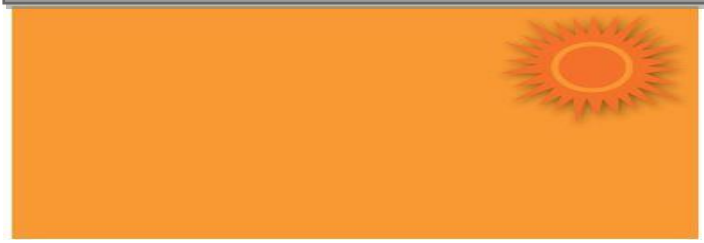
National Drought Management Authority
ISIOLO COUNTY
DROUGHT EARLY WARNING BULLETIN FOR SEPTEMBER 2017

A Vision 2030 Flagship Project

September 2017 EW Phase



Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of September was characterized by an alternating occurrence of cloud cover, with long intervals of sunny, windy and dry weather conditions.
- The Vegetation Condition Index (VCI) was 16.44 indicating a severe vegetation deficit. Isiolo North and Isiolo South were at severe and moderate vegetation deficit respectively.
- The water levels and availability were below normal.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition of pasture and browse was poor characterized by bare and depleted grazing areas.
- Livestock body condition for cattle and sheep was poor while that of goats and camel was fair across all the livelihood zones. Deaths of livestock continued in the pastoral livelihood zone.
- Crop production under irrigation was heavily depressed by the deteriorating water levels.

Access Indicators

- Livestock prices indicated a poor and a declining trend and a steady increase in the prices of food commodities.
- Milk production and consumption per household was 1.0 litres and 0.9 litres respectively.

Utilization Indicators

- Percentage of children at risk of malnourishment whose MUAC was below 135mm was 30.6 percent for the period under review which was higher than the long-term average of 16.4 percent.

Early Warning Phase Classification

Livelihood Zone	EW PHASE	TRENDS
Pastoral-All Species	Alarm	Worsening
Agro-Pastoral	Alarm	Worsening
Casual Waged Labour /Charcoal	Alarm	Worsening
County	**Alarm**	**Worsening**
Biophysical Indicators	**Value**	**Normal Range/Value**
VCI-3month (Isiolo)	16.4	35-50
Water Sources	3	5
Production Indicators	**Value**	**Normal**
Livestock Migration Pattern	Abnormal	Normal
Livestock Body Conditions	Score 3	Score 7
Milk Production	1.0 Litres	<2.1
Livestock deaths (from drought)	Increasing No. of deaths	No death
Access Indicators	**Value**	**Normal**
Terms of Trade	39	>58
Milk Consumption	0.9 Litres	>1.8 Litres
Water for Households	Fair	Good
Utilization indicators	**Value**	**Range/Value**
MUAC	30.6	>16.4
Coping Strategy Index (CSI)	24.6	>34
Food Consumption	20.2 Percent	>60 Percent Acceptable
	Acceptable	

Seasonal Calendar

▪ Short rains starts ▪ Short dry spell ▪ Reduced milk yields ▪ Migration to dry season area ▪ Land preparation	▪ Migration to wet grazing areas ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase ▪ Reduced pasture/water stress (Normal Scenario)	▪ Long rains harvests ▪ A long dry spell ▪ Increased distances to water and pasture ▪ Reduced water levels ▪ Kidding (Sept) ▪ Community/HH coping measures taken	▪ 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

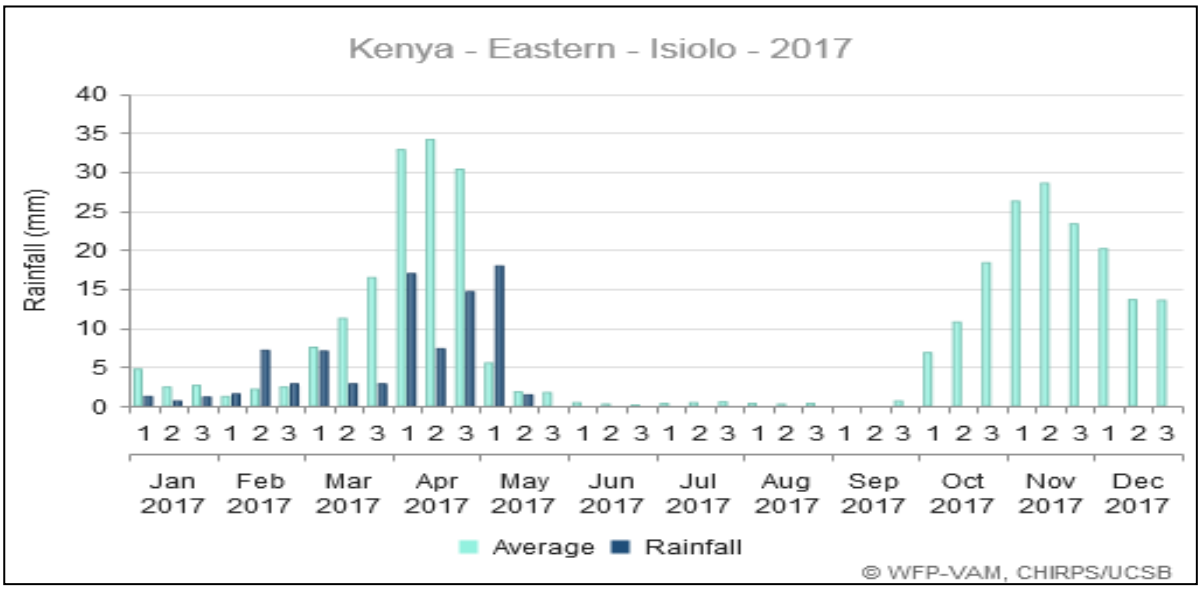
BIO-PHYSICAL INDICATORS

1.0 MEASURING DROUGHT HAZARD

1.1 METEOROLOGICAL DROUGHT

1.1.1 Actual Rainfall

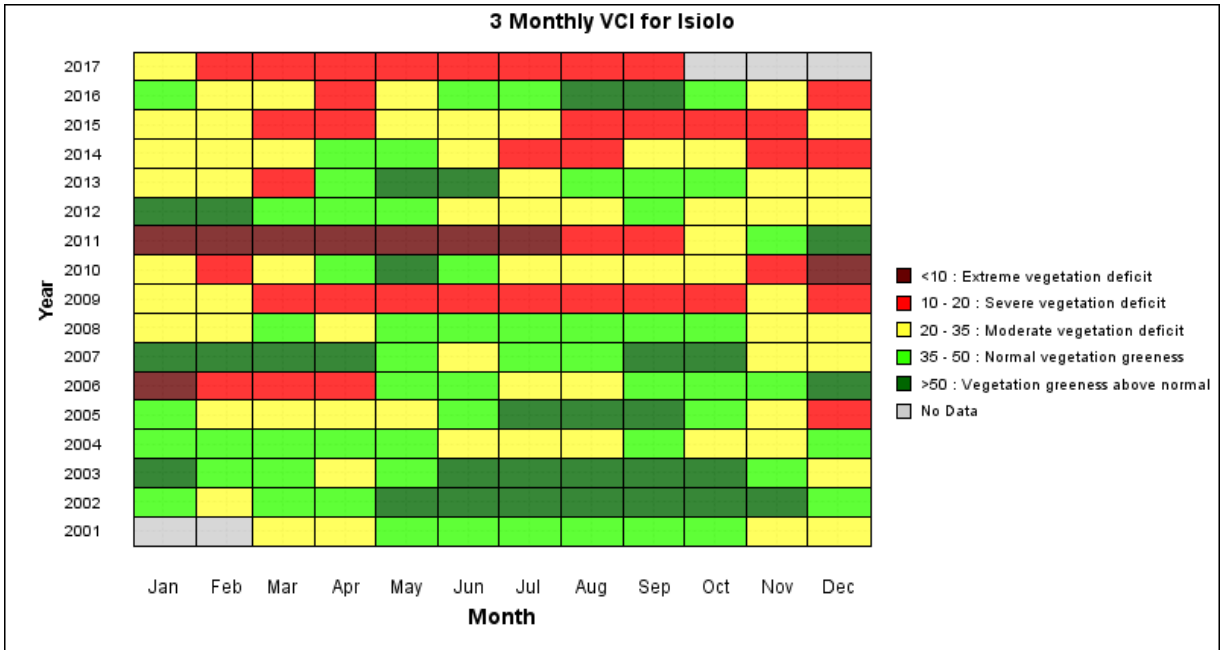
- There was no rainfall received over the month under review.
- With reference to the long-term average, rainfall performance was below normal in comparison to a normal year.
- The following graph shows the rainfall estimates for the period under review.



1.2 AGRICULTURAL DROUGHT

1.2.1 Vegetation Condition Index (VCI)

- The matrix below illustrates the period from January to September 2017, classified as agricultural drought based on VCI thresholds. The matrix shows a retrospective analysis of the vegetation condition as related to drought.



- Isiolo was in Severe Vegetation deficit band within thresholds of 16.44 implying a persistent prevalence of poor vegetation condition across all livelihood zones.
- The poor vegetation condition is attributed to the depressed rainfall of two consecutive seasons OND 2016 and MAM 2017.

1.2.2 NATURAL VEGETATION AND PASTURE CONDITION

Field Observations (Pasture and Browse Conditions)

Pasture Condition

- The quantity and quality of pasture was extremely poor in most parts of the county attributed to the poor performance of the MAM rainy season.
- Pasture in most grazing field in the pastoral-all species livelihood zone is depleted that led to out-migration of livestock northwards to the dry grazing areas.
- The condition could be rated at poor as opposed to the normal fair state during this time of the year across all livelihood zones.

Browse Condition

- Browse condition in terms of quantity and quality was poor attributed to the poor level of regeneration due to the intermittent performance of the MAM 2017 rainy season and depletion by animals.
- All areas registered a decline in *Vegetation Density* based on the Normalized Difference Vegetation Index (NDVI) recorded over the month under review.
- In comparison to a normal year, the available browse amount was below normal.

1.2.3 Distance to Grazing Areas

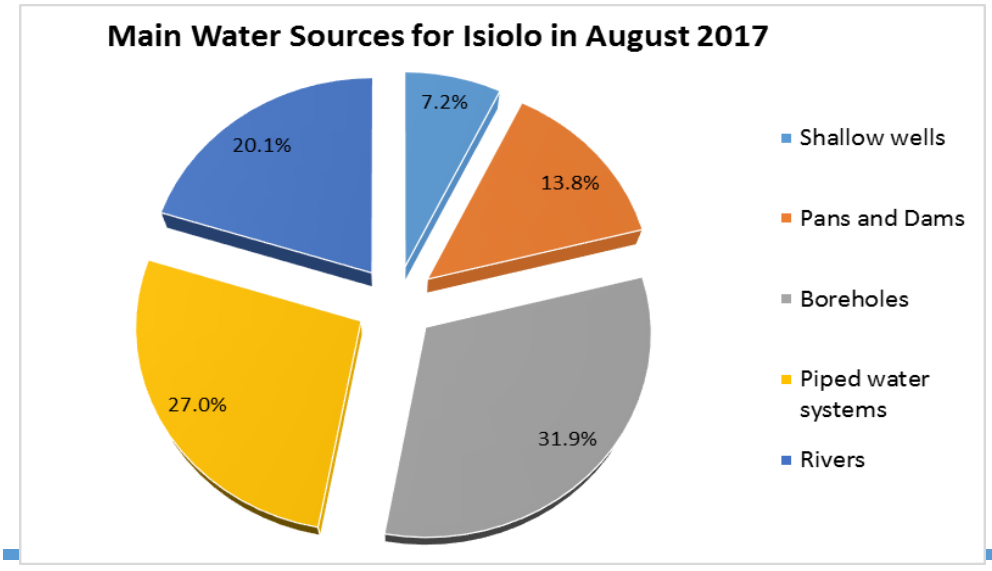
- The county average grazing distance for animals left in traditional grazing areas increased from 18.5 km in August to 20.7 km over the period under review. The grazing distances were exceedingly long for herds that continued to migrate into dry grazing reserves where animals trekked for more than 50km one way.
- The long distances to grazing areas are mainly attributed to the depletion of pasture and browse as an impact of the failed rains on rangeland conditions.
- The longest return distance to grazing areas was recorded in the pastoral at 25.7km while Agro-pastoral livelihood zone recorded 12.5km.

HYDROLOGICAL DROUGHT

1.3 Water Sources and Availability

1.3.1 Main Sources of Water

Water sources available in the current month were boreholes, sand dams, rivers and shallow wells.
Most shallow wells and sand dams increased in depth and recorded low yield.
Most shallow wells in Hawaye, Dadacha Bassa, Alango, and Dololo Dakiye remained dry in the month of September causing severe water shortages both for human and livestock use.
There was however a slight improvement of water availability after River Ewaso Nyiro recharged following some rains in the Aberdares and the Mount Kenya.



- Ground observations and reports show that the state of water sources was ranked at index 3 in reference to the scale below implying the water availability was below normal for the period.

INDEX	STATE OF WATER	DESCRIPTION
1	EMERGENCY SITUATION	All main water sources have dried up; only few boreholes still yielding significant amounts
2	STRONGLY INADEQUATE	Surface water sources have dried up while the underground water sources are yielding very little amounts of water. Breakages of boreholes contribute to worsen the situation. Acute water shortage in many areas within the livelihood.
3	INADEQUATE	Surface water sources have dried up while the underground water sources are yielding modest amounts of water. Concentration of livestock around few water points contribute to spread communicable diseases and to degradation of rangeland
4	DECLINING	The water availability is below normal for the period, but showing declining trends.
5	NORMAL	The water availability is normal for the period
6	GOOD	The water availability is above normal for the period

1.4 Emerging Issues

1.4.1 Insecurity/Conflict/Displacement

- Conflict and insecurity decreased in the current month. However, conflict resolution and peace building initiatives are being carried out in all conflict hotspots.
- Tension between three communities viz Borana, Meru and Turkana persists around Gambela and Maili nane in Burat ward.

1.4.2 Migration

- Livestock still remained concentrated in the dry grazing reserves and the river flood plains even though pasture and browse resources are at the verge of exhaustion.
- There were reported cases of livestock migration from drought reserve boreholes of Duma and Yamicha to Arbjahan and Moyale, as others moved towards Laikipia, Tharaka and Samburu counties targeting private ranches.

1.5 Implication on Food Security

- The long distances of trekking has led to continual weakening of animals leading into deaths considered as immense loss of livelihood for the pastoral communities.
- Market functionality was greatly affected due to poor livestock body condition and the subsequent migration to distant grazing areas outside the county.

SOCIO-ECONOMIC INDICATORS

2.0 PRODUCTION INDICATORS

2.1 Livestock Production

2.1.2 Livestock Body Condition

- Livestock body condition for cattle and sheep was poor while that of camel was fair and on a deteriorating trend across all the livelihood zones attributed to the deprived state of pasture and browse condition coupled with long distances to water sources.
- For most livestock, current body condition can be rated at index 3 as per the threshold scale below.

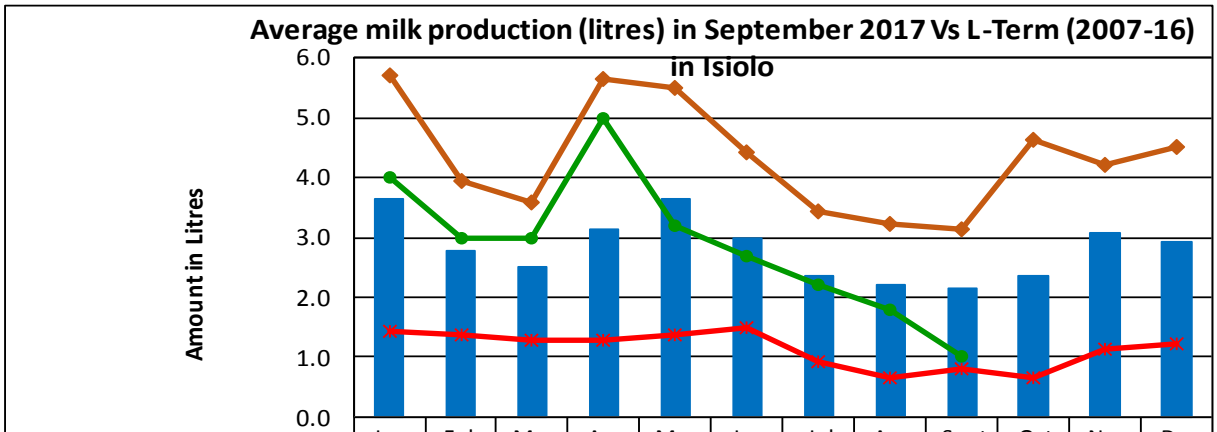
BODY CONDITIONS	SCORE	WARNING STAGE
Emaciated, little muscle left	1	Emergency
Very thin no fat, bones visible	2	
Thin fore ribs visible	3	Alert Worsening/Alarm
Borderline fore-ribs not visible. 12th & 13th ribs visible	4	Alert
Moderate. Neither fat nor thin	5	Normal/Alert
Good smooth appearance	6	
Very Good Smooth with fat over back and tail head	7	Normal
Fat, Blocky. Bone over back not visible	8	
Very Fat Tail buried in fat	9	

2.1.3 Livestock Diseases and pests

- Ectoparasites and endoparasites (worms) infestation and as well as malnutrition were some of the hinderances to animal production reported over the month under review.
- Cases of opportunistic and endemic ones such as Contagious Caprine Pleuropneumonia (CCPP) were reported across all livelihood zones.

2.1.4 Milk Production

- Milk production declined significantly to 1.0 litres per household from 1.8 litres in the previous month.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
L-Term Average 2007-16	3.6	2.8	2.5	3.1	3.6	3.0	2.4	2.2	2.1	2.4	3.1	2.9
Maximum	5.7	3.9	3.6	5.6	5.5	4.4	3.4	3.2	3.1	4.6	4.2	4.5
Minimum	1.4	1.4	1.3	1.3	1.4	1.5	0.9	0.6	0.8	0.6	1.1	1.2
Year 2017	4.0	3.0	3.0	5.0	3.2	2.7	2.2	1.8	1.0			

- Milk production per household was slightly lower than the 10-year average of 2.1 litres attributed to the prevailing inadequacy of pasture and browse and water resources in all livelihood zones.
- Milk production per household was lower than the 10-year average attributed to the reduced TLUs in addition to the prolonged insufficiency of pasture and browse and water resources.

2.2 Crop Production

2.2.1. Timeliness and Status of Crops

- No crops were planted under rain-fed as farmers await the onset of the October November December rains. Irrigated farming continued but its performance was poor due to the continuous decline in water levels in the rivers.

2.3 Implication on Food Security

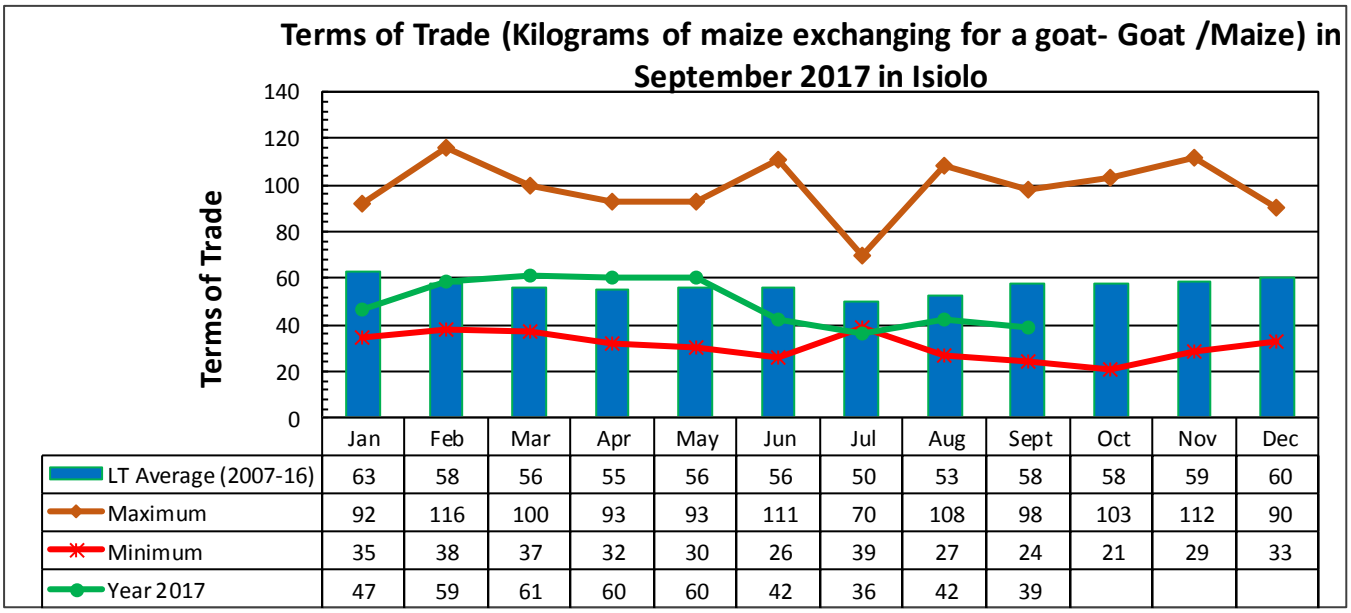
- Animal and crop production deteriorated further due to the limited pasture and water resources leading to the worsening food insecurity at the household level in all livelihood zones.
- Consequently most food commodities' prices remained relatively high while others increased thereby limiting access to essential dietary needs.

3.0 ACCESS INDICATORS

3.1 Livestock Prices

3.1.1 Terms of Trade

- The Terms of Trade (the number of kilograms of maize a household would purchase after a sale of one goat) decreased from 42 kilograms in August to 39 kilograms in the month under review.
- The TOT for the period under review was 33 percent lower than the long-term average value during the same period.

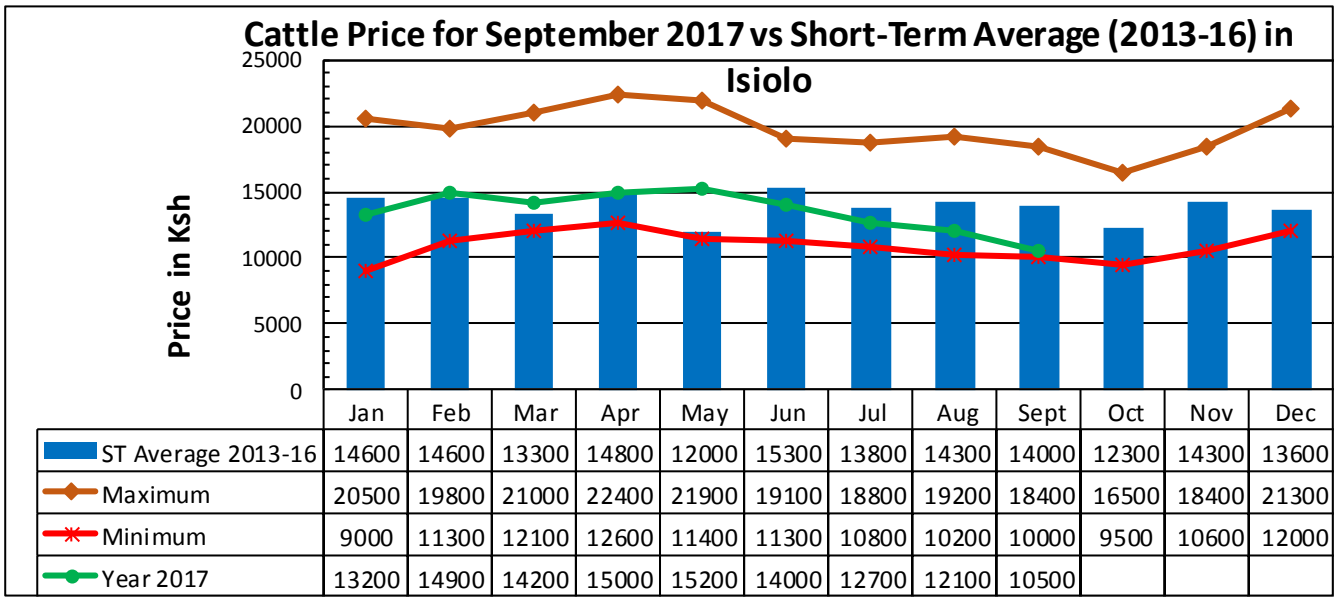


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
LT Average (2007-16)	63	58	56	55	56	56	50	53	58	58	59	60
Maximum	92	116	100	93	93	111	70	108	98	103	112	90
Minimum	35	38	37	32	30	26	39	27	24	21	29	33
Year 2017	47	59	61	60	60	42	36	42	39			

3.1.2 Cattle Prices

- The average household cattle prices decreased from Ksh.12,100 recorded in the previous month to Ksh 10,500.00 in the month under review.
- Cattle prices continued to perform poorly at the farm gate and market levels, a factor that is largely attributed to the poor animal body condition following the prevailing acute of pasture across all livelihood zones.

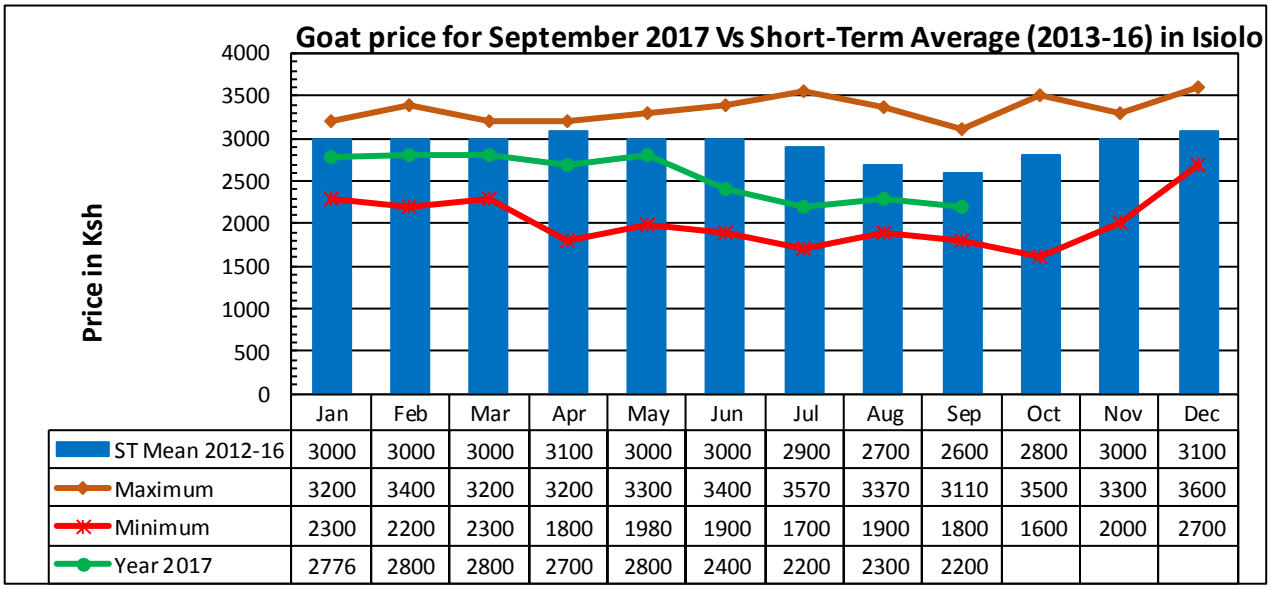
- The current price was 14 percent lower than the four-year short-term average of Ksh 14,000.00.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
ST Average 2013-16	14600	14600	13300	14800	12000	15300	13800	14300	14000	12300	14300	13600
Maximum	20500	19800	21000	22400	21900	19100	18800	19200	18400	16500	18400	21300
Minimum	9000	11300	12100	12600	11400	11300	10800	10200	10000	9500	10600	12000
Year 2017	13200	14900	14200	15000	15200	14000	12700	12100	10500			

1.3 Goat Prices

- There was stability in the average farmgate goat prices in all livelihood zones as the price indicated reduction from Ksh 2,300.00 to Ksh.2,200.00 in the month under review. This was attributed to the worsening body condition in all livelihood zones.
- The pastoral livelihood zone recorded the least average price of Ksh.1,800.00 as compared to the agro pastoral livelihood zone price of Ksh. 2,400.00.
- The average goat price was 14.8 percent lower than the four-year average of Ksh.2,600.00.

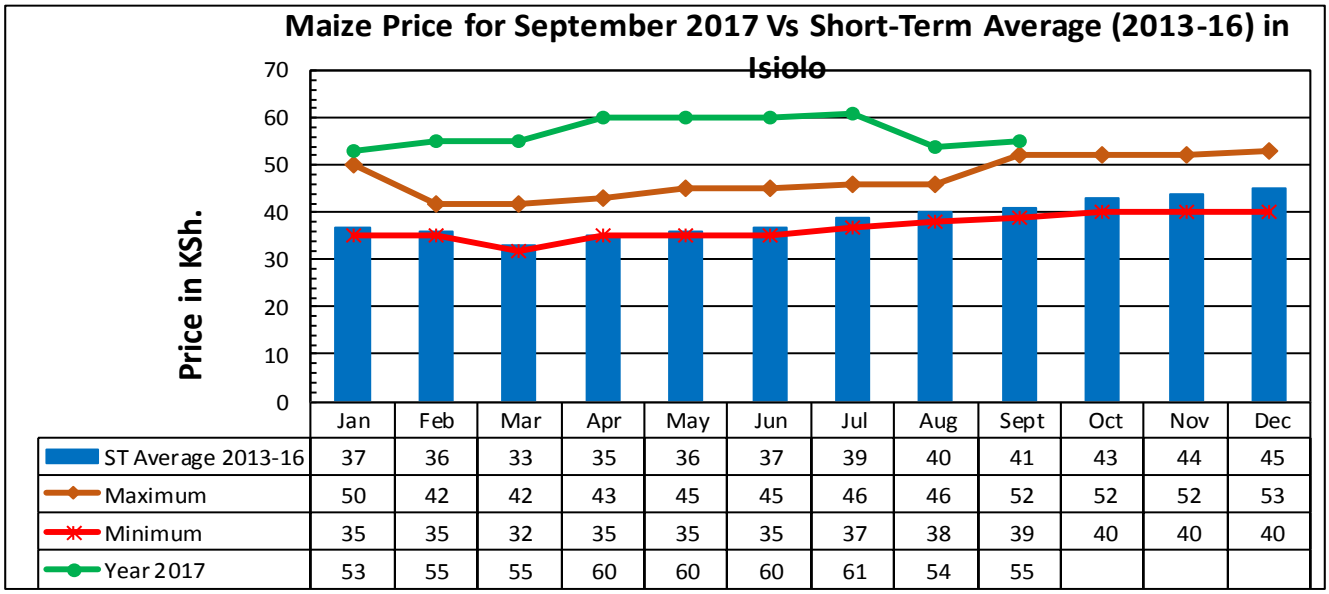


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ST Mean 2012-16	3000	3000	3000	3100	3000	3000	2900	2700	2600	2800	3000	3100
Maximum	3200	3400	3200	3200	3300	3400	3570	3370	3110	3500	3300	3600
Minimum	2300	2200	2300	1800	1980	1900	1700	1900	1800	1600	2000	2700
Year 2017	2776	2800	2800	2700	2800	2400	2200	2300	2200			

3.2 Price of Cereals and Other Food Products

3.2.1 Maize Prices

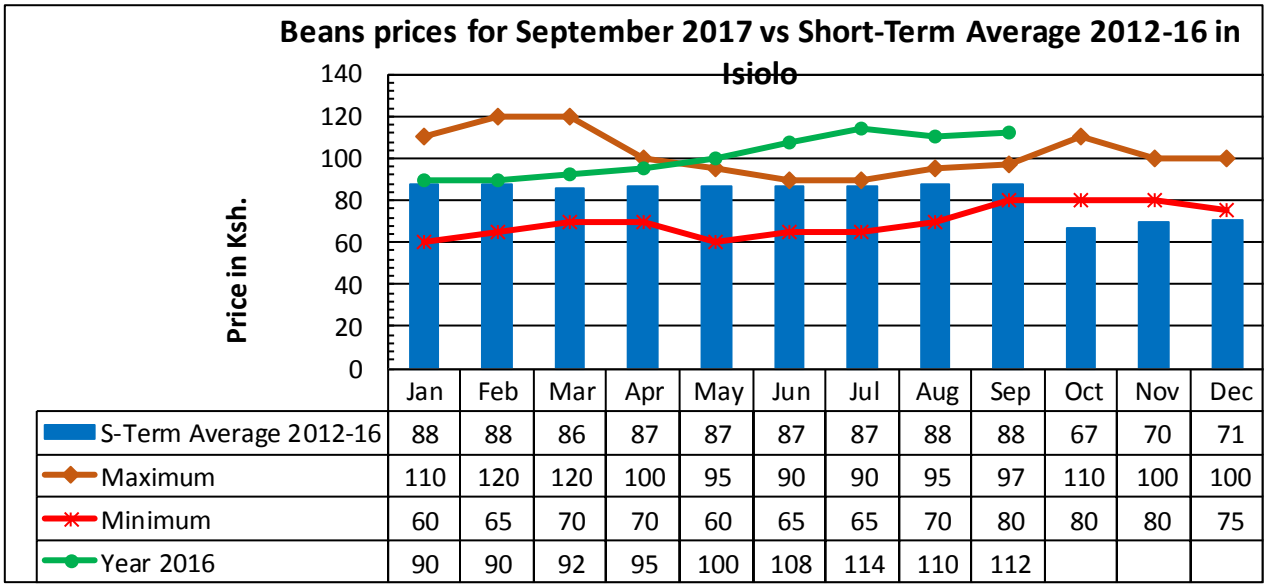
- The average market price of a kilogram of maize stabilized as there was an insignificant increment from Ksh 54.00 during the period under review to Ksh 55.00 in the previous month. The reduction in price was attributed to a relatively increased supply of the commodity from producing counties following harvests in the previous month.
- The average maize price was 35 percent above the four-year average of Ksh 41.00.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
ST Average 2013-16	37	36	33	35	36	37	39	40	41	43	44	45
Maximum	50	42	42	43	45	45	46	46	52	52	52	53
Minimum	35	35	32	35	35	35	37	38	39	40	40	40
Year 2017	53	55	55	60	60	60	61	54	55			

3.2.2 Beans Price (Market Level)

- The county average price of beans increased slightly from Ksh 110.00 to kshs.112.00 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 poor production occasioned by poor harvests in the agro-pastoral livelihood zone and the neigbouring counties such as Meru.
- The price was 27.0% higher than the short-term average price of Ksh. 88.00 during the same period of the year.
- The highest price was recorded in the pastoral livelihood zones of an average of ksh 115.00.



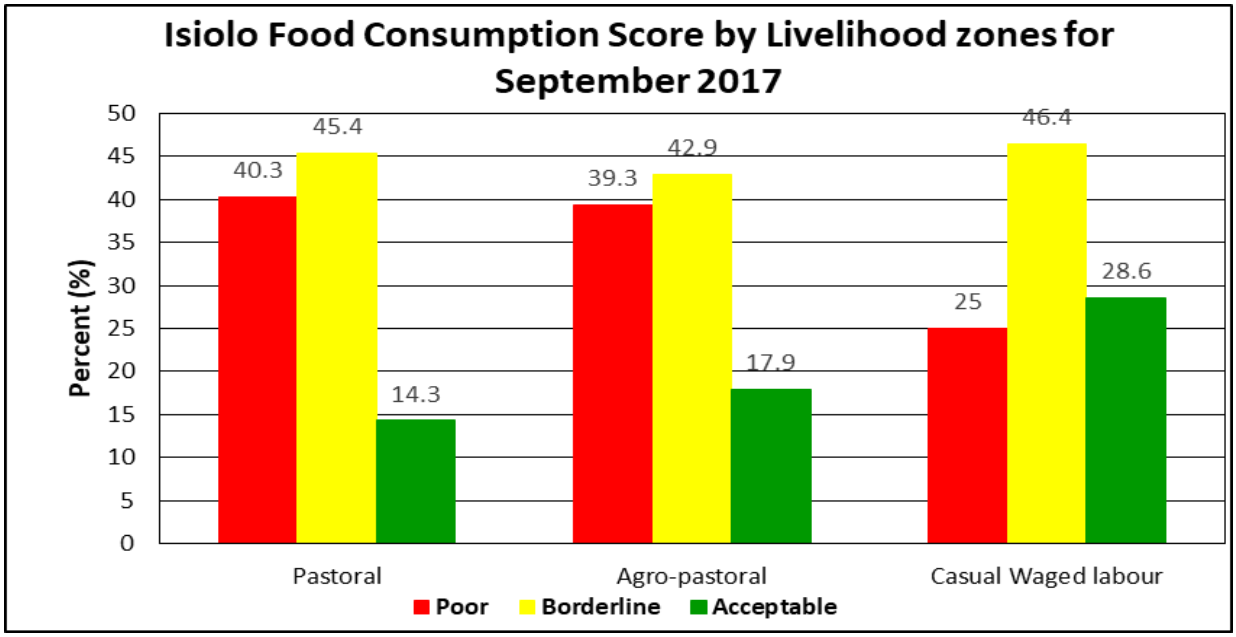
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
S-Term Average 2012-16	88	88	86	87	87	87	87	88	88	67	70	71
Maximum	110	120	120	100	95	90	90	95	97	110	100	100
Minimum	60	65	70	70	60	65	65	70	80	80	80	75
Year 2016	90	90	92	95	100	108	114	110	112			

3.3 Milk Consumption

- The average milk consumption per household decreased slightly to 0.90 litres in the month under review from 1.1 litres recorded in August. The decrease was attributed to the deteriorating production recorded in all livelihood zones mainly due to animals' deteriorating health as pasture, browse, and water resources deplete in all livelihood zones.

3.4 Food Consumption Score

- About 80 percent of the households in the county were persistently food insecure in the month under review, particularly those in borderline and poor food consumption scores. This has been attributed to poor access to food commodities occasioned by deteriorating animal and crop production, poor incomes and high food prices.



The poor FCS implies household are not consuming staples and vegetables every day and rarely consuming protein rich food while borderline FCS imply households consuming staples and vegetables every day accompanied by oil and pulse a few times in a week while the acceptable imply households consuming staples, vegetables every day, and frequently accompanied by pulses and some meat and milk.

Period	Acceptable (%)	Borderline (%)	Poor (%)
July, 2017	20.4	45.6	33.9
August, 2017	20.2	47.9	31.9
September 2017	20.3	44.9	34.9

3.5 Availability of Water for Household Consumption

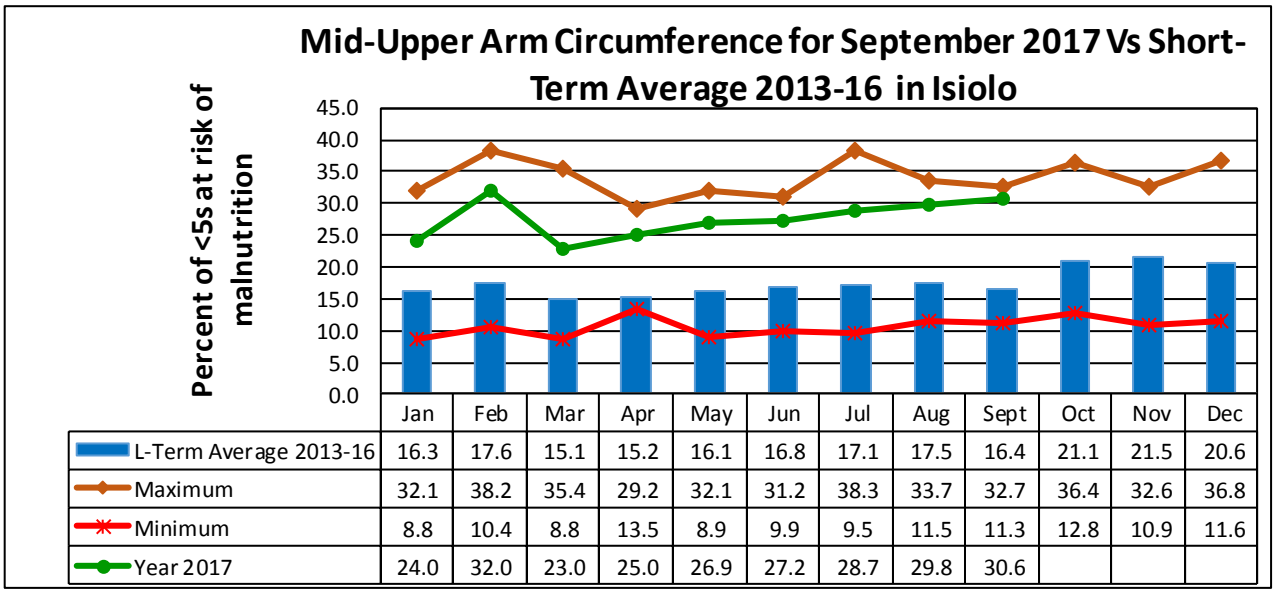
- Household water access average distance to water increased slightly to 8.1 km over the month under review from 7.4 km in the previous month. This was attributed to the deteriorating water status as more shallow wells and water pans dried up forcing households to go further to permanent water sources.
- The waiting time was an average of 40 minutes in the pastoral livelihood zone as compared to 12 minutes and 5 minutes in the Agro-pastoral and casual waged labour respectively.
- The average water distance in pastoral livelihood zones was 13.5km while the distance was 7.6km in the Agro-pastoral livelihood zone. The lowest distance of 1.0 km was recorded in the casual waged labour livelihood zone.

4.0 UTILISATION INDICATORS

4.1 Health and Nutrition Status

4.1.1 MUAC

- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm threshold for the period under review increased to 30.6 percent as compared to 29.8 percent recorded in the previous month.
- 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 deteriorating food availability.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
L-Term Average 2013-16	16.3	17.6	15.1	15.2	16.1	16.8	17.1	17.5	16.4	21.1	21.5	20.6
Maximum	32.1	38.2	35.4	29.2	32.1	31.2	38.3	33.7	32.7	36.4	32.6	36.8
Minimum	8.8	10.4	8.8	13.5	8.9	9.9	9.5	11.5	11.3	12.8	10.9	11.6
Year 2017	24.0	32.0	23.0	25.0	26.9	27.2	28.7	29.8	30.6			

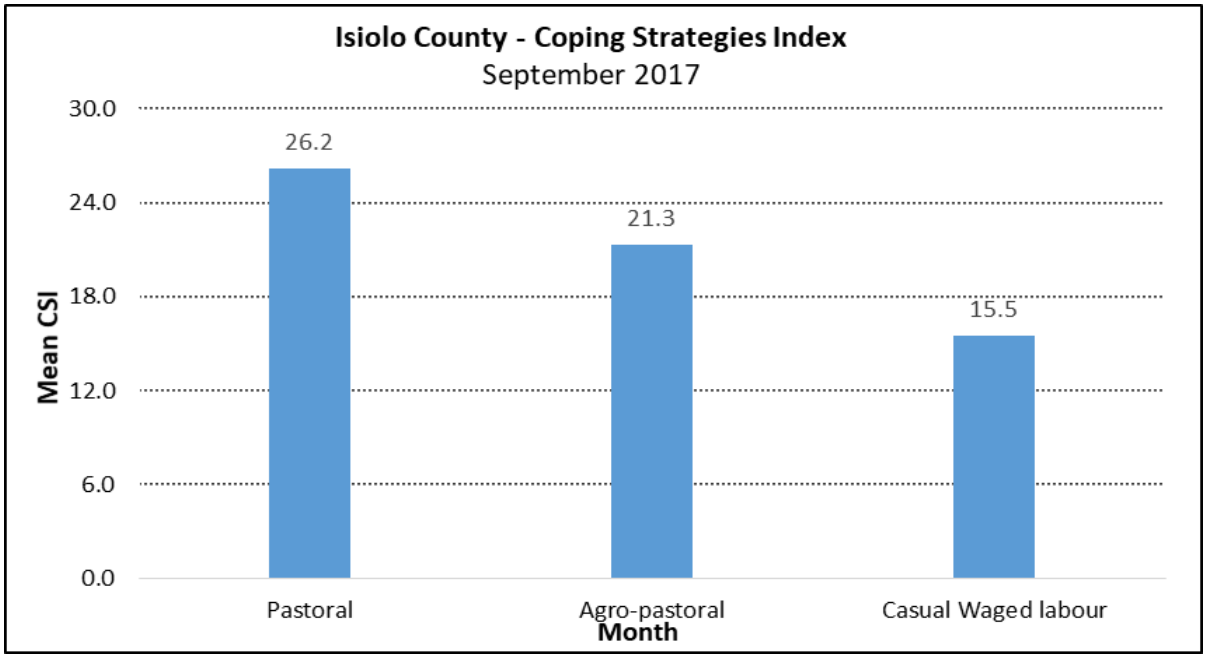
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was above the long-term average of 16.4 percent implying a worse situation as compared to the long-term mean during this time of the year.

4.1.2 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 while those mainly affecting children under five years include: diseases of the respiratory system, pneumonia, malaria, intestinal worms and skin diseases.

4.2 Coping Strategy Index

- The Coping Strategy Index (CSI) increased to 23.8 in the month under review compared to 22.6 in the previous month.
- The increasing index implies a rise in the number and frequency of households employing consumption based coping strategies.
- The highest CSI was recorded in the pastoral livelihood zone at 26.2 compared to 21.3 and 15.6 in the Agro-pastoral and casual labour livelihood zones respectively.
- The most commonly employed coping mechanisms over the period included reliance on less preferred and or less expensive food, reduction of the number of meals and reduction in portion or size of meals.



5.0 FOOD SECURITY PROGNOSIS

- The County drought status remained at Alarm stage and the trend is worsening. The last season (MAM) rainfall performance in all livelihood zones was depressed and poorly distributed.
- Rangeland conditions worsened further as the dry spell progressed resulting into severe scarcity of pasture, browse and water resources leading into massive out-migrations.
- The ability of herders to access good prices for their livestock has been curtailed by migrations which has continued to hamper food availability and consumption leading to poor nutrition among the most vulnerable groups.
- Water shortages are severe in Sericho, Modogashe, Oldonyiro, Merti and Garbatulla. Shallow wells that were in use dried up in Bassa, Dakiye and Malkagalla and people and livestock are facing severe water shortages.
- The food security situation is therefore severe and expected to worsen further as all environmental, production, access and utilization indicators gradually deteriorate until the impacts of the OND short rains come to effect in December.
- The county is therefore at crisis food security phase of the Integrated Phase Classification (IPC 2.0) and may drift to emergency phase.

6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Ongoing food and Non-Food Interventions

1. Provision of supplementary livestock feeds to core breeding herds by NDMA by providing 4,000 bags of drought pellets in Cherab, Charri, Sericho, Garbatulla and Oldonyiro. Caritas Isiolo with support from CRS is providing 125MT of pellets and support deworming exercise in targeted areas in Oldonyiro, Garbatulla and Sericho. In Dadachabasa, LVIA is carrying out deworming exercise in Kinna Ward.
2. The National Government has provided assorted veterinary drugs viz. dewormers, antibiotics, acaricides and ointments.
3. Supporting slaughter destocking of 1,500 small stock mainly sheep and 500 herds of cattle in five wards of Sericho, Garbatulla, Charri, Cherab and Oldonyiro. This is supported by NDMA.
4. Provision of 25 (10,000 litres) collapsible tanks by FAO and Northern Water Service Board.
5. Provision of 10,000 litres plastic water storage tanks by Northern Water Service Board.
6. Support of food vouchers by ACF to 500 households.
7. KRCS is supporting 3,800 households in Sericho, Oldonyiro and Cherab wards while ACF is supporting 1,117 households with Cash Transfer of Ksh 3,000 per month
8. *Chakula Kwa Jamii* cash transfer programme to 83,000 beneficiaries in the county.
9. Water trucking ongoing in Merti, Sericho and Modogashe by NDMA.
10. Blanket Supplementary Feeding Programme (BSFP) to 29,538 children between 6-59 months and 7,773 lactating and pregnant women supported by WFP, ACF and Action Aid Kenya.

6.2 Recommendations

A. Food Interventions

Type of intervention	Implementer
Provision of timely food aid to vulnerable people	County/National Government
Expand Cash Transfers/Food to those who are Food Insecure. Currently supported by Kenya Red Cross Society and ACF	County Government, National Government
Food assistance to conflict affected areas	County Government and National Government
Enhance livestock market subsidy	National/County Government

B. Non – Food Interventions

Type of intervention	Action
Livestock off take- Slaughter Destocking	NDMA , County Government and National Government
Repairs of the broken pumps in the Drought Reserve Boreholes/Sericho/Iresaboru/Dogogicha	County Government/ NDMA
Pre -positioning of fast moving spares in strategic boreholes and	Partners/LVIA/NDMA/County Government

fuel subsidy to strategic boreholes	
Peace building and conflict resolution intervention in Belgesh, Hawaye, Kinna, Garbatulla, Delbeq, Kom, Barchuma, Sabarwawa and Bassa	Peace Committees and Forums, County Administration and NDMA
Purchase of livestock feeds to the core breeding herds	National Governments/NDMA/ FAO/ Caritas Isiolo
Mass screening and integrated medical outreaches	County Government, ACF, AAK, KRCS, Doctors of the World, UNICEF and NDMA

Map showing the county's livelihood zones.