



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

February 2017 EW Phase

Drought Status: ALERT



Maandalizi ya mapema

Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Mixed Farming	Alert	worsening
Marginal Mixed Farming	Alert	stable
Rainfed cropping	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Range/Value
VCI-3month (Tharaka)	29	>35
Water Sources	Fair	Fair
Production Indicators	Value	Normal
Livestock Migration Pattern	Normal	Normal
Livestock Body Conditions	Fair	Good
Milk Production	0.76 Litres	<1.34 Litres
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	50	<87
Milk Consumption	0.68 Litres	<1.1Litre
Water for Households	Fair	Good
Utilization indicators	Value	Range/Value
MUAC	9.6	<7.6
Coping Strategy Index (CSI)	21	<56
Food Consumption (Tharaka North)	40 Percent	Acceptable

Drought Situation & EW Phase Classification

Biophysical Indicators

- High temperatures and less cloud cover prevailed throughout the month of February 2017.
- The Vegetation Condition Index (VCI) was 29 indicating a moderate drought.
- The water availability was below normal for the period and showed a declining trend.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition for pastures was fair to poor, while browse was good to fair but showing a worsening trend attributed to the below normal performance of the short rains.
- Livestock body condition for cattle was fair while that of shoats was good to fair across all the livelihood zones.
- Minimal crop harvest across all livelihood zones implying an insufficient replenishment of household stocks.

Access Indicators

- Livestock prices improved marginally albeit a consistent increase in the prices of food commodities.
- Milk production and consumption per household was 0.76 litres and 0.68 litres respectively compared to an average production of 1.34 litres and an average consumption of 1.1 litres.

Utilization Indicators

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

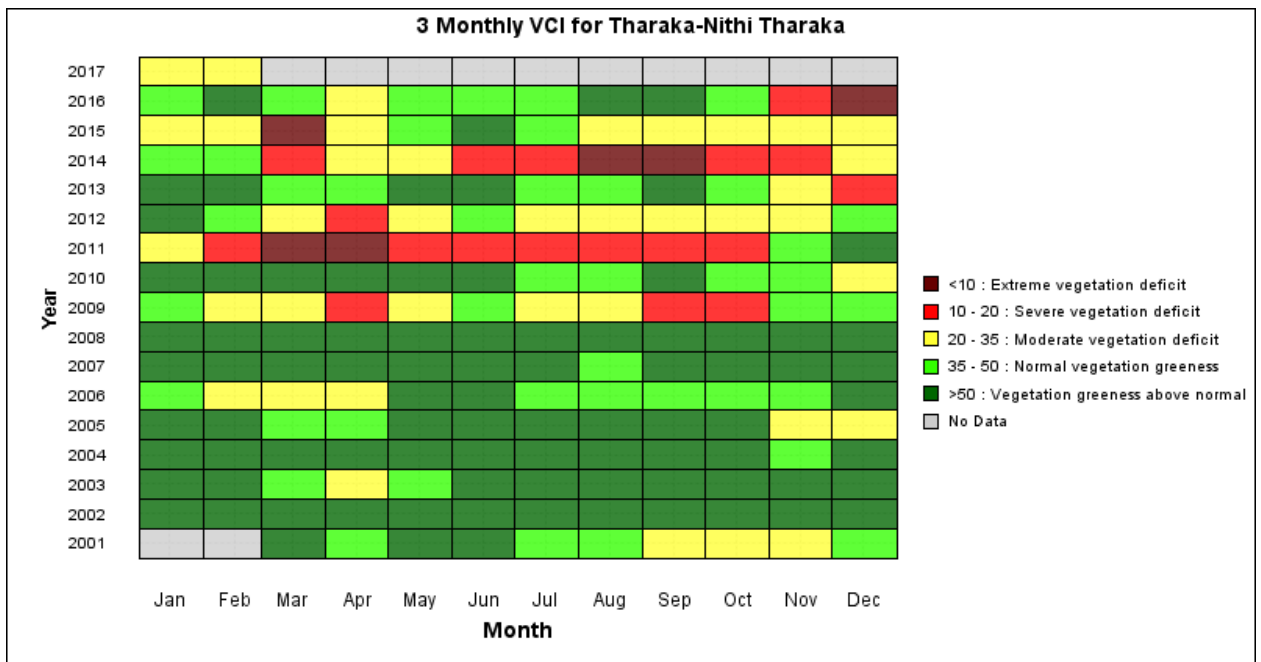
1.1.1 Actual Rainfall

- Kanyuru (marginal mixed farming) marked a total of 22 mm for one rainy day (19th February, 2016) while Thiiti (rainfed livelihood) recorded a total of 6 mm for 1 wet day (19th February, 2016).

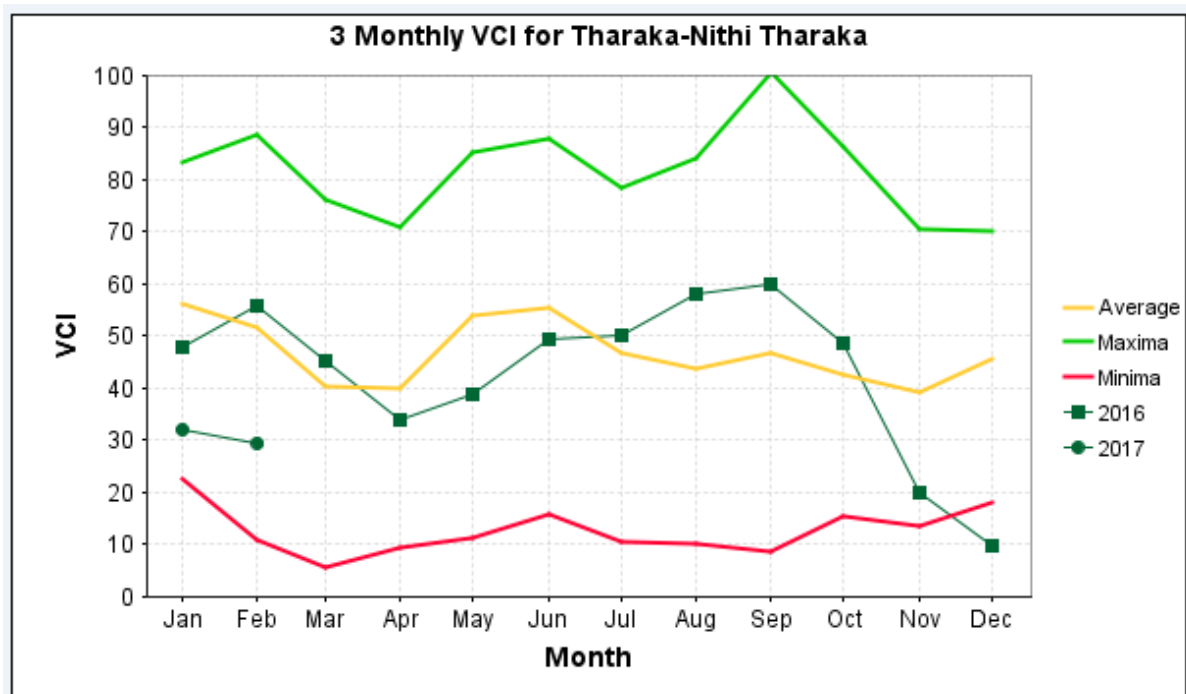
1.2 AGRICULTURAL DROUGHT

1.2.1 Vegetation Condition Index (VCI)

- The matrix below illustrates the period from December 2016 to February 2017, as classified as agricultural drought based on VCI thresholds. The matrix below shows a retrospective analysis of the vegetation condition as related to drought.



- Tharaka was in moderate vegetation deficit band within thresholds of 20-35. The County’s vegetation condition worsened as suggested by a decrease in the 3-month VCI index from 32 in January 2017 to 29 in February. The worsened vegetation condition is attributed to the ongoing dry spell condition.



1.2.2 NATURAL VEGETATION AND PASTURE CONDITION

Field Observations (Pasture and Browse Conditions)

Pasture Condition

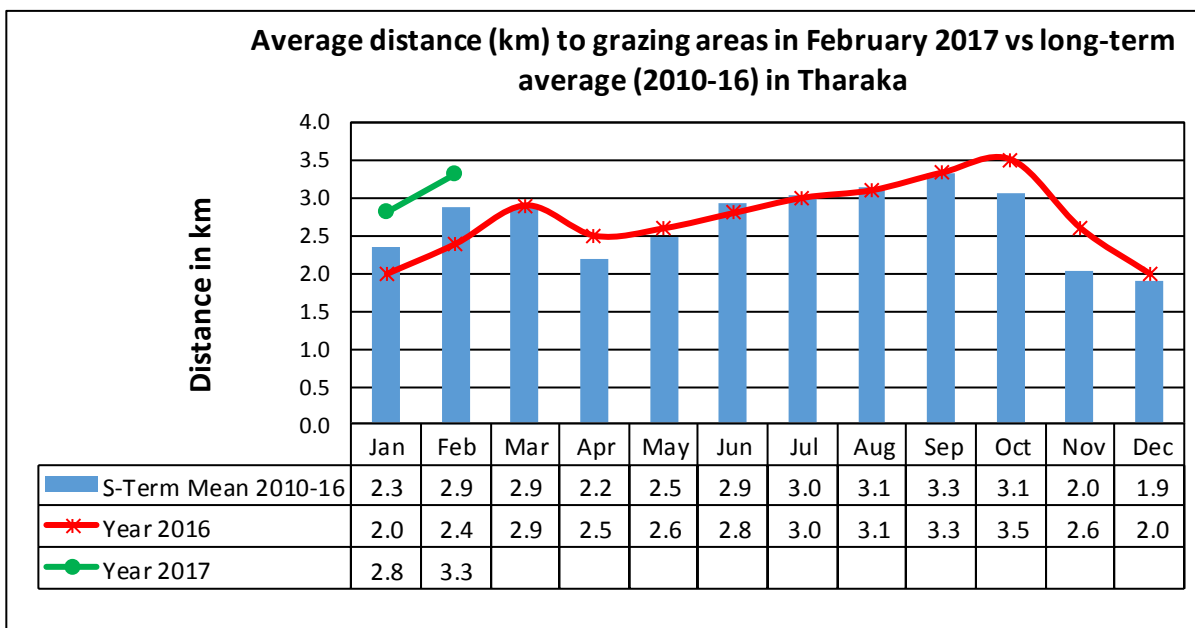
- In all livelihood zones, pasture was fair to poor attributed to the current short dry spell characterized with hot dry sunny weather conditions.
- The available quantities are expected to last for a period of less than a month, compared to the normal stock for one-two month in this period.

Browse Condition

- Browse condition was fair across all livelihood zones and on a deteriorating trend. The available browse was likely to last for at least one to two months until April, which is normal for the period.
- Crop residues partially contributed to the livestock feed, at about ten percent.
- In comparison to the normal year, the available browse and pasture amount was below normal.

1.2.3 Distance to Grazing Areas

- Livestock average distance to grazing areas increased from 2.8 km for January to 3.2 km in the period under review which was attributed to the current dry spell characterized with hot dry sunny weather conditions.
- The longest return distance to grazing areas was recorded in the Marginal Mixed Farming at 4.7 km while Rain Fed Cropping and Mixed Farming livelihood zones recorded 2.6 km and 2.2 km respectively.
- The average distance to grazing areas was slightly higher than the six-year average of 2.9 km for this time of the year.

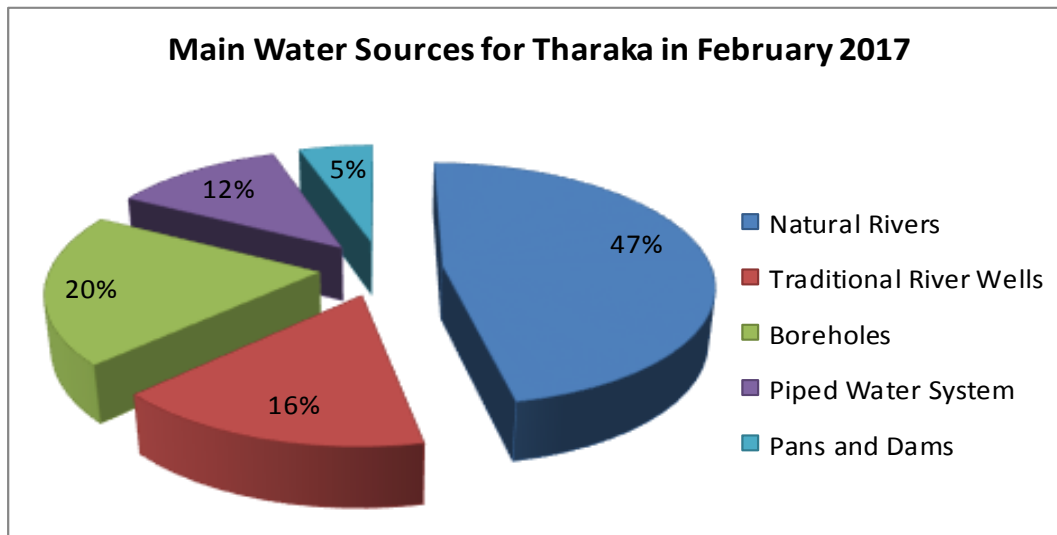


HYDROLOGICAL DROUGHT

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 rivers, pipelines, boreholes, piped water system and traditional river wells.
- The most affected areas, with low water concentration were mainly in Marginal Mixed Farming zone which includes: Marimanti, Gituma, Chiakariga, Kamanyaki, Kamarandi, Maragwa, Kathangachini, Gatue and Kanjoro locations where all the seasonal rivers have dried up. However, the situation is stable as the existing sources are estimated to last until the onset of the long rain season.



- 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 with a declining trend.

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

2.1.1 Livestock Body Condition

- Livestock body condition for cattle was fair while that of shoats was good across all the livelihood zones attributed to the worsening pasture and browse condition coupled with increasing distances to the 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	

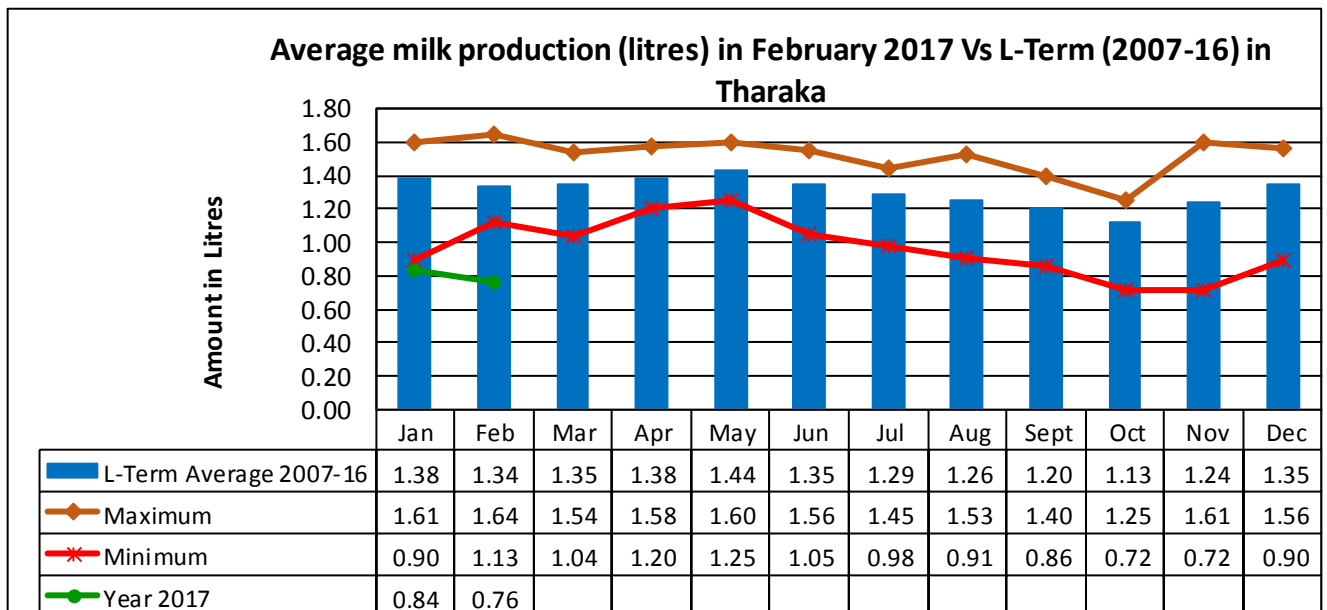
- For most livestock, current body condition can be rated at index 5 as per the threshold scale above

2.1.2 Livestock Diseases

- 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.

2.1.3 Milk Production

- Household milk production was stable at less than one litre for both January and February, 2017.
- The highest milk production was recorded in the Marginal Mixed Farming livelihood zone at 0.85 litres while Mixed Farming livelihood and Rainfed livelihood zone had 0.75 litres and 0.68 litres respectively per household.



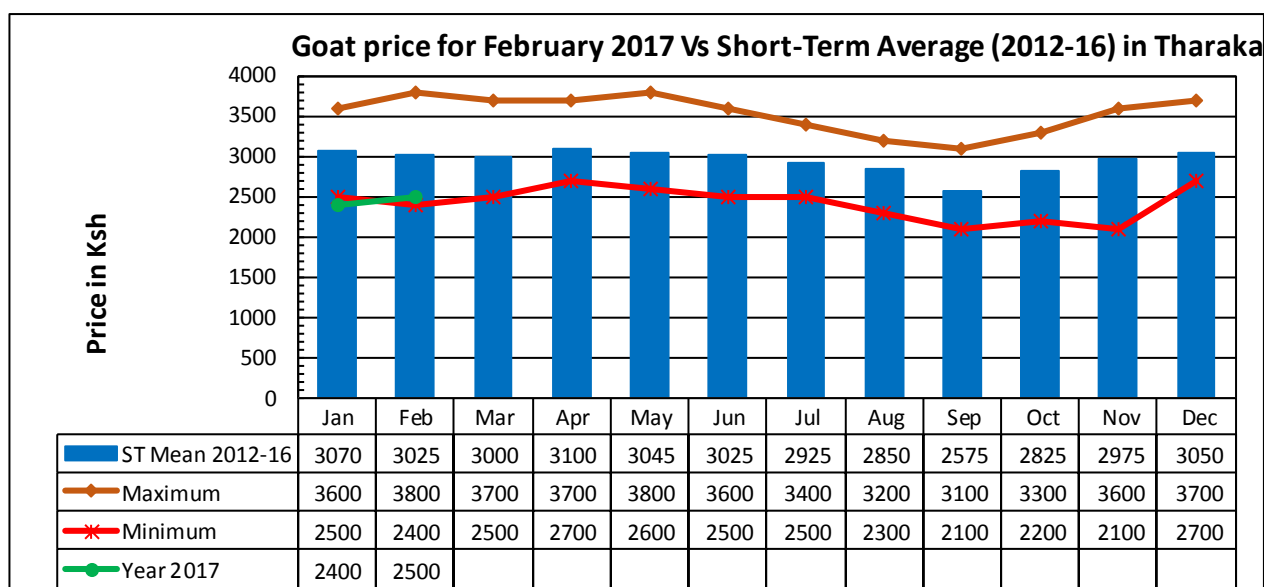
- Milk production per household was 43 percent lower than the 10-year average attributed to the reduced TLUs in addition to worsening condition of pasture and browse coupled with increasing distances to water sources.

This was mainly attributed to the minimal harvest of the cereals and legumes for food that could substitute the sale of livestock.

- The Marginal Mixed Farming livelihood zone had the highest average price of Ksh 14,100.00 while the Mixed Farming and the Rain fed Cropping had Ksh 12,700.00 and Ksh 13,100.00 respectively.
- The current cattle price was 5 percent lower than the five-year short-term average of Kshs 13,900.00.

Goat Prices

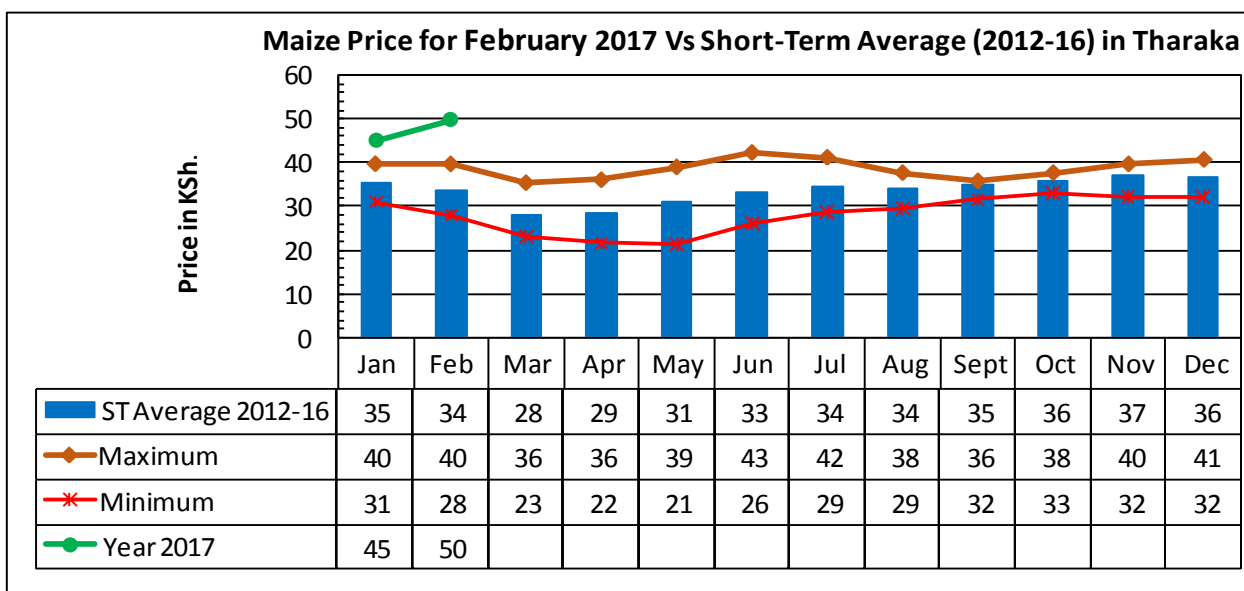
- Household goat prices slightly increased by 3 percent from Ksh.2,400.00 in the month of January to Ksh 2,500.00 during the period under review. This was mainly attributed to the minimal harvest of the cereals and legumes for food that could substitute the sale of livestock.
- The Marginal Mixed Farming recorded the highest average price of Ksh.2,700.00 while the Mixed Farming livelihood zone recorded the lowest price of Ksh. 2,300.00. Rainfed Cropping livelihood zone recorded an average price of Ksh 2,500.00.
- Tharaka North and Tharaka South recorded a similar average price of Ksh 2,500.
- The average goat price was considerably lower than the five-year average of Ksh 3,000.00.



Price of Cereals and Other Food Products

3.2 Maize Prices

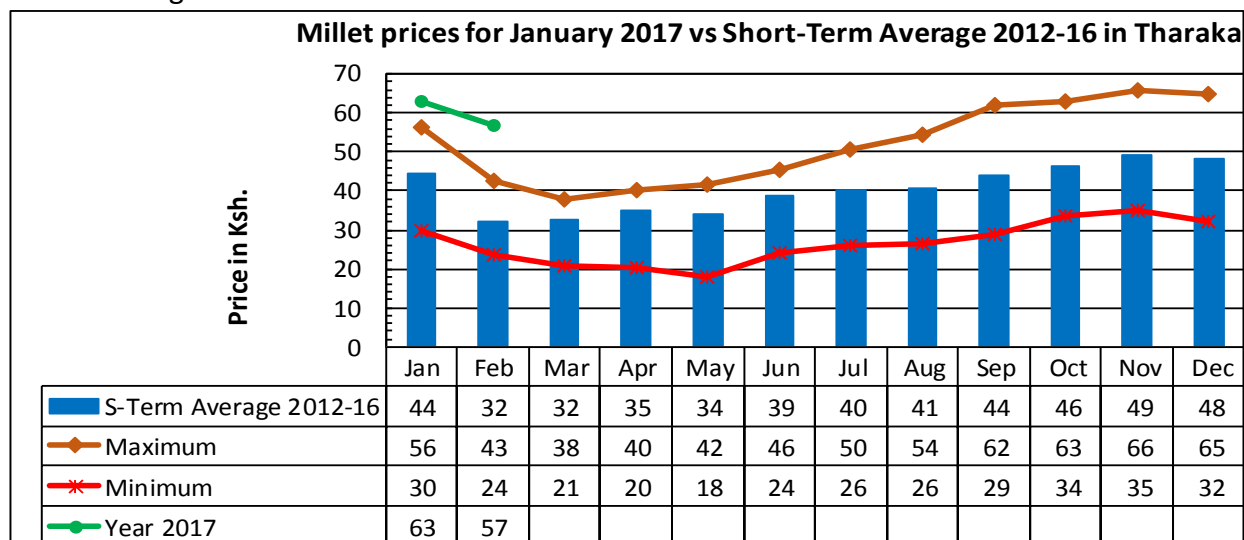
- The market average price of a kilogram of maize increased by 11 percent from Ksh 45.00 recorded in January to Ksh.50.00 during the period under review. This was attributed to the poor maize production as a result of poor performance of the short rains.



- 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.
- The average maize price was 36 percent above the five-year average of Ksh 34.00.

3.3 Millet Price at Market Level

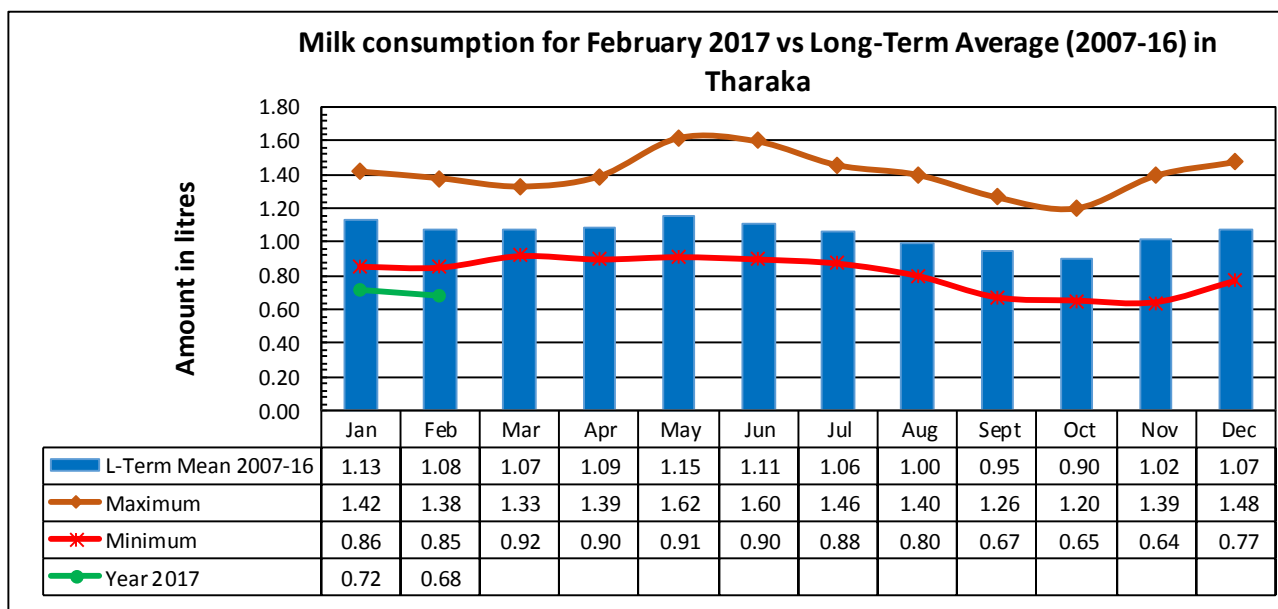
- The market average price of millet per kilogram decreased from Ksh 63.00 recorded in January to Ksh. 57.00 in the month under review. The current price is indicative of a 10 percent decrease which was mainly attributed to harvested millet albeit low production as a result of poor rainfall performance.
- The highest market average prices were recorded in Chiakariga market at Ksh. 70.00 followed by Gatunga at Ksh. 55.00. Marimanti market had the lowest price of Ksh. 50.00.
- The cereal's price was 78 percent above the short-term average of Kshs.32.00 also above the seasonal range.



3.4 Milk Consumption

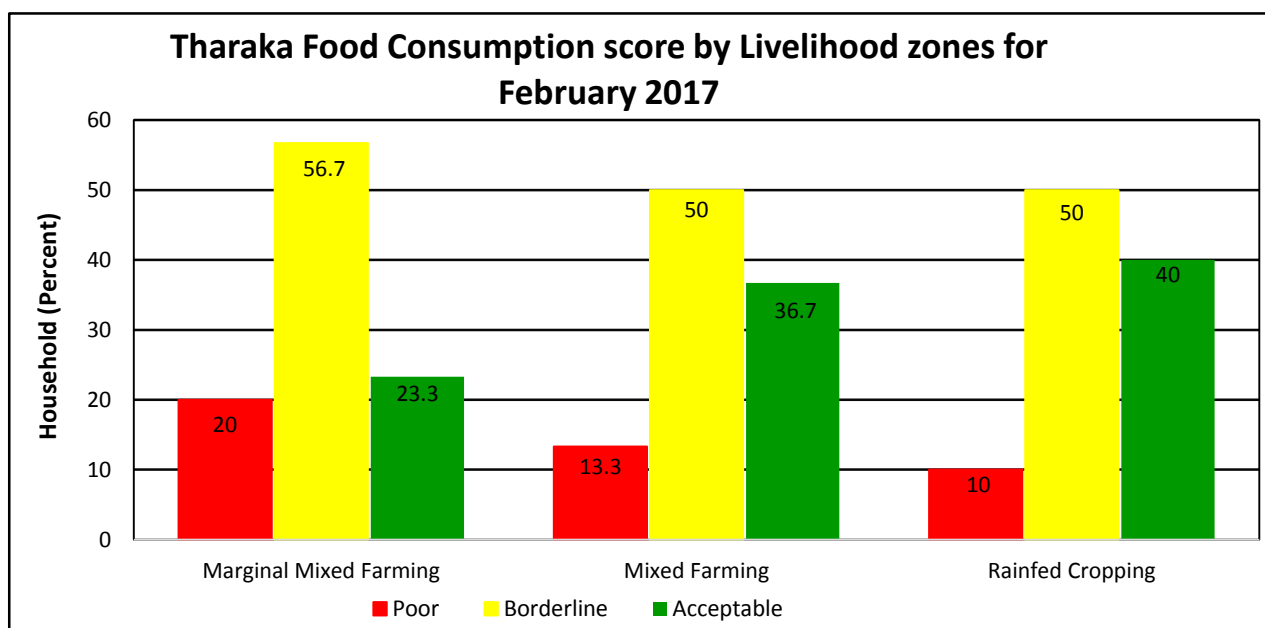
- The average milk consumption per household reduced to 0.68 during the month under review attributed to the decrease in milk production across all livelihood zones mainly due to the worsening condition of pasture and browse coupled with increasing distances to water sources.
- The highest milk consumption was recorded in the Marginal Mixed Farming at 0.74 litres while households in Rain fed and Mixed Farming livelihood zones consumed 0.62 litres and 0.68 litres respectively.

- The average milk consumed was 37 percent below the 10-year long-term average of 1.13 litres per household.



3.4.1 Food Consumption Score

- Nearly 65 percent of the households are currently food insecure with either borderline or poor food consumption scores, attributed to the poor performance of the short rains season that has seen a decline in food availability.



Period	Acceptable	Borderline	Poor
January, 2017	40	47	13
February, 2017	31	53	16

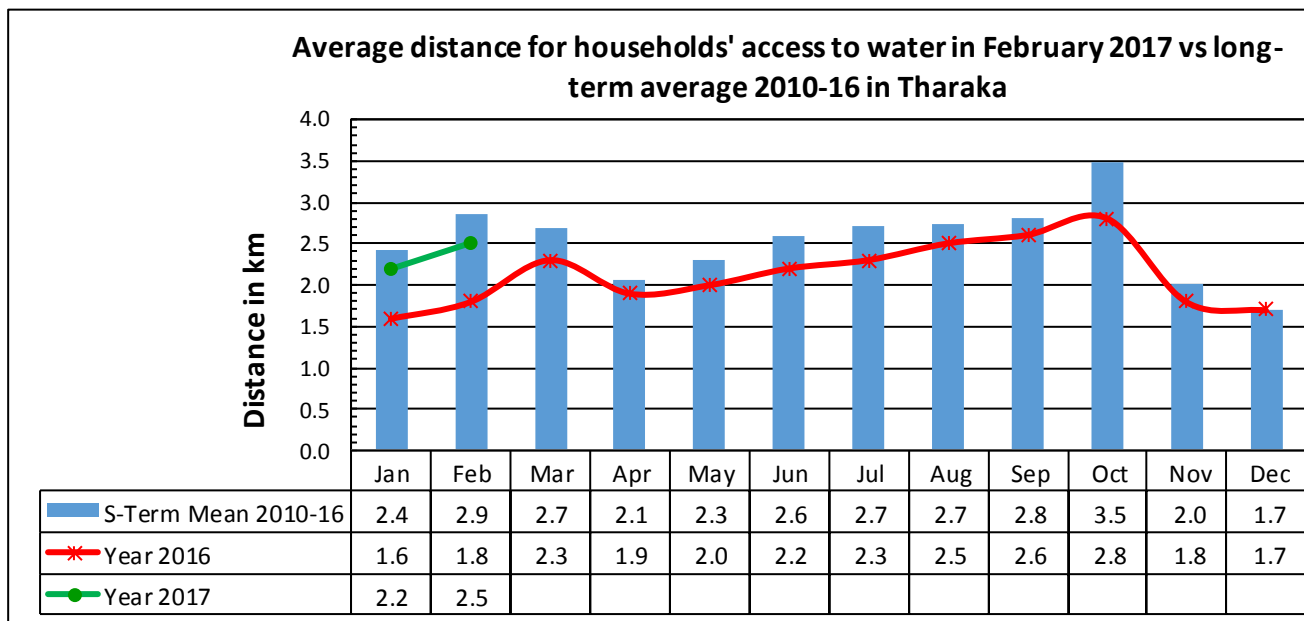
- The poor food consumption score implies household are not consuming staples and vegetables every day and never consuming protein rich food , borderline imply household consuming staple vegetable, every day accompanied by oil and pulse a few times a week while the acceptable imply household consuming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

- Food consumption score disaggregated data by livelihood zone is as illustrated in the table below.

Livelihood	Acceptable	Borderline	Poor
Marginal Mixed Farming	23	57	20
Mixed Farming	37	50	13
Rainfed	40	50	10

3.5 Availability of Water for Household Consumption

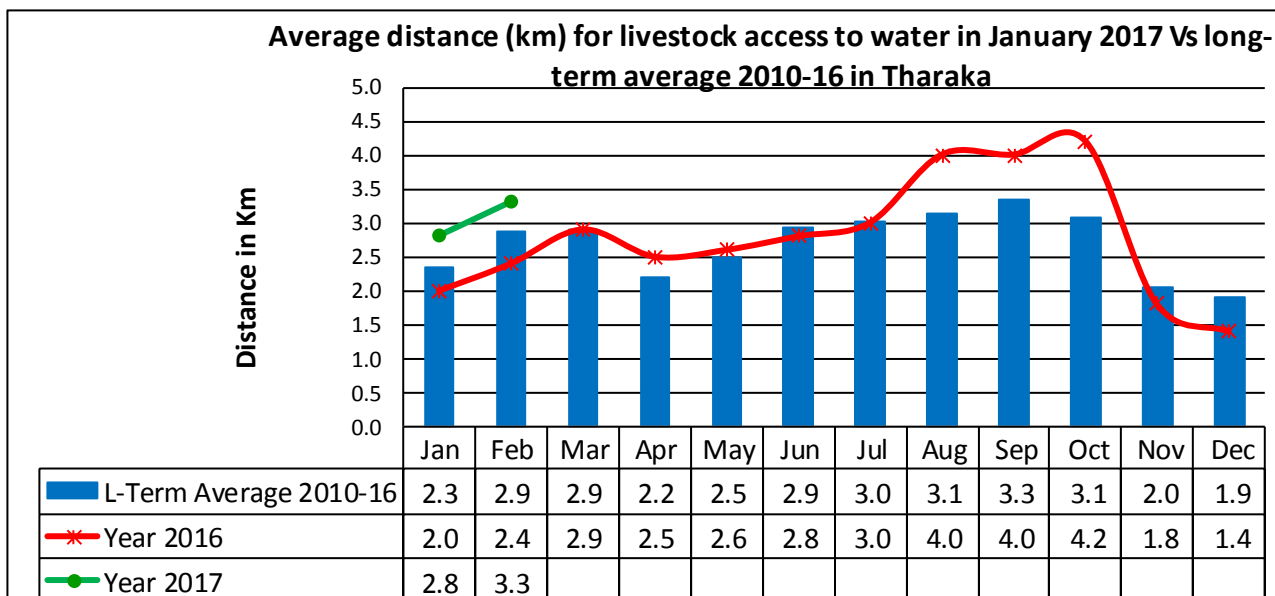
- Household access distance to water increased from 2.2 km in January, 2017 to 2.5km in the period under review.
- The Marginal Mixed Farming livelihood recorded an average return distance of 3.9km compared to 2.0km in Rain Fed Cropping zone and 1.4km in mixed farming livelihood zones.
- The distance of household access to water was below the long-term average of 2.9km.



3.6 Livestock Access to Water

- Livestock average distance to water sources increased from 2.8km during the previous month to 3.3km in February 2017.
- The longest return distance to grazing areas was recorded in the Marginal Mixed Farming at 4.7km while Rain Fed Cropping and Mixed Farming livelihood zones recorded 2.5km and 2.8km respectively.
- The increase was attributed to the drying of the seasonal rivers, water pans, and traditional river wells as a result of previous below normal rainfall. The reliance on boreholes has also declined as most of them are continuously getting non-operational due to breakdowns and declining underground water levels.

- The average distance to grazing areas was higher than the long-term average of 2.9.

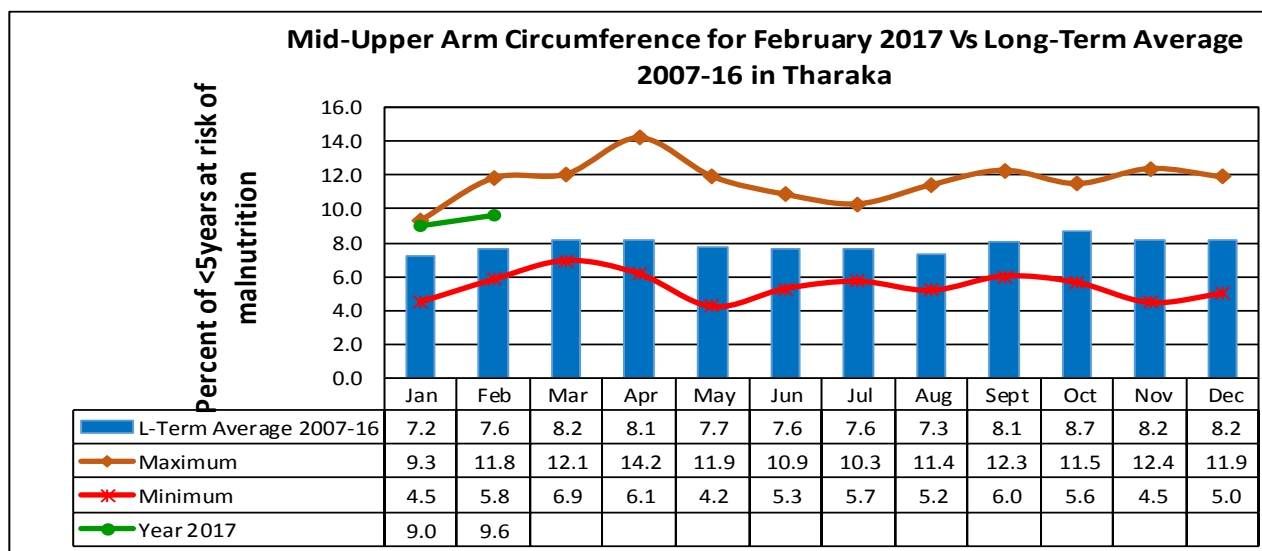


4.0 UTILISATION INDICATORS

4.1 Health and Nutrition Status

4.1.1 MUAC

- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm threshold for the period under review increased from 9.0 percent in January to 9.6 percent in February 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 12.8 percent compared to 9.6 percent and 6.5 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 7.6 percent.

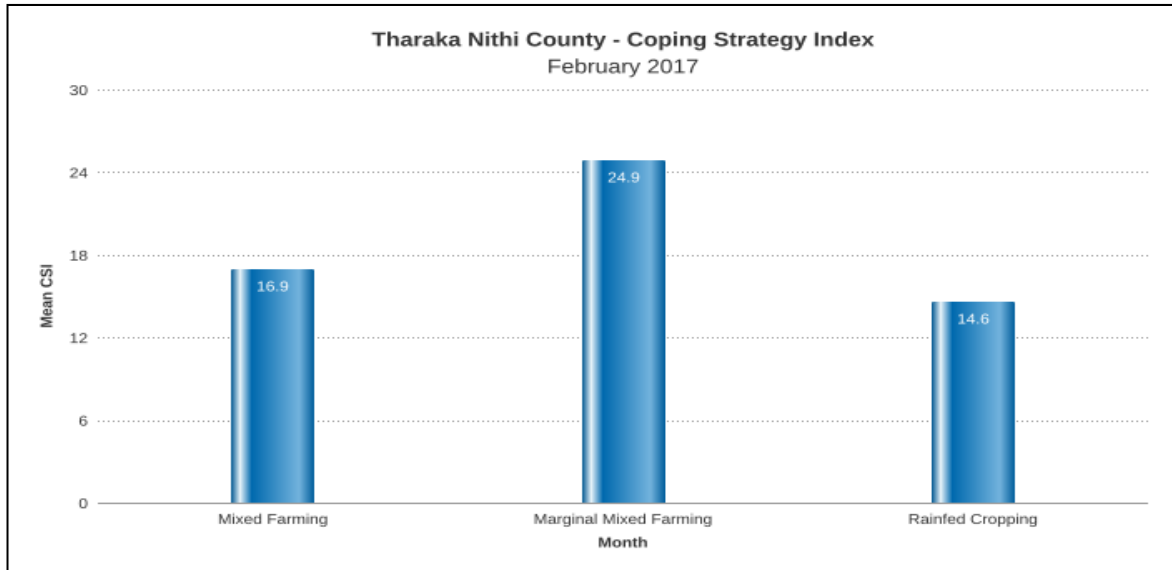


4.1.2 Health

- The prevalence of most common diseases for general population in Tharaka South and North Sub-Counties included diseases of the respiratory system, skin disease, malaria, urinary tract infections and rheumatism while those mainly affecting children under five years include: diseases of the respiratory system, malaria, pneumonia intestinal worms and skin diseases.

4.2 Coping Strategy Index

- The Coping Strategy Index (CSI) slightly increased from 19 to 21 in February 2017 implying there was an increase in the frequency of the number of households who are employing reduced coping strategies.



- The highest CSI was recorded in the Marginal Mixed Farming zone at 25 percent compared to 16 percent and 12 percent in the Mixed Farming and Rain Fed livelihood zones respectively. Implying that the marginal mixed farming are employing more severe coping strategies than rain fed livelihood zone.
- 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 and sale of household assets.

5.0 FOOD SECURITY PROGNOSIS

- Over the next two weeks pastures in both the marginal mixed farming and mixed farming livelihood zone are likely to be depleted resulting to further decrease in livestock prices due to deteriorating body condition.
- There is likelihood of rising food prices attributed to below normal crop, consequential in decreasing terms of trade through to April.
- The education sector is likely to report absenteeism in primary schools attributed to food insecurity at household level. The cases are likely to be rampant in Igambang'ombe, Kamanyaki, Kamarandi, Maragwa, Ucweni, Gatunga, Karocho, Gituma, Nkarini and Kanjoro mainly in the marginal mixed livelihood zones.
- A typical migration along the park is likely to occur. Levels of global acute malnutrition are expected to be above normal.
- From March through April, there is likelihood of onset of rainfall impacting positively in the range land conditions hence impacting positively on livestock productivity consequently resulting to availability of green leafy vegetables.
- Households are likely to remain in the stressed phase (IPC Phase 2) across all livelihood zones

6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Ongoing Non-Food Interventions

- Home Grown School Meals Program (HGSMP) in Tharaka North and Tharaka South respectively with a total of 21,695 beneficiaries.
- 37 primary schools in Tharaka South with a total enrolment of are 10,242 beneficiaries of school feeding programme sponsored by International Aid Services.
- Upgrading goats for Milk and meat production by Upper-Tana and Livestock Production Office at a cost of Ksh 4.8 M.
- Dairy farming by Upper-Tana and Livestock Production Office at a cost of Ksh 2.1 M
- Upgrading chicken for meat and eggs production by Upper-Tana and Livestock Production Office at a cost of Ksh 2 M.

6.2 Recommendations

- Rehabilitation of collapsed boreholes
- Supply and distribution of water treatment chemicals
- Provision of drought tolerant seeds for the Long rains season
- Mass deworming and treatment of livestock
- Intensified diseases surveillance
- Reinstating school feeding program.
- Sensitization on post harvest management.
- Extension of water pipeline.
- Synchronized vaccination for livestock
- Close monitoring for malnutrition and underweight cases at household and health facilities