

National Drought Management Authority
ISILOLO COUNTY
DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2019



A Vision 2030 Flagship Project



February 2019 EW Phase

Alert: Maandalizi ya Mapema



Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Pastoral-All Species	Alert	Worsening
Agro-Pastoral	Alert	Worsening
Casual Waged Labour /Charcoal burning	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Range/Value
Rainfall (% of Normal)	0.0 mm	>47.2mm
VCI-3month (Isiolo)	23	Below normal
Water Sources	3	5
Production Indicators	Value	Normal
Livestock Body Condition	Good	Fair to Good
Milk Production	1.8 Litres	>1.3 Litres
Livestock deaths (from drought)	No deaths	No death
Livestock Migration Pattern	Internal migrations	Normal
Access Indicators	Value	Normal
Terms of Trade (ToT)	75	>56
Milk Consumption	1.4 Litres	>0.90 Litres
Return distance to water households	2.5 km	<7.4 km
Cost of water at source (20 litres)	Ksh 2.00	<Ksh. 5.00
Utilization indicators	Value	Range/Value
MUAC	9.5 percent	<22.1 percent
Coping Strategy Index (CSI)	7.0	>14.0
Food Consumption	70 Percent Acceptable	<80 Percent Acceptable

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of February was marked by hot weather mixture with long intervals of sunshine and short intervals of cloud cover as signs of onset of long rains dominated the sky.
- The 3-Month Vegetation Condition Index (VCI) stabilized maintaining a moderate vegetation condition.
- Pasture and browse availability was fair and on a deteriorating trend in the pastoral and agro-pastoral livelihood zones.
- Water availability in all sources ranged from fair to poor and on a deteriorating trend in the pastoral and agro-pastoral livelihood zones.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- Livestock body condition for all livestock species ranged from fair to good in all livelihood zones.
- Milk production stabilized over the period majorly in the pastoral cattle livelihood zones in Sericho, Garbatulla and Merti.
- Yield of crops under rainfed system were low as harvesting season continued. Irrigation of vegetables reduced considerably due to low water levels in the rivers.

Access Indicators

- Livestock prices increased slightly as cereal price reduced significantly.
- Household milk consumption was stable over the period under review.

Utilization Indicators

- Malnutrition levels among children under five year's stabilized during the month under review.

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 weather pattern was characterized by hot sunny days throughout the month as a continuation of the January-February dry spell.
- The rainfall season whose performance was poor in terms of spatial and temporal distribution had low impact on the county’s rangeland conditions especially on pasture and water resources whose regeneration and recharge were so insignificant.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- There was no rains received during the month under review.
- The seasonal average for the entire short rains season was 118.2mm against a long-term average of 161.2mm.
- In the previous rainy season, Isiolo Central experienced the highest number of rainy days compared to other parts of the county.

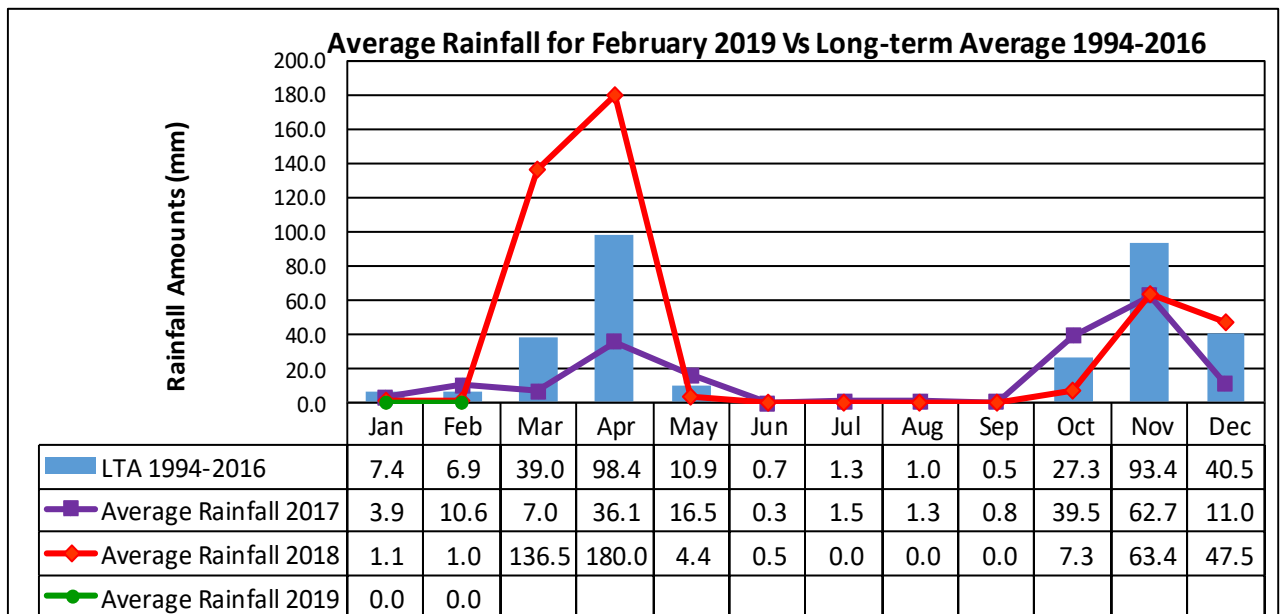


Figure 1: A graph showing monthly rainfall data for Isiolo County

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- The matrix below illustrates February 2019, classified as agricultural drought based on VCI thresholds. The matrix shows a retrospective analysis of the vegetation condition as related to drought.

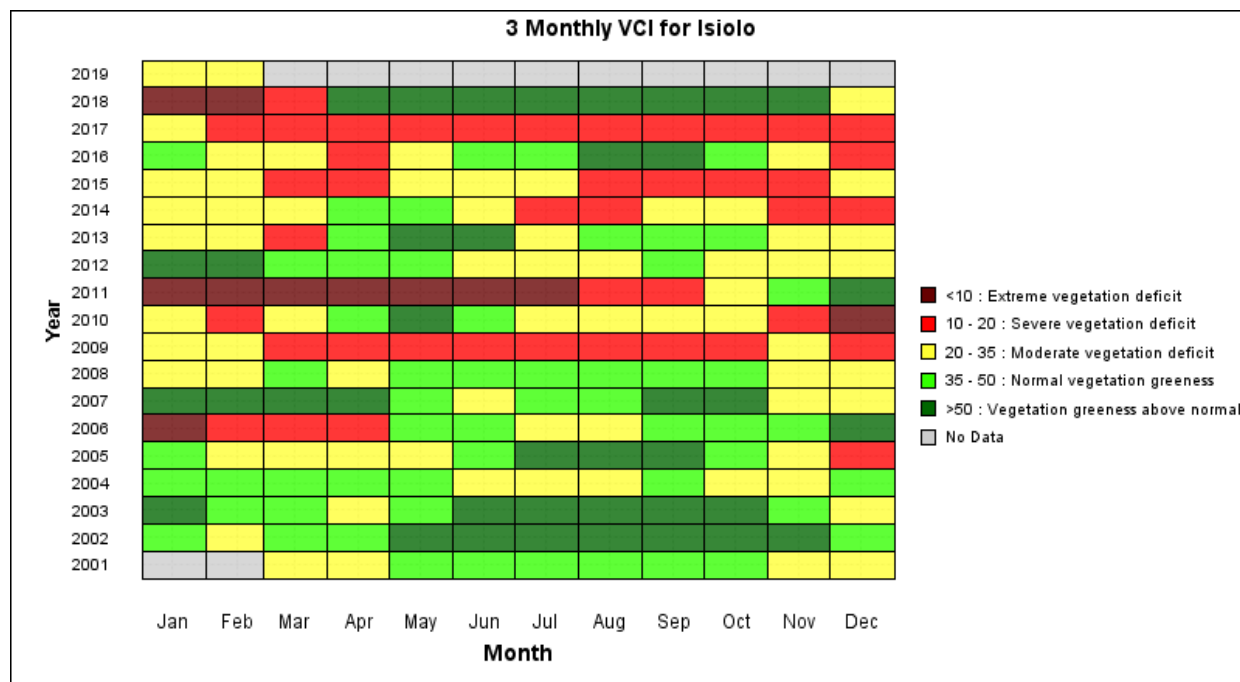


Figure 2: A matrix of 3-Monthly Vegetation Condition Index

- The county vegetation condition index decreased insignificantly to a threshold of 22 from 24 in the previous month maintaining a moderate vegetation deficit. The reduction could be attributed to the poor regeneration of natural vegetation following the poorly performed short rains season.
- The moderate vegetation deficit recorded implied that natural vegetation across the county was generally in a poor condition.
- Stability of the threshold is an indication of insignificant changes in the vegetation condition when compared to the long-term trends of vegetation 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 poor and on a deteriorating trend in most grazing areas.
- The quantity and quality of pasture was normal to below normal in a greater proportion of the county's grazing fields.
- There was a gradual depletion of pasture in several parts of the pastoral livelihood zone which triggered migration into dry grazing reserves during the period under.
- Pasture condition was 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 ranged from fair to poor following poor regeneration of shrubs and bushes following the poorly performed short rains season.
- Most grazing areas were able to sustain some considerable amounts of browse to the month under review which regenerated during the short rains season.
- There was severe shortage of browse in areas such as Malkadaka, Gafarsa, Sericho, Modogashe, Bisan Biliqo and Oldonyiro following poor regeneration during the short rains season.
- Browse condition was normal in all pastoral and agro-pastoral livelihood zones and expected to deteriorate before regeneration in the next rainy season occurs.

2.2 WATER RESOURCE

2.2.1 Sources

- Main water sources during the month were boreholes, shallow wells and traditional river wells.
- 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 where households were able to access an average of three 20 litre jerricans.
- Reliance on boreholes was high as majority of open surface sources such as water pans, rivers and shallow wells dried up..

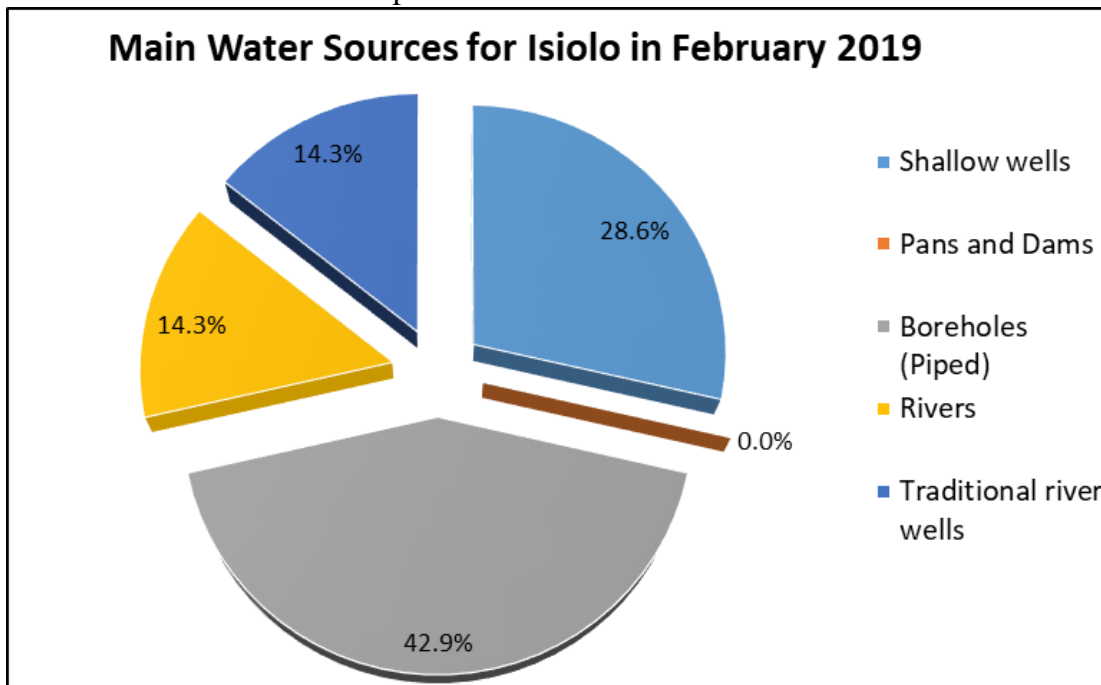


Figure 3: A chart of main water sources in the county

2.2.2 Household access and Utilization

- Household water access distance to sources increased to an average of 2.5km over the period under review from 2.1 km in the previous month.
- The increase was attributed to depletion of water temporary and semi-permanent sources such as water pans 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 while some especially in Cherab benefited from the ongoing water trucking.
- The cost of water from piped systems remained low as households were charged at a steady fee of Ksh. 2.00 per 20 litre jerrykan.
- Waiting time increased considerably in the pastoral livelihood zone where it range from 15 to 40 minutes across the livelihood zones. More waiting time was reported in settlements benefiting from water trucking.
- The average water distance in the pastoral livelihood zones was 5.2km while the distance was 1.6km 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 increased significantly to 7.0km over the period under review from 5.1 km in the previous month.
- The increase was attributed to deteriorating availability of pasture and browse and water. Depletion of water from surface water points contributed greatly to the increased distance from grazing fields to more permanent sources such as boreholes and R. Ewaso Nyiro where herders dug wells in the river basin..
- Grazing distance is expected to increase further in March before the onset of the expected long-rains season.

- Livestock watering was normal where goats and cattle were watered after one or two days while camels were watered after 7 to 10 days.

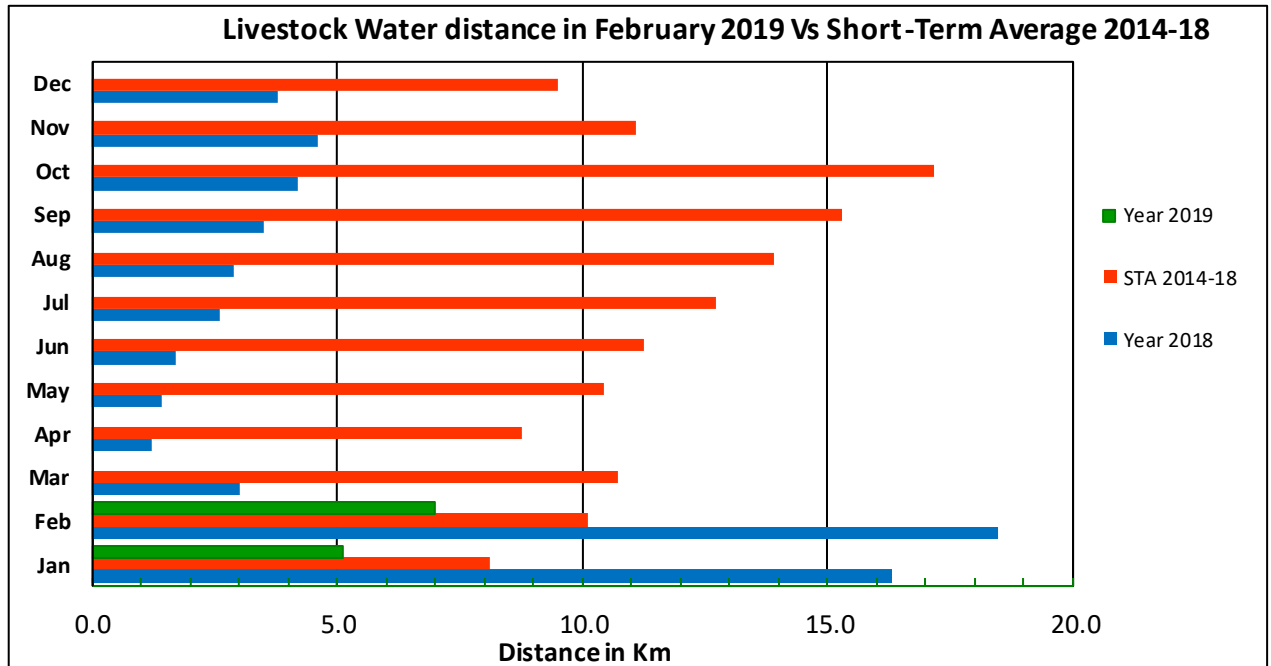


Figure 4: A graph of average distance for livestock water access

2.3 IMPLICATION TO FOOD SECURITY

- The short rains season performance was poor spatially and temporally with little effect on forage regeneration and water recharge. However, the impact of the previous long rains remained key to availability of pasture hence boosting the livestock productivity. This has enabled an uninterrupted productivity in animal husbandry possibly March when the long rains are expected.
- Rain fed and irrigated crop production was been dismal in most parts of the county due to poor rainfall performance and poor recharge in feeder streams. Crop harvests were low thus slightly reducing the supplies from the local farms which implied reduced incomes for local farmers. The supply gap was however filled by supplies from the neighbouring Meru County. There were slight price increments on vegetables and legumes.
- The sustained productivity in livestock remained a key income earner to majority of county's population in the pastoral livelihoods. Pastoralists will be able to sell their livestock which are in fair and good body conditions at prevailing prices which are relatively favourable and be able to sustain their purchasing power amidst a possible price increase in food commodities.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Body condition for all livestock species ranged from fair to good and expected to stabilize in all the livelihood zones.
- All livestock species were observed to be in 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 if the expected rains season performance would be normal as predicted.

3.1.2 Livestock Diseases

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

3.1.3 Milk Production

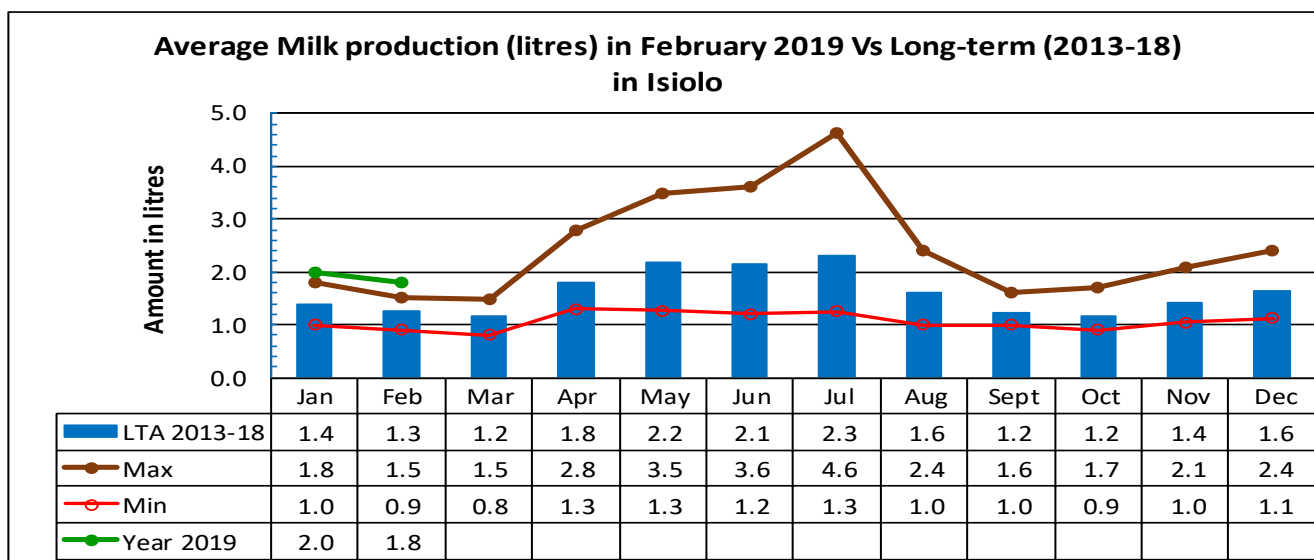


Figure 5: A graph of average milk production in litres

- Milk production in milking households decreased insignificantly to an average of 1.8 litres per household compared to the previous months amount of 2.0 litres.
- The stability recorded in milk production produced was partially attributed to improved animal body conditions and good availability of pasture and water.
- Production for the period under review remained high when compared to the long-term average and the previous year due to better availability of pasture in addition to the high calving rate among the cattle species in the pastoral livelihood zone.
- Milk was mainly obtained from camels and cattle. Production is expected to stabilize in the month of March as the long rains approach.
- Milk production per household was 0.5litres higher than the short average amount of 1.3 litres.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Harvesting of legumes planted under rain fed conditions in the agro-pastoral livelihood zone ended. Harvesting of cereals such as maize and millet began during the month under review.
- However, the yields were relatively depressed when compared to a normal due to poor performance of rains in the county.
- Preparation of land for planting of crops for the much expected long-rains took shape in the agro-pastoral livelihood farms where previous crops have been removed.

3.3 IMPLICATION OF THE ABOVE INDICATORS TO FOOD SECURITY

- The pastoral livelihoods had experienced significant recovery for a better period of the previous year into the current month signified by the improved livestock production indicators such as high calving rate among cattle and small stock. Also milk production was significant when compared to the long term average and the previous years.
- The improved production has led to improved milk availability and consumption and consequently better market prices at the market which increased pastoral households' purchasing power considerably.
- The trend is expected to stabilize as the long rains season approaches in the month of March.
- On the other hand, meagre harvests realized from the farms implied a significant drop in farmers' incomes as well as reduced supply of food commodities to the local markets.
- The deficit in local supplies will however be filled from other parts of the country including the neighbouring Meru county, a factor that will enable stabilization of food commodities prices in the markets.
- Food availability in the county's markets was good with no changes expected in the near future. Food production is expected to improve if the following season's rainfall performance will be normal as predicted.

4.0 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices

- The average household cattle price increased slightly to Ksh 27,300 in the month under review from Ksh 26,500.00 in the previous month.
- The highest average price was recorded in the pastoral livelihood zone at Ksh.32,000 in Kinna and the least was Ksh.25,000.00 in Oldonyiro market exhibiting a good level of stability.
- The increase was attributed to the return of normal market conditions where forces of demand and supply are balanced.
- The month's prices was double the long-term average which has been attributed to good animal body conditions and a relatively stable demand when compared to the past.
- The current price was above normal being 88 percent above than the five-year short-term average of Ksh.15,300.

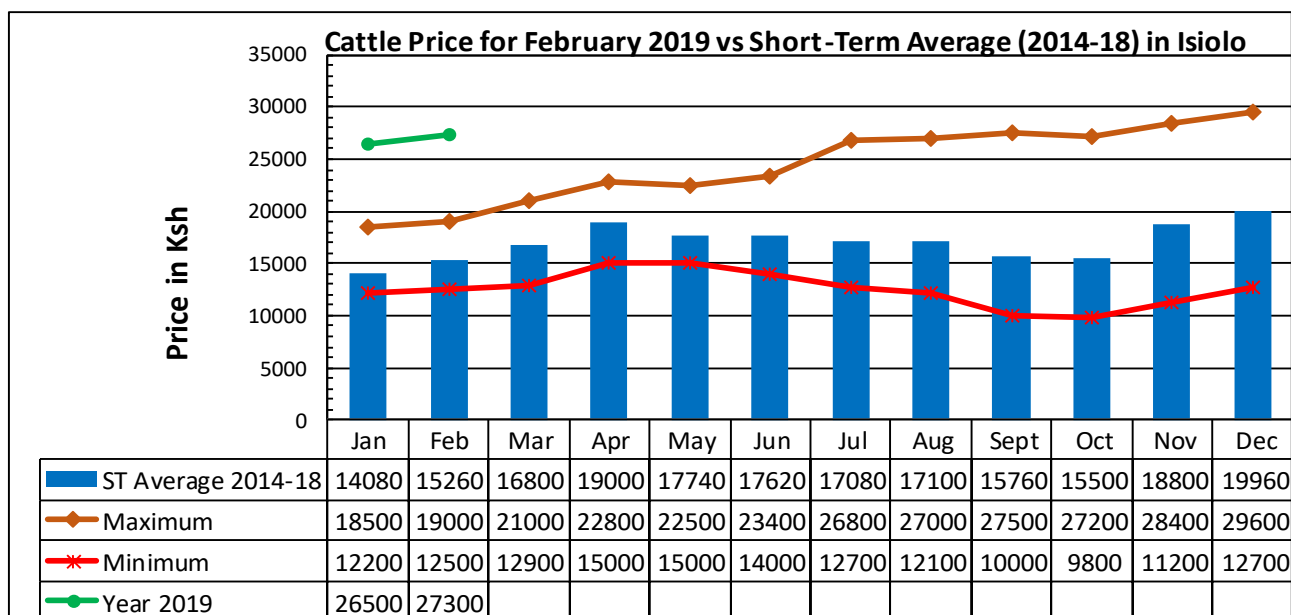


Figure 6: A graph of average farm-gate cattle price

4.1.2 Small Ruminants Prices (Goat)

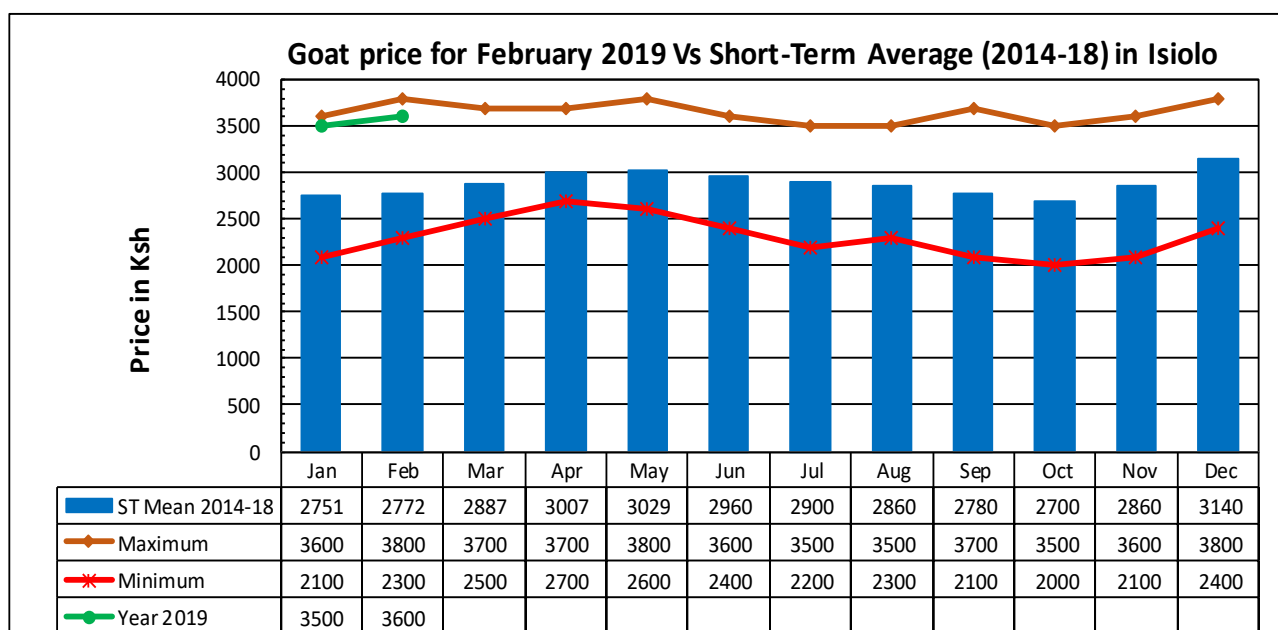


Figure 7: A graph of monthly average farm-gate goat price

- Average goat price increased slightly to Ksh.3,600 in the month under review compared to Ksh. 3,500 in the previous month.
- The decrease in both farm-gate and market prices was attributed to the higher influx of small stock in the market as farmers sought to raise funds to cater for school and normal household expenses among others.
- The least and highest farm-gate prices recorded were Ksh 2,100.00 and Ksh.4,300 in the pastoral livelihood zone.
- Average goat price was significantly above the short-term average of Ksh.2,800 and slightly below the period's maximum price of Ksh. 3,600.00.

4.2 CROP PRICES

4.2.1 Maize

- The market price for a kilogram of maize reduced significantly to an average of Ksh 48.00 during the month under review from Ksh. 52.00 in the previous month.
- The reduction in the cereals price was due to increased supply as the harvesting season continues within and out of the county. There was also a sustained supply of the cereal from other counties in the county.

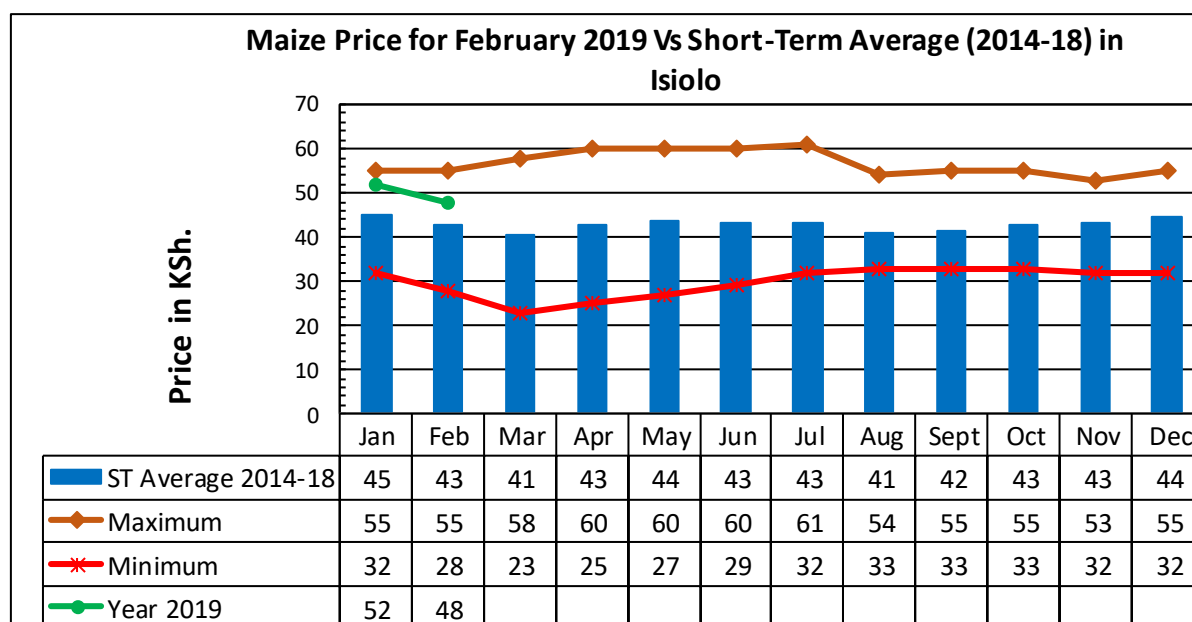


Figure 8: A graph of average maize (cereal) market price in the county

- The cereals price was relatively high in remote rural markets such as Merti and Sericho where supplies were 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 a stable supply of the cereal from the neighbouring counties.
- The average maize price was normal for the period considering that it was only 12 percent higher than the three-year average of Ksh.43.00 and almost similar to the average maximum price of Ksh. 55.00 ever recorded for the period in three years' time.

4.2.3 Beans

- The average price increased insignificantly to Ksh. 94.00 in the month under review from Ksh 92.00 per kilogram in the previous month.
- The pulse's price stability was attributed to increased supplies into the rural markets as the pulse harvesting season continued. The increased supply is expected to be temporal.
- The yields from the short rains season in the agro-pastoral areas and neighboring Meru county are low and with the price is expected to rise in the following months.
- The highest price was recorded in Merti market in the pastoral livelihood zone at an average of Ksh 100.00 while the lowest price was in Isiolo Cetnral at Ksh. 80.00.
- The price was normal being 9 percent lower than the short-term average price of Ksh. 103.00 during similar period of the year.

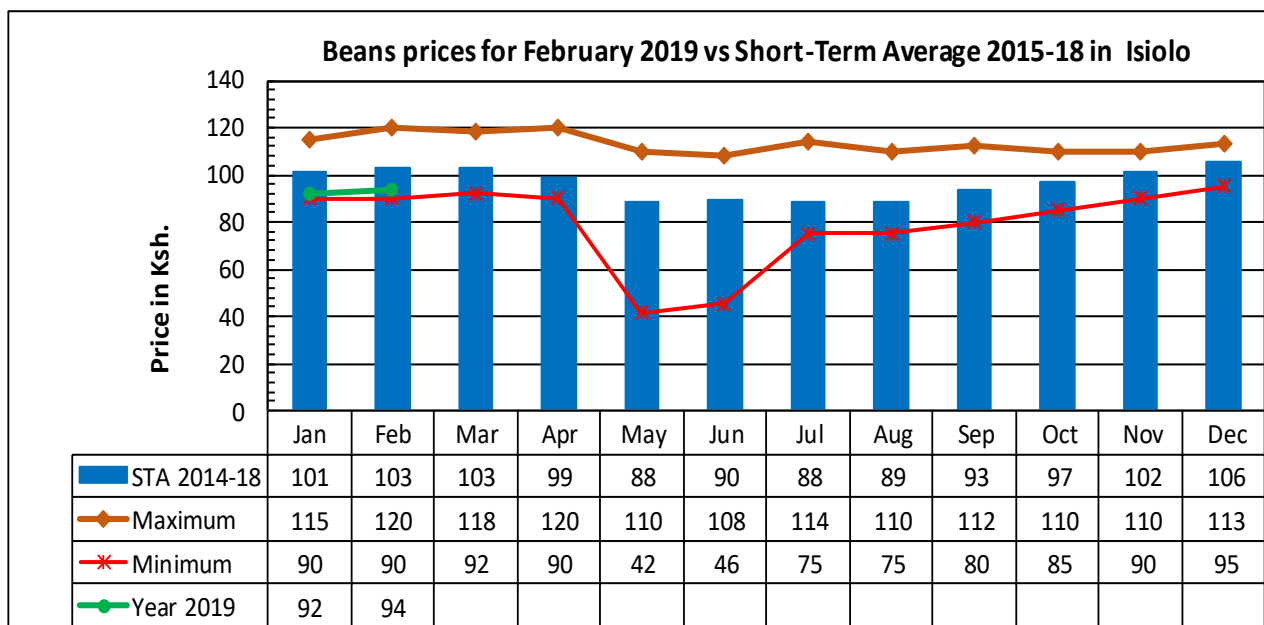


Figure 9: A graph showing average market price for pulses (beans)

4.3 Livestock Price Ratio/Terms of Trade

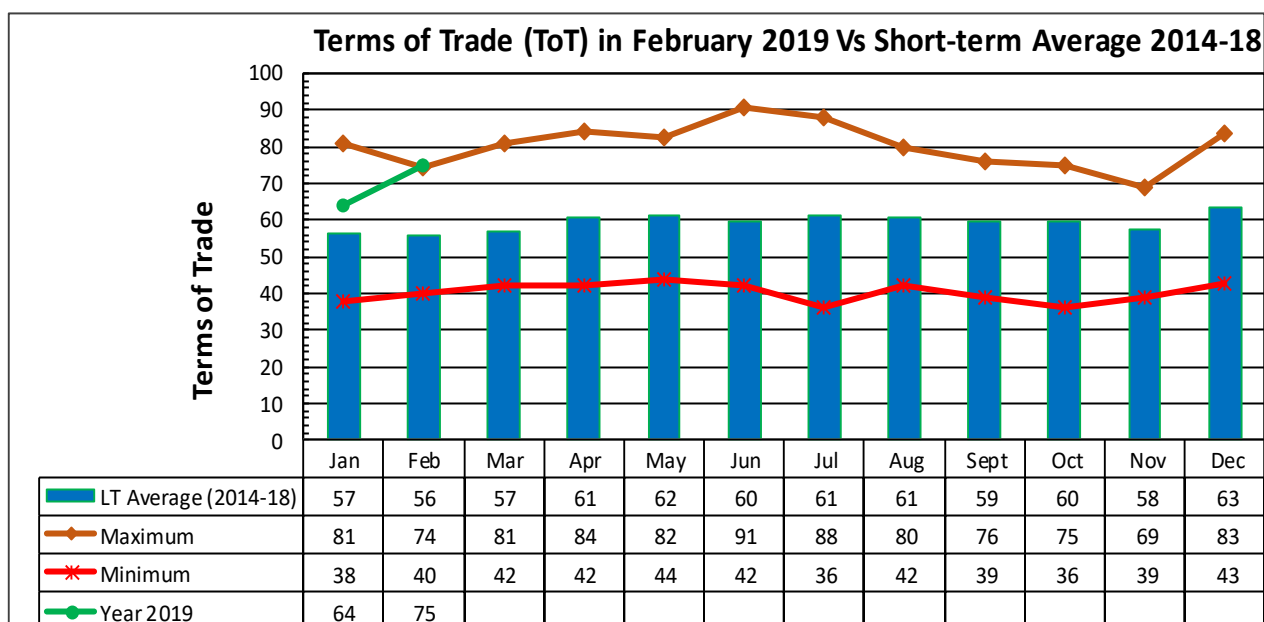


Figure 10: A graph showing the pastoralists' Terms of Trade in the county

- The Terms of Trade (the number of kilograms of maize a household would purchase after a sale of one goat) increased significantly to 75 kg/goat from 64 kg/goat in the previous month.
- The ratio was higher in the pastoral livelihood zone at 70 as compared to 81 in the agro-pastoral livelihood zone.
- The livestock/cereal price ratio was 34 percent higher than the 5-year short-term average of 56 kilograms of maize per goat.
- The ratio measuring purchasing power of pastoral households is expected to stabilize in the following month as cereal prices show an expected level of stability considering the supplies being made into the local markets from neighbouring counties and other parts of the country.
- The significant increase in purchasing power was mainly influenced by the significant reduction in cereal prices and a stabilizing price of goat at the farm-gate and market.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- Average milk consumption per household stabilized at 1.40 litres during the period under review.
- The stability in the amount consumed was partially attributed to a sustained rate of production among the cattle and camel in the agro-pastoral and pastoral livelihood zone.

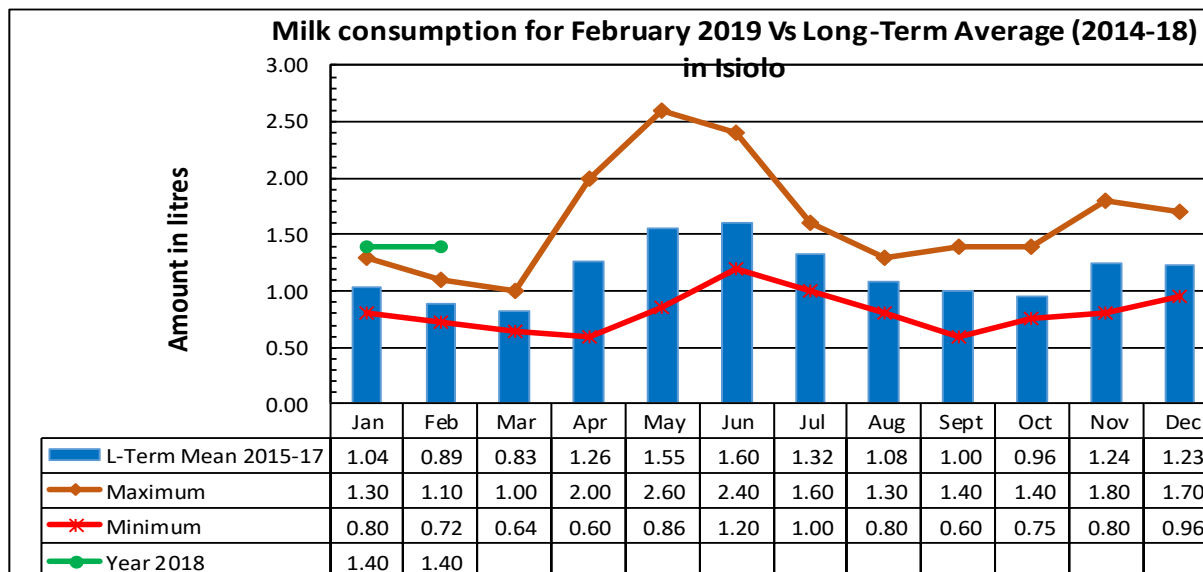


Figure 11: A graph showing the average milk production in the county

- The average consumption was higher than the short-term average of 0.90 litres.
- Majority of the milk consumed at the household was from cattle and camel and a little from goats.
- Consumption was high in the pastoral livelihood zone litres as compared to other zones.

5.2 FOOD CONSUMPTION SCORE

- The proportion of households who were persistently food insecure stabilized at 30 per cent in the month under review from 29 per cent in the previous month. The trend is an indication of a stability in food commodity access that considerably enabled consumption in close to a two-thirds of the county's households.

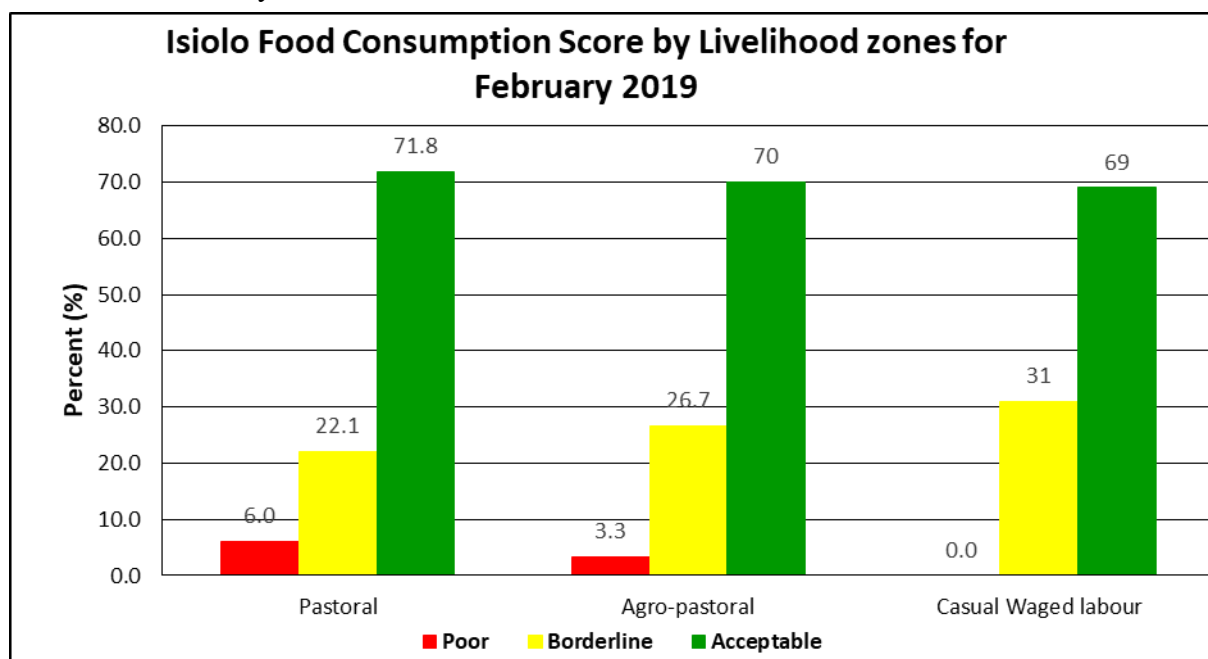


Figure 12: A graph showing the households' food consumption score

- 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 and agro-pastoral livelihood zones following an improvement in the amount produced in the pastoral livelihood zone.
- Food consumption score is expected to stabilize further as we approach onset of the long rains season in March as predicted.
- *“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) increased insignificantly to 9.4 percent in the current month from 8.9 percent in the previous month.
- Some stability has been recorded overtime with considerably low proportion of children at risk of malnutrition. This could be attributed to prevailing improved production hence improved access and consumption of varied food groups in all livelihood zones as illustrated by enhanced food consumption patterns and continuous curative nutrition programmes.
- A greater proportion 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 58 percent lower than the long-term average of 22.1 percent indicating a considerably improved nutrition status at this time of the year.
- The level of nutrition has been on an improvement trend due to a significant improvement in access and utilization of food elicited by some level of livelihoods recovery.

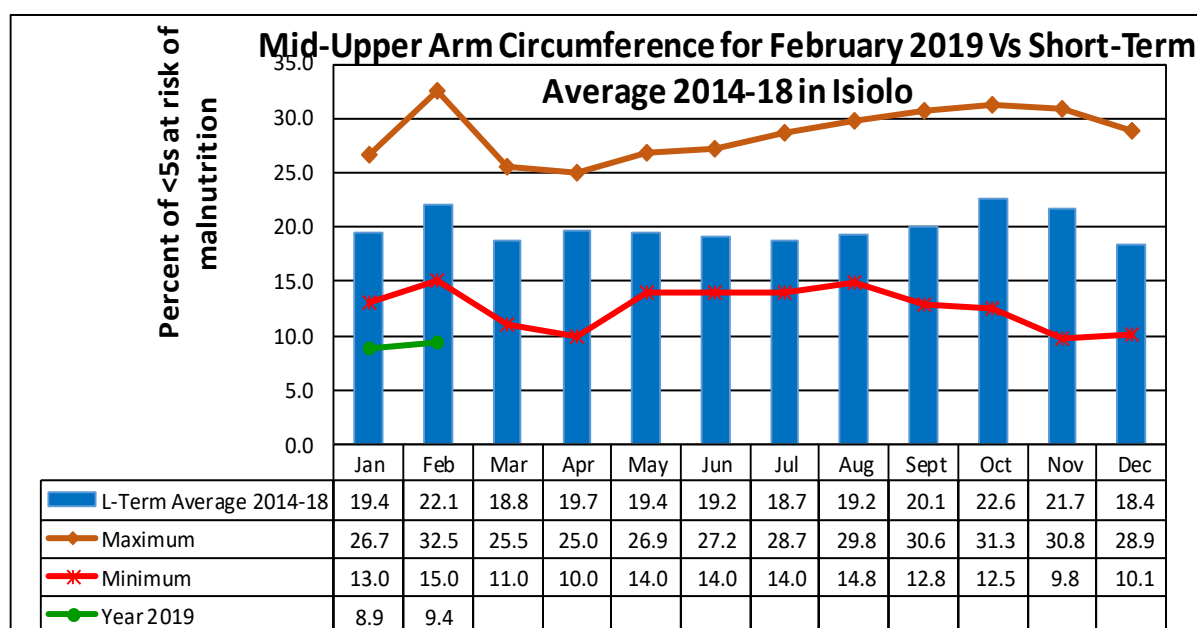


Figure 13: A graph showing the Mid-Upper Arm Circumference for children under 5 years of age

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

- Coping Strategy Index (CSI) increased insignificantly from 6.7 in the previous month to 7.0 in the month under review.
- The index recorded some level of stability mainly attributed to improved availability of food and/or money to buy food in all livelihood zones which 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.

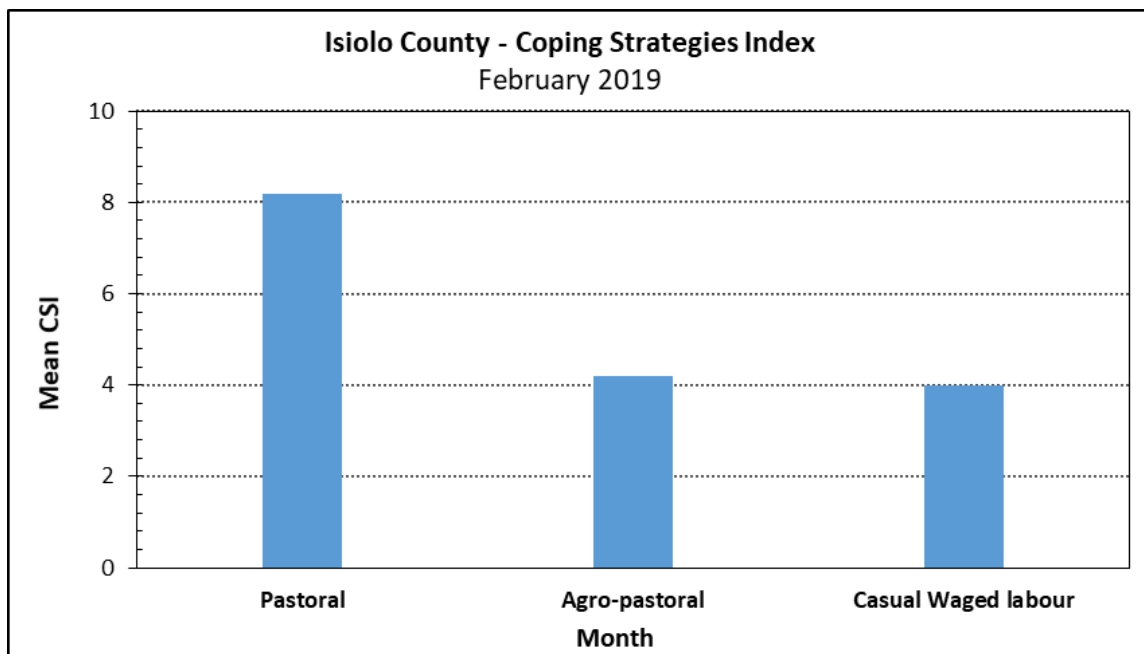


Figure 14: A graph showing the monthly reduced Coping Strategies Index

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
Equipping of Ngaremara borehole	Ngaremara	Isiolo North	ADS(Anglican Development Service)	1,000 HHs
Vaccination against PPR	All wards	Isiolo South and Isiolo North	FAO, Department of Veterinary	700,000 goats
Water Trucking	Lenguruma, Biliqi (sericho), Cherab	Isiolo South and Isiolo North	County Government	5,000
Repairing of borehole	Lengurma, Duse, Taiboto (Garbatulla)	Isiolo North and Isiolo South	County Government	500

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
Relief Food Distribution	All wards	Garbatulla, Merti and Isiolo	County Government of Isiolo	50,000 beneficiaries

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Tension has been building in dry grazing reserves of Kom, Yamicha and Duma being convergence points of pastoral communities from neighbouring counties of Marsabit, Samburu, Wajir and Isiolo.
- Tension has also been building up in Hawaye in Sericho ward and Meru National Park which is targeted grazing areas for pastoralists from Garissa County.
- Other areas where tension is building up are Mulango and Shaba Game Reserve areas near Boji Dera which are currently grazing targets for herders from Isiolo Central, Oldonyiro and Meru respectively.

7.2 Migration

- Herders from Isiolo, Samburu and Wajir were reportedly advancing towards drought grazing reserves in Kom, Yamicha and Duma.
- There were internal migration of herders from Isiolo Central and Oldonyiro to Shaba Game Reserve and Mulango. Herders from Garissa County have migrated into Isiolo County targeting Hawaye, Garbatulla and Kinna areas.
- Barambate, Kulamawe and Gachuru grazing areas are hosting a large number of herders from Malkadaka, Gafarsa, Muchuro, and Kombola.

7.3 FOOD SECURITY PROGNOSIS

- The county's main livelihood, animal production, has been on a recovery trend triggered by the enhanced rainfall performance of MAM 2018, though expectations of further recovery were thwarted by poor performance of OND 2018, whose distribution was poor, temporary and spatially. However, pastoral livelihoods remained relatively resilient, mainly relying on gains of the long rains season though the trend seemed to have turned otherwise from December 2018 after the failure of short rains season.
- There is a likelihood of onset of long rains in March 2019 whose performance would so pivotal to the sustenance of county's main livelihood after failure of previous year's short rains.
- Livestock productivity was at a better state compared to a similar period in the previous year and in the long-term and is projected to improve to a better state should the long rains perform better.
- On the other hand, crop production would emerge productive to enable a sustained supply of food commodities to the local markets.
- The current state of water sources is poor with acute shortages biting some settlements in the larger pastoral livelihood zone necessitating water provision through water trucking. There is therefore a lot of expectation on the oncoming rains to be able to recharge adequately rivers and open surface water sources for a smooth running of productive livelihood activities failure to which the county would plunge into a widespread water deficit and a crisis.
- Households' purchasing power was better compared to a similar time in the previous years and in the long-term but may worsen should the next rainfall season fail.
- On the other hand, food commodity prices stabilized over the period under review and is expected to have a marginal increase or reduction as the long rains approach, given the stability in the supply chain.
- The overall access to food and their utilization was fair and expected to stabilize should the performance of the long rains be normal to above normal.
- The county was generally in the minimal food security phase with a medium likelihood of sliding into stressed food security phase.

8. RECOMMENDATIONS

- Sensitize farmers on proper agronomic practices to enable adequate preparation for the long rains putting more emphasis on early planting and attentive to adopting drought tolerant crops.
- Rehabilitation and unblocking of drainage system in Isiolo town and major centres.
- Support peace building, conflict resolution and cohesion mechanisms in all sub-counties. Areas of major focus include Kom, Yamicha, Duma, Boji Dera, Hawaye, Garbatulla, Kinna and Mulango.
- Provide support for an active and continuous human and livestock disease surveillance for all possible disease pandemics.
- Provide relief food to the vulnerable households (those in Poor and Borderline consumption groups) in Cherab, Sericho, Charri, Garbatulla, Kinna and Oldonyiro peri-urban areas
- Support pastoral communities in rangeland management to ensure that pastoral communities are able to utilize the available forage resources in organized grazing patterns and be able to prevent and control bush fires.
- Support vaccination and deworming of all livestock species in all wards.
- Promotion of hygiene and sanitation practices especially the Community Led Total Sanitation (CLTS).