

National Drought Management Authority
THARAKA NITHI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR JULY 2017



A Vision 2030 Flagship Project



JULY 2017 EW Phase



Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of July was characterized by poor rainfall performance coupled with intervals of sunny and dry weather conditions.
- The Vegetation Condition Index (VCI) was 45.89 indicating a normal vegetation condition compared to the long term average.
- The water recharge levels and availability were below normal.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition of pasture and browse was fair but deteriorating characterized by poor regeneration attributed to the delayed long rains onset and its intermittent distribution.
- Livestock body condition for cattle was poor to fair while that of small stock was fair across all the livelihood zones.
- Farming activities reported in the period under review were harvesting and storage of crops especial grains and cereals.

Access Indicators

- Livestock prices indicated a fair but stable trend in all livelihoods.
- Food commodity prices remained unchanged in most livelihood zones due to the ongoing harvesting.
- Milk production and consumption per household was 0.87 litres and 0.74 litres respectively compared to an average production of 1.29litres and an average consumption of 1.06 litres.

Utilization Indicators

- Percentage of children at risk of malnourishment whose MUAC was below 135mm was 9.6 percent for the period under review which was higher than the long-term average of 7.6 percent.

Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Mixed Farming	Normal	Stable
Marginal Mixed Farming	Normal	Deteriorating
Rainfed cropping	Normal	Stable
County	Normal	Stable
Biophysical Indicators	Value	Normal Range/Value
VCI-3month (Tharaka)	45.89	>35
Water Sources	Fair	Fair
Production Indicators	Value	Normal
Livestock Migration Pattern	Normal	Normal
Livestock Body Conditions	Fair to Poor	Fair
Milk Production	0.87 Litres	>1.29 Litres
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	48	<82
Milk Consumption	0.74 Litres	>1.06Litre
Water for Households	Fair	Good
Utilization indicators	Value	Range/Value
MUAC	9.6	<7.6
Coping Strategy Index (CSI)	8.9	<52
Food Consumption (Marginal Mixed Farming)	25 Percent Acceptable	>80 Percent Acceptable

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 			<ul style="list-style-type: none"> ▪ Short rains ▪ Planting/weeding 		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

BIO-PHYSICAL INDICATORS

1.0 MEASURING DROUGHT HAZARD

1.1 METEOROLOGICAL DROUGHT

1.1.1 Actual Rainfall

- Rainfall across the county over the month of July was in falls of between 0mm across all livelihood zones.
- With reference to the long-term average, rainfall performance was normal in comparison to a long term average in the month of July.

1.1.2 Spatial Distribution

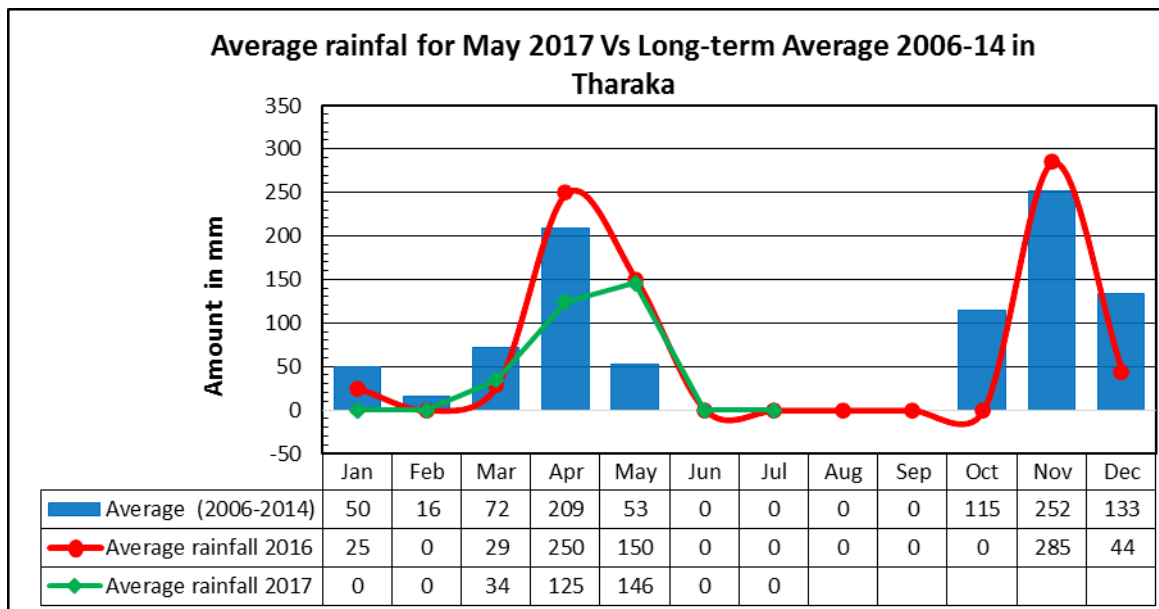
- The spatial distribution of rainfall across the County was poor and uneven as no rainfall was recorded in the county in all the 4 recording stations across all the livelihood zones.

1.1.3 Temporal Distribution

- There was no rainfall recorded in the county for the month of July across all the livelihood zones.

1.1.4 Rainfall Station data

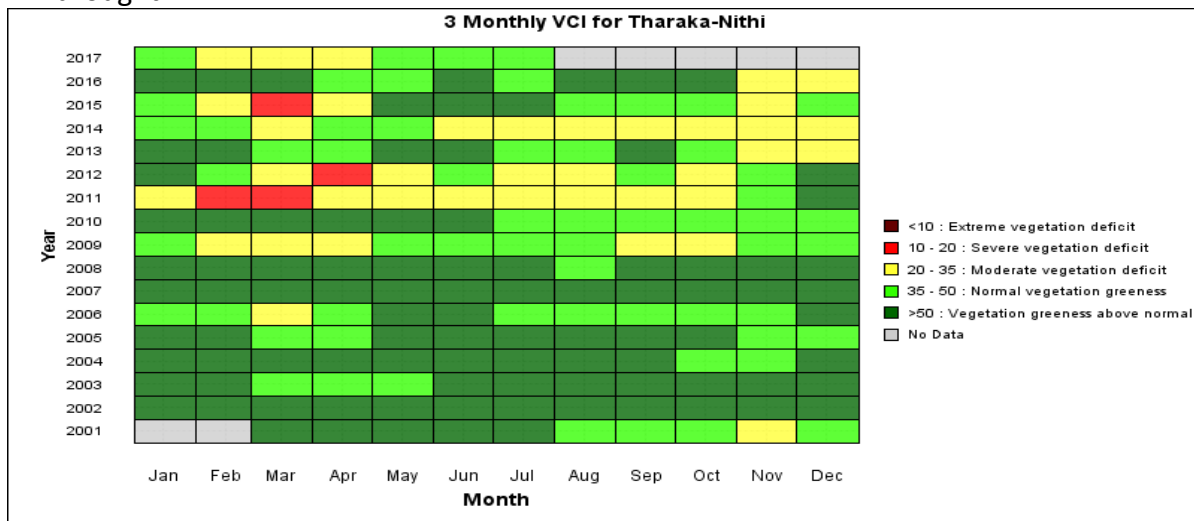
- The following graph shows the rainfall station data during the month of July.



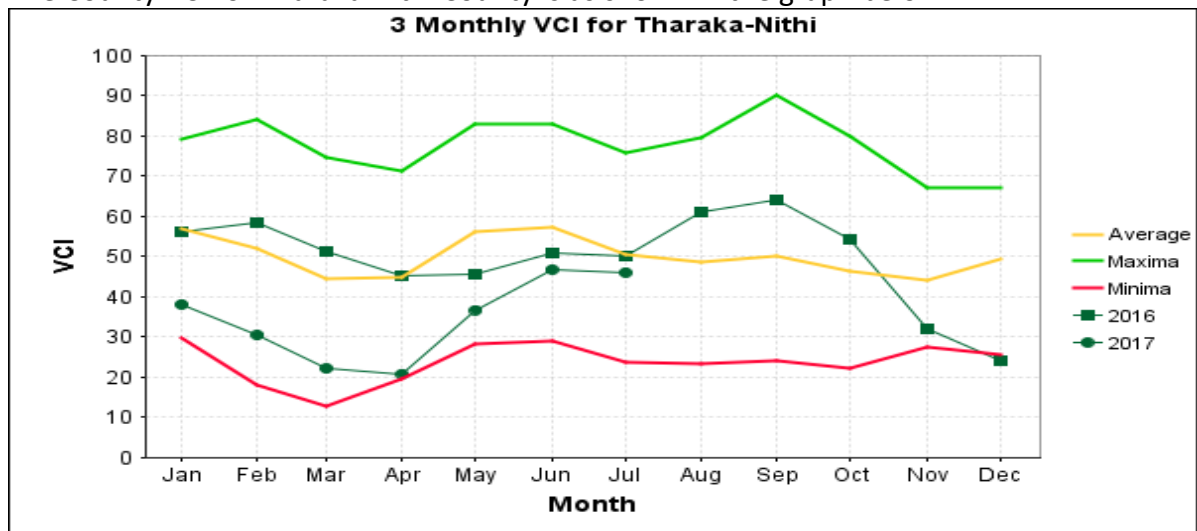
1.2 AGRICULTURAL DROUGHT

1.2.1 Vegetation Condition Index (VCI)

- The matrix below illustrates the period from January to July 2017, as classified based on VCI thresholds. The matrix shows a retrospective analysis of the vegetation condition related to drought.



- The County's vegetation condition was normal at 45.89 compared to the long term average for the month of July. The vegetation condition was normal in all the three sub counties.
- The County VCI for Tharaka Nithi County is as shown in the graph below.



1.2.2 NATURAL VEGETATION AND PASTURE CONDITION

Field Observations (Pasture and Browse Conditions)

Pasture Condition

- Pasture condition in terms of quantity and quality was fair to poor and this is attributed to the low rate of regeneration from the prior state of exhaustion and the intermittent performance of the long rains but the pasture has still remained normal compared to the long term average for July.
- The available pasture in most grazing fields especially in the marginal mixed farming is expected to be depleted in two to three months, afterwards, herders will be forced to look for alternative sources of animal feeds.

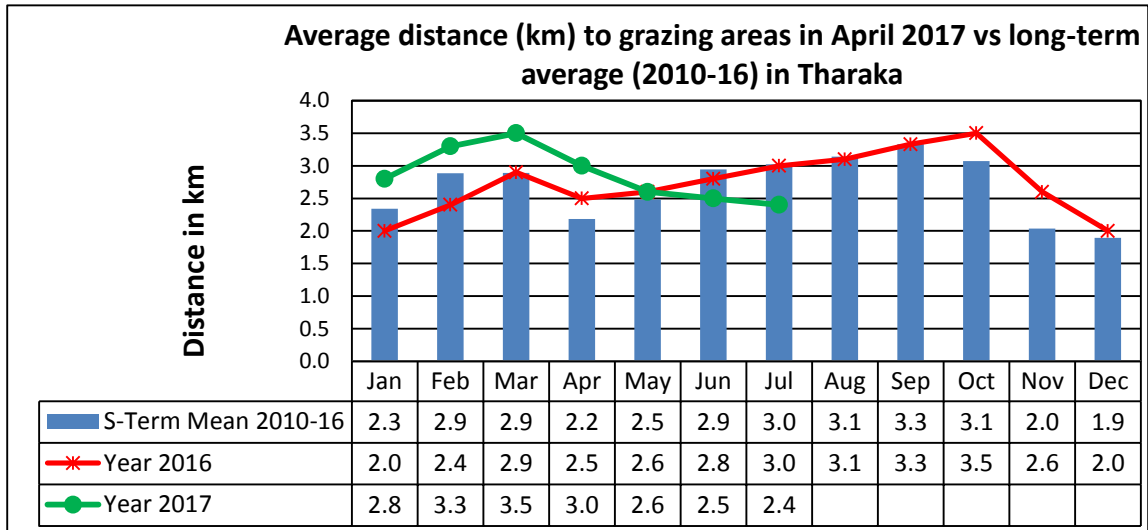
Browse Condition

- Browse condition in terms of quantity and quality was fair and this was attributed to a significant rate of regeneration from the prior state of exhaustion and the intermittent performance of the just concluded MAM rainy season.
- Most areas registered an increase in *Vegetation Density* based on the Normalized Difference Vegetation Index (NDVI) received in dekad 1, 2 and 3 of July 2017.

- In comparison to a normal year, the available browse amount was normal.

1.2.3 Distance to Grazing Areas

- There was stability in the average distance to grazing areas where it decreased marginally from 2.5km recorded in June to 2.4km on the period under review attributed to the impact of precipitation on the rangeland conditions.
- The longest return distance to grazing areas was recorded in the Marginal Mixed Farming at 3.0km, Rain fed Cropping and Mixed Farming livelihood zones recorded 1.9km and 2.5km respectively.
- The distance to grazing areas remained 20 percent lower than the long term average of 3.0 km for this time of the year.

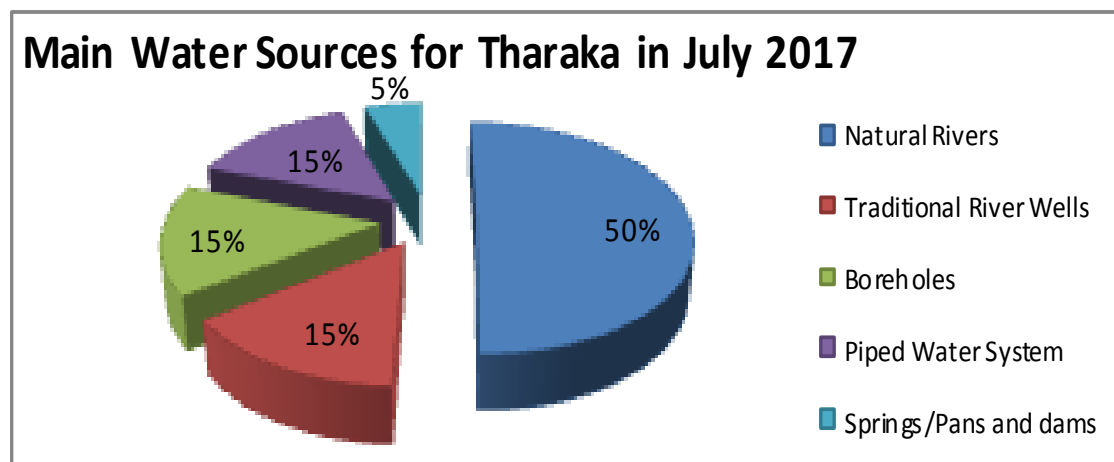


HYDROLOGICAL DROUGHT

1.3 Water Sources and Availability

1.3.1 Main Sources of Water

- The major sources of water for livestock and domestic use in Tharaka North and South Sub-Counties were natural permanent rivers, boreholes, piped water system and traditional river wells.
- The areas with low water availability were mainly in Marginal Mixed Farming livelihood zone which includes Marimanti, Gituma, Chiakariga, Kamanyaki, Kamarandi, Maragwa, Kathangachini, Gatue and Kanjoro locations where all the seasonal rivers had dried up and have had not any significant recharge since onset of the ongoing rains.
- Ground observations and reports show that the state of water sources was ranked at index 4 in reference to the scale below implying the water availability was below normal for the period.



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

SOCIO-ECONOMIC INDICATORS

2.0 PRODUCTION INDICATORS

2.1 Livestock Production

2.1.2 Livestock Body Condition

- Livestock body condition for cattle and shoats was fair across all the livelihood zones attributed to the stable state of pasture and browse condition coupled with relatively normal distances to water sources.

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. 12th & 13th 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	

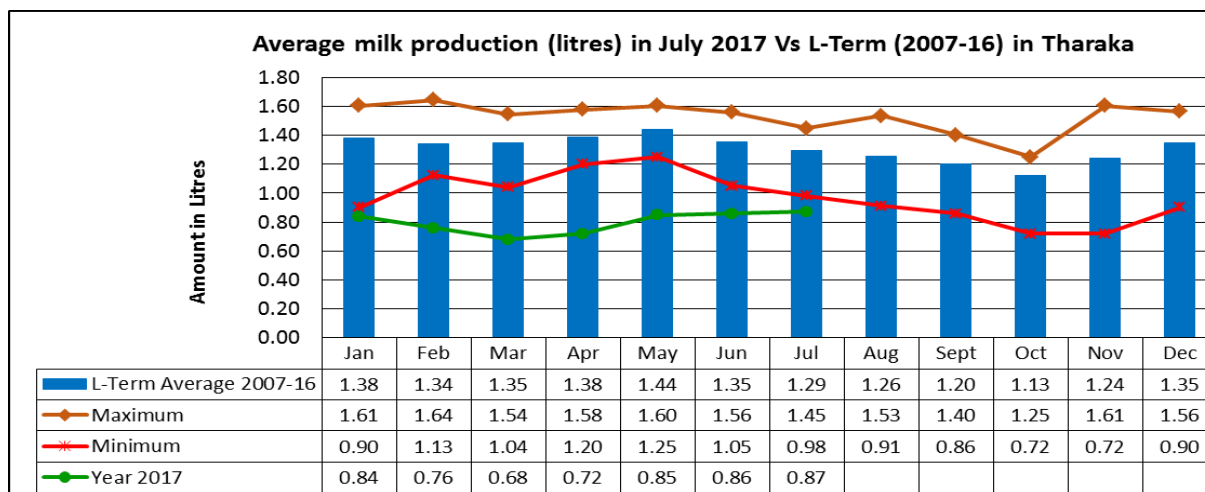
- For most livestock, current body condition can be rated at index 5 as per the threshold scale above

2.1.3 Livestock Diseases and Migration

- There were several incidences of infection and death of goats from sheep and goat pox in Tharaka North sub-county. Other diseases reported during the period under review were Contagious Caprine Pleuropneumonia (CCPP), Trypanosomosis, and Heart Water diseases, which are endemic across all livelihood zones.

2.1.4 Milk Production

- Milk production improved slightly to 0.87 litres per household in July from 0.86 litres in the previous month.
- The highest milk production was recorded in the Marginal Mixed Farming livelihood zone at 1.10 litres while Mixed Farming livelihood and Rainfed livelihood zone had 0.80 litres and 0.66 litres respectively per household.



- Milk production per household was 48 percent lower than the 10-year average attributed to the reduced TLUs in addition to poor condition of pasture and browse coupled with relatively long distances to water sources.

2.2 Crop Production

2.2.1. Timeliness and Status of Crops

- Farming activities over the month under review included harvesting and crop storage.
- Crops were at the harvesting stage in the Mixed Farming and Rain fed Cropping livelihood zones as opposed to the Marginal Mixed Farming zone where there was total crop failure.
- Crops planted were green grams, sorghum, millet, cowpeas and groundnuts.

2.2.2. Pests and Diseases

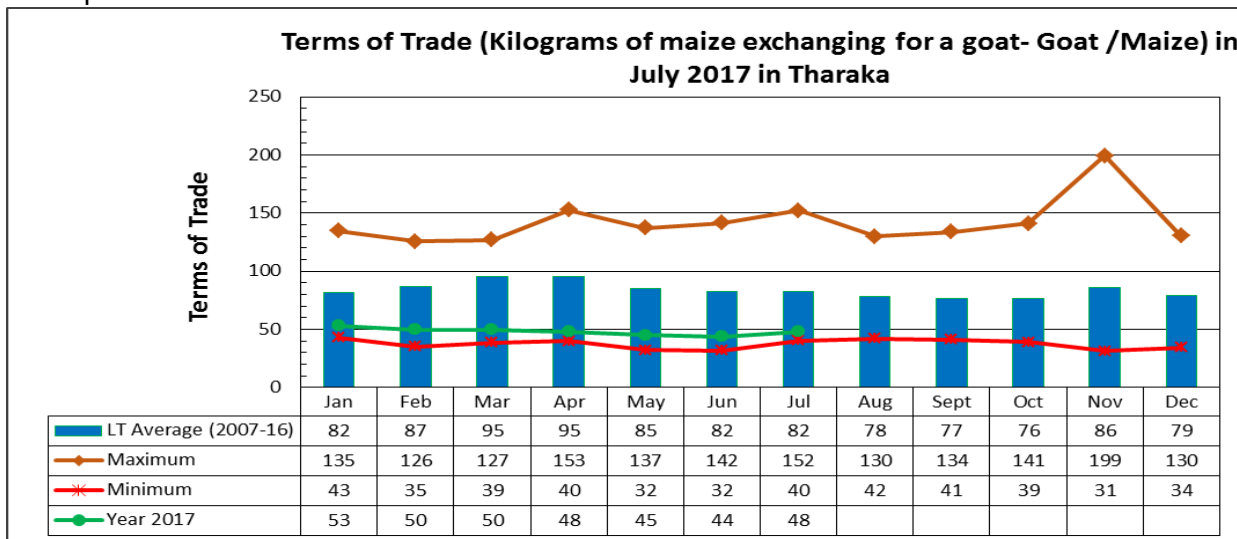
- Fall Army Worms' invasion on sorghum and millet that was reported in the Rainfed cropping livelihood zone was reportedly swept off by the rains that were received in the first dekad of the month under review.
- There were no major reports of pests' infestation across all the livelihood zones.

3.0 ACCESS INDICATORS

3.1 Livestock Prices

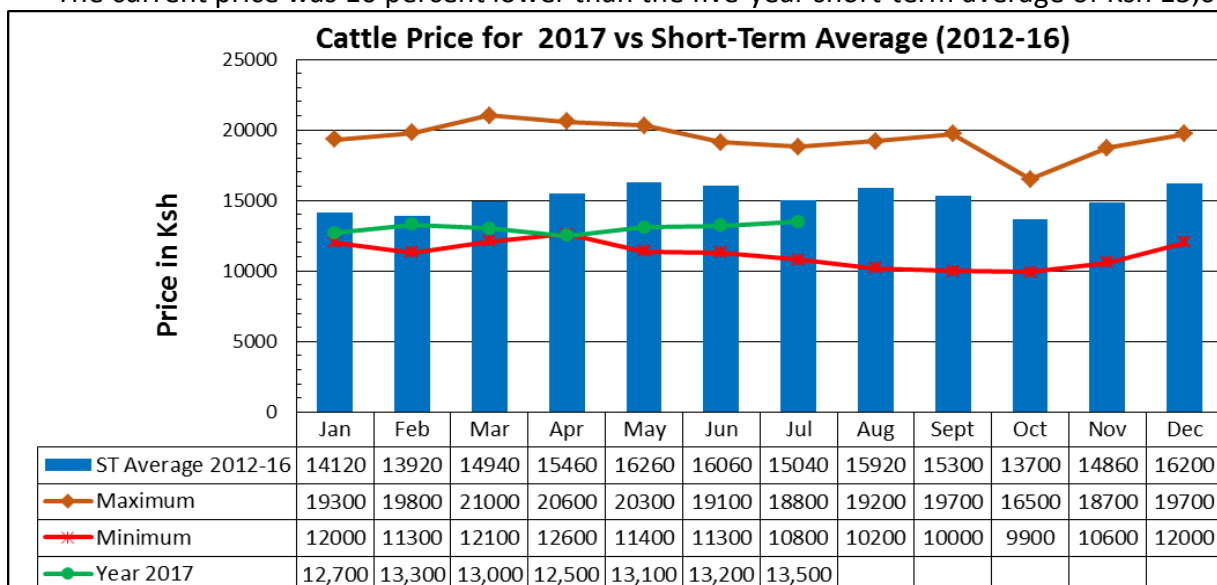
3.1.1 Terms of Trade

- The Terms of Trade (the number of kilograms of maize a household would purchase after a sale of one goat) increased slightly from 44 kg in the previous month to 48 kilograms in July, 2017 due to a stable maize price and an increase in goat price.
- The highest ratio was recorded in the marginal mixed farming zone at 50 kilograms, while the mixed farming and rainfed cropping livelihood zones had the lowest ToT values of 46 and 47 kilograms respectively.
- The ToT for the period under review was almost half of the long-term average value during the same period.



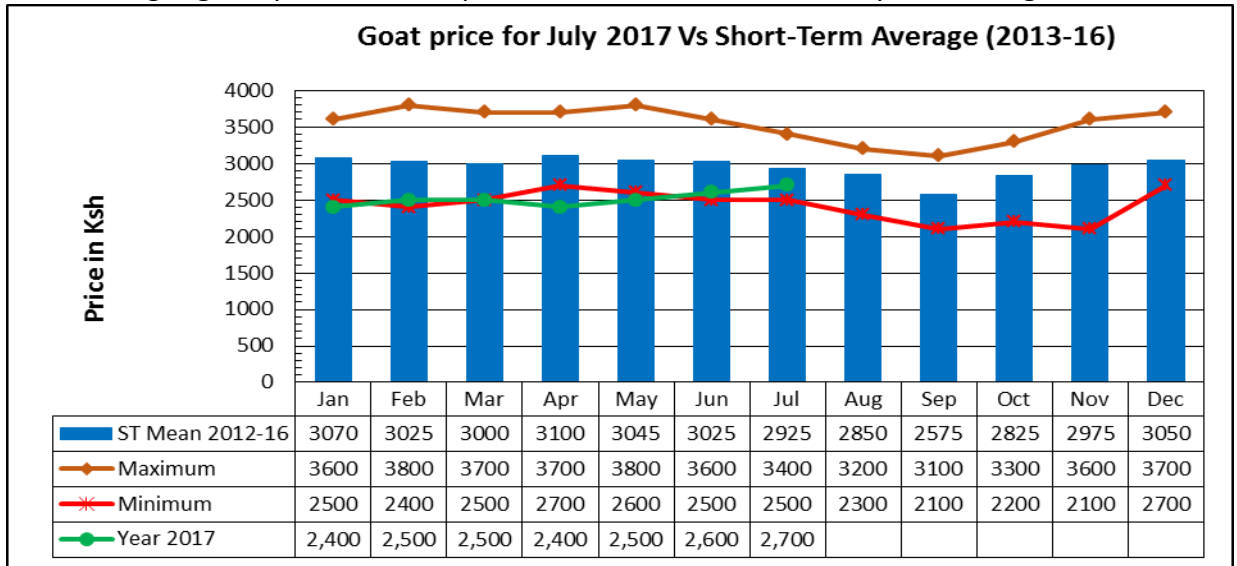
3.1.2 Cattle Prices

- The average household cattle prices increased slightly from Ksh.13,200 recorded in the previous month to Ksh 13,500.00 in the month under review. Cattle prices improved slightly both at the farm gate and market levels, a factor that was attributed to the high demand and fair body condition following the fair condition of pasture in all livelihood zones.
- The Marginal Mixed Farming livelihood zone had the highest average price of Ksh 13,500.00 while the Mixed Farming and the Rain fed Cropping had Ksh 13,000 and Ksh 14,000.00 respectively.
- The current price was 10 percent lower than the five-year short-term average of Ksh 15,040.



Goat Prices

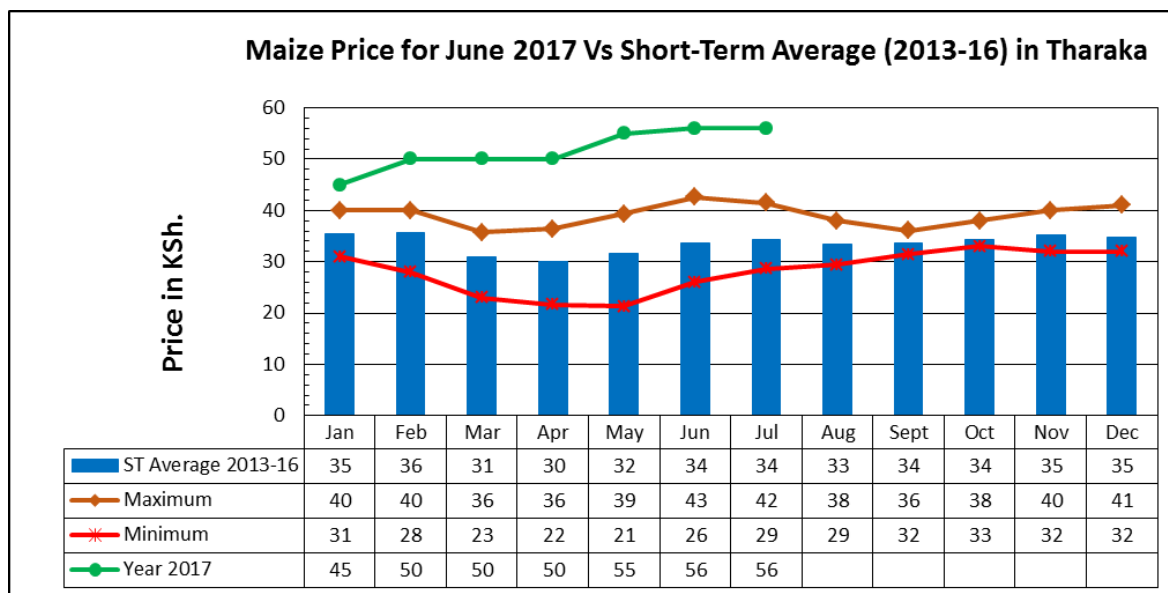
- There was stability in the average farm gate goat prices in all livelihood zones where the price slightly increased from Ksh 2,600.00 in June to Ksh.2, 700.00 in the month under review.
- The Improved trend of goat prices was mainly attributed to the good body condition due to fair browse conditions in the month under review.
- The Marginal Mixed Farming recorded the highest average price of Ksh.2,800.00 while the Mixed Farming livelihood zone recorded the lowest price of Ksh. 2,600.00. Rainfed Cropping livelihood zone stabilized at an average price of Ksh 2,700.00.
- Tharaka North and Tharaka South recorded an average price of Ksh 2,800.00 and Ksh 2,600.00 respectively.
- The average goat price was 9 percent lower than the five-year average of Ksh 2,925



Price of Cereals and Other Food Products

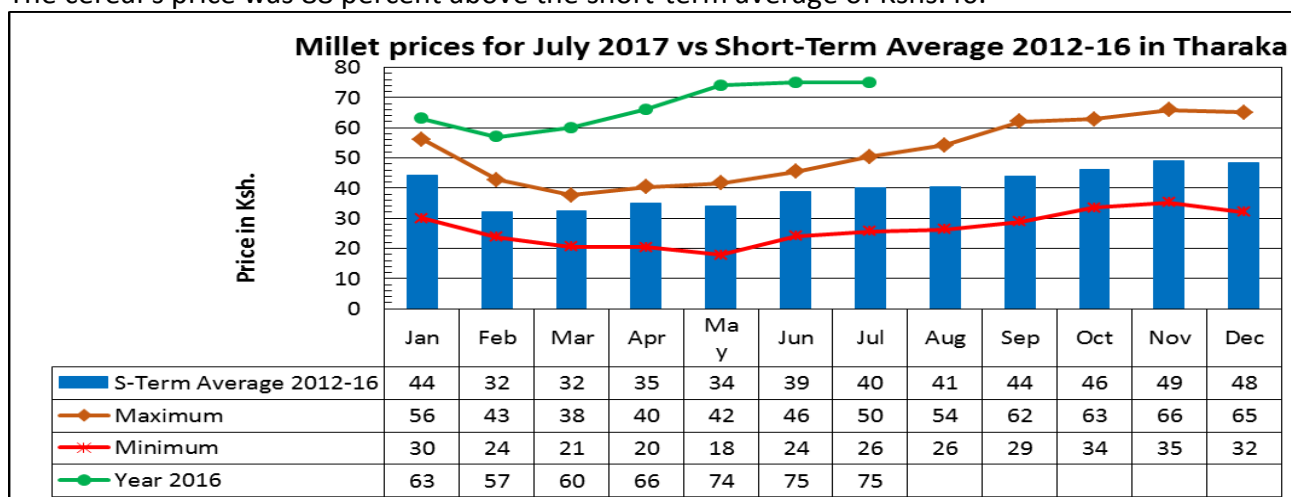
3.2 Maize Prices

- The average market price of a kilogram of maize remained unchanged at Ksh.56 during the period under. This was attributed to the harvesting of maize within the County and in the neighbouring Counties hence stable price of the product.
- The highest price was recorded in Chiakariga market at Ksh 62.00 while Marimanti and Gatunga recorded an equal average price of Ksh 50.00.
- The average maize price was 65 percent above the five-year average of Ksh 34.00.



3.3 Millet Price at Market Level

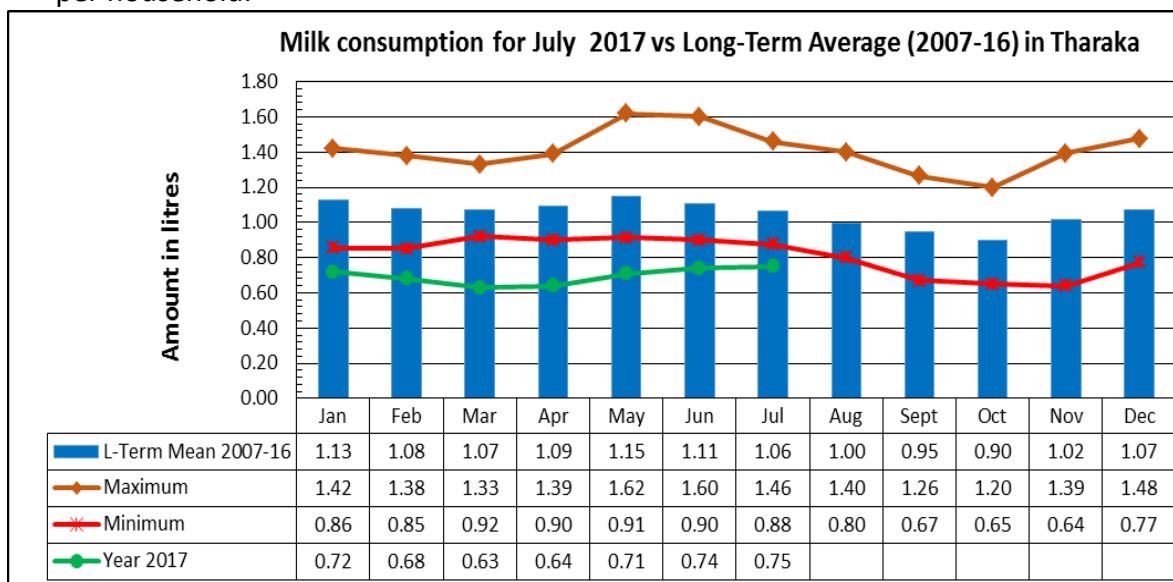
- The market average price of millet per kilogram remained unchanged from that of June at Ksh.75 in the month under review. The current stable Millet was mainly attributed to the ongoing harvest leading to increased supply of the cereal to the local markets following its relatively high production after the long rains season.
- The highest market prices were recorded in Chiakariga market at Ksh. 80 while Gatunga and Marimanti recorded a similar price of Ksh. 70.
- The cereal's price was 88 percent above the short-term average of Kshs.40.



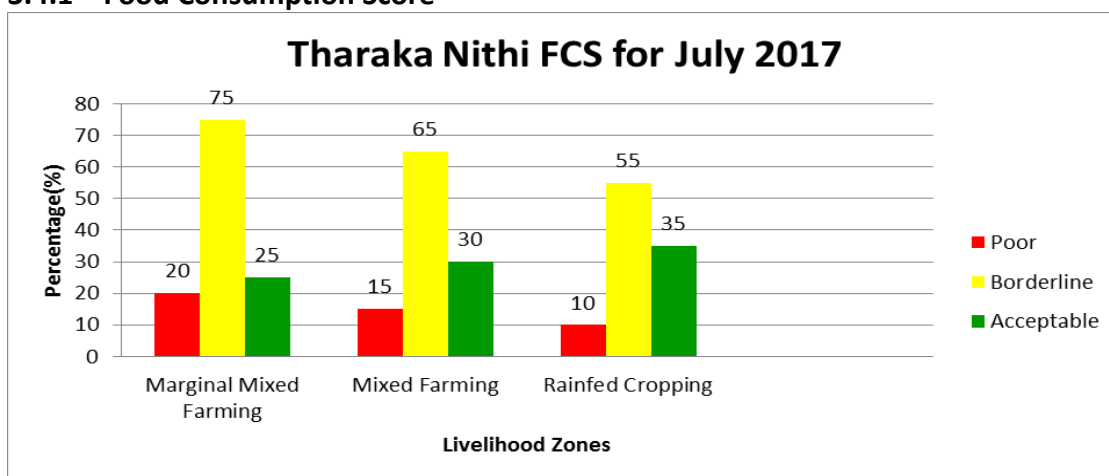
3.4 Milk Consumption

- The average milk consumption per household increased slightly to 0.75 litres in the month under review from 0.74 recorded in June, 2017. The increment was attributed to the increased production recorded in all livelihood zones mainly due to improved pasture and browse condition coupled with the relatively reduced distances to water sources.
- The highest milk consumption was recorded in the Marginal Mixed Farming at 0.85 litres while households in Rain fed and Mixed Farming livelihood zones consumed 0.62 litres and 0.70 litres respectively.

- The average milk consumed was 41 percent below the 10-year long-term average of 1.11 litres per household.



3.4.1 Food Consumption Score



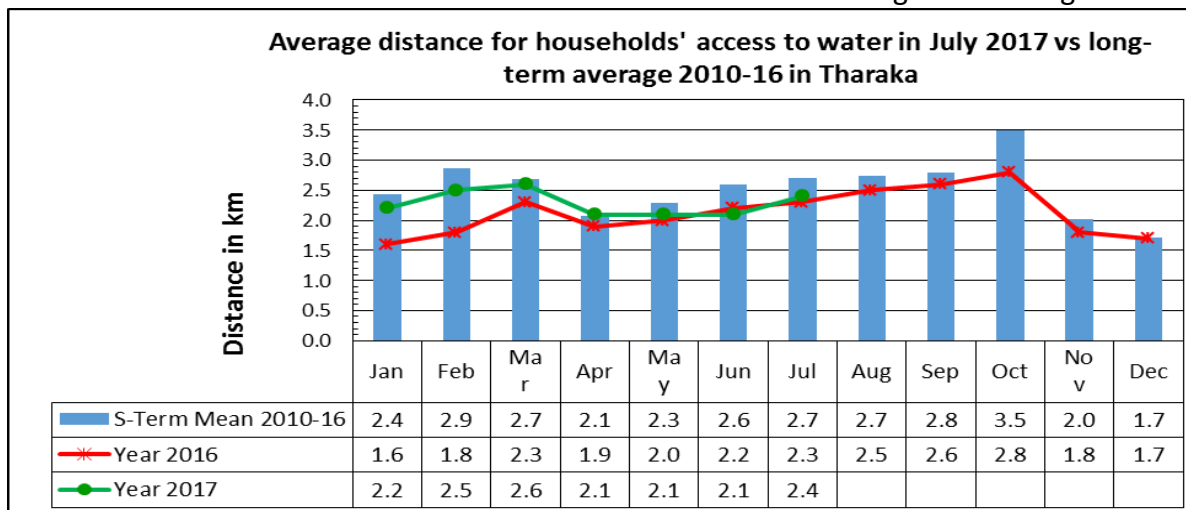
- About 15 percent of the households are currently food insecure with poor food consumption scores, attributed to poor harvest and high food prices with limited household purchasing power resulting to a decline in food access.

Period	Acceptable (%)	Borderline (%)	Poor (%)
February, 2017	31	53	16
March, 2017	30	52	18
April, 2017	27	53	20
May, 2017	26	52	23
June, 2017	28	52.5	19
July, 2017	30	65	15

- The poor food consumption score implies household are not consuming staples and vegetables every day and rarely consuming protein rich food, borderline imply household 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.

3.5 Availability of Water for Household Consumption

- Household access average distance to water increased slightly from 2.1 km in June to 2.4 during the month under review, which was attributed to the just concluded rainy season.
- The Marginal Mixed Farming livelihood recorded an average return distance of 2.9km compared to 2.2 km in Rain Fed Cropping zone and 2 km in mixed farming livelihood zones.
- The distance of household access to water was similar to the long-term average of 2.7 km.

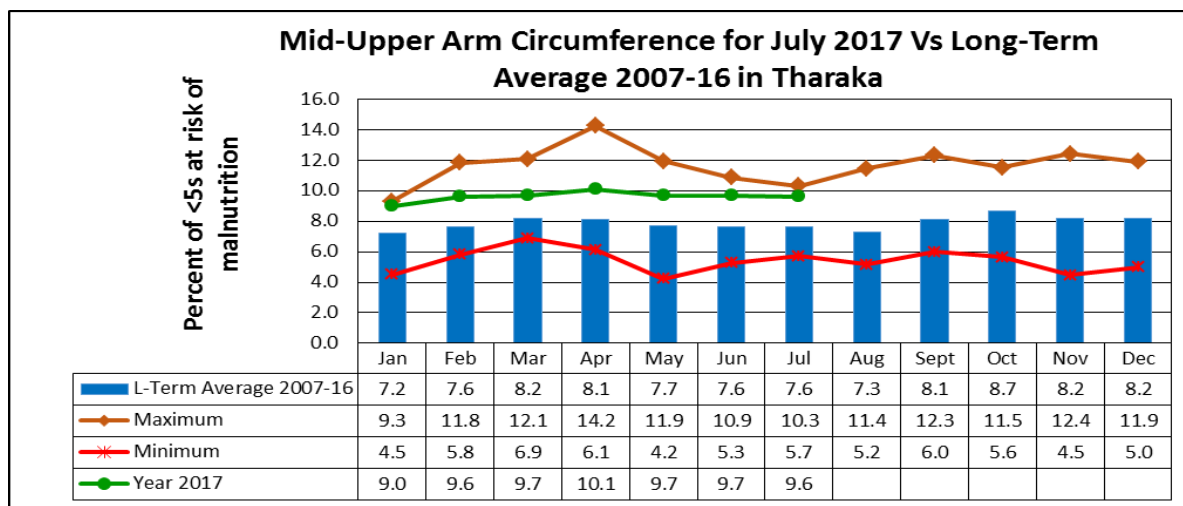


4.0 UTILISATION INDICATORS

4.1 Health and Nutrition Status

4.1.1 MUAC

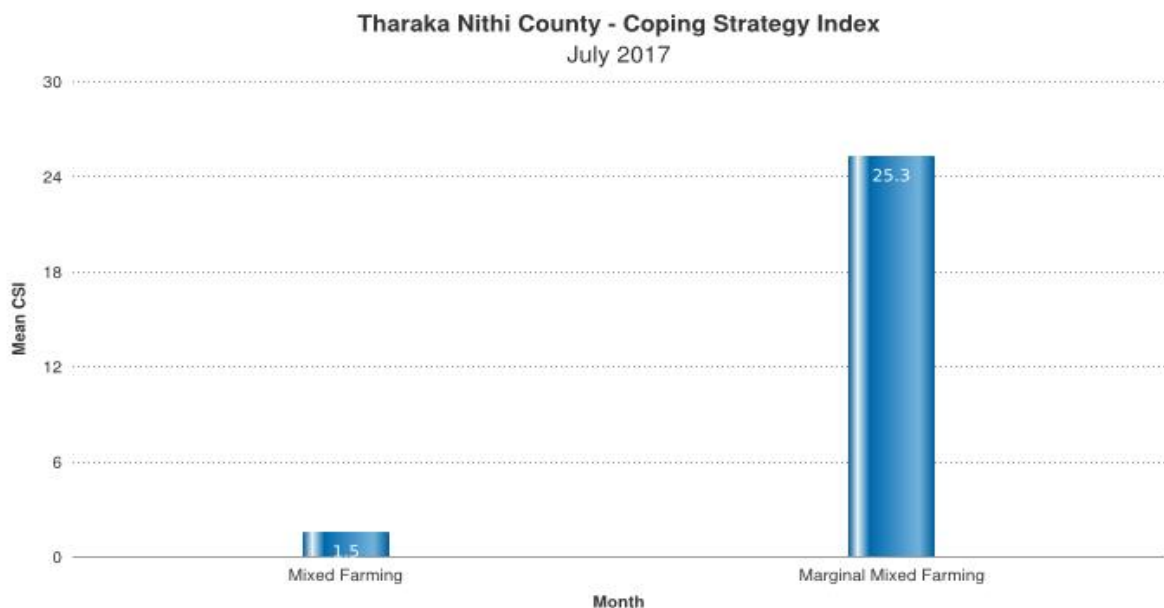
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135 mm threshold for the period under review stabilized at 9.6 percent as compared to 9.7 percent recorded in the previous month. This reduction was due to slight increase in milk production and consumption.
- The highest proportion of children at risk of malnutrition was recorded in the Marginal Mixed Farming zone at 13.8 percent compared to 9.0 percent and 6.3 percent in the Mixed Farming and Rain Fed livelihood zones respectively.
- The proportion of children at risk of malnutrition whose MUAC percentage measurement was below 135mm was above the long-term average of 7.6 percent.



4.1.2 Health

- The prevalence of most common diseases for the general population in Tharaka South and North Sub-Counties included 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.

4.2 Coping Strategy Index



- The Coping Strategy Index (CSI) decreased slightly to 8.9 in the month under review compared to 14 in the previous month. The low index implies reduction in the frequency and the number of households employing consumption based coping strategies.
- The highest CSI was recorded in the Marginal Mixed Farming zone at 14 compared , 7 in the Mixed Farming and 6 in Rain Fed livelihood zones. This implies that in the marginal mixed farming households are employing more severe coping strategies than in the mixed farming and rain fed livelihood zones.
- The most commonly employed coping mechanisms over the period included reliance on less preferred and or less expensive food, reduction of the number of meals and reduction in portion or size of meals.

- A considerable proportion of households were noted to employ livelihood based coping strategies such as sale of some household assets, spending of savings as well as borrowing of short term loans.

5.0 Food Security Prognosis

The month under review marked the end of the long rains (as predicted by the Kenya Meteorological Department) whose performance was below normal with poor distribution temporary and spatially. There is a spatial poor crop performance in the locality with the most affected livelihood zone being the marginal mixed farming where a very poor performance of rains was experienced. Consequently, there has been low recharge of underground and ground water sources as well as poor range land development. In that respect, food and animal production are likely to be below normal in the two sub-counties, a factor that is expected to result in low food supply and affordability as Terms of Trade deteriorate further due to poor performance of livestock markets. Deprived food availability at the household level may significantly affect school attendance and performance of food insecure households in Igambang'ombe, Kamanyaki, Kamarandi, Maragwa, Usueni, Gatunga, Gituma, Nkarini and Kanjoro locations all found in the marginal mixed farming livelihood zones. Migration is also expected to persist along the park due to pasture and browse depletion. Levels of Global Acute Malnutrition are expected to be rise significantly in the affected zones.

Households in the sub-county are likely to remain in the stressed phase (IPC Phase 2) across all livelihood zones.

6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Ongoing food and Non-Food Interventions

6.1.2 Food Interventions

The following foods were donated by the Ministry of devolution and were distributed through the department of Interior & Coordination.

May

No.	Food Item	Quantity	Packaging	Status
1	Maize	2,500	Bags	Received
2	Rice	200	Bags	Received
3	Beans	200	Bags	Received
4	Cooking Oil	250	Cartons	Received
5	Nutropaps	50	Bales	Received

June

No.	Food Item	Quantity	Packaging	Status
1	Maize	100	Bags	Received
2	Rice	250	Bags	Not Received
3	Beans	150	Bags	Received
4	Cooking Oil	50	Cartons(24x0.5lts)	Received
5	Nutropaps	50	Bales	Received

6.1.3 Non-Food Interventions

- Distribution of 123 bee hives to the Communities in Tharaka Nithi North and South Sub County by National Drought Management Authority through the Food For Asset (FFA) Program.
- Six community trainings conducted in Tharaka Nithi South and North Sub-County on bee hive management.
- Rehabilitation of Mutonga Gituma water supply by County Government and WSTF at Ntugi location benefiting 2000 persons.
- Kiaranthe Earth dam construction by NDMA/County governments benefiting 2,000 persons at Kathangachini location.

- Home Grown School Meals Program (HGSMP) in Tharaka North and Tharaka South respectively with a total of 21,695 beneficiaries.
- Rehabilitation of Rukenya earth dam by National and County Governments through Devolution Ministry at Ntugi location benefiting 1,500 persons.
- Asset creation project where farmers in Tharaka region are being trained on construction and maintenance of farm assets and utilization of modern farming technologies.
- 37 primary schools in Tharaka South with a total enrolment of are 10,242 beneficiaries of school feeding programme sponsored by International Aid Services.
- Construction of Ura Kathangachini water project in Kanjoro and Kathangachini locations benefiting 4,000 persons by National Government.
- Rehabilitation/upgrading of boreholes to solar pumping by National government through UTaNRMP at Gikingo, Marimanti and Nkondi locations benefiting 2,100 persons.
- Construction of Maragwa water pipeline by County Government and WSTF at Marimanti and Maragwa location benefiting 3000 persons.

6.2 Recommendations

- Excavation of Kiaranthe Integrated water development project.
- Enhance community skills on the importance of hand washing at the five critical times.
- Advocacy to the young mothers and fathers on the importance of the indigenous food.
- Close monitoring of malnutrition and underweight cases at household and health facilities.
- Provision of safe nutritious food to schools albeit the increase in food prices.
- Advocate rain water harvesting and use of water treatment methods.
- Capacity building of farmers on post-harvest management to prevent post-harvest losses.
- Increased advocacy on treating and consumption of treated water.
- Provision of animal feeds (Range cubes).
- Integrated Health outreaches and mass screening of children under the age of 5 yrs.
- Train farmers on fodder conservation practices and range land management.
- Intra and inter county livestock vaccination, deworming, vector control and treatment of the sick animals
- Enhance advocacy on exclusive breastfeeding and healthy feeding practices.
- Rehabilitation of broken hand pumps.