

National Drought Management Authority SAMBURU COUNTY



A Vision 2030 Flagship Project



DROUGHT EARLY WARNING BULLETIN FOR APRIL 2017

APRIL 2017 EW PHASE

Drought Status: **ALARM**



Mipango ya kukabiliana na ukame

Drought Situation & EW Phase Classification

Biophysical Indicators

- Light showers were received in 1st and 2nd dekad but actual onset realized towards end of 3rd dekad totalling to 28.15 mm with poor temporal distribution and with fair coverage in space.
- Further deterioration was noticed in rangeland cover across the county with both livelihood zones moving to extreme vegetation deficit band. The overall vegetation cover decreased to 7.36 from 11.5 recorded last month.
- Surface and underground water sources slightly recharged across the livelihood zones leading to decrease trekking distance for both household and livestock.

Socio economic indicators details

- Resource based conflicts in Koom has led to internal movement of cattle to Sarara hills and Loijuk. Security operation in Laikipia resulted in forced migrations to Kirimon and Mugie ranch area.
- Production of milk decreased as a result of household refraining from milking to allow kids and calves to feed as there is no pasture.
- Livestock deaths due to starvation have been reported.
- Further deterioration in body condition observed for both browsers and grazers ranging between fair to poor which contributed to low livestock prices for all species.
- Prices of cereals (Posho) increased to Ksh 60 from Ksh 55.
- A pastoralist fetched 36 kg of cereals from the sale of a goat.
- The proportion of sampled children under-five years at risk of malnutrition worsened compared to last month to alarming high level of 32.45 per cent.

Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro-pastoral	Alarm	Worsening
Pastoral (North)	Alarm	Worsening
Pastoral (East)	Alarm	Worsening
County	Alarm	Worsening

Biophysical Indicators	Value	Normal range/Value
VCI-3month (Samburu County)	7.36	35-50
VCI-3month -Samburu East	5.25	35-50
VCI-3month -Samburu North	9.71	35-50
VCI-3month-Samburu West	7.89	35-50
Production indicators	Value	Normal ranges
Livestock Migration Pattern	Out Migration across all livelihoods	In Migration
Livestock Body Conditions	Thin Fore ribs visible	Fat & Smooth appearance
Milk Production	1.3	>1.9
Livestock deaths due to drought	Deaths reported	No death
Access Indicators	Value	Normal ranges
Terms of Trade (TOT)	36	>50
Milk Consumption	1.1	>1.6
Return distance	Household: 6 Livestock: 13.8	<3.3 <7.6
Coping Strategy Index	Pastoral: 23.4 Agro Pastoral: 6.9	<56 <56
Acceptable Food Consumption Score	Pastoral: 51.7 Agro pastoral: 100	100 100
Utilization indicators	Value	Normal ranges
MUAC	32.45%	<19.01%

<ul style="list-style-type: none"> ▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation 	<ul style="list-style-type: none"> ▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase 	<ul style="list-style-type: none"> ▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept) 	<ul style="list-style-type: none"> ▪ Short rains ▪ Planting/weeding 								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 Rainfall Performance

- Erratic showers were experienced during the first and second dekads which was of little significance to rangelands considering the long dry spell. However false onset was realised late into the third dekad of the month which was late and intermittent during the period under review. The rain gauges stationed in Maralal recorded a cumulative average of rainfall amounting to 28.15 mm.
- The recorded intermitted showers were 68 per cent below the long term mean at this time of the year (Fig. 1).

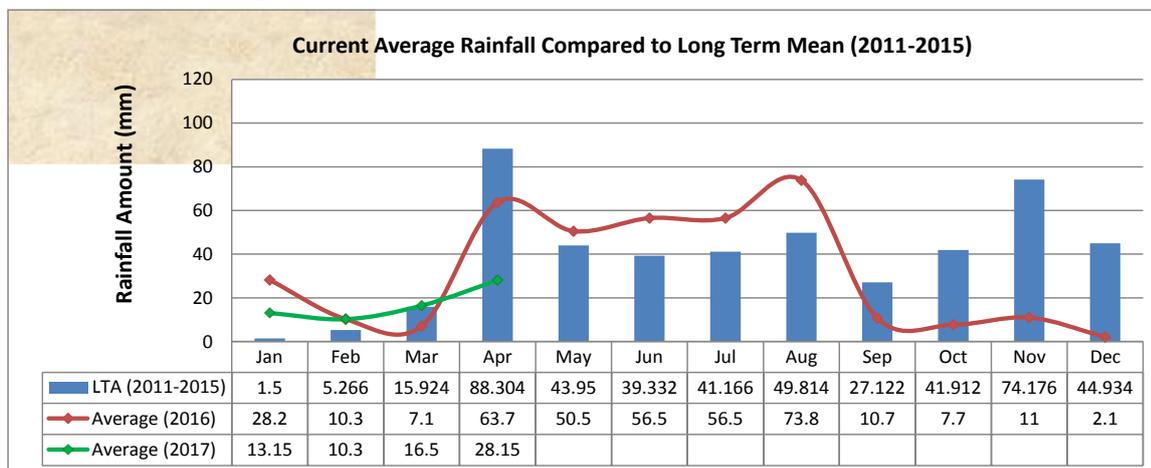


Figure 1: Graph showing rainfall trends as measured by Rain gauge data
(Source: Meteorology Department)

1.1.1 Temporal and Spatial Distribution

- The recorded rains were of low intensity and were experienced mostly in agro pastoral livelihood zone and partially in marginal pockets of pastoral livelihood zone for about 2 to 3 days. In General, temporal distribution was poor while coverage in space was fair and evenly distributed.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 Vegetation Condition Index (VCI)

- The rains received have so far not impacted positively on the rejuvenation of rangeland conditions. The rangeland conditions continue to deteriorate with the three month average vegetation cover index decreasing to 7.36 from 11.5 recorded in March as measured by VCI. The current average 3-month VCI value of 7.36 indicates extreme vegetation deficit and is below the normal range of 35 – 50.
- The current VCI value is below the minimum ever recorded value compared to a similar period an indication of severe prolonged dry spell (Fig. 2).

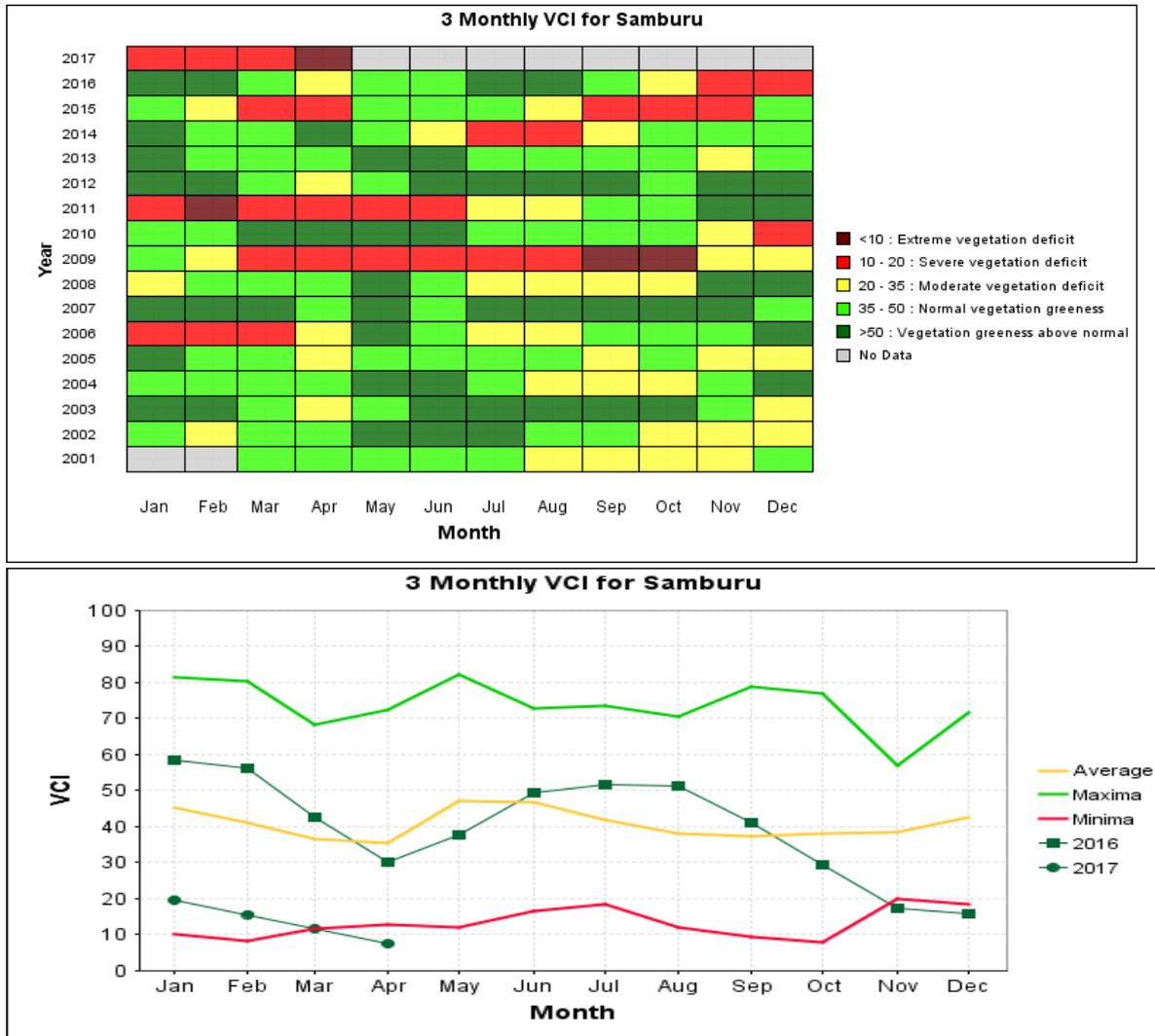


Figure 2: Matrix chart and Graph Showing VCI trends for Samburu County (Source: Boku University)

- Vegetation cover in agro pastoral areas of Samburu West also continued to deteriorate with the 3 month VCI decreasing from 10.68 to 7.89 an indication of extreme vegetation deficit. The current VCI value is also below the minimum ever recorded value compared to a similar period an indication of severe prolonged dry spell (Fig 3).

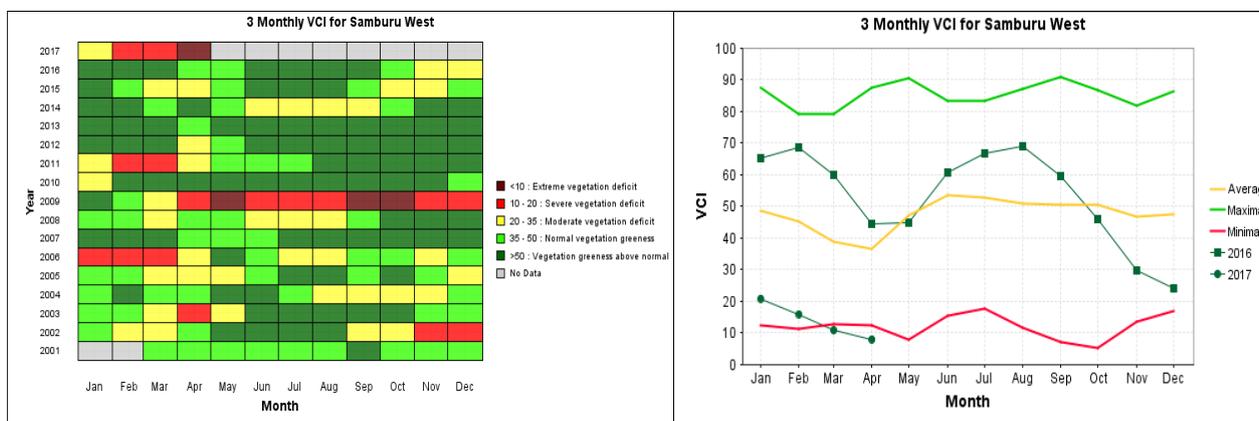


Figure 3: Matrix Chart and Graph Showing Historical VCI trends for Samburu West sub county (Source: Boku University)

- Vegetation cover in pastoral zone of Samburu East and Samburu North continued to deteriorate with both of them moving to extreme vegetation deficit band. The 3 month VCI for Samburu East and North sub counties decreased to 5.25 from 11.07 and 9.71 from 12.23 respectively due to prolonged dry spell (Fig. 4).

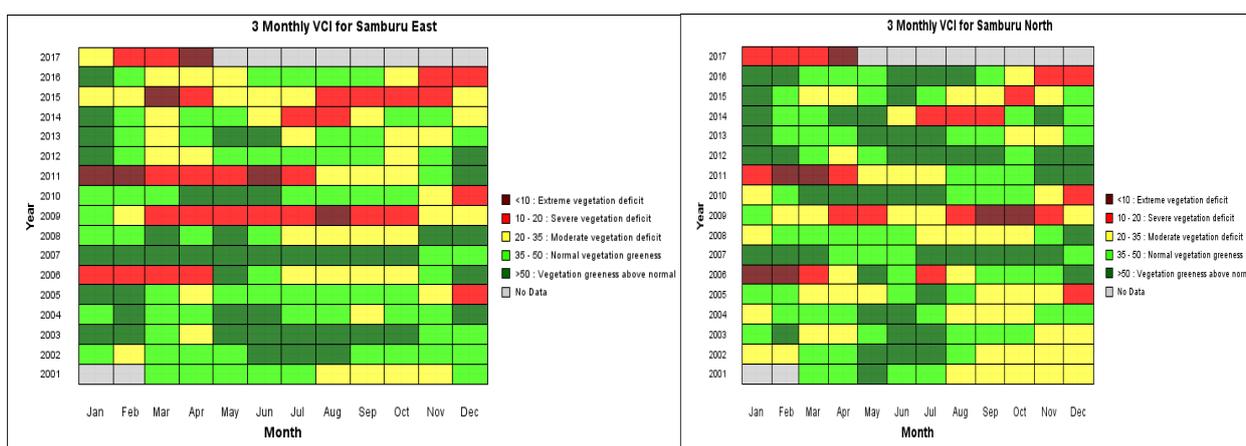


Figure 4: Matrix Chart Showing Historical VCI trends for Samburu East and North sub counties (Source: Boku University)

2.1.1 Field Observations (Pasture and Browse Conditions)

Quality

- Quality of pasture still remains poor across all livelihood zones despite the erratic rains received. Browse on the other hand had insignificantly regenerated across the county.

Quantity

- Quantity of pasture still remains poor despite the rains. This may be attributed to a long dry spell. However quantity of browse is fair to poor across all livelihood zones.

2.2. WATER RESOURCE

2.2.1 Sources

- The major water sources recharge levels slight improved attributed to rainfall received towards the end of the third dekad of the month.

- Shallow wells and pans and dams contribution increased from 17.1 percent to 20 percent and 7.3 percent to 17.5 percent respectively.
- Other sources in use for both domestic and livestock use include boreholes, natural ponds and seasonal streams and rivers which contributed 15 percent, 7.5 percent and 5 percent respectively (Fig 5).

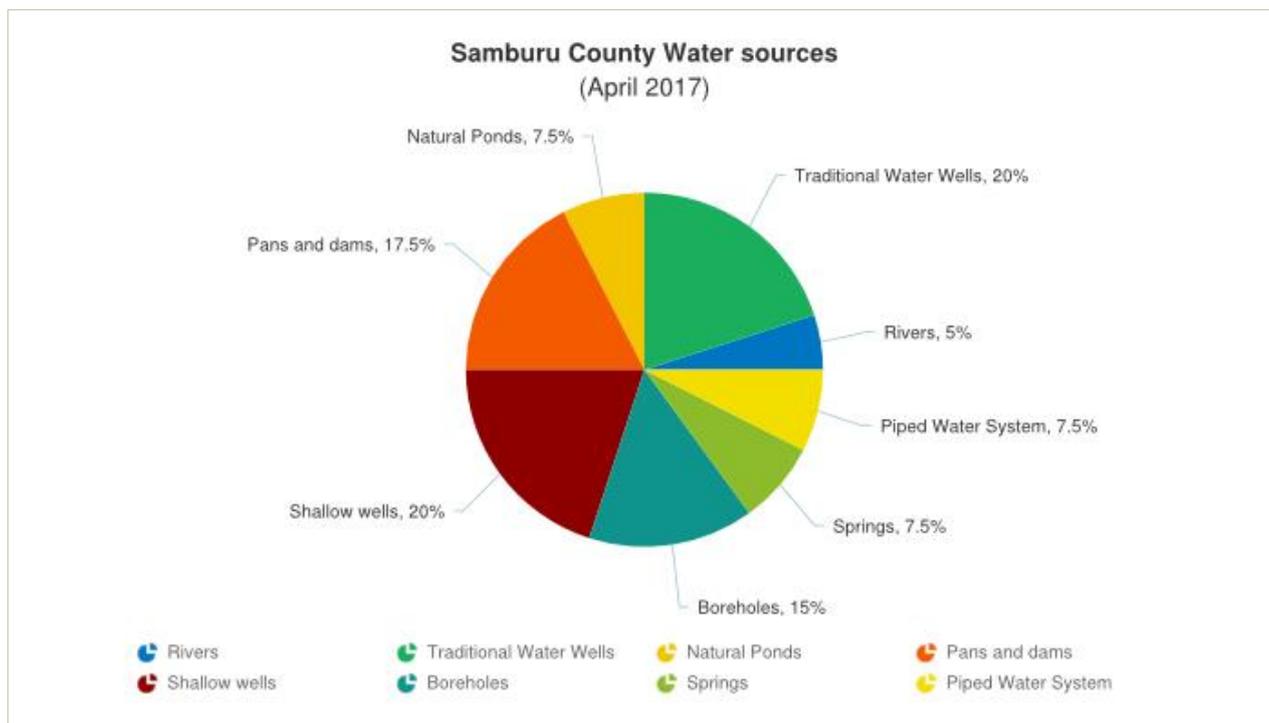


Figure 5: Common water sources

2.2.2 Household Access and Utilization

- The current average walking distance from households to the nearest water points decreased to 6 km down from 7.3 km recorded in the previous month. The decrease was attributed to slight recharge of water sources following the showers received particularly in agro pastoral livelihood and parts of northern areas of pastoral livelihood zone which made water to be easily accessible.
- Long distances to water points were recorded in Kiltamany at 15 km, followed by Kawop at 8.3 km. Arsim recorded shortest distance at 0.4 km due availability of springs within the area.
- Households in pastoral livelihood walked an average 5.9 km to nearest water sources while those in agro pastoral trekked 2 km to fetch water. The variation is attributed to close proximity of water sources in agro pastoral areas.
- The current average trekking distance for household to water points remained above the long term value by 45 percent at this time of the year (Fig. 6).

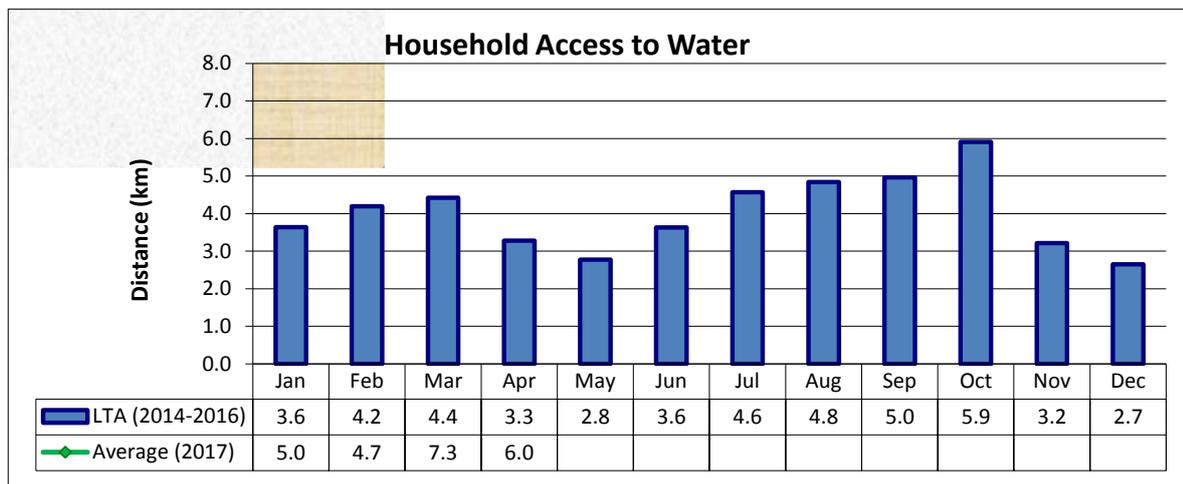


Figure 6: Average Distance Travelled by Households in Search of Water

2.2.3 Grazing Distances to Water Points

- The current average distance from grazing areas to watering points stands at 13.8 km compared to 15.7 km in last month. The decrease is attributed to improvement in recharge of surface water sources such as natural ponds, pans and dams following the rainfall received which consequently reduced the trekking distance from grazing fields to watering points.
- Nairimirimo and Kiltamany continued to record long trekking distances from grazing fields to water points at 22.7 km and 20 km respectively whereas Longewan recorded the shortest distance of 5 km.
- Pastoral livelihood on average recorded 16.1 km trekking distances by livestock from grazing areas to watering points while agro pastoral recorded 5 km. The variation is attributed to close proximity of water sources in agro pastoral areas.
- The current average return grazing distance remains above long term average by 45 per cent at the same time of the year (Fig. 7).

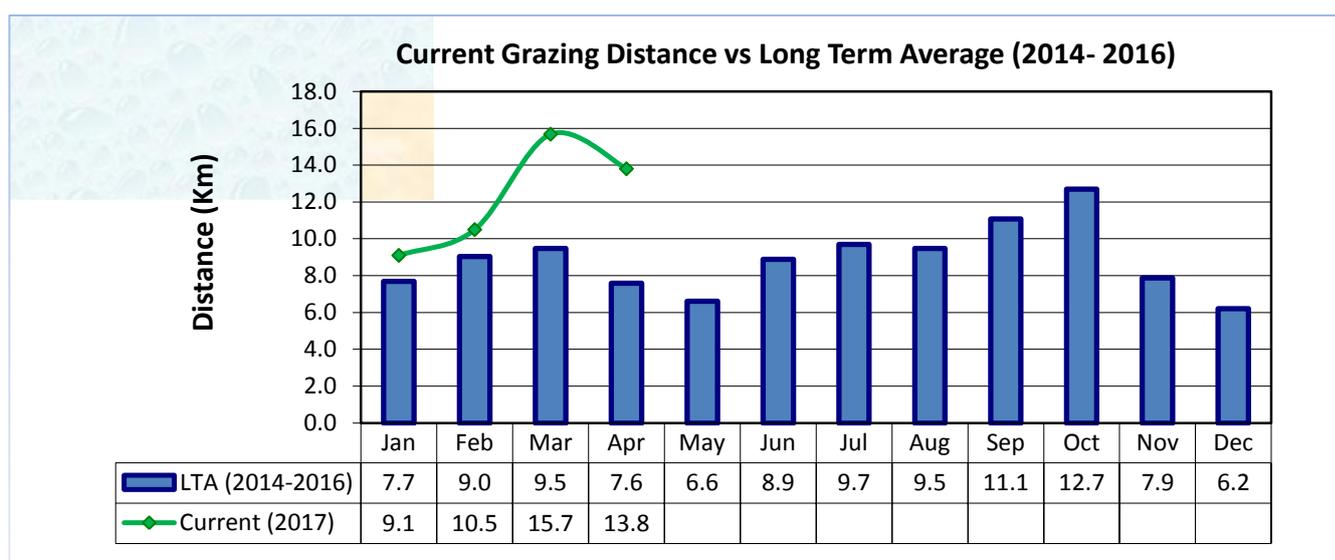


Figure 7: Distance travelled to water points from grazing areas

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Migration Patterns

- Operation to flush out herders from private ranches in Laikipia County has forced some pastoralists to migrate back and they are now concentrated around Kirimon areas while others still in the ranches along the Samburu County and Laikipia County borders.
- Insecurity in Koom also forced migrations of cattle from Koom to Loijuk, Lorian in isiolo and Sarara hills. Small stocks are concentrated around Laresoro.
- Livestock from Samburu North are concentrated in Ngorishe and its environs and others are in Marti plains.

3.1.2 Livestock Body Condition

- The livestock body condition for cattle continues to deteriorate attributed to long trekking distances in search of pasture and water. Body condition ranges between alert worsening/alarm (thin fore ribs visible) and emergency (very thin no fat, bones visible). Body condition for browsers is rated moderate neither fat nor thin.

Table 1: Livestock Body Condition Scoring Chart

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

3.1.3 Livestock Diseases

- No cases of major livestock diseases outbreak reported. However, cases of liver-flukes infestation were reported for livestock in agro pastoral livelihood.

3.1.4 Milk Production

- The current average milk production decreased to 1.3 litres per household as compared to last month production of 1.5 litres per household. The decrease is attributed to the long dry spell resulting to mass out migration, weak and emaciated body conditions of livestock, death in calves and still births in some cases. Compared to long term average, the current average production value of 1.3 litres per household is 31 percent below normal at this time of the year.

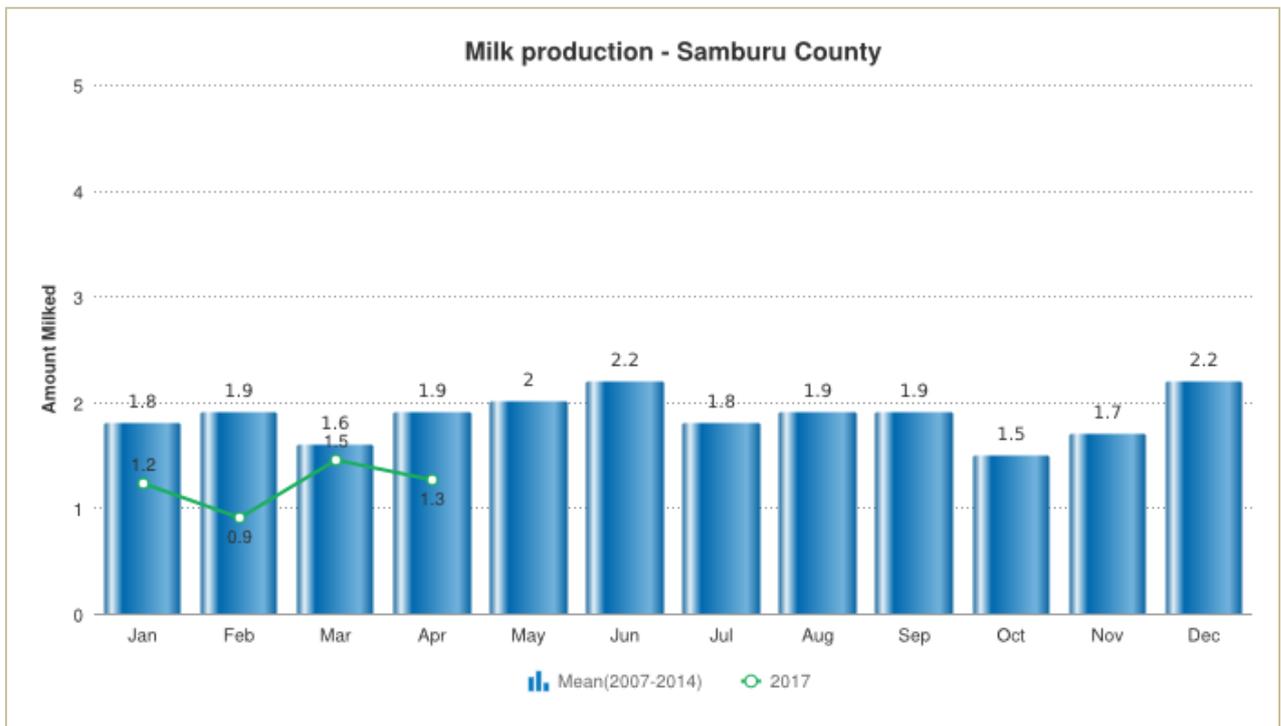


Figure 8: Trends in Milk Production per Household

- Milk consumption on average stabilized at 1.1 litre per household as compared to last month consumption of 1 litres per household in March with remaining amount sold at an average retail price ranging between Ksh 60 – 80 per litre.

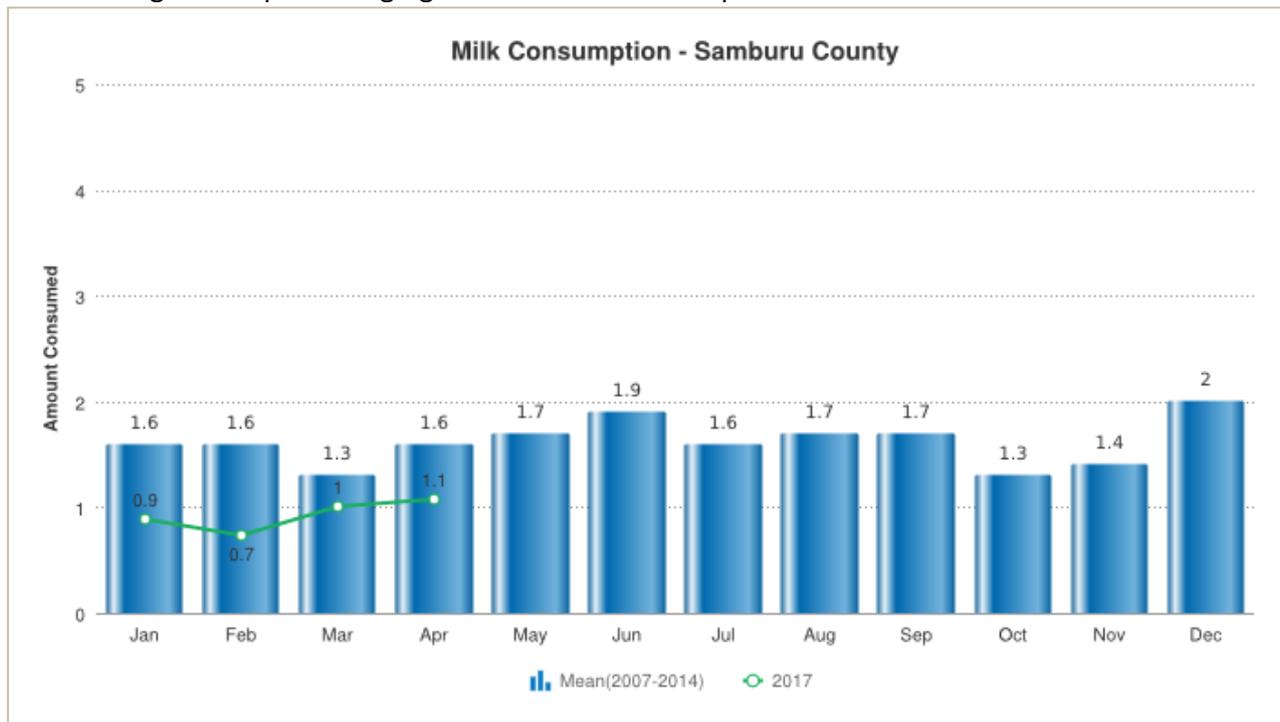


Figure 9: Trends in Milk Consumption per Household

3.1.5 Livestock Deaths

- Livestock mortality for all species is on the rise. Carcasses of dead livestock scattered all over across the county can be observed especially for cattle and sheep. The deaths are mainly caused by starvation.

- The rains received have also led to death of weak livestock. Other deaths reported as a result of predation by wild animals have also been reported.

3.2 RAIN FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- Currently, land preparation and planting is ongoing for rain fed crops following the onset of the long rains.

3.2.2 Harvest of Crop

- No harvest was reported during the reporting month.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Livestock Terms of Trade (TOT)

- A downward trend continued to be noticed in terms of trade with the current TOT value standing at 35. With the income from sale of one goat, a pastoralist can realize 35 kilograms of maize/posho from the market. This is unfavourable to the pastoralist when compared to the long term average value of 50 at the same time of the year which implies that they will fetch 15 kilograms less of cereals at similar time of the year.
- The decrease can be attributed to high cereal prices at market level as a result of depleted stocks at household level and deteriorating goat prices due to poor body conditions (Fig. 10)
- The sale of one goat in agro pastoral zone will fetch 45 kg of cereals whereas in pastoral zone, it will fetch 33 kg. The difference can be attributed to availability of cereals in agro pastoral livelihood.



Figure 10: Trends in Terms of Trade (TOT)

4.1.2 Cattle Prices

- The current average cattle market price increased to Ksh 15,437 as compared to last month selling price of Ksh 13,644. The increase can be attributed to livestock destocking exercise carried out by NDMA, County Government and KMC with purchasing price for cattle at Ksh 18,000, a price which was fairly high considering the poor body condition.
- Pastoral livelihood recorded an average of Ksh 13,900 whereas no sales were recorded in agro pastoral zone.
- Compared to long term average, the current price remained slightly below normal by 0.8 per cent at this time of the year (Fig. 11).

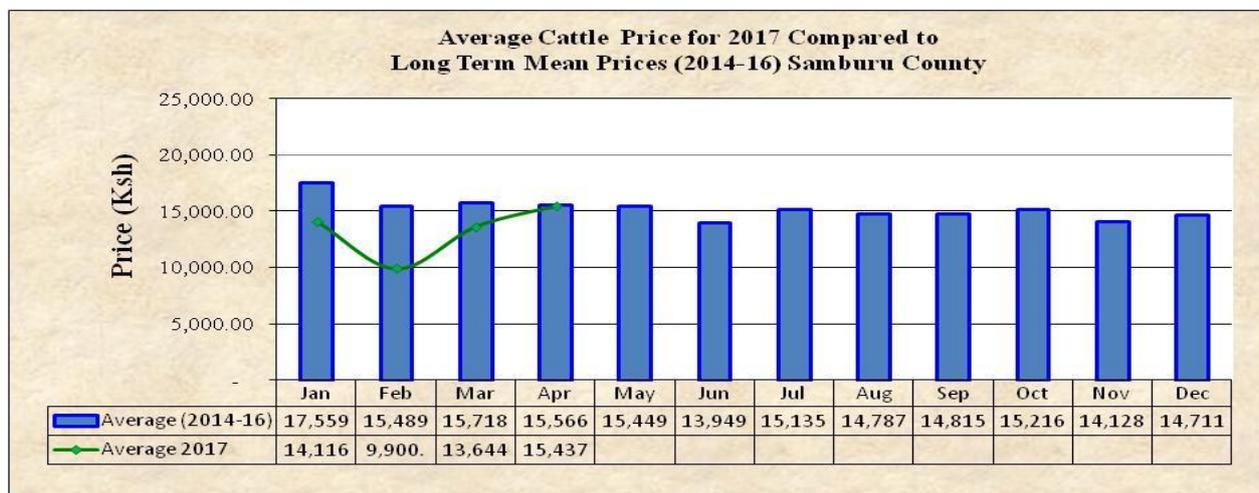


Figure 11: Graph Showing Cattle Selling Price Trends at Farm Gate and Market Level

4.1.3 Goat Prices

- Goat's market price slightly decreased to Ksh 2,053 from Ksh 2,089 recorded in March. The decrease was attributed to poor body condition.
- Average selling prices for a goat in agro pastoral livelihood was Ksh 2,466 while in pastoral livelihood it was Ksh 1756. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.
- Compared to long term value, the current goats' average selling price is 19 per cent below LTA at this time of the year (Fig. 12).

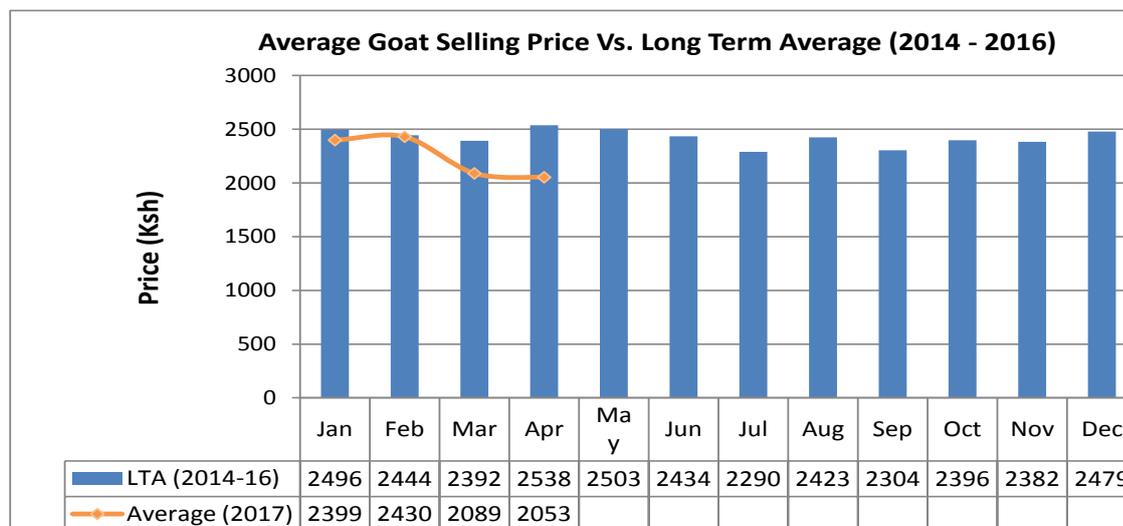


Figure 12: Graph Showing Goats' Selling Price Trends at Farm Gate and market Level

4.1.4 Sheep Prices

- Average price of sheep continue to be low at Ksh 1980 which was an increase compared to last month price 1874. The increase can be attributed to favourable market condition for sheep especially in agro pastoral zone.
- The average price in agro pastoral zone was Ksh 2,466 while pastoral zone had Ksh 1490.
- The current price was 12 per cent above the long term at this time of the year (Fig. 13).

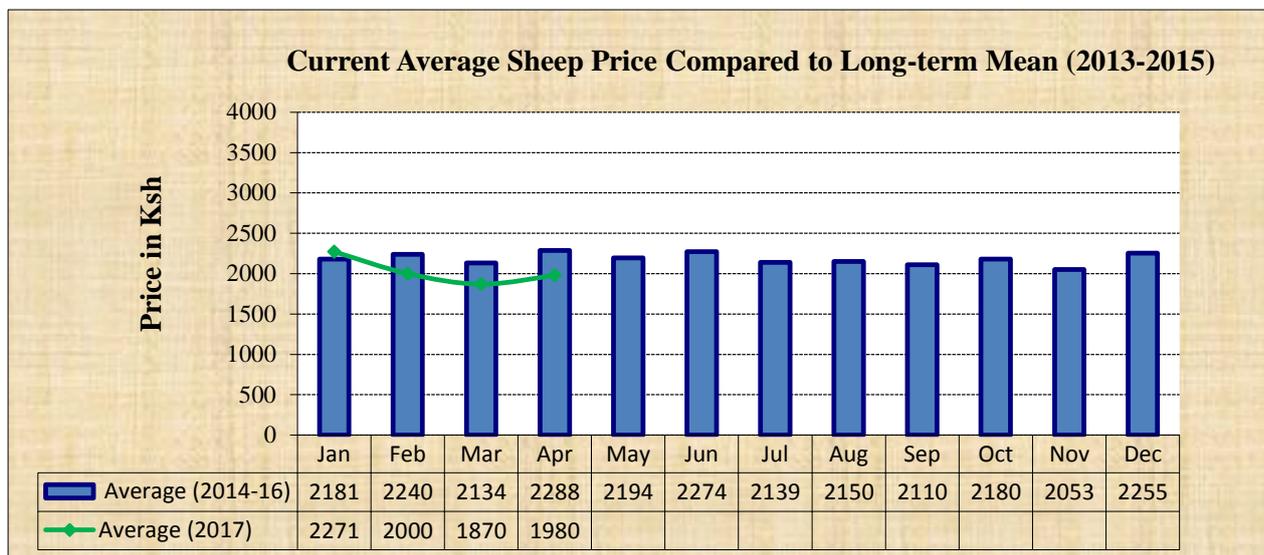


Figure 13: Graph Showing Sheep Selling Price Trends at Farm Gate and Market Level

4.2 CROP PRICES

4.2.1 Posho (Milled Maize)

- Current Posho (Maize milled) selling price per kilogram increased to Ksh 60 up from last month price of Ksh 55. This can be attributed to scarcity of maize at household as well as at market level.
- Agro pastoral recorded an average of Ksh 50 whereas pastoral recorded an average of Ksh 61.4.
- High posho selling price was recorded in pastoral areas of Nairimirimo and Kiltamany at Ksh 70 per kilo and Arsim and Lodungokwe at Ksh 60 per kilo attributed to added transport charges owing to poor condition of access roads.
- The current average Posho price is 17 per cent above the long term value at this time of the year (Fig. 14).

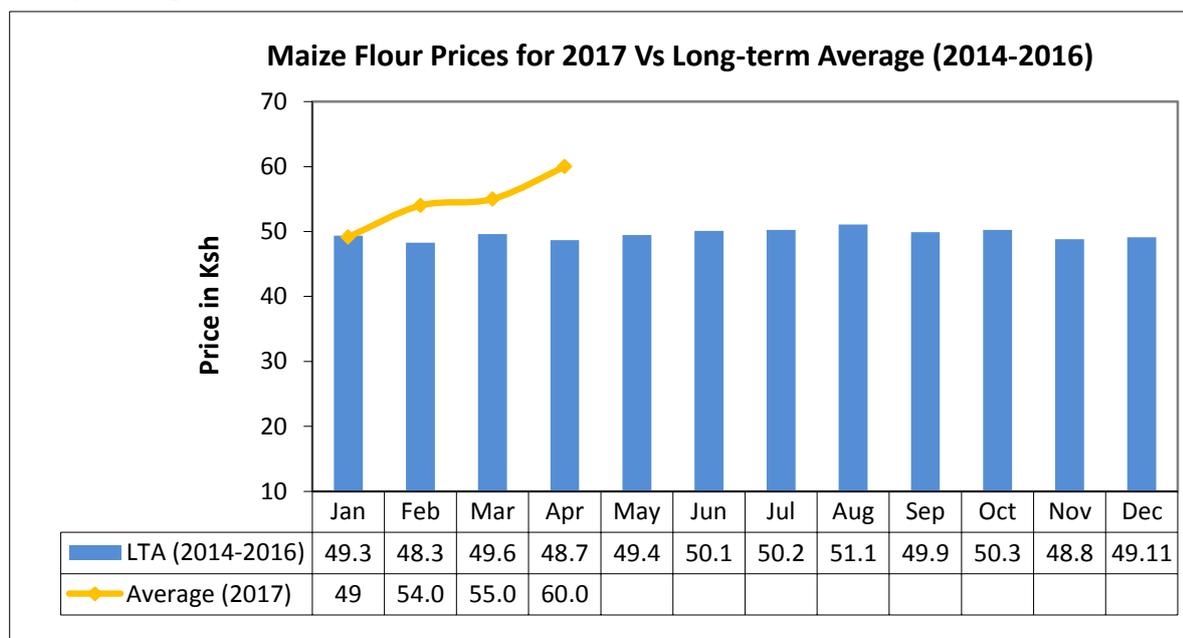


Figure 14: Graph Showing Maize meal Price Trends

4.3 Source of Income

- Sale of livestock remained the main source of income across the livelihoods at 47 percent followed by casual labour at 23 percent
- Sale of charcoal and wood products contributed 8 percent respectively whereas remittances and sale of livestock products contributed to 7 percent and 4 percent of household income respectively. A notable additional source of income to households was sale of livestock feeds at 3 percent (Fig. 15).

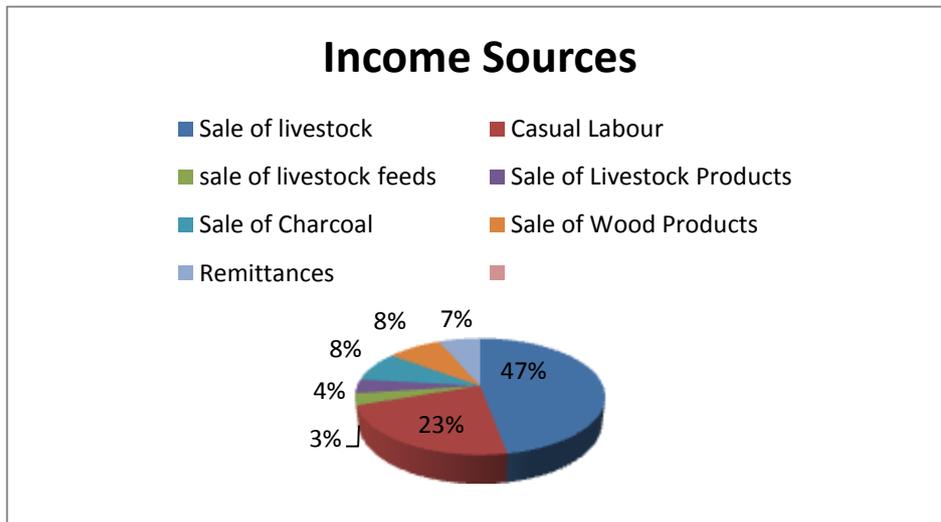


Figure 15: Households Common Sources of Income

5.0 UTILIZATION INDICATORS

5.1 Health and Nutrition Status

5.1.1 MUAC (<135 mm)

- The prevalence of sampled children under five years at risk of malnutrition is alarmingly high at 32.45 percent an increase from 24.24 percent. The worsening trend can be attributed to poor intake of high dietary food and low milk production at households due to migrations. Poor maternal infant and young child nutrition practices coupled with diseases like common cold and upper respiratory infections also contributed to high malnutrition.
- Arsim and Kawop in Samburu North Sub County recorded high number of children at risk of malnutrition at 50.6 percent and 44.2 percent followed by Kiltamany at 40.2 percent.
- High cases of malnutrition were noted in the pastoral livelihood zone at 34.2 percent while in agro pastoral was 6.5 percent. The variation could be attributed to availability and accessibility of legumes in agro pastoral livelihood and low milk consumption in pastoral areas as a result of migration.
- The current malnutrition rate is 41 per cent above the long term value at this time of the year (Fig. 16).

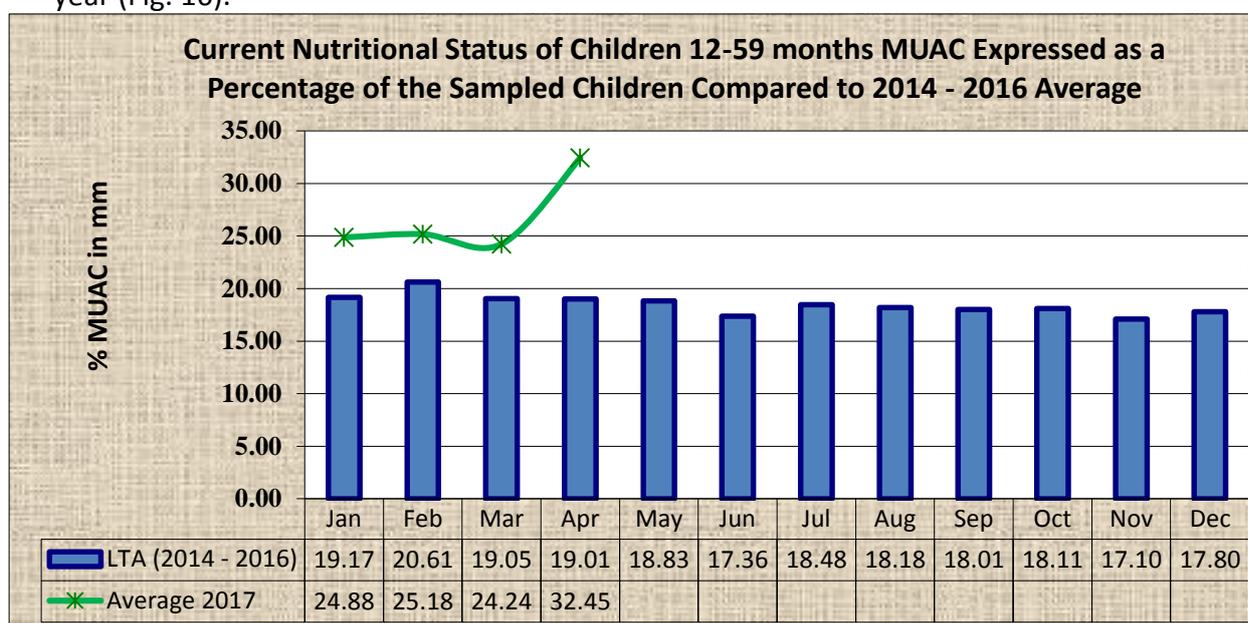


Figure 16: Graph showing average Nutritional status (MUAC)

5.1.2 Food Consumption Score

- Majority of households in pastoral areas of Samburu North Sub County had poor food consumption score at 37.1 percent implying that those households are either not consuming food with high dietary diversity such as vegetables and cereals or they are consuming it less frequently. 5.9 percent of households in Samburu East had poor food consumption score.
- Households in Samburu Central (agro pastoral livelihood) are consuming food with high dietary diversity more frequently thereby achieving adequate nutrients as all households had an acceptable FCS (Fig. 17). The high FCS in agro pastoral is attributed to recently concluded slaughter destocking exercise that resulted to meat relief distribution larger number of beneficiaries which has high weighted score.

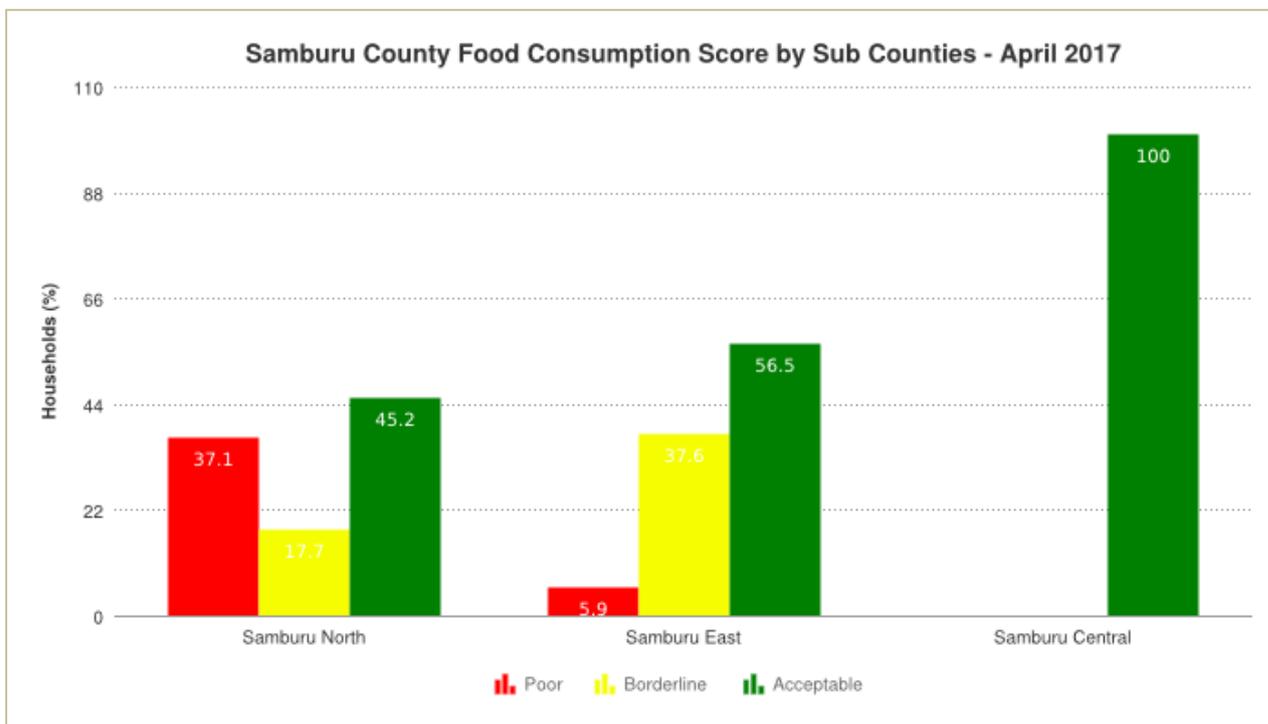


Figure 19: Bar chart showing FCS per Sub County

5.1.3 Health

- No major disease outbreak was reported within the county; however for both under-fives and general population, the most common diseases reported was coughing, URTI and Diarrhoea.
- Households countered the ailments through medical assistance sought from public health centres/ dispensaries, private clinics and use of local herbs.

5.1.4 Coping Strategies

- The mean coping strategy index (CSI) was 20.77. The CSI for agro pastoral was 6.9 and 23.4 for pastoral livelihood. This is an indication that households in pastoral zone were employing more strategies to cope with drought compared to households in agro pastoral zone.
- The most utilized consumption based strategies include reducing the number of meals eaten per day, reducing the portion size of meals and relying on less preferred and/or less expensive food.

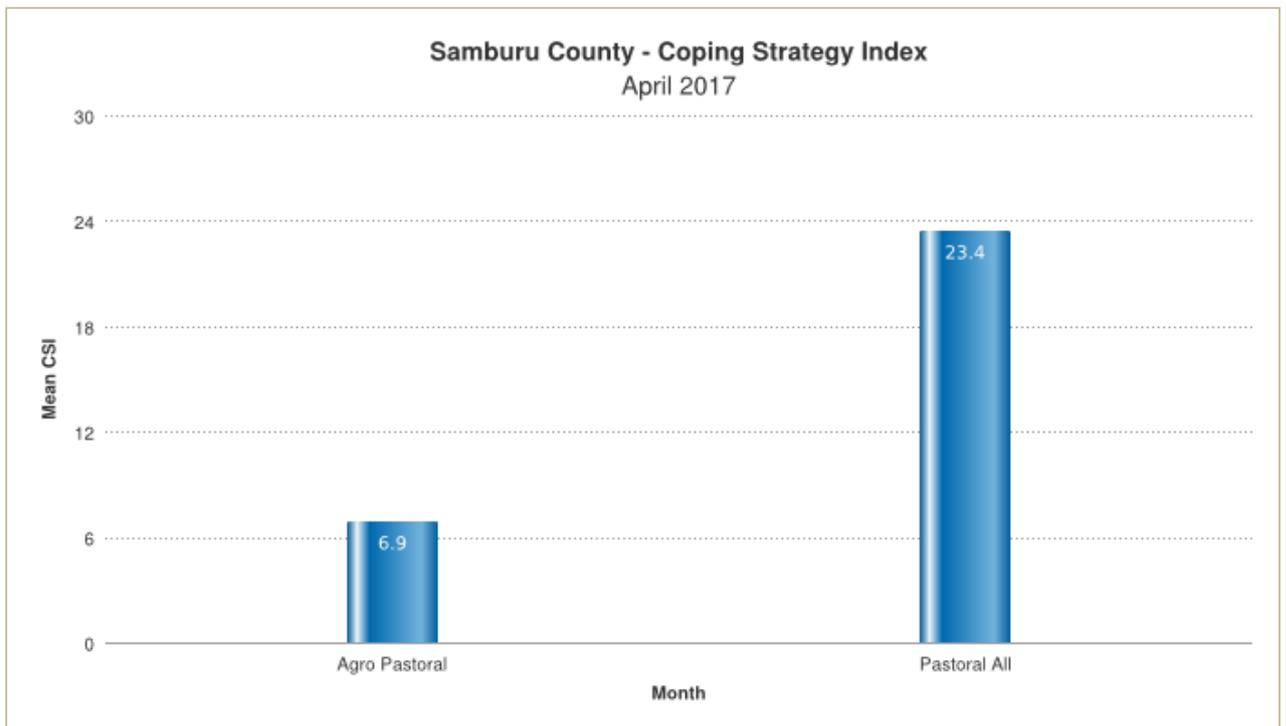


Figure 20: Bar chart showing CSI

6. CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-food On-going interventions

- Provision of livestock drought pellets by NDMA to weak animals across the county.
- Water trucking to affected communities by department of water and NDMA with assistance from KDF.
- Seed distribution to farmers courtesy of County Government through Agriculture department which include 42 tonnes of maize seeds, 15 tonnes of been seed, 5 tonnes of green gram and cow peas.
- 300 litres of fuel subsidy to each of the 29 tractors and capacity building of farmers by County Government.
- Provision of 300 hay bales in Loosuk ward by County Government through county department of livestock.

6.2 Food Aid

- Provision of oil, sorghum and pulses targeting 20,000 FFA beneficiaries in Samburu Central.
- Slaughter destocking and meat relief distribution exercise in Samburu Central targeting 2000 small stock and 750 cattle by NDMA in collaboration County Government
- Provision of 3600 bags of maize (50 kg), 720 bags of beans (50 kg) and 750 cartons(18kg) targeting 30,000 beneficiaries in Samburu Central by County Government.
- On-going High Impact Nutritional Interventions (HINI) implemented by partners in collaboration with MOH in 47 health facilities across the County.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- The county remained relatively calm during the reporting period except for a few cases of isolated highway banditry in Samburu East.

7.2 Food Security Prognosis

- Late offset of the rains which is below normal might affect the crop production since planting has delayed and especially if cessation is early then food security at household level will be affected negatively as the crops may not produce good yields.
- However the long rains will likely rejuvenate forage and recharge water levels. This will lead to migrations back home and improved body condition since livestock will trek shorter distances in search of pasture and water. Milk production and consumption at household level will also improve leading to improved health conditions especially for under-fives.

8.0 RECOMMENDATIONS

- Awareness creation on water harvesting and storing techniques.
- Nutritional surveillance/Mass screening in areas with high prevalence of children at risk of malnutrition especially Kawop, Kiltamany and Arsim to ascertain root cause of malnutrition for under five.
- Provision of certified high maturing seeds to farmers to properly utilize the long rains.
- Provision of drought pellets and livestock concentrates especially (Urea Molasses Multi-nutrient Blocks) UMMB to animals should also be stepped up to strengthen the weak animals withstand the rains.
- Awareness creation on proper rangeland management practices such as paddocking to conserve pasture for dry periods
- Sensitization on importance of water treatment to avoid outbreaks of diseases and also proper disposal of carcasses to avoid water contamination.