

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



A Vision 2030 Flagship Project



July 2019 EW Phase

Drought Status: **ALARM**



Mipango ya kukabiliana na ukame

Drought Situation & EW Phase Classification

Biophysical Indicators

- The weather condition for the month of July was dry and sunny. No rainfall was recorded during the month, which made permanent river flows to be low while most seasonal rivers and boreholes dried up.
- The 3months cumulative vegetation cover across the County indicated below normal condition, which was also below the long-term average.

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.
- Cattle affected due to insufficient pasture especially in the Marginal Mixed Farming Zone of Gatunga and Chakariga Wards.
- Food Stock at households' level was low with a reducing trend due to poor harvest and high food commodity prices. Crop failure across the county is estimated at over 90% of the total farms planted.
- School dropout cases is high at 5% and 10% in Secondary and primary schools respectively due to the worsening drought situation.

Access Indicators

- Livestock prices decreased while food commodity prices increased. Grazing distance and household water distance was almost the same as that of the previous month with acute shortage been experienced in Marginal Mixed Farming Zone. Milk production and consumption was low with a reducing trend leading to increased malnutrition cases.

Utilization Indicators

- Percentages of children at risk of malnutrition increased due to low food stock at Household level.
- Following all the above prevailing conditions, the overall drought phase in July was at Alarm with a deteriorating trend.

Early Warning Phase Classification

	EW PHASE	TRENDS
Mixed Farming	Alarm	Deteriorating
Marginal Mixed Farming	Alarm	Deteriorating
Rain Fed Livelihood Zone	Alarm	Deteriorating
County	Alarm	Deteriorating
Biophysical Indicators	Value	Normal Ranges
Rainfall % of Average	Below 80%	80-120
VCI-3month	24.27	>35
Water Sources	Below Normal	Normal
Production Indicators	Value	Normal Ranges
Livestock Migration Pattern	Migration towards the National park	No Migration
Livestock Body Conditions	Poor	Good
Milk Production	0.9 Litre	Above 1.18 Litre
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	60.2	Above 78
Milk Consumption	0.8 Litres	Above 1.12 Litre
Water for Households	Below Normal	Normal
Utilization indicators	Value	Range/Value
MUAC	4.3	Below 6.3
Coping Strategy Index (CSI)	11.9	Below 1.6
Food Consumption (Acceptable FCS)	55%	Above 86.9%

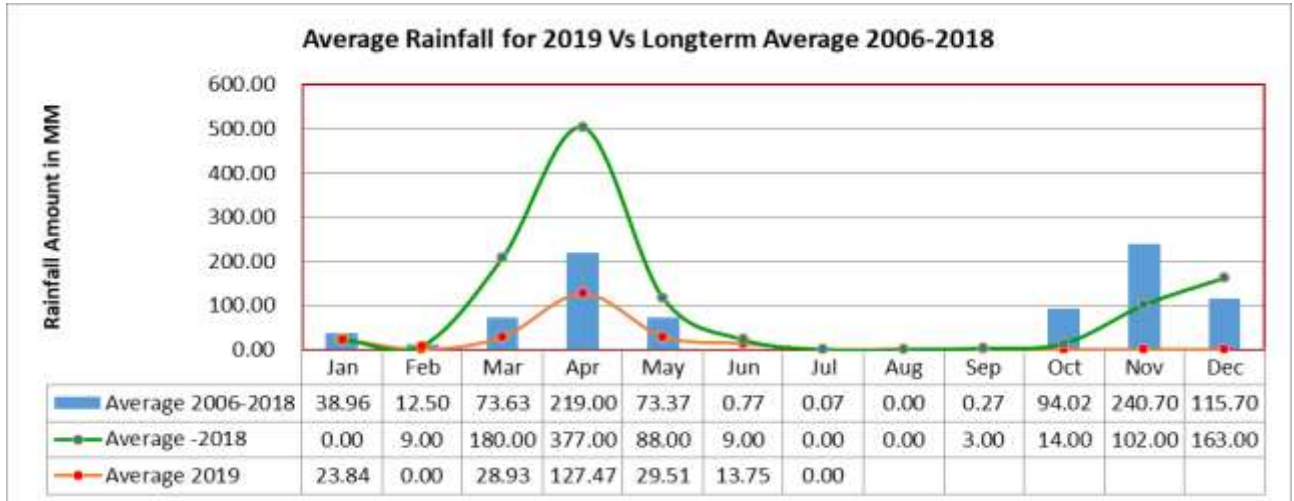
Seasonal Calendar

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<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		

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The month of July was characterised by a mixture of dry, cold, and sunny weather condition with no actual rainfall being recorded in any of the rain gauge station during the month.
- This was normal compared to the long term average for July however, poor performance of the March to May rainfall, led to more than 90% crop failure of the total farms planted.
- Crop failure experienced made the drought situation and food security situation of the county to be at an alarming state since crop harvest is depended upon both for food and income.
- The figure below shows the rainfall trend for 2019 compared to the long term Average.



1.1.1 Spatial and Temporal Distribution of Rainfall

- No rainfall was received during the month of July.

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 July was 24.27 which was indicating below normal vegetation condition. Due to prolonged dry spell, the palatable pasture and browse was below normal and it continued to deteriorate across all the livelihood zones.
- 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 1(a): Matrix of VCI Classification

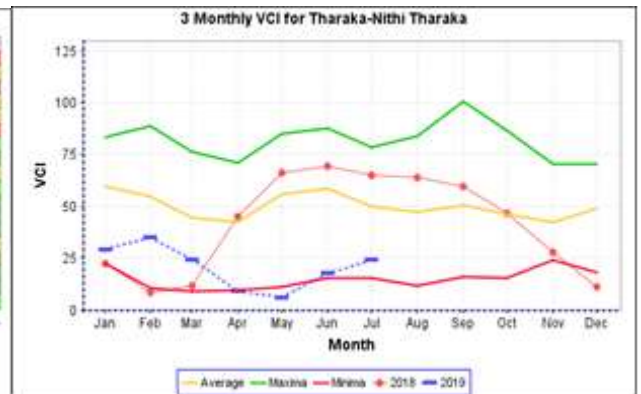


Figure 2(b): Chart of VCI Trend

Table 1: July Vs June 2019 VCI (3M)

ADMINISTRATIVE UNITS		VCI as at 29th June 2019	VCI as at 29th July 2019
County	County/Sub County		
Tharaka Nithi	County	29.93	39.02
	Tharaka	17.58	24.27
	Chuka Igambang'ombe	45.55	59.91
	Maara	50.13	60.58

2.2 Natural Vegetation and Pasture Condition

Pasture Condition

- Pasture quantity and quality was poor across all the Livelihood zone during the month of July.
- Pasture condition decreased slightly from that of the previous month in selective areas due to the dry weather condition experienced during the month of July.

Browse Condition

- Browse condition in terms of quantity and quality was poor across all the livelihood zones in the month of July but it increased slightly compared to that of the previous month.
- The poor browse condition for July was due to depressed rainfall from March to July 2019.

Livestock Access

- Average grazing distance increased from 1.8 Km in the month of June to 2.5 Km in the Month of July due to poor pasture and browse.
- The longest distance to grazing areas was recorded in the Marginal Mixed Farming Zone at 4 Km, 2.5 Km in Mixed Farming Livelihood Zones and 1 Km in the Rain Fed Cropping Zone.
- The distance to grazing areas was however 4.17 percent higher than the long term average of 2.4 Km for this time of the year.

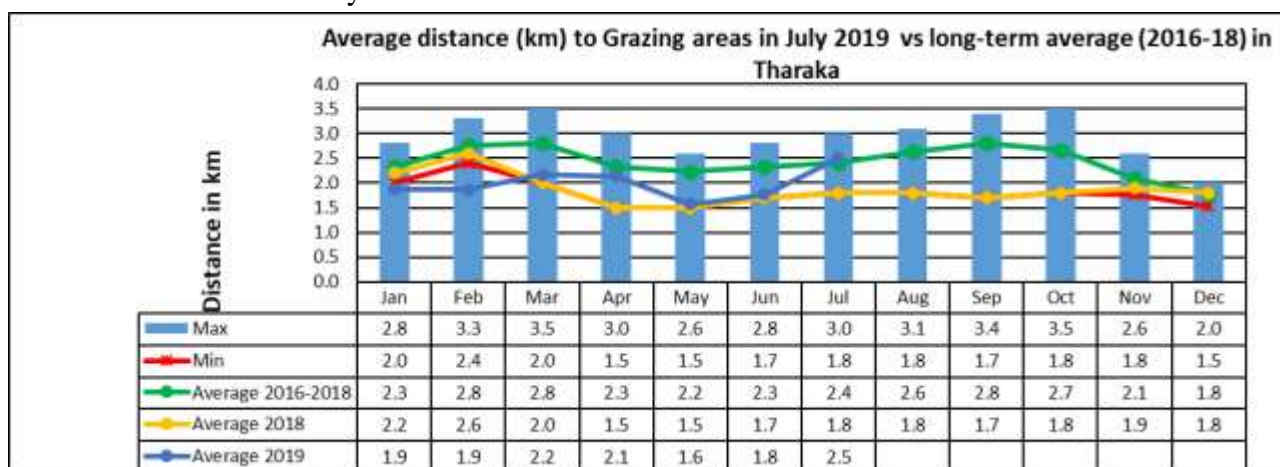


Figure 3: Grazing Distance for Livestock

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

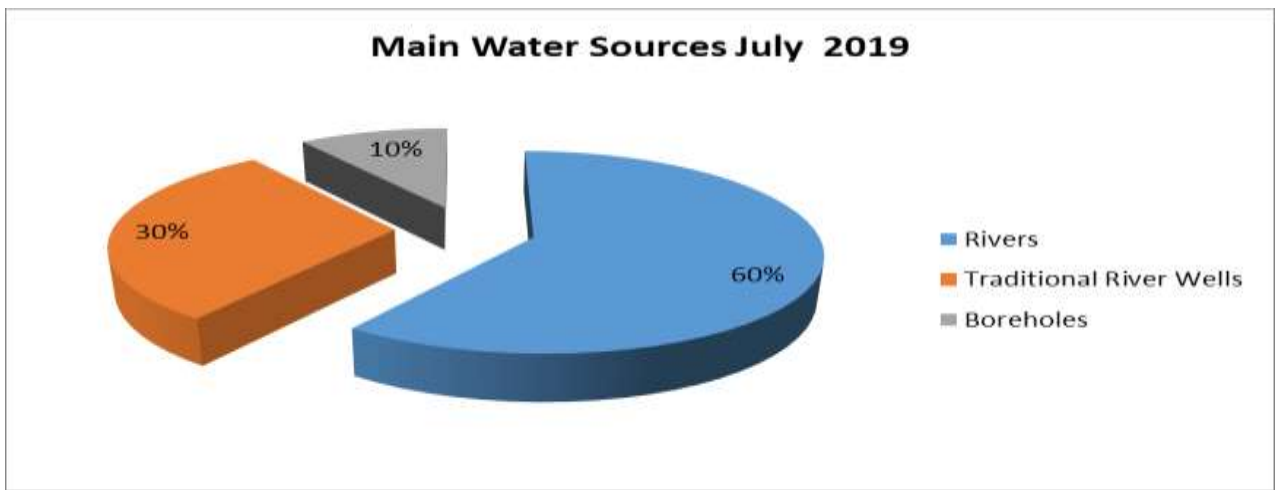


Figure 4: Main Water sources Tharaka Nithi County

2.2.2 State of Water Sources

- The state of water sources for the month of July was below normal and the trend reduced from that of the previous month. There were cases of poor quality of water in Marimanti ward due to poor management which could lead to eruption of water related diseases.
- Decline of the status of water sources in the Marginal Mixed Farming Zone was due to non-operational boreholes in parts of Gatunga Ward in Kathanga Chini location and drying up of some sources. The status of water sources was at index 2 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 distance was 1.7 Km in the month of July from 1.8 Km in June 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.

- Most seasonal rivers dried up while the few permanent rivers showed low level down flow due to increased illegal abstraction from upstream which is a potential trigger for conflict.
- Acute water shortage continued to be witnessed in Chakariga and most schools in Maragwa location which calls for emergency water based interventions. Some health facilities in the county are also experiencing water scarcity hence need for interventions.
- 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 in Marginal Mixed Farming Zone was 3 Km, Mixed Farming Zone was 1.7 Km while Rain Fed zone had an average household distance of 0.5 Km.
- The distance of household access to water was lower than the long-term average of 2.1 Km for the month of July.

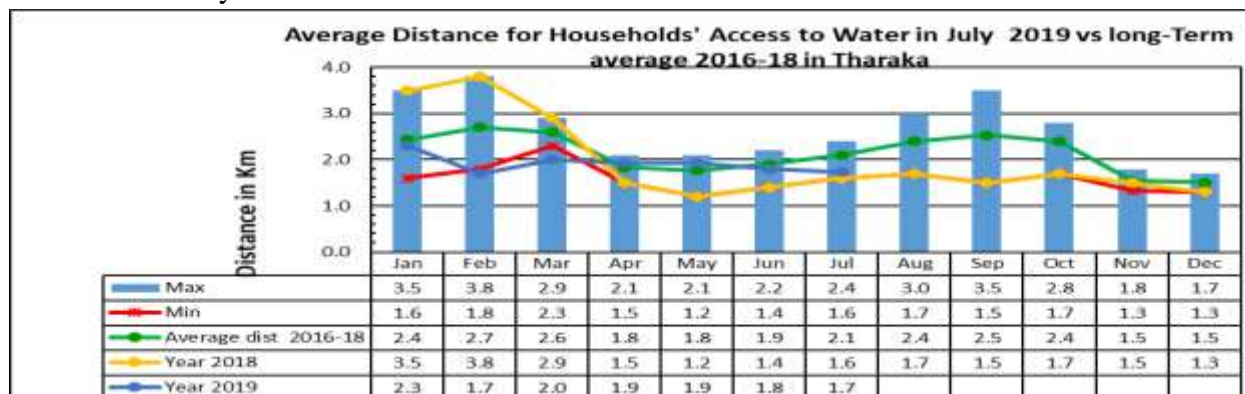


Figure 5: Household Water Distance

3.0 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- Livestock body condition for cattle was poor 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 because of poor to fair browse across most of the livelihood Zones.
- The Livestock body condition in July 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 July. Livestock out migration was reported towards the Meru National park.
- However, 12 cases and 2 deaths were reported of sheep and goat pox in Kamarengi in Kanjoro Location.
- Cases of Hydrocyanic Acid poisoning were reported in Tharaka North and South Sub Counties due to feeding of Livestock on immature Sorghum hence need for sensitisation.

3.1.3 Milk Production

- Milk production in the month of July remained low and was almost the same as of the previous month at 0.9litres per household per day in the month of July which was lower compared to the long term average of 1.18litre per household. The low Milk production was attributed to poor pasture and browse in the month of July.
- Marginal Mixed Farming livelihood zone had an average production of about 1 litre while Mixed Farming and Rain Fed livelihood zone had an average milk production of less than a litre per household per day. Milk production per household was 23.73 percent lower than the 3-year average of 1.18litre per household per day for this time of the year.

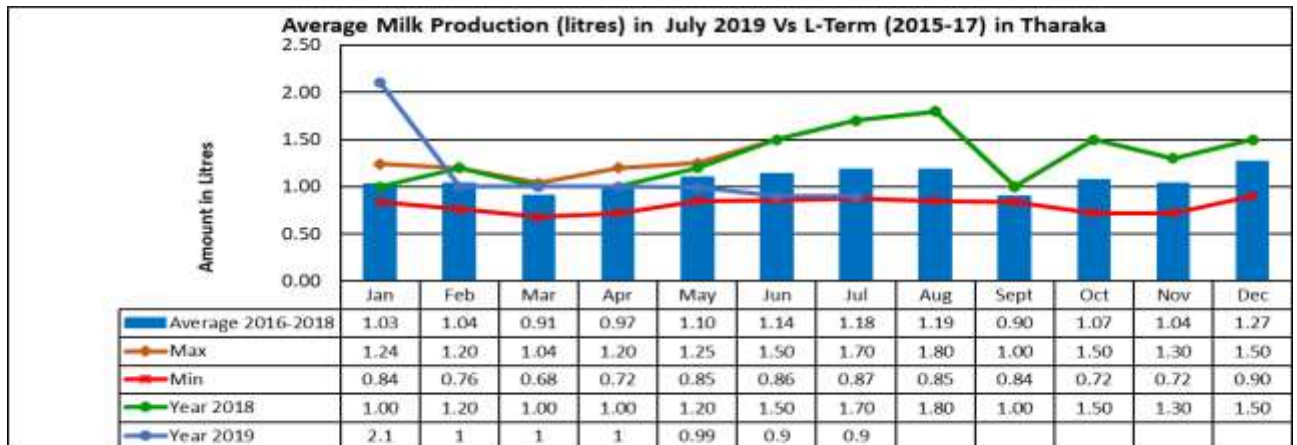


Figure 6: Milk Production Trend

3.2 Crop Production

3.2.1. Timeliness and Status of Crops

- Crop condition was poor and crop failure was more than 90% of all the farms planted.
- Income of most families is from Sorghum, Cow peas, green grams and millet hence most of the families have no money to meet essential services.
- Most of the families are now depending on market for food but with lack of income, most of the families are going without meals hence need for food aid.
- Education sector was also affected since there was no money to meet basic education needs such as school fees and contribution towards expanded school meals program leading to high rate of absentism and drop out rates.
- Drop-out rates in schools is high with primary and secondary having 10% and 5% respectively which is on an upward trend.
- Schools affected which are in need of feeding program include: - schools in Gatunga ward especially in Kathanga Chini,Thwathanju,Marimanti ward, Chakariga ward and Nkondi ward.

3.2.2. Pests and Diseases

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

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- The average cattle price decreased from Kshs. 17,100 in the month of June to Kshs. 16,942 in the month of July. 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 20,717; Rain Fed Cropping Zone had a price of Kshs 17,500 while the Marginal Mixed Farming Livelihood Zone had the lowest price of Ksh 14,933. The current price was 18.76 percent lower than the three-year average of Kshs 20,855.

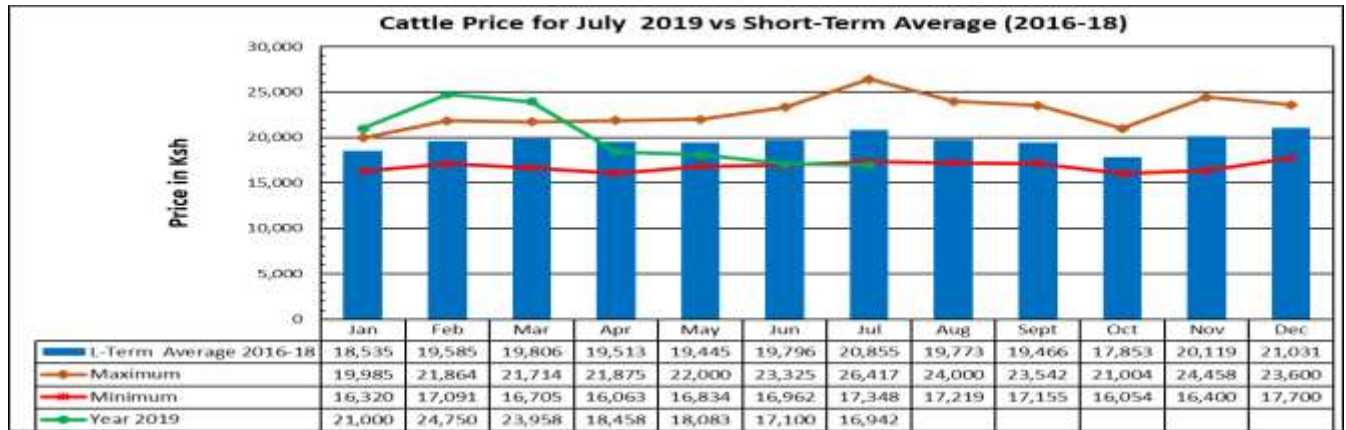


Figure 7: Cattle Price Trend

4.1.2 Goat Prices

- The average goat price decreased from Kshs 3,079 in June to Kshs 2,908 in the month of July. 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 Rain Fed Cropping Livelihood Zone had the highest price of Ksh. 3,150; Marginal Mixed Farming Livelihood Zone recorded the price of Kshs 3,000 while the Mixed Farming Zone recorded the lowest price of Ksh. 2,825.
- The average goat price was 18.38 percent lower than the three-year average of Ksh 3,563.

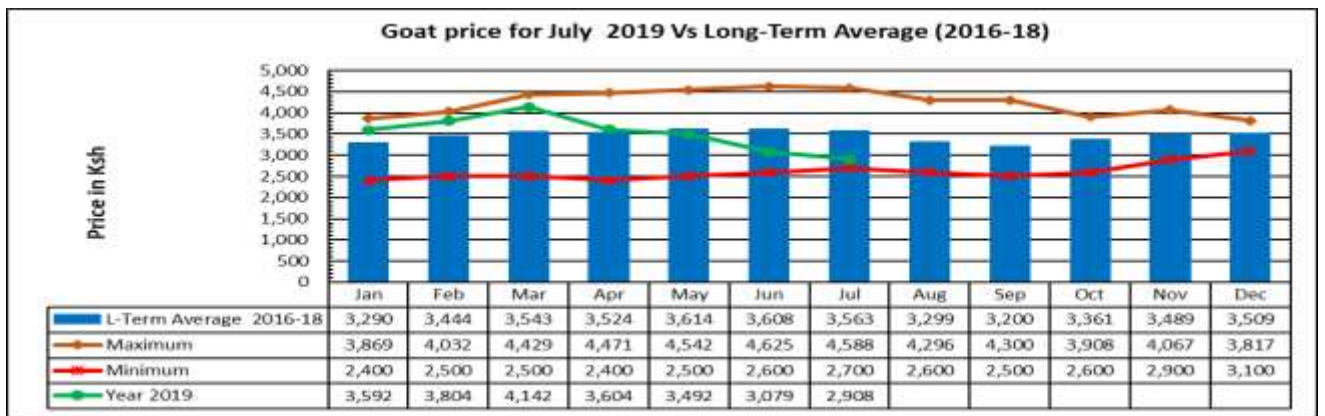


Figure 8: Goat Price Trend

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 45 per Kg in June to Kshs 48 per Kg in the month of July. The increase in Maize price was attributed to crop failure and poor food stocks at household which was higher due to poor harvests of less than 10% of the total farms planted from the Rain Fed and Mixed Farming Zone within the county.
- Maize price was Kshs 50 per Kg in in Rain Fed livelihood zones, the price was Kshs 48 per Kg in Marginal and Kshs 42 per Kg in Mixed Farming Livelihood Zone.
- The average maize price was 20 percent higher than the three-year average of Ksh 40 per Kg.

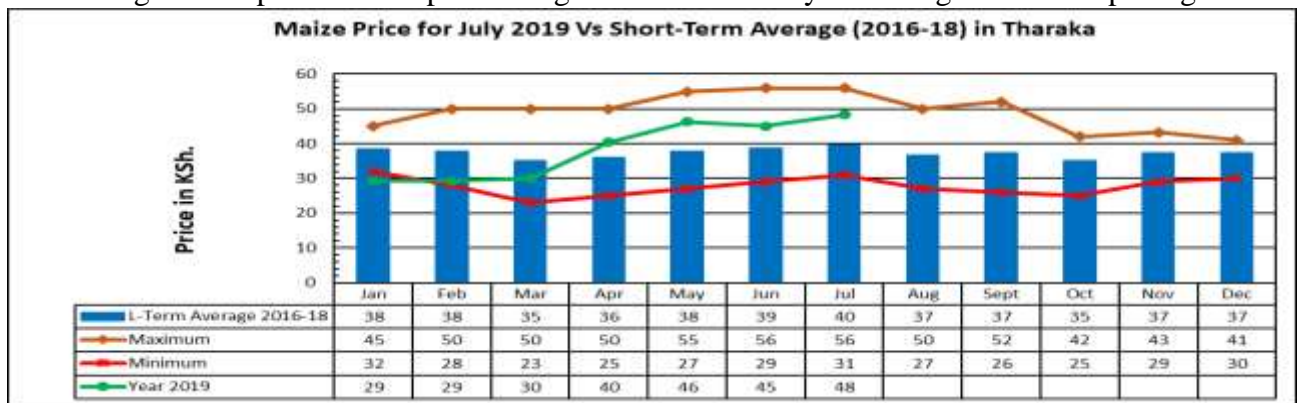


Figure 9: Maize Price Trend

4.2.2 Millet Price at Market Level

- The average market price of millet increased from Kshs 54 per Kg in June to Kshs 65 per Kg in July due to low stocks from the short rain harvest.
- The Marginal Mixed Farming Zone recorded the highest market price of Kshs 66/Kg, Mixed Farming Zone Kshs 58 per Kg while Rain Fed Zone recorded the least price of Kshs 48 per Kg.
- The millet price was 35.42 percent higher than the long-term average price of Kshs.48 per Kg for the month of July.

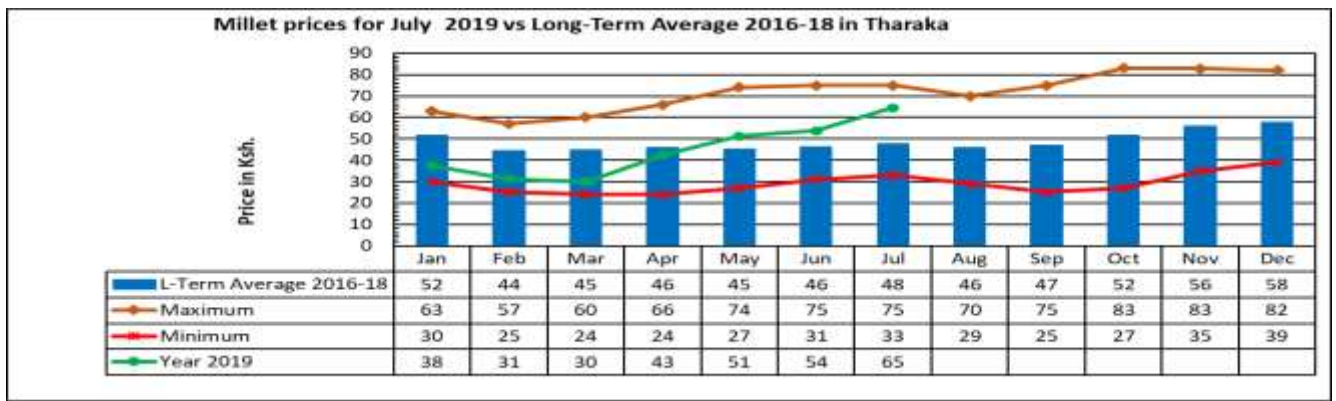


Figure 10 : Millet Price Trend

4.2.3 Terms of Trade (ToT)

- The Terms of Trade decreased from 68.4 in June to 60.2 in July due to an increase in maize price against an average decrease in goat price recorded during the month of July.
- The highest ratio was recorded in the Mixed Farming at 67.26; followed by Rain Fed Cropping Zone at 63 while Marginal Mixed Farming Zone had the least term of trade ratio of 62.5.
- The term of trade for the period under review was 22.82 percent lower than the three-year average value of 78 during the same period.

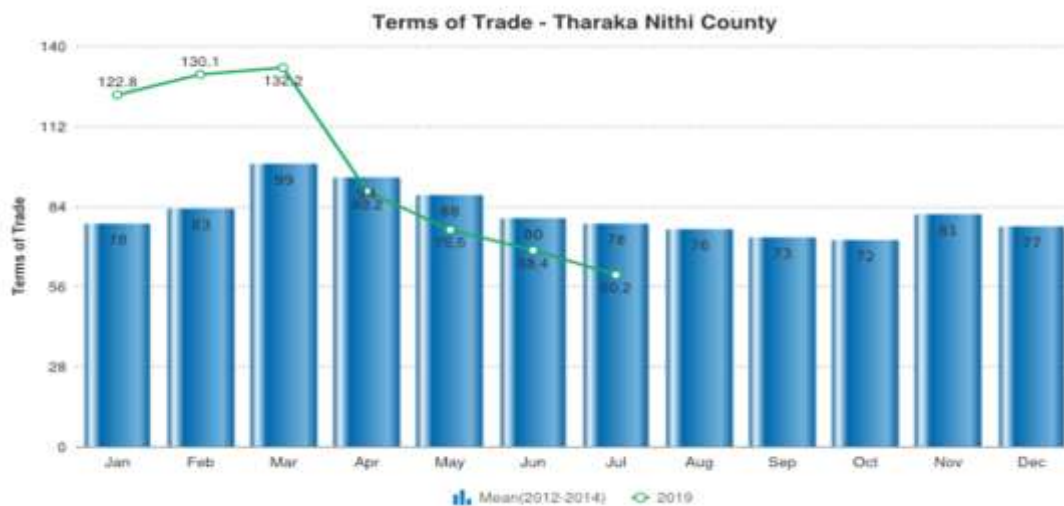


Figure 11: Term of Trade

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1 Milk Consumption

- The average milk consumption was low at 0.8 of a litre per household per day in the month of July which was almost the same as that of the previous month. Low milk consumption could be attributed to decrease in the number of TLUs' per household and the poor pasture which led to low milk production.
- The average milk consumed was 28.57 percent lower than the 3-year average of 1.12 litre.

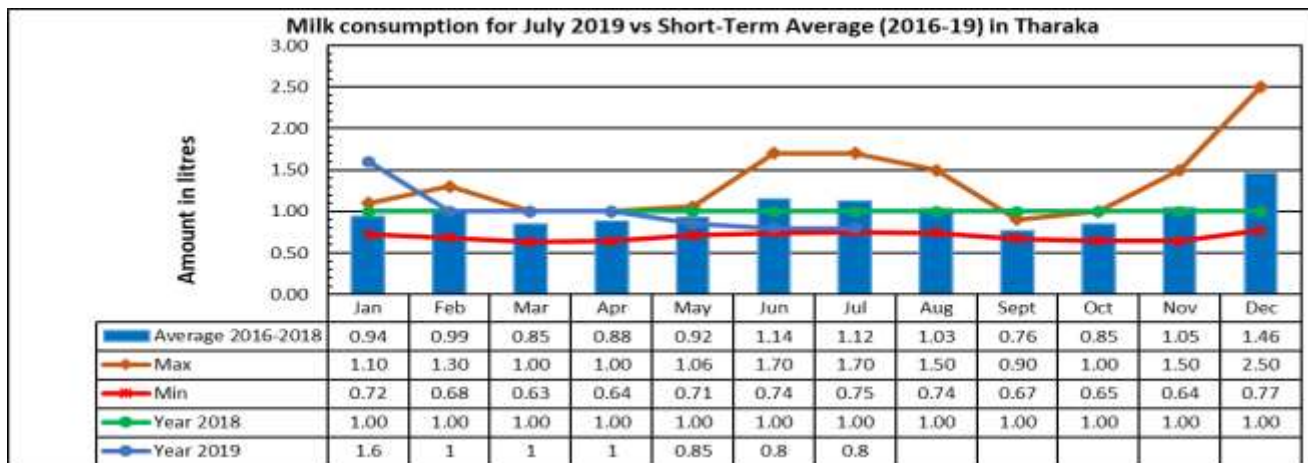


Figure 12 : Milk Consumption Trend

5.1.2 Food Consumption Score

- Proportion of households with acceptable Food Consumption Score decreased slightly from 57.23% in June to 55% in July as shown by the graph in fig. 13 below.
- The Food Consumption Score was lower than that of the long term average which was attributed to 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.

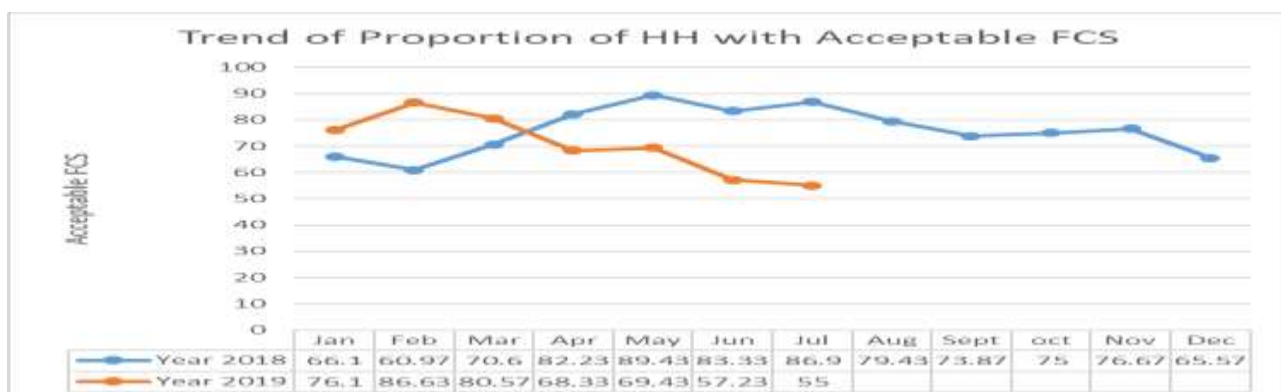


Figure 13: Trend of the Proportion of HHs with Acceptable FCS

- A higher number of Food Stressed Households were in the Rain Fed Cropping Livelihood Zone at 70%, 51.7% in the Marginal Mixed Farming and 13.3% in the Mixed Farming Livelihood Zone. Most households are also consuming one meal per day as opposed to the 3 meals per day.

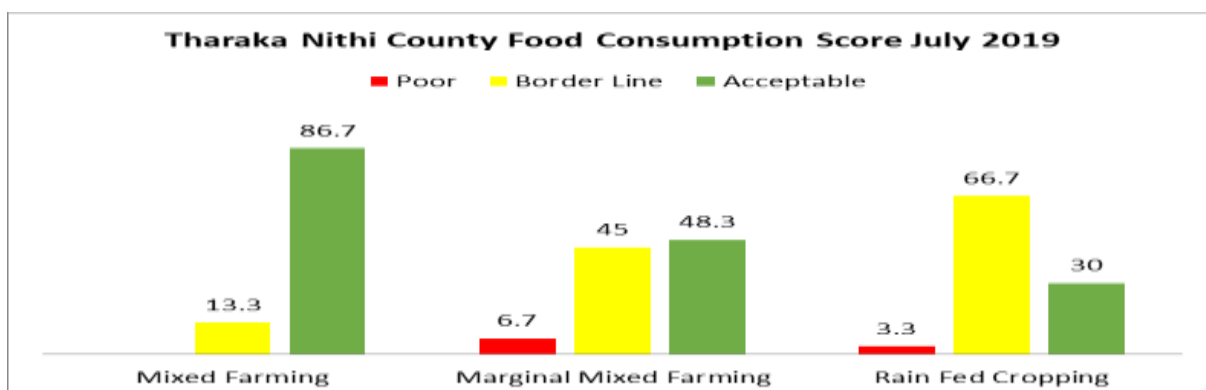


Figure 14: Food Consumption Score Chart

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
May 2019	69.43	29.43	1.133	30.57
June	57.23	35	7.8	42.8
July	55	41.67	3.33	45

- 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 was 4.3 percent in July as of the previous month and 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.

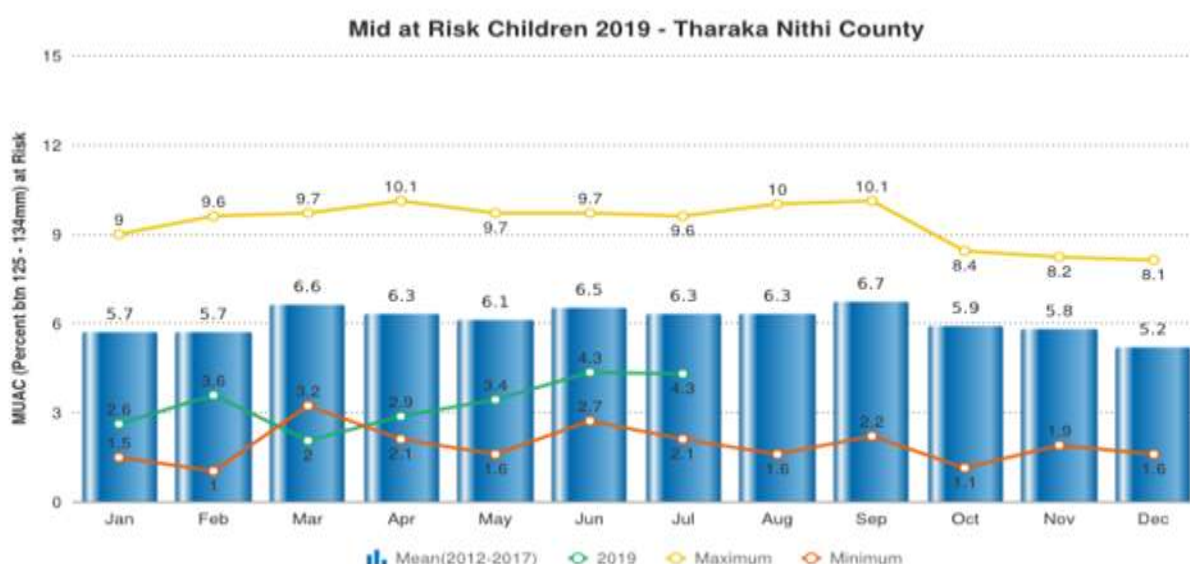


Figure 15: MUAC Graphs

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.

5.2.4 Coping Strategy Index

- The Coping Strategy Index (CSI) increased from 11.6 in June to 11.9 in July which indicated an increase in the level of household stress due to lack of food or money to buy food during the month of July.
- The CSI for July 2019 was higher than that of 2018 average for July which further indicates much difficulty in obtaining food in 2019 than last year in the same period like this.
- The current drought situation was at alarm and the condition was most likely to become worse.
- This should be of great concern since the short rain harvest was below the long term average.

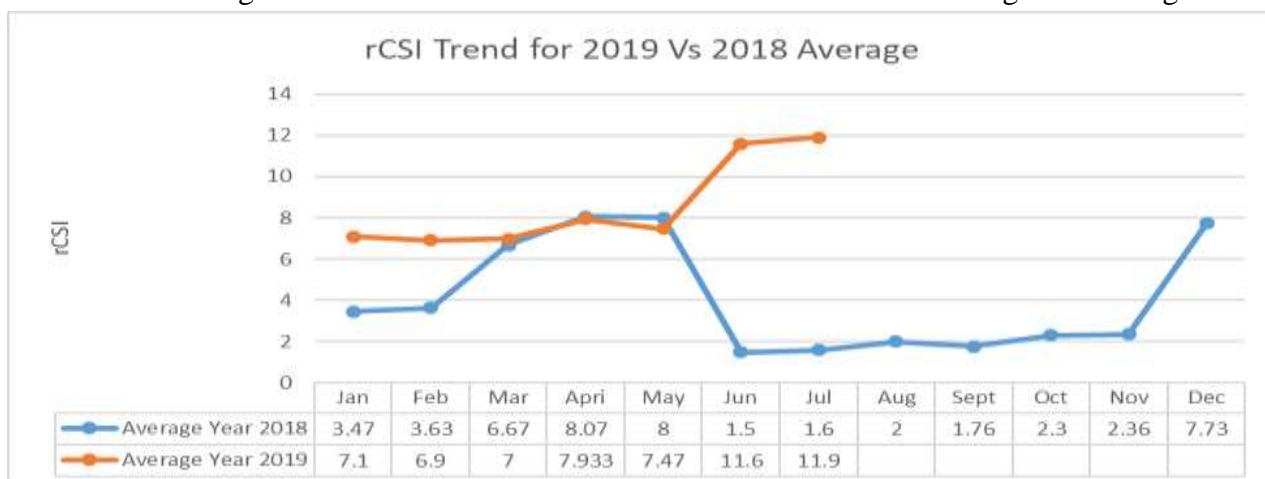


Figure 16 : Trend of CSI

- The highest CSI was recorded in the Marginal Mixed Farming zone at 25 followed by 10.3 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 July 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 Non-Food Interventions

Ongoing Interventions

Agriculture Sector

- Promotion of conservation agriculture in Tharaka North by Food Agricultural Organisation (FAO).
- Cereal enhancement programs by KCEP.

Livestock

- 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.
- 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.

Education

- Expanded school meals programme on 37 primary schools in Tharaka South by International Aid Services (IAS).

6.2 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 worsen due to total crop failure in most areas.
- Currently crops have been harvested and there was 90% of crop failure in almost all the livelihood zones.
- Markets operations are likely to fluctuate depicting different trends for livestock and crops. Commodity prices are likely to increase due to poor long rains harvests while livestock prices are most likely to remain stagnant or decrease for the next 1 months due to poor pasture and browse.
- Status of water sources is below normal with household and Livestock watering distance being outside the normal ranges and the situation is likely to remain the same for the next 1 month since we are approaching a long dry spell.
- Pasture condition is poor and the condition may deteriorate further in the next 1 months due to cessation of the long rains continue resulting to longer grazing distance, reduced milk production; poor livestock body condition and a drop in livestock prices.
- Terms of Trade decreased significantly in favour of crop farmers compared to livestock farmers and the trend is likely to continue till the next harvest season in July.
- Households in the County are likely to remain Food stressed in the next 1 month since no harvest is expected in July 2019.

7.0 Recommendations (Response interventions May to December 2019)

- Activate the drought contingency plan and start implementing some drought contingency activities to cushion vulnerable households against drought.

Sector	Tharaka Nithi County	Target areas hotspot (Wards/Villages)	Beneficiaries
Water	Rapid assessment and identification of non-operational water points	Kamanyeki, Maragwa, Mukothima Kathangachini locations.	10 sites, each site benefitting an estimated 2000 persons totalling to 20000 persons
	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
	Provision of water to critical facilities through water trucking	Water trucking to institutions i.e. (Schools in Chiakariga Maragwa, Gituma, Kathangachini	5 sites, each site benefitting an estimated 2,300 males and 4,500 females totalling to

		<p>Health facilities</p> <p>Tharaka North include: Kamacabi dispensary, Njoguni, Gaceuni, Kirundi, Kamaguna, Kathangacini, Kamwathu, Murambambogo, Manyanga</p> <p>Tharaka South include: Tumbura, Kereria, Nkomaru, Gaceraka, Kirukuma, Kanyuru, Kaaraninkumar</p>	6,800 persons
Livestock	Provision of survival feeds and supplements to core breeds	Khangachini, Gaciongo, Kamarandi, Kamanyaki, Marimanti, Kiamiramba	8,000 heads of cattle, each consuming one 50 kg bag of drought pellets per month for 2 months
	Commercial Destocking for cattle	Gatunga Market, Kathangachini, Chakariga Market	
	Provision of Hay	To be done in Tharaka South and North sub-counties.	2,000 heads of cattle each consuming 15 bales per month x 2 months
	Vaccination of Cattle against FMD/LSD	Chiakariga ward, Kamanyaki, kamarandi, chiakariga, Gituma	5,000 Cattle
	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
Agriculture	Provision of relief food to vulnerable Farming communities	1,355H in Tharaka North in Twathanju, Kathangachini. Gatue, Maragwa, Mauthini, Kanjoro, Irunduni, Mukothima ward	1,355 bags of 90Kg maize and 678 bags of 90Kg beans to be distributed to 1,355HH in Tharaka North Monthly for 2 months. (vulnerable households are likely to increase as the drought progresses)
		2,172 HH in Tharaka Rukuruni and Kereria sub location in Nkodi ward, Chakariga, Kamarandi & Kamanyaki	2,172HH bags of 90kg maize and 1,086 bags of 90Kg beans to be distributed to 2,172HH monthly for 2 months. (Vulnerable households are likely to increase as the drought progresses)
	Provision of planting farm inputs e.g. Planting seeds, fertilizer, Pesticides simple implements	6,000 HH in Tharaka North and South Sub Counties in September.	3,000 HH in Tharaka south and 3,000 HH in Tharaka North.

Education	Food for fees	10 Public Secondary schools in Marimanti, Chakariga, Gatunga, Nkondi and Mukothima wards	1,000 vulnerable students in secondary schools ((500 vulnerable students in Tharaka South & 500 in Tharaka North)
	Food Aid in Primary Schools without SMP	7 Primary schools in Tharaka North and 57schools in Tharaka South	Pupils in 64 day primary schools totalling to about 16,000 beneficiaries
Health & Nutrition	Integrated outreach services in 10 hard to reach areas.	Tharaka North and Tharaka South Sub county.	24,000 under five children , pregnant and lactating women
	Provision of sachets of water treatment kits per month for 3 months	Tharaka North and South Sub-Counties	12,000 HHs
	Provision of food supplement for malnourished children and mothers	Tharaka North and South	20 facilities each receiving 2 bags of 90kg fortified Health supplements.
	Distribution of water to 16 Health facilities	Tharaka North and South.	16 health facilities
Coordination	Conduct 7 CSG meetings at county and Sub County level	Tharaka North & South	40 members