



**National Drought Management Authority
ISIOLO COUNTY**

DROUGHT EARLY WARNING BULLETIN FOR DECEMBER 2017

December 2017 EW Phase



Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of December was characterized by an alternating occurrence of cloud cover with instances of light showers in few parts.
- The 3-Month Vegetation Condition Index (VCI) for Isiolo was 12.2 indicating a severe vegetation deficit. Isiolo North and Isiolo South were both at severe vegetation deficit respectively.
- The water levels and availability were below normal apart from a few parts that received some rains though little.

Socio Economic Indicators (Impact Indicators)

Production Indicators

- The condition of pasture and browse was in a greater proportion of the county was characterized by depleted and bare grazing areas with limited regeneration reported in selected parts.
- Livestock body condition for cattle and sheep was poor while that of goats and camel was fair with a slight improvement across all the livelihood zones.
- Condition of crops under rainfed was relatively poor as moisture stress signs set in after rains ceased in the second and third decades of November.

Access Indicators

- Livestock prices indicated a poor with an unstable trend and a near stabilization of prices of food commodities.
- Milk production and consumption per household was 1.5 litres and 0.96 litres respectively.

Utilization Indicators

- Percentage of children at risk of malnourishment whose MUAC was below 135mm was 28.9 percent for the period under review which was higher than the long-term average of 20.6 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)	12.2	30-40
Water Sources	3	5
Production Indicators	Value	Normal
Livestock Migration Pattern	Abnormal	Normal
Livestock Body Conditions	Score 4	Score 7
Milk Production	1.5 Litres	2.9
Livestock deaths (from drought)	Decreasing No. of deaths	No death
Access Indicators	Value	Normal
Terms of Trade	43	>60
Milk Consumption	0.96 Litres	>1.8 Litres
Water for Households	Fair	Good
Utilization indicators	Value	Range/Value
MUAC	28.9	>20.6
Coping Strategy Index (CSI)	21.8	>34.9
Food Consumption	30.2 Percent	>75 Percent Acceptable
	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

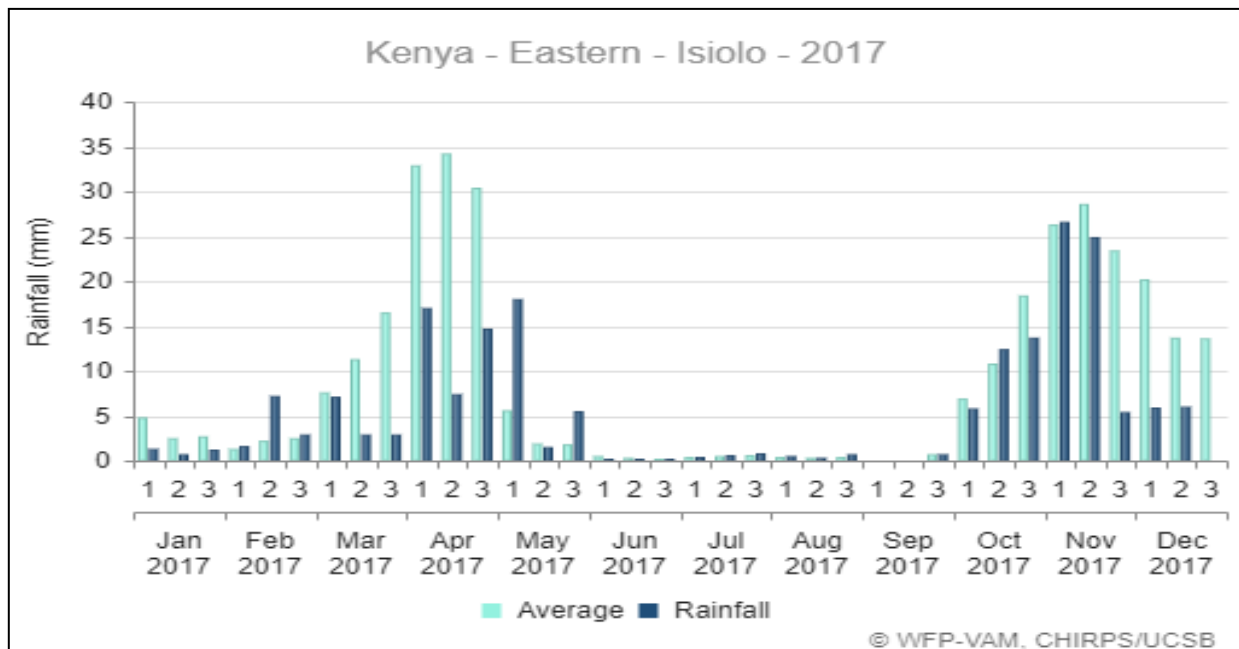
BIO-PHYSICAL INDICATORS

1.0 MEASURING DROUGHT HAZARD

1.1 METEOROLOGICAL DROUGHT

1.1.1 Actual Rainfall

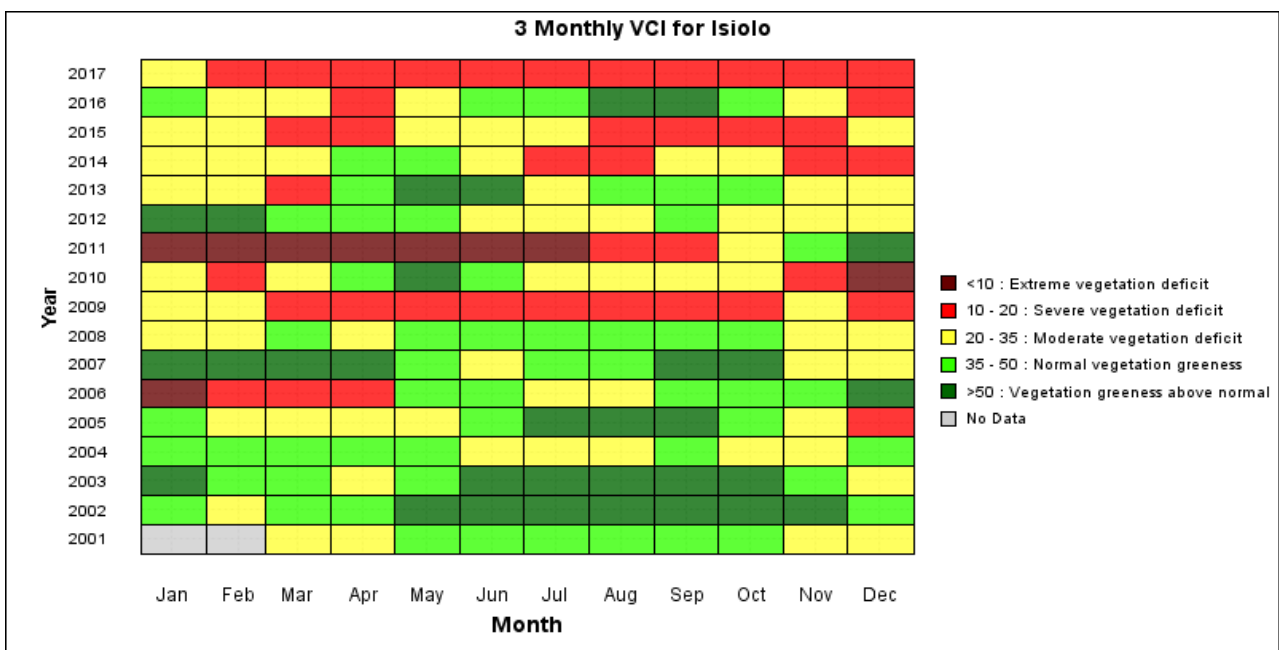
- The county received an average of 5.8mm and 5.9mm of rainfall in the first and second dekads of the month under review. The showers received were poorly distributed both spatially and temporarily. A greater percentage of the county did not receive any rainfall in the month under review.
- With reference 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 December 2017, classified as agricultural drought based on VCI thresholds. The matrix shows a retrospective analysis of the vegetation condition as related to drought.



- The county was in Severe Vegetation deficit band within thresholds of 12.2 implying a persistently poor and deteriorating vegetation condition across all livelihood zones.
- The poor vegetation condition is attributed to the depressed rainfall of two consecutive seasons OND 2016, MAM 2017. Moreover, the just ended OND 2017 performed poorly spatially and temporarily.

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 poor rainfall performance except in small sections of Oldonyiro and Isiolo Central where some little rains were received.
- There has been a high concentration of livestock in these grazing areas resulting into a high rate of depletion implying that the available pasture may last for only one more month.
- Pasture in most grazing fields in the larger pastoral livelihood zone is depleted and no regeneration is expected as no rains were received in most parts of the zone.
- Pasture condition could be rated as 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 continued poor performance of rainy seasons and hot weather. Partial regeneration occurred in small parts of Oldonyiro and Isiolo central following reception of some rain during the month of October and November.
- In a similar scenario to pasture, the depletion rate is high and the available browse may only last for at most one more month.
- Most 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 average grazing distance for animals left in traditional grazing areas increased further during the month under review. The grazing distances were exceedingly long for herds that migrated to grazing reserves within as well as those outside the county where animals trekked for more than 40km one way to areas that received rains in previous month.
- Long distances to grazing areas were mainly attributed to the continued depletion of pasture and browse resources following poor regeneration as an impact of the successive failed rains.

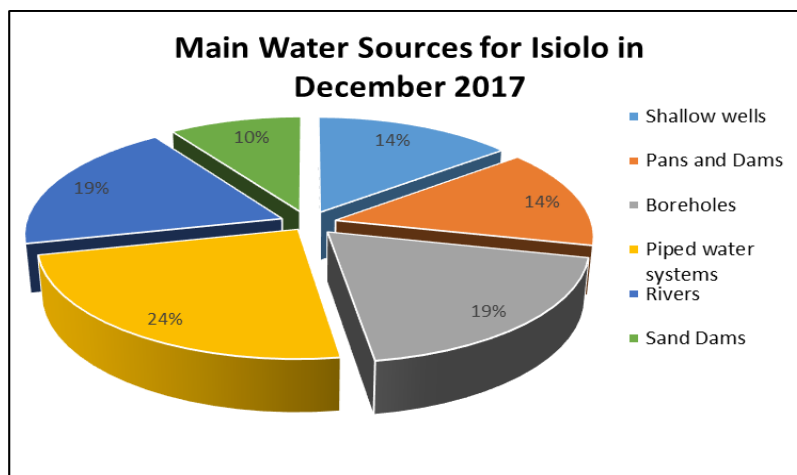
HYDROLOGICAL DROUGHT

1.3 Water Sources and Availability

1.3.1 Main Sources of Water

Water sources during the month were boreholes, sand dams, rivers and shallow wells.

Most shallow wells in Garbatulla and Merti sub-counties recorded very low yield. However, a few sand dams in the hilly sections of Oldonyiro ward had a significant recharge after some rains were received in the region.



Most shallow wells in Hawaye, Dadacha Bassa, Alango, and Dololo Dakiye remained dry in the month of December causing severe water shortages both for livestock and human consumption.

- Ground observations and reports show that the state of water sources was ranked at index 4 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

- Cattle rustling reported in Kinna, Sericho, Garba Tulla and Merti.

1.4.2 Migration

- Pastoralists were reportedly targeting the hilly region towards Oldonyiro, Meru, Laikipia and some parts of Samburu as the next grazing area to salvage their weak animals.
- There were reported cases of livestock migration from Northern and extreme southern parts of the county towards Isiolo Central and neighbouring sections of Meru, Tharaka and Samburu counties where some rains were received. Several herders from Merti sub-county were reported to have moved to the Lorian Swamp.

1.5 Implication on Food Security

- The long distances of trekking in search of pasture and browse resources 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 migrations to distant grazing areas away from traditional grazing fields.

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 and goat was fair and on a stable condition across all the livelihood zones attributed to the limited 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. 12 th & 13 th 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

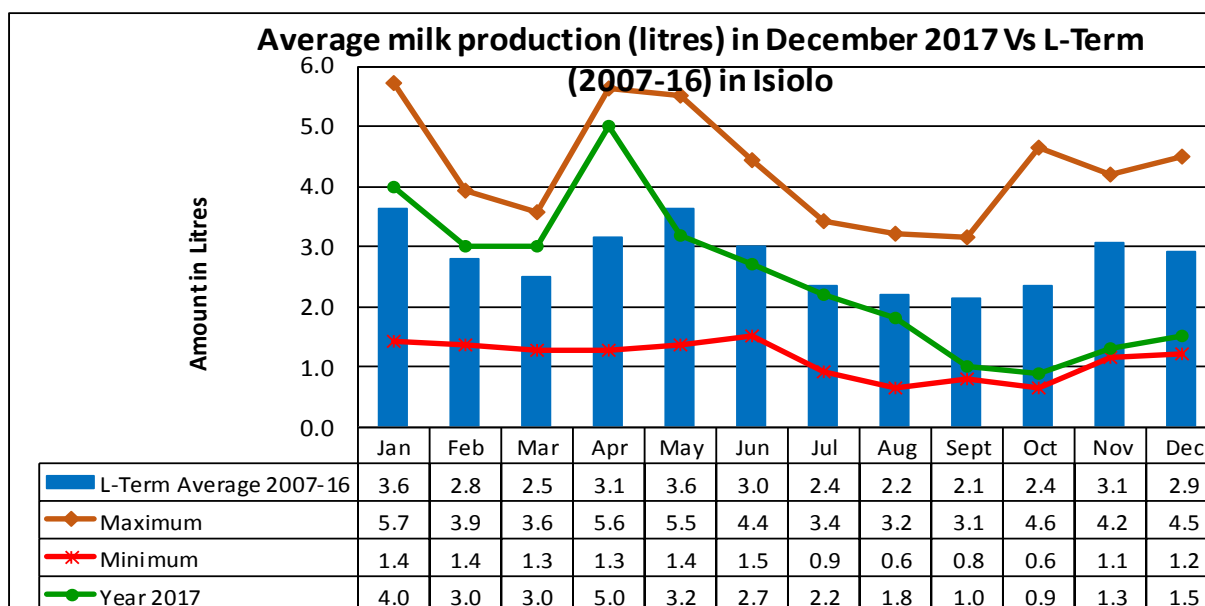
- Ectoparasites and endoparasites (worms) infestation and as well as malnutrition were some of the hindrances to animal production reported over the month under review.
- Cases of opportunistic and endemic ones such as Contagious Caprine Pleuro Pneumonia (CCPP) in goats were reported across all livelihood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

2.1.4 Livestock Deaths

- Deaths of sheep, goats and cattle were reportedly on a slight decline during the month under review as most herds migrated into areas with pasture and browse resources within and into some of the neighbouring counties.
- Grazers, cattle and sheep, have been adversely affected by malnutrition due to lack of feed subsequently causing a lot of deaths.

2.1.5 Milk Production

- Milk production remained low though with a slight increment compared to the previous month. The improvement in average milk produced was reported by herders who have migrated to areas that had significant amount of rains such as Meru and Samburu. The production is



however expected to reduce in a short while after pasture and browse available in grazing areas in the county and the immediate neighbour, Meru North sub-county deplete. The average amount produced at household level was about 1.5 litres as compared to 1.3 litres in the previous month.

- Milk production per household was almost half of the 10-year average of 2.9 litres attributed to the prevailing inadequacy of pasture and browse and water resources in all livelihood zones.
- The progressive low milk production could also be attributed to reduced TLUs due to livestock deaths in addition to the prolonged insufficiency of pasture and browse and water resources in the entire county.

2.2 Crop Production

2.2.1. Timeliness and Status of Crops

- Farmers in the Agro-pastoral livelihood zones (around Burat and Kinna area) planted their crops slightly before and after onset of the rains that have been received in some parts of Isiolo South, Isiolo Central and Oldonyiro.
- Most crops under rainfed cropping have been affected by the poor performance of the rains and most are showing acute signs of moisture stress and therefore very little yields are expected. Maize are at seed filling stage while legumes are drying up ready for harvest in January.

2.3 Implication on Food Security

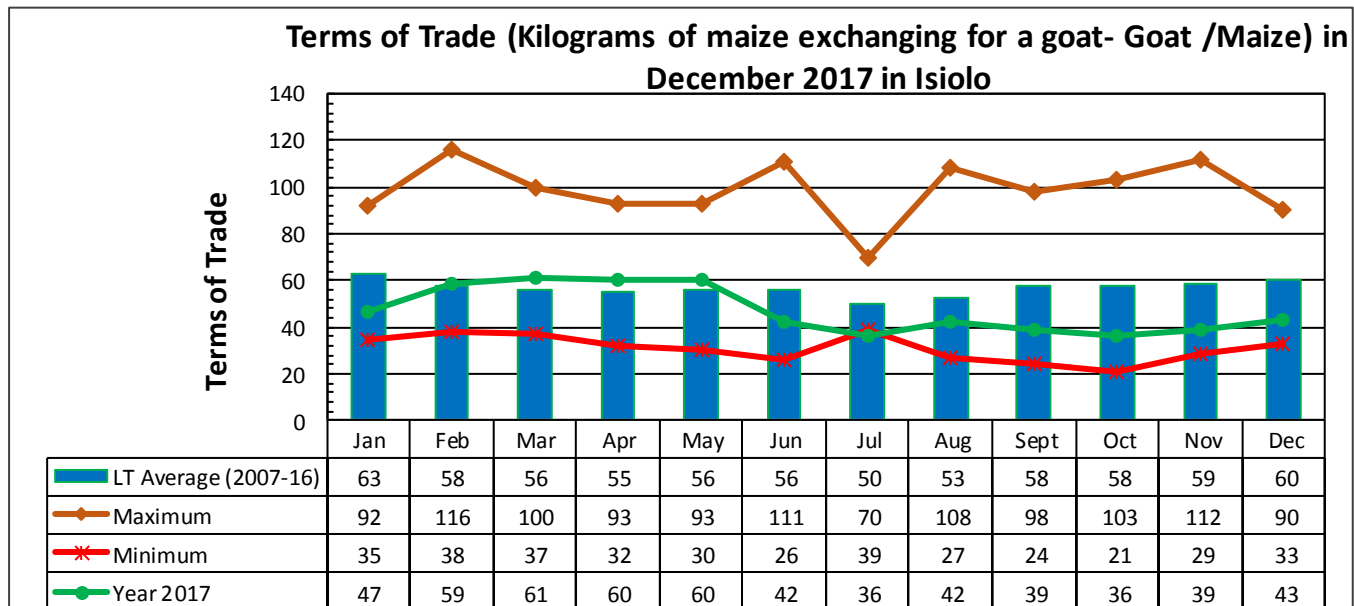
- Animal and crop production deteriorated further due to the limited pasture and water resources leading to the worsening food insecurity at the household level in all livelihood zones. Pastoralists in the entire pastoral livelihood zone are have no other option than to migrate after the month under review lapsed with no rains being received. This implies that their livelihoods will be at the mercy of their neighbours since their traditional grazing fields are depleted and bare.
- 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

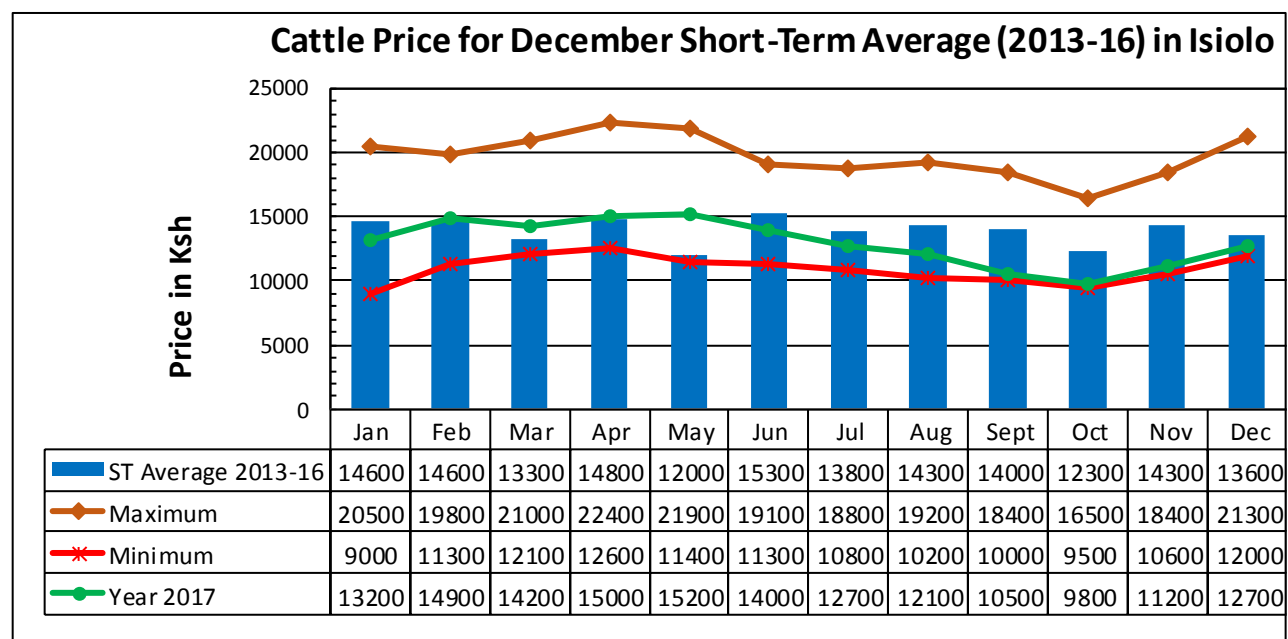
3.1.1 Terms of Trade

- The Terms of Trade (the number of kilograms of maize a household would purchase after a sale of one goat) increased slightly to 43 kilograms in the month under review from 39 kilograms in the previous month.
- The TOT for the period under review was 28 percent lower than the long-term average value during the same period.



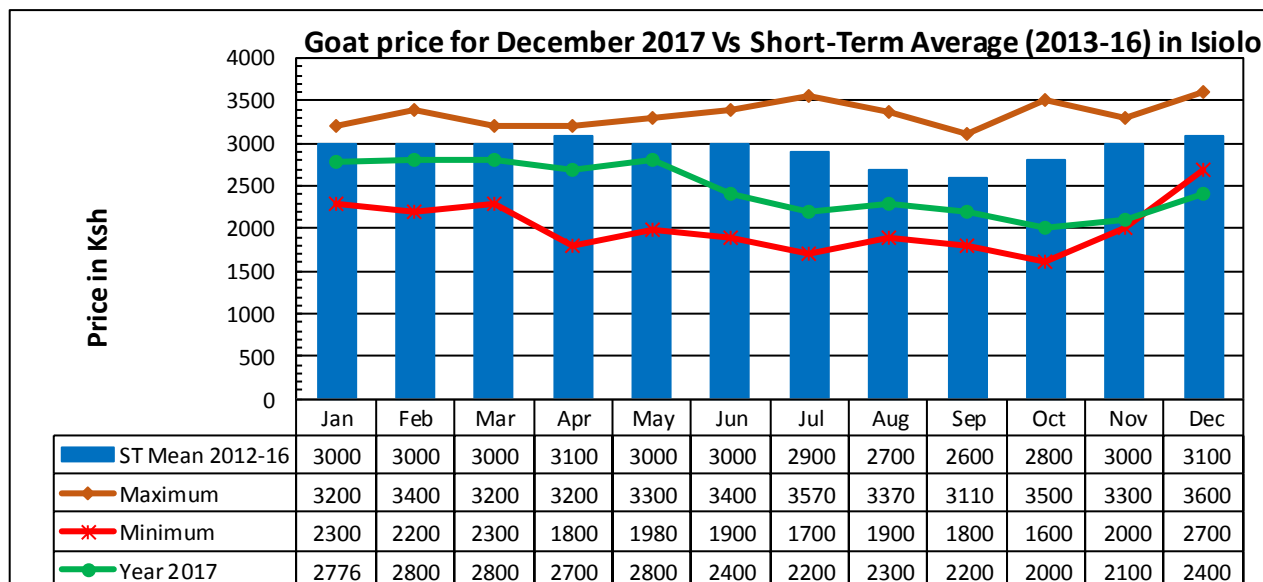
3.1.2 Cattle Prices

- The average household cattle prices increased slightly from Ksh 11,200.00 recorded in the previous month to Ksh 12,700.00 in the month under review. The increment could partly be attributed to a considerably increased demand triggered by the festive season.
- Cattle prices continued to perform poorly at 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 22.0 percent lower than the four-year short-term average of Ksh 14,300.00.



1.3 Goat Prices

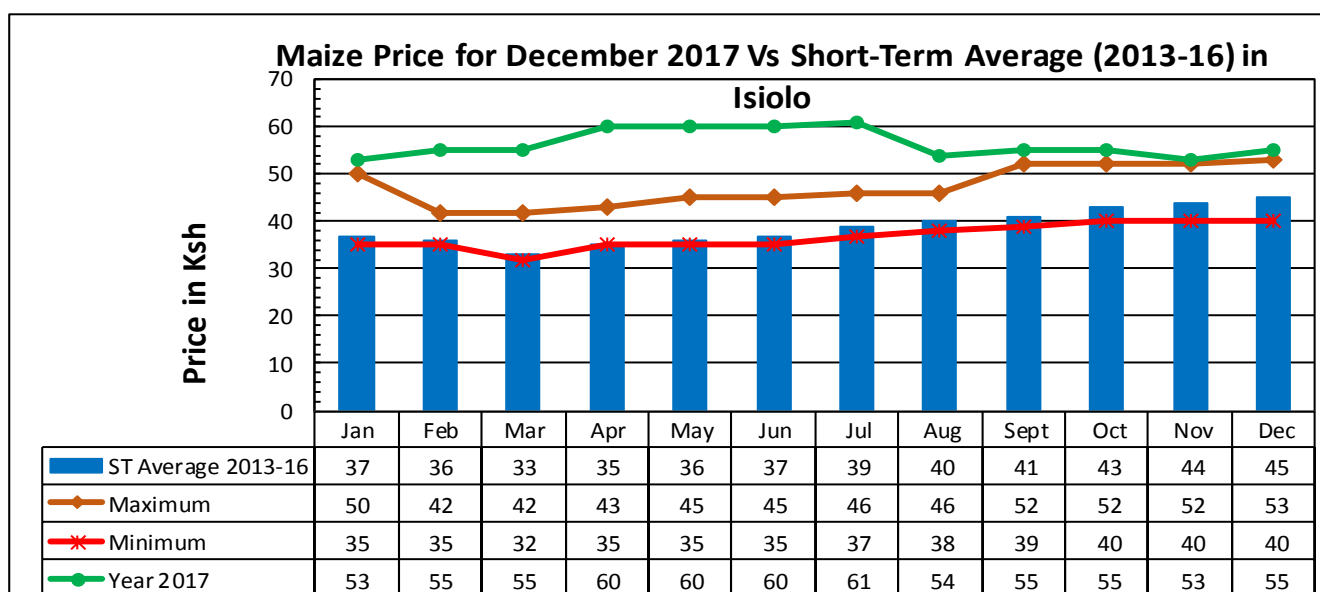
- There was stability in the average farmgate goat prices in all livelihood zones as the price increased slightly to Ksh.2,400.00 from Ksh.2,100.00 in the previous month. The prices were consistently low due to poor body conditions in all livelihood zones. This was attributed to the relatively increased demand triggered by the festive season.
- The average price was however lower than the minimum price ever recorded for the same period under review.
- The pastoral livelihood zone recorded the least average price of Ksh.2,000.00 as compared to the agro pastoral livelihood zone price of Ksh. 2,600.00.
- The average goat price was 220percent lower than the four-year average of Ksh.3,100.00.



3.2 Price of Cereals and Other Food Products

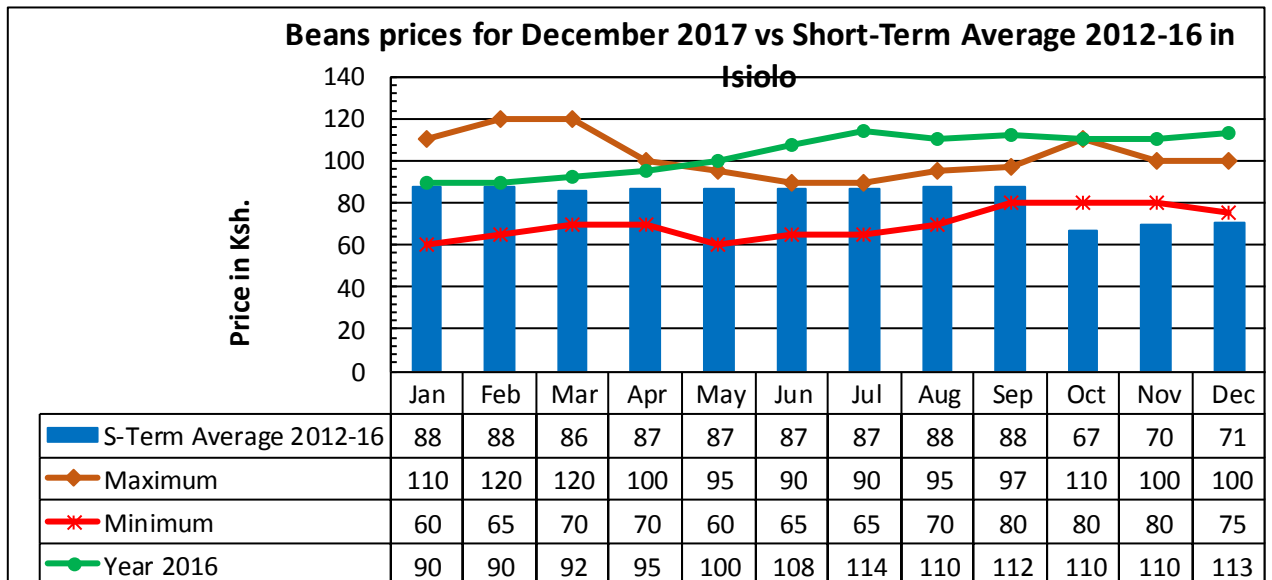
3.2.1 Maize Prices

- The average market price of a kilogram of maize increased slightly from Ksh 53.00 to in the previous month to Ksh 55.00 during the period under review. The stability was attributed to a relatively stable supply of the cereals to markets from the neighbourhood and other large scale producing counties.
- The average maize price was 22 percent above the four-year average of Ksh 45.00.



3.2.2 Beans Price (Market Level)

- The county average price of beans increased by Ksh. 3.00 to Ksh 113.00 per kilogram during the month under review from Ksh 110.00 in the previous month. 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 neighbouring counties.
- The price was 58 percent higher than the short-term average price of Ksh. 71.00 during the same period of the year.
- The highest price was recorded in the pastoral livelihood zones of an average of ksh 120.00.

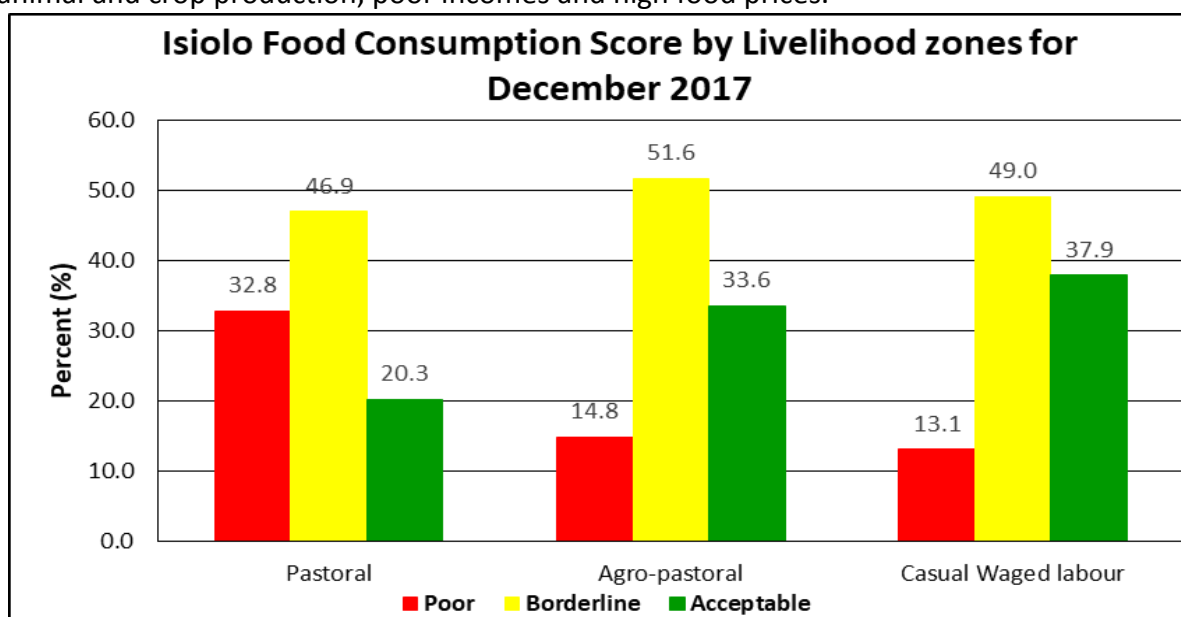


3.3 Milk Consumption

- The average milk consumption per household was consistently poor even after recording a slight increase from 0.90 litres in November to 0.96 litres in the month under review. The low amount was attributed to poor production owing to the deprived animal health prevailing in all livelihood zones as a result of the continued inadequacy of pasture, browse, and water resources.

3.4 Food Consumption Score

- The proportion of households who were persistently food insecure reduced slightly over the month to about 70 percent. This was an indication of the very minimal impact of the October-November-December rains on food production factors in all livelihood zones and was more pronounced in the pastoral livelihood zone.
- The month's FCS levels show a persistent poor access to food commodities occasioned by poor 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 (%)
October, 2017	20.5	43	34.3
November 2017	21.3	50.0	30.9
December 2017	30.6	49.2	20.2

3.5 Availability of Water for Household Consumption

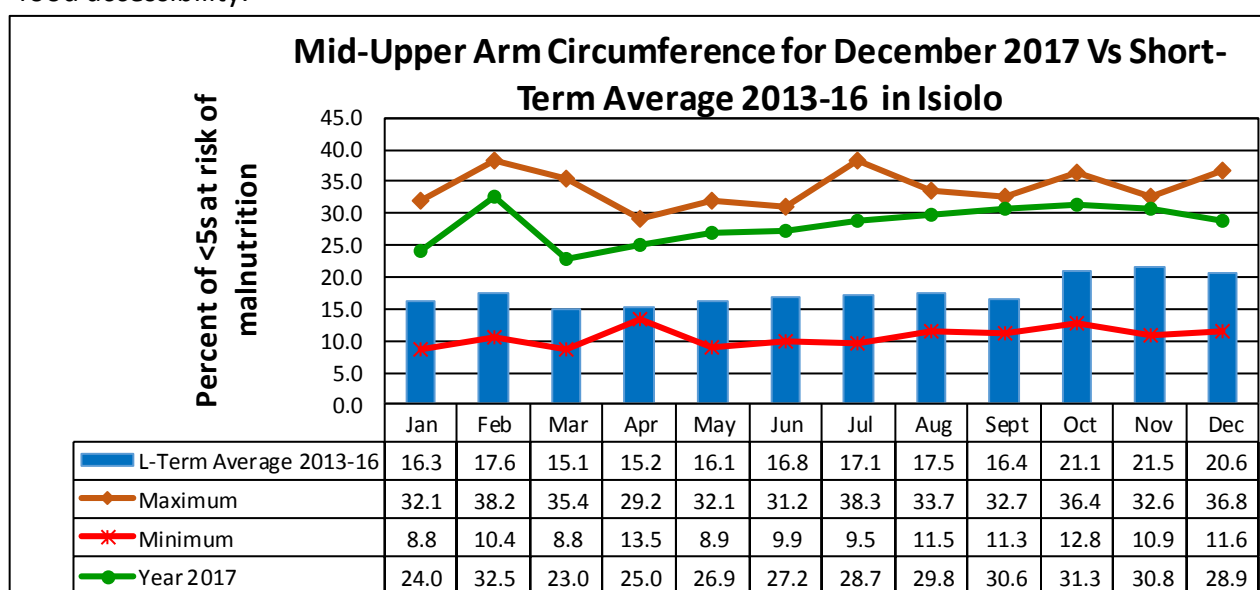
- Household water access average distance to water sources were increased significantly from 6.6km to 10.6km over the month under review. This was attributed to the poor water availability following little recharge levels of water sources across the county following poor performance of the just ended rainy season. Almost all shallow wells that dried in the course of the previous dry spell have remained dry since onset.
- The waiting time was an average of 30 minutes in the pastoral livelihood zone as compared to 8 minutes and 5 minutes in the Agro-pastoral and casual waged labour respectively.
- The average water distance in the pastoral livelihood zones was 15.8km while the distance was 4.5km in the Agro-pastoral livelihood zone. The lowest distance of less than 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 135.0mm threshold for the period under review remained high at 28.9 percent even after recording a 2.0 percent decline from the previous month rate of 30.8 percent. This is indicative of a slight improvement that could more likely be attributed to a slightly improved milk consumption as compared to the previous five months in a row.
- The current high proportion of children at risk of malnutrition was attributed to the reduced amount and frequency of meals and limited dietary diversity mainly due to the deprived household food accessibility.



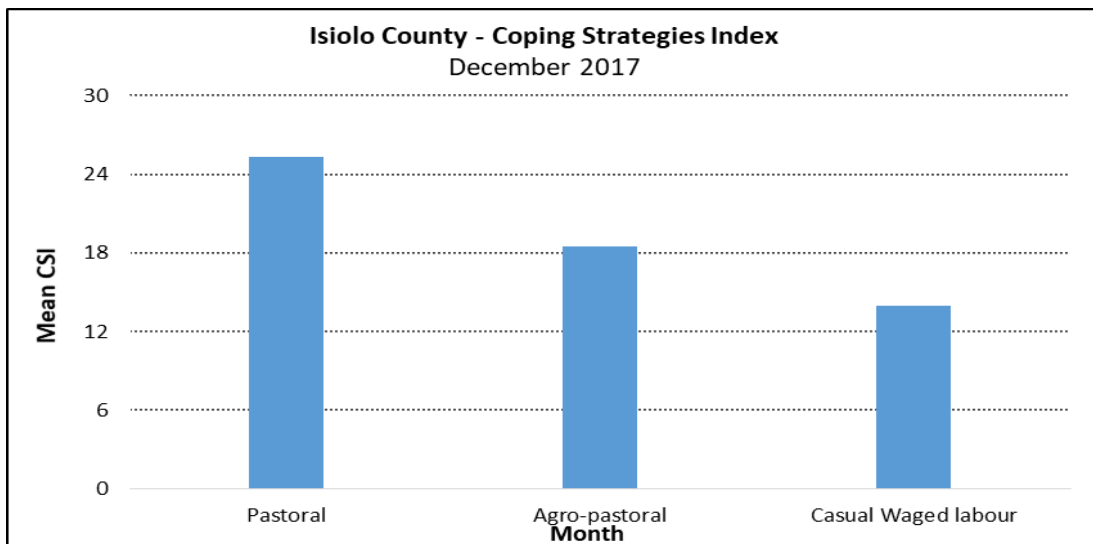
- The proportion of children at risk of malnutrition whose MUAC measurement was below 135mm was above the long-term average of 20.6 percent implying a worse situation as compared to the long-term mean during this time of the year.

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) decreased slightly to 21.8 in the month under review compared to 22.3 in the previous month.
- The consistently high 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 25.6 compared to 17.3 and 14.7 in the Agro-pastoral and casual-waged 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 is at Alarm Stage and the trend is likely to worsen given the deprived performance of the just concluded shorts rains season (OND) which has been poor in temporal and spatial distribution. A greater part of the entire pastoral livelihood zone hardly received any rainfall as other parts received little rains that did not provide the much moisture needed for crop development as well as rangeland resources regeneration. Impact of the poorly performed season will be hazardous as almost all species of the livestock were weakened following the prolonged dry spell that led to death of thousands of heads. Some of the negative impacts are already setting in where thousands of livestock heads are already migrating in search of pasture, browse and water in neighboring counties.
- The ability of herders to access good prices for their livestock has been curtailed by periodic migrations which have continued to hamper food accessibility and consumption leading to poor nutrition among the most vulnerable groups. Water shortages are severe in several parts wards including Sericho, Modogashe, 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 and are forced to trek several kilometers to River Ewaso Nyiro.

- The food security situation is therefore severe and expected to worsen as the rains little significant positive impacts it had on environmental, production, access and utilization indicators reverse gradually.
- The greater part of the county is therefore at severe food security phase of the Integrated Phase Classification (IPC 2.0) and with a high probability of drifting into emergency phase.

6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Ongoing food and Non-Food Interventions

1. Cash transfer by KRCS to 3,800 households in Sericho, Oldonyiro, Charri and Cherab wards which will end this month.
2. *Chakula Kwa Jamii* cash transfer programme to 83,000 beneficiaries in the county.
3. Water trucking in Merti and Sericho ward by County Government.

6.2 Recommendations

A. Food Interventions

Type of intervention	Implementer
Provision of timely food aid to vulnerable households	County/National Government
Expand Cash Transfers/Food to those who are Food Insecure. Currently supported by Kenya Red Cross Society.	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 fuel subsidy to strategic boreholes	Partners/LVIA/NDMA/County Government
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.

