

National Drought Management Authority
THARAKA NITHI COUNTY (THARAKA)
DROUGHT EARLY WARNING BULLETIN FOR JANUARY 2018



A Vision 2030 Flagship Project



JANUARY 2018 EW Phase

Early Warning Phase Classification

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of January was characterised by interval of Sunny, dry and hot weather. No actual rainfall was recorded in the county during that month. However, the atmospheric precipitation for the 1st, 2nd and 3rd dekad of January was below the long term average.
- There was a moderate deficit in vegetation cover during the month of January which decreased from that of the previous month.
- The water status level was normal but continued to decline with some of the piped water system been rationed especially in Marimanti which is in Tharaka South Sub County.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition of pasture and browse ranged from fair to poor and the situation was deteriorating. Livestock body condition for both cattle and goats varied from fair to poor and the situation was also deteriorating.
- Food Stock at households' level are low ranging between 50-60% of their normal level due to poor harvest in most areas.

Access Indicators

- Livestock prices decreased but were within the normal ranges while grazing and household water distance increased from that of the previous month due to depressed rainfall amounts.
- Milk production and consumption per household were low and decreased from that of the previous months

Utilization Indicators

- Percentages of children at risk of malnutrition decreased and were within the normal range.

The overall drought phase remained at **alert**.

Livelihood Zone	EW PHASE	TRENDS
Mixed Farming	Alert	Deteriorating
Marginal Mixed Farming	Alert	Deteriorating
Rainfed cropping	Alert	Deteriorating
County	Alert	Deteriorating
Biophysical Indicators	Value	Normal Ranges
Rainfall % of Normal	0	80-120
VCI-3month (Tharaka)	22.21	>35
Water Sources	Fair	Normal
Production Indicators	Value	Normal Ranges
Livestock Migration Pattern	Migration	No Migration
Livestock Body Conditions	Fair to Good	Good
Milk Production	1.0 Litre	>1.33Litre
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	80	<86
Milk Consumption	1.0 Litres	>1.09Litre
Water for Households	Fair	Good
Utilization indicators	Value	Range/Value
MUAC	1.5	<7.3
Coping Strategy Index (CSI)	3.47	<52
Food Consumption (Marginal Mixed Farming)	98.3 Percent Acceptable	>80 Percent Acceptable

<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

Seasonal Calendar

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- No rainfall was received in the county for the month of January in the 7 recording stations.
- With reference to the long-term average, rainfall performance for January was lower than the long term average of 43 mm for January.
- The onset of the short rains was on the second week of October which was normal but cessation was at the fourth week of November which was early, compared to the normal cessation which is usually on the 3rd week of December.

1.1.1 Rainfall Station data

- The following graph shows the actual rainfall received in mm during the month of January.

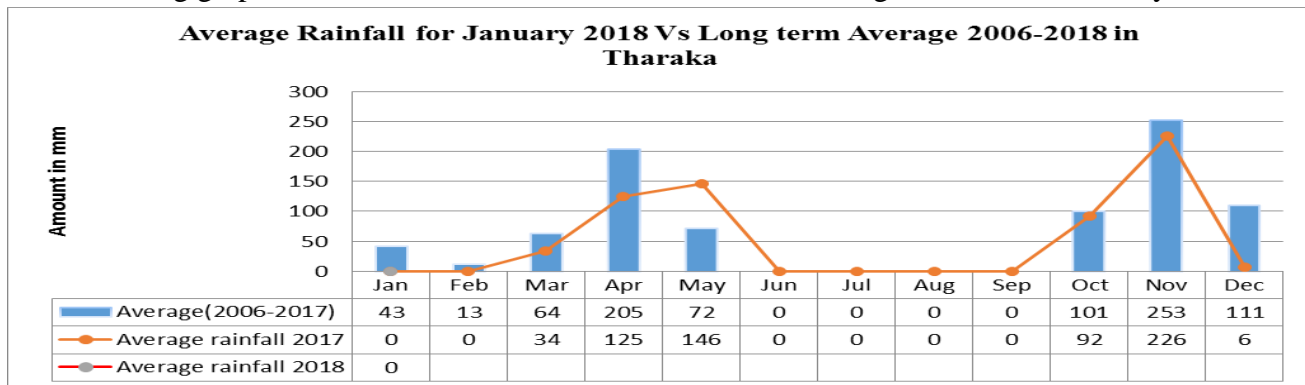


Figure 1: Average Rainfall for January 2018

1.1.2 Spatial and Temporal Distribution

- No rainfall was received in the county for the month of January in the seven rainfall recording stations located in in Tharaka.

1.1.3 Temporal Distribution of Precipitation in Dekad

The amount of precipitation in the month of January was below the long term average in the 1st , 2nd and 3rd dekad as illustrated by the graph in figure 2 below.

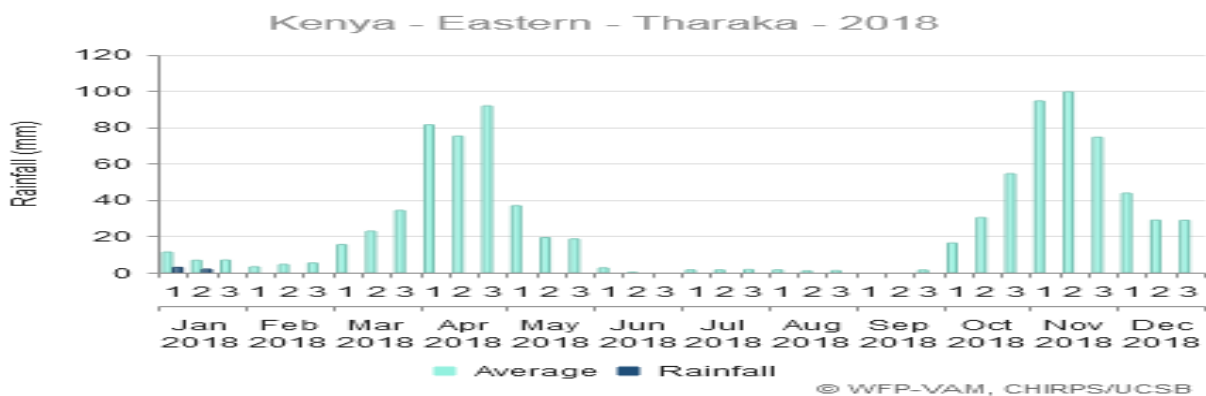


Figure 2: January 2018 Dekadal Precipitation

2.0 IMPACTS ON VEGETATION AND WATER

2.1 Vegetation Condition Index (VCI)

- The vegetation condition of Tharaka Nithi for the month of January was below normal compared to the long term average for the month of January
- The January VCI for Tharaka was 22.21 from 32.55 in December. This vegetation cover is below normal compared to the Normal threshold index of 35 for January. This portrayed a moderate vegetation deficit for January.
- The matrix below shows the vegetation condition for the month of January 2018 classified based on VCI thresholds.

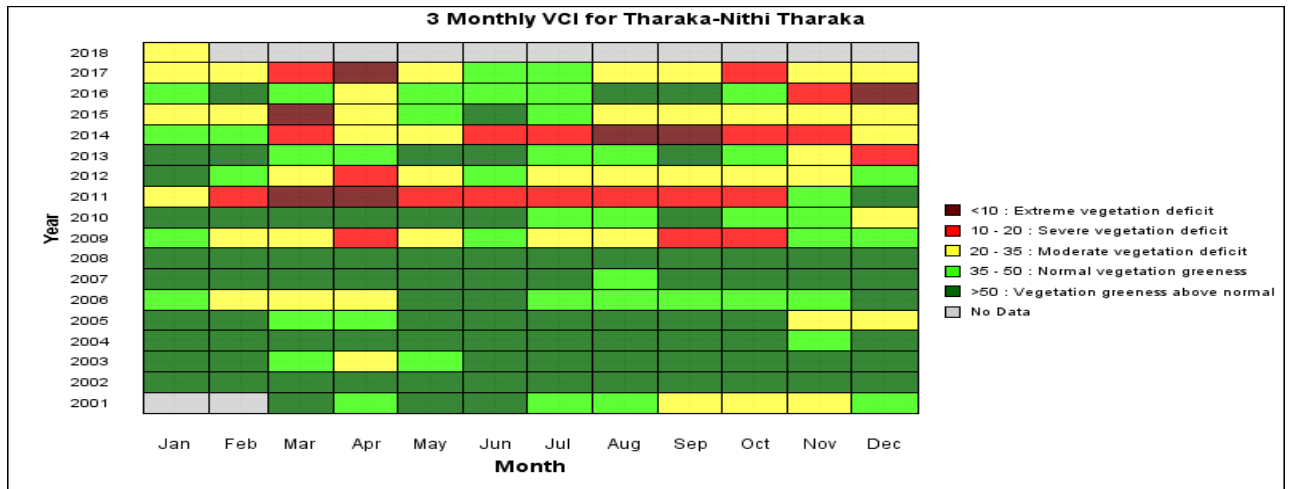


Figure 3 : VCI Matrix for Tharaka Nithi (Tharaka)

The chart below illustrates the VCI of Tharaka Nithi for January 2018.

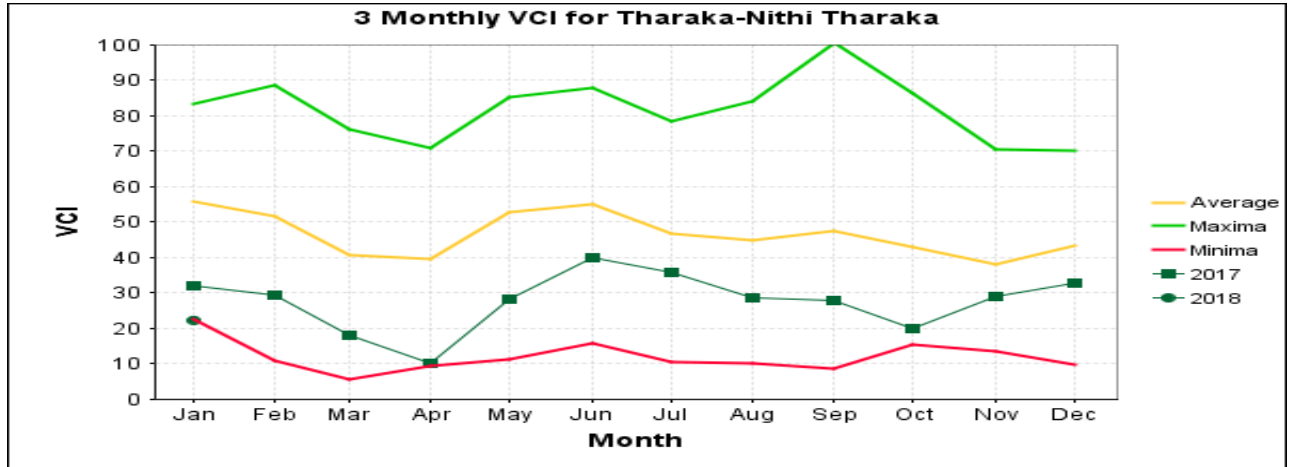


Figure 4: VCI Chart for Tharaka Nithi (Tharaka)

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 in January and it has continued to deteriorate. The pasture condition was below normal compared to the long term average for the month of January and it decreased compared to that of the previous month.
- Pasture condition was poor in some grazing fields across all the livelihood zones in the County.
- No migration was noted in the month of January.

Browse Condition

- Browse condition in terms of quantity and quality was fair and the condition continued to deteriorate. The browse condition was below normal compared to the long term average.

2.3 Distance to Grazing Areas

- The average distance to grazing areas increased from 1.5Km recorded in December to 2.2Km in January. This was attributed to a reduction in pasture and browse. The longest return distance to grazing areas was recorded in the Marginal Mixed Farming at 3Km, Mixed Farming livelihood zones at 2.6 Km while in Rain fed Cropping it was 1 Km.
- The distance to grazing areas was 8.3 percent lower than the long term average of 2.4 km for this time of the year.

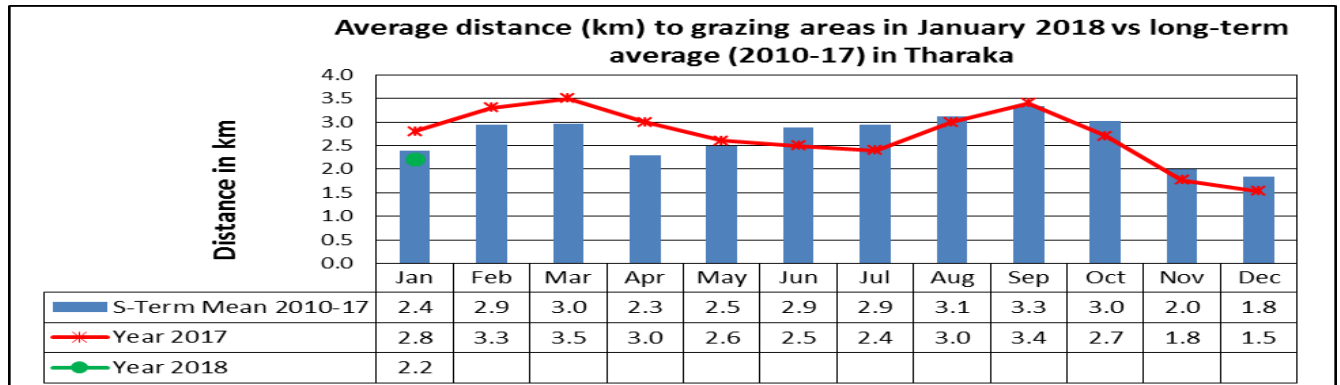


Figure 5: Grazing Distance for Livestock

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 were Traditional river wells, Rivers and Boreholes as shown by figure 6 below.
- The state of water sources was ranked at index 5 in reference to the scale below implying the water availability was adequate in the month of January but it was declining.

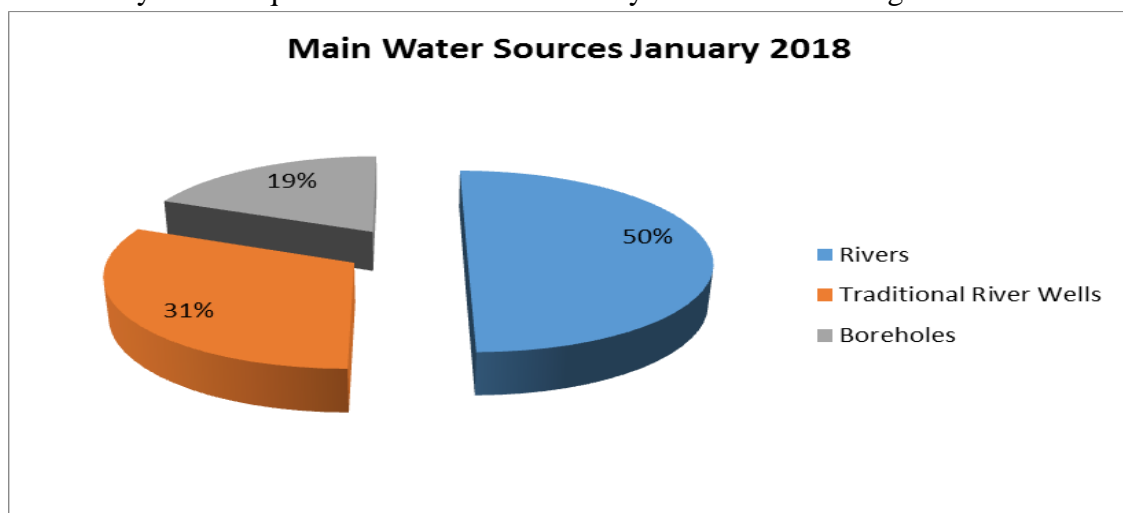


Figure 6 : Main Water Sources

Table 1 : 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

3.0 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- Livestock body condition for both cattle and shoats was fair to poor across all the livelihood zones. This was attributed to reduced state of pasture and browse.

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. 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

3.1.2 Livestock Diseases and Migration

- No cases of livestock migration were reported in the county. Livestock diseases associated with drought were minimal in the month of January.

3.1.3 Milk Production

- Milk production decreased from an average production of 1.4 litres per household in December to 1litre per household in January.
- The highest milk production was recorded in the Marginal Mixed Farming livelihood zone at 2.0 litres while Mixed Farming livelihood and Rain fed livelihood zone had an average milk production of about 0.5 litre per household each. This was attributed to reduction of pasture and browse in January.

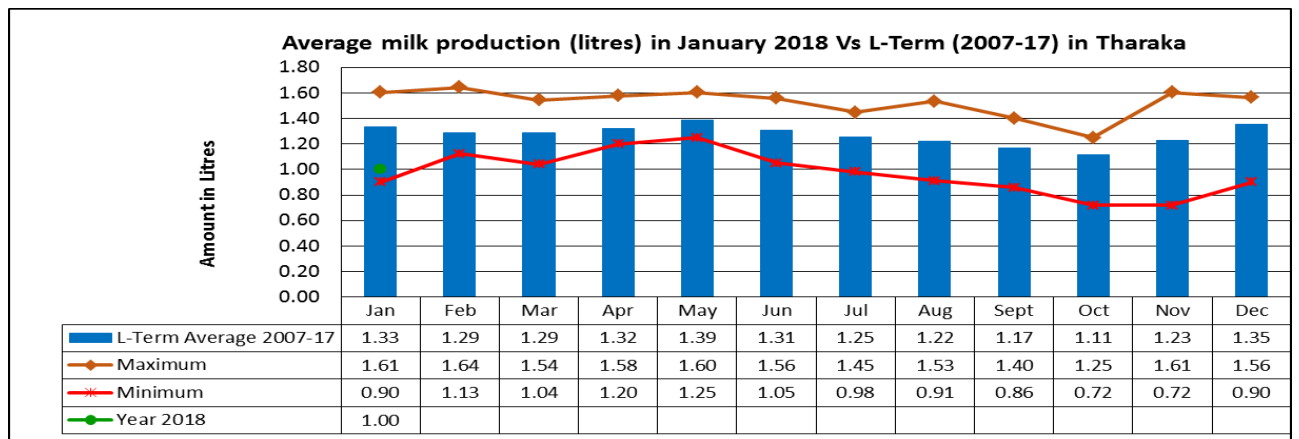


Figure 7: Average Milk Production

3.2 Crop Production

3.2.1. Timeliness and Status of Crops

- Farming activities for the month under review was mainly harvesting of beans, cowpeas, pigeon peas and green grams. Cereal crops which were planted late recorded reduced yields. Such crops include sorghum, millet and maize. Reduced yield was attributed to early cessation of rains which was experienced at the end of November.
- Some areas which recorded total crop failures include: Irunduni, Ntoroni, Gaciongo, and parts of Kanjoro, Gakauni, parts of Shauri yako (Makutano), Kiamiramba, Nkiruni, Gatagani, Gaceuni, Kamacabi and Kamagayiu in Tharaka North.
- In Tharaka south, areas which had total crop failure include: Ithaanga in Karocho and Rukenya in Ntugi location
- Crops planted during the short Rain season were: green grams, sorghum, millet, maize, cowpeas and pigeon peas.

3.2.2. Pests and Diseases

- No pests and crop diseases were reported in the county during the month of January.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- The average cattle price decreased from Ksh. 23,600 recorded in the previous month to Ksh. 19,533 in the month of January. Cattle prices decreased both at the farm gate and market levels, a factor that was attributed to the reduced body condition following the degeneration of pasture across most of the grazing fields in all the livelihood zones due to a prolonged dry spell.
- The Rain fed Cropping had the highest average price of Ksh 24,667, Mixed Farming livelihood zone had the price of Ksh 18,933 while that for the Marginal Mixed Farming Zone was Kshs 15,000.
- The current price was 19.54 percent higher than the three-year short-term average of Kshs 16,340.

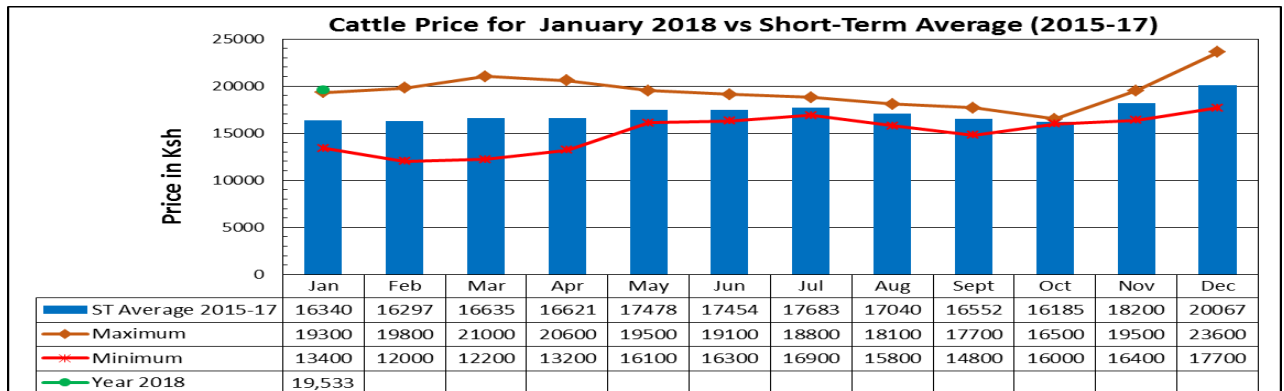


Figure 8: Cattle Price Trend

4.1.2 Goat Prices

- The average goat price increased from Ksh. 3,611 in December to Ksh. 3,200 in the month of January. The decrease in price was attributed to reduction in browse due to less rainfall.
- The Rain fed Cropping livelihood zone had the highest price of Ksh. 4,000, Marginal Mixed farming livelihood zone goat price was Ksh 3,000 while Mixed Farming Zone recorded an average goat's price of Ksh. 2,600.
- The average goat price was 12.95 percent higher than the three-year average of Ksh 2,833.

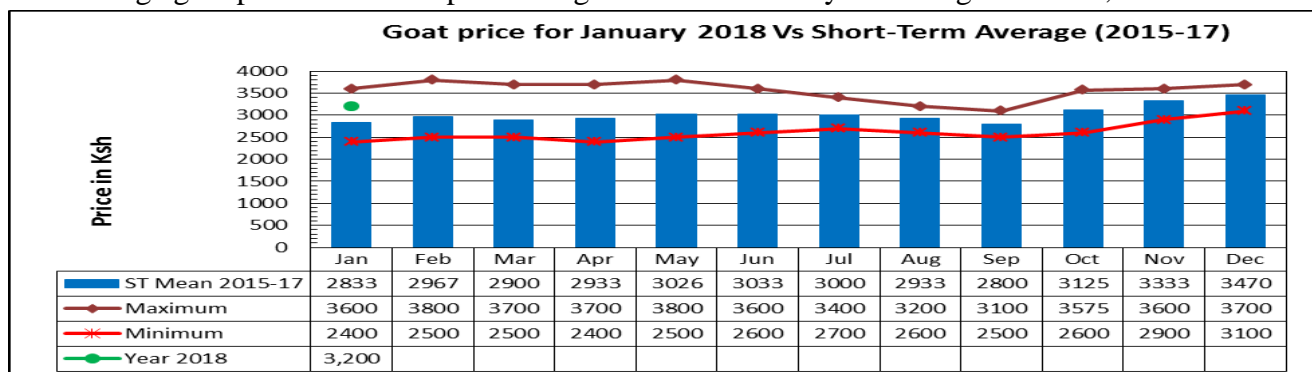


Figure 9: Goat Price Trend

4.2 Price of Cereals and Other Food Products

4.2.1 Maize Prices

- The average market price of a kilogram of maize decreased from Ksh.41 in December to Kshs. 40 per Kg in January. This was attributed to increased supplies of maize from the ongoing harvests leading to decreased maize prices.
- The highest maize price was recorded in Rain Fed Cropping Zone at Kshs 57 per Kilogram, followed by Marginal Mixed Farming Zone and Mixed Farming Zone recorded the lowest price of Kshs 35 per Kilogram.

- The average maize price was 11.1 percent above the three-year average of Ksh 36.

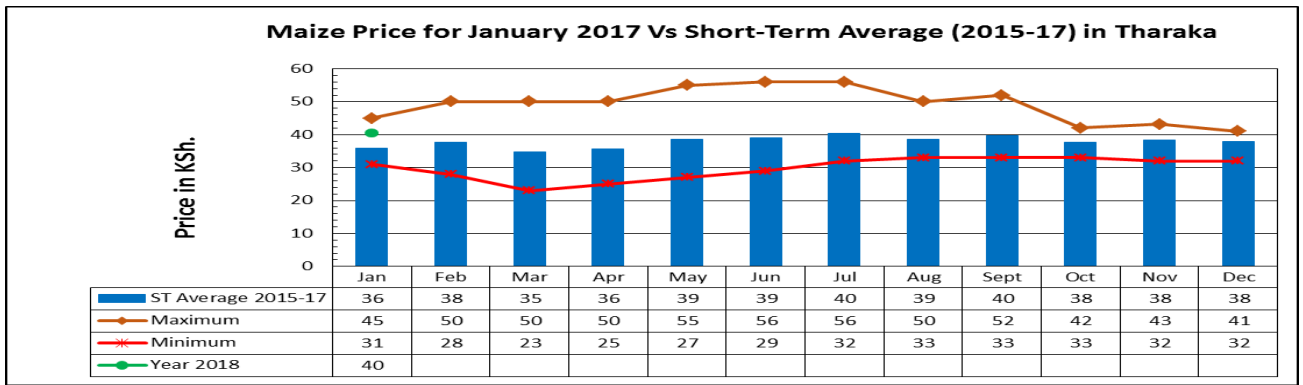


Figure 10: Maize Price Trend

4.2.2 Millet Price at Market Level

- The average market price of millet decreased from Kshs. 82 per Kg in December to Kshs 62 per Kg in January due to availability of stocks from the concluded harvests which increased supply hence reducing millet price.
- The highest market prices were recorded in Rainfed Livelihood Zone at Kshs 70/Kg, Followed by Mixed Farming livelihood Zone at Kshs 52/Kg while Marginal Mixed Farming livelihood Zone recorded the lowest price of Kshs 50/Kg.
- The millet price was 24 percent above the short-term average of Kshs.50 per Kg.

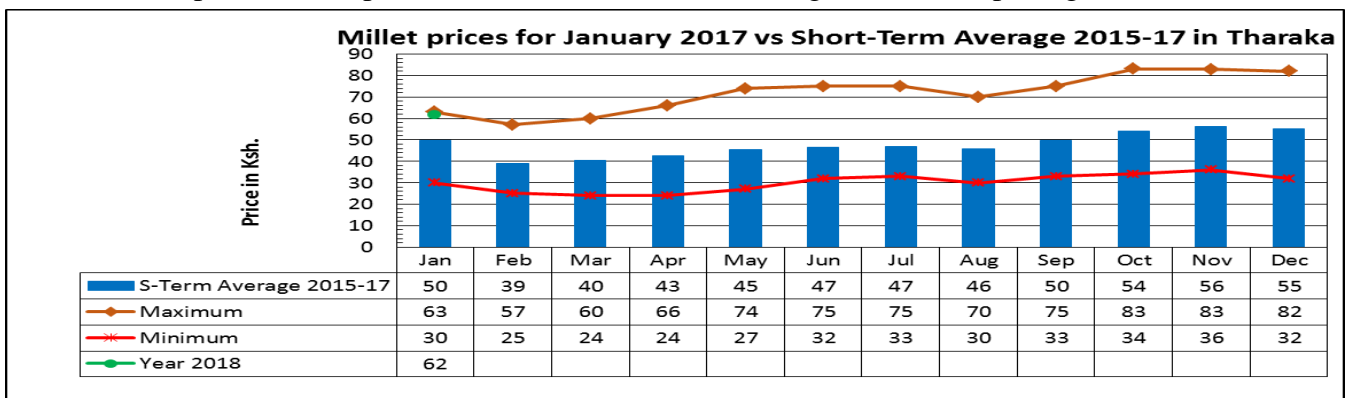


Figure 11: Millet Price Trend

4.2.3 Terms of Trade

- The Terms of Trade decreased from 88 in the previous month to 80 in January due to a higher decrease in goat price in relation to a decrease in maize price.
- The highest ratio was recorded in the Marginal Mixed Farming zone at 85.71; followed by Mixed Farming Livelihood Zone at 74.29 while Rain fed Cropping Zone had a ToT of 70.18.
- The ToT for the period under review was 11.39 percent higher than the three year average value of 79 during the same period.

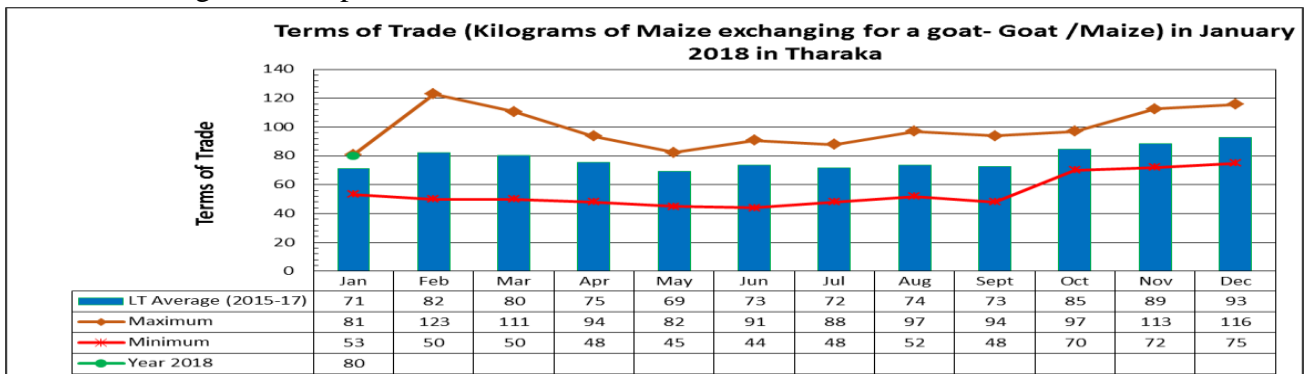


Figure 12: Term of Trade

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1 Milk Consumption

- The average milk consumption per household in January was low at 1.0 litre per household which dropped from that of the previous month due to reduction in pasture and browse. The highest milk consumption was recorded in the Marginal Mixed Farming at 1.2 litres while households in Rain fed and Mixed Farming livelihood zones consumed less than 1.10 litres per household per day.
- The average milk consumed was 8.26 percent lower than the 10-year long-term average of 1.09 litre per household.

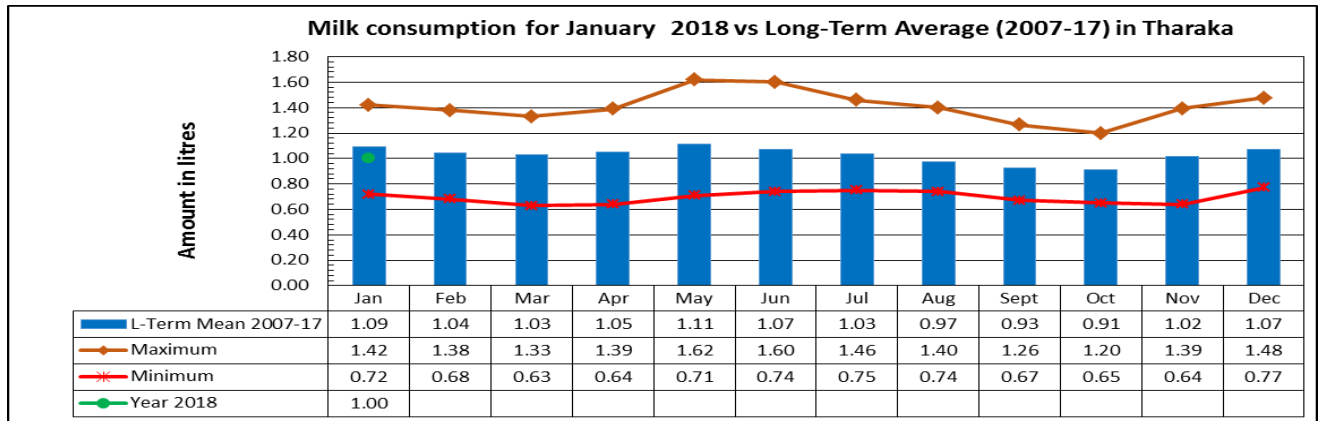


Figure 13: Milk Consumption Graph

5.1.2 Food Consumption Score

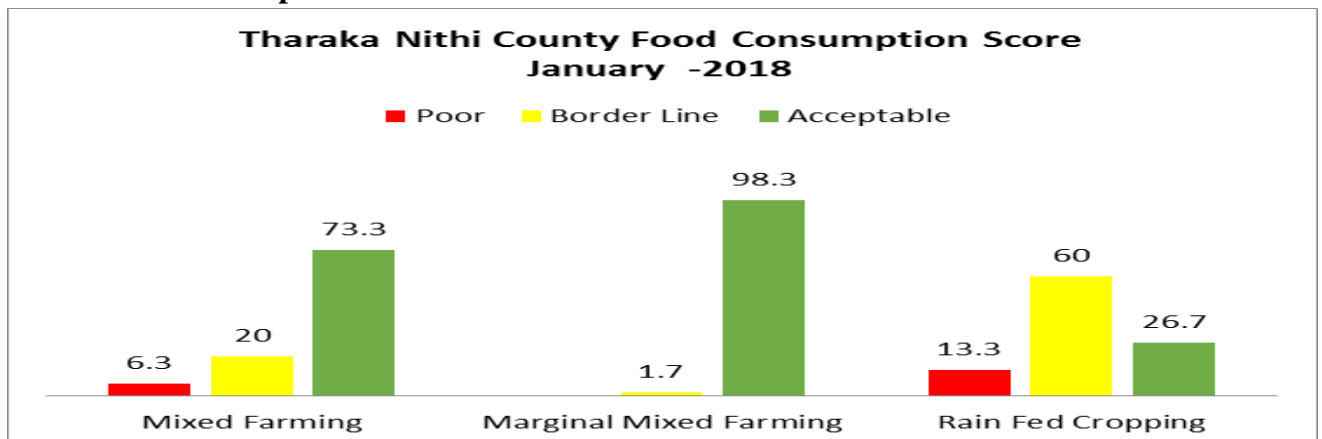


Figure 14: Food Consumption Score Chart

- Proportion of food insecure household with poor and borderline Food Consumption Score (FCS) increased from 27.53% in December to 33.77% in January. This could be attributed to poor harvests in some areas which affected the household access to food. The majority of Food Stressed Households were in the Rain Fed Livelihood Zones at 73.3%, followed by Mixed farming Livelihood Zone at 26.3% while Marginal Mixed Farming Livelihood Zone had the least proportion of food stressed households at 1.7%.

Table 3: Average Food Consumption Score

Period	Acceptable (%)	Borderline (%)	Poor (%)
December, 2017	72.47	26.47	1.067
January, 2018	66.1	27.23	6.53

- 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.

5.1.3 Availability of Water for Household

- Average Household water distance increased from 1.5 km in December to 3.5 Km in the month of January. The increase in water distance was due to the reduction in the rainfall amount which led to the increased distance to water sources.
- The Marginal Mixed Farming livelihood recorded an average distance of 4.1 Km, Mixed Farming livelihood zone 3.3 Km while Rain Fed Cropping zone recorded a distance of 3 Km.
- The distance of household access to water was higher than the long-term average of 2.3 Km for January.

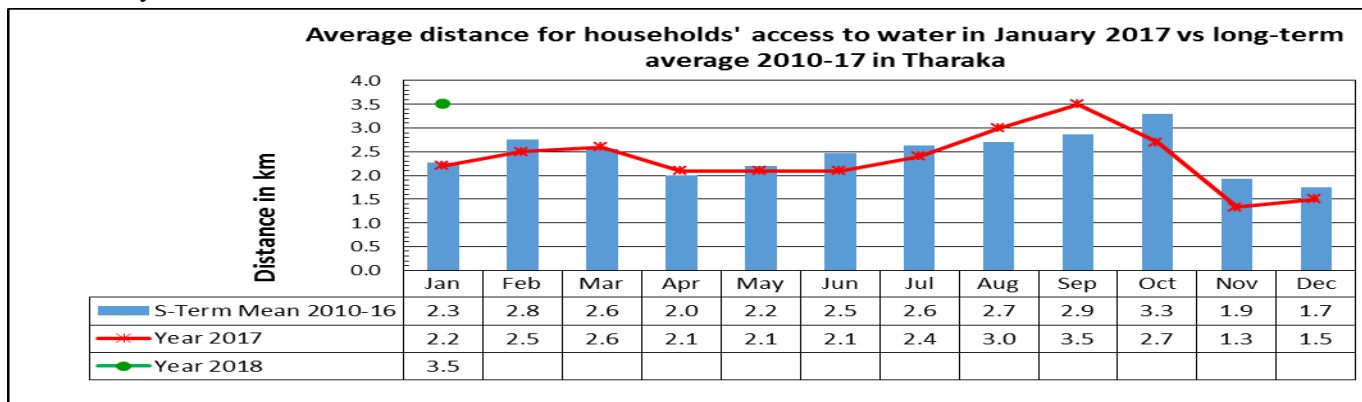


Figure 15 : Household Water Distance Graph

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 decreased from 6.0 percent in December to 1.5 percent in January. The decrease in MUAC percentage was attributed to improvement in Food security of house hold and it was within the normal range.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 7.3 percent.

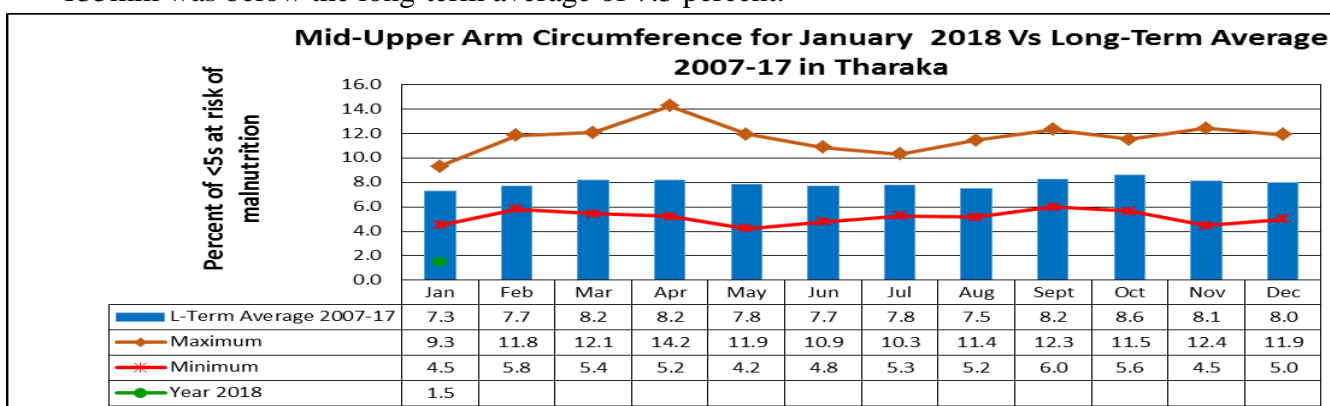


Figure 16: MUAC Graphs

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.

- However, there were isolated cases of cholera which were reported in the first week of January in Chakariga, Maara, Chuka and Marimanti.

5.2.4 Coping Strategy Index

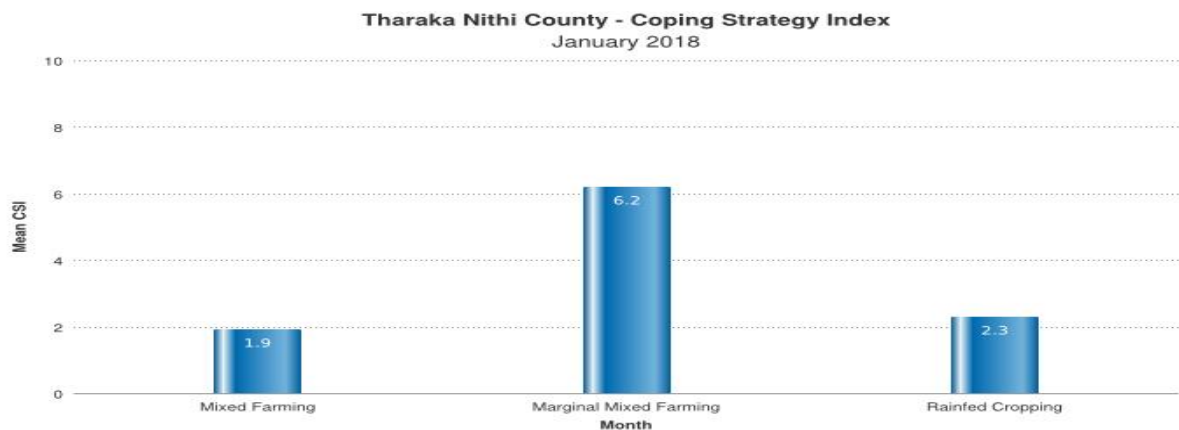


Figure 17: CSI Chart

- The Coping Strategy Index (CSI) decreased from 11.67 in December to 3.47 in January which indicated a slight reduction in household stress due to lack of food or money to buy food during the month of January. However, the CSI was within the normal range..
- The highest CSI was recorded in the Marginal Mixed Farming zone at 6.2, followed by Rain Fed Livelihood Zone at 2.3 while Mixed farming Livelihood Zone had the lowest CSI of 1.9.
- The most commonly employed coping strategy mechanisms during the month of January included: - Obtaining of goods on credit, Reliance on less preferred and or less expensive food, reduction of the number of meals and reduction in portion or size of meals.
- 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 Food Interventions

- Food Aid received through the office of the Deputy County commissioner Tharaka North during the month of January were 200 Bags of Maize of 50 Kilograms ,50 bags of beans of 50 Kg and 50 Cartoons of cooking oil and they were distributed as follows:

Table 4: Food Aid Distributed in Tharaka South by Locations

SUB LOCATION	Amount of Maize	Amount of Beans	Amount of Oil
Kathanga chini	30	6	4
Kanjoro	30	6	4
Irundini	20	4	4
Gatue	30	4	4
Kamaguna	15	3	4
Kamwatho	15	3	4
Ntoroni	20	4	4
Kirundi	20	4	4

- School feeding programme termed '**Plate for Plate**' by International Aid Services is ongoing at 37 Primary Schools in Tharaka South. The project distributed 254 bags of 90kg maize, 190 bags of 90kg beans, 327 bags of 25kg rice, 538 litres of cooking oil and 40 bales of 12kg salt to the

37 schools in January 2018. The amount of food that will continue to be supplied in the 37 schools will depend on the number of student enrolment in those schools.

6.2 Non-Food Interventions

- Keiranthi Dam Project funded by NDMA in Kathanga Chini at a total amount of Kshs 10,000,000 is in its final stage of completion (90% complete).
- Distribution of 300 pieces of Solvatten water heating containers for purifying water in January while over 1,300 pieces have been distributed since October 2017. The distribution mainly focused on Kamwathu area and targeted primary Schools under the '**Plate to Plate**' school feeding programme.
- Four household water pans were completed in December at Nthwa in Kamwathu to promote rainwater harvesting for kitchen gardens enhancement. This January we have been following up on the fencing and inlet preparation.
- Establishment of 5 farm ponds by NDMA to promote small scale irrigation subsistence Farming through the Food for Asset Project in Kanjoro, Thwathanju, Kamariro and Ntuge.
- Distribution of 300Kg of livestock grass seeds by NDMA through the Food for Asset Project to 20 farm groups.
- Capacity Building of farmers on rain water harvesting structures and construction of terraces and soil bans by NDMA through the Food for Asset Project.
- Eighty bags of livestock range cubes (pellets) were provided by the ministry of livestock in October and are at Marimanti livestock department buildings still awaiting distribution.

7.0 EMERGING ISSUES

7.1 Insecurity

- Resource based conflicts have reduced significantly during the month of January. This was due to reduction in in-migration of livestock which was a major cause of conflict.
- Theft and small crimes also decreased due to increase in improvement in market operations and trade which was enhanced by the concluded harvests.

7.2 Food Security Prognosis

- Cessation of the short rains was early and it occurred on the 4th week of November instead of the 3rd week of December as predicted by the meteorology department. Only cereal crops which were planted early will have a normal harvest of above 80% in Mixed and Rain Fed Cropping Livelihood Zones of Karocho, Tunyai and parts of Mukothima, which are just a few numbers of farms.
- Some areas which are likely to have total crop failures include : Irunduni,Ntoroni,Gaciongo, parts of Kanjoro, Gakauni, parts of Shauri yako(Makutano), Kiamiramba,Nkiruni,Gatagani,Gaceuni,Kamacabi and Kamagayiu in Tharaka North.
- In Tharaka south, areas which are likely to have total crop failure include: Ithaanga in Karocho and Rukenya in Ntugi location. Farmers in localised areas around Kamanyaki,Maragua and Kathangachini are likely to harvest less than 50% of the Crops(Green grams and millet) other areas are likely to harvest upto 60% although below expected 80% crop harvest.

- Status of water sources is normal with household and Livestock watering distance being within the normal range but the situation is likely to worsen in the next two months if we do not receive off season showers.
- Browse and pasture condition is expected to worsen resulting to longer grazing distance, low milk production; poor livestock body condition and low Livestock prices.
- Levels of Global Acute Malnutrition reduced across most of the livelihood Zones due to improvement in household food security from the harvested food commodities but this may last only for a short period
- Crop failure in the above mentioned areas is expected to affect food security on the long run.
- Terms of Trade was still favourable to Livestock farmers compared to crop farmers due to higher livestock prices compared to the long term average but this may change.
- Households in the County are likely to remain in the stressed phase (IPC Phase 2) across all livelihood zones or worsen in the next 3 months.

8.0 Recommendations

- Distribution of Solvatten water heating containers for purifying water to the Cholera victims by International Aid Services and Tharaka South Public Health Office.
- Upscale establishment of Farm ponds to promote rain water harvesting for small scale subsistence irrigation farming by NDMA through the Food for Asset (FFA) Project.
- Promote the establishment and management of livestock fodder.
- Upscale Intra and inter county livestock vaccination, deworming, vector control and treatment of the sick animals during this drought alert period.
- Provision of water treatment chemicals at household level and at piped water reservoirs to minimise the risk of water related diseases.
- Fencing and inlet preparation of four household water pans which were completed in December at Nthwa in Kamwathu by International Aid Services.