

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



A Vision 2030 Flagship Project



February 2018 EW Phase



Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of February was characterized by an alternating occurrence of cloud cover. Isiolo Central received some little showers in four days.
- The 3-Month Vegetation Condition Index (VCI) deteriorated further into the extreme vegetation deficit condition.
- The condition of pasture and browse was poor in almost all parts of the county as most grazing areas got more depleted and bare.
- The water levels and availability were below normal and on a deteriorating trend in all livelihoods zones.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- Livestock body condition for cattle and sheep was poor while that of goats and camel was fair with a slight improvement across all the livelihood zones. Milk production reduced as compared to January 2018.
- Crop production was only in areas under small-scale irrigation and was scaled down due to reduction in water levels.

Access Indicators

- Livestock prices displayed a form of stability over the month and a near stabilization of prices of food commodities.
- Household milk consumption reduced considerably compared to the previous month.

Utilization Indicators

- Malnutrition levels among children under 5 years were high though with a slightly reduction from the previous months rate.

Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Pastoral-All Species	Alarm	Worsening
Agro-Pastoral	Alarm	Worsening
Casual Waged Labour /Charcoal	Alarm	Worsening
County	Alarm	Worsening
Biophysical Indicators	Value	Normal Range/Value
Rainfall (% of Normal)	1.0mm	6.0mm
VCI-3month (Isiolo)	3.99	10-20
Water Sources	3	5
Production Indicators	Value	Normal
Livestock Body Condition	Fair	Fair to Good
Milk Production	0.8 Litres	1.6 Litres
Livestock deaths (from drought)	No deaths	No death
Livestock Migration Pattern	Not Normal	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (ToT)	40	>63
Milk Consumption	0.7Litres	>0.9 Litres
Return distance to water households	7.1km	<5.0km
Cost of water at source (20 litres)	Ksh 5.00	<Ksh. 5.00
Utilization indicators	Value	Range/Value
MUAC	26.9	<18.2
Coping Strategy Index (CSI)	22.4	>35.0
Food Consumption	27.7 Percent Acceptable	>70 Percent Acceptable

Seasonal Calendar

<ul style="list-style-type: none"> ▪ Short rains starts ▪ Short dry spell ▪ Reduced milk yields ▪ Migration to dry season area ▪ Land preparation 	<ul style="list-style-type: none"> ▪ Migration to wet grazing areas ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase ▪ Reduced pasture/water stress (Normal Scenario) 	<ul style="list-style-type: none"> ▪ Long rains harvests ▪ A long dry spell ▪ Increased distances to water and pasture ▪ Reduced water levels ▪ Kidding (Sept) ▪ Community/HH coping measures taken 	<ul style="list-style-type: none"> ▪ Short rains ▪ Planting in Agro-pastoral LZ ▪ Migration from dry season area ▪ Increased milk yield ▪ Reduced pasture/water stress (Normal scenario) 								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- There was no significant rain received in the month under review apart from a 4-days off-season downpour received in Isiolo Central in the third week of the month under review.
- The onset of the expected March-April-May long rains is expected in the first and second week of March as predicted by the Kenya Meteorological Department.

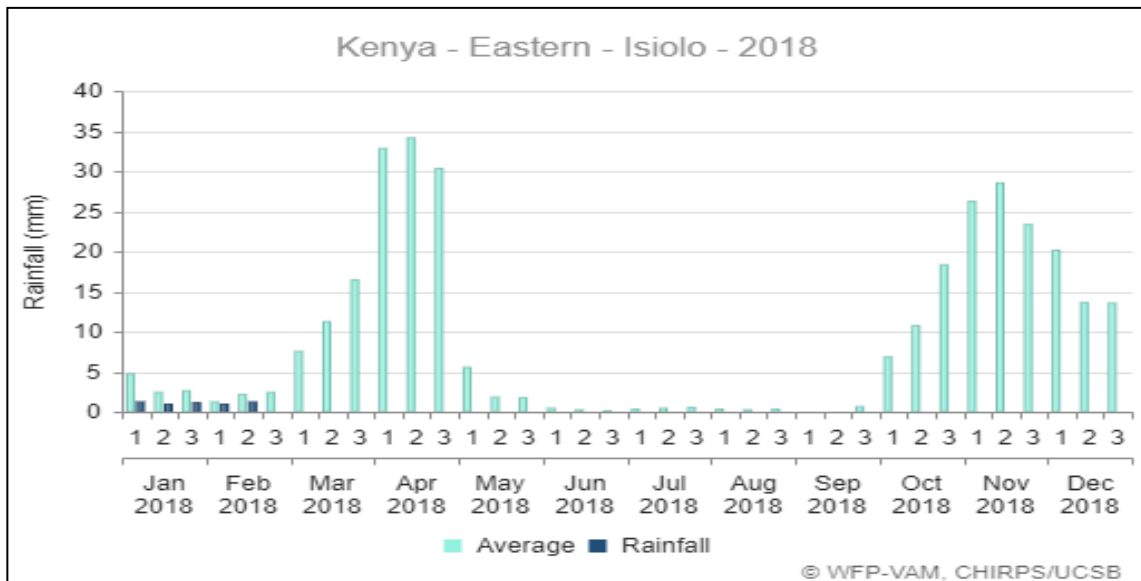


Figure 1: A graph showing the decadal distribution of rain received in the county

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The average amount of rainfall received in the county was about 1.0mm which was received in the third dekad as shown in Figure 1 above.
- There were incidence of some off-season showers received in Isiolo Central amounting to about 4.5mm.
- Other parts of the county did not receive any shower(s) over the month under review.

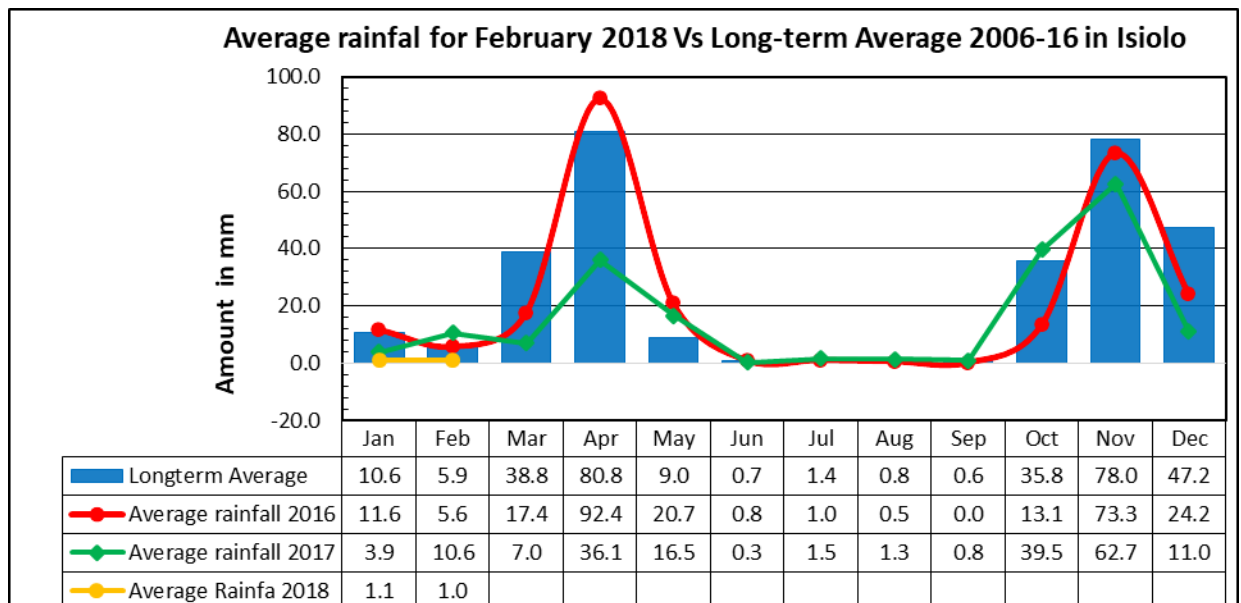


Figure 2: A graph showing monthly rainfall data for Isiolo County

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The matrix below illustrates February 2018, classified as agricultural drought based on VCI thresholds. The matrix shows a retrospective analysis of the vegetation condition as related to drought.

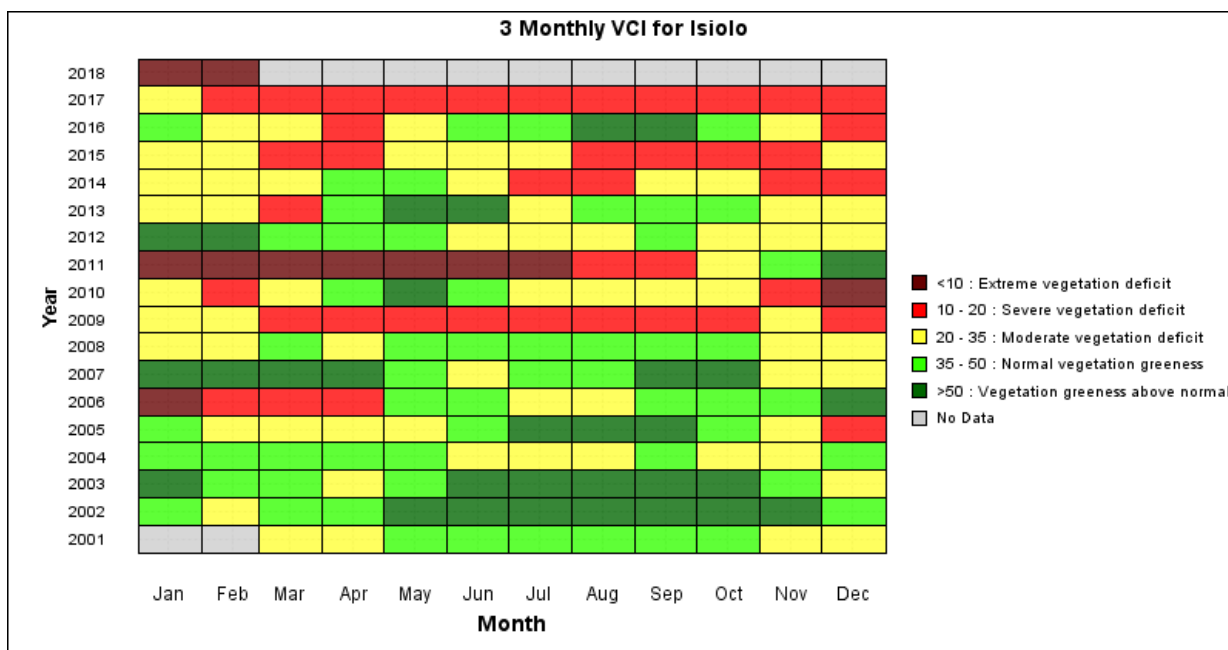


Figure 3: A matrix of 3-Monthly Vegetation Condition Index

- The county was in Extreme Vegetation deficit band with a threshold of 3.99 implying a continued deterioration of the county’s vegetation condition when compared to the previous months’ state.
- The condition has been persistently poor and deteriorating vegetation condition across all livelihood zones.
- The poor vegetation condition is attributed to the consistently depressed rainfall in the three consecutive seasons, that is, OND 2016, MAM 2017 and OND 2017.

2.1.2 Pasture

- 90 percent of the communities reported that pasture condition was poor while the rest was fair. All communities reported that pasture condition was below normal.
- The quantity and quality of pasture was extremely poor in most parts of the county attributed to poor rainfall performance except in a small section Isiolo Central and Kinna ward where some little rains were received.
- There has been a high concentration of livestock in these grazing areas resulting into a high rate of depletion triggering out-migrations to dry grazing areas and neighboring counties over the month under review.
- Pasture condition could be rated as poor as opposed to the normal fair state during this time of the year across all livelihood zones.

2.1.3 Browse

- 90 percent of the communities reported that pasture condition was poor while the rest was fair. All communities reported that pasture condition was below normal.
- Browse condition in terms of quantity and quality was poor attributed to the limited regeneration of natural vegetation as an effect of the cumulative poor performance of consecutive rainy seasons and hot weather.
- In a similar scenario to pasture, the depletion rate is high and the available browse may only last for less than a month.
- Browse condition was very poor in a greater proportion of the pastoral livelihood zone and fair and deteriorating fast in the agro-pastoral livelihood zone.

2.2 WATER RESOURCE

2.2.1 Sources

- Water sources during the month were boreholes, sand dams, rivers and shallow wells.
- Shallow wells and piped water systems were the main sources of water for households as reported by 33.3% and 24% of communities across the livelihood zones.
- The water situation has deteriorated as compared to the previous month and is expected to worsen in March before onset of the long rains.
- The yield of temporary water sources as natural rivers and shallow wells was low and reportedly going down rapidly. However, sources such as boreholes are expected to have water continuously until the onset of the next rainy season.
- Most shallow wells in Hawaye, Dadacha Bassa, Alango, and Dololo Dakiye remained dry in the month of February causing severe water shortages both for livestock and human consumption.

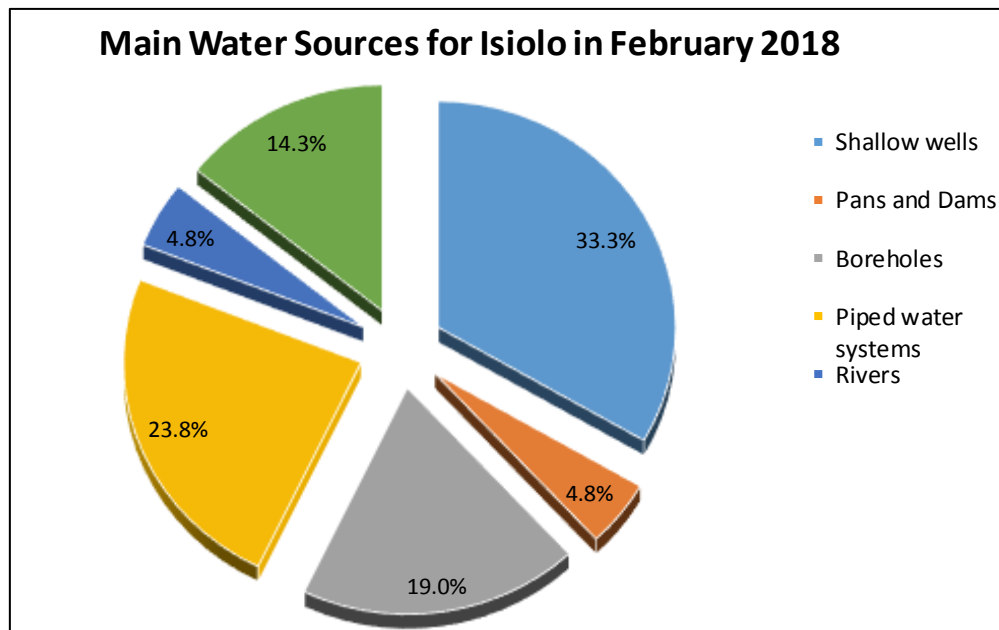


Figure 4: A chart of main water sources in the county

2.2.2 Household access and Utilization

- Household water access average distance to water sources increased significantly from 6.4km to 7.1km over the month under review. This was attributed to the reduced water availability following poor recharge levels of water sources across the county following a series of depressed rainfall seasons.
- About 50% of households in the county are buying water from vendors and water canteens situated at major settlements at an average of Ksh. 3.00. However, there are few areas such as Madogashe in Sericho ward where households are obtaining a 20-litre jerrycan at Ksh.50.00 from vendors.
- The waiting time was slightly above 30 minutes in the pastoral livelihood zone as compared to 10 minutes and 2-6 minutes in the Agro-pastoral and casual-waged labour respectively.
- The average water distance in the pastoral livelihood zones was 14.5km while the distance was 5.6km in the Agro-pastoral livelihood zone. The lowest distance of about 1.2 km was recorded in the casual-waged labour livelihood zone.

2.2.3 Livestock access

- The average distance to water sources from grazing areas increased from 16.3km to 18.5km during the month under review.
- The grazing distances are expected to increase further as herders are migrate and access pasture resources in the dry grazing areas such as Kom, Sabarwawa and Barchuma and across into neighboring counties such as Meru and Laikipia.
- Long distances to grazing areas were mainly attributed to the continued depletion of pasture and browse resources following poor regeneration as an impact of the successive failed rainy seasons.

- Watering intervals for cattle and sheep/goats were 2-3 days and 7 days for camel.
- Water search distance in the agro-pastoral was 11.3km as compared to 25.7km in the pastoral livelihood zone.

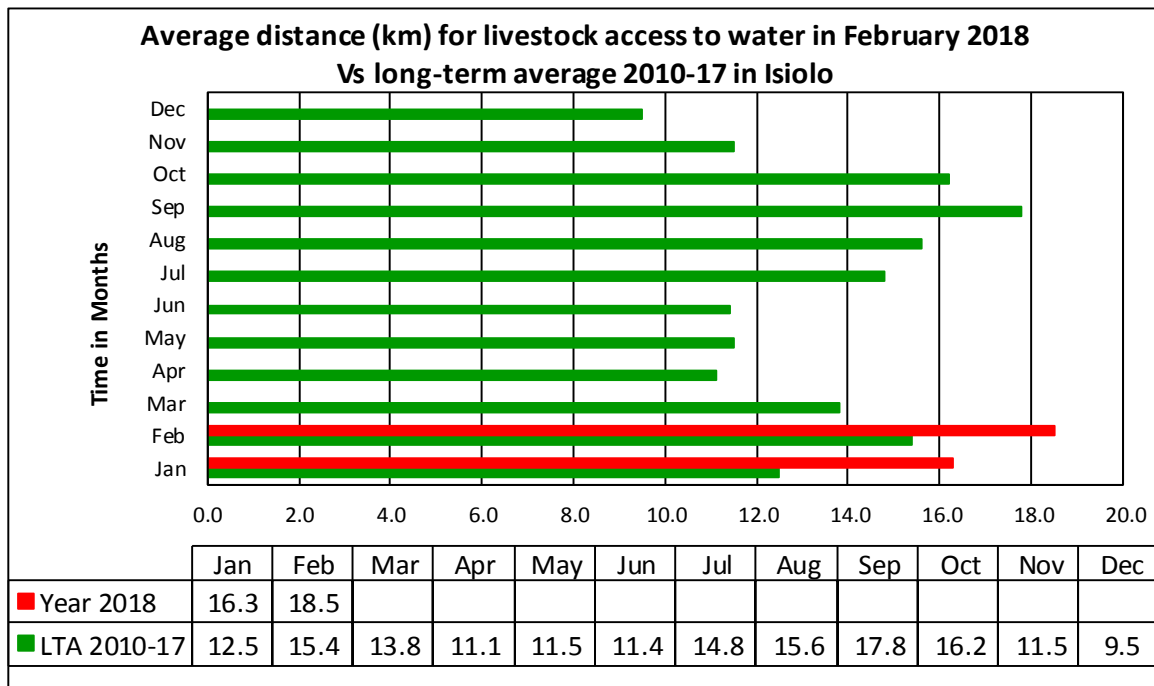


Figure 5: A graph of average distance for livestock water access

2.3 IMPLICATION TO FOOD SECURITY

- The county’s vegetation and water condition is largely poor and deteriorating steadily and will thereby not be able to sustain the current livestock herd. The fast depletion of available water and forage resources has become a major interference to productive pastoral and agro-pastoral livelihoods locally and therefore prompting out-migrations.
- Rapidly diminishing water sources especially in the agro-pastoral and the pastoral livelihood zones has hindered irrigation activities thereby poor crop production within the county.
- Access to water for livestock is already a challenge resulting to the steadily increasing trekking distances while migrating, a factor that has continued to deter favourable animal production.
- The poor availability of feed and water and rampant migrations far from traditional grazing areas are continued setbacks to sustenance of good animal body condition and health and access to good livestock markets leaving the pastoralist with low income and consequently food insecure.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition for cattle and sheep was poor while that of camel and goat was fair and on a stable condition across all the livelihood zones.
- The animals' body condition was relatively stable for most herds when compared to the previous month but poorer when compared to a similar period in a normal year.
- Animals in the pastoral livelihood zones were relatively weaker when compared to those in the agro-pastoral zone attributed to longer trekking distances in search of forage resources.

3.1.2 Livestock Diseases

- Ectoparasites and endoparasites (worms) infestation and as well as malnutrition were some of the hindrances to animal production reported over the month under review.
- Cases of opportunistic and endemic ones such as Contagious Caprine Pleuro Pneumonia (CCPP) in goats were reported across all livelihood zones.
- No disease outbreak reported over the month under review.
- There were no reports of unusual animal deaths during the month under review.

3.1.3 Milk Production

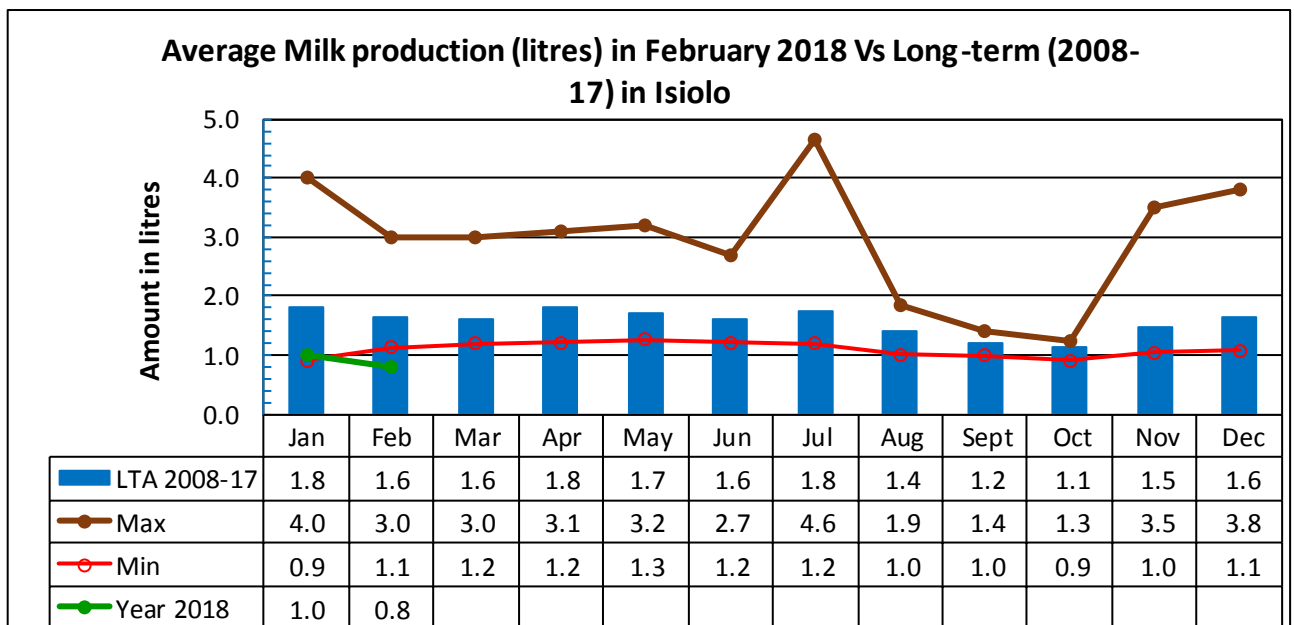


Figure 6: A graph of average milk production in litres

- The average milk produced was approximately 0.83 litres per household as compared to 1.0litres in the previous month.
- Milk production remained low and less than the average produced in the previous month.
- The production is however expected to reduce further in the coming months as forage resources condition deteriorate in quality and quantity.
- The average amount produced at household level was about 1.5 litres as compared to 1.3 litres in the previous month.
- Milk production per household was half of the 10-year average of 1.6litres attributed to the prevailing inadequacy of pasture and browse and water resources due to successive droughts in all livelihood zones.
- The progressive low milk production could also be attributed to reduced TLUs due to livestock deaths in addition to the prolonged insufficiency of pasture and browse and water resources in the entire county.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Crops grown include maize and legumes such as beans, cow peas and green grams.
- Most crops grown under rain-fed conditions performed poorly due to the poor performance of rains.
- There was a widespread attack of crops by the Fall Army Worm which led to immense destruction of crops in middle development stages.
- Farm preparations are underway as farmers anticipate for the March-April-May long rains season.

3.3 IMPLICATION OF THE ABOVE INDICATORS TO FOOD SECURITY

- The long distances of trekking in search of pasture and browse resources has led to continual weakening of animals leading into deaths considered as immense loss of livelihood for the pastoral communities.
- Failed crop production in the short rains season contributes to the overall food insufficiency at the farming households and will therefore be forced to obtain food from the markets at the prevailing increased prices.
- The overall household food security is highly vulnerable due to the failures in crop farming and the poor incomes for pastoral households as market functionality was greatly affected due to poor livestock body condition and the subsequent migrations to distant grazing areas away from traditional grazing fields.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

- The average household cattle prices exhibited a stable trend following a marginal increase in the price recorded at Ksh 12,500.00 in the month under review compared to Ksh 12,200.00 compared to the previous month.

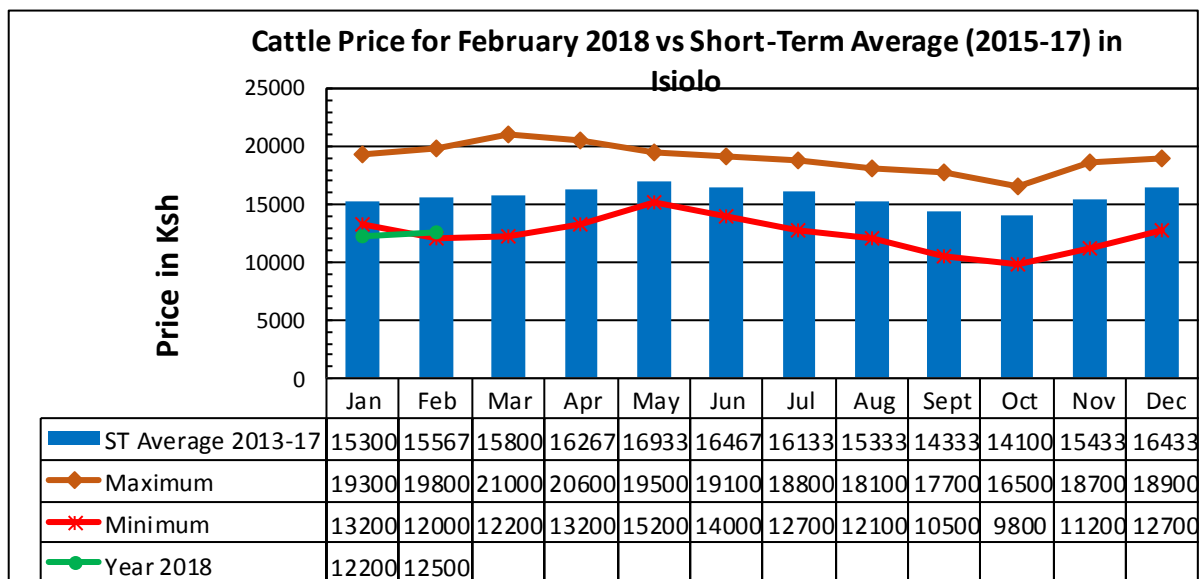


Figure 7: A graph of average farm-gate cattle price

- The highest price was recorded in the agro-pastoral livelihood zone at an average of Ksh.13,800.
- The low price trend could partly be attributed to the low demand for cattle amidst increased supply as pastoralists seek to offset their herds for fear of losses as the severe drought conditions persist in the entire county.
- Cattle prices continued to perform poorly at farm gate and market levels, a factor that is largely attributed to the deteriorating livestock markets, increased off-take for fear of losing livestock to drought as well as unfavorable animal body conditions following the previous year's acute shortage of pasture and browse across all livelihood zones.
- The current price was below normal being 20.0 percent lower than the three-year short-term average of Ksh.15,600.00 but slightly above the minimum price ever recorded of Ksh 12,000.00.

4.1.2 Small Ruminants Prices (Goat)

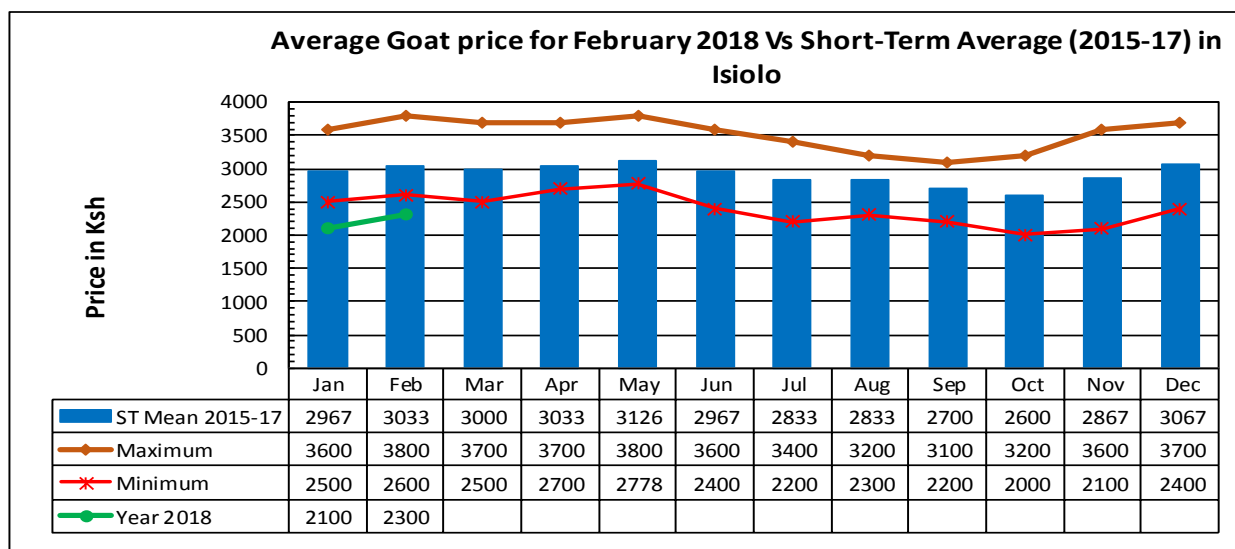


Figure 8: A graph of monthly average farm-gate goat price

- There was a marginal increase in the average goat prices to Ksh.2,300.00 in the month under review from Ksh.2,100.00 in the previous month.
- The marginal increase was partly attributed to a slight reduction in the number of small stock offered for sale as majority of herders retained most of their herd following the proximity to onset of the expected March-April-May (long rains) rainy season.
- The average price was however lower than the minimum price ever recorded for the same period of the year.
- The pastoral livelihood zone recorded the least average price of Ksh.2,100.00 as compared to the agro-pastoral livelihood zone price of Ksh. 2,600.00.
- The average goat price was below normal being 17.0 percent lower than the four-year average of Ksh.3,000.00 and also slightly lower than the period’s minimum price of Ksh. 2,600.00.

4.2 CROP PRICES

4.2.1 Maize

- The average market price of a kilogram of maize increased slightly by Ksh. 2.00 to Ksh 57.00 in the month under review.
- The slight increment displayed a prolonged stabilization of the cereal’s price and was attributed to a relatively stable supply of the cereals to the markets from the neighbourhood and other large scale producing counties.
- The average maize price was above normal for the period considering that it was 41 percent above the three-year average of Ksh.39.00 and also slightly above the average maximum price ever recorded for the period.
- The cereal was sold at an average of above Ksh.60.00 in the some pastoral livelihood zone markets where its availability is limited.

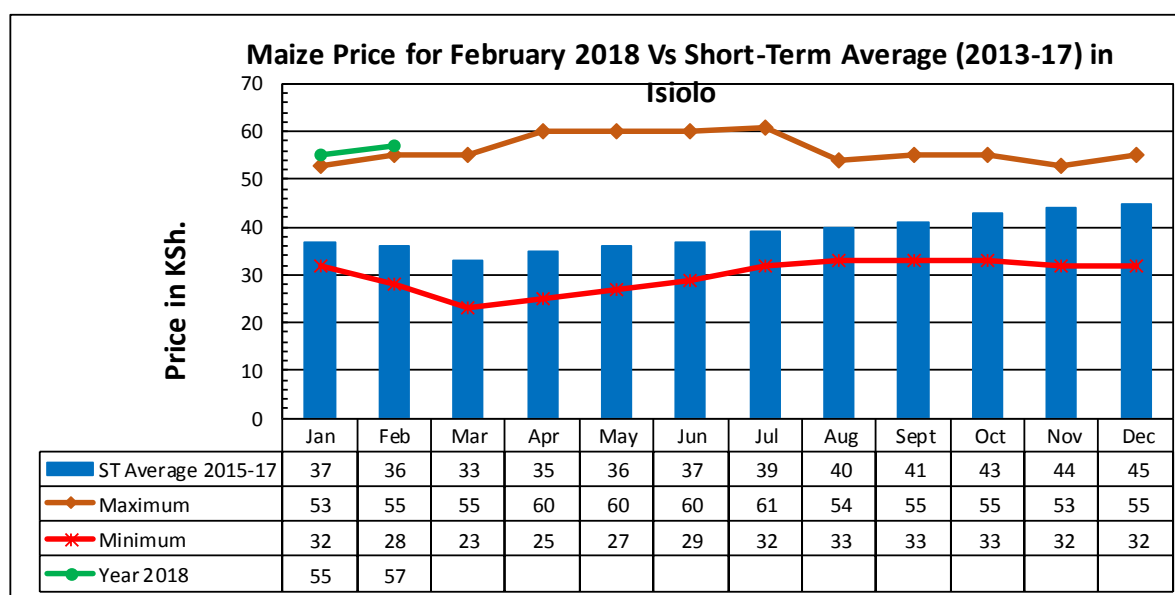


Figure 9: A graph of average maize (cereal) market price in the county

4.2.3 Beans

- The county average price of beans was Ksh 120.00 per kilogram during the month under review as compared to Ksh 115.00 in the previous month.
- The pulse’s price has remained high in the county due to its limited supply in the market following meagre production occasioned by crop failure in the agro-pastoral livelihood zone and the neighbouring counties.
- The highest price was recorded in the pastoral livelihood zones of an average of ksh 140.00
- The price was out of the normal range being 22 percent higher than the short-term average price of Ksh. 98.00 during the same period of the year.

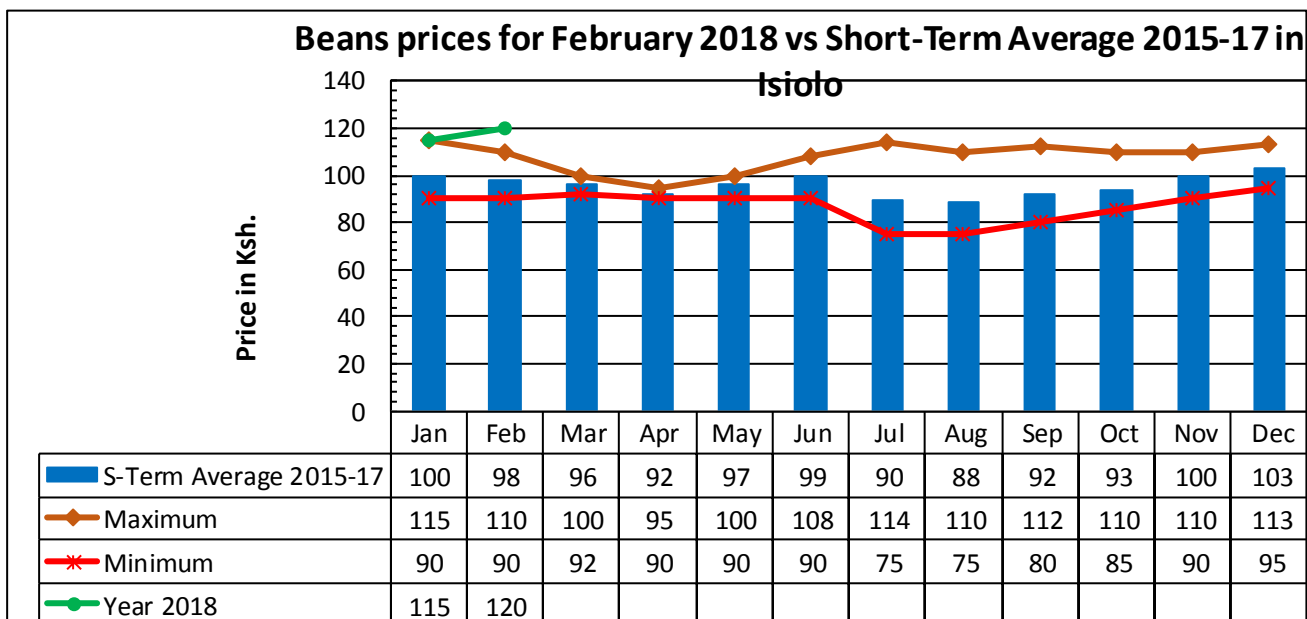


Figure 10: A graph showing average market price for pulses (beans)

4.3 Livestock Price Ratio/Terms of Trade

- The Terms of Trade (the number of kilograms of maize a household would purchase after a sale of one goat) marginally increased from 38 kg of maize/goat to 40 kg of maize/goat in the month under review.
- The ratio was higher in the Agro-pastoral livelihood zone at 41 as compared to 34 in the pastoral livelihood zone.
- The livestock price ratio was below normal having been 36.0 percent lower than the long-term average ratio during the same period and also lower than the minimum ratio ever recorded for the same period of the year.
- The low trending ratio has been occasioned by the unfavourable livestock markets across all livelihood zones in an environment where price of cereals has remained high due to poor production in the county and country at large.

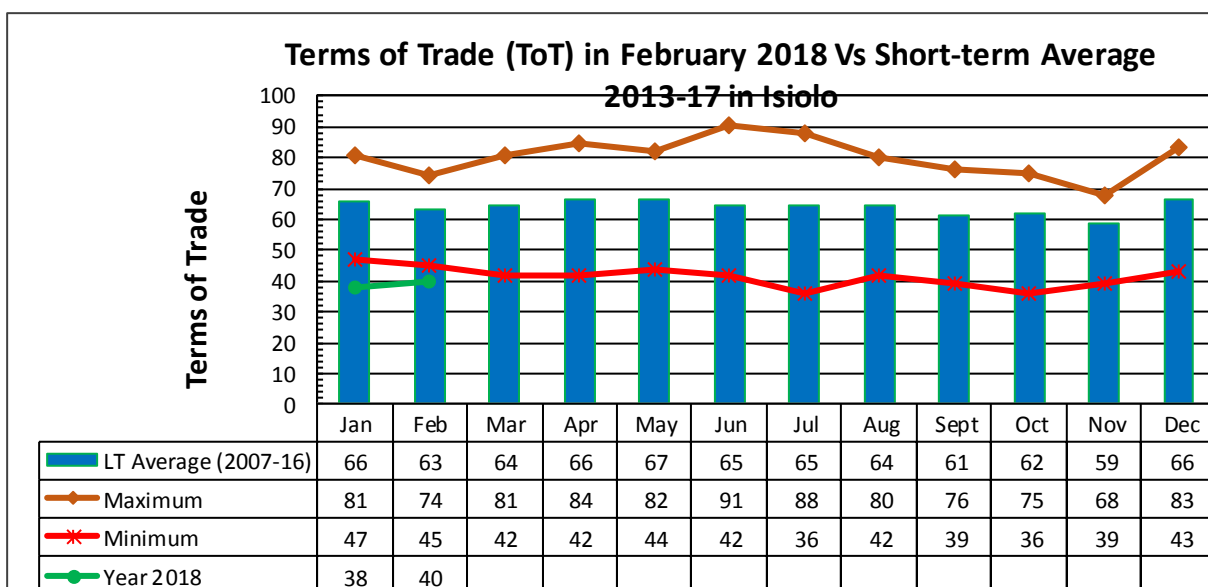


Figure 11: A graph showing the pastoralists' Terms of Trade in the county

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- The average milk consumption per household was consistently poor even after recording a slight decrease from 0.80 litres in November to 0.72 litres in the month under review.
- The low amount was attributed to reduced production due to deprived animal health prevailing in all livelihood zones as a result of the continued inadequacy of pasture, browse, and water resources.
- The average consumption was below normal as it was 25.0 percent lower than the short-term average of 0.97 attributed to the poor production in the milking households.
- The consumption was high in the casual/waged labour livelihood zone at 0.8 litres as compared to 0.7 in the pastoral and agro-pastoral livelihood zones.

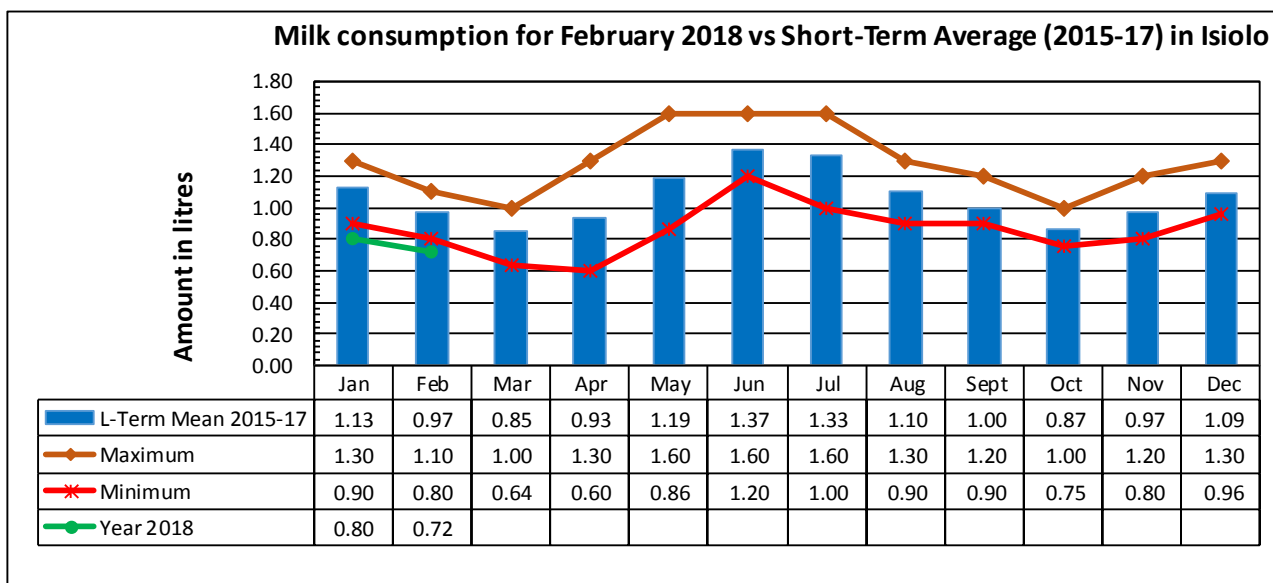


Figure 12: A graph showing the average milk production in the county

5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure increased slightly to 72 percent over the month under review an indication of a worsening food security situation especially in the pastoral and agro-pastoral livelihood zones.
- This was an indication of a continued negative impact of the short rains on production factors in all livelihood zones and was more pronounced in the pastoral livelihood zone.
- The month's FCS levels show a persistent poor access to food commodities occasioned by poor animal and crop production, poor incomes and high food prices.

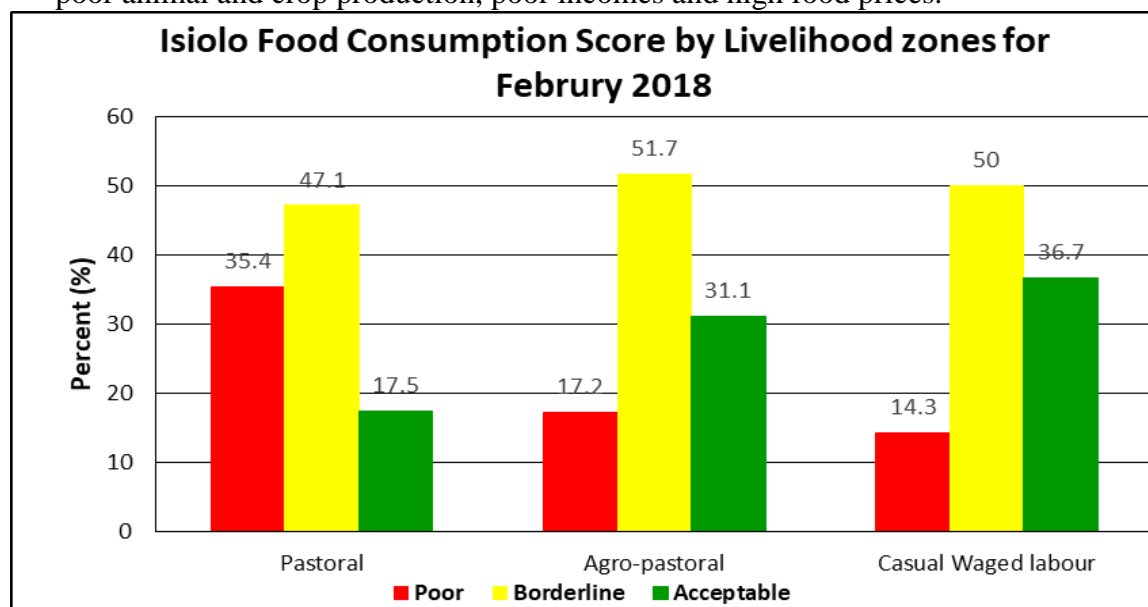


Figure 13: A graph showing the households' food consumption score

- The poor FCS implies household are not consuming staples and vegetables every day and rarely consuming protein rich food while borderline FCS imply households consuming staples and vegetables 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 and some meat and milk.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition (whose MUAC measurement was below 135.0mm threshold) for the period under review stabilized at 26.9 percent.
- This is indicative of a slight improvement that could partly to the attributed to the massive supplementary feeding interventions including Blanket Supplementary Feeding Programme, Cash Transfers, and sensitizations being undertaken in the whole county.
- The current high proportion of children at risk of malnutrition was attributed to the reduced amount and frequency of meals and limited dietary diversity mainly due to the deprived household food availability and accessibility.
- The proportion of children at risk of malnutrition was above the long-term average of 18.2 percent implying a worse situation as compared to the long-term mean during this time of the year.

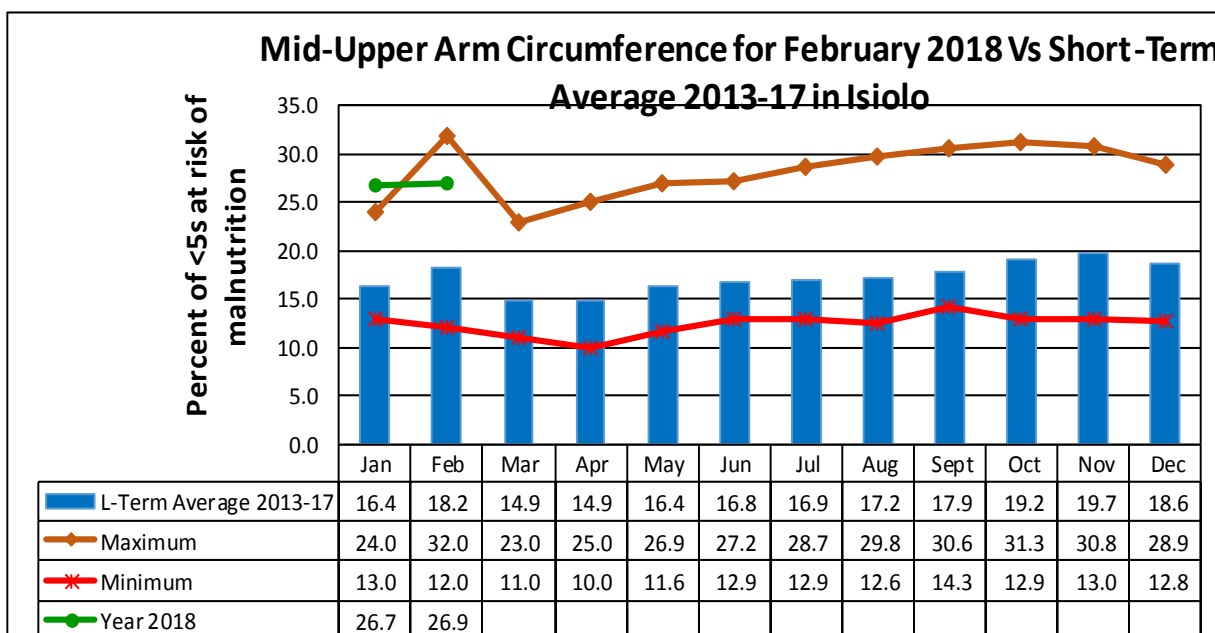


Figure 14: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

5.3.2 Health

- The prevalence of most common diseases for the general population in the county included diseases of the respiratory system, malaria, skin disease, urinary tract infections and rheumatism.
- Prevalence among the children under five years include; diseases of the respiratory system, pneumonia, malaria, intestinal worms and skin diseases.
- The morbidity pattern is relatively similar across the livelihood zones.
- No disease outbreaks were reported in the county during the period under review.

5.4 COPING STRATEGIES

- The Coping Strategy Index (CSI) increased slightly to 22.4 from 21.3 recorded in the previous month. The consistently high index implies a steady frequency of employing consumption and livelihood based coping strategies.
- The highest CSI was recorded in the pastoral livelihood zone at 25.6 compared to 19.1 and 14.2 in the Agro-pastoral and casual-waged labour livelihood zones respectively

- 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.

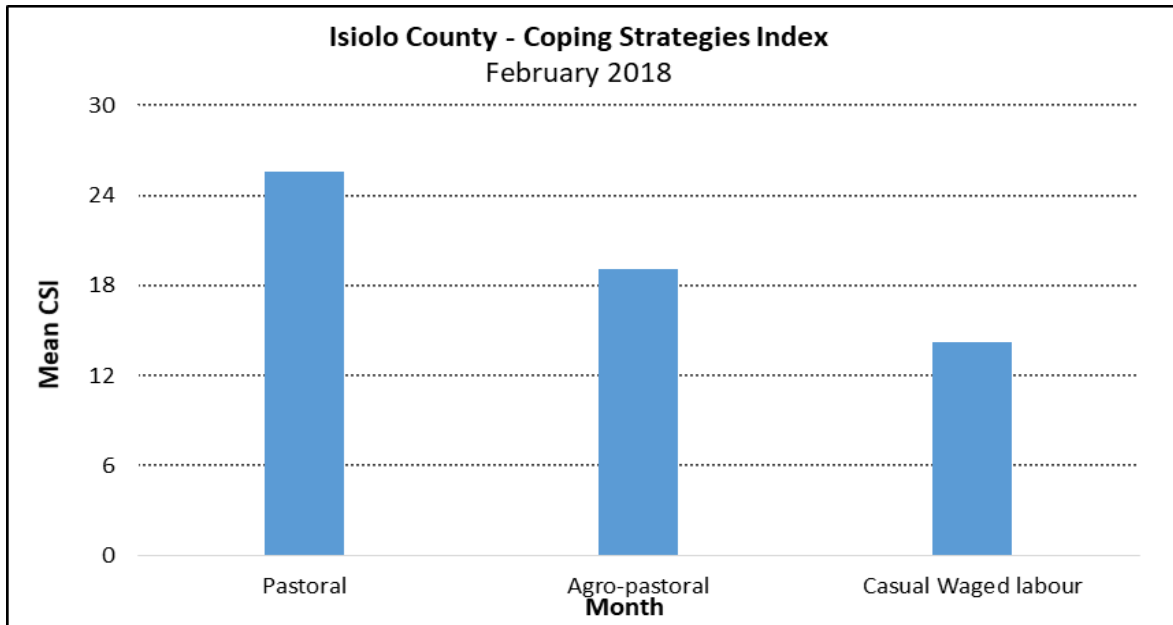


Figure 15: A graph showing the monthly reduced Coping Strategies Index

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

Table 1: A table showing the current non-food interventions in the county

Type of intervention	Ward	Sub-county	Action	Amount/ Targets
Commercial offtake	County wide	Isiolo Merti Garbatulla	NDMA	5000 Heads of cattle 12,500.000
Water trucking	Cherab Sericho Oldonyiro	Merti Garbatulla Isiolo	NDMA County Government	4,000 households
Provision of drought pellets	All wards	All sub-counties	NDMA Caritas Isiolo	300 metric tonnes 210 metric tonnes
Provision of hay	Oldonyiro	Isiolo	Caritas-Isiolo	5,690 bales
Provision of range cubes	All wards	All sub-counties	Caritas-Isiolo	572 bags
Provision of fuel subsidy to strategic boreholes	Charri	Merti	NDMA, County Government and NRT	6 strategic boreholes
Livestock vaccination	Sericho, Ngaremara	Garbatulla & Isiolo	LVI and Caritas	10,000 sheep and goats

6.2 FOOD AID

Table 2: A table showing the food interventions ongoing in the county

Type of intervention	Ward	Sub-county	Implementer	Target/Amount
Blanket supplementary feeding of children under 5 years of age, pregnant and lactating mothers	All wards except in Isiolo central	All sub-counties	County Government, Unicef, ACF and Action Aid.	25,000 Under 5s. and 7,700 PLWs
Cash transfer (Ksh.3,000) to vulnerable households until April 2018	Sericho, Oldonyiro, Garbatulla, Chari & Cherab	All sub-counties	KRCS	4,000 households
General Food Distribution	All wards except those in Isiolo Central	All sub-counties	National Govt, WFP, Action Aid Kenya	60,000 beneficiaries

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Resource based conflicts have been reported in areas with high livestock concentration such as Ngaremara, Garbatulla, Kulamawe-Kinna and along the River Ewaso Nyiro flood basin that have some forage resources.

7.2 Migration

- Inter-county migration was rampant in the period under review in search of pasture and browse.
- Herders in the Kulamawe Isiolo central stretch are advancing into the Kinna-Meru National Park grazing areas while those in the Ewaso Nyiro flood basin are reportedly advancing into to dry grazing reserves of Kom, Sabarwawa and Barchuma.

7.3 FOOD SECURITY PROGNOSIS

- The county drought status is at Alarm Stage and the trend is likely to worsen given the poor performance of the shorts rains season (OND) temporally and spatially in all livelihood zones.
- Animal body conditions have worsened slightly when compared to the previous month as forage resources shortage set in after exhaustion in few areas that the resources could be accessed.
- Thousands of livestock heads are already migrated out of the county in search of pasture, browse in dry grazing reserves and into the neighboring counties including Marsabit, Meru and Samburu. Resource-based conflicts have been reported in several forage resource rich spots within the county and are likely to escalate as the resources diminish thereby limiting access to pasture and browse and water.
- There was severe water shortage reported in several wards such as Sericho, Modogashe, Merti and Garbatulla due to early drying up of shallow wells in Bassa, Dakiye and Malkagalla, and Oldonyiro among others leading to a steady increase in trekking distances. River Ewaso Nyiro dried further upstream making access to water along the county's most relied water source more difficult where users were forced to dig deep into the sandy river floor.
- The pastoral households' purchasing power is little partly due to the prevailing unfavourable livestock markets coupled with the ongoing migrations. This has led to poor access to essential food commodities thereby reducing diversity and consumption a situation that has led to poor nutrition among the most vulnerable groups. This has led to households employing more severe coping strategies.
- The greater part of the county is therefore at severe food security phase of the Integrated Phase Classification (IPC 2.0) and with a high likelihood of drifting into emergency phase if the much expected March-April-May long rains season delay or fail.

8. RECOMMENDATIONS

- Scale up of Commercial livestock off take
- Repairs of the broken pumps in the drought reserve boreholes in Sericho, Iresaboru, and Dogogicha.
- Pre-positioning of fast moving spares in strategic boreholes and fuel subsidy to strategic boreholes.
- Peace building and conflict resolution intervention in potential areas such as Belgesh, Hawaye, Kinna, Garbatulla, Delbeq, Kom, Barchuma, Sabarwawa and Bassa Peace Committees and Forums.
- Purchase of livestock feeds to the core breeding herds.
- Mass screening and integrated medical outreaches.
- Scaling up of cash transfers in other wards