

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



A Vision 2030 Flagship Project



May 2018 EW Phase



Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of May was characterized by a mixed weather pours resulting into flooding in several parts of the county.
- The 3-Month Vegetation Condition Index (VCI) improved significantly to above normal vegetation condition.
- There was a significant regeneration of natural vegetation in all livelihood zones hence abundant pasture and browse availability. Emergence of locusts was worrying.
- The water levels and availability improved significantly following a significant recharge of river catchments and open sources.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- Livestock body condition for cattle and sheep was fair to good and most were observed and reported to be on a recovery trend.
- Milk production improved significantly during the period under review as compared to previous month of April.
- Crop production was doing well with cereals such as maize in grain filling stage. Legumes were mature for harvesting.

Access Indicators

- Livestock prices improved during the month while food commodities prices stabilized.
- Household milk consumption improved significantly during the period under review.

Utilization Indicators

- Malnutrition levels among children under 5 years remained high though with a significant consistent reduction as compared to the previous month's rates.

Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Pastoral-All Species	Normal	Improving
Agro-Pastoral	Normal	Improving
Casual Waged Labour /Charcoal	Normal	Improving
County	Normal	Improving
Biophysical Indicators	Value	Normal Range/Value
Rainfall (% of Normal)	5.0mm	>80.8mm
VCI-3month (Isiolo)	71.8	>35-50
Water Sources	5	5
Production Indicators	Value	Normal
Livestock Body Condition	Good	Fair to Good
Milk Production	3.5 Litres	>1.7 Litres
Livestock deaths (from drought)	No deaths	No death
Livestock Migration Pattern	No migrations	Normal
Access Indicators	Value	Normal
Terms of Trade (ToT)	55	>66
Milk Consumption	1.70 Litres	>1.20 Litres
Return distance to water households	0.5km	<3.3km
Cost of water at source (20 litres)	Ksh 1.50	<Ksh. 5.00
Utilization indicators	Value	Range/Value
MUAC	19.8 percent	>16.4
Coping Strategy Index (CSI)	13.4	>20.0
Food Consumption	35.5 Percent Acceptable	>80 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

- The period was characterized by short cloudy and long sunny intervals marking the cessation of the long-rains whose onset came in early March 2018.
- The rains received during the season were significant to the county’s pastoral livelihood having performed above the normal amounts comparable to the El nino rains in 1997.

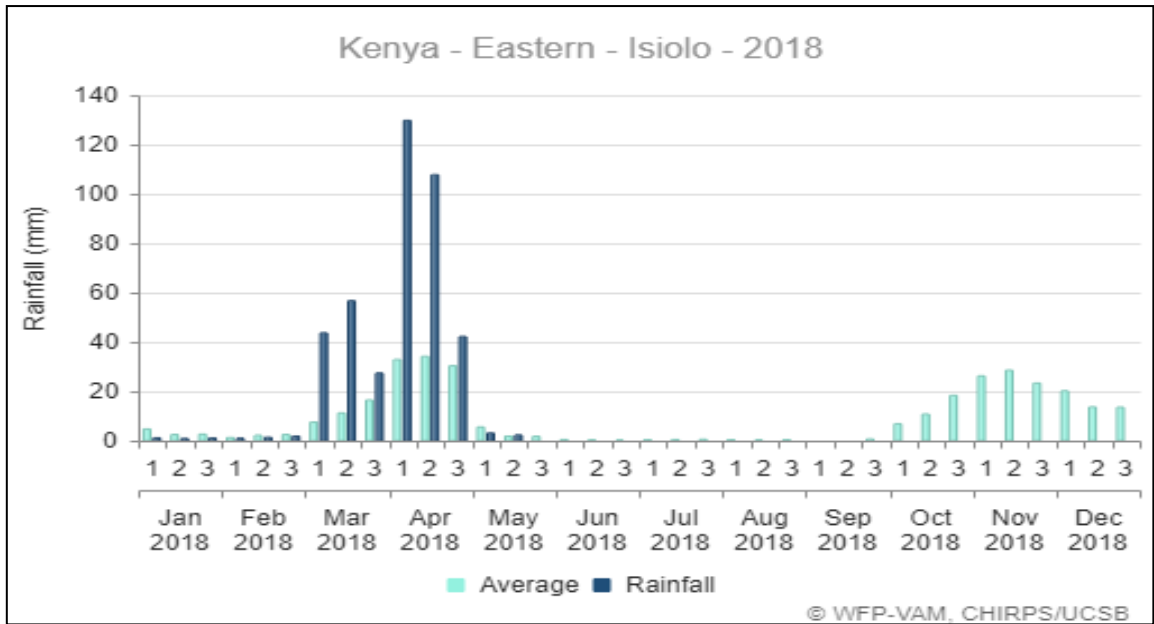


Figure 1: A graph showing the decadal distribution of rain received in the county

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The average amount of rainfall received in the county reduced drastically to about 5.0mm marking the cessation of the March-April-May rainy season.
- There were light showers in few parts of the county mostly concentrated in Isiolo Central.

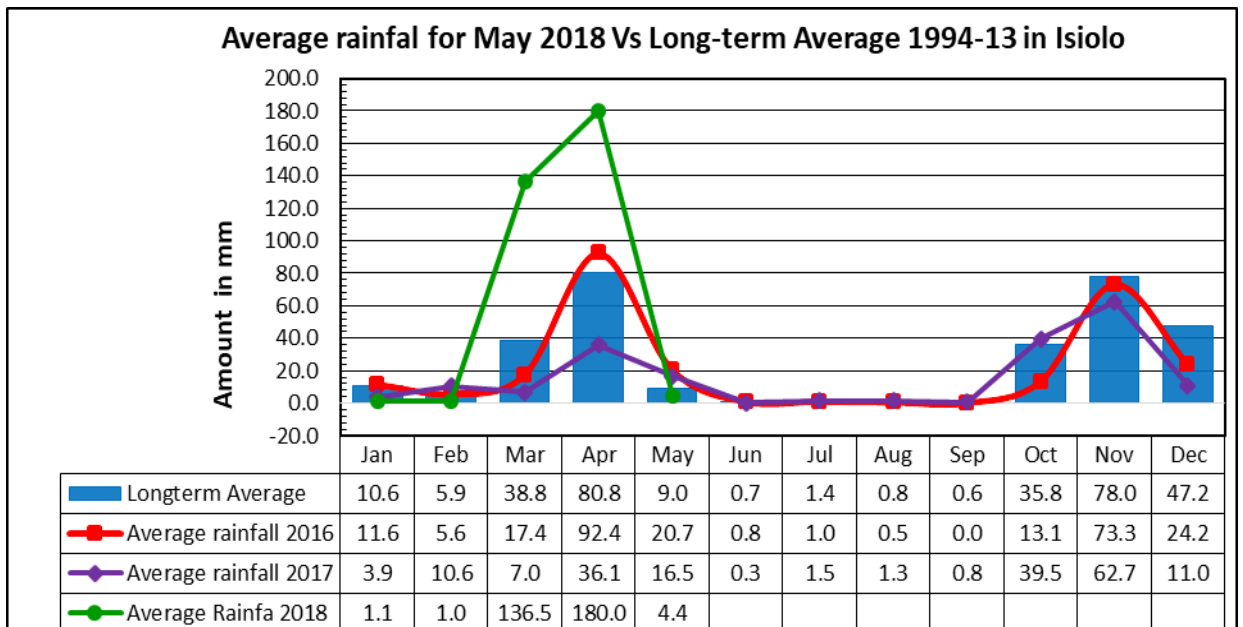


Figure 2: A graph showing monthly rainfall data for Isiolo County

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

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

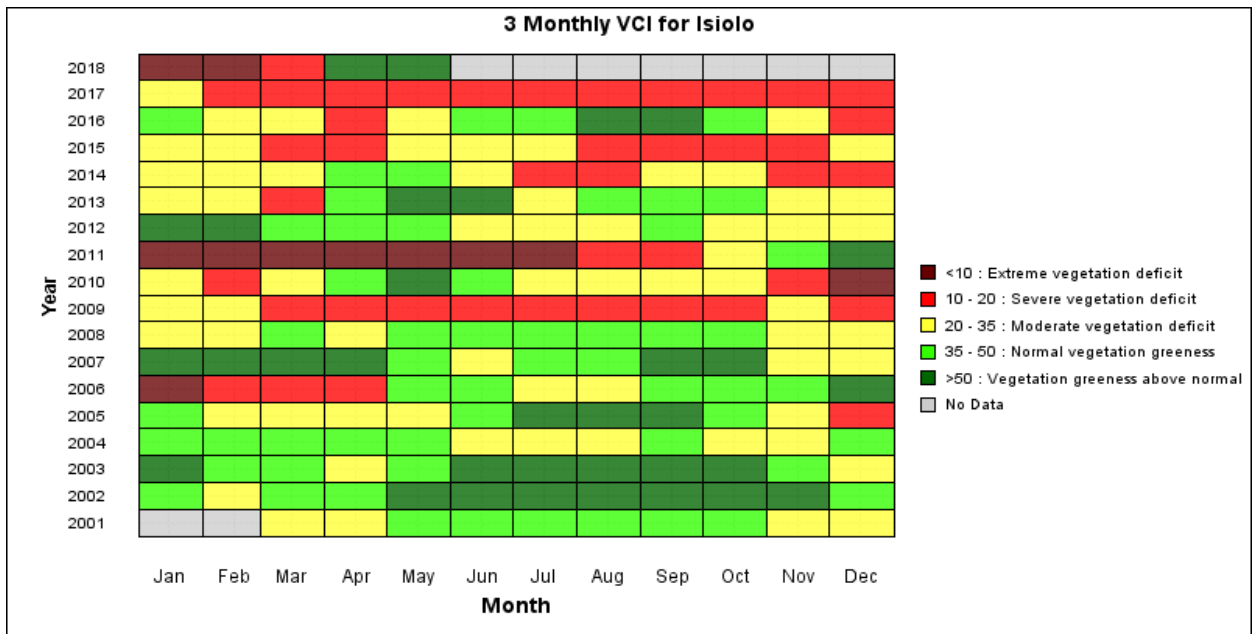


Figure 3: A matrix of 3-Monthly Vegetation Condition Index

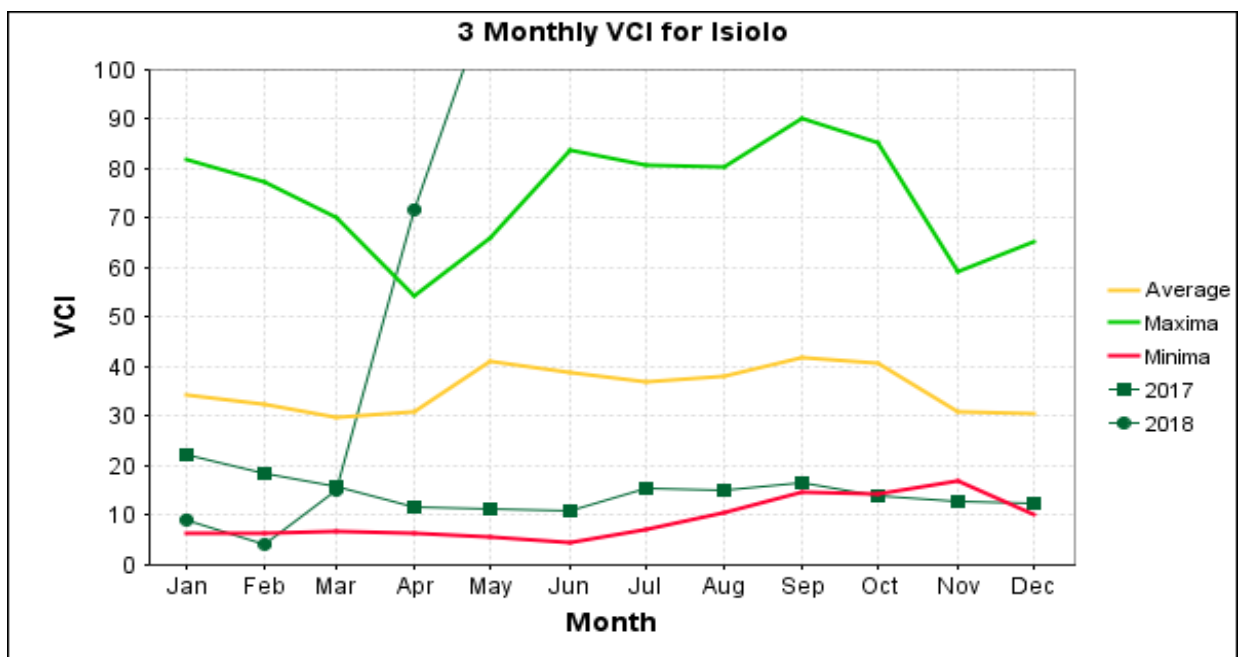


Figure 4: A chart showing the trend of the 3-Monthly Vegetation Condition Index

- The county vegetation condition index improved to significantly to above normal greenness threshold of 115.8 implying a significant recovery of the vegetation condition when compared to the previous months' severe vegetation deficit state.
- The condition has drastically improved from the previous month's condition in all livelihood zones implying a great trend of recovery following the continued reception of rains over the month under review.
- Most of the regenerated natural vegetation especially the grass and herbs matured during the period under review.

2.1.2 Pasture

- There was abundant pasture following significant regeneration of natural vegetation in the county's rangelands in all livelihood zones.
- The quantity and quality of pasture was good to above normal in most parts of the county attributed to the enhanced rains received in the county during the just ended season.
- All grazing areas that were bare in the beginning of March are currently covered with a mixture of dry and green tall grass and herbs.
- Pasture condition was above normal in all livelihood zones.
- There was an invasion of grasshoppers in most grazing areas.

2.1.3 Browse

- All communities reported significant regeneration of pasture across all livelihood zones.
- The quantity and quality of browse was good in all parts of the county attributed to the enhanced rains received in the county since the onset in early March.
- In a similar scenario to pasture, the significant regeneration has provided a great recovery to browse all over the county.
- Browse condition was above normal in all pastoral and agro-pastoral livelihood zones.

2.2 WATER RESOURCE

2.2.1 Sources

- Main water sources during the month were rivers, water pans and natural ponds.
- Almost all communities across all the livelihood zones reported accessing water from water pans, rivers, natural ponds and piped water sourced from boreholes or rivers.
- The water situation has significantly improved as compared to the previous month as most open water sources such as water pans were full to capacity and expected to last till onset of the October-November-December short rains season.
- Reliance on boreholes was low as communities relied on temporary sources such as water pans, rivers and shallow wells. Some of the boreholes water infrastructure was destroyed by ranging waters when floods were experienced.

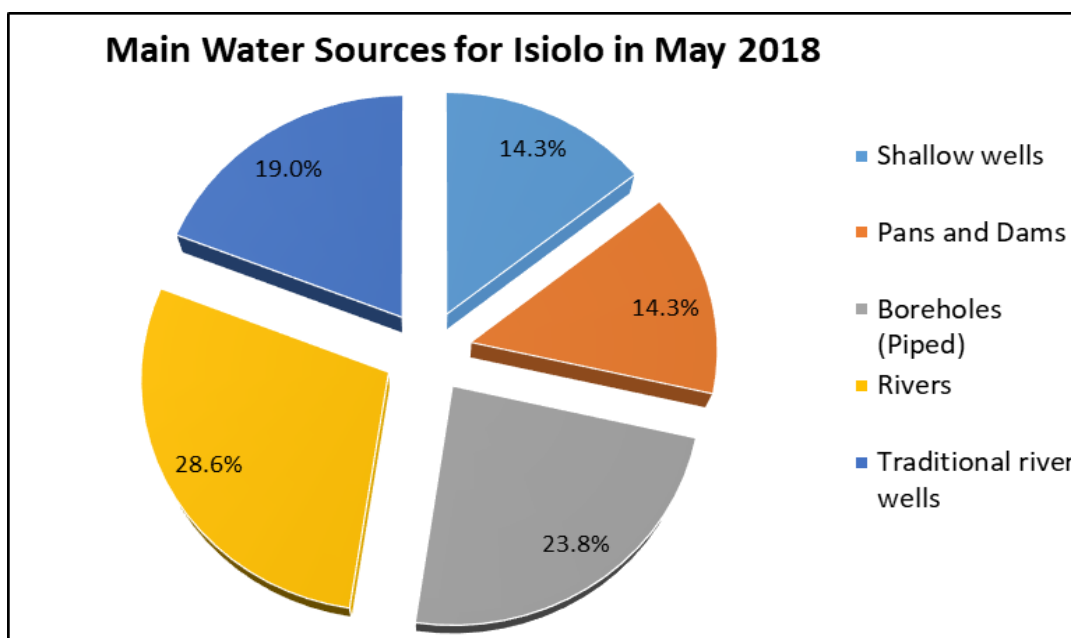


Figure 5: A chart of main water sources in the county

2.2.2 Household access and Utilization

- Household water access distance to the sources stabilized at an average of 0.50km over the period under review. This was attributed to the increased recharge of most open and temporary water sources.

- Several households were forced to obtain water from rivers, dams and other temporary sources such as roof catchments following disruption of borehole operations and their distribution infrastructure by the ranging floods in the month of April.
- The cost of water from piped systems remained low during the month under review.
- The waiting time was low estimated at about 5 minutes in all livelihood zones.
- The average water distance in the pastoral livelihood zones was 1.0km while the distance was 0.5km in the Agro-pastoral livelihood zone. The lowest distance of less than 0.4km was recorded in the casual-waged labour livelihood zone.

2.2.3 Livestock access

- The average distance to water sources from grazing areas stabilized at 1.4 km over the period under review.
- The grazing distances are expected to stabilize in the following two months as herders utilize water resources within their traditional grazing areas where most were fully recharged during the just ended rainy season.
- Short distances to water points from grazing areas were mainly attributed to the adequate water available as well as abundant pasture and browse regeneration.
- Livestock watering received a big boost, returning to normal where animals accessed water daily where they are trekking at a distance ranging from few meters to less than 3.0km.

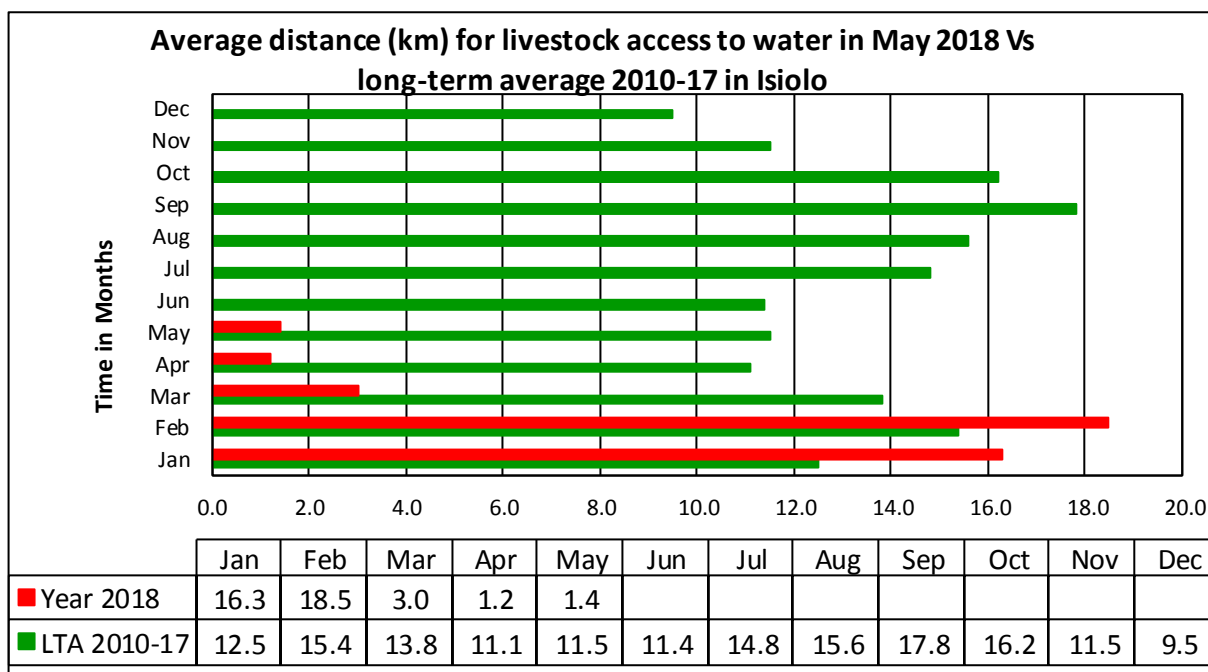


Figure 6: A graph of average distance for livestock water access

2.3 IMPLICATION TO FOOD SECURITY

- The recovery of the county's rangelands have had a significant recovery following the enhanced rainfall performance in the just concluded rainy season.
- Abundant availability of water, browse and pasture projected to last until onset of the next rainy season implies that animal productivity will be enhanced for a significant period of time which translates better income and higher terms of trade for the pastoralists.
- Similarly crop production under rainfed system has been enhanced and therefore significant harvests are expected, therefore geared to improve household food reserves and possibly a drop in market food supplies.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition for all species was good and expected to improve further in all the livelihood zones.
- The animals’ body condition improved significantly when compared to the previous month and a similar period in a normal year.
- Animals in all livelihood zones were observed and reported to be on a good recovery rate attributed to better access of forage resources and shorter trekking distances when accessing feed and water.

3.1.2 Livestock Diseases

3.1.3 There was no major disease outbreak was reported during the month under review apart from common endemic diseases such as CCPP whose cases were reported in Garbatulla, Oldonyiro and Kinna. There are however upsurge of parasites such as tse tse fly and mosquitoes. The department is carrying out continuous surveillance to detect Rift valley Fever which has a likelihood of occurrence due to the prevailing after rains conditions.

3.1.4 Milk Production

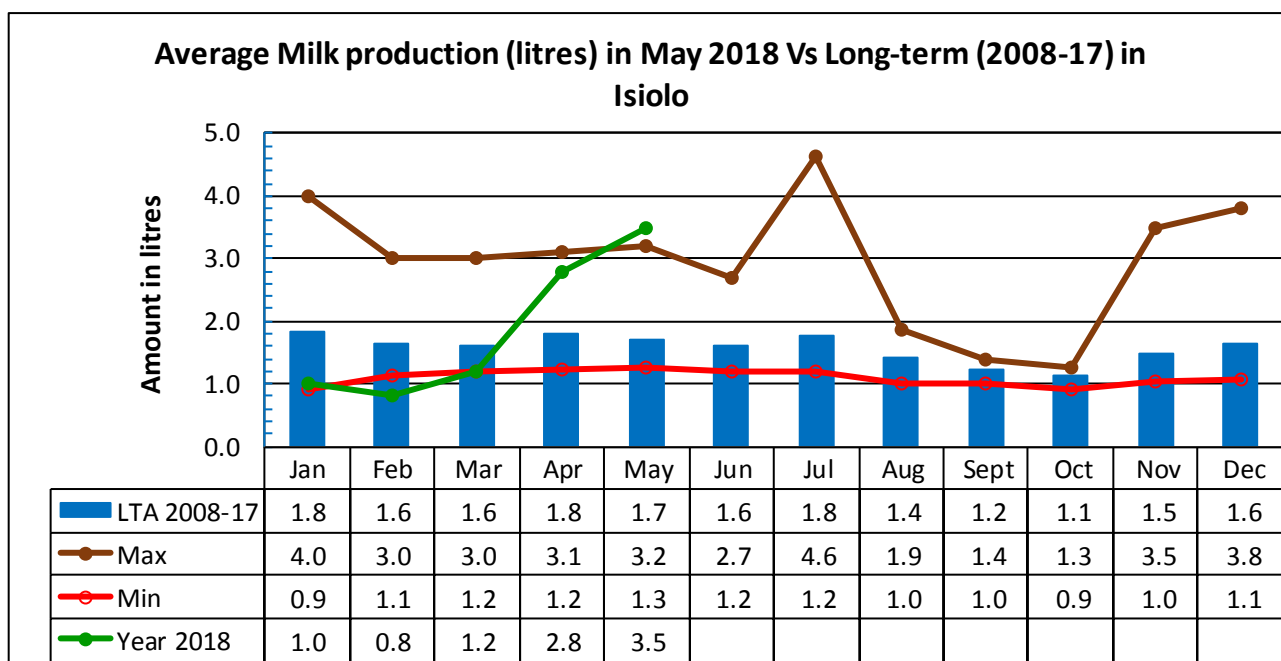


Figure 7: A graph of average milk production in litres

- The average milk produced improved significantly to 3.5 litres per household as compared to 2.8 litres in the previous month.
- Milk production was good with a significant improvement over the season and expected to improve further in the coming months as productivity of the animals improve in terms of health and reproduction.
- Milk production per household was almost double the 10-year average amount of 1.7 litres.
- The significant improvement in milk production could be attributed to the improved and better access to pasture and browse and water resources in all livelihood zones.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Crops planted include maize, beans, cow peas, green grams and horticultural crops such as onions, tomatoes, kales and capsicum.
- Most crops grown under rain-fed conditions were in past flowering stages. Maize crops were in grain filling stages while most legumes were drying up ready for harvest. .

- There were no reports of a major pest invasion on crops in all livelihood zones.

3.2.2 EMERGING ISSUES

- Tree Locust has infested Bulesa location in Merti Sub County. However, spraying of tree locust has been planned by the County government and FAO (Food for Agriculture Organization)

3.3 IMPLICATION OF THE ABOVE INDICATORS TO FOOD SECURITY

- The county's main livelihood, animal production, has been on a good recovery trend a factor that has triggered stabilization of the socio-economic wellbeing of pastoralists. Animal body condition has greatly improved and is expected to improve further with the abundant availability of pasture and browse as well as water.
- Animal prices at the farm-gate and market levels have improved significantly over the course of the rainy season, implying that farmers' income has gone higher, enabling a better purchasing power.
- Crop production performance has improved implying that food crop harvests for the season are expected to be higher under rain-fed and irrigated farming systems.
- The improved animal and crop production eventually imply a better food accessibility and a higher purchasing power among pastoral households.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

- The average household cattle prices significantly increased to Ksh 22,500.00 in the month under review compared from Ksh 19,200.00 the previous month.

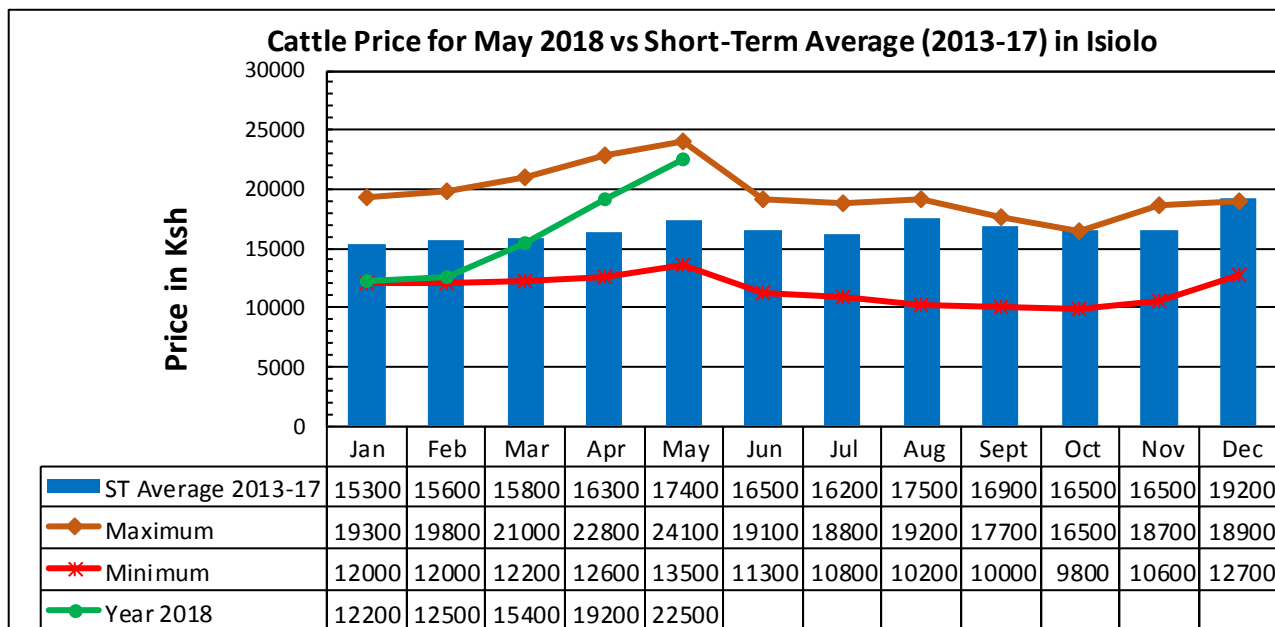


Figure 8: A graph of average farm-gate cattle price

- The highest average price was recorded in the pastoral livelihood zone at Ksh.30,000.00.
- The increase in price was partly be attributed to the improved animal body condition and the low supply of cattle in the market as majority of the pastoralists sought to retain their herds for reproduction and fattening.
- Cattle markets performed relatively better during the month under review which was a sign of recovery after a long period of dismal performance, a situation that threatened many cattle markets across the county.
- The current price was above normal being 29.3 percent above than the five-year short-term average of Ksh.17,400.00 and slightly below the maximum price of Ksh 24,100.00.

4.1.2 Small Ruminants Prices (Goat)

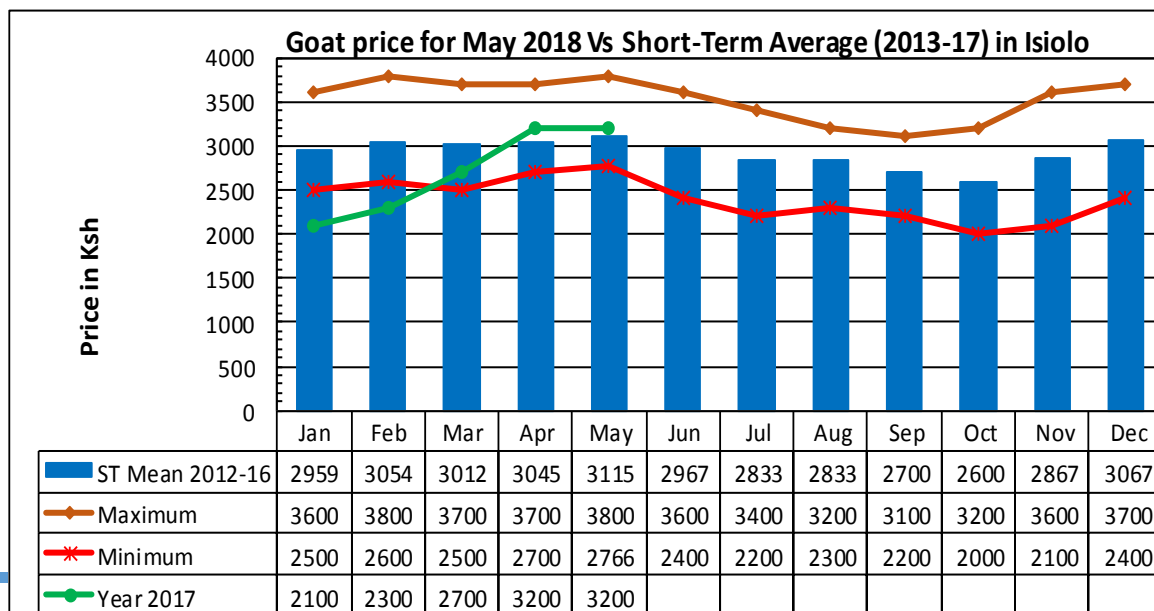


Figure 9: A graph of monthly average farm-gate goat price

- Goat prices stabilized at Ksh.3,200.00 during the month under review.
- The increase was attributed to a low supply in the number of small stock offered for sale as majority of farmers retained most of their herd to await full reproductive recovery. Goats body condition has also improved a factor that partially led to improvement in farm-gate and market prices.
- The pastoral livelihood zone recorded the highest average price of Ksh.3,500.00 as compared to the agro-pastoral livelihood zone price of Ksh. 3,200.00.
- The average goat price was slightly above the four-year average of Ksh.3,045.00 and also significantly higher than the period’s minimum price of Ksh. 2,700.00.

4.2 CROP PRICES

4.2.1 Maize

- The average market price of a kilogram of maize reduced to Ksh 58.00 from Ksh 60.00 recorded in the previous month.
- The price reduction of the cereal was partially attributed to within market variability and a relatively stable supply 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 61 percent above the three-year average of Ksh.36.00 and slightly lower than the average maximum price ever recorded for the period in three years’ time.
- The cereal was rare to find in some of the rural markets as transport systems were disrupted following successive floods during the month under review

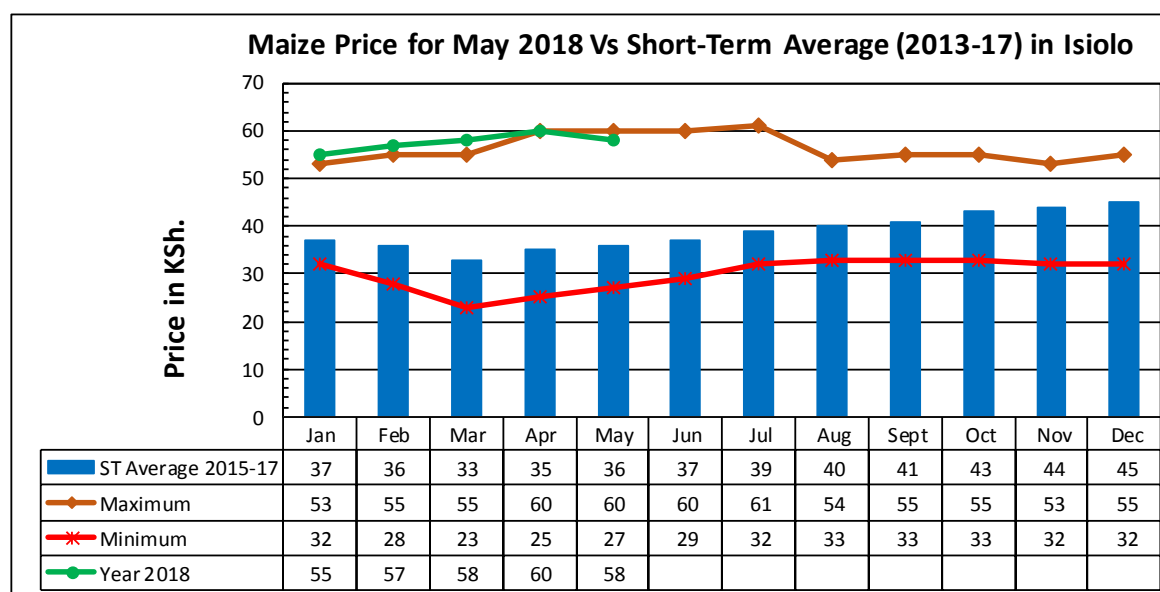


Figure 10: A graph of average maize (cereal) market price in the county

4.2.3 Beans

- The county average price of beans reduced significantly to Ksh 110.00 per kilogram during the month under review from Ksh 120.00 in April.
- The pulse’s price reduction was attributed to the increasing supply into the market following the beginning of harvests in neighboring counties. The price is expected to drop further during the month of June being the expected peak of the harvesting period.
- The highest price was recorded in the pastoral livelihood zones of an average of ksh 120.00. The supply was interrupted in several pastoral rural markets a factor that occasioned higher prices.
- The price was out of the normal range being 13 percent higher than the short-term average price of Ksh. 97.00 during the same period of the year.

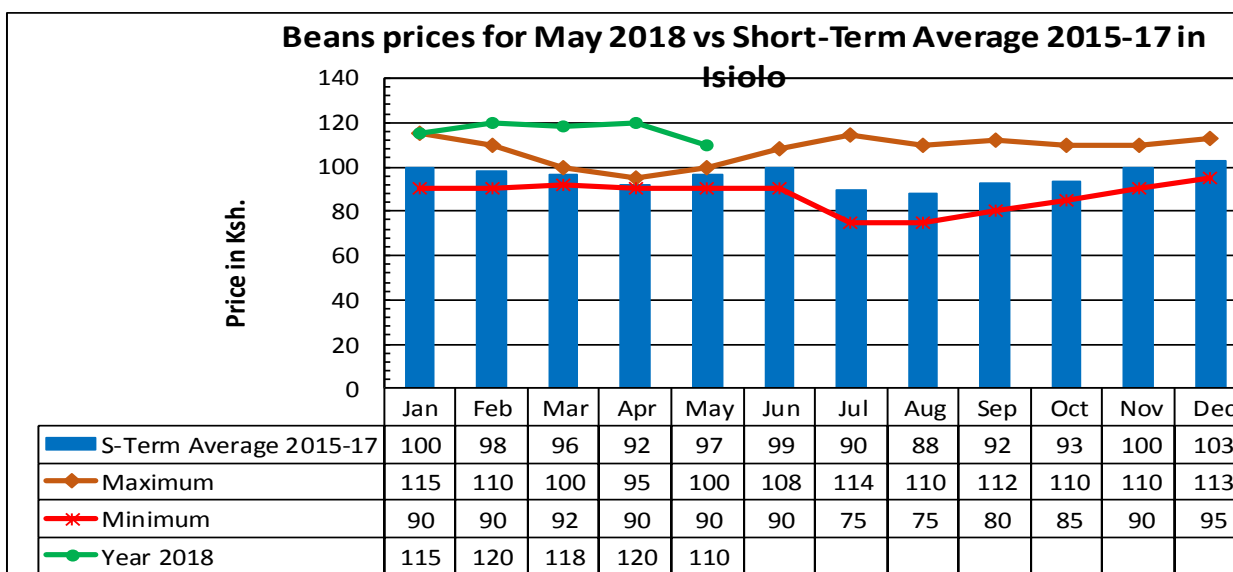


Figure 11: A graph showing average market price for pulses (beans)

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) increased significantly from 53kg of maize/goat to 55kg of maize/goat in the month under review.
- The ratio was higher in the pastoral livelihood zone at 58 as compared to 55 in the agro-pastoral livelihood zone.
- The livestock/cereal price ratio was 19 percent lower than the long-term average ratio during the same period and significantly higher than the minimum ratio ever recorded over the same period during the
- The improving livestock/cereal ratio has been occasioned by the improving livestock prices both at the farm-gate and market levels across all livelihood zones.

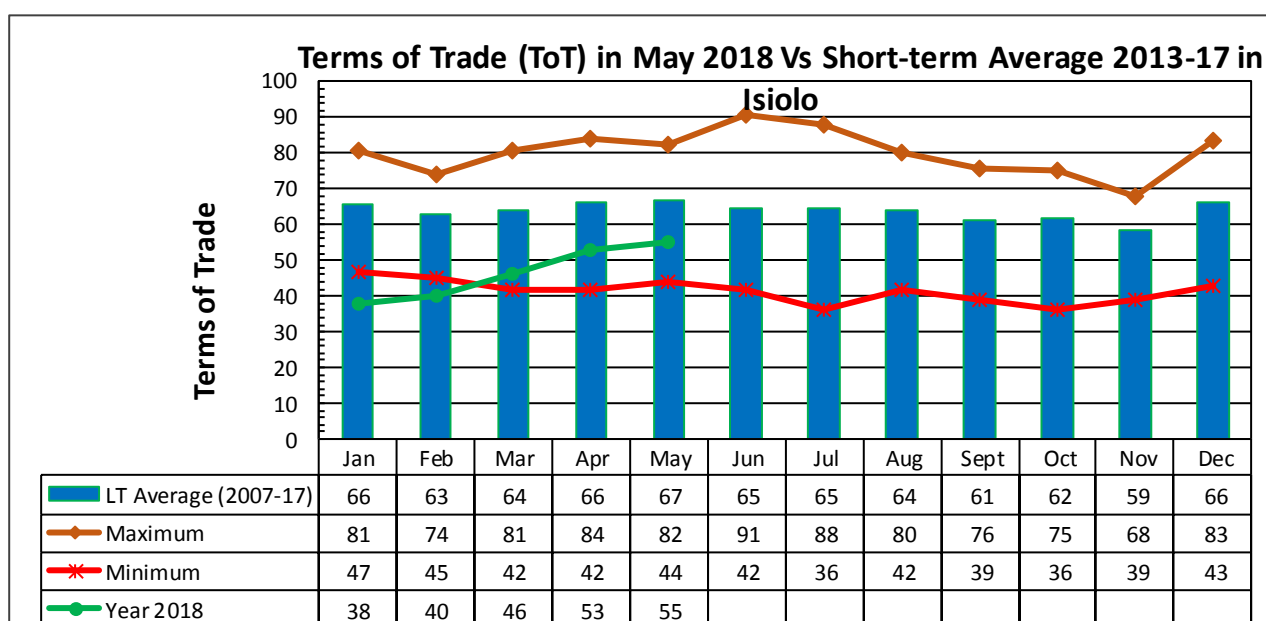


Figure 12: A graph showing the pastoralists' Terms of Trade in the county

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- The average milk consumption per household was fair after recording a significant increase from 1.50 litres in April to 1.70 litres in the period under review.
- The increment was attributed to an increment of the amount produced as animals continued to recover following adequate availability of pasture, browse and water resources.
- The average consumption was normal though being 43.8 percent higher than the short-term average of 1.20 litres attributed to the increased production in the milking households. Most of the milk consumed at the household level was from cows and goats.
- The consumption was high in the pastoral livelihood zone litres as compared to other zones.

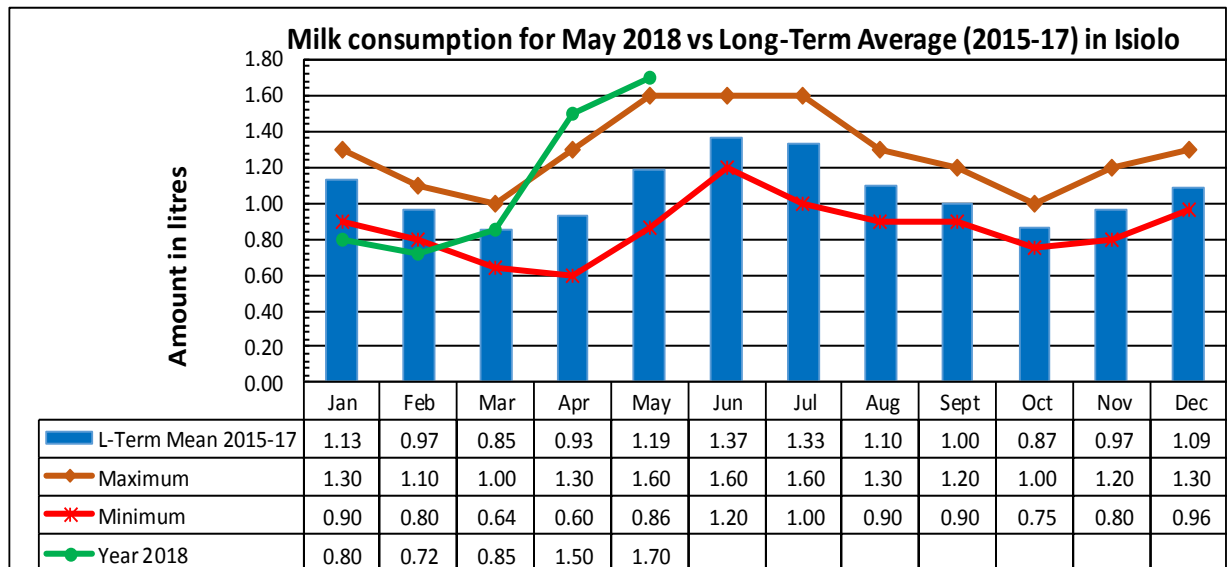


Figure 13: A graph showing the average milk production in the county

5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure decreased to 55.2 percent over the month under review, an indication of an improving food consumption patterns.

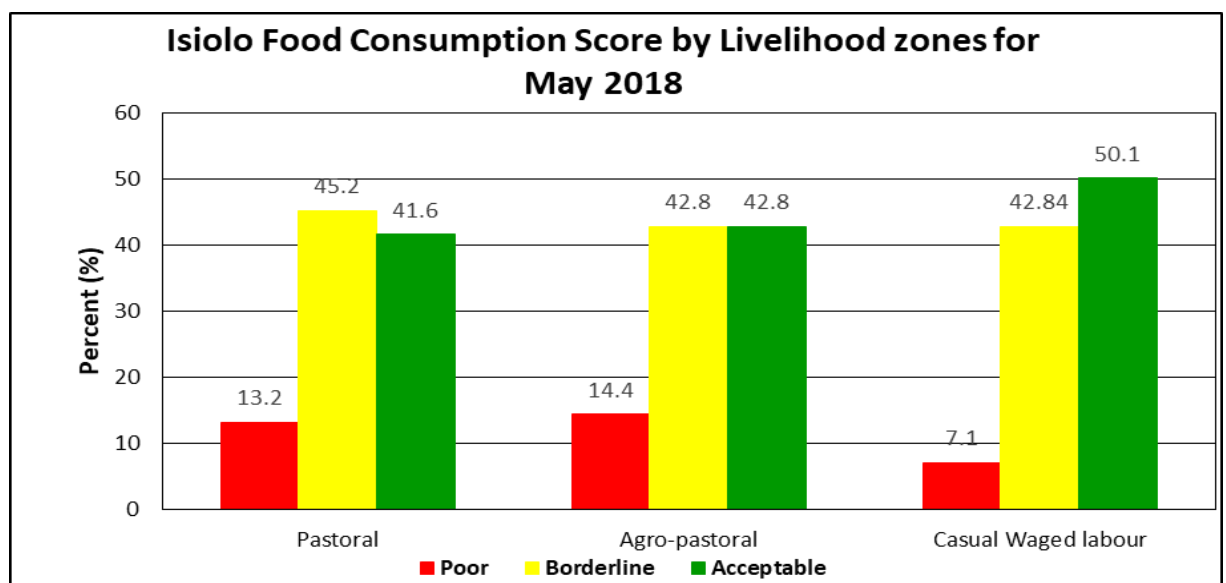


Figure 14: A graph showing the households' food consumption score

- The improving food consumption pattern was attributed to the improved animal and crop production which translated into more or better food diversity for households over the month under review. For instance, there was an increased milk production favouring a subsequent increase in consumption. There was a significant increase in consumption of vegetables especially by households living areas where they have been grown or supplied in plenty.
- The county's prolonged stressed food insecurity which was more pronounced in the pastoral and agro-pastoral livelihood zones is expected to improve further over the next few months as most production and access factors improved significantly following the enhanced performance of rains in the just ended season.
- The poor FCS implies household are consuming staples and vegetables every day and rarely consuming protein rich food while borderline FCS imply that households consumed staples and vegetables every day accompanied by oil and pulse a few times in a week while the acceptable imply that households are 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) decreased significantly from 22.1 percent in the previous month to 19.8 percent in the period under review.
- The improvement was partly attributed to the increased consumption of milk, the previous supplementary feeding interventions implemented such as the Blanket Supplementary Feeding Programme as well as Cash Transfers.
- The 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 16.4 percent implying a worse situation as compared to the long-term mean during this time of the year.
- The level of nutrition is on an improvement trend due to ongoing recovery of production systems following the enhanced rains in the ended season.

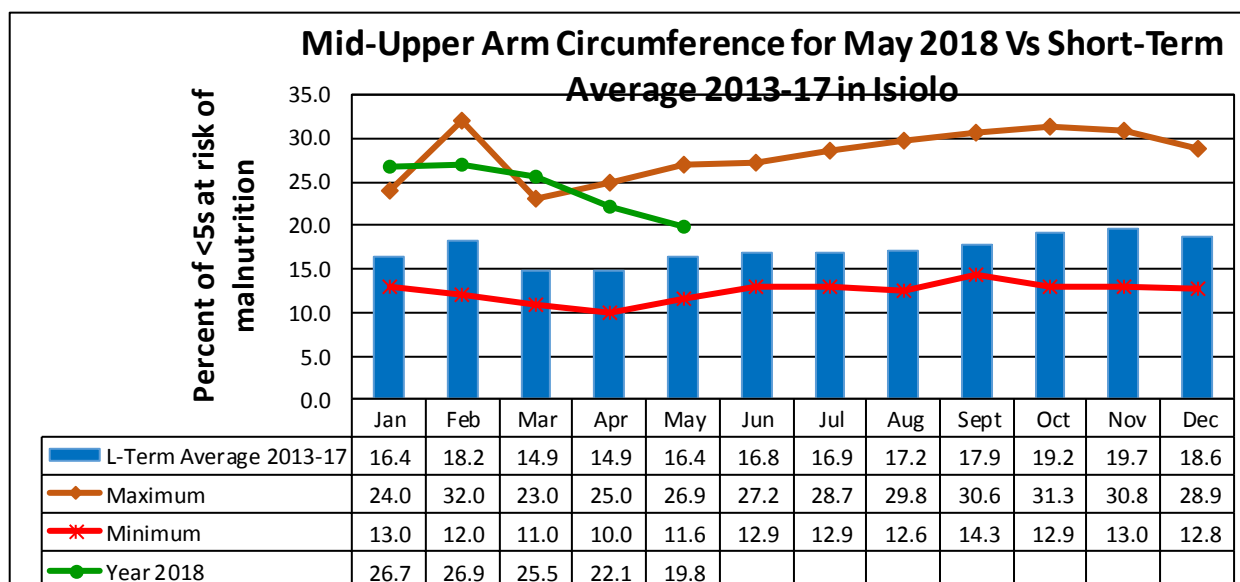


Figure 15: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

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.
- There was minimal cholera outbreak occasioned by floods following destruction of water and sewerage systems that led to contamination of major open water sources.

- 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.

5.4 COPING STRATEGIES

- The Coping Strategy Index (CSI) reduced significantly to 12.1 from 13.4 recorded in the previous month.
- The most commonly employed coping mechanisms over the period included reliance on less preferred and or expensive food, reduction of the number of meals and reduction in portion or size of meals.

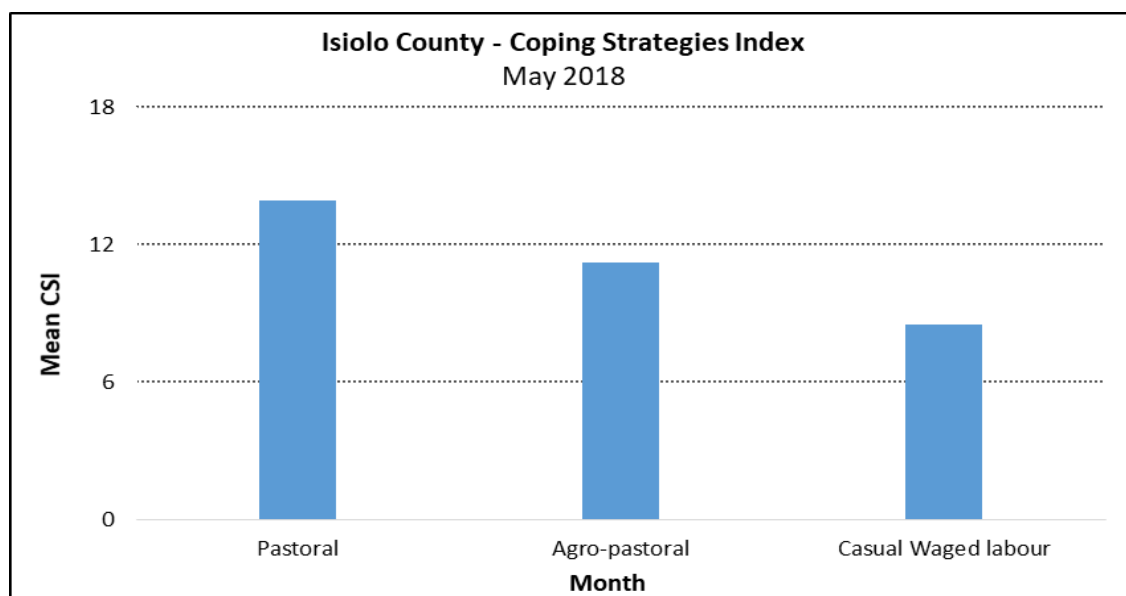


Figure 16: A graph showing the monthly reduced Coping Strategies Index

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
Provision of Non-Food Items to flood victims	Ngaremara, Charri, Cherab, Sericho	Isiolo	KRCS	1,200 Households
Livestock vaccination	Sericho, Ngaremara Burat	Garbatulla & Isiolo	LVI and Caritas	51,000 sheep and goats
Peace Building	Burat	Isiolo North	Interior NDMA WVI NRT	Loruko
Provision of Food for Fees	All Wards	Merti Garbatulla Isiolo	NDMA	18 Public Secondary Schools
Provision of Water treatment Kits	All Wards	Merti Garbatulla Isiolo	NDMA MOH K-Rapid	Health Facilities
Continuous surveillance of Rift valley Fever which has a likelihood of occurrence due to the prevailing after rains conditions and other diseases	All wards	All sub-counties	Department of Veterinary	All cattle and camel

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
General Food Distribution	All	All sub-counties	County Government and National Government	All households affected by floods
Food for Assets (FFA)	All wards	All sub-counties	National Govt, WFP, Action Aid Kenya	40,000 Beneficiaries

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Cattle rustling have been reported in Loruko in Burat ward where two people were killed and hundreds of cattle heads taken.

7.2 Migration

- All herders of the county have grazed their animals in the traditional grazing areas.
- No migration were reported during the period under review.

7.3 FOOD SECURITY PROGNOSIS

- The county experienced significant biophysical recovery following the enhanced performance of the long rains, both temporally and spatially. The received rains have caused healthy recovery of the county's rangelands resulting in increased availability of pasture and browse. Consequently, water access to both livestock and households improved greatly following full recharge of most permanent and temporary water sources. Distances to grazing areas and water points reduced significantly since the start of the season. However, the flooding water came along with challenges of cold and water borne diseases which posed serious health risks
- Animal and crop productivity are now enhanced as compared to similar periods in the previous years and earmarked for further improvement all livelihood zones. Crop farmers especially the even those who practice under rain fed conditions expect a good harvest, implying that more food will be availed in markets a move that will likely push the prices downwards to the advantage of all livelihoods. With the current recovery in animal body condition, livestock markets have also improved significantly to a point of normalcy. Farmers are therefore set to benefit more from sale of their animals, a move that will strengthen their purchasing power and be more food secure.
- The greater part of the county is stressed food security phase and with a high likelihood of improving to good food security phase.

8. RECOMMENDATIONS

- Scale up food distribution and Non- food items to floods affected areas
- Repair of broken water buffer that has led to flooding
- Drainage of capillaries within the affected areas
- Rehabilitation of latrines in the affected areas
- Continued community sensitization
- Distribution of water treatment chemicals to areas that are experiencing flood and those accessing water from rivers.
- Promote efforts on water and range conservation.
- Initiate campaigns to promote commercial livestock off take and revival of rural markets.
- Reseeding of depleted and bare grazing lands and promote fodder production.
- Promotion of hygiene and sanitation practices
- Provision of certified drought tolerant seeds
- Return of the stolen livestock
- Enhance peace building and conflict resolution