

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



A Vision 2030 Flagship Project



**June 2018 EW Phase**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- The month of June was characterized by intermittent patterns of sunny and cloud cover as dry spell winds began.
- The 3-Month Vegetation Condition Index (VCI) reduced significantly but still above the normal vegetation condition.
- There was abundant pasture and browse availability in all the livelihood zone.
- The water levels in rivers drops significantly. Availability in all sources was good following a significant recharge during the ended rainfall season.

**Socio Economic Indicators (Impact Indicators)**

**Production Indicators**

- Livestock body condition for all species was good in all livelihood zones.
- Milk production stabilized compared to the previous month.
- Crop production was doing well with cereals such as maize in maturing stages. Legumes were harvested during the period under review.

**Access Indicators**

- Livestock prices improved during the month while food commodities prices reduced.
- Household milk consumption improved marginally.

**Utilization Indicators**

- Malnutrition levels among children under 5 year's shows a significant reduction as compared to 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)	0.5mm	>0.7mm
VCI-3month (Isiolo)	99.4	Above Normal
Water Sources	5	5
Production Indicators	Value	Normal
Livestock Body Condition	Good	Fair to Good
Milk Production	3.6 Litres	>1.6 Litres
Livestock deaths (from drought)	No deaths	No death
Livestock Migration Pattern	No migrations	Normal
Access Indicators	Value	Normal
Terms of Trade (ToT)	65	>6
Milk Consumption	1.80 Litres	>1.37 Litres
Return distance to water households	0.7km	<3.3km
Cost of water at source (20 litres)	Ksh 2.00	<Ksh. 5.00
Utilization indicators	Value	Range/Value
MUAC	16.7 percent	<16.8 percent
Coping Strategy Index (CSI)	8.8	>20.0
Food Consumption	56.6 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 intermittent intervals of sunny and cloudy weather and onset of strong winds. There were instances of light showers at the beginning of the month.
- The impact of the rains whose cessation was experienced in the previous month were still clear in all livelihood zones.
- The rainfall season whose performance was above normal was a relief to the county's pastoral and agro-pastoral livelihoods.

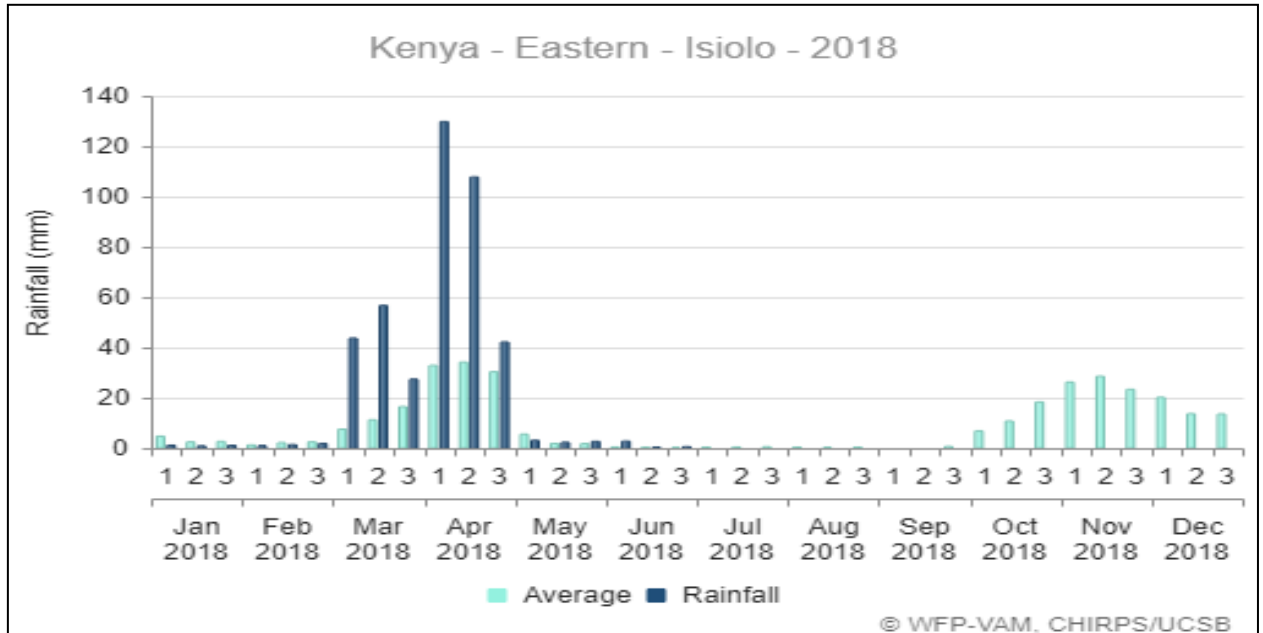


Figure 1: A graph showing the decadal distribution of rain received in the county

## 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The average amount of rainfall received in the county was less than 1.0mm which was received during the first week of the month under review as the cold season kicked off.
- Cessation of the long rains season (March-April-May) was experienced in the second and last dekad of the previous month.
- Light showers were experienced in Isiolo Central, mainly a spill over of the precipitation being experienced around the Mountainous zone of Mt. Kenya.

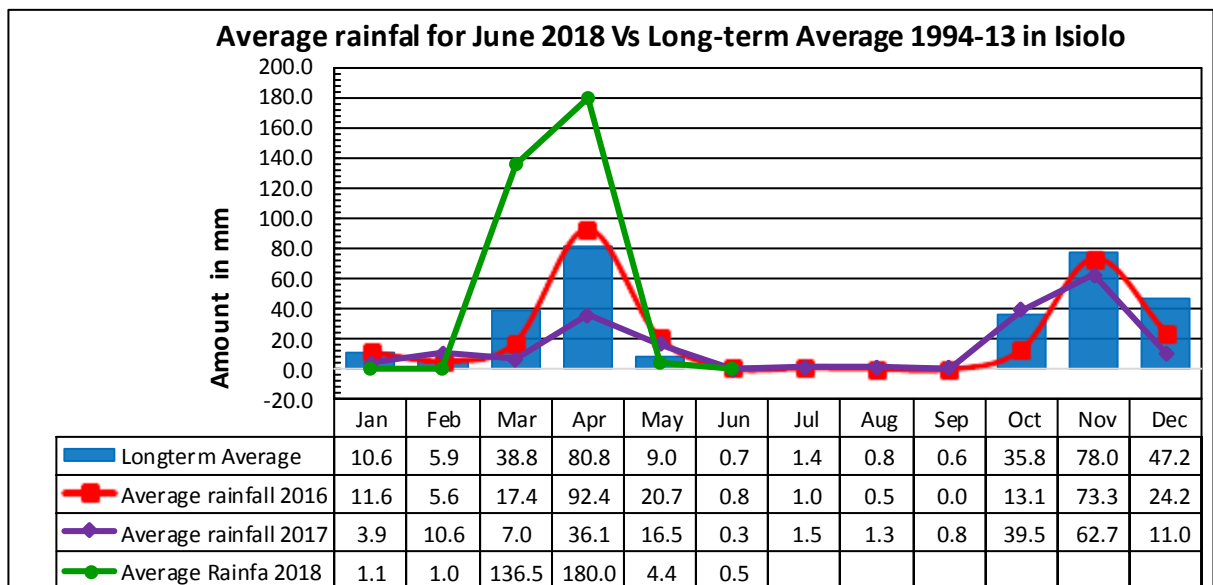


Figure 2: A graph showing monthly rainfall data for Isiolo County

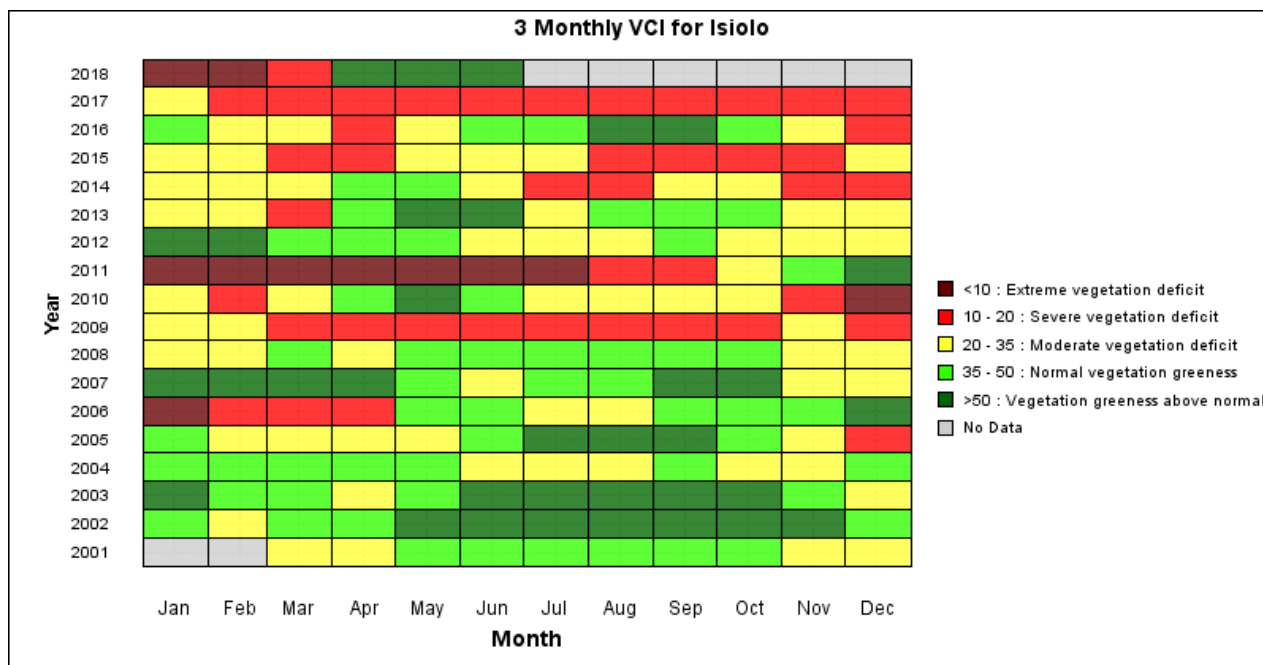
## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

- The matrix below illustrates June 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 vegetation condition index reduced slightly but maintained at above normal greenness threshold of 99.2. The above normal greenness condition recorded implies an overall good condition of natural vegetation in the entire county having recovered significantly as a result of the enhanced rains in the March-April-May season.
- 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 the pastoral and agro-pastoral 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.

#### 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 especially in the pastoral and agro-pastoral livelihood zones reported accessing water from water pans, rivers, natural ponds and piped water sourced from boreholes or rivers.
- The water situation was stable in the month under review 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 moderate as communities relied on temporary sources such as water pans, rivers wells and shallow wells.

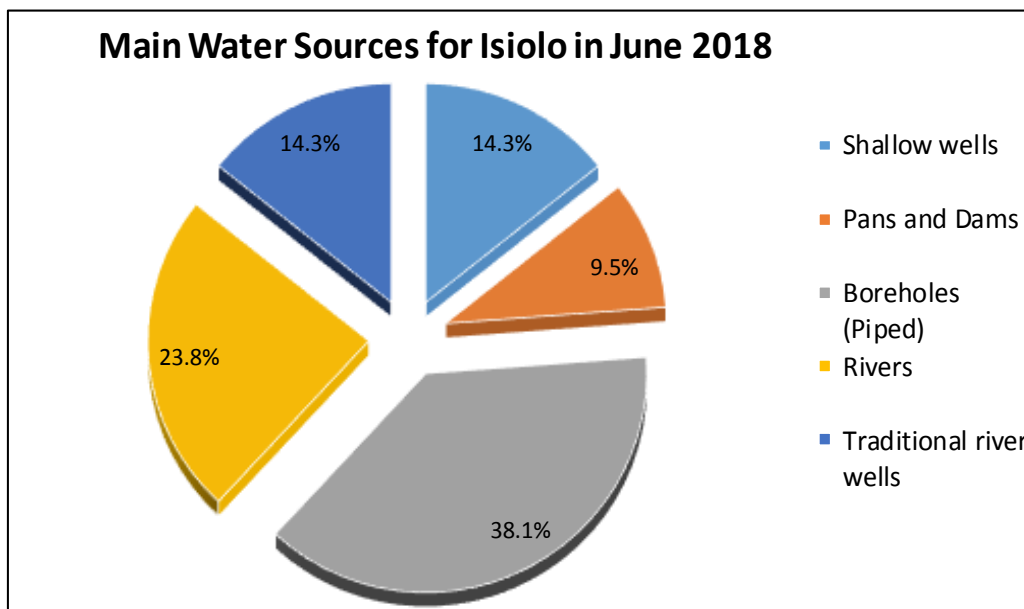


Figure 4: A chart of main water sources in the county

### 2.2.2 Household access and Utilization

- Household water access distance to the sources increased insignificantly to an average of 0.70km over the period under review. This was attributed to availability of water in most temporary water sources in addition to the permanent ones across the county.
- A great proportion obtained water from taps at kiosks and homestead pipes sourcing water from rivers and powered boreholes.
- The cost of water from piped systems remained at low during the month under review.
- The waiting time was remained low estimated at about 5 minutes in all livelihood zones.
- The average water distance in the pastoral livelihood zones was 1.2km 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 increased slightly to 1.9km over the period under review from 1.4km in the previous month.
- The grazing distances are expected to have a marginal increase in the before the dry spell sets in August and September as herders utilize water resources within their traditional grazing areas where most temporary sources were fully recharged.
- Short distances to water points from grazing areas were mainly attributed to the adequate water available as well as abundant pasture and browse availability.
- 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.

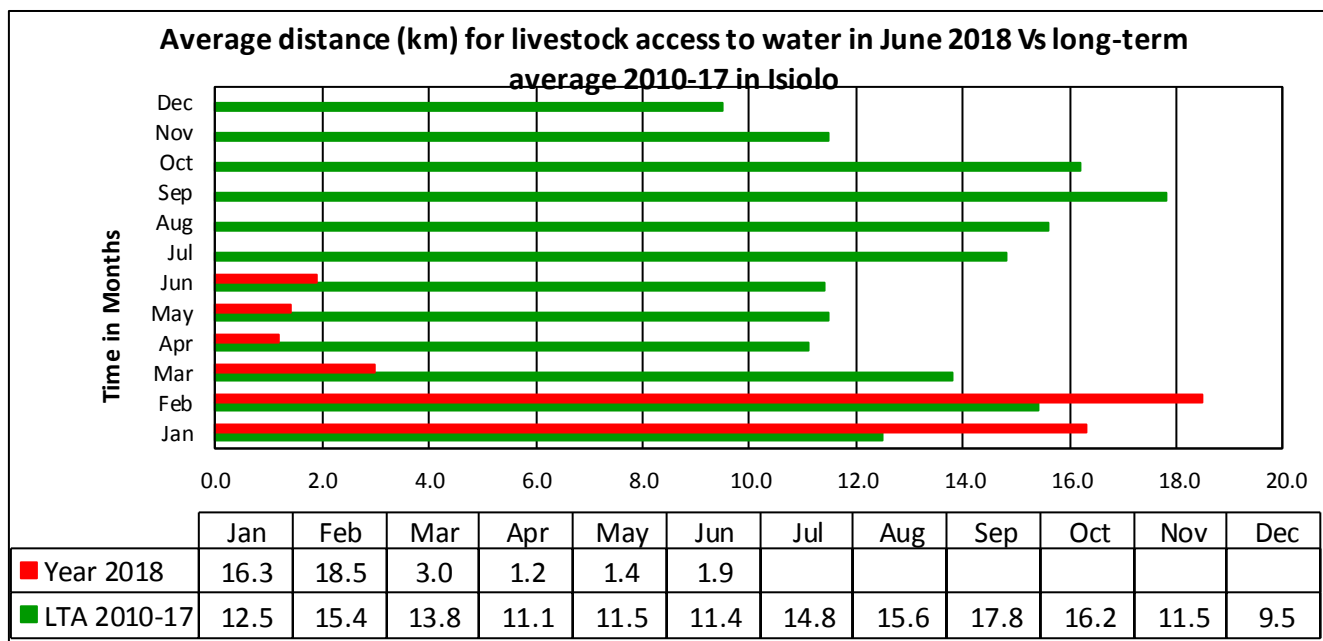


Figure 5: A graph of average distance for livestock water access

### 2.3 IMPLICATION TO FOOD SECURITY

- The county's rangelands have had a significant recovery following the enhanced rainfall performance in the March-April-May rainy season.
- The resultant abundance of browse and pasture and water in the agro-pastoral and pastoral livelihood zones is projected to last until onset of the next rainy season implying that animal productivity will be enhanced for a significant period of time. Improved animal productivity directly impacts on pastoral households' incomes and eventually higher terms of trade for the pastoralists hence improved food security.
- Similarly crop production under rainfed system has been enhanced and therefore significant harvests are expected, therefore geared to improve household food reserves and a subsequent drop in market prices of legumes, cereals and vegetables.

### 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.
- All livestock species in all livelihood zones were observed and reported to be at a good recovery level attributed to enhanced access to better amounts of forage resources and shorter trekking distances when accessing feed and water.

##### 3.1.2 Livestock Diseases

- There were confirmed cases of Rift Valley Fever in several parts of the county most notably Sericho, Merti and Isiolo Central. The outbreak of the disease led to closure of all livestock markets and slaughter houses. Massive vaccinations have been commissioned to counter spread of the dangerous disease.
- CCPP an endemic disease cases also reported in Garbatulla, Oldonyiro and Kinna.
- A sharp upsurge of parasites such as tse tse fly and mosquitoes was reported in most parts of the pastoral livelihood zones with tall grasses.

##### 3.1.3 Milk Production

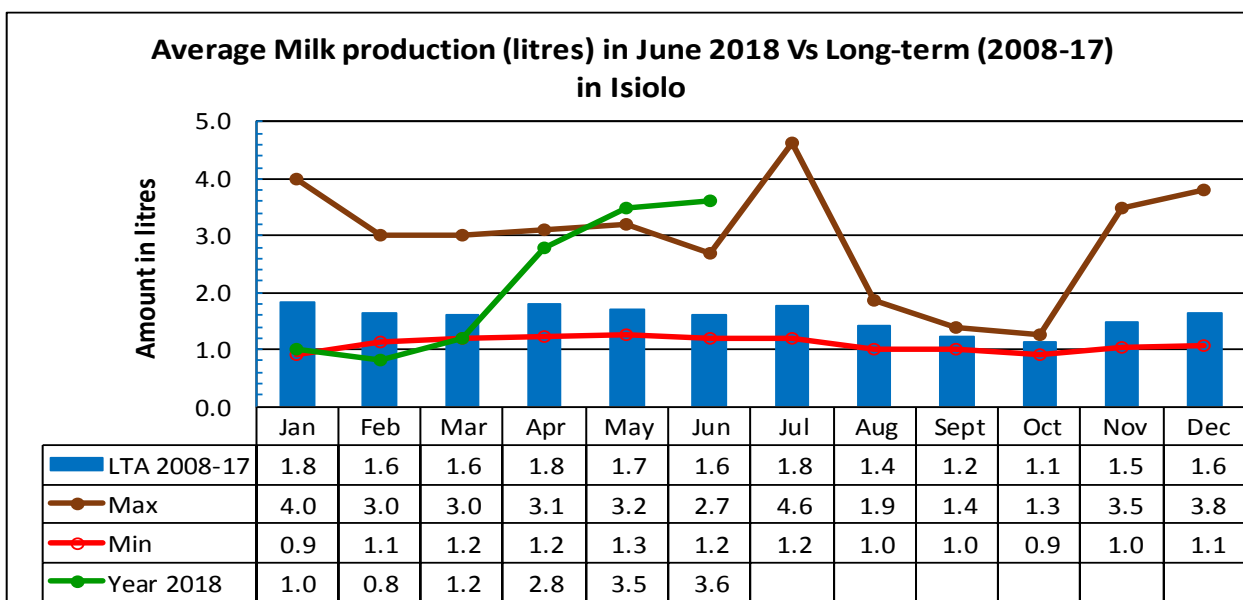


Figure 6: A graph of average milk production in litres

- The average milk produced stabilized at 3.6 litres per household.
- Milk production was good with a significant improvement since the beginning of the rainy 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 1.6 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.
- The period under review marked a continuity of the harvesting season where all legumes under rain fed conditions were harvested. The harvesting season began in May and continued in the month under review.
- The cereals, mainly maize mature and was reportedly drying awaiting harvesting in the end of the current month and the following month.

### **3.2.2 EMERGING ISSUES**

- Tree locust had invaded Bulesa location in Merti Sub County but the cases have now reduced.

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

- The county's main livelihood, animal production, reached a substantial level of recovery a factor that boosted the socio-economic welfare of pastoralists due to improved animal productivity.
- Animal prices at the farm-gate and market levels have improved significantly over the course of the rainy season to the end of the month under review, implying that farmers' income increased significantly, 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.
- However, emergence of RVF disease in the county and in the North Eastern regions has already affected the socio-economic recovery after closure of markets and slaughter houses. The impact of the disease will derail food security of majority of the county's pastoral population.

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Marketing

#### 4.1.1 Cattle Prices

- The average household cattle prices significantly increased to Ksh 23,400.00 in the month under review compared from Ksh 22,500.00 in the previous month.

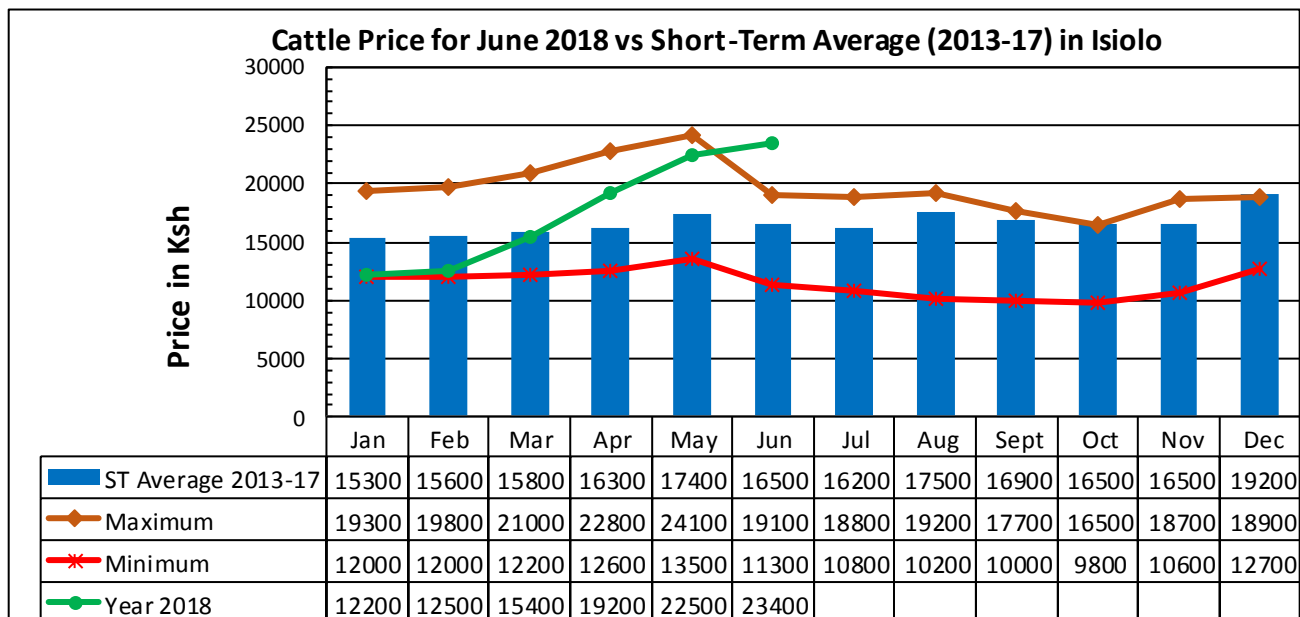


Figure 7: A graph of average farm-gate cattle price

- 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 42 percent above than the five-year short-term average of Ksh.16,500.00 and significantly above the maximum price of Ksh 19,100.00.

#### 4.1.2 Small Ruminants Prices (Goat)

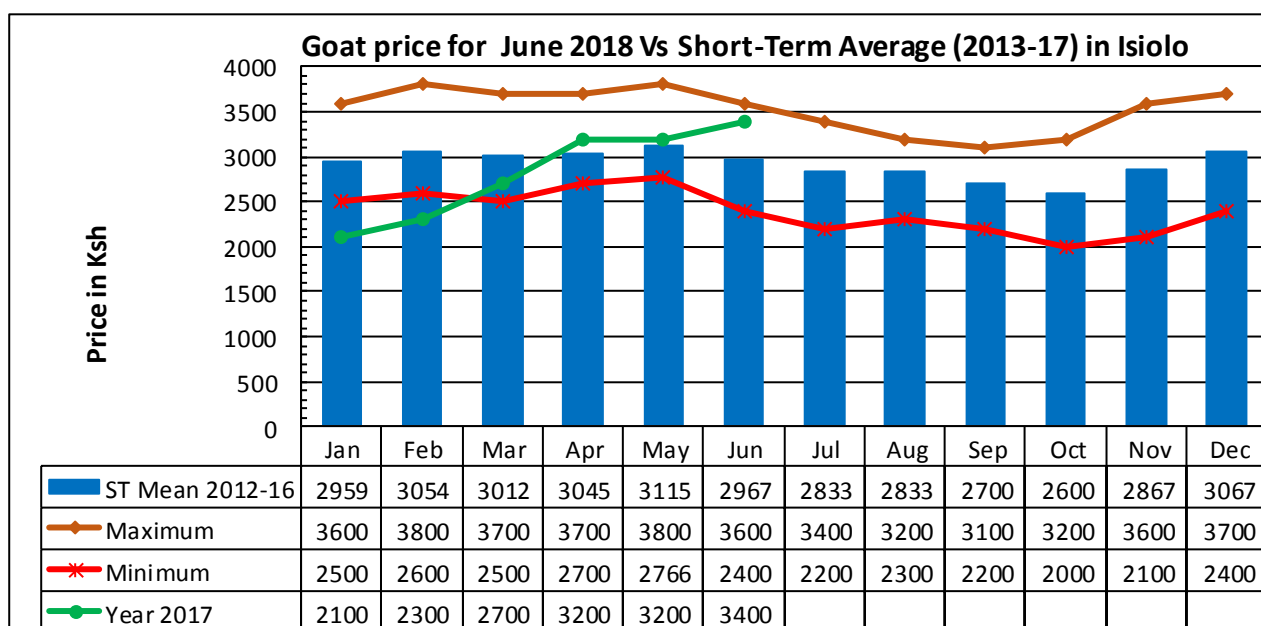


Figure 8: A graph of monthly average farm-gate goat price



- Goat prices increased marginally from Ksh.3,200.00 to Ksh.3,400.00 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 also improved a factor that partially led to a significant improvement in farm-gate and market prices.
- The pastoral livelihood zone recorded the highest average price of Ksh.3,600.00 as compared to the agro-pastoral livelihood zone price of Ksh. 3,300.00.
- The average goat price was slightly above the four-year average of Ksh.3,000.00 and also significantly higher than the period's minimum price of Ksh. 2,400.00.

## 4.2 CROP PRICES

### 4.2.1 Maize

- The average market price of a kilogram of maize reduced significantly from Ksh 58.00 to Ksh 52.00 in the month under review.
- The price reduction of the dry cereal was partially attributed to the increased supply of the cereal in green form since no harvests have been realized so far.
- The average maize price was above normal for the period considering that it was 40 percent higher than the three-year average of Ksh.37.00 and significantly lower than the average maximum price ever recorded for the period in three years' time.
- The cereal was readily available in all major livelihood markets though in limited amounts in some markets attributed to low demand due to low preference over rice and wheat flour.

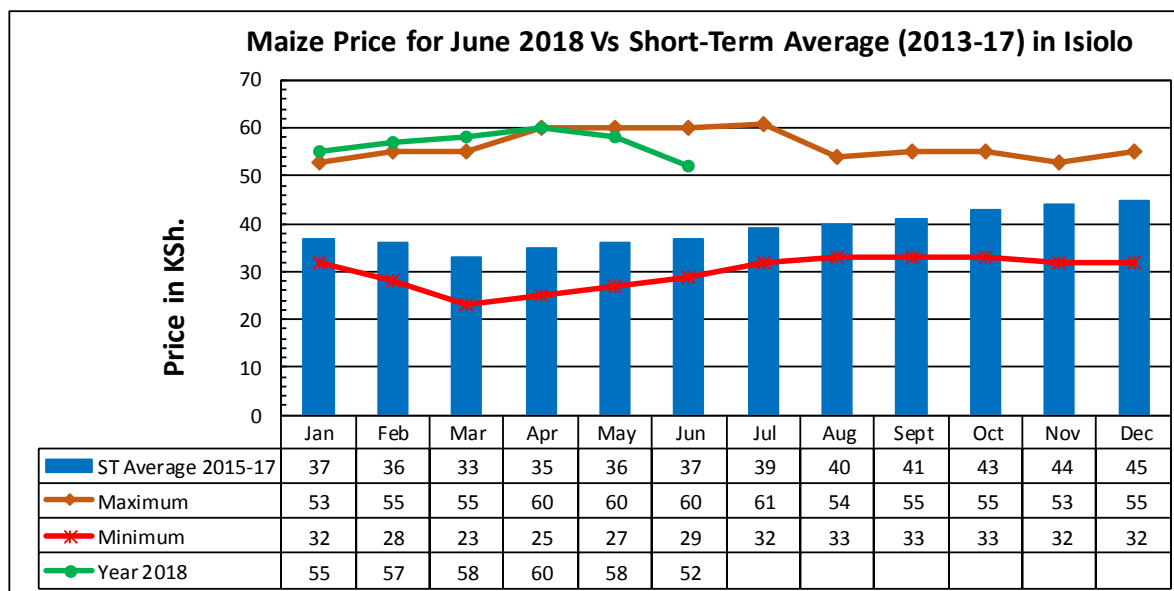


Figure 9: A graph of average maize (cereal) market price in the county

### 4.2.3 Beans

- The county average price of beans reduced from Ksh 110.00 in May to Ksh 105.00 per kilogram during the month under review.
- The pulse's price reduction was attributed to the increasing supply into the market as most of the legumes were harvested in the previous month and the month under review.
- The highest price was recorded in the pastoral livelihood zones of an average of ksh 120.00 while the lowest price was in Isiolo Cetnral at Ksh. 90.00.
- The price was normal being 6 percent higher than the short-term average price of Ksh. 99.00 during the same period of the year.

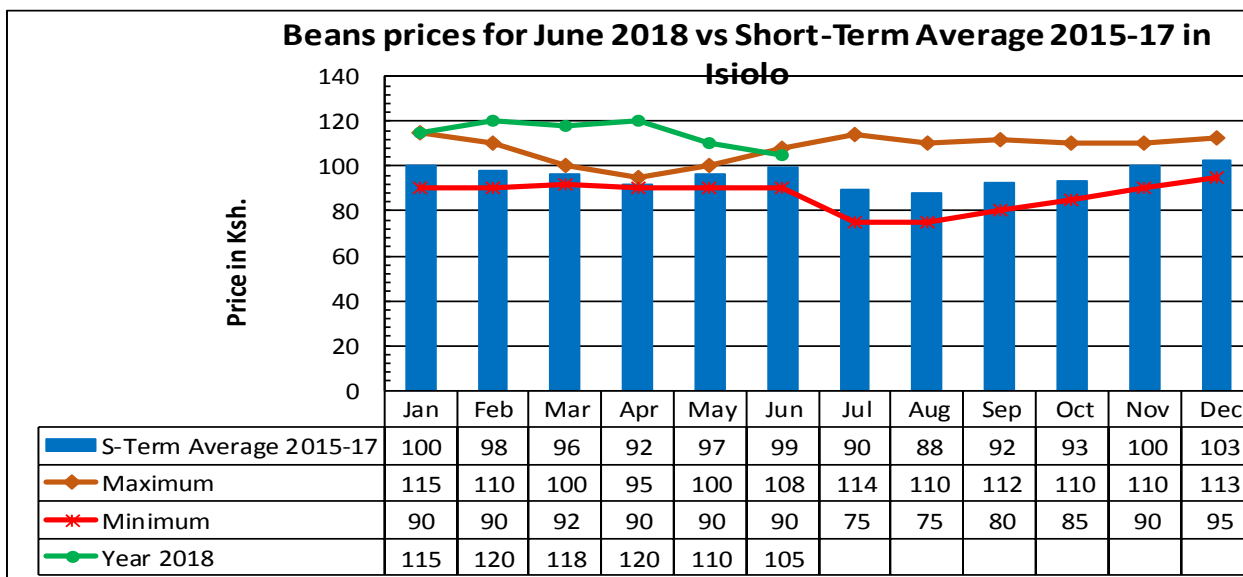


Figure 10: A graph showing average market price for pulses (beans)

### 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) increased significantly from 55kg of goat/maize to 65kg of goat/maize in the month under review.
- The ratio was higher in the pastoral livelihood zone at 63 as compared to 69 in the agro-pastoral livelihood zone.
- The livestock/cereal price ratio was similar to the long-term average.
- 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.

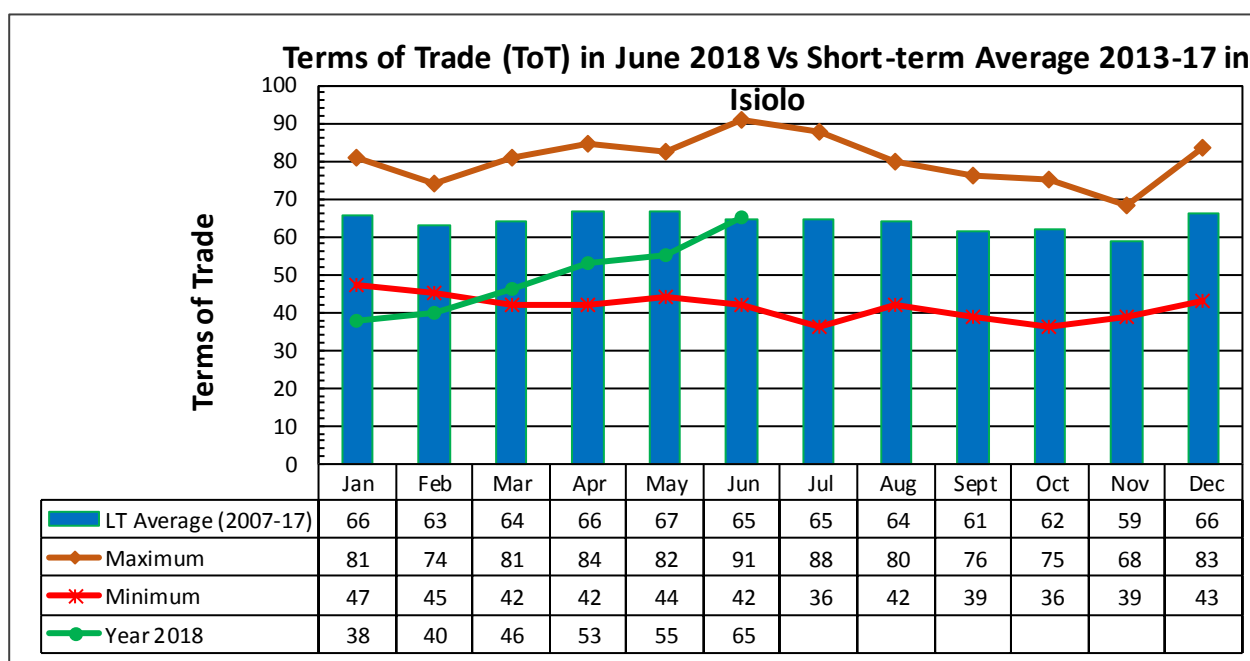


Figure 11: A graph showing the pastoralists' Terms of Trade in the county

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk Consumption

- The average milk consumption per household stabilized at 1.80 litres in the period under review.
- The average milk consumption improved over the period attributed to a significant improvement in milk production in the pastoral and agro-pastoral livelihood zones.
- The average consumption was 31.3 percent higher than the short-term average of 1.37 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.

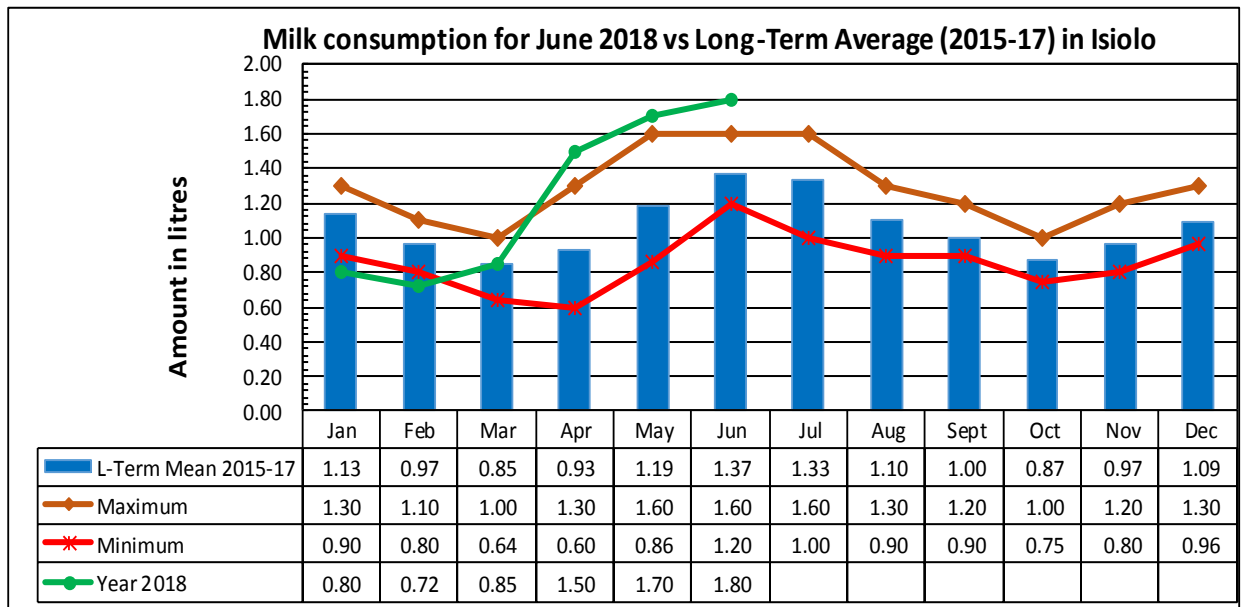


Figure 12: A graph showing the average milk production in the county

### 5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure decreased to 43.4 percent over the month under review, an indication of an improving food consumption patterns.

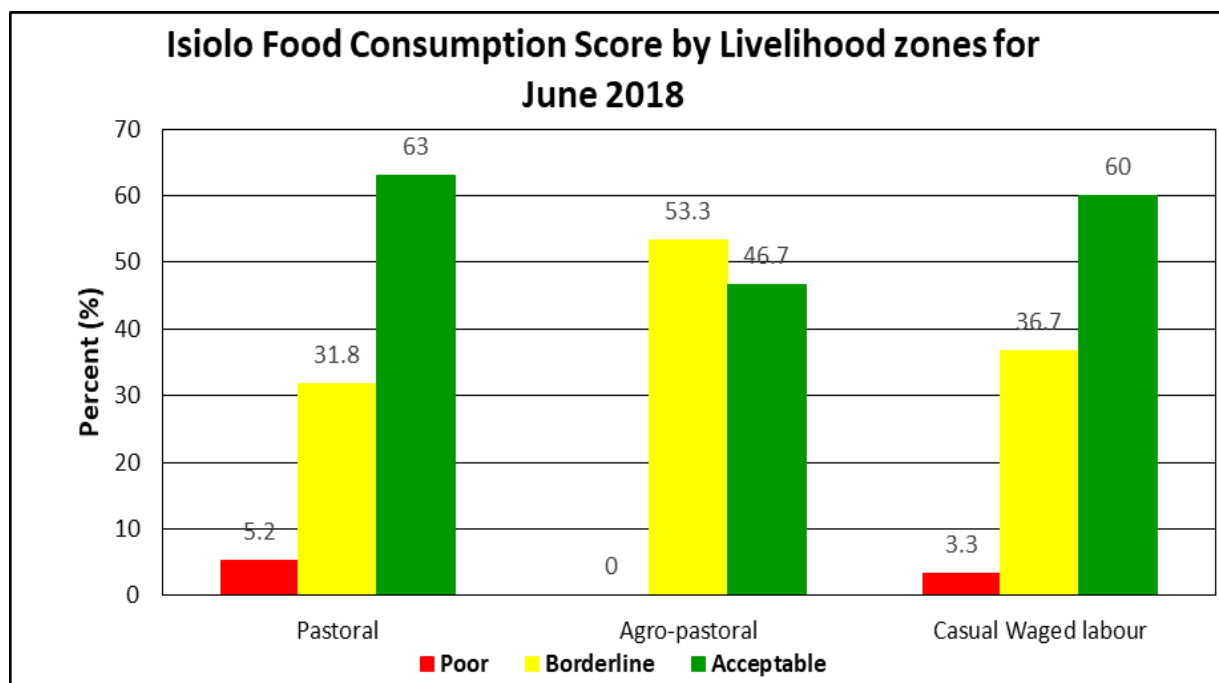


Figure 13: A graph showing the households' food consumption score

- The improving food consumption pattern was attributed to the improved animal and crop production which translated into better access to a better food diversity. 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.
- Further recovery of the pastoral and agro-pastoral livelihood zones is expected over the next few months with the prevailing conducive bio-physical conditions across the county.
- A poor score implies households 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 18.8 percent in the previous month to 16.7 percent in the period under review.
- The improvement was partly attributed to the increased consumption of milk, active 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 slightly below the long-term average of 16.8 percent implying a slightly 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 and access factors induced by the enhanced rains in the ended season.

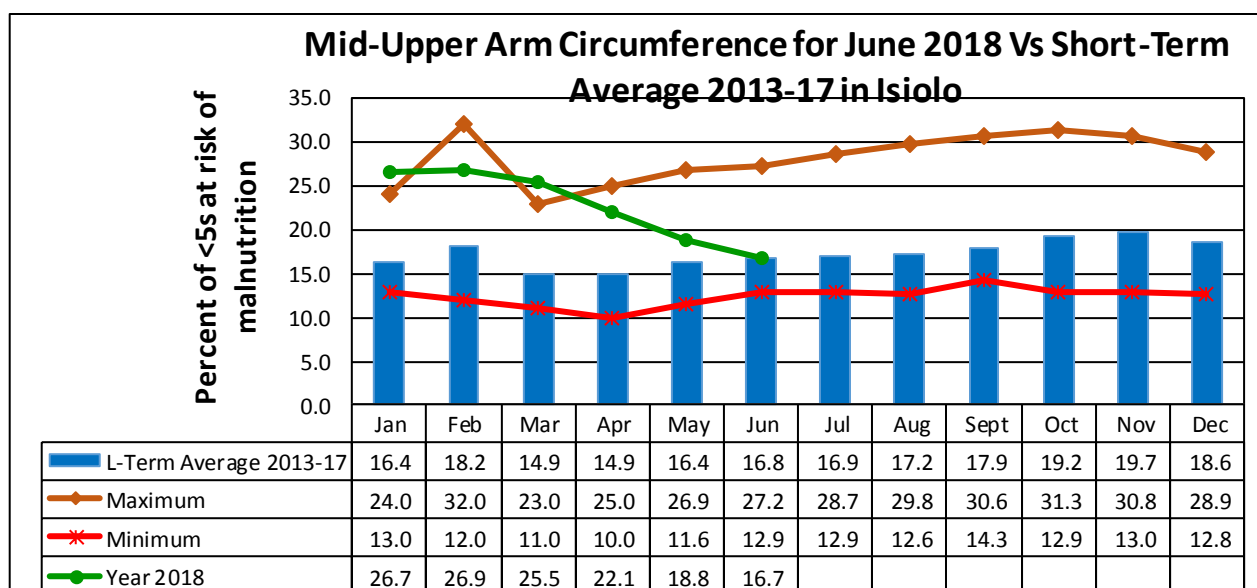


Figure 14: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

### 5.3.2 Health

- The general populations' most prevalent diseases included acute respiratory infections, malaria, skin disease, urinary tract infections and rheumatism.
- Children under five years' most prevalent diseases included the acute respiratory infections, pneumonia, malaria, intestinal worms and skin diseases.
- The morbidity pattern was considerably uniform across in all livelihood zones.

## 5.4 COPING STRATEGIES

- The Coping Strategy Index (CSI) reduced significantly from 12.1 in the previous month to 8.83 in the month under review.
- The reduction in the coping strategy index was attributed to the recovery of production systems which have enabled better access to food commodities following a better terms of trade especially in the pastoral and agro-pastoral livelihood zones.
- The most commonly employed coping mechanisms over the period included reliance on less preferred and or expensive food, reduction of the number of meals, reduction in portion or size of meals.

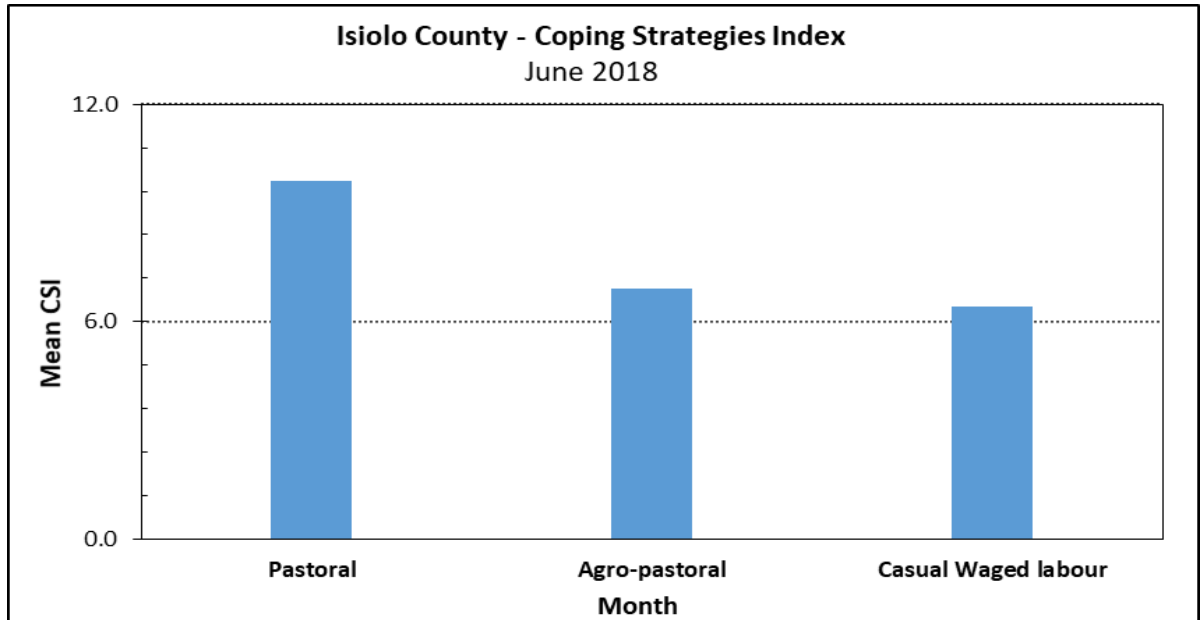


Figure 15: A graph showing the monthly reduced Coping Strategies Index

## 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
Peace Building	Burat	Isiolo North	Interior NDMA WVI NRT	Loruko
Provision of Water treatment Kits	All Wards	Merti Garbatulla Isiolo	NDMA MOH K-Rapid	Health Facilities
Vaccination of all livestock against Rift Valley Fever	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)	Oldonyiro, Burat, GarbaTulla, Kinna	All sub-counties	National Govt, WFP, Action Aid Kenya	40,000 Beneficiaries

## **7. EMERGING ISSUES**

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

- Cases of conflict is reported in Ngaramara area between herders and security officers
- Land conflict also reported in Gambela between Borana and Meru.

### **7.2 Migration**

- All herders of the county have grazed their animals in the traditional grazing areas.
- No migration was 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, hence a significant reduction in grazing distances in the pastoral livelihood zones. Consequently, water access to both livestock and households improved greatly following full recharge of most permanent and temporary water sources.
- Livestock productivity has been enhanced when compared to a similar period in the previous year and in the long-term. Crop farmers especially those who practice rain fed conditions expect a good harvest, while those who practice small scale irrigation along rivers expect a better farming opportunities. This implies more agricultural and horticultural produce will be produced and supplied in the local 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 had improved significantly hence strengthening the socio-economic wellbeing of most pastoral households as terms of trade continued to improve.
- However, the emergence of Rift Valley Fever reported and confirmed in the entire northern region including the county, is likely to derail the ongoing socio-economic recovery especially in the pastoral set ups.
- The greater part of the county is stressed food security phase and with a high likelihood of improving to minimal food security phase.

## **8. RECOMMENDATIONS**

- Provide support for mass vaccination of all livestock species against the deadly Rift Valley Fever.
- Provide support for an active and continuous disease surveillance of all possible disease pandemics.
- Initiate disease vector control, i.e to control insects such as mosquitoes, locusts and tse tse flies.
- Construction and rehabilitation of drainage capillaries especially in Isiolo central
- Rehabilitation of latrines in areas that experienced flooding in April and May.
- Promote efforts on water and range conservation.
- Promote fodder production under irrigation.
- Promotion of hygiene and sanitation practices especially the Community Led Total Sanitation (CLTS).
- Sensitize farmers on storage best practices during this harvesting season, that is, enhance proper and safe storage of the harvested cereals and pulses.
- Sensitize farmers on fodder harvesting and storage.
- Enhance peace building and conflict resolution mechanisms especially in Isiolo Central where cases of cattle rustling have increased.