

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



A Vision 2030 Flagship Project



April, 2017 EW Phase

Drought Status: ALERT



Maandalizi ya mapema

Early Warning Phase Classification			
Livelihood Zone	EW PHASE	TRENDS	
Mixed Farming	Alert	Stable	
Marginal Mixed Farming	Alert	Worsening	
Rainfed cropping	Alert	Stable	
County	Alert	Stable	
Biophysical Indicators	Value	Normal Range/Value	
VCI-3month (Tharaka)	10	>35	
Water Sources	Fair	Fair	
Production Indicators	Value	Normal	
Livestock Migration Pattern	Normal	Normal	
Livestock Body Conditions	Fair to Poor	Fair	
Milk Production	0.72 Litres	<1.38 Litres	
Livestock deaths (from drought)	No death	No death	
Access Indicators	Value	Normal	
Terms of Trade	48	<95	
Milk Consumption	0.64 Litres	<1.09 Litre	
Water for Households	Fair	Good	
Utilization indicators	Value	Range/Value	
MUAC	10	<8.1	
Coping Strategy Index (CSI)	22	<56	
Food Consumption (Marginal Mixed Farming)	27 Percent Acceptable	>80 Percent Acceptable	

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of April was characterized by poor rainfall performance coupled with intervals of sunny and dry weather conditions.
- The Vegetation Condition Index (VCI) was 10 indicating an extreme vegetation deficit.
- The water availability was below normal for the period.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition for pastures and browse was poor with partial regeneration attributed to delay of the onset of the long rains coupled with uneven spatial distribution and poor temporal distribution.
- Livestock body condition for cattle was poor to fair while that of shoats was fair across all the livelihood zones.
- The ongoing farming activity recorded in the period under review was massive replanting, planting, spraying and weeding owing to the intermittent pattern of rainfall.

Access Indicators

- In the period under review Livestock prices indicated a decreasing trend and a consistent increase in the prices of commodities.
- Milk production and consumption per household was 0.74 litres and 0.64 litres respectively compared to an average production of 1.38 litres and an average consumption of 1.09 litres.

Utilization Indicators

- Percentage of children at risk of malnourishment whose MUAC was below 135mm was 10 percent for the period under review which was higher than the long-term average of 8.1 percent.

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 Increased HH Food Stocks Kidding (Sept) 	<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

- The onset of rains was in the first week of April with the dates varying from 6th to 7th April, 2017 which was late by three weeks.
- Rainfall across the county over the month of April was in falls of 20 - 40 mm across Rainfed and Mixed Farming livelihood zones. The Marginal Mixed farming livelihood zone received 10 - 15 mm, primarily in the north.
- The recorded amount of rainfall received was 24 mm for an average of 4 rainy days from 4 recording stations.
- With reference to the Rainfall Estimate Images, rainfall performance was below normal in comparison to a normal year.

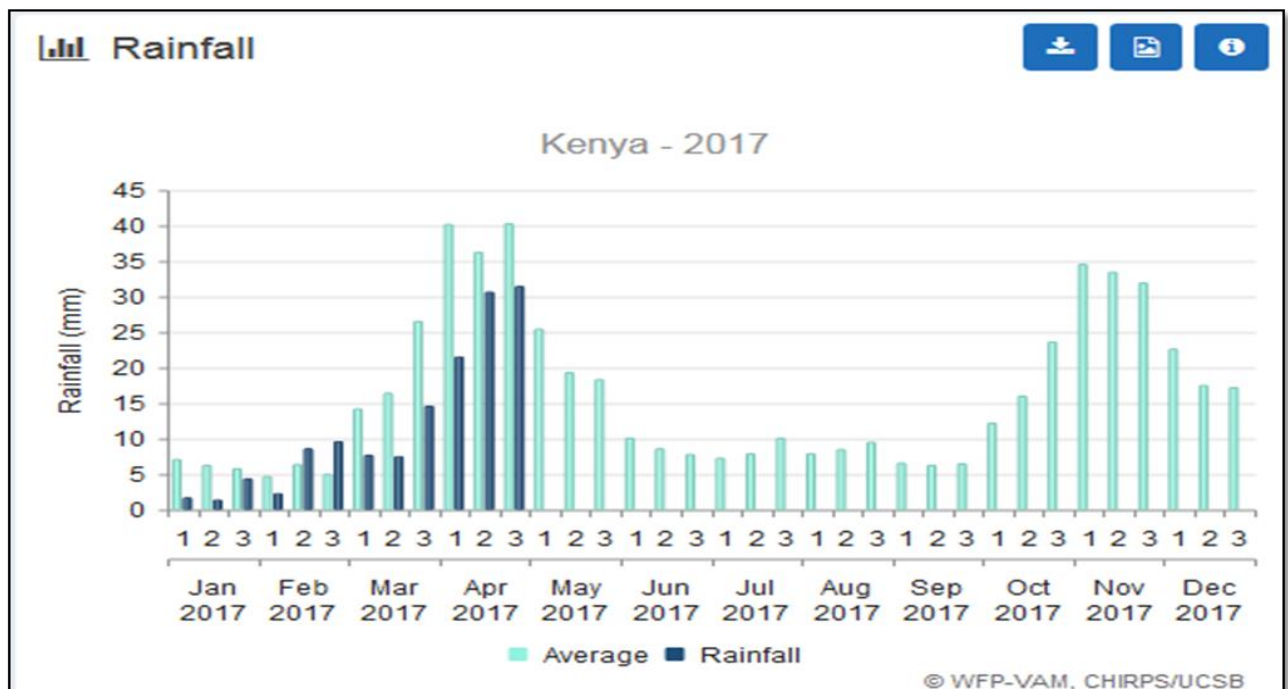
1.1.2 Spatial Distribution

- The rains spatial distribution across the County was uneven as noted by 4 recording stations, though the Rain-fed cropping and Mixed Farming zones received slightly higher amounts of rainfall in comparison to the Marginal Mixed Farming livelihood zone.

1.1.3 Temporal Distribution

- The recorded average amount of rainfall was 24 mm for an average of 4 rainy days indicating poor temporal distribution.

1.1.4 Rainfall satellite data

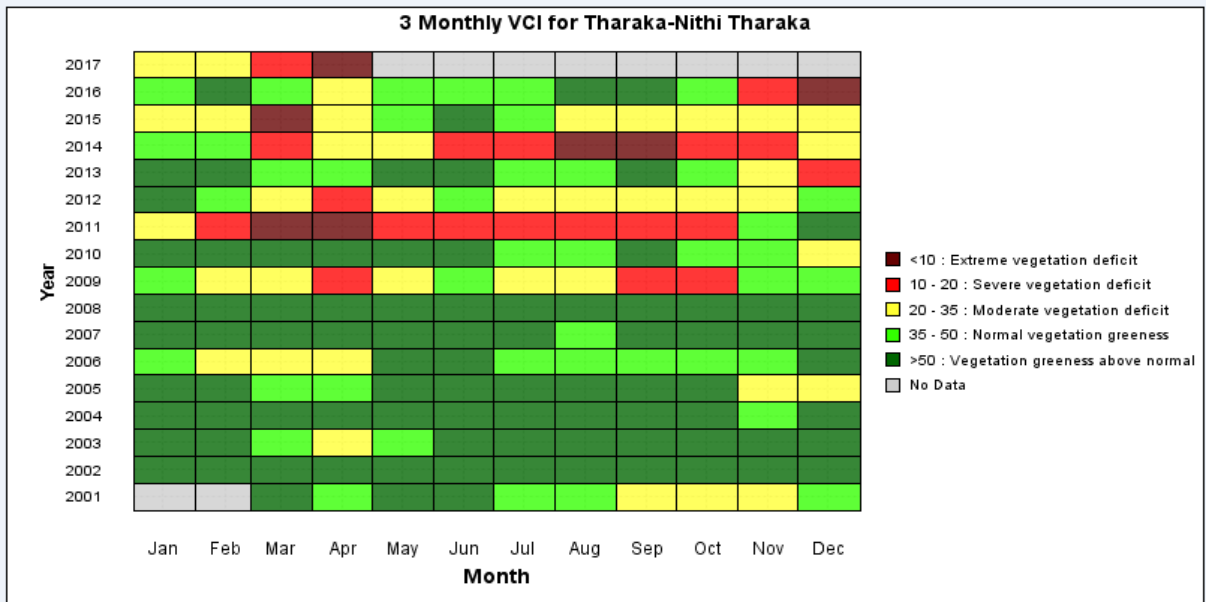


- Satellite RFE data illustrating current rainfall estimates being below the long-term rainfall estimates for the three dekads of April.

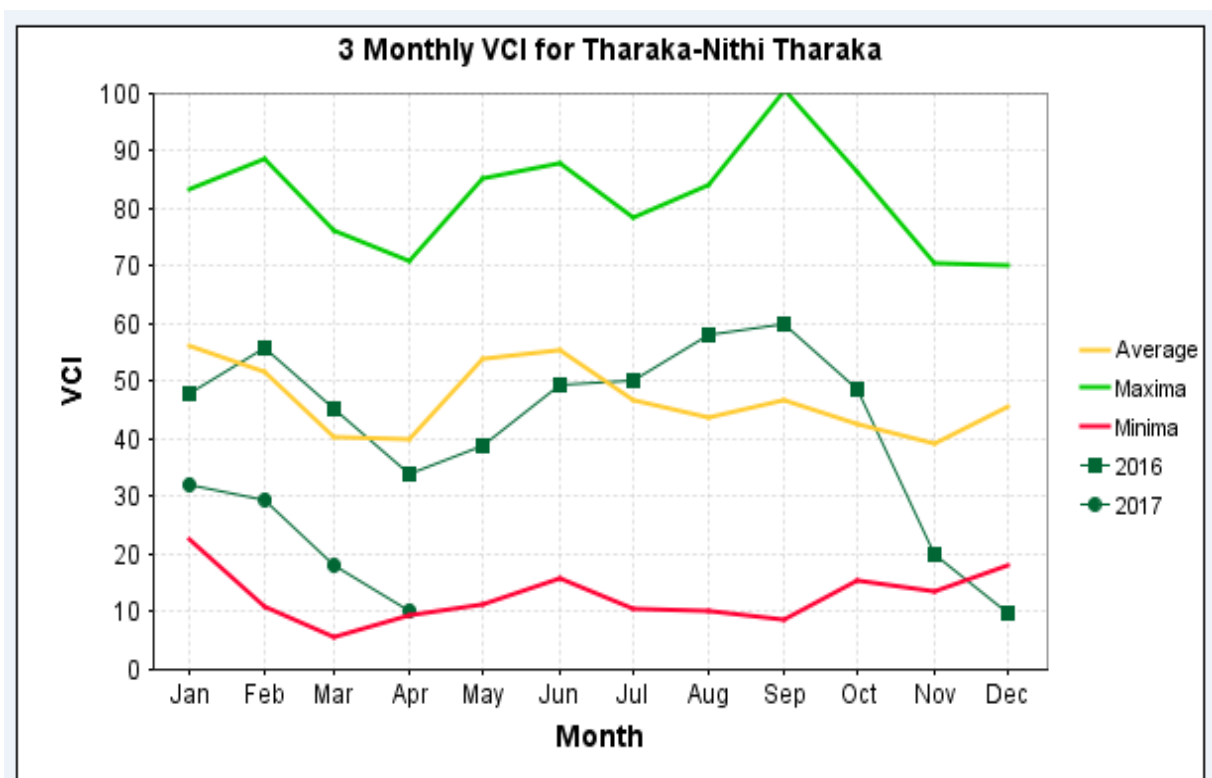
1.2 AGRICULTURAL DROUGHT

1.2.1 Vegetation Condition Index (VCI)

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



- Tharaka was in Extreme vegetation deficit band within thresholds of 10. The County's vegetation condition worsened as suggested by a decrease in the 3-month VCI index from 18 in March 2017 to 10 in April. The worsened vegetation condition is attributed to poor performance of the March - April Rains as shown in the graph below.



1.2.2 NATURAL VEGETATION AND PASTURE CONDITION

Field Observations (Pasture and Browse Conditions)

Pasture Condition

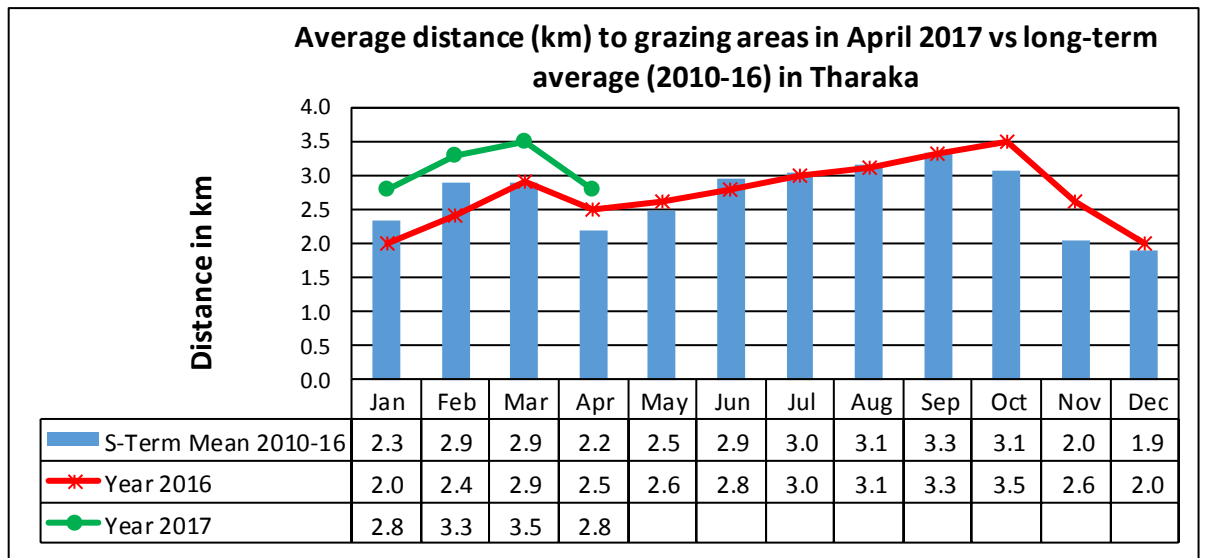
- Pasture and browse quality was poor attributed to poor performance of rainfall and high temperatures. The trend in pasture quality will be highly dependent on the stability of the prevailing rainfall.
- Normally the condition would be fair to good across all livelihood zones at this time of the year.

Browse Condition

- Most areas registered a decrease in *Vegetation Density* based on the Normalized Difference Vegetation Index (NDVI) received in dekad 1, 2 and 3 of April 2017.
- In comparison to a normal year, the available browse amount was below normal.

1.2.3 Distance to Grazing Areas

- Livestock average distance to grazing areas decreased from 3.5 km recorded in March to 2.8 km over the period under review which was attributed to on-set of the long rains.
- The longest return distance to grazing areas was recorded in the Marginal Mixed Farming at 3.8 km, Rainfed Cropping and Mixed Farming livelihood zones recorded 1.9 km and 2.6 km respectively.
- The distance to grazing areas was 27 percent higher than the average of 2.2 km for this time of the year.

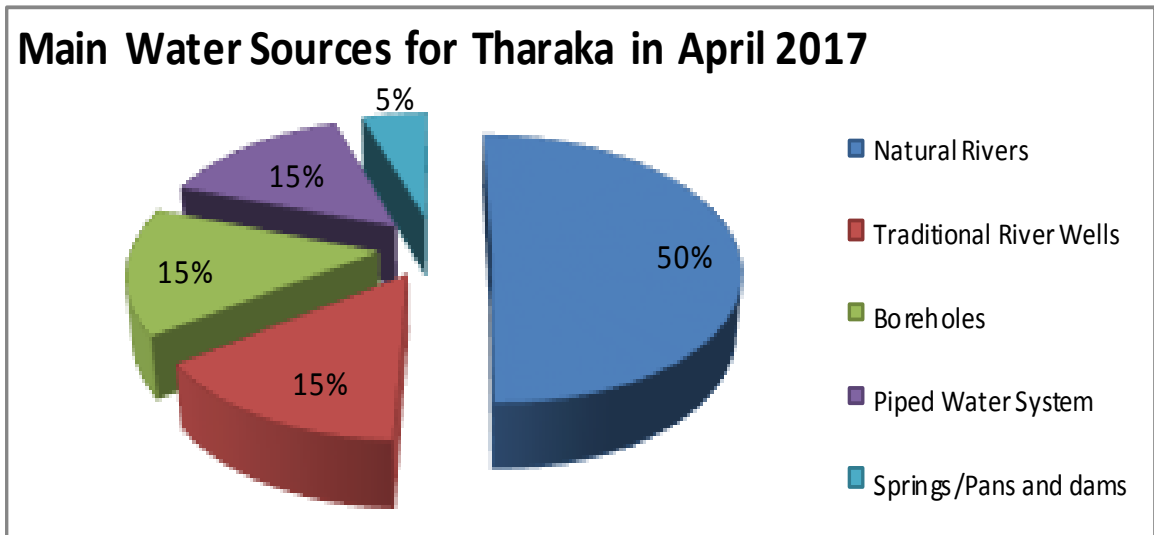


HYDROLOGICAL DROUGHT

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 most affected areas with low water concentration 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 was poor while that of shoats was fair across all the livelihood zones attributed to the poor pasture and browse condition coupled with relatively long 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. 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	

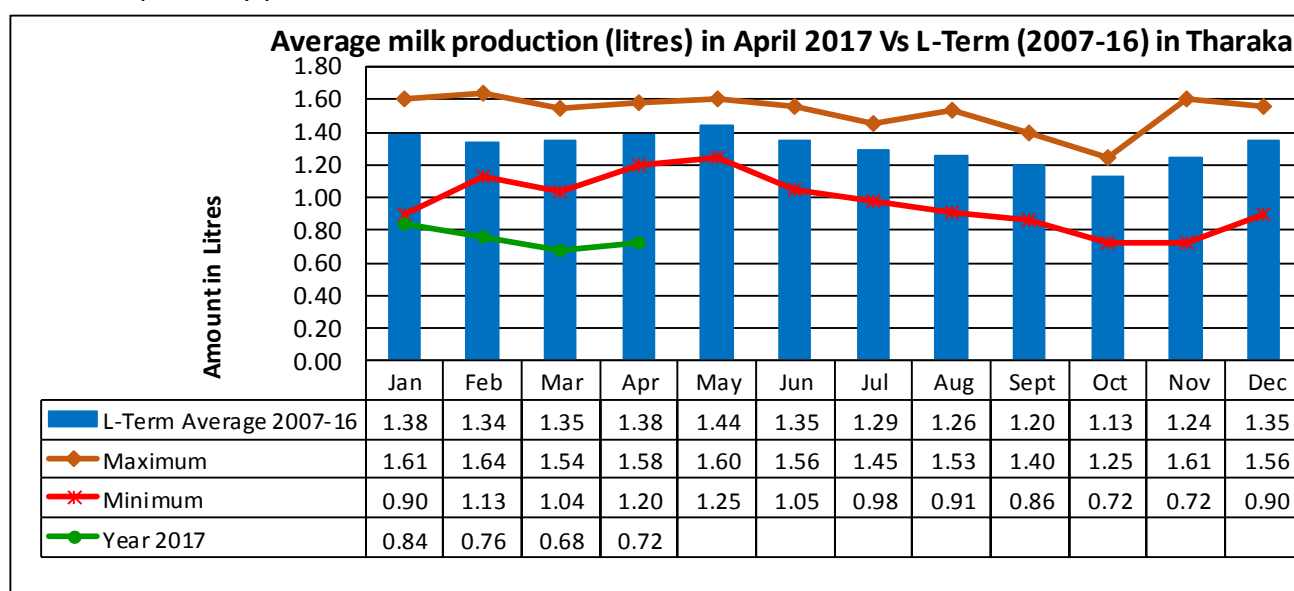
- For most livestock, current body condition can be rated at index 5 as per the threshold scale above

2.1.3 Livestock Diseases and Migration

- There were no unusual incidences of diseases except for Contagious Caprine Pleuropneumonia (CCPP), Trypanosomosis, orf, sheep and goat pox and Heart Water diseases, which are endemic across all livelihood zones.

2.1.4 Milk Production

- Milk production was stable at 0.72 litres per household as compared to 0.68 litres in the previous month.
- The highest milk production was recorded in the Marginal Mixed Farming livelihood zone at 0.80 litres while Mixed Farming livelihood and Rainfed livelihood zone had 0.70 litres and 0.65 litres respectively per household.



- Milk production per household was 50 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

- In the period under review status of farms were characterized with, massive replanting, planting, spraying and weeding owing to the intermittent pattern of rainfall.
- Should the current intermittent pattern of rains persist then there is a high likelihood of below average crop performance.
- Crops planted were Green grams, Millet, Cowpeas and Groundnuts.

2.2.2. Pests and Diseases

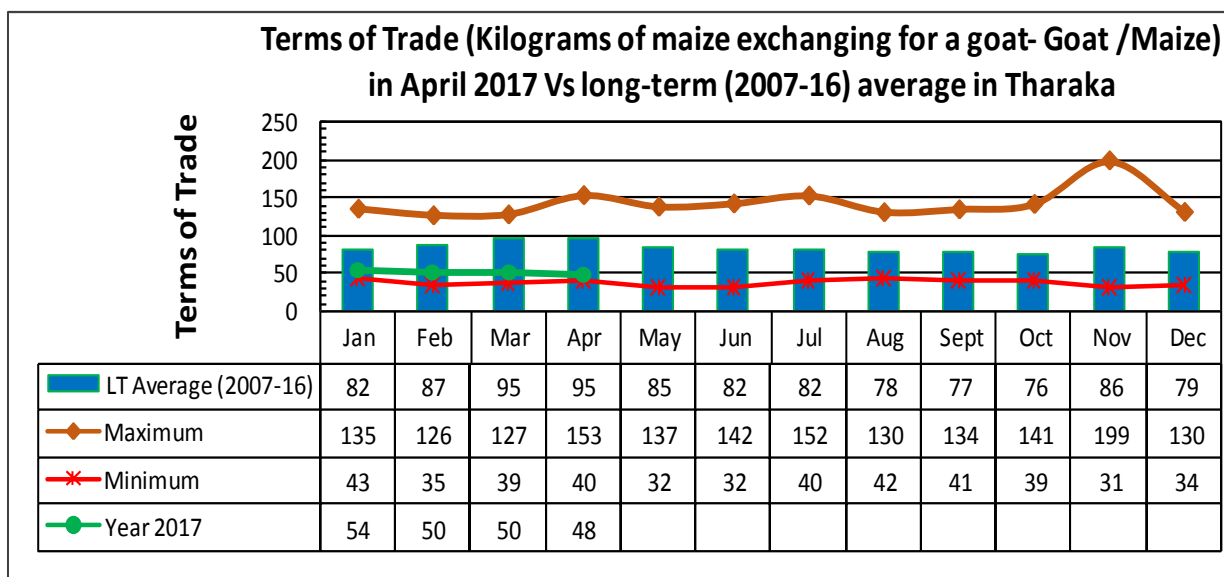
- Army worm's invasion on sorghum and millet was reported in the Rainfed cropping livelihood zone.
- No crop harvests were recorded during the month under review.

3.0 ACCESS INDICATORS

3.1 Livestock Prices

3.1.1 Terms of Trade

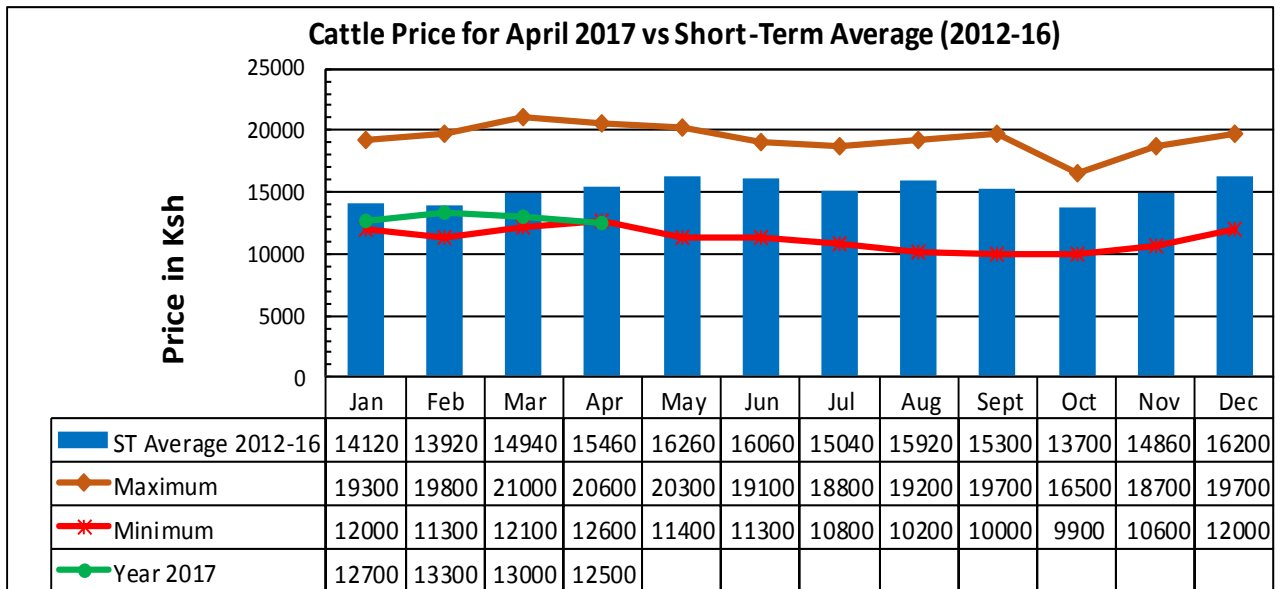
- The Terms of Trade (the number of kilograms of maize a household would purchase after the sale of one goat) decreased from 50 kg in the previous month to 48 kilograms for April, 2017.
- The highest ratio was recorded in the marginal mixed farming zone at 54 kilograms, while the mixed farming and rainfed cropping livelihood zones had the lowest ToT values of 43 and 50 kilograms respectively.



- The ToT for the period under review was almost half of the long-term average value during the same period.

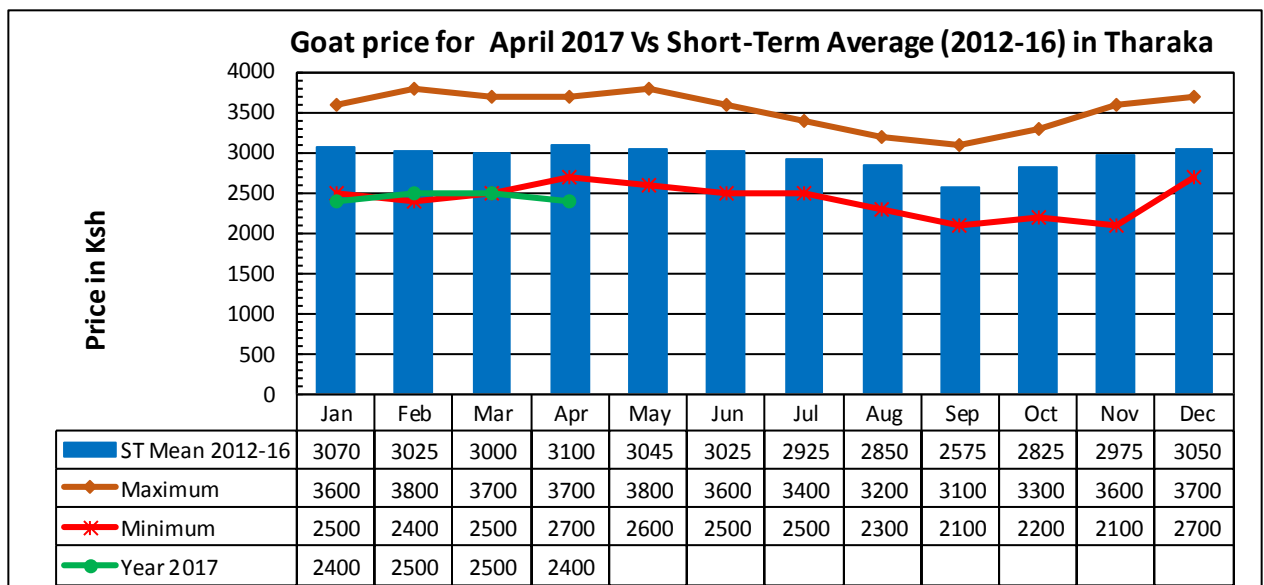
3.1.2 Cattle Prices

- The average household cattle prices decreased from Ksh.13, 000.00 recorded in the previous month to Ksh 12,500.00 in the month under review, indicating a 4 percent decline attributed to poor body condition following the poor condition of pasture in all livelihood zones.
- The Marginal Mixed Farming livelihood zone had the highest average price of Ksh 13,000.00 while the Mixed Farming and the Rain fed Cropping had Ksh 12,000.00 and Ksh 12,500.00 respectively.
- The current price was 19 percent lower than the five-year short-term average of Ksh 15,460.00.



Goat Prices

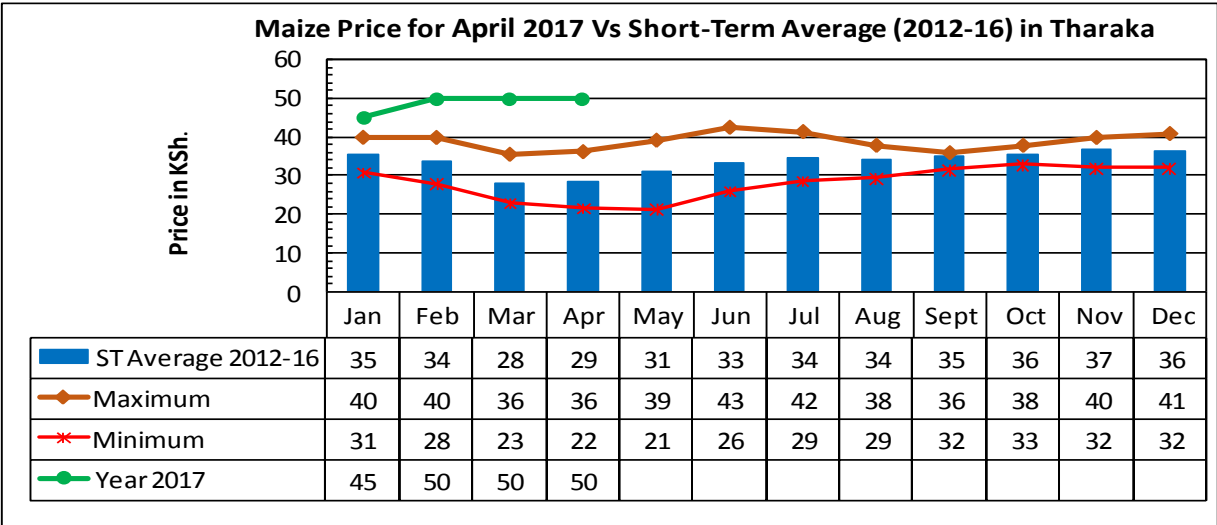
- Household goat prices decreased to Ksh 2,400.00 in the month under review from Ksh.2, 500.00 in the previous month. The continued poor prevailing goat price was mainly attributed to the influx of animals into the market as farmers dispose their animals in fear of inadequate pastures following the poorly performing rains and partly to enable them purchase food and meet school fees requirements.
- The Marginal Mixed Farming recorded the highest average price of Ksh.2, 700.00 while the Mixed Farming livelihood zone recorded the lowest price of Ksh. 2,100.00. Rainfed Cropping livelihood zone stabilized at an average price of Ksh 2,400.00.
- Tharaka North and Tharaka South recorded a similar average price of Ksh 2,500.00.
- The average goat price was 16 percent lower than the five-year average of Ksh 3,000.00.



Price of Cereals and Other Food Products

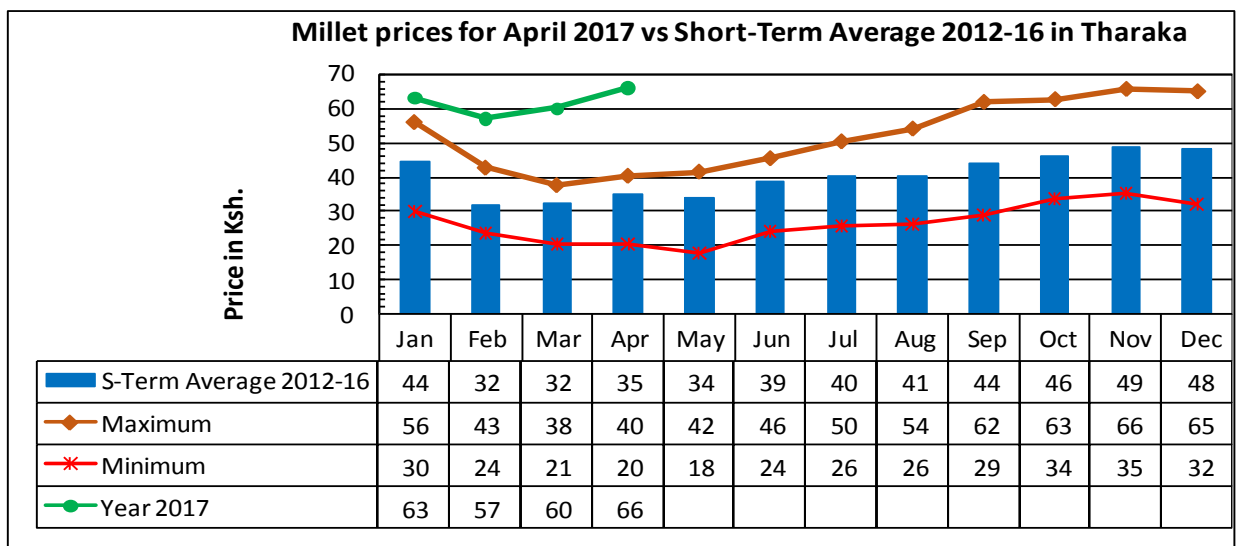
3.2 Maize Prices

- The market average price of a kilogram of maize was Ksh.50.00 during the period under review similar to the previous month. This was attributed to the minimal maize production as a result of poor performance of the short rains within the County and in the neighbouring Counties.
- All the major markets namely, Marimanti, Chiakariga and Gatunga recorded an equal average price of Ksh 50.00.
- Maize price was Ksh 50.00 across all livelihood zones similar to the previous month.
- The average maize price was 72 percent above the five-year average of Ksh 29.00.



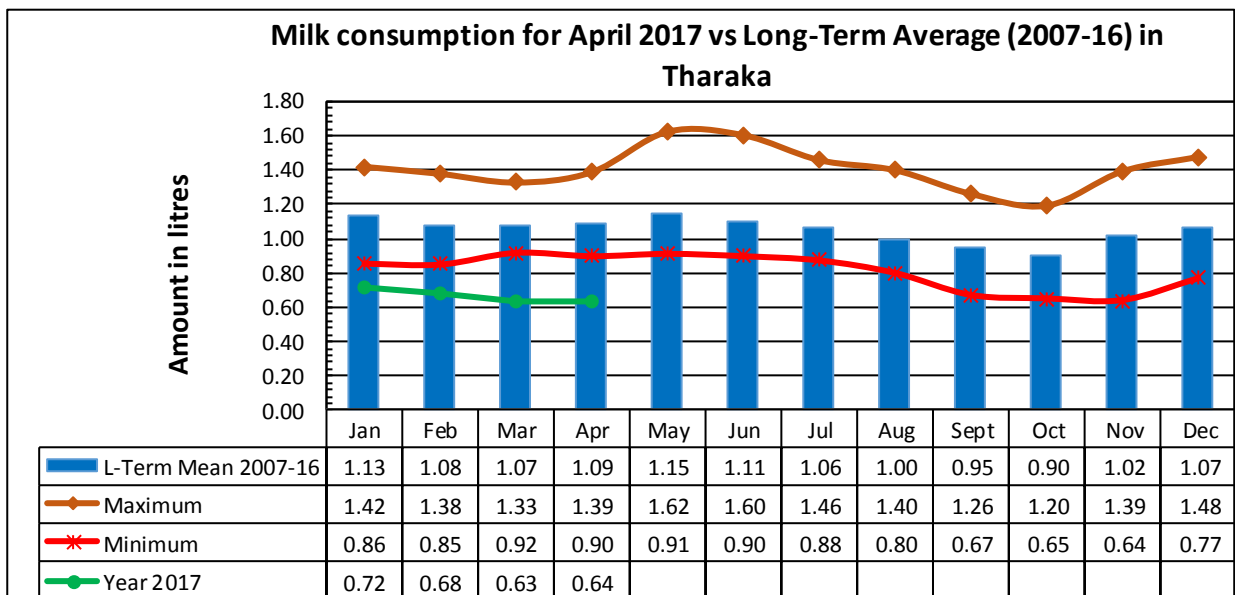
3.3 Millet Price at Market Level

- The market average price of millet per kilogram increased from Ksh 60.00 recorded in March to Ksh.66.00 in the month under review. The current price is indicative of a 10 percent increase which was mainly attributed to the reducing supply of the cereal to the local markets following its relatively minimal production after the short rains season.
- The highest market average prices were recorded in Chiakariga market at Ksh. 72.00 followed by Gatunga at Ksh.61.00. Marimanti market had the lowest price of Ksh. 57.00.
- The cereal’s price was 89 percent above the short-term average of Kshs.35.00.

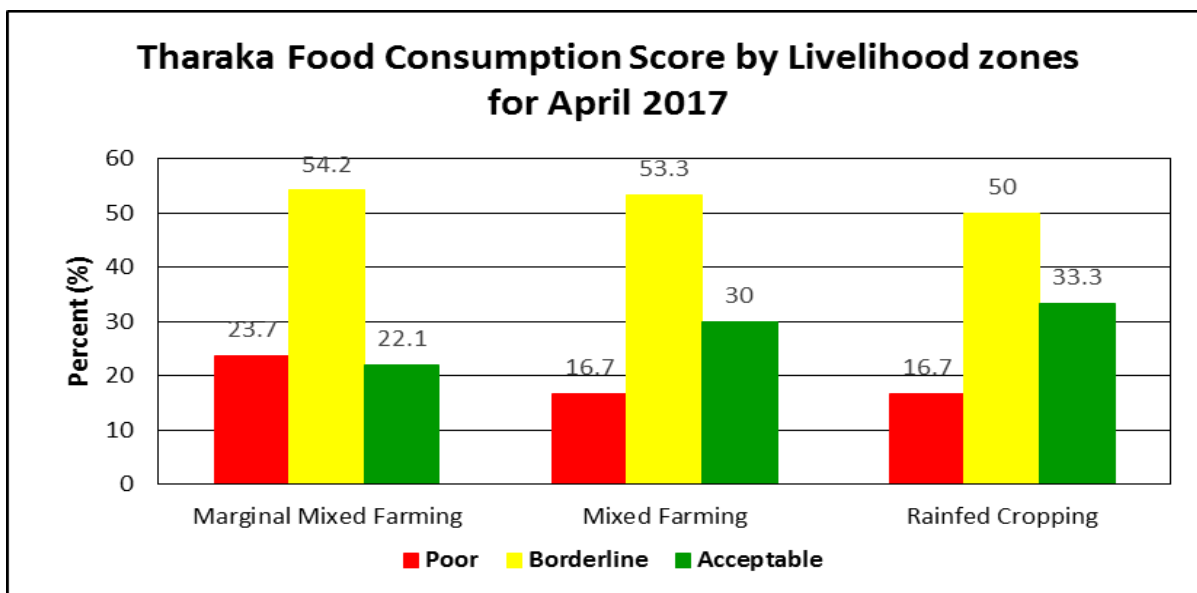


3.4 Milk Consumption

- The average milk consumption per household was stable at 0.65 in the month under review compared to 0.63 in March, 2017 attributed to low production across all livelihood zones mainly due to poor pasture and browse condition coupled with relatively long distances to water sources.
- The highest milk consumption was recorded in the Marginal Mixed Farming at 0.75 litres while households in Rain fed and Mixed Farming livelihood zones consumed 0.60 litres and 0.65 litres respectively.
- The average milk consumed was 38 percent below the 10-year long-term average of 1.1 litres per household.



3.4.1 Food Consumption Score



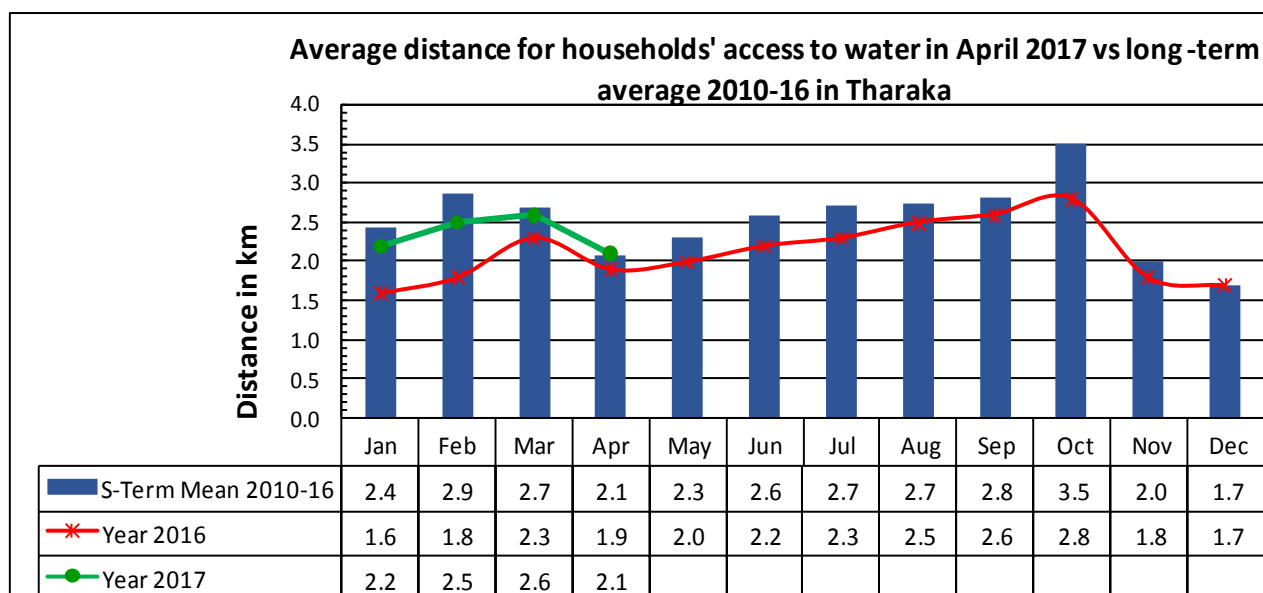
- Approximately 80 percent of the households are currently food insecure with either borderline or poor food consumption scores, attributed to high food prices with limited household purchasing power resulting to a decline in food access.

Period	Acceptable (%)	Borderline (%)	Poor (%)
January, 2017	40	47	13
February, 2017	31	53	16
March, 2017	30	52	18
April, 2017	27	53	20

- The poor food consumption score implies household are not consuming staples and vegetables every day and never consuming protein rich food, borderline imply household consuming staple, vegetable every day accompanied by oil and pulse a few times a week while the acceptable imply household consuming staple, vegetable every day, frequently accompanied by pulses.

3.5 Availability of Water for Household Consumption

- Household access average distance to water decreased from 2.6 km in the previous month to 2.1 km in April, 2017 attributed to onset of the long rains.
- The Marginal Mixed Farming livelihood recorded an average return distance of 2.9 km compared to 1.9 km in Rain Fed Cropping zone and 1.4 km in mixed farming livelihood zones.
- The distance of household access to water was similar to the long-term average of 2.1 km.

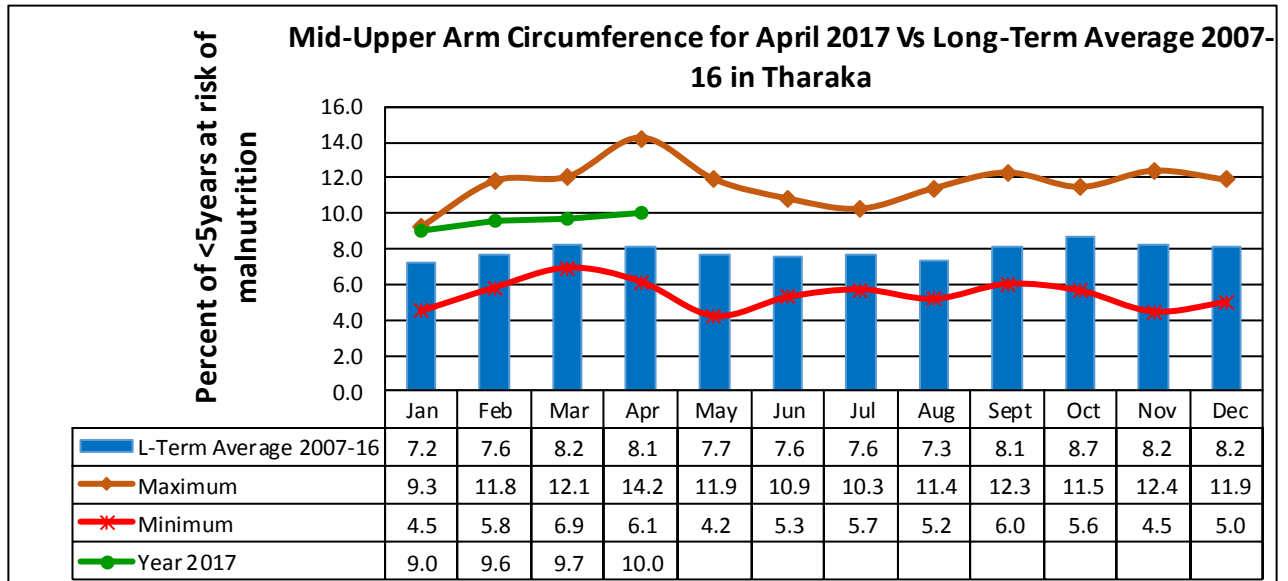


4.0 UTILISATION INDICATORS

4.1 Health and Nutrition Status

4.1.1 MUAC

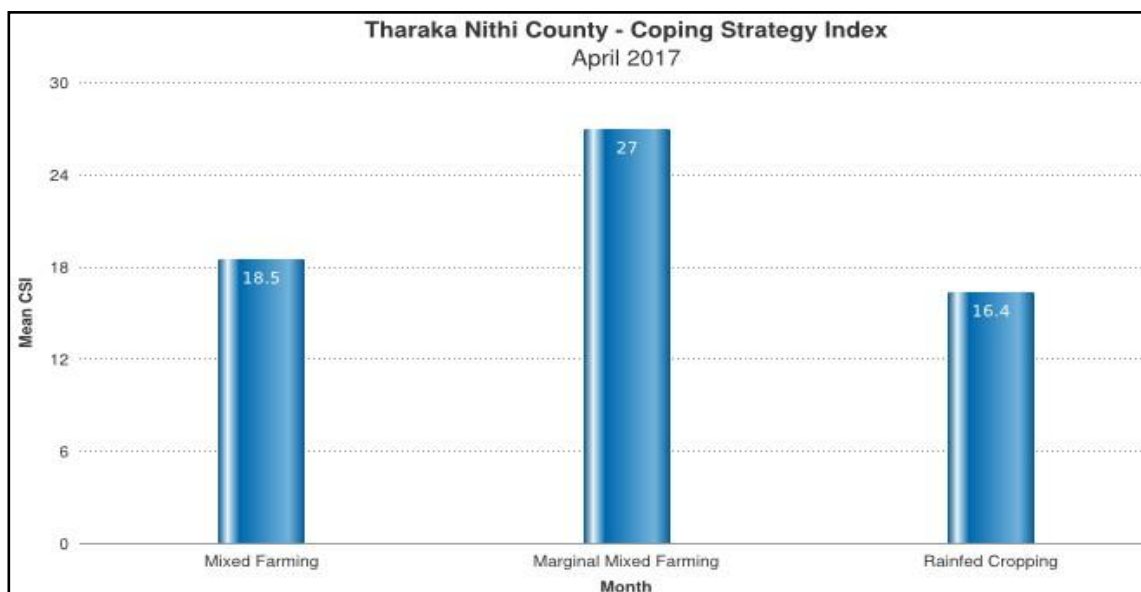
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135 mm threshold for the period under review was 10.0 percent as compared to 9.8 percent recorded in the previous month.
- The current high proportion of children at risk of malnutrition was attributed to the reduced amount and frequency of meals and limited dietary diversity.
- The highest proportion of children at risk of malnutrition was recorded in the Marginal Mixed Farming zone at 13.7 percent compared to 9.4 percent and 6.8 percent in the Mixed Farming and Rain Fed livelihood zones respectively.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was above the long-term average of 8.1 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) slightly stabilized at 22 in the month under review. The high index implies an increase 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 27 compared to 18 and 16 in the Mixed Farming and Rain Fed livelihood zones respectively. 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 and borrowing loans.

5.0 Food Security Prognosis

March – April – May (MAM) 2017 long rains are likely to be depressed with sunny and dry weather intervals dominating over most parts of the County. Consequently, there is a likelihood of crop failure, low recharge of water sources and poor range land regeneration. In that respect food prices are expected to rise further as Terms of Trade deteriorate following poor prices fetched from sale of livestock as most will not recover from the current poor condition. The education sector is likely to report more absenteeism in primary schools attributed to persistent food shortages at the household level. The cases are likely to be rampant in Igambang’ombe, Kamanyaki, Kamarandi, Maragwa, Usueni, Gatunga, Gituma, Nkarini and Kanjoro mainly in the marginal mixed livelihood zones. Migration along the park is likely to persist. Levels of global acute malnutrition are expected to be above normal. There is a likelihood of an early cessation expected in the mid-May a scenario that is expected to negatively affect the range land condition, crop production and water availability which will in turn affect productivity negatively. Households are therefore 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

- 37 primary schools in Tharaka South with a total enrolment of are 10,242 beneficiaries of school feeding programme sponsored by International Aid Services.
- National Government supplied 500 bags (50kg) white maize, 100 bags (50kgs) beans, 300 bags (50kgs) rice, 10 bales of fortified flour and 30 cartons (0.5litres*24) vegetable oil to Tharaka North and Tharaka South for free distribution to the vulnerables.
- Supply of 10m³ plastic tanks for rain water harvesting to 10 institutions benefiting 2,000 Persons by National Government through Tana Athi Rivers Development Authority in Maragwa and Nkondi locations.
- 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.
- Rehabilitation of Rukenya earth dam by National and County Governments through Devolution Ministry at Ntugi location benefiting 1,500 persons.
- Construction of Maragwa water pipeline by County Government and WSTF at Marimanti and Maragwa location benefiting 3000 persons.
- Rehabilitation of Mutonga Gituma water supply by County Government and WSTF at Ntugi location benefiting 2000 persons.
- Kiaranthe Earth dam construction by NMDA/County governments benefiting 2000 persons at Kathangacini location.

- Home Grown School Meals Program (HGSMP) in Tharaka North and Tharaka South respectively with a total of 21,695 beneficiaries.
- Asset creation project where farmers in Tharaka region are being trained on construction and maintenance of farm assets and utilization of modern farming technologies.

6.2 Recommendations

- Train farmers on fodder conservation practices and range land management.
- Advocate rain water harvesting and use of water treatment methods.
- Construction of water Kiosks along Ura Kathangachini water project pipeline.
- Increased advocacy on behaviour change at the household level.
- There is need for (knowledge, Attitude and Practice Survey) KAPS survey.
- Enhance advocacy on exclusive breastfeeding and healthy feeding practices.
- 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 for malnutrition and underweight cases at household and health facilities.
- Provision of safe nutritious food to schools albeit the increase in food prices.
- Intra and inter county livestock vaccination Synchronized Livestock vaccination deworming vector control and treatment of the sick.