

National Drought Management Authority
THARAKA NITHI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2018



A Vision 2030 Flagship Project



FEBRUARY 2018 EW Phase

Early Warning Phase Classification



Livelihood Zone	EW PHASE	TRENDS
Mixed Farming	Alarm	Deteriorating
Marginal Mixed Farming	Alert	Deteriorating
Rainfed cropping	Alarm	Deteriorating
County	Alert	Deteriorating
Biophysical Indicators	Value	Normal Ranges
Rainfall	9	13
VCI-3month	21.06	>35
Water Sources	Fair	Normal
Production Indicators	Value	Normal Ranges
Livestock Migration Pattern	Migration	No Migration
Livestock Body Conditions	Fair to poor	Good
Milk Production	1.20 Litre	>1.03Litre
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade	115	<86
Milk Consumption	1.30 Litres	>0.9Litre
Water for Households	Below Normal	Normal
Utilization indicators	Value	Range/Value
MUAC	1.0	<7.7
Coping Strategy Index (CSI)	3.63	<52
Food Consumption (Marginal Mixed Farming)	98.3 Percent Acceptable	>80 Percent Acceptable

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of February was characterised by interval of Sunny, dry and hot weather. However, showers of rainfall were recorded in localised areas of Mukothima, Tunyai and Kamanyaki
- Vegetation cover for Tharaka was reported to be at an extreme deficit. This was due to prolonged dry weather.
- The water level was below normal and some rivers continued to dry up, some triggering conflicts due to over use for irrigation such as Ura, Thananthu, Thangatha and Thingitho among others.

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 were low ranging from 50-60% of their normal level due to poor harvest in most areas.

Access Indicators

- Livestock prices remained 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 remained low.

Utilization Indicators

- Percentages of children at risk of malnutrition were within the normal range but this may continue for a short period.

Following all the above prevailing conditions, the overall drought phase in February remained at **alert**.

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

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- An average of 11mm of rainfall was received in the county for the month of February.
- With reference to the long-term average, rainfall performance for February was lower than the long term average of 13 mm.

1.1.1 Rainfall Station data

- The figure below shows the actual rainfall received in mm during the month of February.

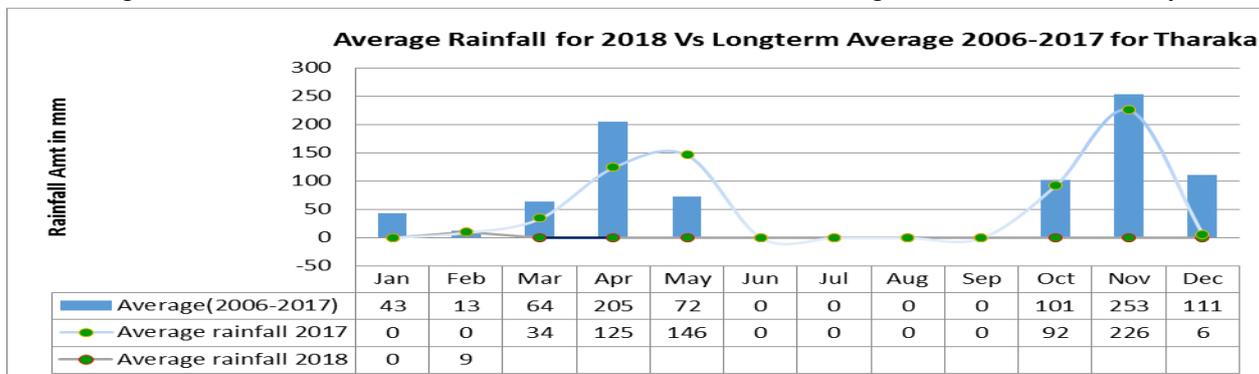


Figure 1: Average Rainfall for February 2018

1.1.2 Spatial and Temporal Distribution

- Showers of rainfall were received in few areas across the county. In Mixed Farming Zone, Chakariga received 19mm for 2days while Tunyai received 38.3mm for 2 days, Kamanyaki in the Marginal Mixed received 7.5mm for 1 day. Other areas which received offseason showers include Mukothima and Nkondi in the Rain Fed areas.
- However, the showers of rainfall received in February were below the Long term average as shown by figure 2 below.

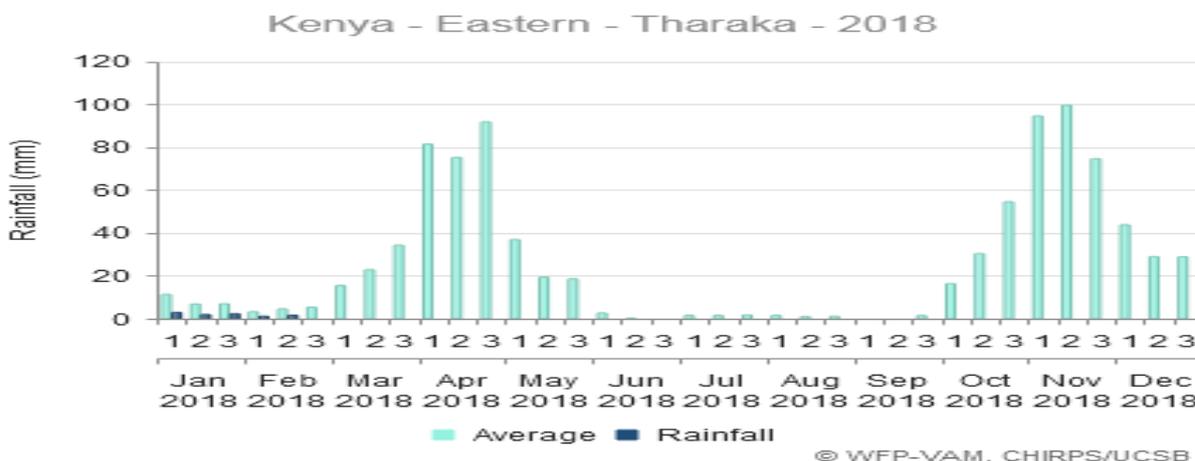


Figure 2: February 2018 Dekadal Precipitation

2.0 IMPACTS ON VEGETATION AND WATER

2.1 Vegetation Condition Index (VCI)

- The vegetation cover for Tharaka Nithi County in the month of February was below normal compared to the long term average and it reduced from that of the previous month.

- The Vegetation Condition Index for Tharaka Nithi County was 21.06 indicating a moderate vegetation deficit while some sub counties such as Tharaka North and South located in Tharaka are having a severe vegetation deficit and are at an alarm stage of Drought.

Table 1: February 2018 VCI (3M)

ADMINISTRATIVE UNITS		VCI as at 29 th January 2018	VCI as at 26 th February 2018
County	County/Sub County		
Tharaka Nithi	County	35.27	21.06
	Tharaka	22.21	8.56
	Chuka Igambang'ombe	50.16	33.42
	Maara	58.59	45.56

- The matrix below shows the vegetation condition for the month of February 2018 classified based on VCI thresholds.
- Figure 3a indicates the whole county is at a moderate drought while Figure 3b indicates that Tharaka which comprises of Tharaka North and South is at an extreme vegetation deficit.

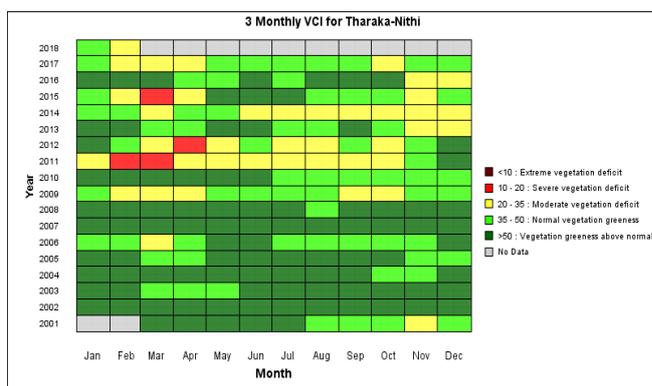


Figure 3a: VCI Matrix for Tharaka Nithi

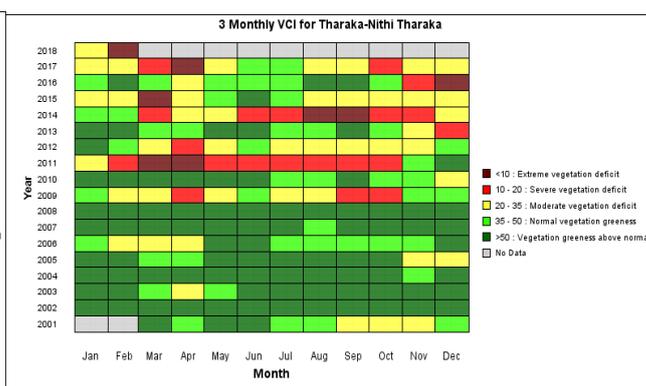


Figure 4b: VCI Matrix for Tharaka

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

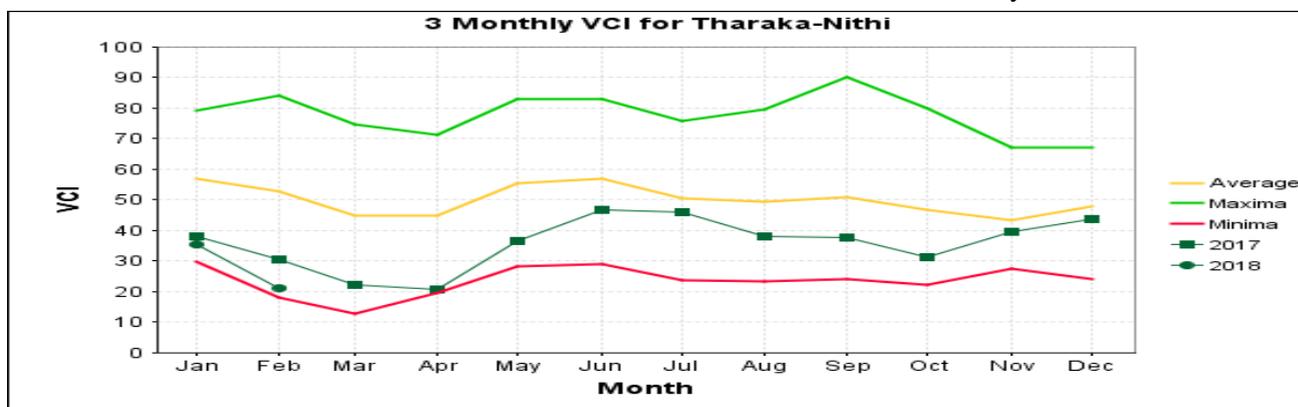


Figure 5: VCI Chart for Tharaka Nithi (Tharaka)

2.2 Natural Vegetation and Pasture Condition

Pasture Condition

- Pasture condition in terms of quantity and quality was poor in February and it has continued to deteriorate. The pasture condition was below normal compared to the long term average for the month of February and it decreased compared to that of the previous month.
- In migration was noted during the month of February from the neighbouring counties of Garissa. This exacerbated the rapid depletion of browse and pasture along the areas of Kiamiramba.

Browse Condition

- Browse condition in terms of quantity and quality was poor 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 2.2Km in January to 2.6Km in February. 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 3.8Km, Mixed Farming livelihood zones at 3 Km while in Rain fed Cropping it was 1 Km.
- The distance to grazing areas was 21.21 percent lower than the long term average of 3.3 km for this time of the year.

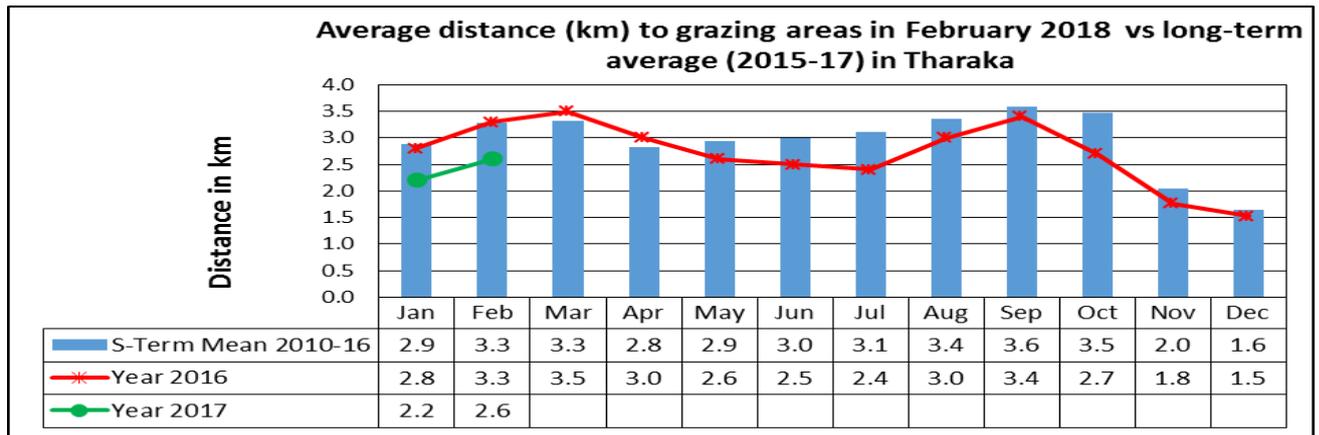


Figure 6: Grazing Distance for Livestock

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.

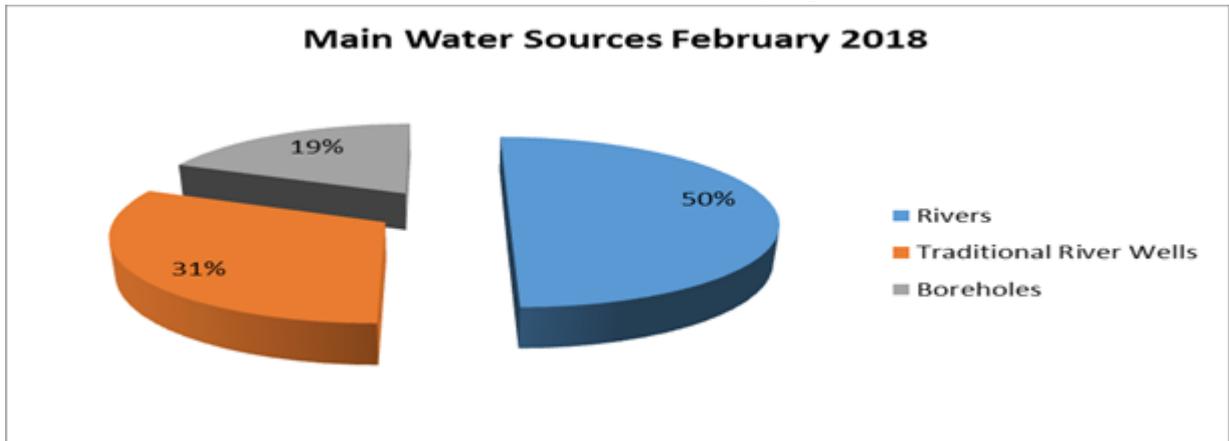


Figure 1 : Main Water Sources

State of Water Sources

- The state of water sources for the month of February were inadequate and below normal compared to the usual condition for February. Most rivers dried up such as Ura with others exhibiting below normal levels such as Kathita, Thingitho, Thangatha and Thananthu.
- The status of water sources was ranked at index 3 in reference to the scale below implying the water availability was inadequate during the month of February.

Table 2: State of Water Sources

INDEX	STATE OF WATER	DESCRIPTION
1	EMERGENCY.SITUATION	All main water sources have dried up; only few boreholes still yielding significant amounts
2	STRONGLY INADEQUATE	Surface water sources have dried up while the underground water sources are yielding very little amounts of water. Breakages of boreholes contribute to worsen the situation. Acute water shortage in many areas within the livelihood
3	INADEQUATE	Surface water sources have dried up while the underground water sources are yielding modest amounts of water. Concentration of livestock around few water points contribute to spread communicable diseases and to degradation of rangeland
4	DECLINING	The water availability is below normal for the period, but showing declining trends.
5	NORMAL	The water availability is normal for the period
6	GOOD	The water availability is above normal for the period

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. For most livestock, current body condition can be rated at index 4 as per the threshold scale below.

Table 2: Livestock Body Condition categories

BODY CONDITIONS	SCORE	WARNING STAGE
Emaciated, little muscle left	1	Emergency
Very thin no fat, bones visible	2	
Thin fore ribs visible	3	Alert Worsening/Alarm
Borderline fore-ribs not visible. 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	

3.1.2 Livestock Diseases and Migration

- Livestock in migration were reported from the neighbouring counties of Garissa and Isiolo. Livestock diseases associated with drought were minimal in the month of February.

3.1.3 Milk Production

- Milk production in February remained low with no significant change from that of January.
- Marginal Mixed Farming livelihood zone had an average production of 2.0 litres while Mixed Farming livelihood and Rain Fed livelihood zone had an average milk production of about 0.5 litres per household each. This was attributed to reduction of pasture and browse in February. Milk production per household was 16 percent lower than the 3-year average of 1.03 litre.

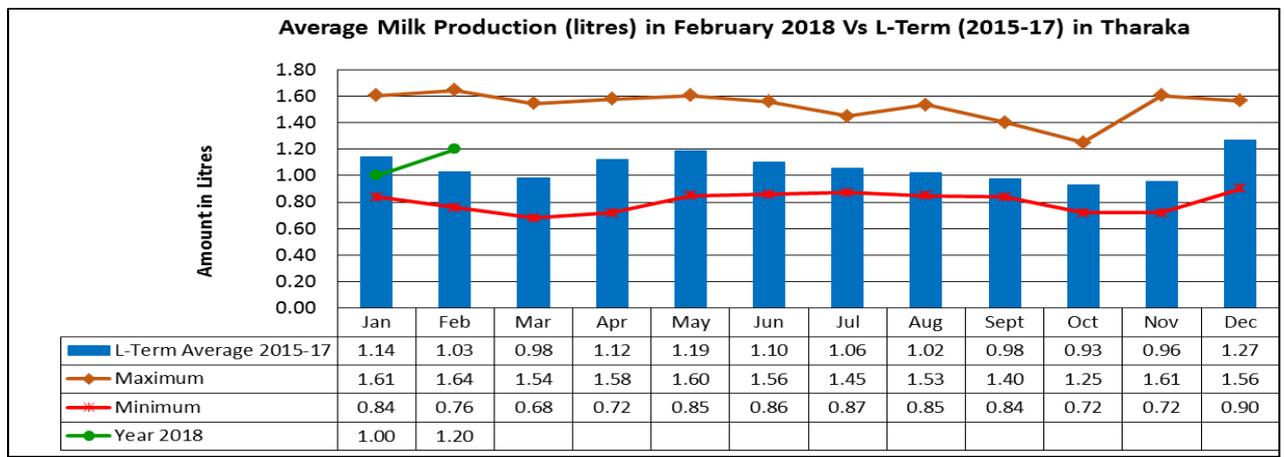


Figure 1: Average Milk Production

3.2 Crop Production

3.2.1. Timeliness and Status of Crops

- Farming activities for the month under review was harvesting of some cereal crops such as sorghum, millet and maize. Land preparation for the long rains have started in most areas.
- Some areas which recorded total crop failures in the short rains 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

3.2.2. Pests and Diseases

- No pests and crop diseases were reported in the county during the month of February, however, there is need for mitigation measures to be put in place to avoid crop losses to pest and diseases in the oncoming long rain season.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- The average cattle price increased slightly from Kshs. 19,985 recorded in the previous month to Ksh. 21,864 in the month of February. Although there was poor pasture, increased cattle price could be attributed to fair body condition due to use of crop residue as an alternative feed for cattle hence leading to fair cattle prices.
- The Mixed Farming livelihood had the highest average price of Ksh 28,000, Rain Fed Cropping Livelihood Zone had the price of Ksh 25,000 while that for the Marginal Mixed Farming Zone was Kshs 17,750.
- The current price was 26.44 percent higher than the three-year average of Kshs 17,292.

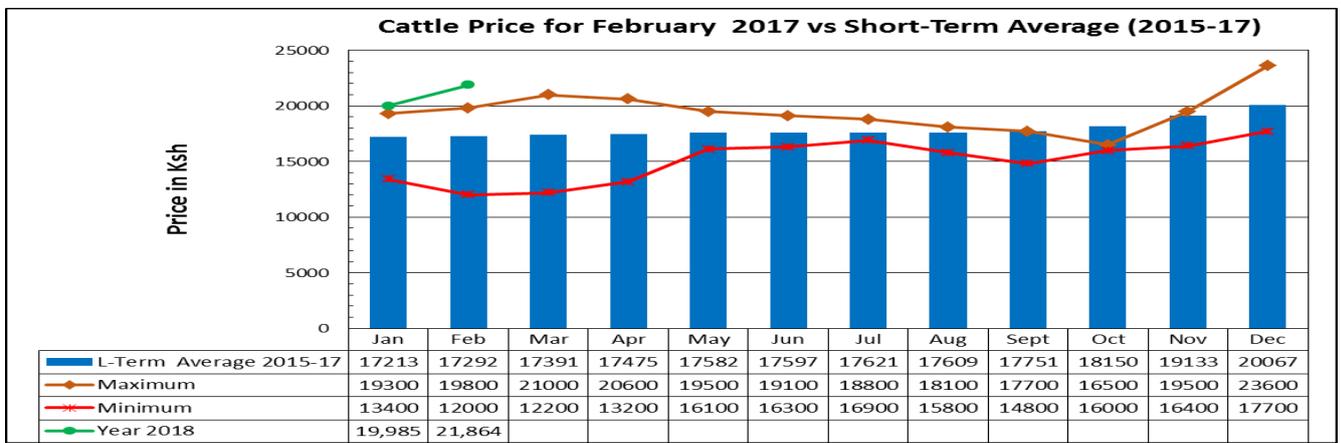


Figure 7: Cattle Price Trend

4.1.2 Goat Prices

- The average goat price increased from Ksh. 3,869 in January to Ksh. 4,032 in the month of February. Increased price could be attributed to fair body condition due to use of crop supplement as goat feeds.
- The Marginal Mixed Farming Livelihood Zone had the highest price of Ksh. 4,750, Rain Fed Cropping Livelihood Zone price was Ksh 4,000 while Mixed Farming Zone recorded an average goat's price of Ksh. 2,617.
- The average goat price was 35.6 percent higher than the three-year average of Ksh 2,967.

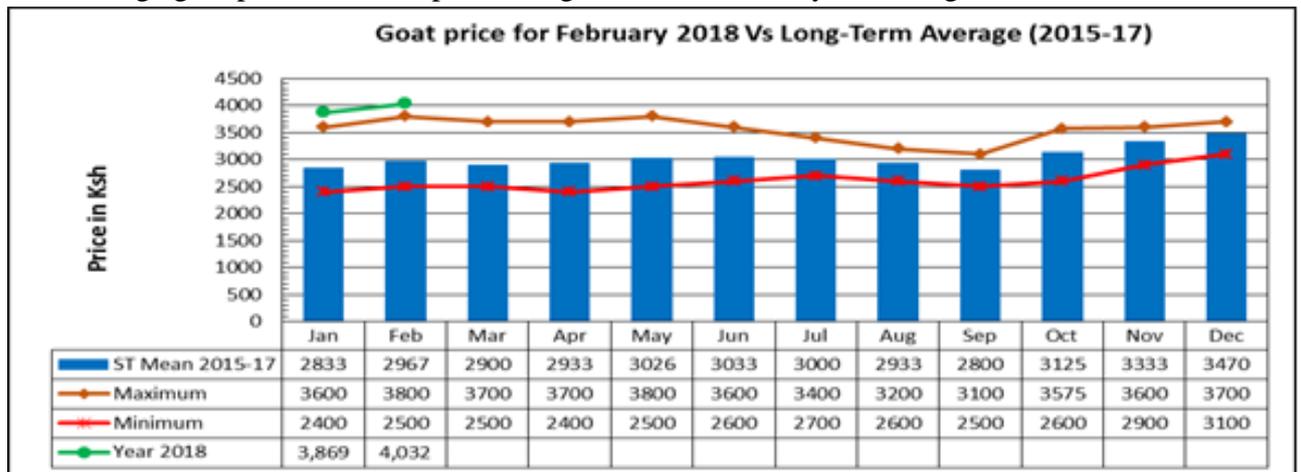


Figure 8: Goat Price Trend

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.38 in January to Kshs. 35 per Kg in February. This was attributed to increased supplies of maize from the ongoing harvests in some areas leading to decreased maize prices.
- The highest maize price was recorded in the Marginal Mixed Farming Zone and Mixed Farming Zone at Kshs 35 per Kilogram, followed by Rain Fed Cropping Zone which recorded the lowest price of Kshs 30 per Kilogram.
- The average maize price was 7.9 percent lower than the three-year average of Ksh 38.

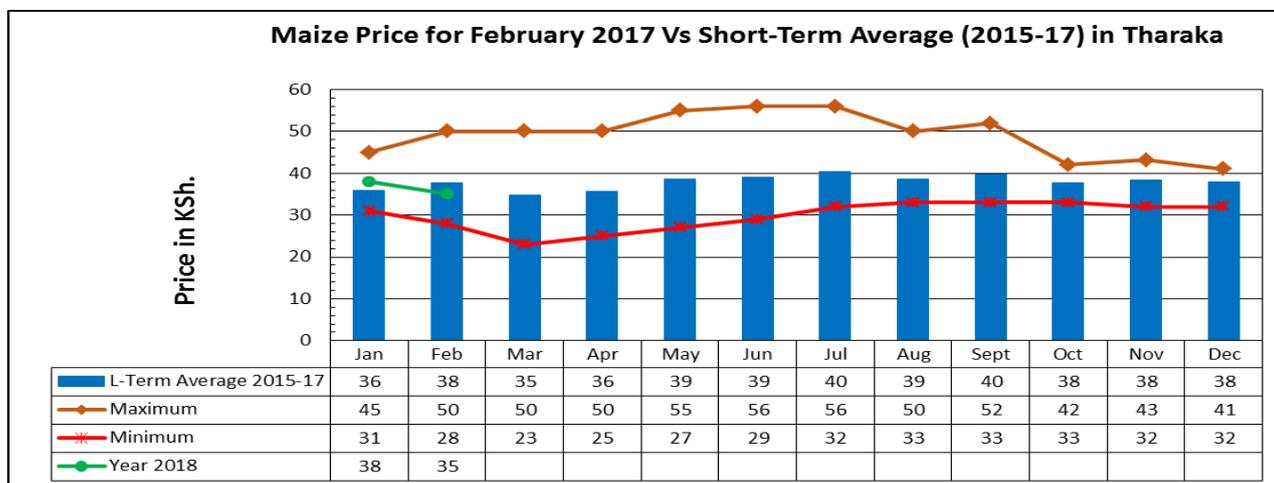


Figure 9: Maize Price Trend

4.2.2 Millet Price at Market Level

- The average market price of millet increased from Kshs. 62 per Kg in January to Kshs 74 per Kg in February due to poor harvests leading to low supply in some areas hence increasing millet price.
- The highest market prices were recorded in Mixed Farming Livelihood Zone at Kshs 80/Kg, Followed by Marginal Mixed Farming livelihood Zone at Kshs 73/Kg while Rainfed livelihood Zone recorded the lowest price of Kshs 70/Kg.
- The millet price was 24 percent above the short-term average of Kshs.50 per Kg.

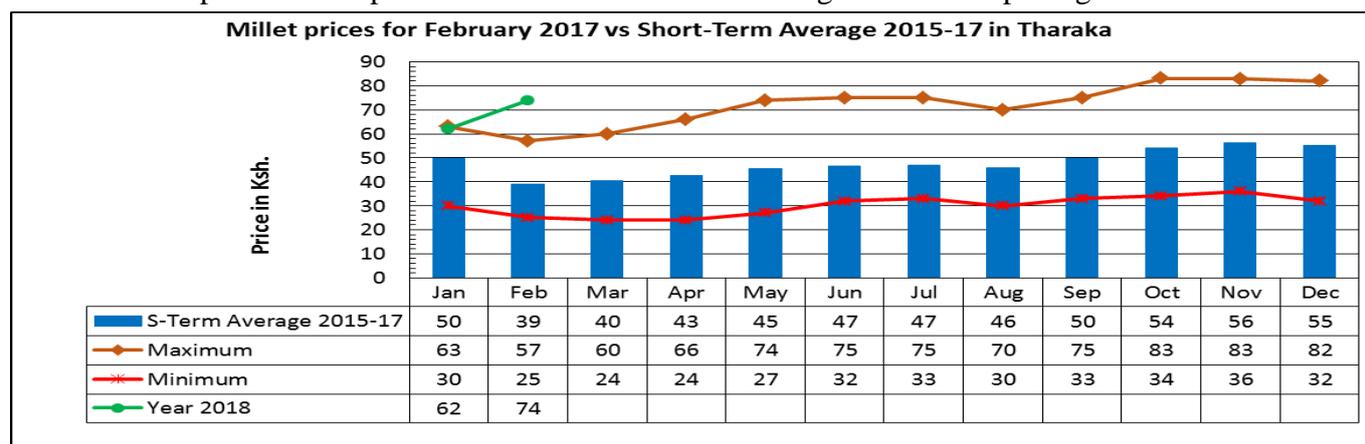


Figure 10: Millet Price Trend

4.2.3 Terms of Trade (ToT)

- The Terms of Trade increased from 80 in the previous month to 115 in February due to increase in goat price and a decrease in maize price.
- The highest ratio was recorded in the Marginal Mixed Farming Zone at 136; followed by Rain Fed Cropping Livelihood Zone at 133 while Mixed Farming Livelihood Zone had a ToT of 75.
- The ToT for the period under review was 15 percent higher than the three year average value of 100 during the same period.

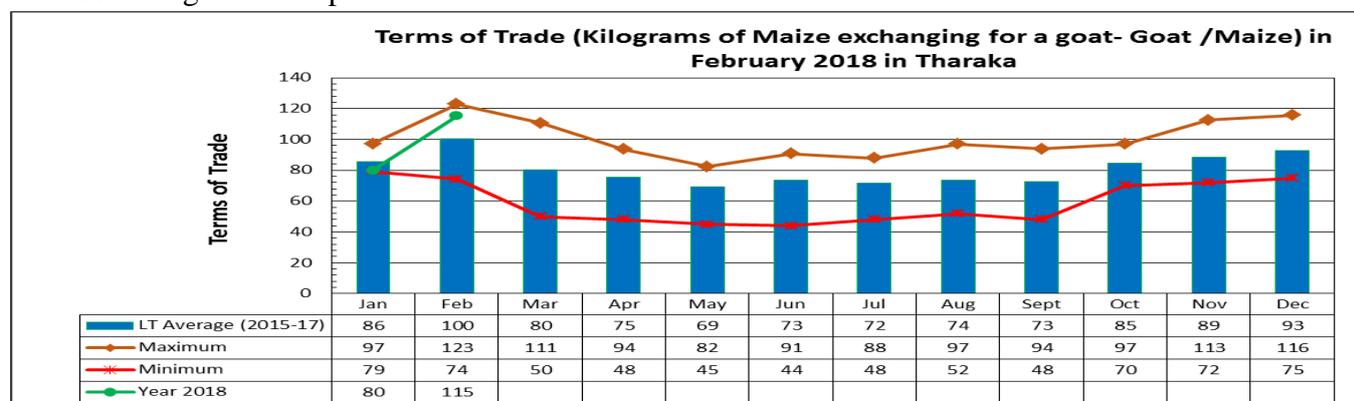


Figure 11: Term of Trade

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1 Milk Consumption

- The average milk consumption in February increased from that of the previous month to 1.30 litre per household but it was still low due to low milk production at household level. 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 44 percent higher than the 3-year average of 0.9 litre per household per day.

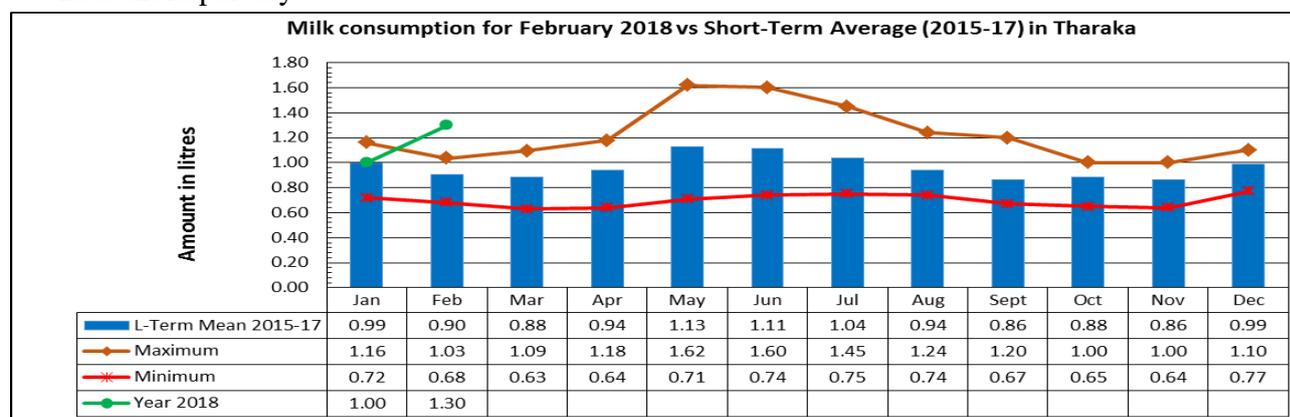


Figure 12: Milk Consumption Graph

5.1.2 Food Consumption Score

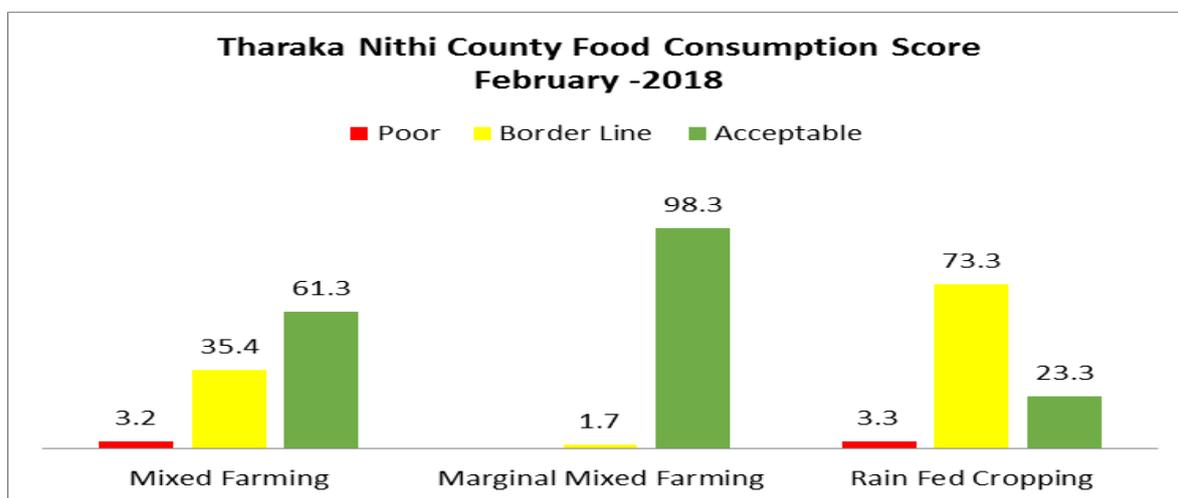


Figure 13: Food Consumption Score Chart

- Proportion of household who are food insecure with poor and borderline Food Consumption Score (FCS) increased from 33.77% in January to 38.97% in February. This could be attributed to poor harvests in most areas which affected the household access to food. The majority of Food Stressed Households were in the Rain Fed Livelihood Zones at 76.6%, followed by Mixed Farming Livelihood Zone at 38.6% 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
February,2018	60.97	36.8	2.17

- 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 3.5 km in January to 3.8 Km in the month of February. The increase in water distance was due to low water level and drying up of some water sources especially rivers 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 3.8 Km while Rain Fed Cropping zone recorded a distance of 3.5 Km.
- The distance of household access to water was higher than the long-term average of 2.8 Km for February.

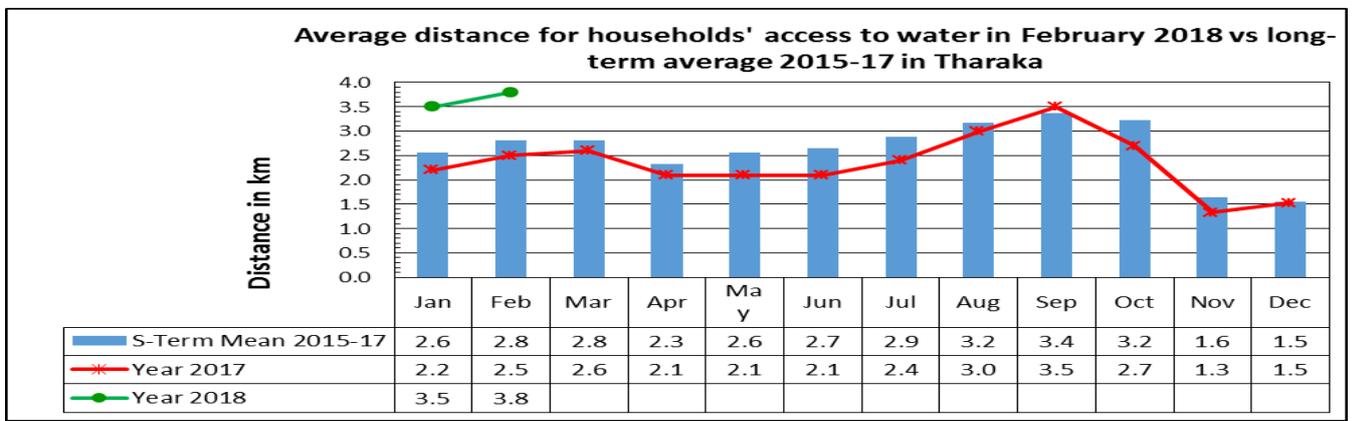


Figure 14 : Household Water Distance Graph

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 1.5 percent in January to 1.0 percent in February. The decrease in MUAC percentage was attributed to improved childcare and Nutrition Education especially on exclusive breast feeding.
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was below the long-term average of 7.7 percent.

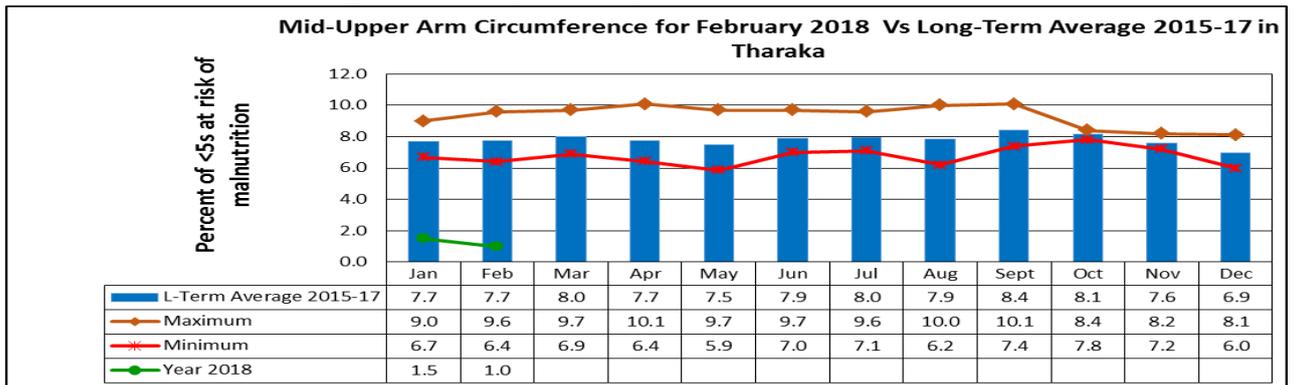


Figure 15: MUAC Graphs

5.2.3 Health

- The prevalence of most common diseases for the general population in Tharaka Nithi County include diseases of the respiratory system, malaria, skin disease, urinary tract infections and rheumatism while those mainly affecting children under five years include: diseases of the respiratory system, pneumonia, malaria, intestinal worms and skin diseases.
- However, there were isolated cases of cholera which were reported in the first week of January in Chakariga, Maara, Chuka and Marimanti but the situation has been controlled.

5.2.4 Coping Strategy Index

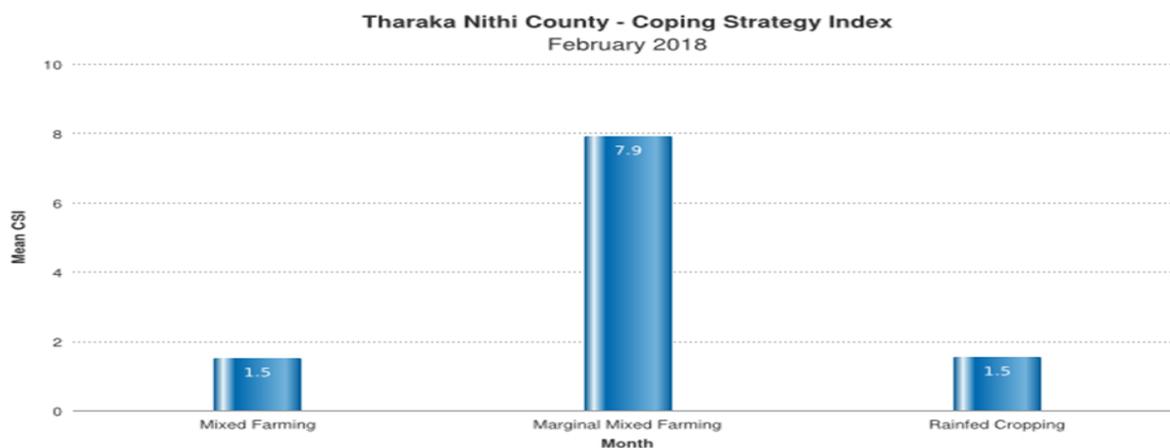


Figure 16: CSI Chart

- The Coping Strategy Index (CSI) increased from 3.47 in January to 3.63 in February which indicated a slight increase in household stress due to lack of food or money to buy food during the month of February. However, the CSI was within the normal range.
- The highest CSI was recorded in the Marginal Mixed Farming zone at 7.9, while for Rain Fed and Mixed Farming Livelihood Zone, the CSI was 1.5 each
- The most commonly employed coping strategy mechanisms during the month of February was: - 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 Non-Food Interventions

Table 4: Non-food interventions

Sub	Intervention	Location	No. of beneficiaries	Implementers	Cost	Time Frame
Agriculture						
Tharaka North and South	Promotion of conservation agriculture	all	3400 Farmers	MOA/FAO	20M	December 2019
	Cereals Enhancement program	all	9000	MOA/KCEP	40M	December 2019
	ISPP	all	4000	FAO	20M	December 2019
Livestock						
Tharaka South and North	(Rural livelihood) Dairy farming – goats and cow	Marimanti, Nkondi, Chiakariga, Gatunga and Mukothima	210	Upper-Tana, Caritas of Meru and Livestock Production Office	Kshs. 2.5M	From August 2017 (continuous)
	[Rural livelihood] Improving local indigenous chicken	Mukothima and Gatunga	250	Upper-Tana, Caritas of Meru and Livestock	2.5 m	From August 2017 continuous

				Production Office		
Water						
Tharaka North	Keiranthi Earth Dam Project	Kathanga Chini	1,660 HH 6,000 Goats 2,000 cattle 200 donkeys	NDMA	9.6m	From Nov 2017 to March 2018
Tharaka South and North	Upgrading of 15 water facilities, construction of elevated tower for storage tanks and solar panels and a distribution line	Gatunga-3no. Marimanti-2 no., Chiakariga-3 no, Igambang'ombe - 3, Mukothima-2no. Nkondi - 2no	Gatunga-700, Mari- 450 Chiaka- 650 Igamba- 800 Mukothima-450 Nkondi -400	County Government	5 Million	3 months
Tharaka South	Irrigation scheme	6 sites in Nkondi Ward, 1 site in Chiakariga and 2 sites Marimanti	7200 Beneficiaries	National Government and County Government and UTANRMP	450 Million	24 Months
Health and Nutrition						
Tharaka South and North	High impact nutrition programme	All health facilities	All children under 5 years, pregnant and lactation mothers.	MOH	11m	Continuous
	Management of Acute Malnutrition (IMAM)	Health facilities		MOH and NHP	2.3m	Continuous

7.0 EMERGING ISSUES

7.1 Insecurity

- Resource based conflicts increased in the month of February compared to that of January. This was due to increased cases of in-migration of livestock from Garissa which led to competition to access limited pasture and also increased cases of livestock theft.

7.2 Food Security Prognosis

- Food Stocks at households' level are low ranging between 50-60% of their normal level due to poor harvest during the short rainy season. The stocks are likely to remain low until the next harvest after the long rains which will be around July.
- Due to poor short rain harvest, most of the county residents are therefore likely to depend on markets for most of their food stocks which is likely to be sourced from outside the county for the next three months and therefore, any disruption of the market is likely to be detrimental to food security.
- Status of water sources is below normal with household and Livestock watering distance being outside their normal ranges but the situation is likely to improve in the next one month when the long rains begin.
- Browse and pasture condition is poor and worsening resulting to longer grazing distance, low milk production; poor livestock body condition and low Livestock prices. However this is likely to improve after the onset of the long rains. Despite of that, levels of Global Acute Malnutrition has remained low due to Nutrition and childcare education
- 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 is likely to 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

- Review of the Contingency plan and development of the Response plan.
- 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.