

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



A Vision 2030 Flagship Project



**April 2018 EW Phase**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- The month of April was characterized by heavy downpours 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 improved pasture and browse condition.
- The water levels and availability improved significantly following a significant recharge of river catchments and other temporary water 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 March.
- Crop production was doing well though some sections suffered destruction by ranging floods.

**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 from the previous months 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
<b>County</b>	<b>Normal</b>	<b>Improving</b>
Biophysical Indicators	Value	Normal Range/Value
Rainfall (% of Normal)	209.5mm	>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	2.8 Litres	>1.8 Litres
Livestock deaths (from drought)	No deaths	No death
Livestock Migration Pattern	Normal	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (ToT)	53	>66
Milk Consumption	1.50 Litres	>0.95 Litres
Return distance to water households	0.4km	<2.5km
Cost of water at source (20 litres)	Ksh 1.50	<Ksh. 5.00
Utilization indicators	Value	Range/Value
MUAC	22.1	<14.9
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"> <li>▪ Short rains starts</li> <li>▪ Short dry spell</li> <li>▪ Reduced milk yields</li> <li>▪ Migration to dry season area</li> <li>▪ Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Migration to wet grazing areas</li> <li>▪ Long rains</li> <li>▪ High Calving Rate</li> <li>▪ Milk Yields Increase</li> <li>▪ Reduced pasture/water stress (Normal Scenario)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Long rains harvests</li> <li>▪ A long dry spell</li> <li>▪ Increased distances to water and pasture</li> <li>▪ Reduced water levels</li> <li>▪ Kidding (Sept)</li> <li>▪ Community/HH coping measures taken</li> </ul>	<ul style="list-style-type: none"> <li>▪ Short rains</li> <li>▪ Planting in Agro-pastoral LZ</li> <li>▪ Migration from dry season area</li> <li>▪ Increased milk yield</li> <li>▪ Reduced pasture/water stress (Normal scenario)</li> </ul>								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- The period was characterized by heavy downpours that were spread throughout the county.
- The rains received were significant to the county’s livelihoods though unevenly distributed both temporary and spatially. Some sections such as Isiolo Central experienced more than fifteen rainy days as opposed to other areas with an average of 10 rainy days.

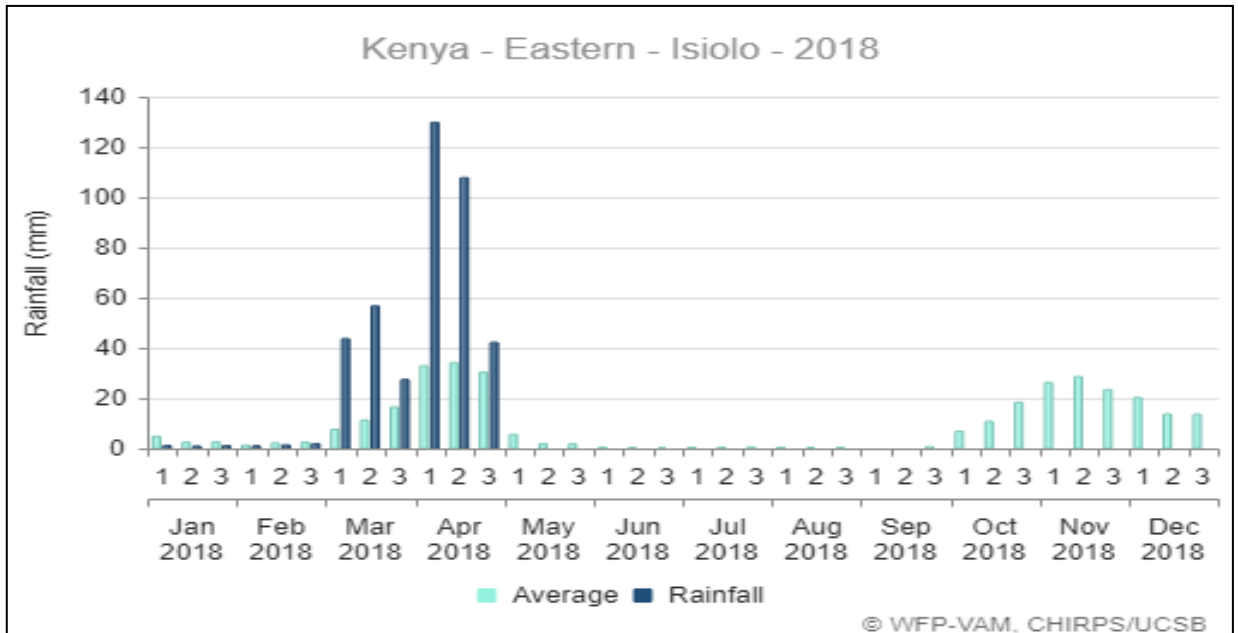


Figure 1: A graph showing the decadal distribution of rain received in the county

## 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The average amount of rainfall received in the county was about 209.5 mm which was received from the first to the fourth week of the month as shown in Figure 1 above.
- There were several incidences of some heavy showers that resulted in destruction of road, water and sewage infrastructure especially in Isiolo Central.
- In the pastoral livelihood zones, a number of boreholes and water supply infrastructure were submerged and others destroyed.

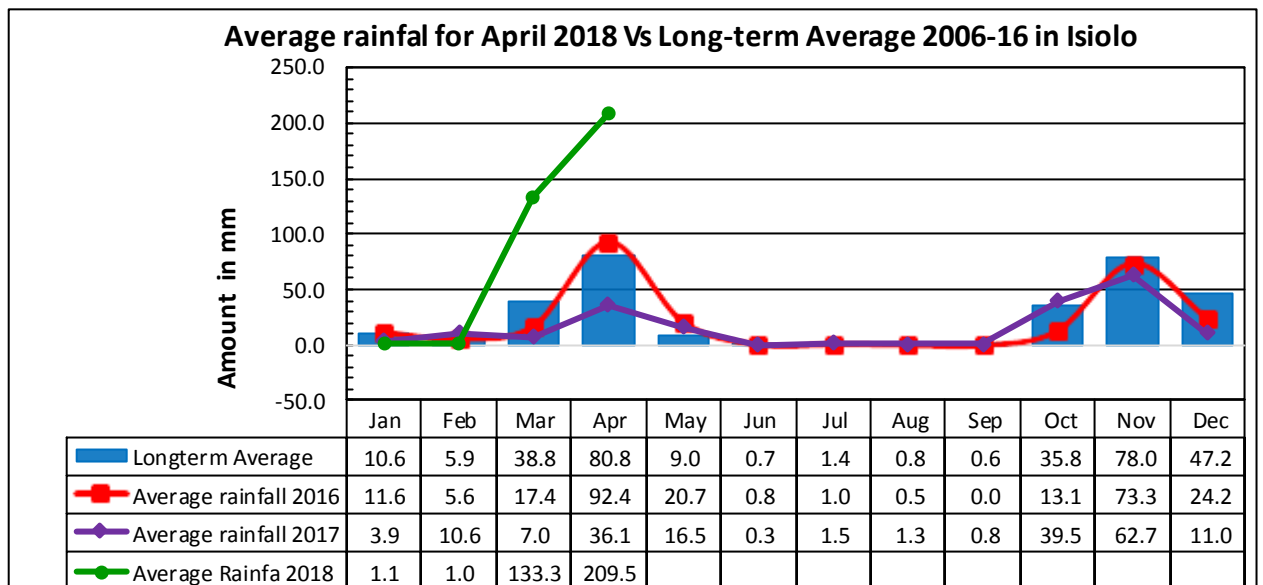


Figure 2: A graph showing monthly rainfall data for Isiolo County

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

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

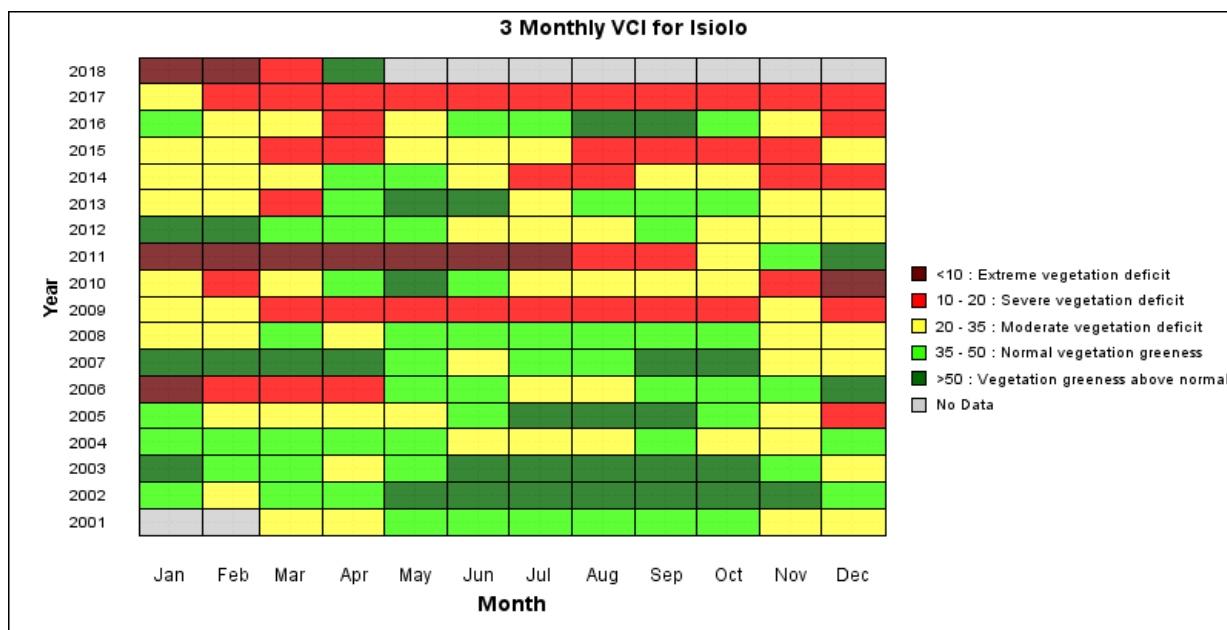


Figure 3: A matrix of 3-Monthly Vegetation Condition Index

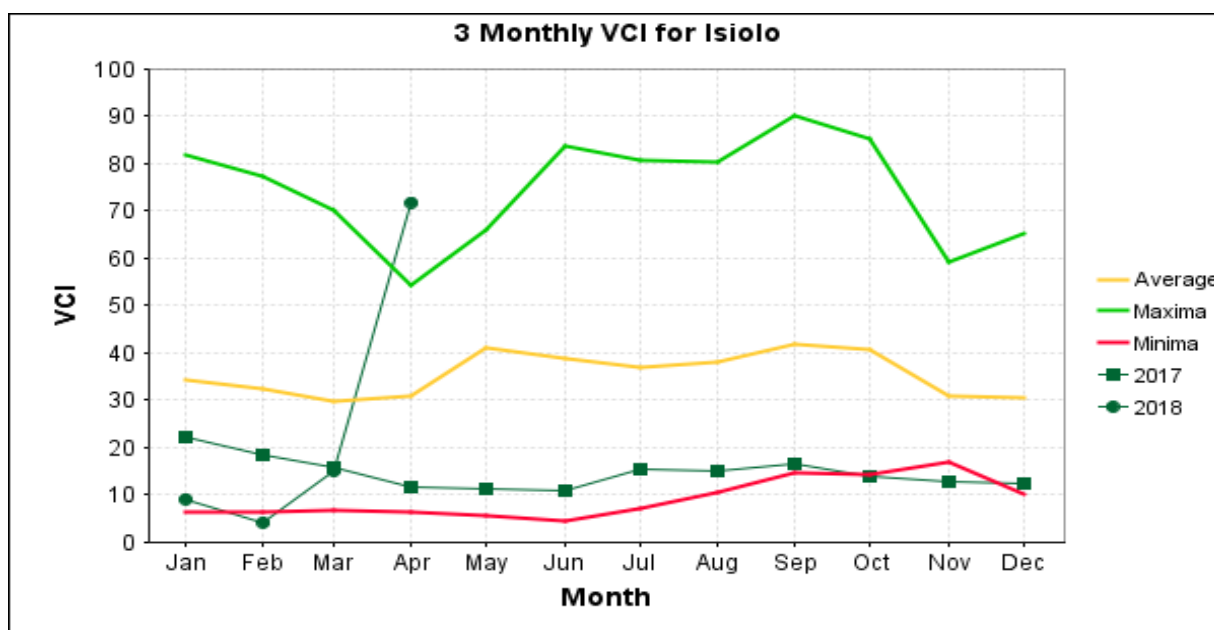


Figure 4: A chart showing the trend of the 3-Monthly Vegetation Condition Index

- The county vegetation condition index improved significantly to above normal greenness threshold of 71.8 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.
- Natural vegetation all over the county is expected to improve further over the month of May.

#### 2.1.2 Pasture

- All communities reported that there was abundant pasture after significant regeneration of pasture across all livelihood zones

- The quantity and quality of pasture was good in most parts of the county attributed to the enhanced rains received in the county since the onset in early March.
- All grazing areas that were bare in the beginning of March are currently covered with flourishing tall grass and herbs.
- Pasture condition was above normal in all livelihood zones

### 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 ongoing regeneration has provided a great recovery to browse all over the county.
- Browse condition was good in all pastoral and agro-pastoral livelihood zones.

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- Water sources during the month were boreholes, water pans, natural ponds and rivers.
- Almost all communities across all the livelihood zones reported accessing water from water pans, rivers and natural ponds.
- The water situation has significantly improved as compared to the previous month and is expected to improve further in the following month as the long rains are expected to continue.
- Reliance on boreholes reduced significantly as several of them were submerged, destroyed and water distribution system (pipelines) damaged.

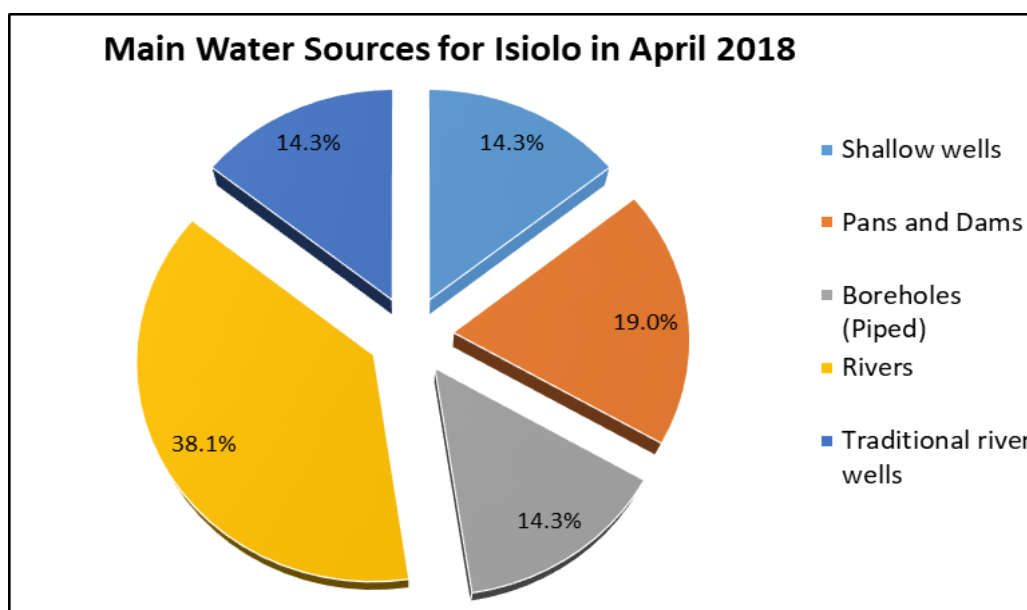


Figure 5: A chart of main water sources in the county

### 2.2.2 Household access and Utilization

- Household water access average distance to water sources decreased significantly from 1.5km to 0.4km over the month under review. This was attributed to the increased recharge of almost all temporary water sources.
- More households were forced to obtain water from rivers, dams and temporary sources such as roof catchments after majority of boreholes and their distribution infrastructure were destroyed by the ravaging floods in the pastoral livelihood zones. However, 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 0.8km while the distance was 0.4km in the Agro-pastoral livelihood zone. The lowest distance of less than 1.0 km 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 1.2 km over the period under review.
- The grazing distances are expected to stabilize in the following two months as herders are now settled in their traditional grazing areas following the ongoing rains.
- Short distances to water points from grazing areas were mainly attributed to the adequate recharge of all water sources 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 metres to 3.0km.

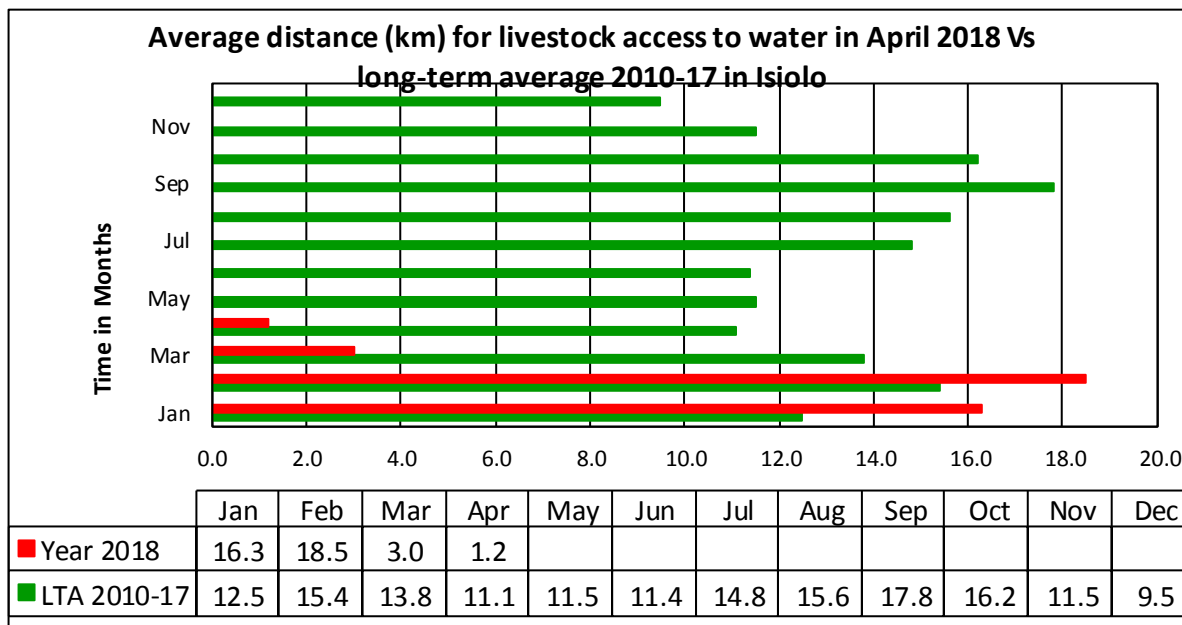


Figure 6: A graph of average distance for livestock water access

### 2.3 IMPLICATION TO FOOD SECURITY

- The county’s vegetation and water condition have had great recovery following the continued reception of rains since March. The level of recovery recorded is way above normal and what was expected and the situation is expected to improve further as the impact of the rains build successfully.
- The recovery of forage resources has brought a widespread optimism in the productive systems especially in the pastoral and agro-pastoral livelihoods. The optimism in animal production has led to a significant reduction in market volumes as herders retain their animals to improve their body condition to enable them fetch better prices in the future markets. To that effect, the prices of animals at the farm and market levels have improved significantly.
- The improved water sources in all livelihood zones is expected to boost agricultural activities both rain fed and irrigated crop farming as well as improve livestock wellbeing as more water is now available to facilitate access for consistent watering.

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- Livestock body condition for all species were good and expected to improve further in all the livelihood zones.
- The animals’ body condition improved significantly for all herds when compared to the previous month and way above the condition recorded during a similar period in a normal year.
- There were losses of animals occasioned by the ranging floods in few parts of the county.
- Animals in all livelihood zones were recovering at a good rate attributed to better access of forage resources and shorter trekking distances when accessing feed and water.

##### 3.1.2 Livestock Diseases

No major disease outbreak was reported during the month under review.

##### 3.1.3 Milk Production

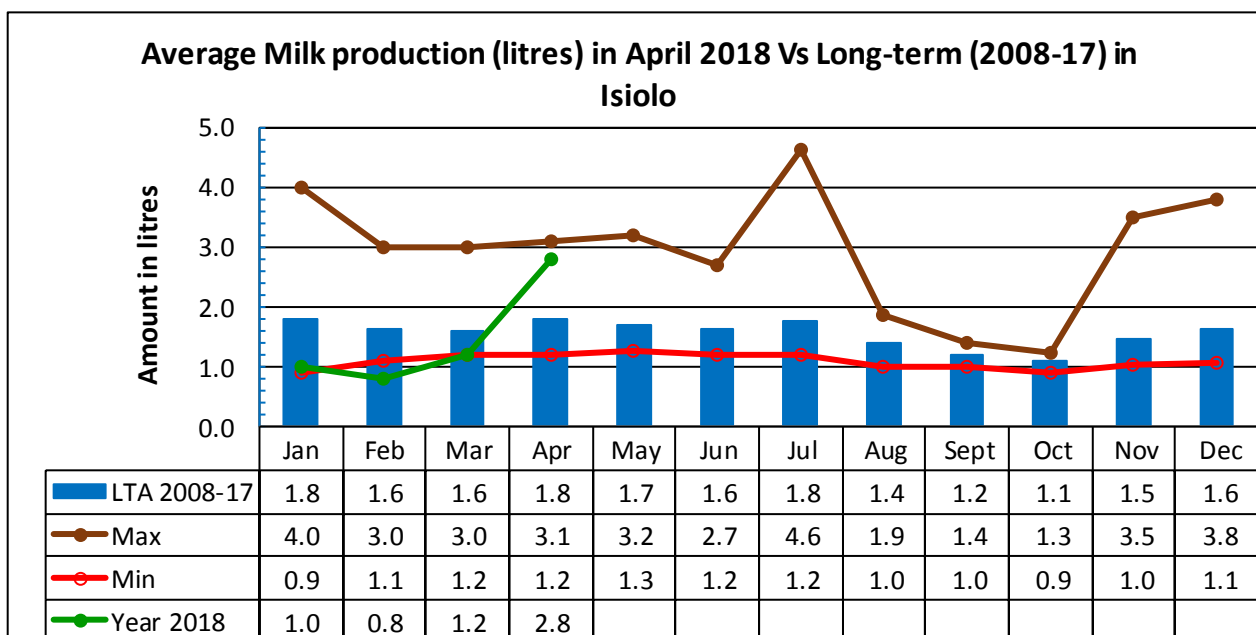


Figure 7: A graph of average milk production in litres

- The average milk produced was significantly improved to 2.8 litres per household as compared to 1.2 litres in the previous month.
- Milk production was fair with a significant improvement over the period under review.
- The production is expected to improve further in the coming months as forage resources condition continue to improve both in terms of quality and quantity.
- Milk production per household was 1.0 litres higher than the 10-year average of 1.8 litres.
- The significant improvement in milk production could be attributed to the improved and better access to regenerating 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 planted include maize, beans, cow peas, green grams and horticultural crops such as tomatoes.
- Most crops grown under rain-fed conditions were in past-mid stages of development and were in good condition.
- A number of farms were destroyed by the ranging floods across the county.
- There were major reported cases of pest invasion or disease infestation on crops in the agro-pastoral livelihood zones.

## **3.3 IMPLICATION OF THE ABOVE INDICATORS TO FOOD SECURITY**

- The short distances of trekking in search of pasture and browse resources provided optimism of a better environment for animal production where animal body conditions and milk production are expected to improve considerably following the recovery of rangelands in all livelihood zones.
- The enhanced rainfall received over the month under review has provided sufficient moisture for adequate crop development to maturity except for flood prone areas where crops were submerged by water.
- The continuity of the current environmental conditions to the month of May has conveyed a lot of optimism to the livestock and crop production sub-sectors, which will greatly contribute towards recovery of the impoverished food security in the county.
- The overall household food security is fair and the current developments triggered by the ongoing rains have improved performance of the major production indicators which will in turn work to improve the level of food security.

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Marketing

#### 4.1.1 Cattle Prices

- The average household cattle prices significantly increased to Ksh 19,200.00 in the month under review compared to Ksh 15,400.00 the previous month.

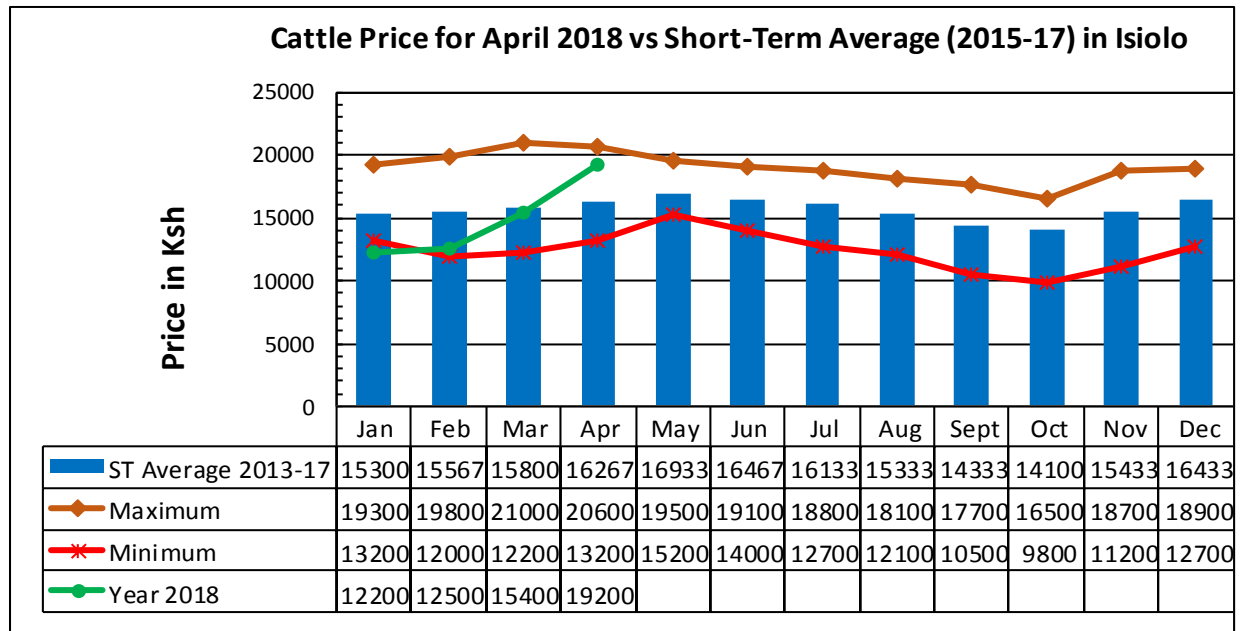


Figure 8: A graph of average farm-gate cattle price

- The highest price was recorded in the agro-pastoral livelihood zone at an average of Ksh.22,000.00.
- The increase in price was partly be attributed to 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 of more than twelve months in a row.
- The current price was above normal being 18 percent above than the five-year short-term average of Ksh.16,267.00 and significantly above the minimum price ever recorded of Ksh 13,200.00.

#### 4.1.2 Small Ruminants Prices (Goat)

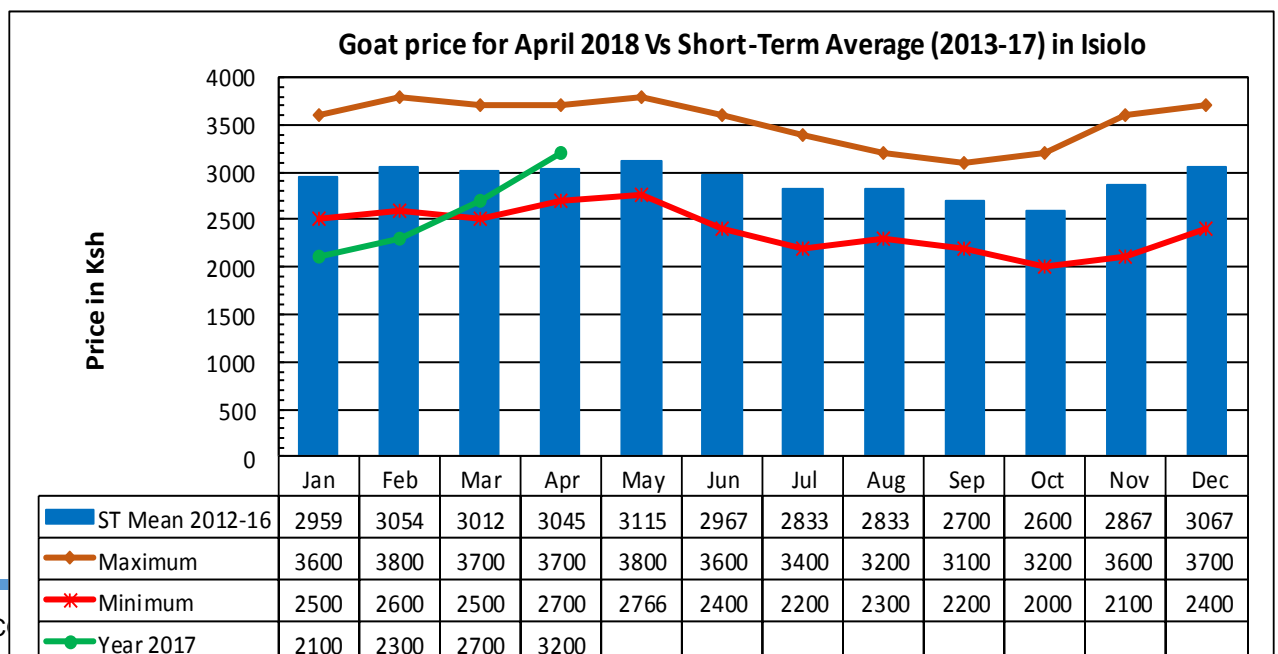




Figure 9: A graph of monthly average farm-gate goat price

- There was a significant increase in the average goat prices to Ksh.3,200.00 in the month under review from Ksh.2,700.00 in the previous month.
- The increase was attributed to a low supply in the number of small stock offered for sale as majority of herders retained most of their herd following the enhanced performance of the rains over the month under review.
- The pastoral livelihood zone recorded the least average price of Ksh.3,000.00 as compared to the agro-pastoral livelihood zone price of Ksh. 3,400.00.
- 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 was stable having increased marginally by Ksh 2.00 to Ksh 60.00 in the month under review.
- The price stabilization of the cereal was attributed to 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 70 percent above the three-year average of Ksh.35.00 and also equal to 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

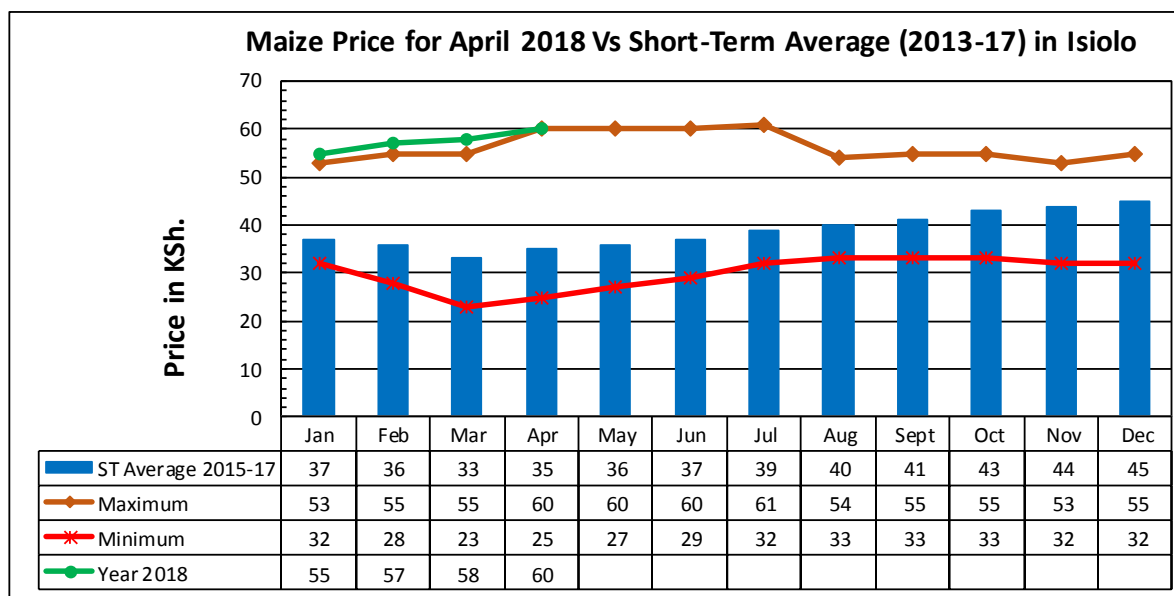


Figure 10: A graph of average maize (cereal) market price in the county

### 4.2.3 Beans

- The county average price of beans stabilized at Ksh 120.00 per kilogram during the month under review.
- 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 supply was interrupted in several pastoral rural markets a factor that occasioned higher prices.
- The price was out of the normal range being 29 percent higher than the short-term average price of Ksh. 92.00 during the same period of the year.

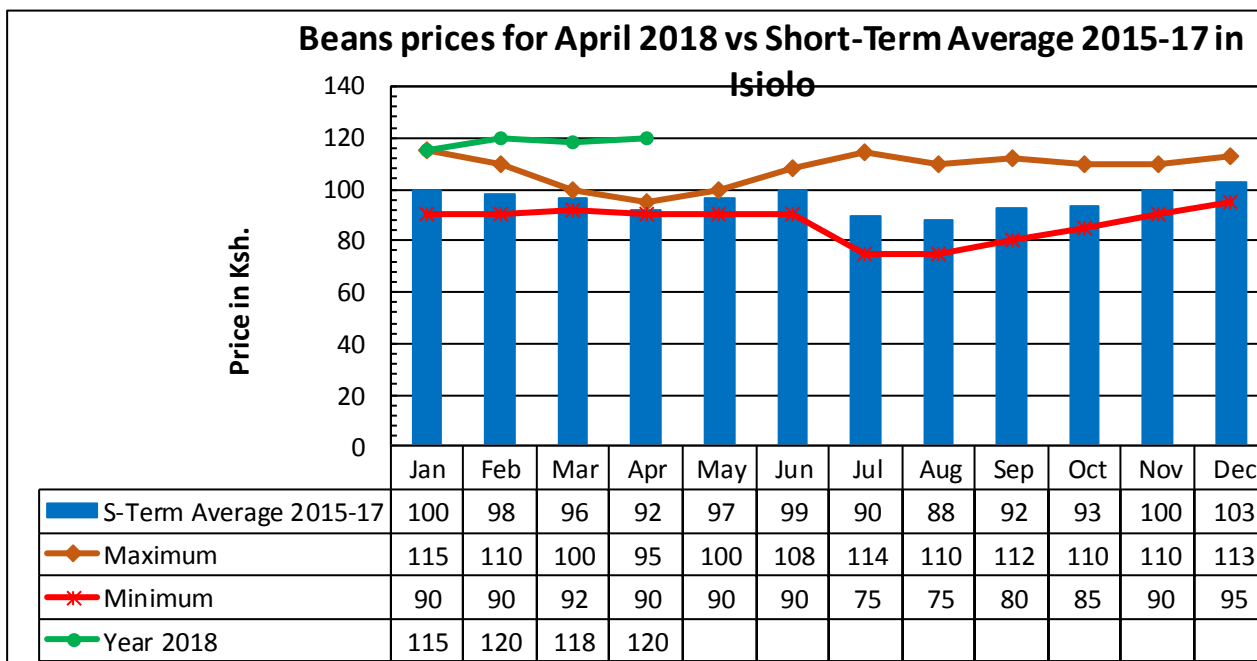


Figure 11: A graph showing average market price for pulses (beans)

### 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 46kg of maize/goat to 53kg of maize/goat in the month under review.
- The ratio was higher in the Agro-pastoral livelihood zone at 56 as compared to 50 in the pastoral livelihood zone.
- The livestock/cereal price ratio was 20.0 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 at farm-gate levels market across all livelihood zones.

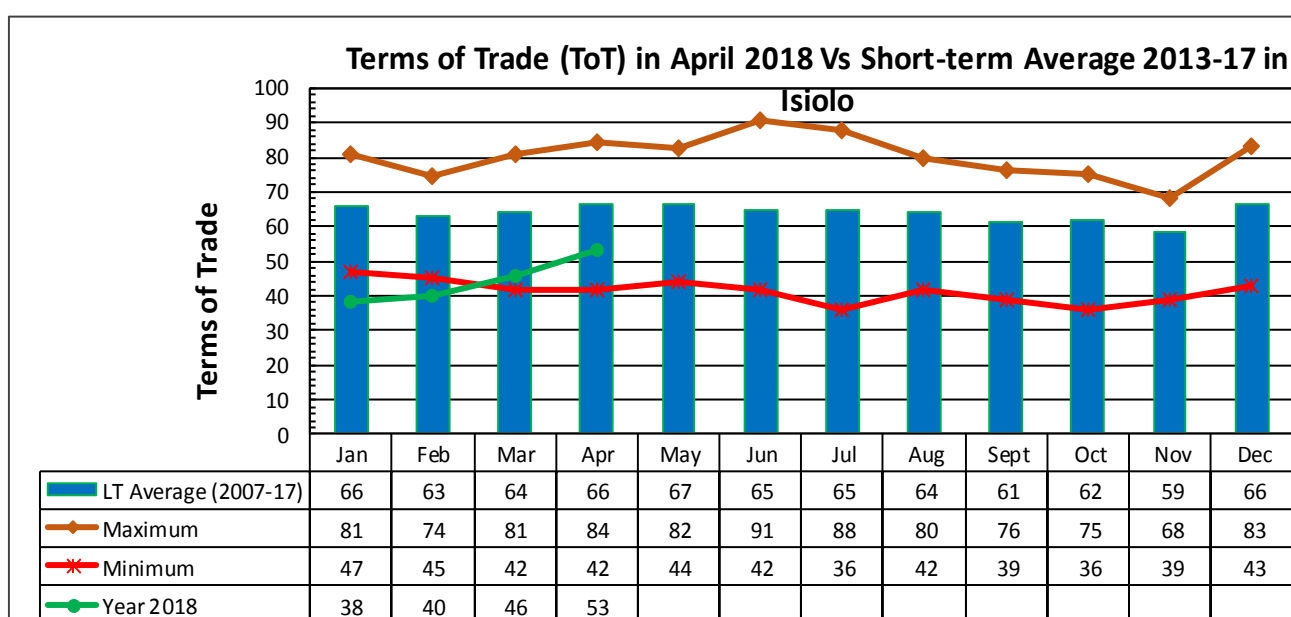


Figure 12: A graph showing the pastoralists' Terms of Trade in the county

## 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 0.85 litres in March to 1.5 litres in the period under review.
- The increment was attributed to subsequent increase in the amount produced as animals continued to recover following adequate availability of pasture browse and water resources.
- The average consumption was normal though being 47.0 percent higher than the short-term average of 0.93 litres attributed to the increased production in the milking households. Most of the milk consumed was from camels.
- The consumption was high in the pastoral livelihood zone litres as compared to other zones.

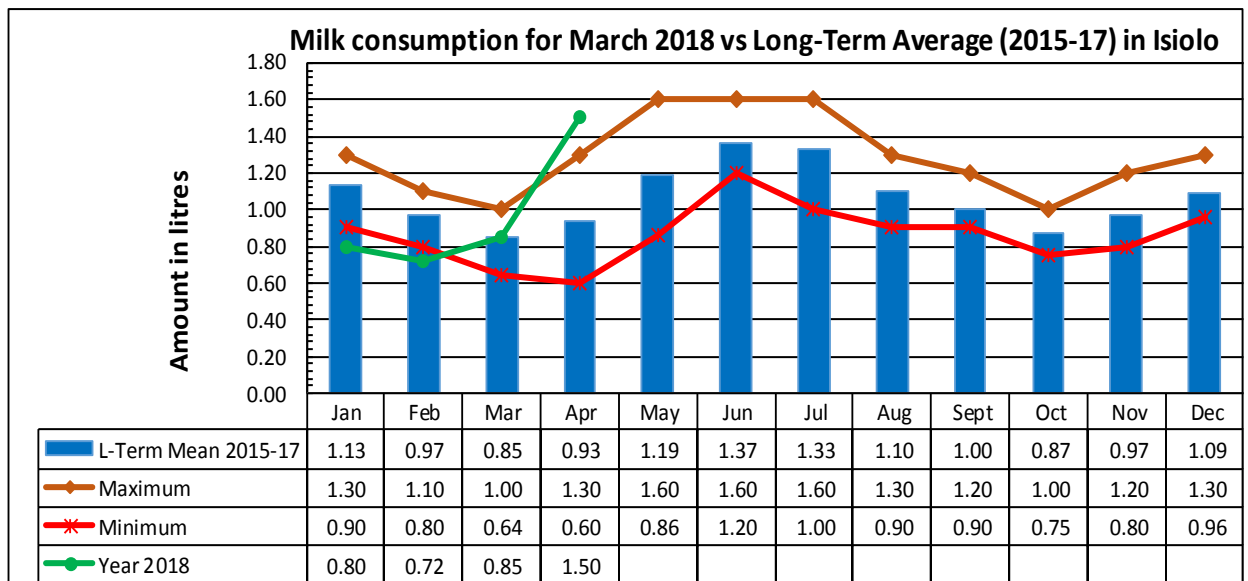


Figure 13: A graph showing the average milk production in the county

### 5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure decreased significantly to 54.1 percent over the month under review, an indication of an improving food consumption patterns.
- 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 and subsequently increased consumption.
- The county's prolonged stressed food insecurity which was more pronounced in the pastoral and agro-pastoral livelihood zones is expected to improve over the next few months as most production and access factors improved significantly following the ongoing rains.

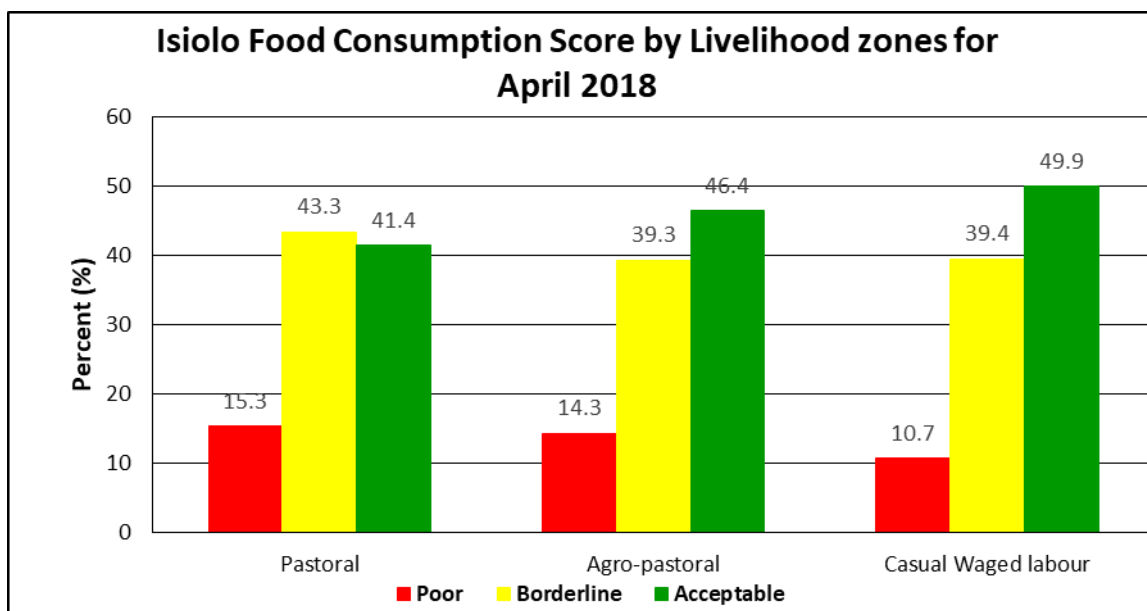


Figure 14: A graph showing the households' food consumption score

- 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 slightly from 24.5 percent in the previous month to 22.1 percent in the period under review.
- The slight improvement was partly attributed to the supplementary feeding interventions implemented such as the Blanket Supplementary Feeding Programme as well as Cash Transfers, and sensitizations being undertaken in the whole county. Improved milk consumption has partly impacted on the food consumption score thereby triggering healthy recovery of children who were at risk of malnutrition.
- 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 14.9 percent implying a worse situation as compared to the long-term mean during this time of the year.
- The level of nutrition is expected to improve following prevailing recovery of production systems following the enhanced rains in the month under review.

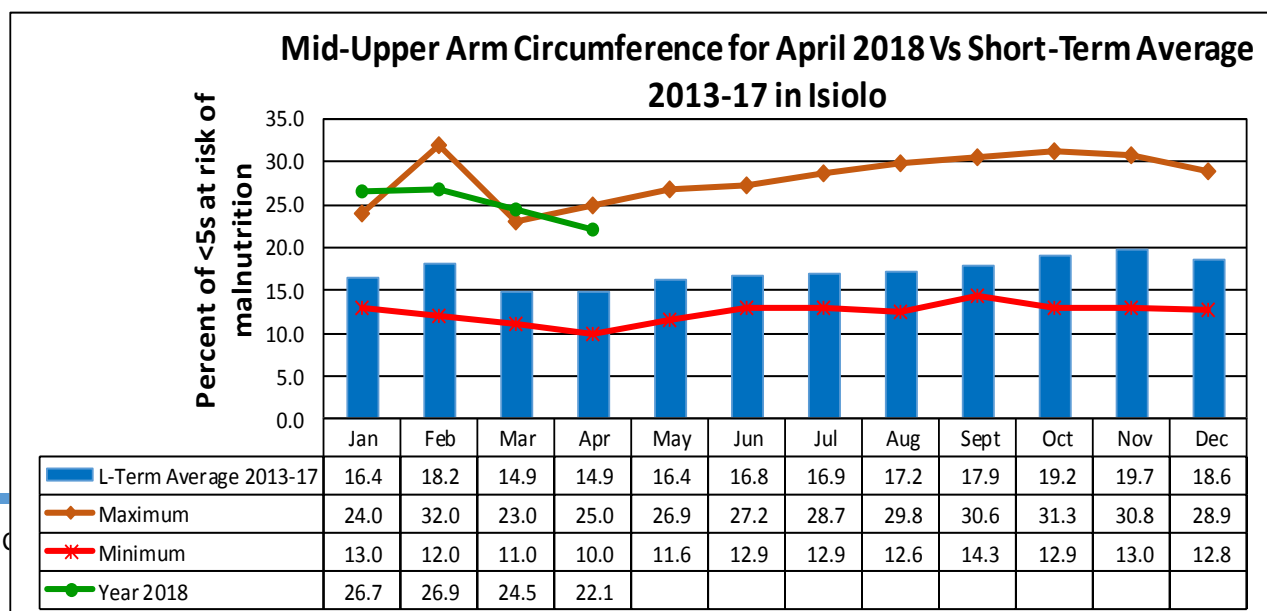


Figure 15: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

### 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.
- Cholera outbreaks have been occasioned by floods that destroyed water and sewerage systems hence causing contamination of 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 13.4 from 20.2 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.

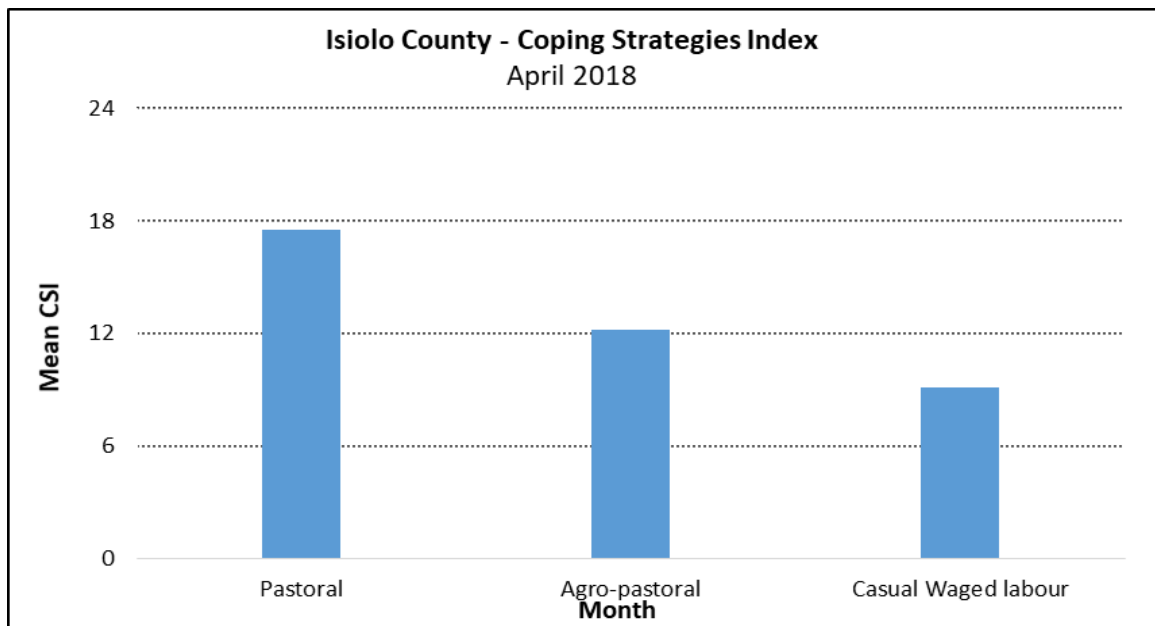


Figure 16: A graph showing the monthly reduced Coping Strategies Index

## 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	Garbatulla, Cherab, Charri Kinna and Burat	Merti Garbatulla Isiolo	Interior NDMA WVI NRT	Kom Belgesh, Eskot, Duse, Ngarendare, Sericho
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

### 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
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	Sericho, Oldonyiro, Garbatulla, Chari and Cherab	All sub-counties	KRCS	5,700 Households
Food for Assets (FFA)	All wards	All sub-counties	National Govt, WFP, Action Aid Kenya	60,000 Beneficiaries

## **7. EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement**

- No incidences of conflicts have been reported during the month under review.

### **7.2 Migration**

- Majority of herders have returned to the traditional grazing areas.
- No migrations were reported during the period under review.

### **7.3 FOOD SECURITY PROGNOSIS**

- The county drought status returned drastically to normal Stage and the trend is likely to improve further given the enhanced performance of the ongoing rains both temporally and spatially in all livelihood zones. The received rains have caused healthy recovery of rangelands in all livelihood zones of the county where forage and water resources are now at abundant and in better condition when compared to the long-term average condition experienced in a span of more than two years.
- Livestock and households are now able to get more water at shorter distances than before but the challenge of cold and water borne diseases poses a potential health risk.
- Animal and crop production were severely affected by the successive failed rainy seasons but all are recovering gradually following the ongoing rains. Migrations have since stopped as herders embark on utilizing forage resources in traditional grazing areas where distances to water sources are in the period's lowest.
- With the current recovery trend where animal body conditions are improving gradually, livestock markets are gaining normalcy and farmers are set to benefit more from sale of their animals, a move that will strengthen their purchasing power, therefore become 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 if the ongoing March-April-May long rains season perform well in the month of May.
- The rains are expected to cease during the month of May as projected by the Kenya Meteorology Department.

## **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 capillaries within the affected areas
- Rehabilitation of latrines in the affected areas
- Continued community sensitization
- Integrated medical and nutrition outreaches
- 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