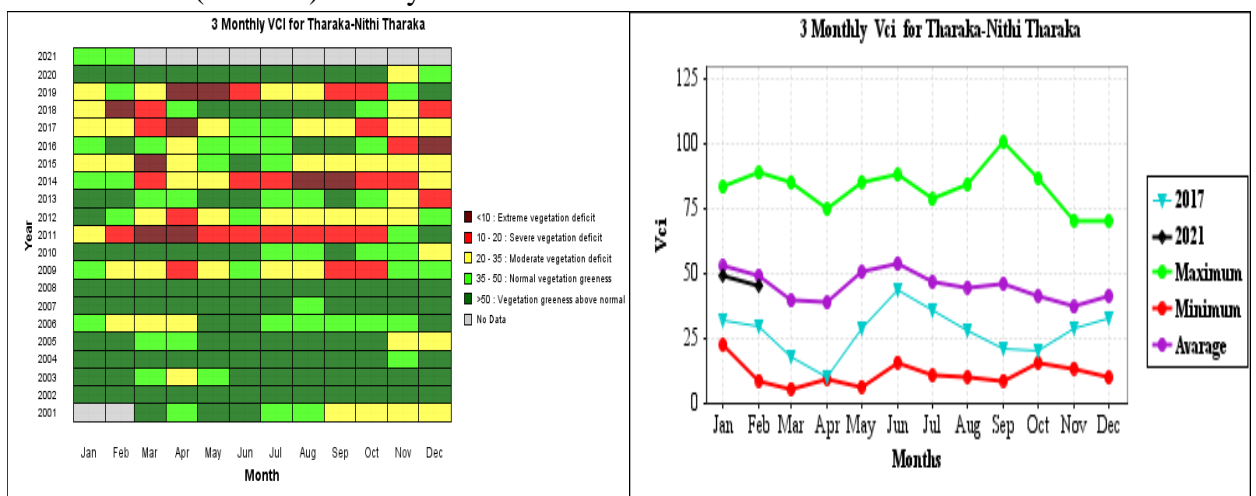


Figure 3: Matrix of VCI Classification

Figure 3: Chart of VCI Trend

Table 1: February 2021 Vs January 2020 VCI (3M)

ADMINISTRATIVE UNITS		VCI as at 31 st January 2021	VCI as at 28 th February 2021
County	County/Sub County		
Tharaka Nithi	County	59.07	56.18
	Tharaka	49.27	45.39
	Chuka Igambang'ombe	72.88	70.67
	Maara	73.45	72.88

2.2 Natural Vegetation and Pasture Condition

Pasture Condition

- Pasture quantity and quality was good to fair across all the Livelihood zones during the month of February due to the average performance of the short rains, the condition is expected to continue improving due to supplementation of pasture with crop residue which will help to release pressure on pasture. However, some parts of the Marginal Mixed Farming Livelihood Zones had below normal pasture due to poor rainfall and the situation will remain such till the onset of the long rains in mid-March. Those areas include Gaceuni, Kiamiramba, Mpuku, Nkiruni and Maragwa areas.

Browse Condition

- Browse condition in terms of quantity and quality was good across all the livelihood zones in the month of February with improving trend from that of the previous months. This upward trends was due to slight showers of rains in some parts of the county.

2.2 Water Sources and Availability

2.2.1 Main Sources of Water

- The main sources of water for livestock and domestic use in Tharaka Nithi County for the month of February was: Rivers, Traditional River wells, Pans & Dams and Boreholes as shown by figure 4 below.
- In some trading centres, there was use of piped water system which is mainly abstracted from rivers.

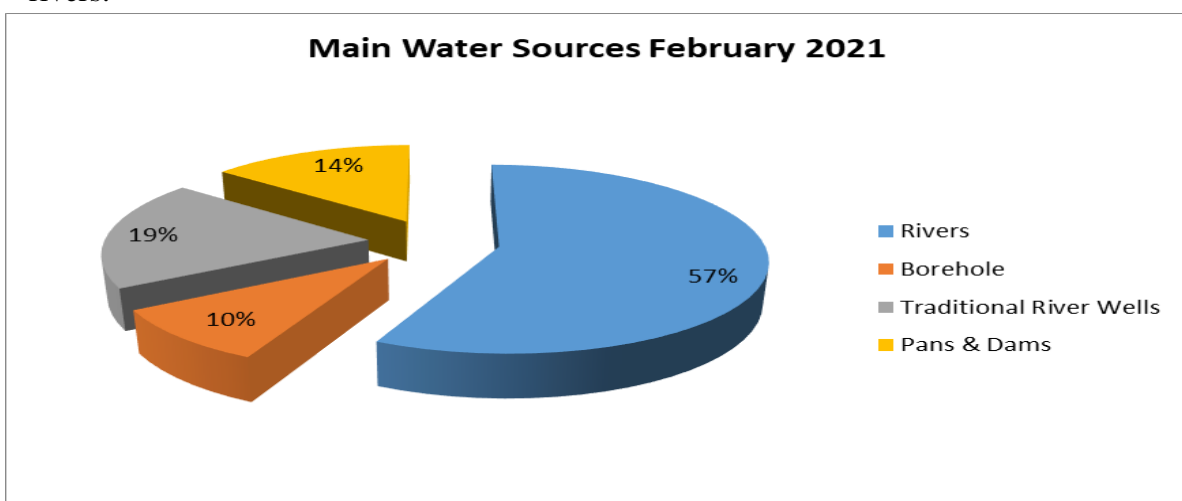


Figure 4: Main Water sources Tharaka Nithi County

2.2.2 State of Water Sources

- The state of water sources for the month of February was still within the normal range. The trend remained stable in February due to the performance of the short rains which was above normal in the months of October and November. The water recharge level both for the surface and underground sources was above the normal range which led to flooding and increased erosion in some areas which led to increased contamination of water in some areas.
- Status of water sources across all the Livelihood Zones was ranked as good which is 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

2.2.3 Household Water Access

- Average Household water return distance increased from 4 Km in January to 4.2 Km in February. This increase in Household water distance was attributed to the drop in rainfall performance and the high temperatures experienced in February leading to increased evaporation and a decrease in recharge of water sources leading to increased distance. Household return water distance in Marginal Mixed Farming Livelihood Zone was 5.4 Km, 2.8 Km in Mixed Farming Livelihood Zone while the Rain Fed Livelihood Zone had the least household water distance of 1.2 Km.
- The average distance of household access to water was 30.95% lower than the long-term average of 5.5 Km for the month of February.

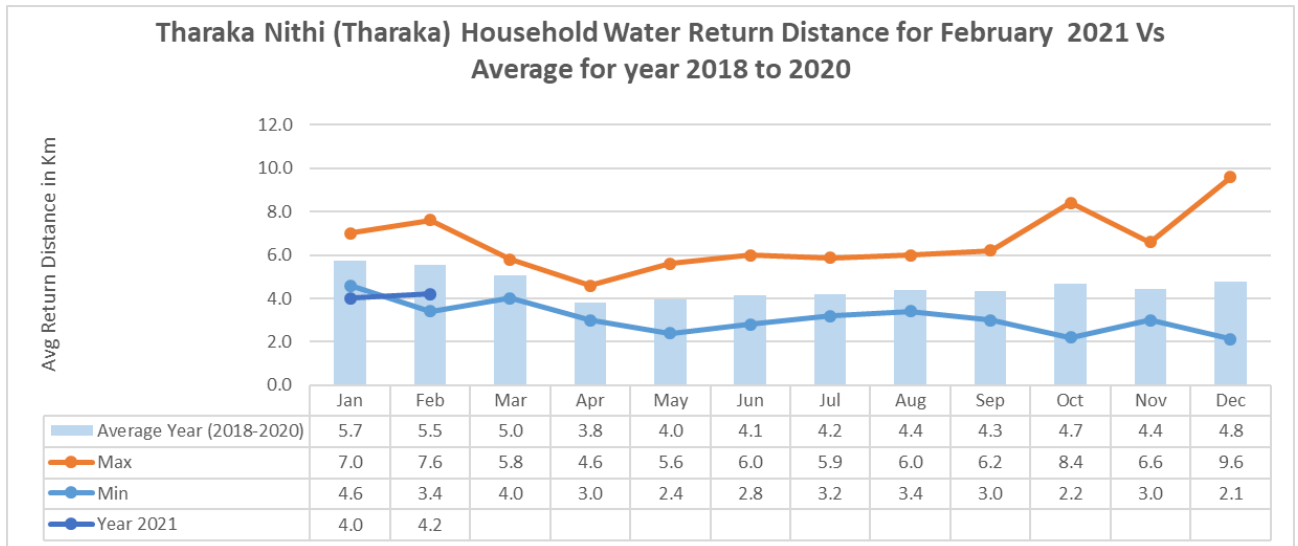


Figure 5: Household Water Distance

Livestock Access to Water

- Average return water distance from grazing area increased from 3.7 Km in January to 4.2 Km in February. The increase in distance of livestock access to water was attributed to low recharge level of water sources leading to a decrease of access to water by livestock.
- The longest return water distance to grazing areas was recorded in the Marginal Mixed Farming Zone at 5.6 Km, followed by Mixed Farming Zone at 3.4 Km while Rain Fed Cropping Zone recorded the least distance of 2 Km.
- The average return water distance from grazing areas was 23.81% lower than the long term average distance of 5.2 Km for this time of the year.

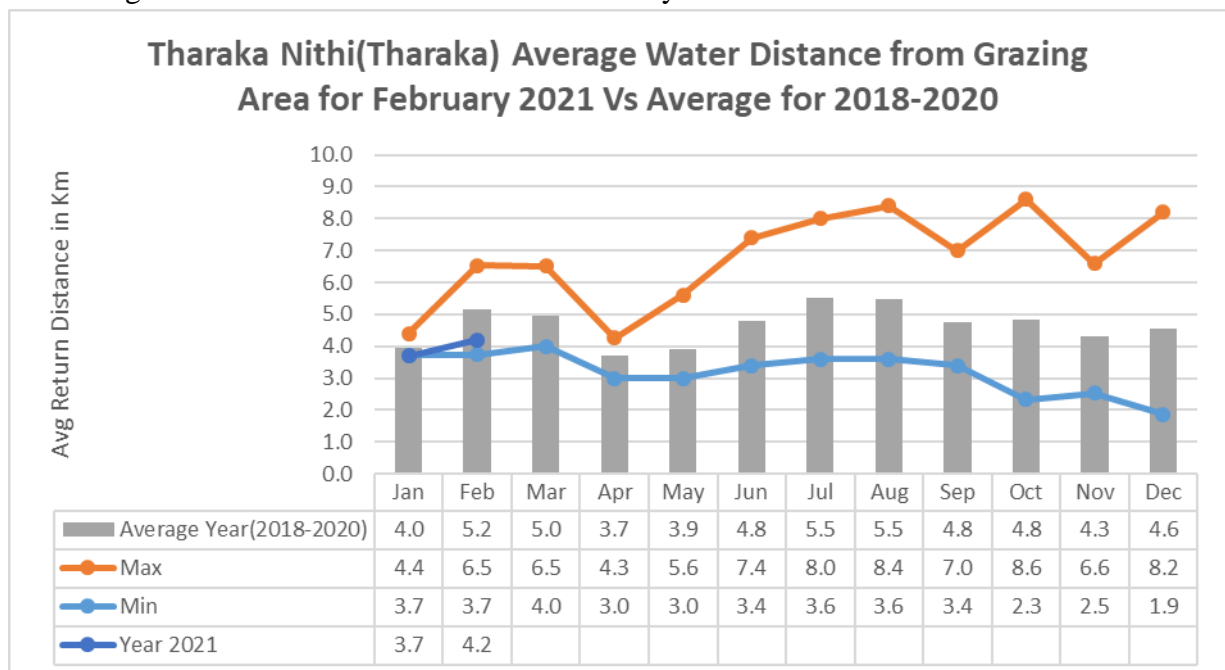


Figure 1: Grazing Distance for Livestock

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 good livestock body condition could be attributed to good pasture and browse condition across most of the livelihood Zones and supplementation of livestock feed by crop residue.
- The Livestock body condition in February for cattle and shoats was rated at index 7 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 migration. However, there was a total of 3 cases of rabies reported 1 each in Gatue, Kathangachini and Maragwa in Tharaka North in goats.
- Cases of Tick borne diseases were reported in goats (i.e. 22 cases of Anaplasmosis, 1 case of babesiosis, and 2 cases of heart water in Marimanti; 1 case of East Coast Fever in Nkondi).
- About 10 cases of trypanosomiasis were reported for cattle in Marimanti and Nkondi wards.

3.1.3 Milk Production

- The average Milk production per household per day decreased from 1.2 litre in January to 1.0 litre in February. The decrease in milk production could be attributed to the high temperature during the month which was unfavourable for high milk production.
- Marginal Mixed Farming livelihood Zones had an average production of 2 litre per household per day while the other livelihood Zones recorded 0.8 of a litre per household per day. Milk production per household was 13 percent lower than the 3-year average of 1.13 litre per household per day for this time of the year.

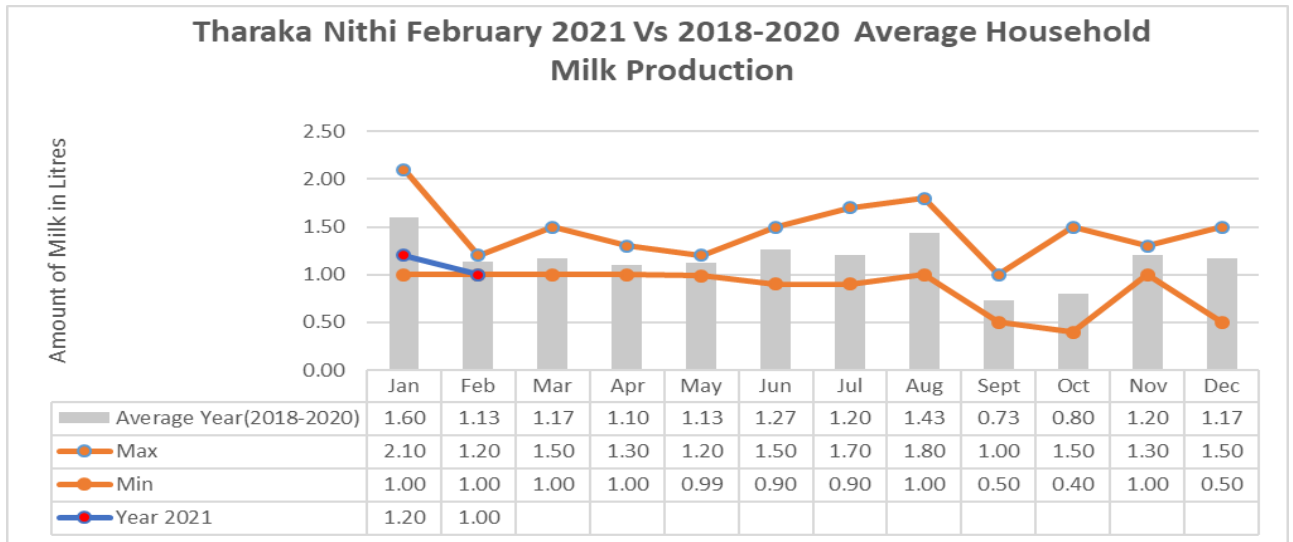


Figure 6 : Milk Production Trend

3.2 Crop Production

3.2.1. Timeliness and Status of Crops

- Farming activities during the month of February was short rain harvesting of green grams, cow peas, maize and cereal crops such as sorghum and millet.
- Harvesting is expected to be concluded by mid-February to March. Farmers are also engaged in threshing, marketing and selling of their produce.

3.2.2. Pests and Diseases

- There were few reported cases of pests and diseases during the month of February.
- The main pest reported were the stalk borers which were mainly affecting the cereal crops such as maize in Karocho and parts of Tunyai.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- The average cattle price increased from Kshs. 30,583 in January to Kshs. 32,500 in February which was attributed to good pasture hence improved cattle body condition leading to an increase in cattle price. The Marginal Mixed Farming livelihood Zone had the highest average price of Kshs 35,500; the Mixed Farming Livelihood Zone had the price of Kshs 32,667 while the Rain Fed Cropping Livelihood Zone had the least price of Kshs 28,500. The current price was 37.18 percent higher than the three-year average of Kshs 23,691.

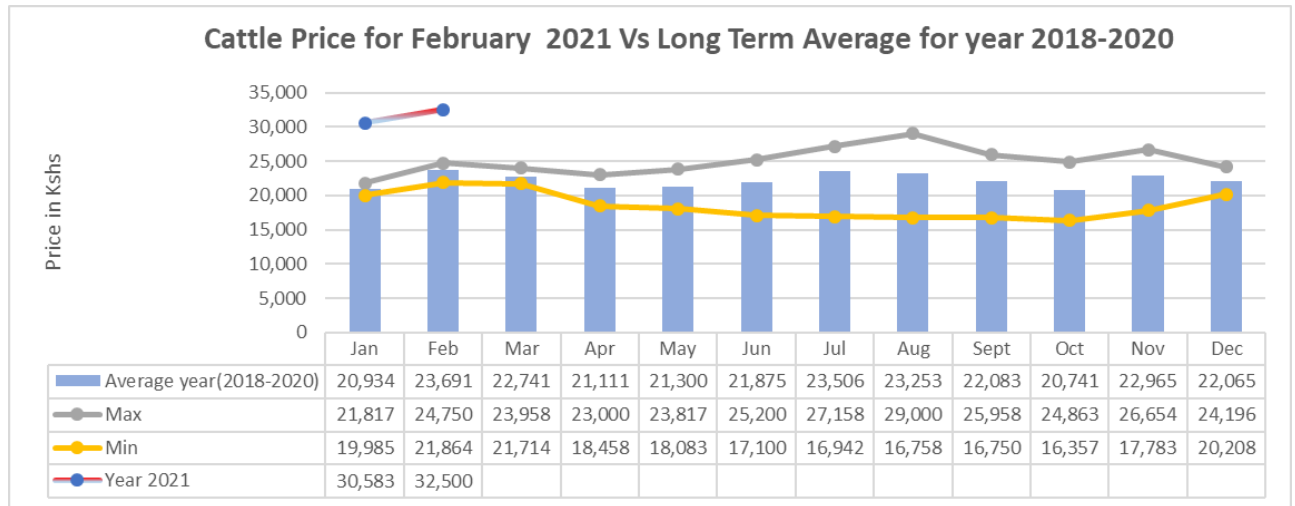


Figure 7: Cattle Price Trend

4.1.2 Goat Prices

- The average goat price increased from Kshs 5,000 in January to Kshs 5,054 in February. The increase in goat price was attributed to good browse which led to improved goat’s body condition leading to an increase in price.
- The Mixed Farming Livelihood Zone had the highest price of Ksh. 5,325; Marginal Mixed Farming Livelihood Zone recorded the price of Kshs 5,092 while the Rain Fed Cropping Zone recorded the lowest price of Ksh. 4,850.
- The average goat price was 24.88 percent higher than the three-year average of Ksh 4,047.

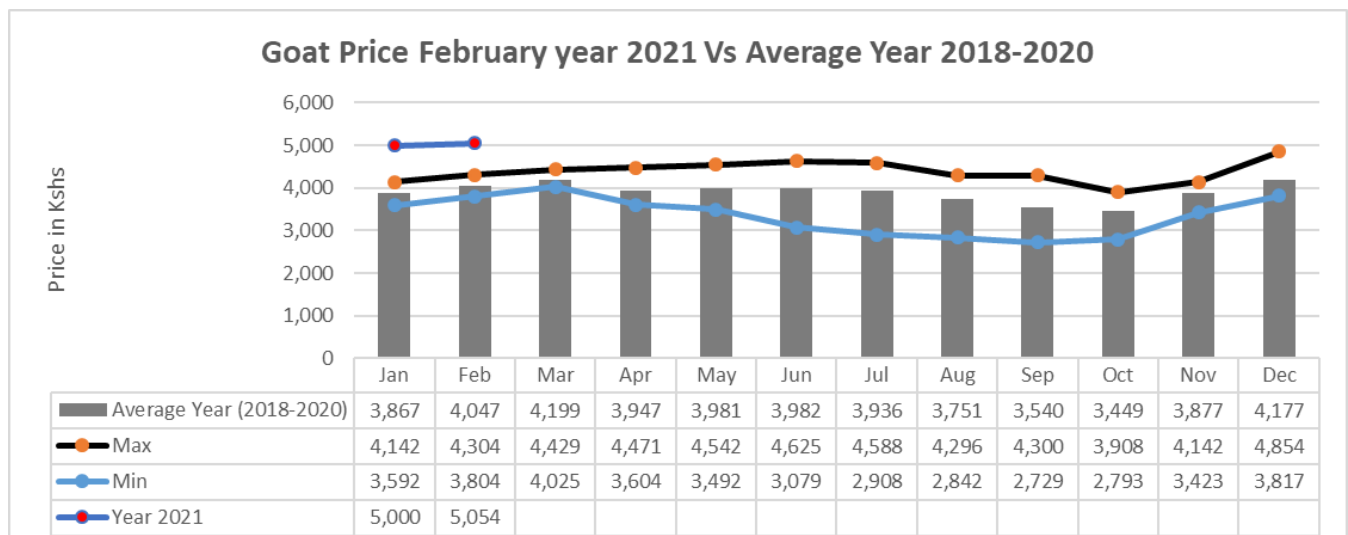


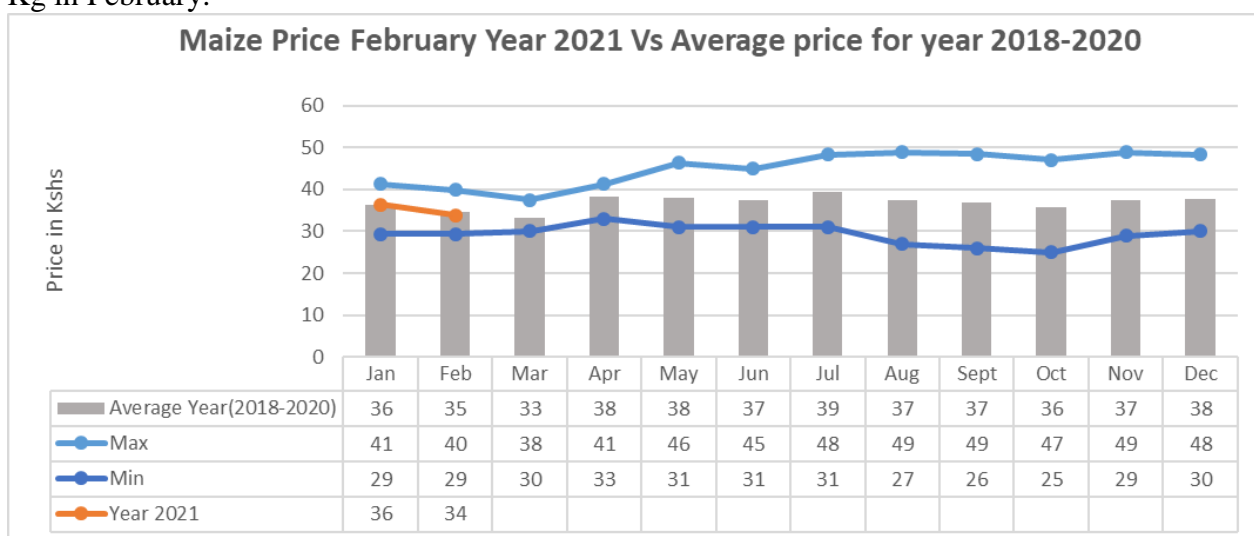
Figure 8: Goat's Price Trend

4.2 Maize Prices at Market Level

4.2.1 Price of Cereals and Other Food Products

4.2.2 Maize Prices at Market Level

- The average market price of a Kilogram of maize was Kshs 34 per Kg in February from Kshs 36 per Kg in January. This stable maize price could be attributed to constant supply of maize from outside the county where there is still high stocks from the recent harvests.
- Maize price was Kshs 34 per Kg in the Mixed Farming Livelihood Zone, Kshs 37 per Kg in the Marginal Mixed Farming while the Rain Fed Livelihood Zone recorded the price of Kshs 35per Kg.
- The average maize price was 2.86 percent lower than the three-year average price of Kshs 35 per Kg in February.

**Figure 9: Maize Price Trend**

4.2.3 Millet Price at Market Level

- The average market price of millet decreased from Kshs 53 per Kg in January to Kshs 46 per Kg in February which was higher than the long term average. The decrease in millet price could be attributed to an increase in millet supplies to the market due to short rain harvest hence a downward trend in millet price.
- The Rain Fed Livelihood Zone recorded the highest market price of Kshs 51 per Kg followed by the Mixed Farming Livelihood zone at Kshs 47 per Kg while the Marginal Mixed Farming Livelihood Zone recorded the least price of Kshs 44 per Kg.
- The average millet price was 24.32 percent higher than the long-term average price of Kshs.37 per Kg for the month of February.

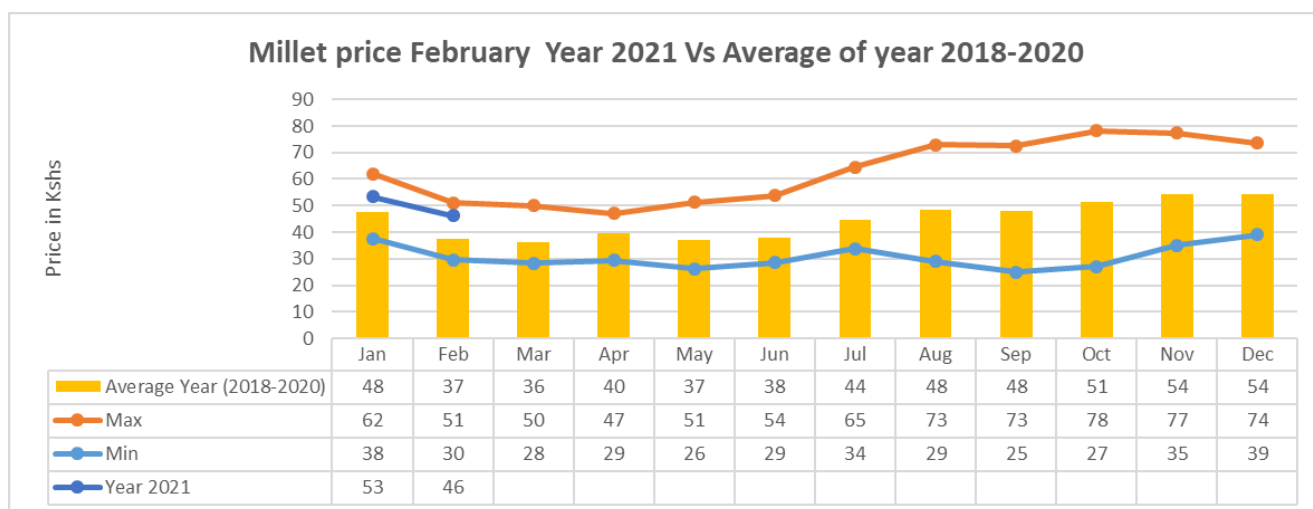


Figure 10 : Millet Price Trend

4.2.4 Terms of Trade (ToT)

- The Terms of Trade increased from 137 in January to 149.8 in February which was attributed to an increase in goat price against a drop in maize price.
- The highest ToT ratio was recorded in the Mixed Farming Livelihood Zone at 156.62; followed by Marginal Mixed Farming Livelihood Zone at 139.49; while Rain Fed Cropping Livelihood Zone had the least term of trade ratio at 138.57. The term of trade for the period under review was 26.95% higher than the three year average value of 118 during the same period.

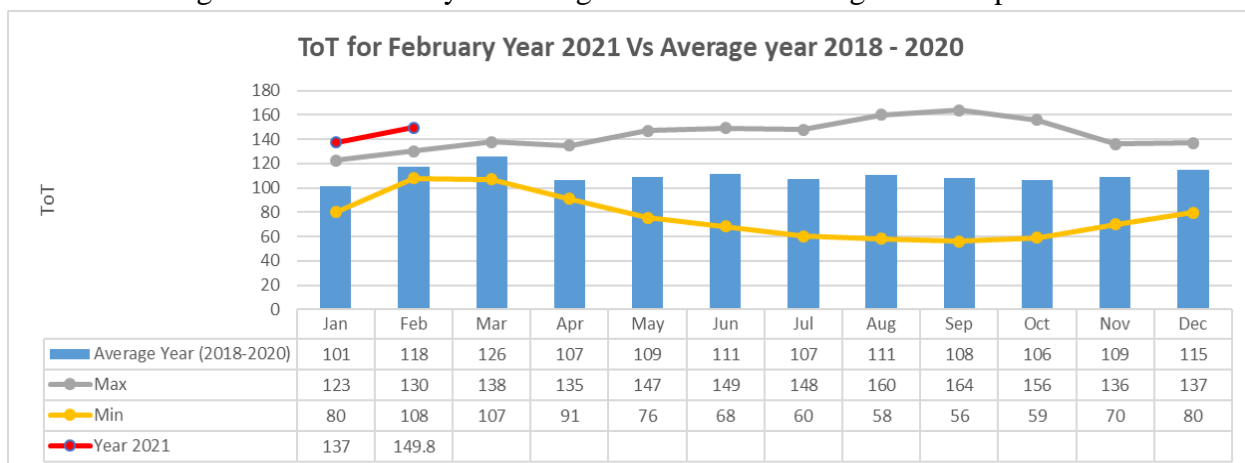


Figure 11: Term of Trade

4.2.5 Income sources

- The main sources of income for households in Tharaka Nithi County for the month of February were: Sale of crops, Casual labour, Petty trade, Employment/wages and Sale of livestock/livestock product as shown by the figure 12 below.

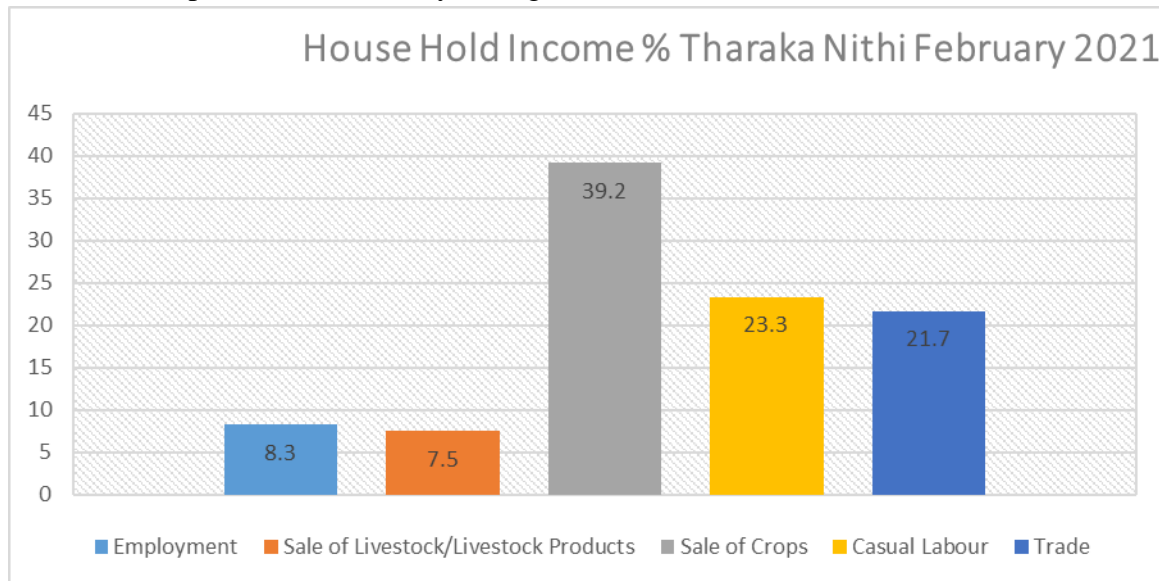


Figure 12 : Tharaka Nithi Percentage Household Income

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1 Milk Consumption

- The average milk consumption for the month of February was at an average of 0.8 of a litre per house hold per day from 1.1 of a litre per household per day in the month of January. Milk consumption was almost the same as of the previous month.
- The average milk consumed per household per day for the month of February was 27.27 percent lower than the 3-year average of 1.10 of a litre.

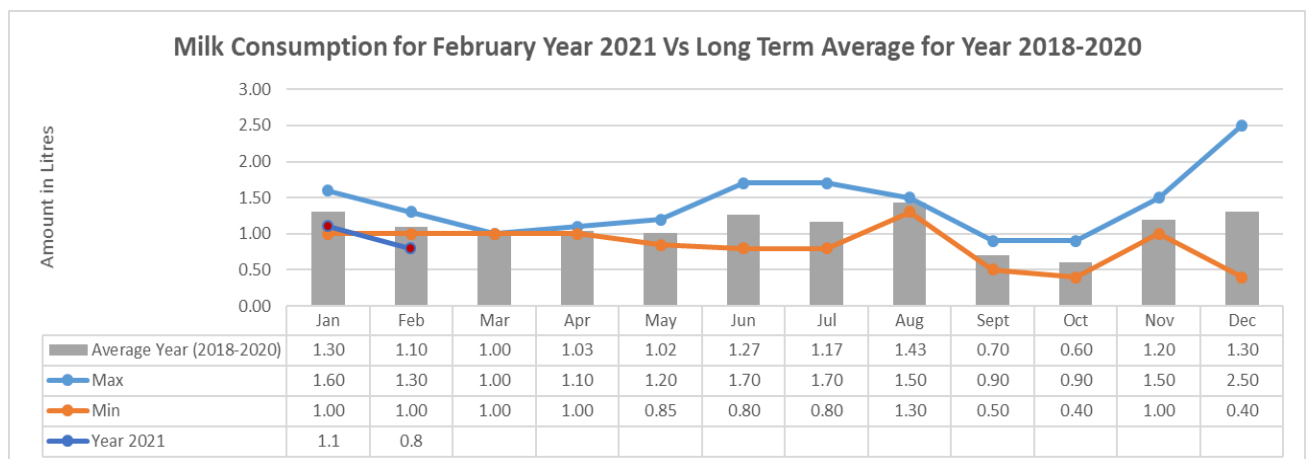


Figure 13 : Milk Consumption Trend

5.1.2 Food Consumption Score

- Proportion of households with acceptable Food Consumption Score decreased from 95.60% in January to 88.37% in February as shown by the graph in fig. 15 below. The percentage of households with acceptable FCS in February was still high and it was attributed to the short rain harvest which led to high income from crop sales leading to House hold food security due to ability to buy food.
- The proportion of household with acceptable FCS in February were higher than the long-term proportion for February of 26.17% as shown in figure 15 below.

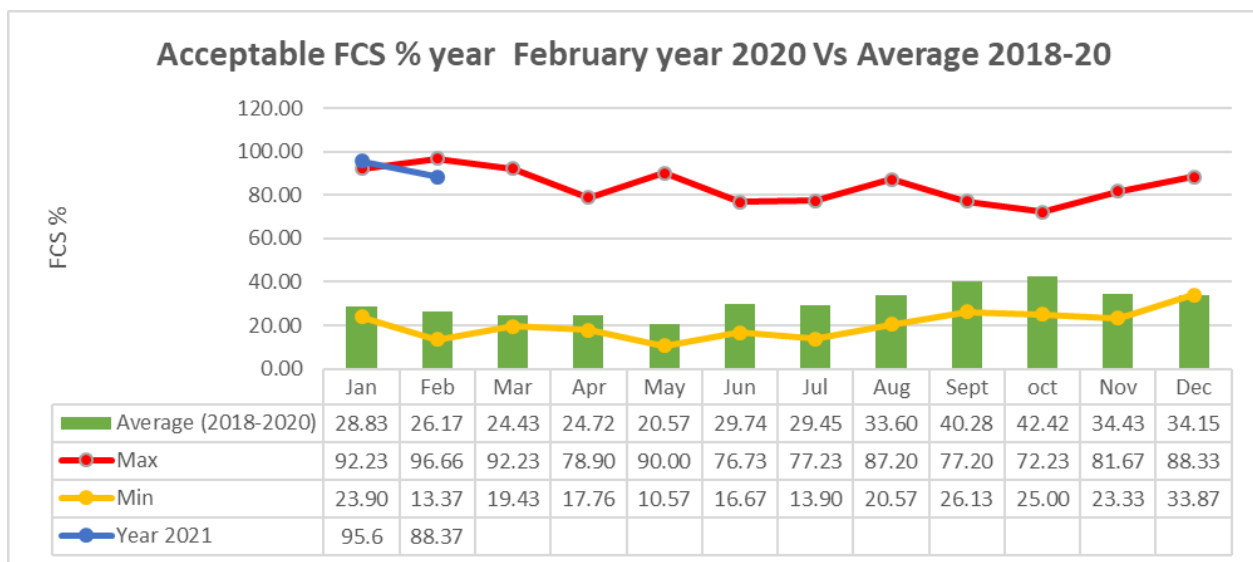


Figure 14: Trend of the Proportion of HHs with Acceptable FCS

- A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 23.3% followed by Marginal Mixed Farming Livelihood Zone at 8.3% while the least food stressed households were reported in the Mixed Farming Livelihood Zone at 3.3% as shown by figure 15 below.

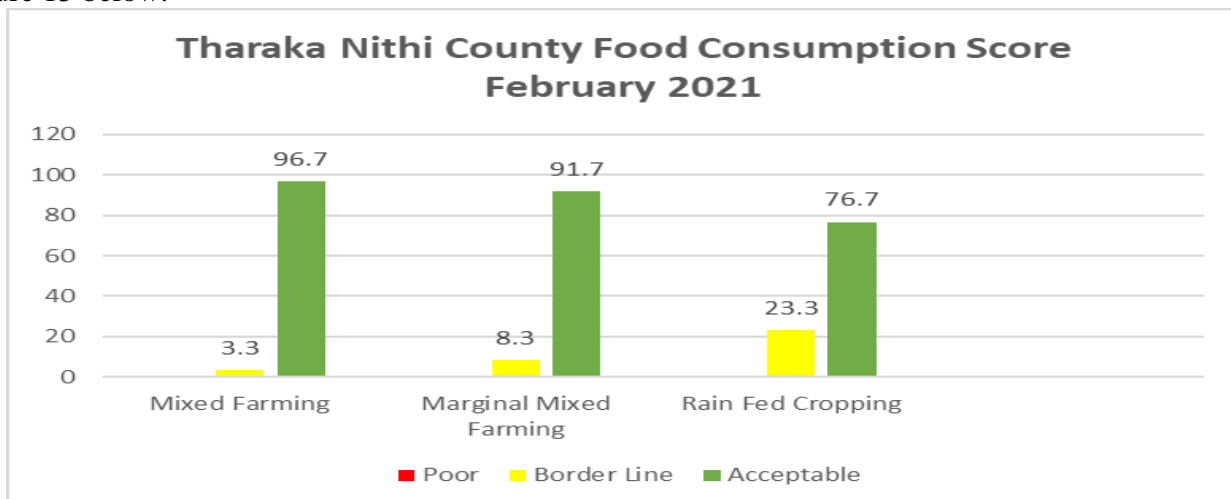


Figure 15: Food Consumption Score Chart

Table 3: Average Food Consumption Score

Period	Acceptable (%)	Borderline (%)	Poor (%)	Food Insecure HH (%)
January 2021	95.6	4.4	0	4.4
February 2021	88.37	11.63	0	11.63

- 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.

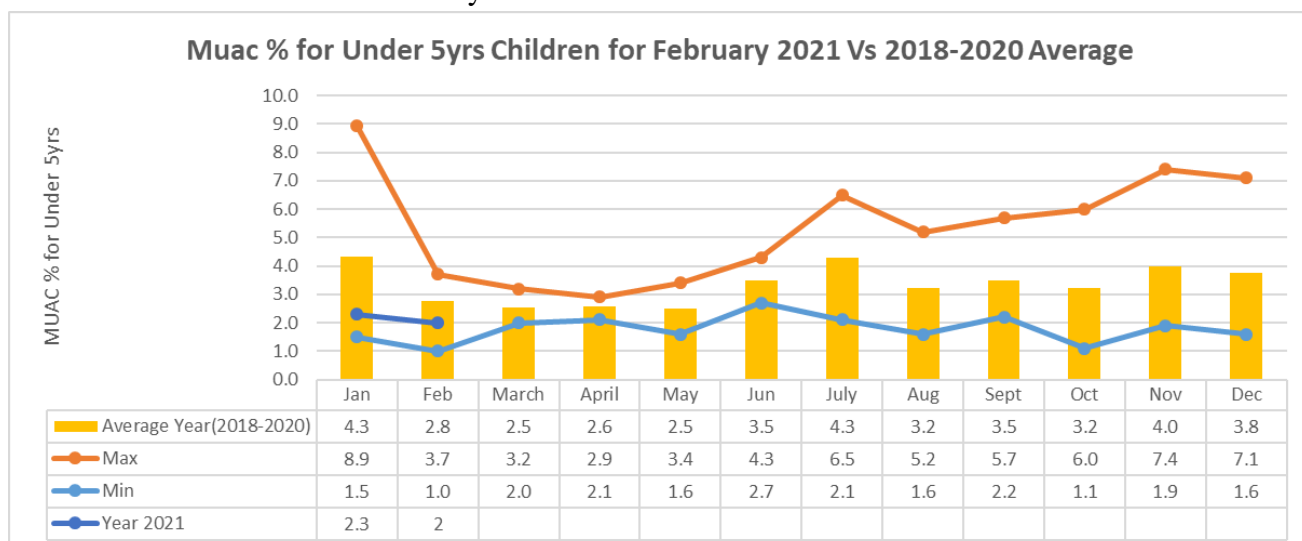
5.2 UTILISATION INDICATORS

5.2.1 Health and Nutrition Status

- 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.

5.2.2 MUAC

- The proportion of malnourished children of 6 to 59months with MUAC of less than 135mm was 2 % in February from 2.3% in January which was almost the same as of the previous month. The low MUAC percentage could be attributed to improved food security level at household compared to that of the previous months.
- The low proportion of the number of malnourished children was lower than long term average by 28.57% for the month of February.

**Figure 16: MUAC% trend for Under 5 yrs. Children**

5.2.3 Coping Strategy Index

- The Coping Strategy Index (CSI) increased from 1.2 in January to 1.3 in February which was low and almost the same as of the previous month. The low CSI value for February was an

indication of Low household stress to obtain food or money to buy food during the month of February from that of the previous months.

- The CSI value for February 2021 was lower than that of 2018-20 average of 3.78 for February.

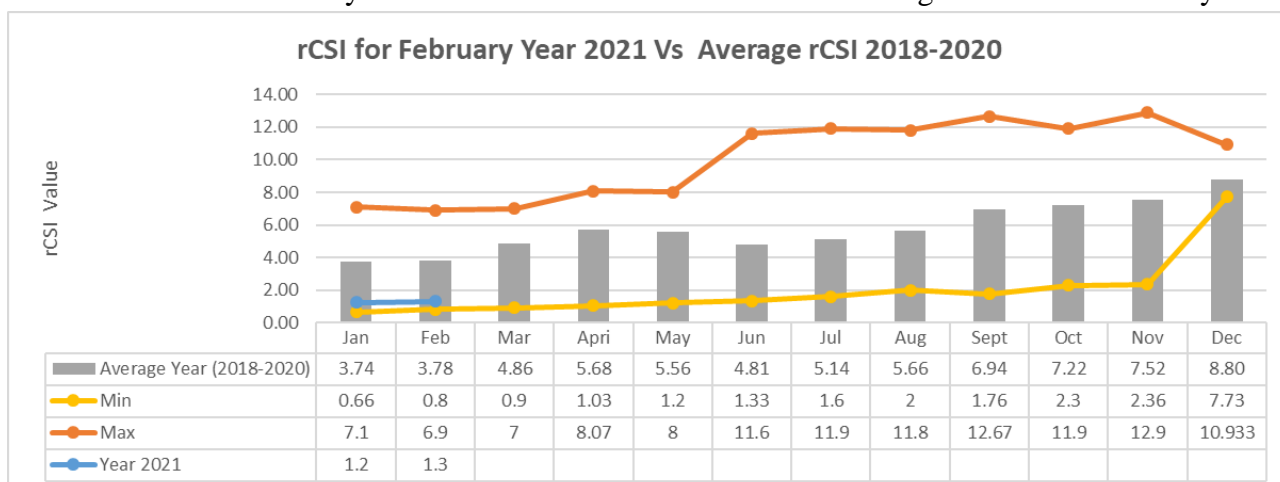


Figure 17 : Trend of CSI

- The highest CSI was recorded in the Marginal Mixed Farming zone at 2 followed by 1.6 in the Mixed Farming Zone while the Rain Fed Livelihood Zone recorded the least CSI of 0.3.
- The most commonly employed coping strategy mechanisms during the month of February was: - 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

6.1 Food Intervention

6.1.1 Food intervention and cash transfers

- Distribution of 82 bags of 90 Kgs of maize and 51 bags of 90 Kgs of beans for Grade 4 and Standard 8 in 37 primary Schools in Tharaka South by International Aid Services Kenya(IASK).
- Kazi Mtaani through the County Commissioners Office of 380 youths in Tharaka South and 330 youths in Tharaka North for vulnerable families earning Kshs 455 per day to caution those families against the effects of Covid 19.
- Cash transfer to vulnerable groups by the social services department of 3,862 elderly; 153 disables; 3,420 orphans and additional 1,000 people due to effects of Covid 19.

6.2 Non Food Intervention

Agriculture Sector

- Disilting of Gankamba earth dam in Kamwathu sub location and Maragwa Muguna earth dam in Kamaguna sub location by International Aid Services Kenya (IASK).
- Excavation of six farm ponds: 3 in Kamwathu and 3 in Kamaguna (each approximately 28m by 28m with a depth of 2m i.e. 1,568m³) by International Aid Services Kenya.
- Construction of 2 masonry tanks at Chakariga Girls Secondary School by the National drought Management Authority (NDMA).

Livestock and veterinary

Tharaka Nithi NDMA February 2021 Drought Early Warning Bulletin, Committed to Ending Drought Emergencies

- Supply of acaricides by KENTEC in collaboration with veterinary department in order to control vectors to organised farm groups.
- Lumpy Skin Disease vaccination targeting over 20,000 cattle in Tharaka South Sub County.
- Foot and Mouth Disease vaccination targeting over 20,000 cattle and 5,000 pigs in Tharaka South Sub County.
- Rabbits vaccination targeting 2,000 dogs and 500 donkeys 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

- During the month of February most cereal crops were being harvested. Threshing and selling of pulses, millet and sorghum was one of the major ongoing activity. This is likely to boost the household income and the affordability of the basic commodities for the next one month.
- Market operation were normal and some food crops were been sourced from the markets while others from own production in the farms. Own production were mainly millet, sorghum, green grams and some dry maize while plenty of dry maize were being sourced from the market.
- Status of water sources was normal with a declining trend due to cessation of the short rains in December. However, household and Livestock watering distance remained within the normal ranges but the situation is likely to decline in the next 1 month till mid-March when onset of the long rains is expected.
- Food Stocks at households' level is likely to remain stable across all the Livelihood Zone for the next 2 months after which the household stocks from the harvests will exhausted .
- Markets operations are likely to improve for livestock due to presence of fair pasture and browse and resumption of market while prices of food commodities is likely to decrease for the next 1 month.
- Pasture condition is good and the condition is likely to remain stable for the next 2 months due to supplementation of forage by crop residue leading to shorter grazing distance, increased milk production and good livestock body condition.
- Increased milk production is likely to lead to high milk consumption hence low malnutrition level amongst the under 5years children.

- Terms of Trade is fair and is likely to improve significantly in favour of livestock farmers and the trend is likely to continue for the next 2 months due to good livestock body condition which is likely to translate to higher prices.
- Households in the County are likely to be Food sufficient in the next 2 months due to presence of stocks from the short rain harvest which might positively affect income and food availability.

7.0 RECOMMENDATIONS (JANUARY 2021 TO FEBRUARY 2021)

- The county Government and different stakeholders should start concentrating on preparedness activities geared towards resilience to propel household towards food security.

Sub County	Location	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Tharaka North	Maragwa and Kathangachini locations	Promotion of post-harvest grain management, preservation & Utilization	8500	MOA,NDMA, County Government	Fuel, Facilitaon Allowances, Stationary,De monstration Materials	Technical personnel, vehicles	End of March 2019
Tharaka North	Maragwa and Kathangachini locations	Promotion of crop method demonstration sites(farmer field schools)	6500	MOA, NDMA, County Government	Fuel, Facilitaon Allowances, Stationary,De monstration Materials	Technical personnel, vehicles	End of May 2019
Tharaka North	Maragwa and Kathangachini locations	Expand Cereal enhancement program	6000	MoA/Stakeholders	Finances	Technical personnel, vehicles	2 years
Tharaka south	Nkondi	Provision of subsidized planting inputs	8000	County Govt National Govt	Fertilizers Seeds chemicals		By end of September 2020
Tharaka	Iron Folate Supplementation among Pregnant Women	All wards	All pregnant women	M O H	funds	Personnel	Continuous
Tharaka	Deworming	All wards	All children under 5yrs	M O H	funds	Personnel	Continuous
Education Recommended							
Food Security Related	Tharaka South and Tharaka North	ESMP	37	8093	IAS	Retention	6 months
		HGSM	13	2171	GOK	Retention	Long term
		Water Tanks	10	2100	NDMA	Hygiene safe drinking. water	3 months