




National Drought Management Authority
ISILO COUNTY
DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2018

December 2018 EW Phase		Early Warning Phase Classification		
		Livelihood Zone	EW PHASE	TRENDS
		Pastoral-All Species	Normal	Stable
<p>Drought Situation & EW Phase Classification</p> <p>Biophysical Indicators</p> <ul style="list-style-type: none"> The month of December was characterized by mixed weather patterns with intermittent sunny days, mild cloud cover with few poorly distributed rainy days across the county. The 3-Month Vegetation Condition Index (VCI) drastically decreased to moderate vegetation condition. Pasture and browse availability was good in the pastoral and agro-pastoral livelihood zones. Water availability in all sources was fair to good in all livelihood zones. There was poor recharge in all water sources. <p>Socio Economic Indicators (Impact Indicators)</p> <p>Production Indicators</p> <ul style="list-style-type: none"> Livestock body condition for all species was good in all livelihood zones. Milk production increased significantly over the period majorly in the pastoral cattle livelihood zones, e.g. Sericho and Merti Crops under rainfed is doing well in Isiolo central. Other parts are relying on irrigation. Cereals and legume past middle stages of development stages. <p>Access Indicators</p> <ul style="list-style-type: none"> Livestock and food commodities prices increased and stabilized respectively during the month. Household milk consumption increased slightly over the period under review. <p>Utilization Indicators</p> <ul style="list-style-type: none"> Malnutrition levels among children under five year's stabilized during the month. 		Agro-Pastoral	Normal	Stable
		Casual Waged Labour /Charcoal burning	Normal	Stable
		County	Normal	Stable
		Biophysical Indicators	Value	Normal Range/Value
		Rainfall (% of Normal)	47.5mm	>47.2mm
		VCI-3month (Isiolo)	27.8	Below normal
		Water Sources	5	5
		Production Indicators	Value	Normal
		Livestock Body Condition	Good	Fair to Good
		Milk Production	2.4 Litres	>1.6 Litres
Livestock deaths (from drought)	No deaths	No death		
Livestock Migration Pattern	Internal migrations	Normal		
Access Indicators	Value	Normal		
Terms of Trade (ToT)	70	>66		
Milk Consumption	1.7 Litres	>1.1 Litres		
Return distance to water households	1.3km	<2.9 km		
Cost of water at source (20 litres)	Ksh 2.00	<Ksh. 5.00		
Utilization indicators	Value	Range/Value		
MUAC	10.1 percent	<18.6 percent		
Coping Strategy Index (CSI)	7.8	>14.0		
Food Consumption	75.5 Percent Acceptable	<85 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 month was characterized by mixed weather patterns dominated by long intervals of sunshine with few moments of cloud cover and showers.
- A seasonal peak of the rains was experienced in the first and second dekad of the month under review as the season came to a cessation in the third week. The rains were poorly distributed temporary and spatially throughout the season with several parts of the county having experienced less than two rainy days.
- The October-November-December rainy season whose onset was delayed by one month in the entire county ceased in the third to the fourth weeks of the month under review.

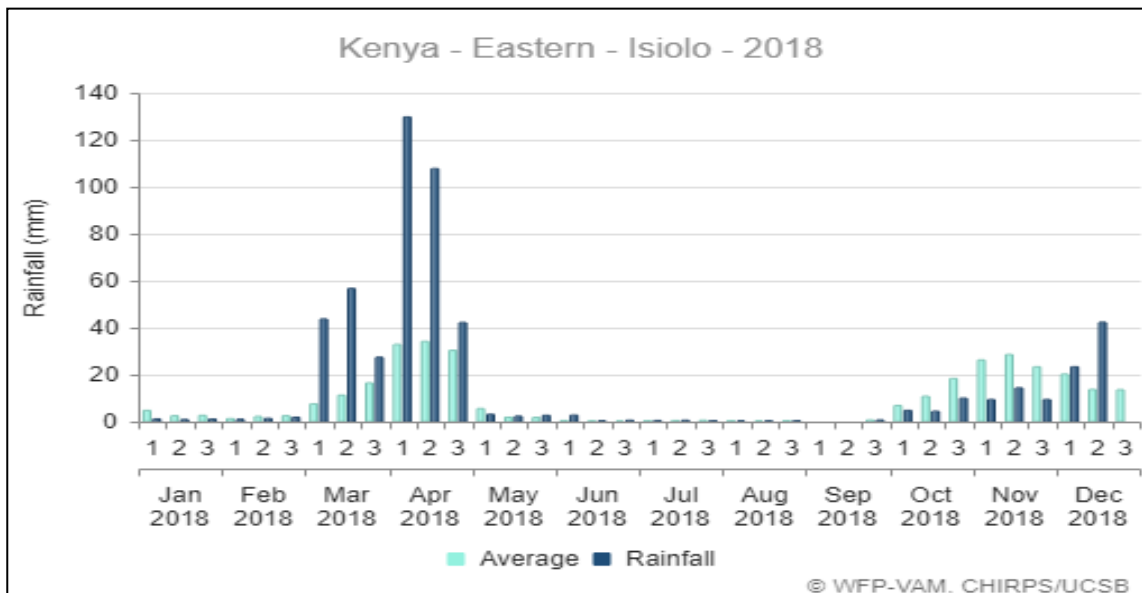


Figure 1: A graph showing the decadal distribution of rain received in the county

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- The average amount of rain received was 47.5mm which was low in amount and poorly distributed both temporarily and spatially.
- Isiolo Central experienced the highest number of rainy since onset with a cumulative amount of obtained a cumulative of 140.4mm while the least was Garbatulla with 31.1mm. Kinna, Oldonyiro, and Merti, received cumulative amounts of 68.5mm, 34.4mm, and 56.0mm respectively.

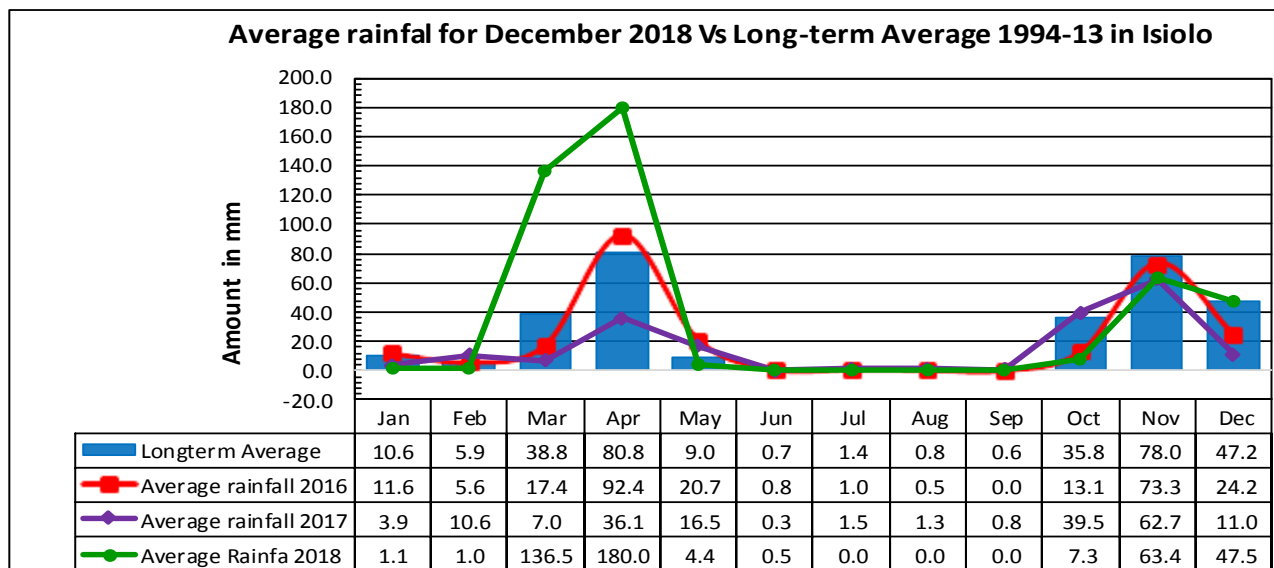


Figure 2: A graph showing monthly rainfall data for Isiolo County

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

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

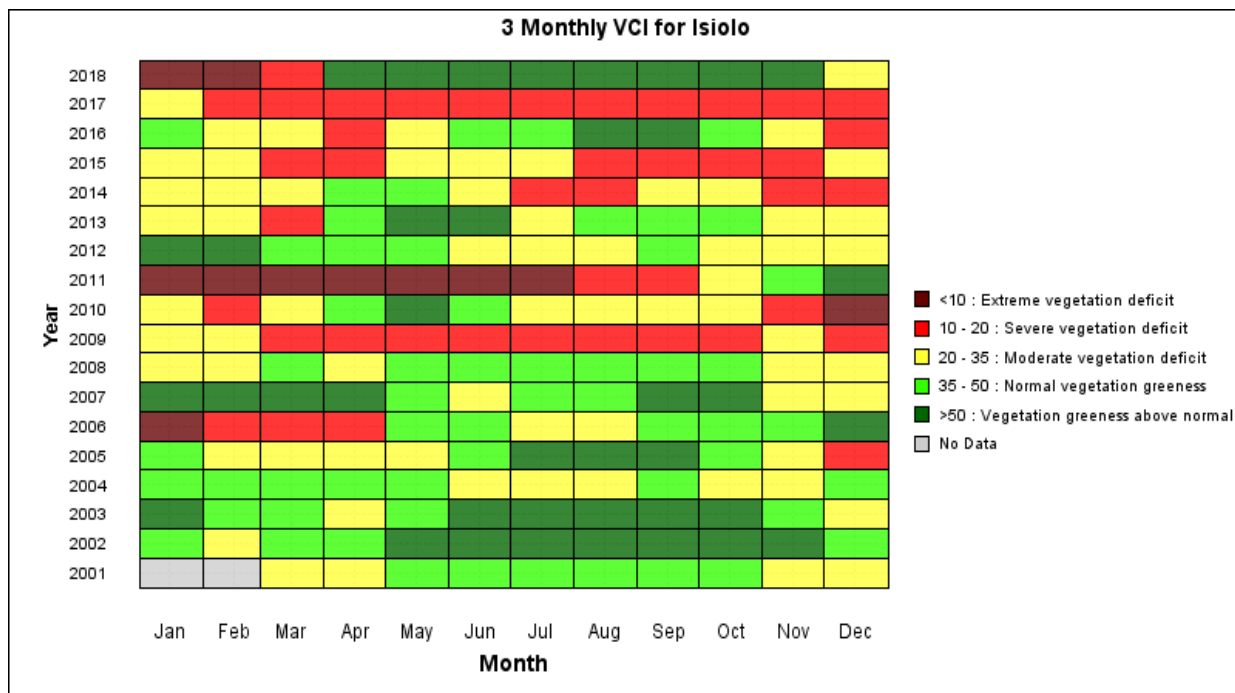


Figure 3: A matrix of 3-Monthly Vegetation Condition Index

- The county vegetation condition index decreased significantly to a threshold of 27.08 from 57.8 in the previous month to a moderate vegetation deficit. The reduction could be attributed to the poor regeneration of natural vegetation following the poorly performed rainy season, which delayed for over a month.
- The moderate vegetation deficit recorded implied that natural vegetation across the county was generally in a poor condition.
- Reduction in the threshold is an indication of significant shift following a partially failed rainy season when compared to the long-term condition in a similar period.

2.1.2 Pasture

- The condition of pasture in the pastoral and agro-pastoral livelihood zone ranged from fair to good in most grazing areas.
- The quantity and quality of pasture varied from normal to above normal in a greater proportion of the county’s grazing fields.
- There has been partial regeneration of pasture in the period under review and poor in several parts that experienced little to no rainfall in the just ended short rains season.
- Pasture condition was above normal in all livelihood zones when compared to a similar period in the long-term average.

2.1.3 Browse

- Browse in the agro-pastoral and pastoral livelihood zones was in fair and good condition following mild regeneration of shrubs and bushes during the just ended rainy season.
- The grazing areas were able to sustain ample amounts of browse to the month under review which regenerated during the previous long rains season.
- A substantial rate of regeneration in deciduous and acacia tree species was observed in limited parts that experienced significant amounts of rainfall. Areas such as Malkadaka, Gafarsa, Sericho, Modogashe, Bisan Biliqo and Oldonyiro had little regeneration occurring.
- Browse condition was normal in all pastoral and agro-pastoral livelihood zones and is expected to improve further if the ongoing rainy season perform well.

2.2 WATER RESOURCE

2.2.1 Sources

- Main water sources during the month were rivers, sand dams (or shallow wells) and boreholes.
- Most of the communities in the pastoral and agro-pastoral livelihood zones reported accessing water from piped water sourced from boreholes or rivers.
- Water availability and access was relatively good throughout the month under review.
- Very few water pans netted some water during the entire rainy season. Majority of those that obtained recharged to less than 30% of their capacity an indication that they may only last for a short period of less than one month.
- Reliance on boreholes was high as majority of open surface sources such as water pans, rivers and shallow wells had limited/low water volumes.

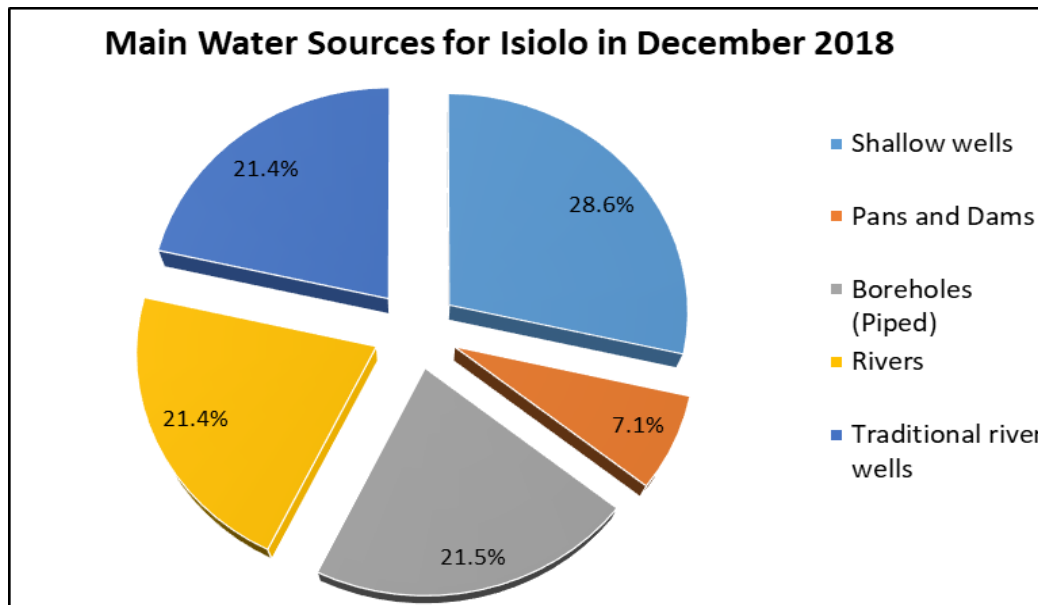


Figure 4: A chart of main water sources in the county

2.2.2 Household access and Utilization

- Household water access distance to sources reduced to an average of 1.3km over the period under review from 1.5km in the previous month.
- The stability was partially attributed to steady water volumes in permanent and semi-permanent sources including boreholes and rivers.
- A bigger portion of households across the county obtained water from taps at kiosks and homestead pipes sourcing water from rivers and boreholes.
- The cost of water from piped systems remained low as households were charged at a stable fee of Ksh. 2.00 per 20 litre jerrycan.
- The waiting time ranged from 5 to 20 minutes across the livelihood zones.
- The average water distance in the pastoral livelihood zones was 2.4km while the distance was 1.0km in the Agro-pastoral livelihood zone. The lowest average distance of about 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 decreased slightly to 3.8 km over the period under review from 4.6 km in the previous month.
- The minor increase was attributed to a slight recharge of temporary water sources such as pans, traditional river wells, natural ponds and sand dams. However, water volumes in temporary sources was low and expected to last a few weeks.
- Short distances to water points from grazing areas were mainly attributed to a relatively stable availability of water in permanent sources and a few recharged temporary sources.
- Grazing distance is expected to increase in the following months as there was low recharge following the performance of the just ended short rains season.

- Livestock watering was normal where goats and cattle were watered daily while camels were watered after 6 to 8 days.

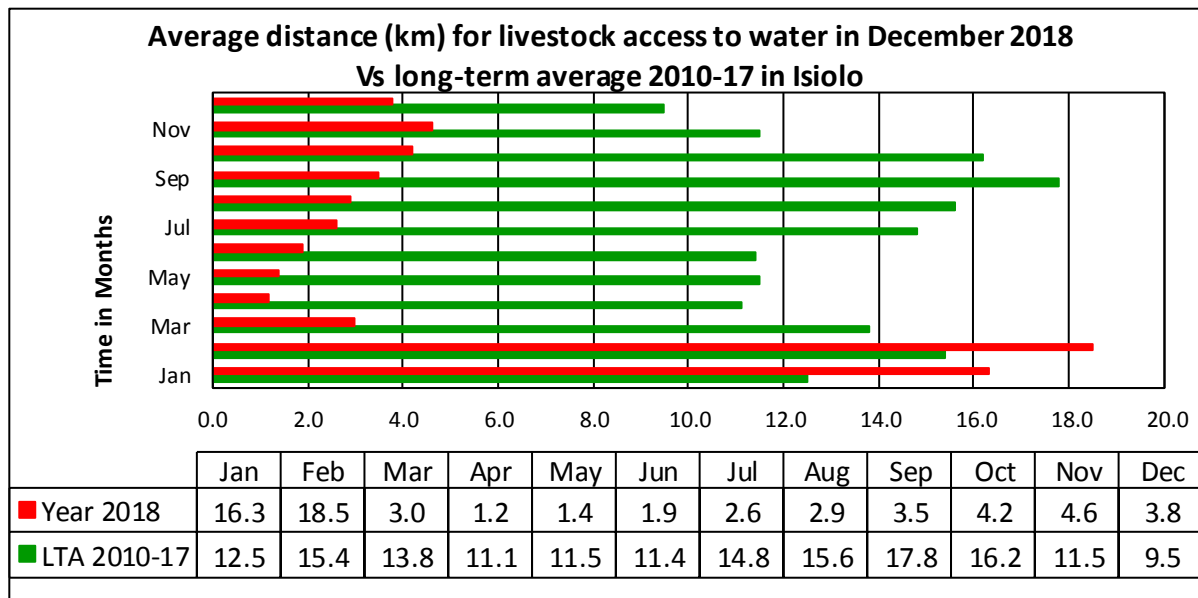


Figure 5: A graph of average distance for livestock water access

2.3 IMPLICATION TO FOOD SECURITY

- The ongoing rainy season performance has been poor in terms of amounts received and relative distribution (spatial and temporal) with insignificant influence on the rangeland, that is, low/partial forage regeneration and poor water recharge.
- While the performance of the just ended season has been of little significance in continuation of the recovery process of the county rangelands, the impact of the previous long rains remained key to major livelihoods productivity. This will enable a continued productivity in animal husbandry possibly until the next long rains season.
- However, crop production will be depressed due to low rainfall performance in the just concluded rainfall season and the resultant low amounts of water in major rivers such as River Isiolo, Ewaso Nyiro. This implies that food supplies may be decline and therefore reduced income for crop farmers and a possible increase in commodity's market prices. This way farmers food security will be threatened significantly.
- A sustained productivity in livestock will ensure that pastoral households will be able to sell their animals at favourable prices and therefore able to sustain their purchasing power amidst a possible rise in food prices.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Body condition for all livestock species was good and expected to improve further in all the livelihood zones.
- The animals were observed and reported to have better body condition as compared to the same time the previous year.
- The animals’ body condition improved significantly to the current period having access to quality and adequate amounts of forage resources in the pastoral and agro-pastoral livelihood zones.
- Livestock production is expected to thrive for a longer period lasting beyond the following year’s long rains season.

3.1.2 Livestock Diseases

- No notifiable livestock diseases were reported in the month under review.

3.1.3 Milk Production

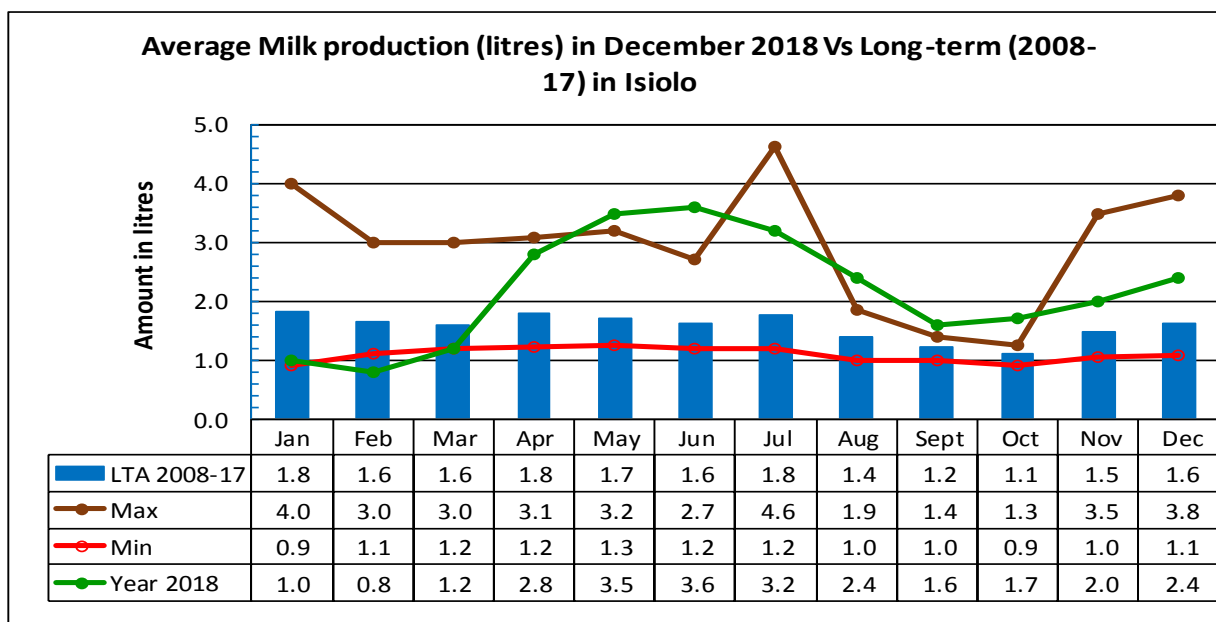


Figure 6: A graph of average milk production in litres

- Milk production increased to an average of 2.4litres per household in the previous when compared to the previous months amount of 2.0litres.
- The increase in the amount produced was attributed to the relatively a high birth rate among the cattle species supported by adequate pasture availability in the pastoral livelihood zone.
- Milk was mainly obtained from camels and cattle. Production is expected to stabilize in the month of January as more cattle are expected to give birth.
- Milk production per household was higher than the 10-year average amount of 1.6 litres.
- More amount of milk was produced in the current month as compared to the same period in the previous year which could be attributed to the improved and better availability and access to pasture and browse in pastoral and agro-pastoral livelihood zones.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Rain fed cropping faced a major hurdle following late onset and intermittent pattern of the ongoing rains, where some crops planted early in the season were reported to be experiencing moisture stress.
- Crops planted under rainfed include maize, beans and green grams.

3.3 IMPLICATION OF THE ABOVE INDICATORS TO FOOD SECURITY

- The county's main livelihood, animal production, sustained an enhanced status following improved environmental and bio-physical conditions, a factor that boosted socio-economic wellbeing of pastoral households due to improved animal productivity.
- Livestock production has been on an improvement trend since the long rains triggering herd recovery in reproduction and animal body condition. The trend is projected to stabilize for a number of coming months past next long rains season.
- This improvement in body conditions has had a positive impact on animal prices at the market and farm-gate, hence boosting terms of trade for pastoralists.
- Crop yields under rain fed and irrigated systems are expected to reduce as the entire short rains season performance has been below normal with poor recharge in key rivers. This will result in a characteristic food shortage locally a likely trigger for procurement of food commodities from neighbouring counties with a higher price.
- Pastoral households are therefore expected to experience a relatively better production than crop farmers who rely partly or solely on rains for food production. This will directly reduce harvests and consequently reduced supplies to the market with a possible likelihood of low income.
- Pastoral households may experience a reduced purchasing power should food prices go up while their animal prices remain stable for a while. Meanwhile crop farmers may be faced with food shortages thereby reduced incomes in the event that yields are poor at the end of the season.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

- The average household cattle price increased significantly to Ksh 29,600 in the month under review from Ksh 28,400.00 in the previous month.
- The highest average price was recorded in the pastoral livelihood zone at Ksh.33,700.00 and the least was Ksh 25,000.00 displaying stability.
- Current stabilization in cattle prices over the period could be attributed to improved animal body condition and a relative stable demand for beef in the country and the region.
- The current price was above normal being 54 percent above than the five-year short-term average of Ksh.19,200.00.

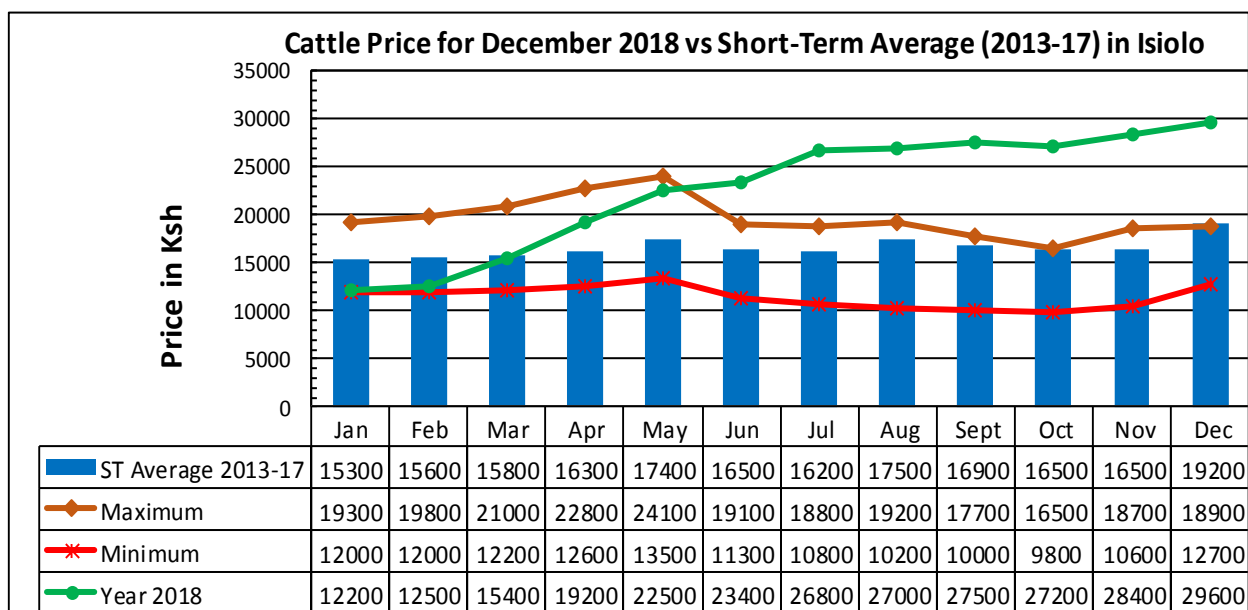


Figure 7: A graph of average farm-gate cattle price

4.1.2 Small Ruminants Prices (Goat)

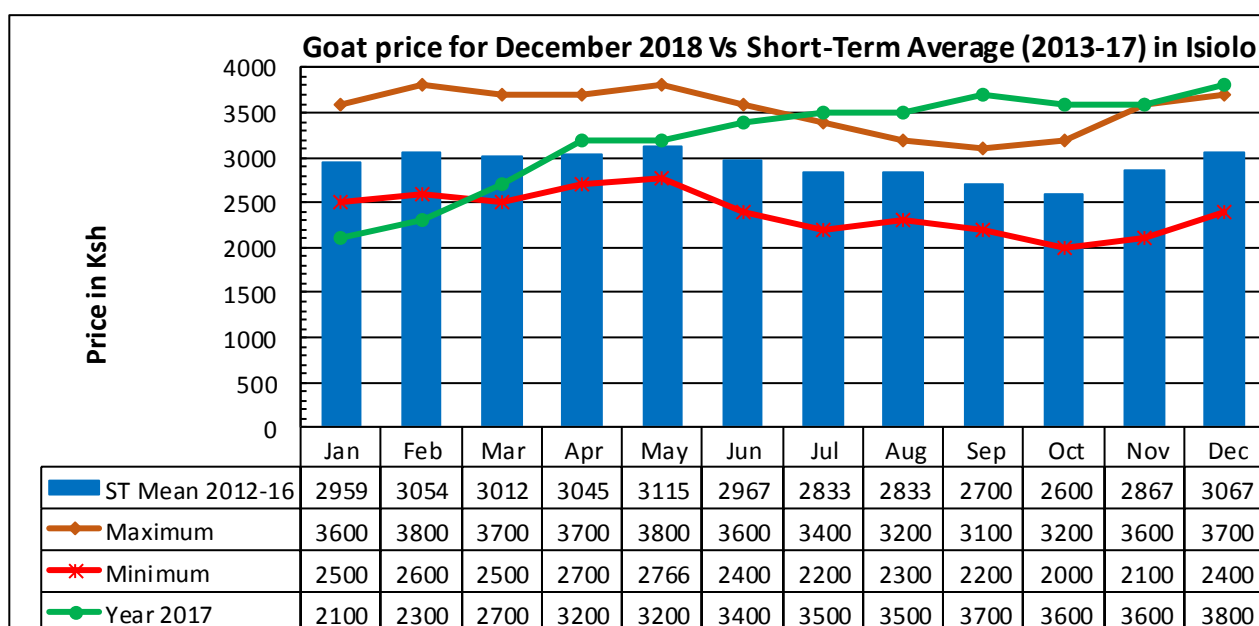


Figure 8: A graph of monthly average farm-gate goat price

- Average goat price increased to Ksh.3,800.00 during the month under review from Ksh3,600 in the previous month.

- The element of stability in farm-gate and market prices was attributed to the improved body condition and a relatively increased demand triggered by end of year festivities.
- The least and highest prices recorded were Ksh 2,500.00 and Ksh.5,100.00 in the pastoral livelihood zone
- Average goat price was significantly above the four-year average of Ksh.3,100.00 and slightly above the period's maximum price of Ksh. 3,700.00.

4.2 CROP PRICES

4.2.1 Maize

- The market price for a kilogram of maize had a relative stability with a slight increment of Ksh 2.00 to record an average of Ksh 54.00 during the month under review.
- The observed stability in the cereals price over the period was a due to a sustained supply of the cereal to the urban and rural markets though the price was high in few rural markets where supplies are not consistent partially due to distance and community cereal preferences.
- However, in most other markets the price of maize remained relatively low since July attributed to an increased supply of the cereal following enhanced harvests as an impact of the long rains season in the region.
- The average maize price was normal for the period considering that it was only 20 percent higher than the three-year average of Ksh.45.00 and almost similar to the average maximum price of Ksh. 55.00 ever recorded for the period in three years' time.

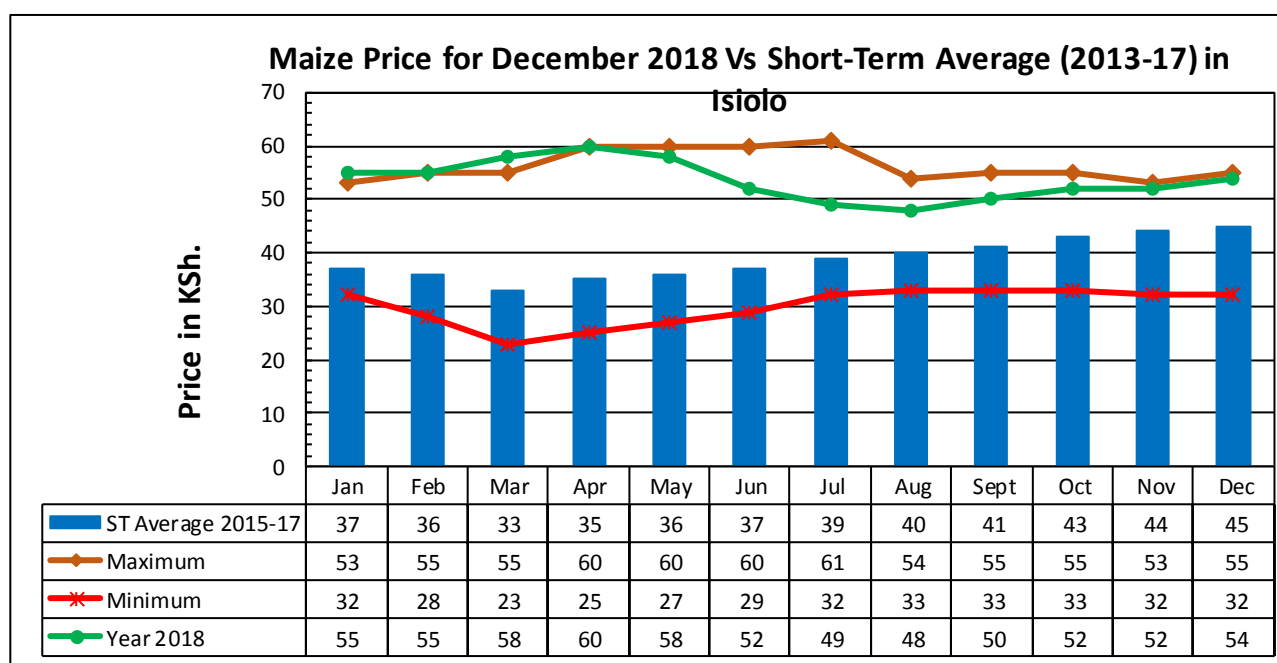


Figure 9: A graph of average maize (cereal) market price in the county

4.2.3 Beans

- The average price of increased slightly to Ksh 112.00 per kilogram in the month under review from Ksh. 108.00 in the previous month.
- The pulse's price increment was attributed to reducing supplies into the rural markets as household stocks decline.
- The highest price was recorded in Merti market in the pastoral livelihood zone at an average of Ksh 140.00 while the lowest price was in Isiolo Cetnral at Ksh. 80.00.
- The price was normal being 9.0 percent higher than the short-term average price of Ksh. 103.00 during similar period of the year.
- The price is expected to increase way forward as harvests after the just ended short rains season performed poorly in most parts of the county and country at large.

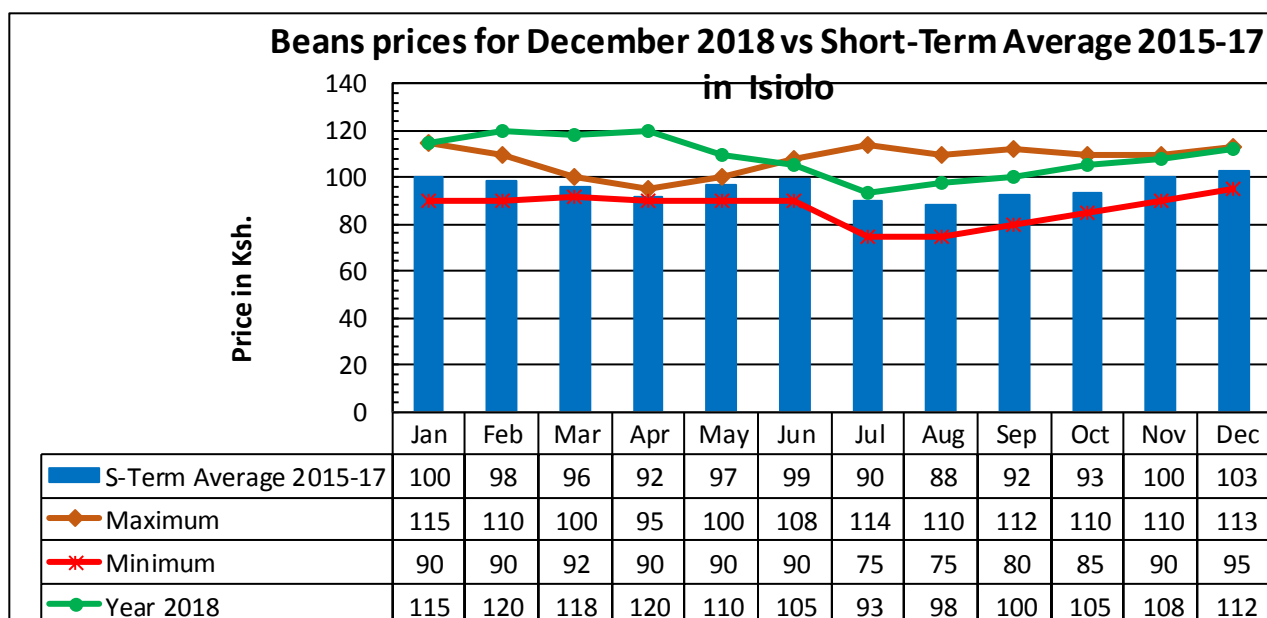


Figure 10: A graph showing average market price for pulses (beans)

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 insignificantly to 70 kg/goat up from at 69 kg/goat in the previous month.
- The ratio was higher in the pastoral livelihood zone at 70 as compared to 71 in the agro-pastoral livelihood zone.
- The livestock/cereal price ratio was 6 percent higher than the 11-year long-term average of 66 kilograms per goat.
- The stability of Terms of Trade has been occasioned by a relative stability in prices of cereals and goat both at the farm-gate and market levels.

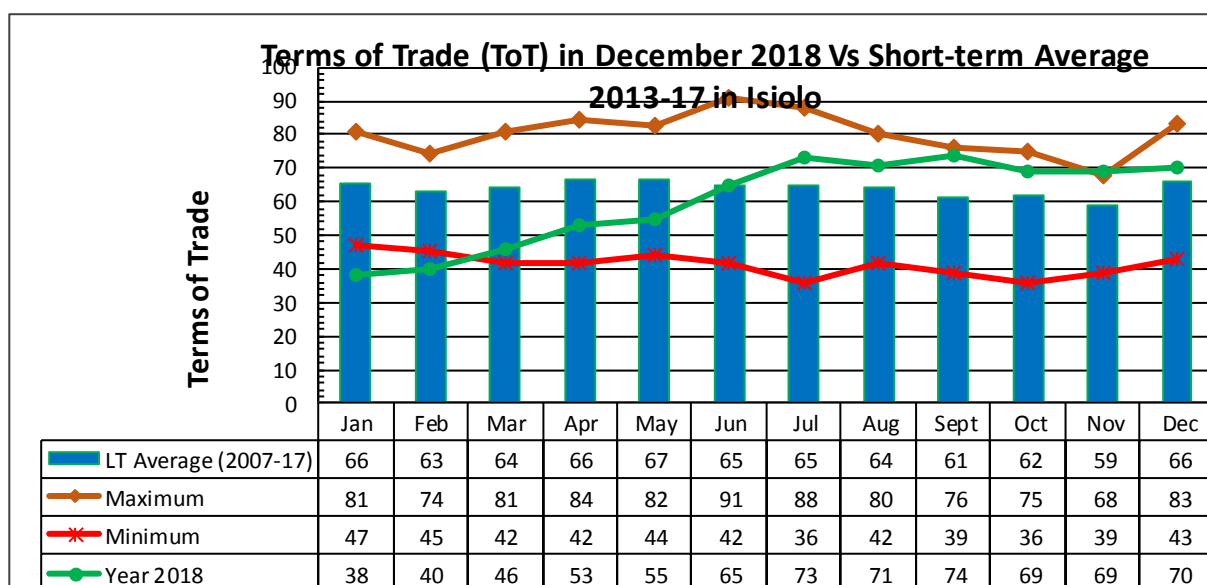


Figure 11: A graph showing the pastoralists' Terms of Trade in the county

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- Average milk consumption per household increased slightly to 1.70 litres during the period under review from 1.5 litres in the previous month.
- The slight increase could be attributed to a slight increase in the amount produced in the larger pastoral-cattle livelihood zone.
- The average consumption was higher than the short-term average of 1.10 litres.
- Majority of the milk consumed at the household was from cattle and camel.
- Consumption was high in the pastoral livelihood zone litres as compared to other zones.

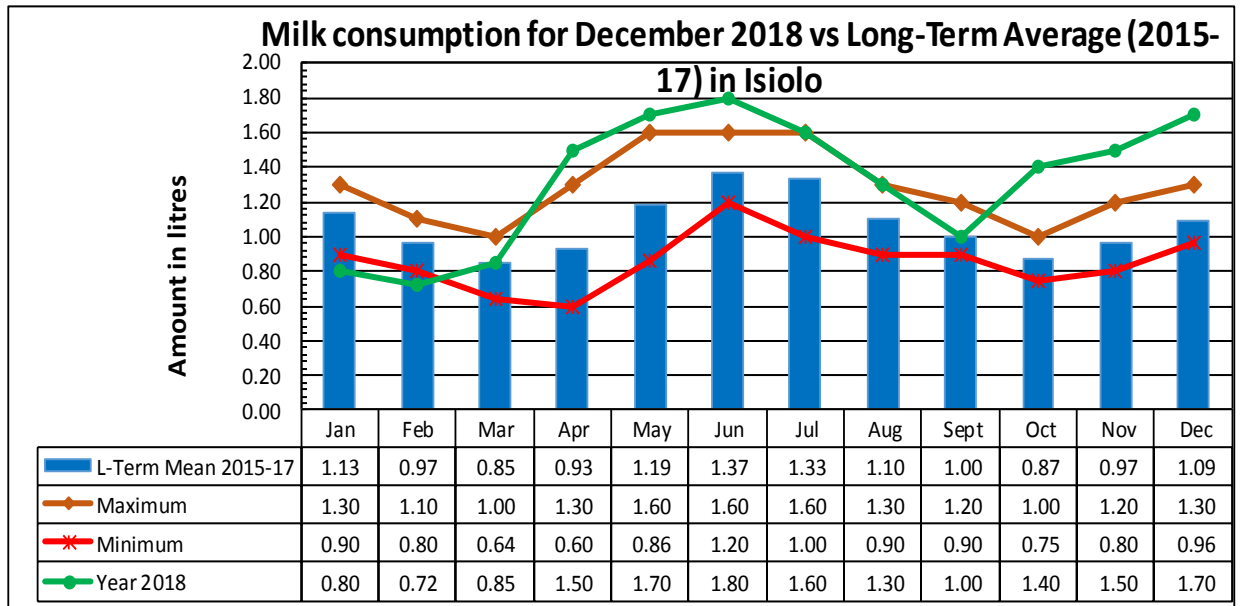


Figure 12: A graph showing the average milk production in the county

5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure decreased significantly to 24.5 in the month under review from 42.8 in the previous month. The trend is an indication of improved household food availability and consequently consumption patterns.

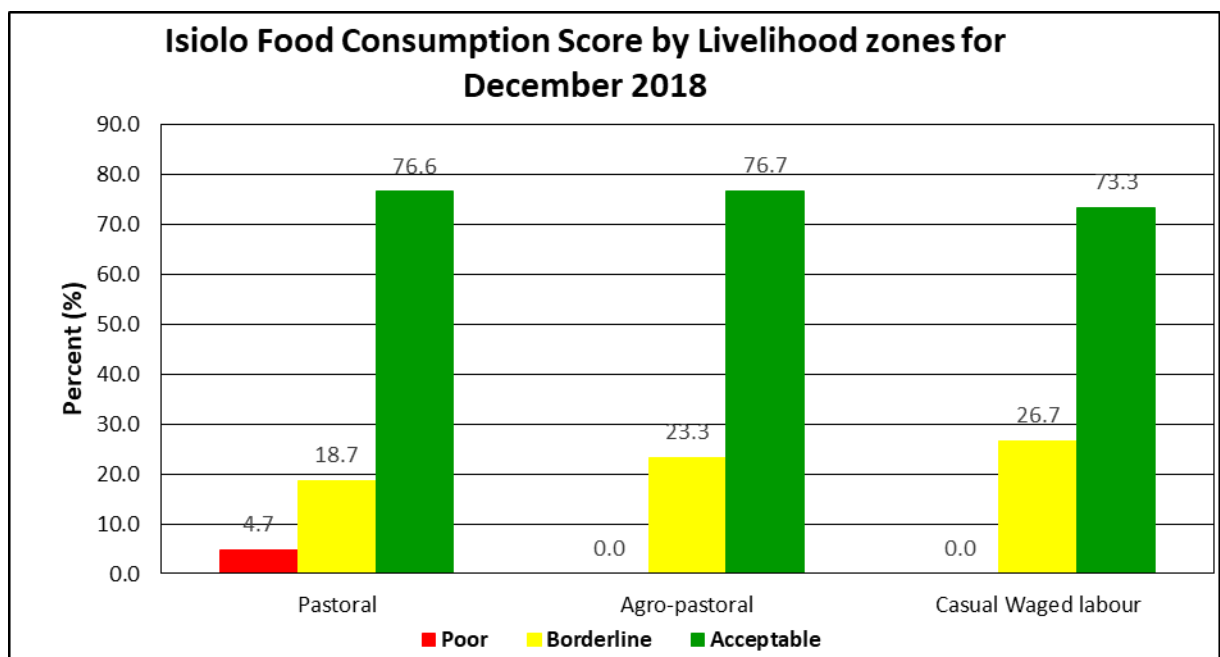


Figure 13: A graph showing the households' food consumption score

- The enhanced food consumption pattern was attributed to the improved Terms of Trade implying that household have better access to food commodities due to reduced food prices. There was a remarkable high household milk consumption in all pastoral livelihood zones following an increase in the average amount produced in the pastoral livelihood zone.
- Food consumption score is expected to stabilize for a while due to better productive and access capacity for most households in all livelihood zones.
- “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) stabilized with a record of 10.1 per cent in the period under review.
- The stability was partly attributed to the prevailing improved household food access and consumption and access in all livelihood zones as illustrated by improved food consumption patterns and incessant curative nutrition programmes.
- Majority of children at risk of malnutrition are victims of poor food consumption behavior (low meal frequency) in the pastoral livelihood zone and endemic diseases.
- The proportion of children at risk of malnutrition was 48.3 percent lower than the long-term average of 18.6 percent indicating a considerably improved nutrition status at this time of the year.
- The level of nutrition was on an improvement trend due to a significant increase of production, access and utilization of food elicited by livelihoods recovery.

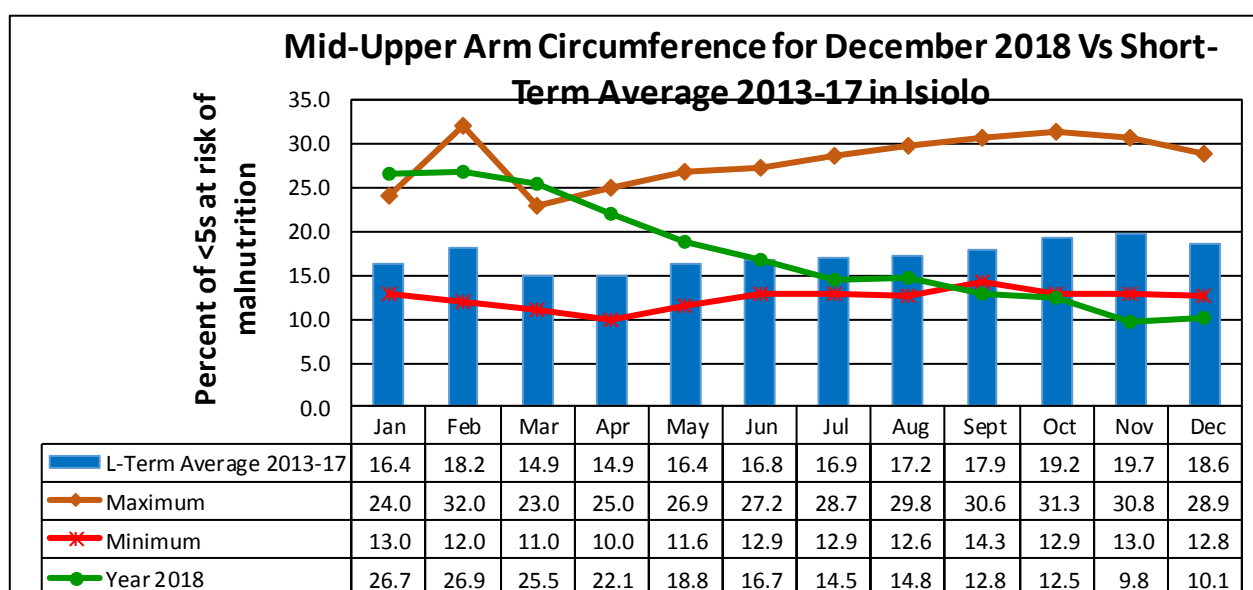


Figure 14: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

5.3.2 Health

- The general populations’ most prevalent diseases included acute upper respiratory tract infections (URTI), malaria, skin disease, urinary tract infections and rheumatism.
- Children under five years’ most prevalent diseases included the acute respiratory tract infections, pneumonia, malaria, intestinal worms and skin diseases.

5.4 COPING STRATEGIES

- The Coping Strategy Index (CSI) decreased slightly from 8.6 in the previous month to 7.6 in the month under review.
- The reduced coping strategy index was attributed to improved productivity and incomes of main county's livelihoods a factor that has led to improved purchasing power hence better access to food commodities.
- 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.

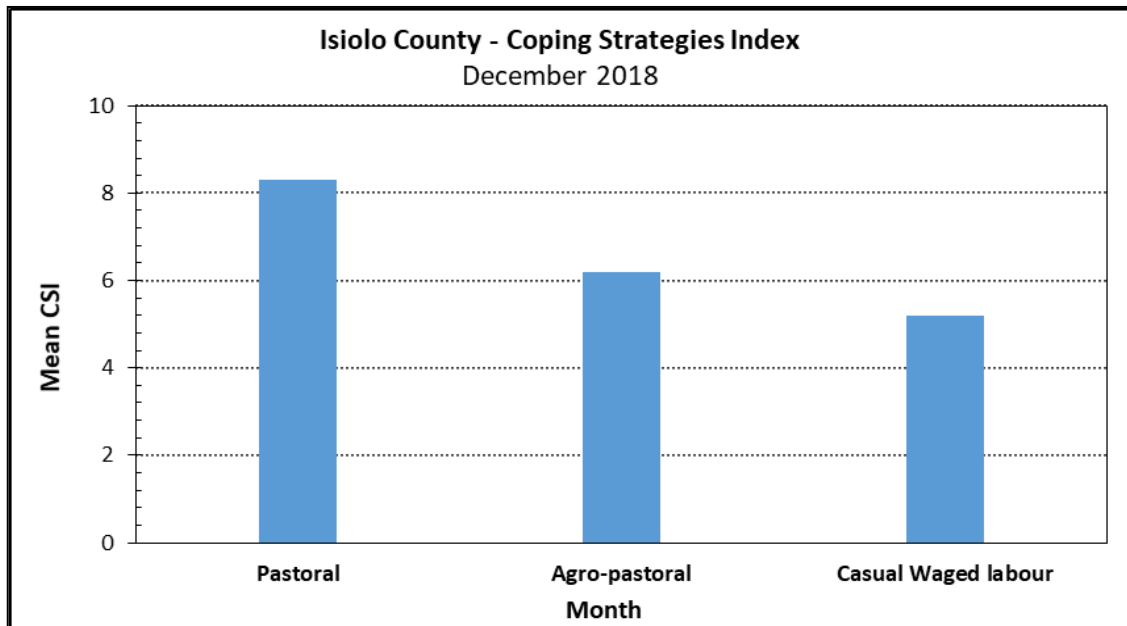


Figure 15: A graph showing the monthly reduced Coping Strategies Index

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	Sericho and Kinna	Isiolo South	Ministry of Interior and Partners	Eldera and Kinna
Certified Relief Seed Distribution	All wards	All sub-counties	Department of Agriculture	1,000 farmers
Lining of Rapsu irrigation canal	Kinna	Garbatulla	NDMA	250 farmers

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
Sustainable Food Systems Programme (SFSP)	Oldonyiro, Burat, Ngaremara, Kinna	All sub-counties	National Government, WFP, Action Aid Kenya	40,000 Beneficiaries

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Border disputes and tensions were reported along Isiolo and Garissa Counties in Eldera Centre and Duse-Kinna areas.
- In Eldera, 47 households from Isiolo County have fled the centre and are camping in Garbatulla Centre. Eldera primary School still remain closed.

7.2 Migration

- There were internal migration of herders from areas that have not received significant rains to areas that have adequate regenerated pasture and browse. For instance herders from Malkadaka, Gafarsa, Muchuro, Kombola migrated with their herds towards Mbarambate and Kulamawe which have received significant rains since onset.
- No in-migration was reported during the period under review.

7.3 FOOD SECURITY PROGNOSIS

The county has been on a recovery following an enhanced performance of the long rains season. Further rangeland recovery has been hindered following general poor performance of the short rains in a greater proportion of the pastoral livelihood zone.

However, the main livelihood, livestock production, remained stable and is expected to be resilient until the following long rains season as the available forage is expected to sustain all the herds last till the end of the expected long rains season.

Livestock productivity is at a better position compared to a similar period in the previous year and in the long-term and is likely to thrive even after a partially failed short rains season. On the other hand, no significant harvests are expected from crops both under rain fed and irrigated systems.

Water access to both livestock and households has been deteriorating steadily and shortages may henceforth be experienced since there was poor recharge during the short rains season.

Recovery experienced in animal production may not bear the consequences of short rains season as the impact of the previous long rains prevail. However, crop production is likely to suffer a blow until the long rains in the following year are received. This may lower food commodity production, a factor that may increase their market prices and therefore hinder household access.

The county was generally in the minimal food security phase with a medium likelihood of sliding into stressed food security phase.

8. RECOMMENDATIONS

- Support pastoral communities in rangeland management to ensure they utilize the available forage resources in organized grazing patterns.
- Sensitize farmers on proper agronomic practices to ensure that the crops mature uninterrupted by pest and diseases and a strengthened emphasis on drought tolerant crops.
- Support stakeholders on drought scenario building and contingency plan simulation.
- Sensitize farmers on fodder harvesting and storage. .
- Provide support for an active and continuous human and livestock disease surveillance for all possible disease pandemics.
- Rehabilitation and unblocking of drainage system in Isiolo town and major centres.
- 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).
- Enhance peace building, conflict resolution and cohesion mechanisms especially in Isiolo South viz Eldera and Kinna- Duse where tension is high and displacement has occurred and Eldera primary school closed.