National Drought Management Authority
SAMBURU COUNTY

A Vision 2030 Flagship Project

DROUGHT EARLY WARNING BULLETIN FOR JUNE 2017

JUNE 2017 EW PHASE

Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro-pastoral	Alert	Improving
Pastoral (North)	Alert	Improving
Pastoral (East)	Alert	Improving
County	Alert	Improving

Biophysical Indicators	Value	Normal range/Value
VCI-3month (Samburu County)	24.3	35-50
VCI-3month -Samburu East	20.18	35-50
VCI-3month -Samburu North	29.24	35-50
VCI-3month-Samburu West	34.86	35-50
Production indicators	**Value**	**Normal ranges**
Livestock Migration Pattern	In/Out Migration across all livelihoods	In Migration
Livestock Body Conditions	Thin Fore ribs visible	Fat & Smooth appearance
Milk Production	1.2	>2.2
Livestock deaths due to drought	Minimal Deaths	No death
Access Indicators	**Value**	**Normal ranges**
Terms of Trade (TOT)	32	>53.3
Milk Consumption	1.1	>1.9
Return distance – Household	4.2	<3.6
Return distance – Livestock	8.6	<8.9
Acceptable FCS – Pastoral	31.5	100%
Acceptable FCS – Agro pastoral	92.3	100%
Utilization indicators	**Value**	**Normal ranges**
MUAC	26.48%	<17.36%
Mean CSI – Pastoral	16	<56
Mean CSI – Agro pastoral	8.7	<56

Drought Situation & EW Phase Classification

Biophysical Indicators

- Rainfall received was below normal and was poorly distributed both in space and time. The cumulative amount was 2.9 mm and 2.8 mm and in the 1st and 2nd dekads respectively.
- The vegetation cover further improved within the county with overall vegetation cover increasing from 15.71 to 24.3 as measured by vegetation condition index.
- Surface and underground water sources across the livelihood zones remained partially recharged however trekking distance for both households and livestock increased.

Socio economic indicators details

- Internal movement of cattle in search of better pastures was noticed to Pura and Kirisia hills in Samburu central and to Mathew ranges and towards Marti in Samburu east. In Samburu North, cattle remained in Ngorishe, Angata sikira and Marti plains.
- Milk production and consumption slightly decreased during the period under review.
- Body condition for browsers and sheep is good to fair while for cattle is ranging between fair to poor which contributed to low prices for all species.
- Posho market prices decreased from Ksh 67 to Ksh 65.3.
- A pastoralist will fetch 32 kg of cereals from the sale of one goat as indicated by the value of TOT of 0.32.
- The proportion of sampled children under-five years at risk of malnutrition increased to 26.48 from 24.48 recorded last month.

▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation	▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase	▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept)	▪ Short rains ▪ Planting/weeding

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 Rainfall Performance

- The precipitation during the period under review was below the long term average. The cumulative amounts recorded were 2.9 mm in the first dekad and 2.8 mm in the second dekad whereas no rainfall was received in the third dekad.(WFP-VAM, CHIRPS/UCSB).

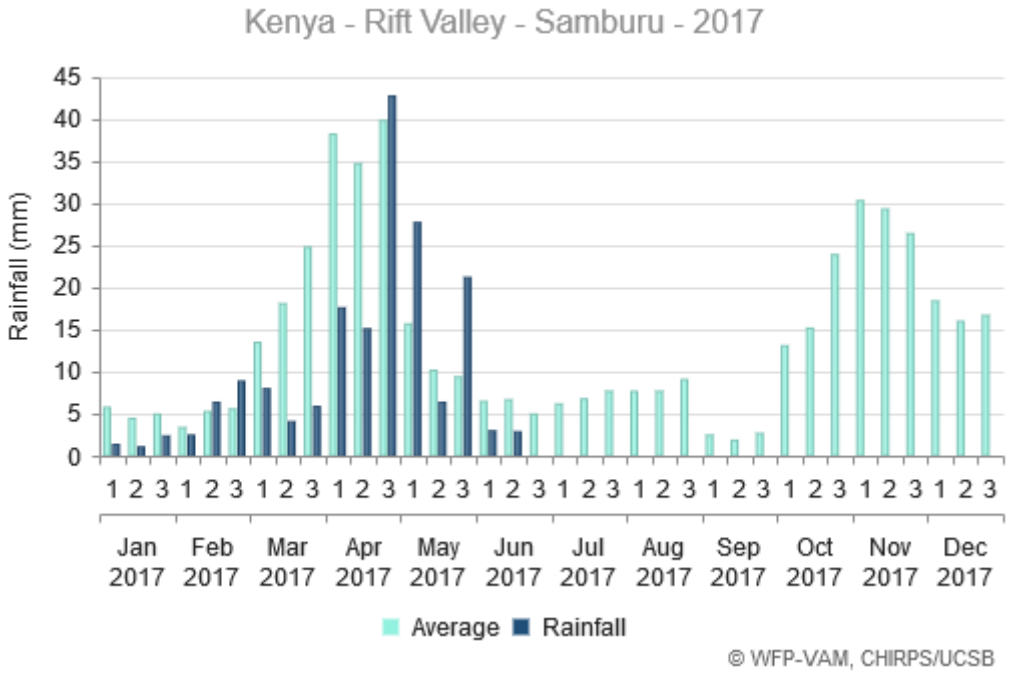


Figure 1: Graph showing rainfall trends as measured by rainfall estimates (**Source:** WFP-VAM, CHIRPS/UCSB)

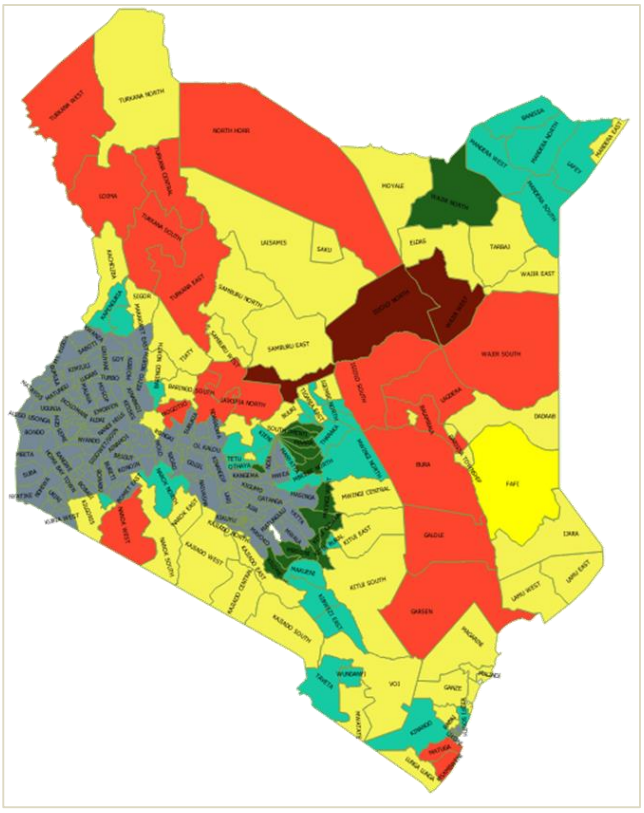
1.1.1 Temporal and Spatial Distribution

- Temporal distribution was poor while spatial distribution was unevenly as only marginal pockets received one or two days showers within the period under review. The rains had varying intensities although more pronounced in marginal pockets of Samburu central and Samburu North sub counties.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 Vegetation Condition Index (VCI)

- Current rangeland and forage conditions have slightly improved from severely vegetation deficit to moderately vegetation deficit, though at below normal levels. The improvement can be attributed to rainfall received in the month of April and partially in May. The 3 month average rangeland cover for the county improved from 15.71 recorded in the month of May to 24.3 in June as measured by VCI. Despite the improvement, the situation indicates moderate vegetation deficit.
- The current rangeland resources remained below the long term average and above the minima at this time of the year (Fig. 2).



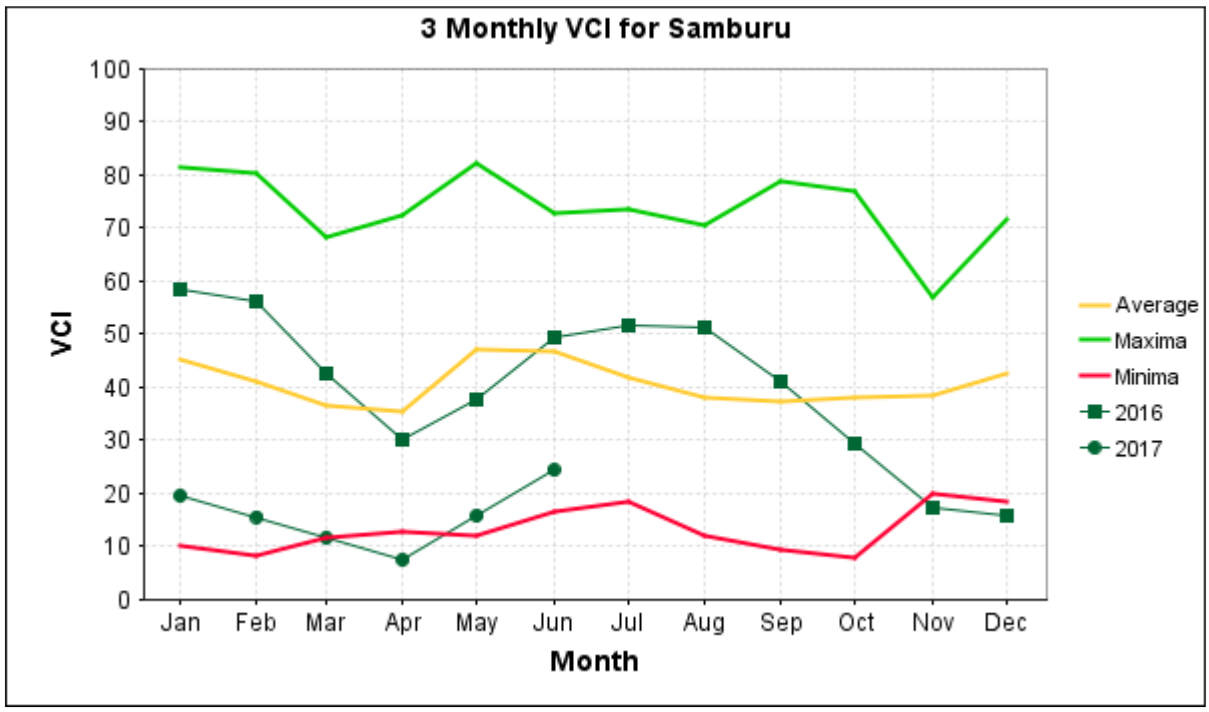


Figure 2: Map showing current 3 month VCI in Kenya and Graph Showing VCI trends for Samburu County

(**Source**: Boku University)

- Vegetation condition in Samburu East (pastoral livelihood) slightly improved with the 3 month VCI increasing to 20.18 up from 14.4 recorded in the previous month moving from severe vegetation deficit to moderte vegetation deficit. The current 3 month average VCI remained below the long term value but slighly above the minimum value at this time of the year (Fig 3).

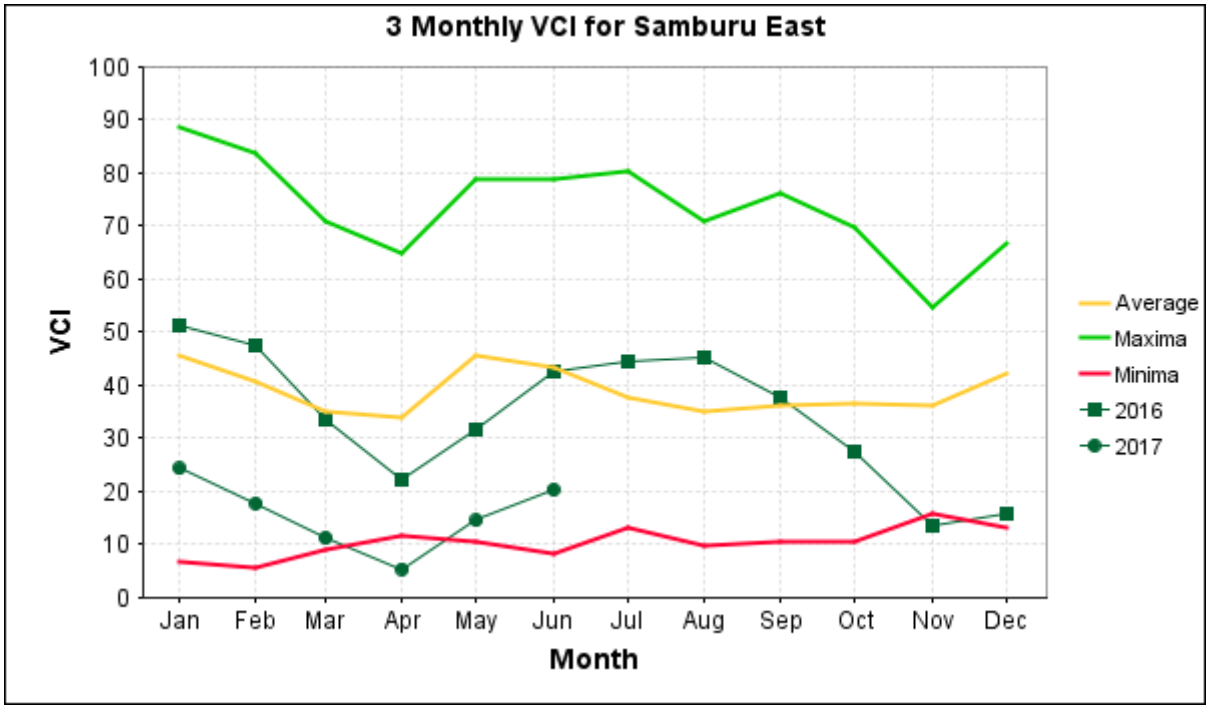


Figure 3: Graph Showing Historical VCI trends for Samburu East sub county (**Source**: Boku University)

2.1.1 Field Observations (Pasture and Browse Conditions)

Quality

- In pastoral areas of Samburu East, pasture condition is poor while browse quality is fair to poor. In agro pastoral livelihood zone, pasture quality is fair to poor while browse is fair. In Samburu North, some localized areas have fair forage conditions however with limited access due to resource base conflicts.

Quantity

- Pastures remained poor in terms of quantity across the livelihood zones due to poor regeneration attributed to below average precipitation and land degradation due to over grazing. The high population of sheep in the highland and cattle has resulted into compact soil structure destroying vegetation on areas they congregate and tread most often during grazing.

2.2. WATER RESOURCE

2.2.1 Sources

- The water sources remained moderately half full of their capacity resulting in significant improvement in water availability and access in agro pastoral livelihood. Lowest recharge of open water sources have been noted in Samburu East and marginal pockets of Samburu North.

- The main water sources were traditional river wells and shallow wells contributing 23.9 percent and 19.6 percent of available water respectively. Usage of boreholes slightly reduced to 17.4 percent from 18.4 percent in the previous month.
- Other minor water sources utilized both by households and livestock during the period under review include: Natural ponds, springs, seasonal streams and rivers as evidenced in the chart below (Fig 4).

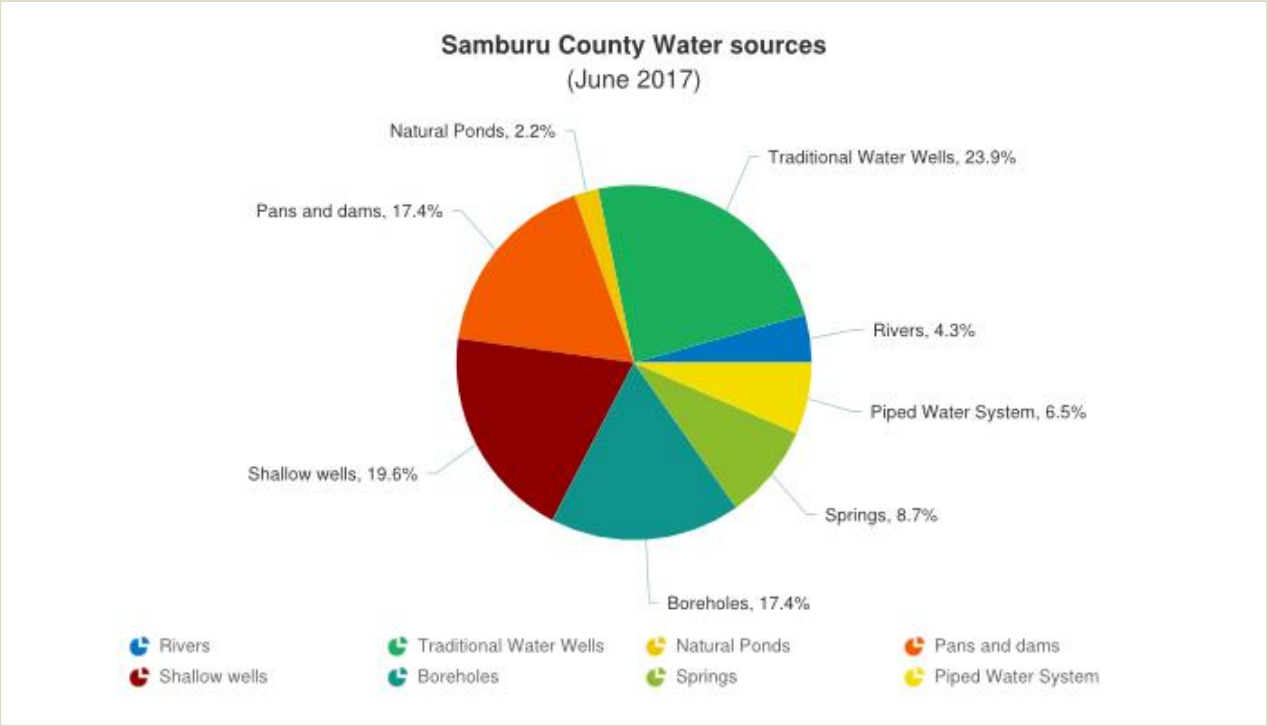
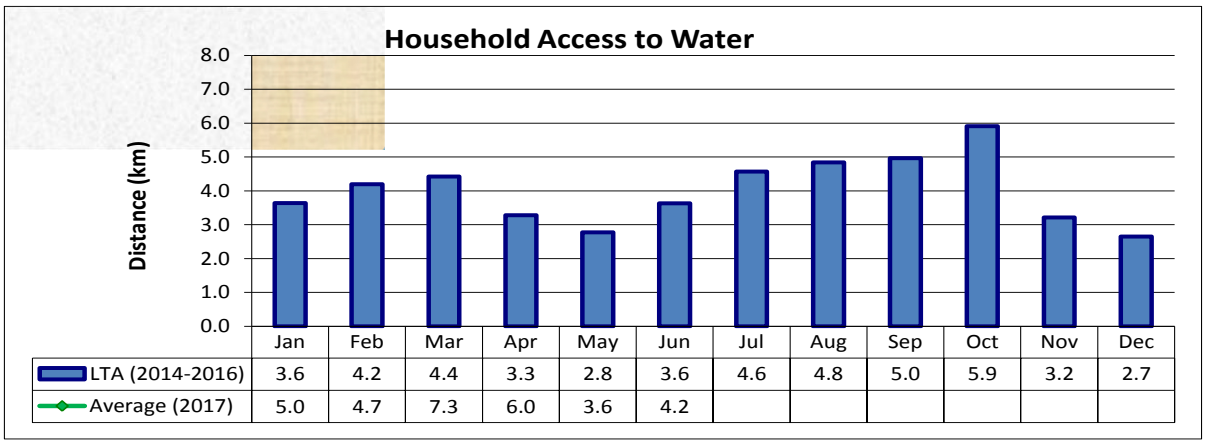


Figure 4: Common water sources

2.2.2 Household Access and Utilization

- Distance to water sources increased to 4.2 km in June from 3.6 km recorded in May. The increase can be attributed to drying up of water sources especially in Samburu East and Samburu North thus forcing households to trek further to access water.
- Household in agro pastoral recorded an average of 3.3 km whereas household in pastoral recorded an average of 4.1 km. The variation can be attributed to the rains being more pronounced in agro pastoral zone as compared to pastoral zone.
- Kiltamany recorded the longest household distances to water points at 9 km while Arsim continued to record the shortest distance at 1 km due availability of springs within the area. Insecurity in Kiltamany forced many households to move to secure locations which have no access to water and thus are forced to trek for longer distances which explains the increase in the average distances
- Current household return average trekking distance remained above the long term value by 14 % at this time of the year (Fig. 5).

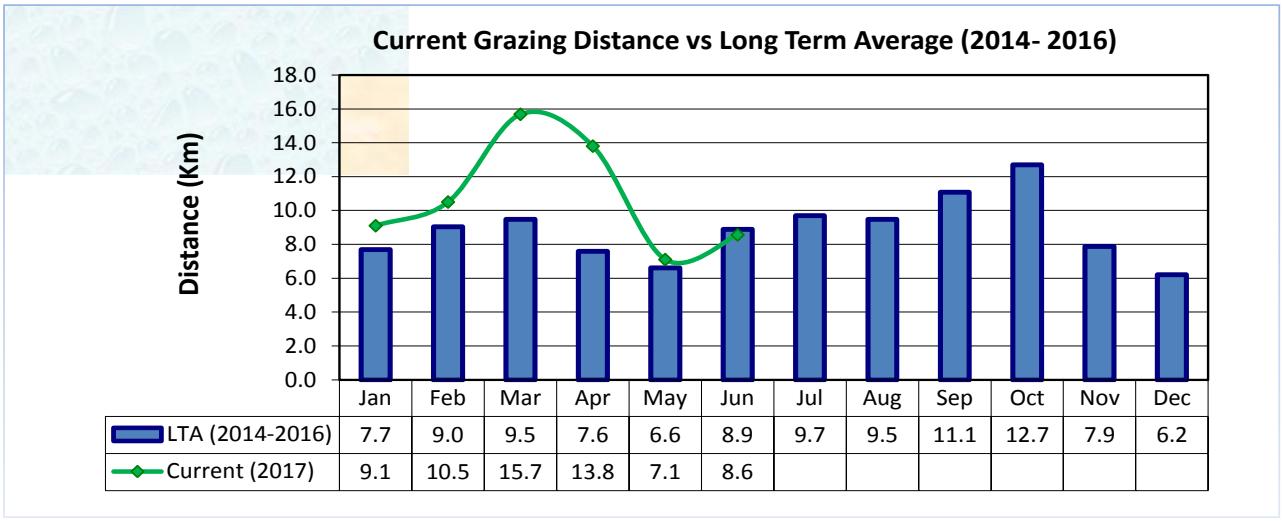


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014-2016)	3.6	4.2	4.4	3.3	2.8	3.6	4.6	4.8	5.0	5.9	3.2	2.7
Average (2017)	5.0	4.7	7.3	6.0	3.6	4.2						

Figure 5: Average Distance Travelled by Households in Search of Water

2.2.3 Grazing Distances to Water Points

- Return average trekking distances to livestock watering points from grazing areas increased to 8.6 km from 7.1 km observed in last month. The increase is attributed to availability of pasture being far from water sources forcing the livestock to trek for longer distances.
- Pastoral livelihood recorded an average of 8.3 km whereas agro pastoral livelihood recorded an average of 6.3 km. The variation can be attributed to the rains being more pronounced in agro pastoral zone as compared to pastoral zone.
- Areas of Kiltamany in Samburu East and Kawop in Samburu North continued to recorded long trekking distances from grazing fields to watering points at 17.5 km and 9 km respectively. Insecurity in Westgate also contributed to the longer trekking distances by making pastoralists move to secure locations which are far from their watering points.
- The current average return grazing distance of 8.6 km was remained above long term average by 3 percent at this time of the year (Fig. 6).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014-2016)	7.7	9.0	9.5	7.6	6.6	8.9	9.7	9.5	11.1	12.7	7.9	6.2
Current (2017)	9.1	10.5	15.7	13.8	7.1	8.6						

Figure 6: Distance travelled to water points from grazing areas

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Migration Patterns

- Cattle from Samburu Central have internally moved towards Mbukoi while others still remained in Pura and others in Kirisia hills. Majority of cattle from Samburu East have migrated towards Marti in search of pastures while others are still remaining in Mathew ranges. The majority of households have their small stocks (Goats and sheep) currently grazing in wet season areas near the homesteads.
- Cattle from Samburu North are concentrated in Ngorishe and its environs and others are in Marti plains. Livestock migrations have majorly been linked to lack of pasture and in some cases attributed to resource based conflicts/insecurity.

3.1.2 Livestock Body Condition

- Due to poor regeneration of range resources especially pastures, cattle body condition remained between alert worsening/alarm (thin fore ribs visible) and emergency (very thin no fat, bones visible. The poor body condition of cattle has led to low livestock productivity. For small stocks and browsers, the body condition slightly improved ranging between moderate neither fat nor thin and smooth good appearance (**Refer to annex below**).

3.1.3 Livestock Diseases

- Unconfirmed cases of FMD for cattle and CCPP in goats have been reported in Kiltamany.
- Cases of liver-flukes infestation were reported for livestock in agro pastoral livelihood.

3.1.4 Milk Production

- The current milk production remained at 1.2 litres per household the same as the month May. Low milk production at household level can be attributed to disrupted calving and kidding season by the long dry spell and in some cases still births due to poor body condition particularly for cattle.
- Average milk production remained below the long term value by 45 percent at this time of the year (Fig. 7).

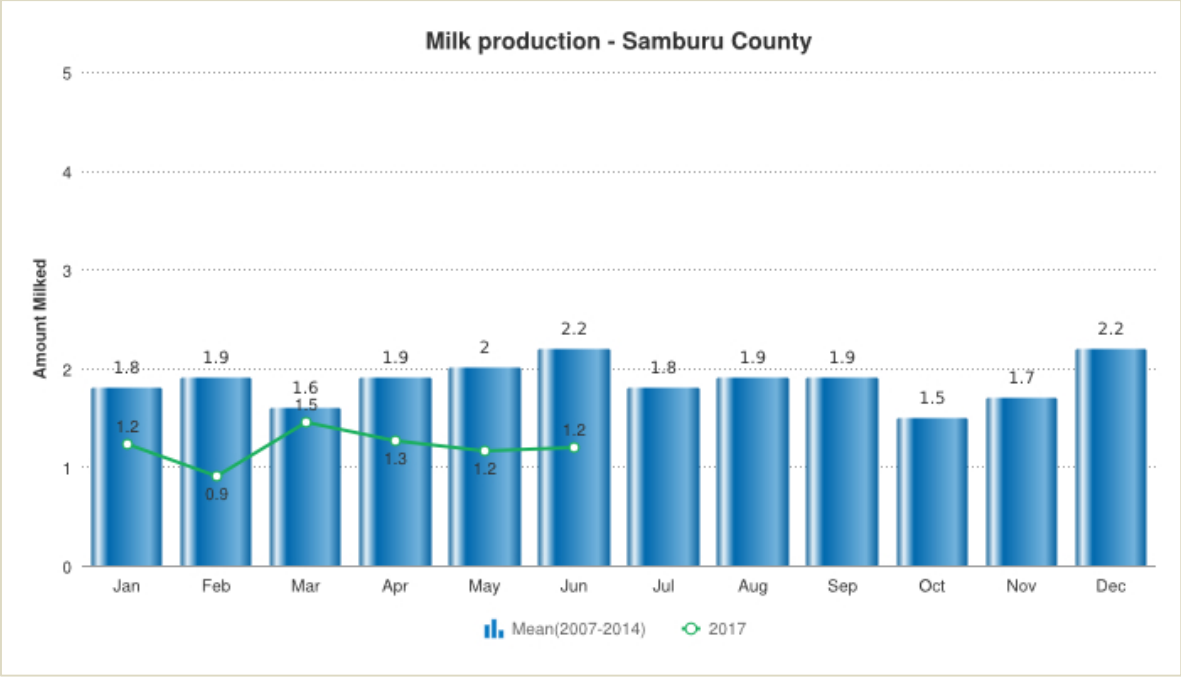


Figure 7: Trends in Milk Production per Household

- Current milk consumption was at 1.1 litres per household as compared to 0.9 litres per

household recorded in last month. The little to that is sold in the market is fetching high price ranging between Ksh 60 – 80 per litre as compared to normally Ksh 40 – 60 per litre at this time of the year.

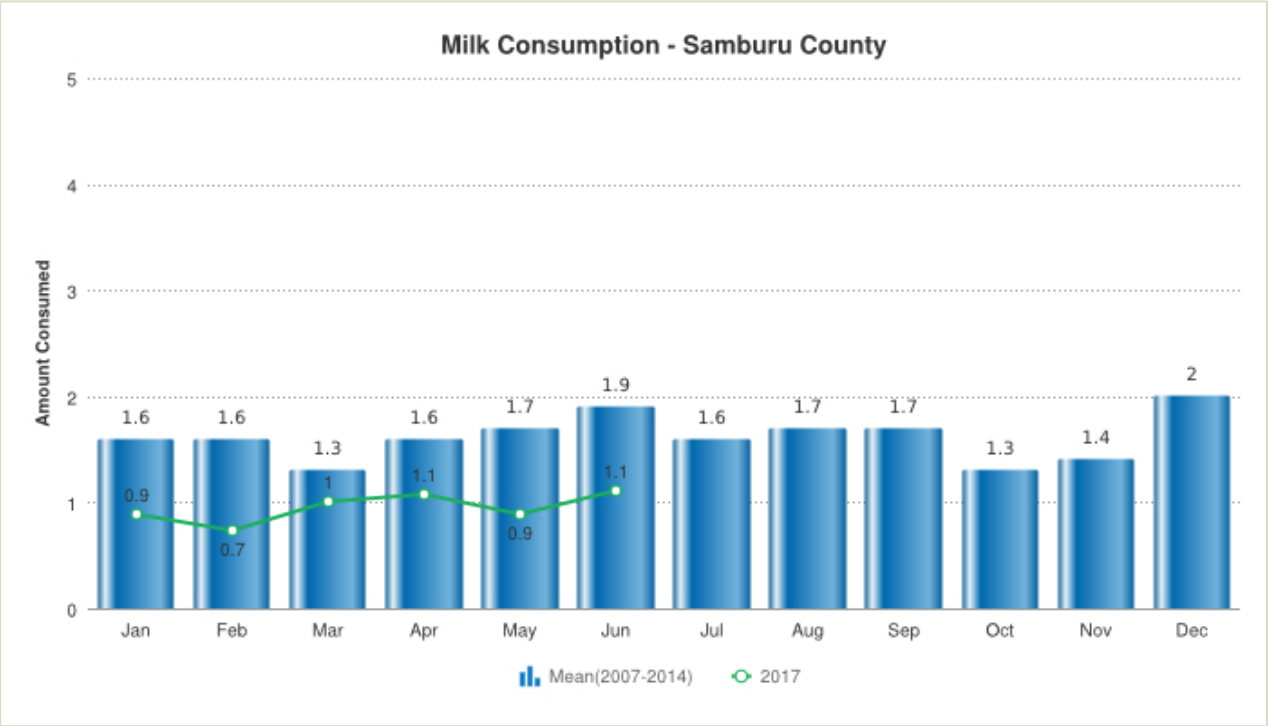


Figure 8: Trends in Milk Consumption per Household

3.1.5 Livestock Deaths

- Minimal deaths were reported particularly for cattle associated with starvation. However other deaths reported were as a result of predation by wild animals and diseases.

3.2 RAIN FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- In the agro pastoral areas of Samburu central, depending on the time farmers planted, some maize crop is at first weeding stage while others are at Knee high stage. The crops are stressed due to inadequate rainfall and others stunted due to lack of nutrients making them appear yellowish in colour.
- Bean crop on the other hand has failed in most farms.

3.2.2 Harvest of Crop

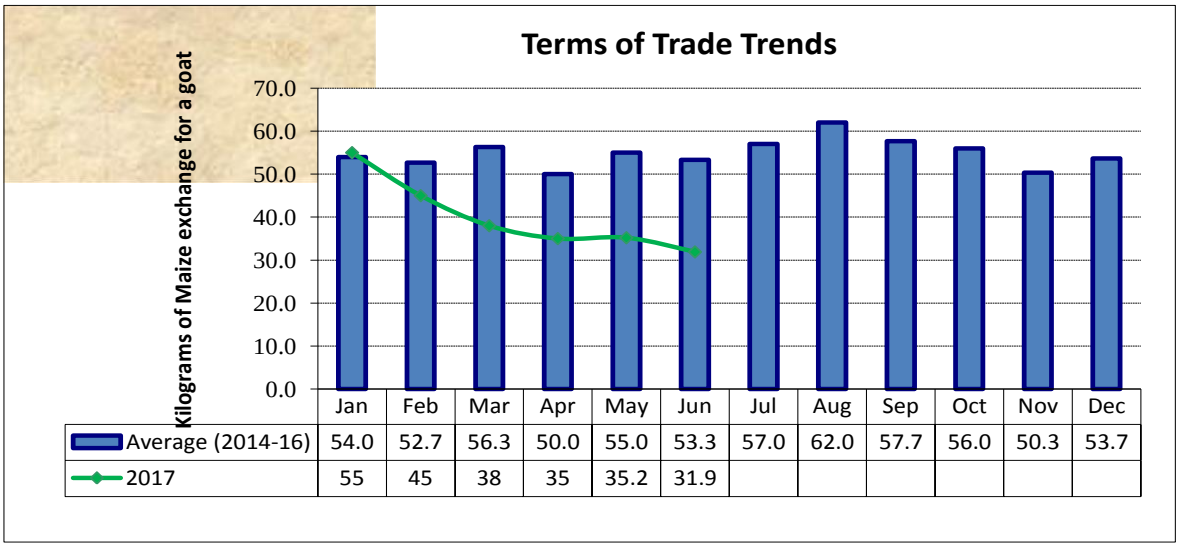
- No harvest was reported during the reporting month.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Livestock Terms of Trade (TOT)

- A pastoralist will fetch 32 kg of maize/posho from the sale of one goat as measured by the TOT which was a decrease from 35 kg recorded last month. This is unfavourable to the pastoralist when compared to the long term average value of 53.3 at the same time of the year. The decrease can be attributed to low livestock prices and high maize prices
- The terms of trade is better in agro pastoral livelihood zone at 50 as compared to 29.08 in pastoral livelihood. The difference can be attributed to availability and accessibility of cereals in agro pastoral livelihood markets.

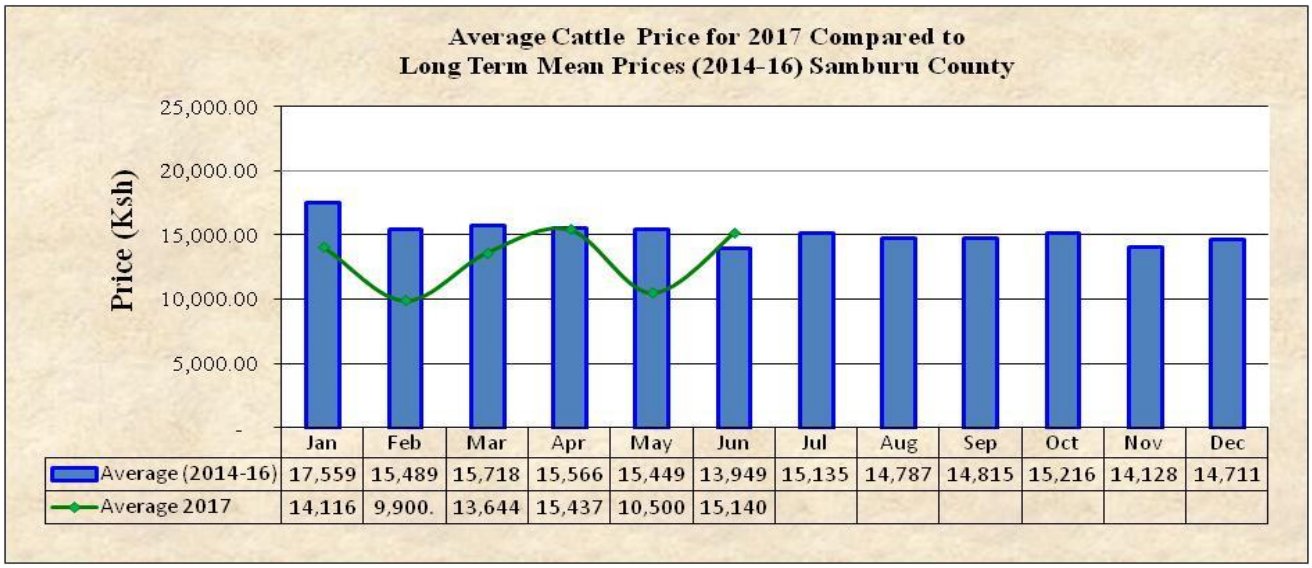


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2014-16)	54.0	52.7	56.3	50.0	55.0	53.3	57.0	62.0	57.7	56.0	50.3	53.7
2017	55	45	38	35	35.2	31.9						

Figure 9: Trends in Terms of Trade (TOT)

4.1.2 Cattle Prices

- The cattle prices increased to Ksh 15,140 from Ksh 10,500 recorded in last month. The increase can be attributed to good market prices in Lolkuniani market which is easily accessed by residents of Nairimirimo sentinel site and is the only sentinel site which recorded sale of cattle. Body condition of cattle remains poor and will not fetch good prices hence the few sales recorded.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2014-16)	17,559	15,489	15,718	15,566	15,449	13,949	15,135	14,787	14,815	15,216	14,128	14,711
Average 2017	14,116	9,900.	13,644	15,437	10,500	15,140						

Figure 10: Graph Showing Cattle Selling Price Trends at Farm Gate and Market Level

4.1.3 Goat Prices

- Slight decrease in goat prices was noted despite the good condition of goats. The market selling price slightly decreased to Ksh 2,082 from Ksh 2,110 which was below 14 % below the LTA. The low market prices are attributed to the drought which negatively affected the body condition consequently pushing the prices down which has not yet recovered. Lack of buyers from outside also contributed to low prices.
- Markets in agro pastoral reported average selling prices for a goat at Ksh 2,500 while markets in pastoral livelihood recorded an average selling price of Ksh 1,995. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.

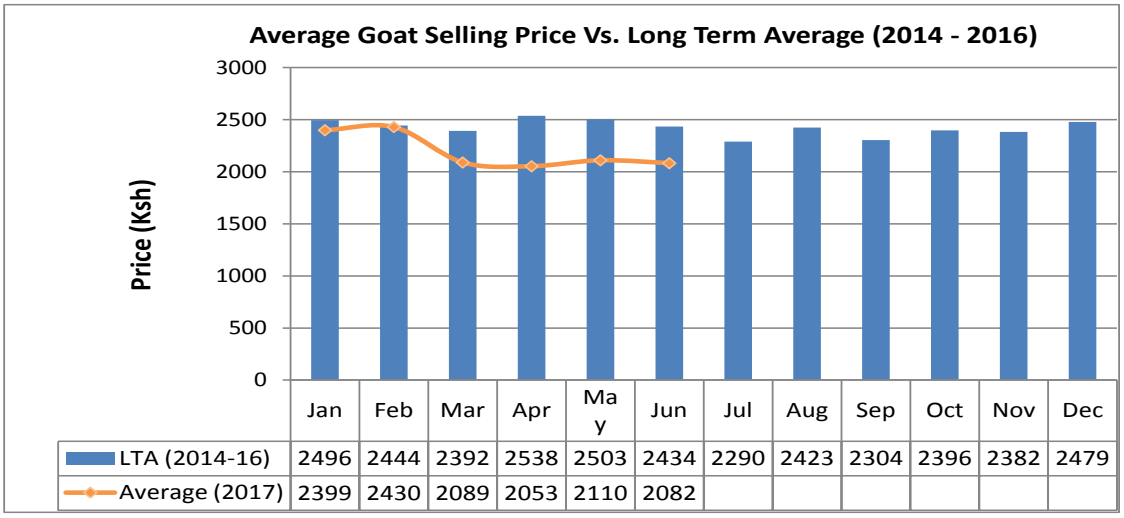


Figure 11: Graph Showing Goats' Selling Price Trends at Farm Gate and market Level

4.1.4 Sheep Prices

- Slight increase in sheep average price from Ksh 1700 to Ksh 1923 was recorded. The increase can be attributed to low supply in the market which pushed the prices up.
- Average selling price in agro pastoral livelihood zone stand at Ksh 2,000 while pastoral zone reported average price of Ksh 1,785. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.
- Despite the increase, the current average price remains below the long term value by 15 % (Fig. 12).

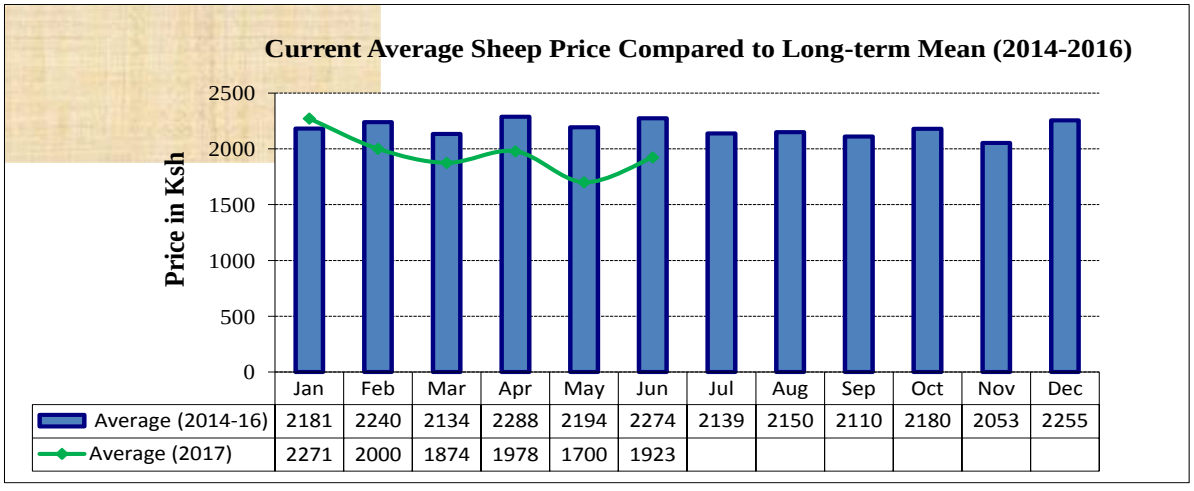
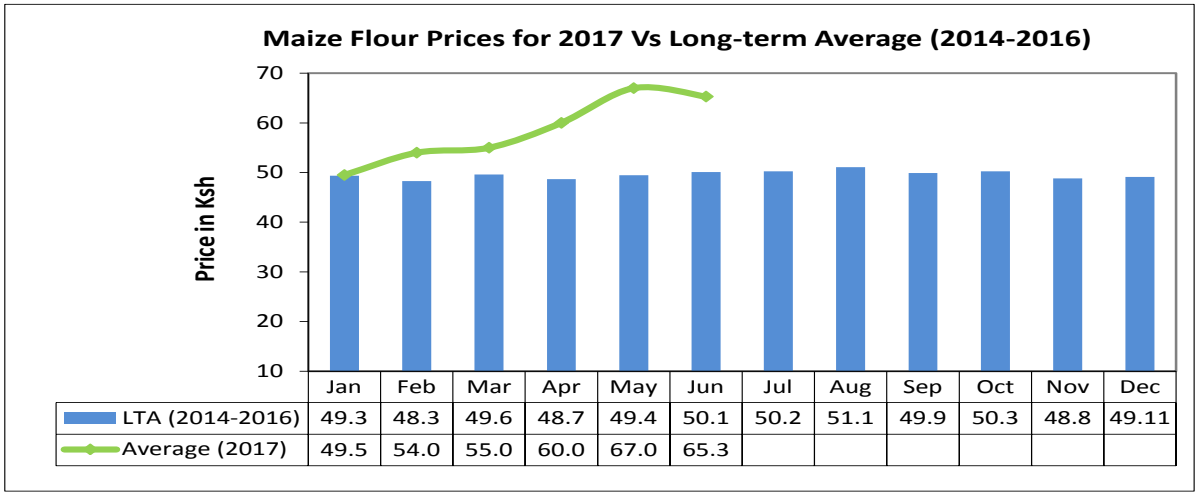


Figure 12: Graph Showing Sheep Selling Price Trends at Farm Gate and Market Level

4.2 CROP PRICES

4.2.1 Posho (Milled Maize)

- Price of posho for the month of June decreased to Ksh 67 down from from Ksh 67 recorded in the previous month. The decrease can be attributed to the efforts the Government is putting in place across the entire country of importing maize and regulating prices to tame the sky rocketing prices brought about by shortage of maize as a result of drought.
- Pastoral livelihood average price was Ksh 68 per kilo while in agro pastoral was Ksh 50 per kilo. The variation can be attributed to added transport charges owing to poor condition of access roads. Pastoral areas of Nairimirimo, recorded the highest price at Ksh 86 whereas Lodung'okwe recorded the least at Ksh 46.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014-2016)	49.3	48.3	49.6	48.7	49.4	50.1	50.2	51.1	49.9	50.3	48.8	49.11
Average (2017)	49.5	54.0	55.0	60.0	67.0	65.3						

Figure 13: Graph Showing Maize meal Price Trends

4.3 Source of Income

- The major source income remained sale of livestock at this time of the year, with a proportion contribution of 52 percent followed by Casual labour at 24 percent.
- Other sources include remittances, sale of charcoal, sale of wood products, sale of livestock feed and sale of livestock products contributed 7, 6, 5, 4 and 2 percent respectively.

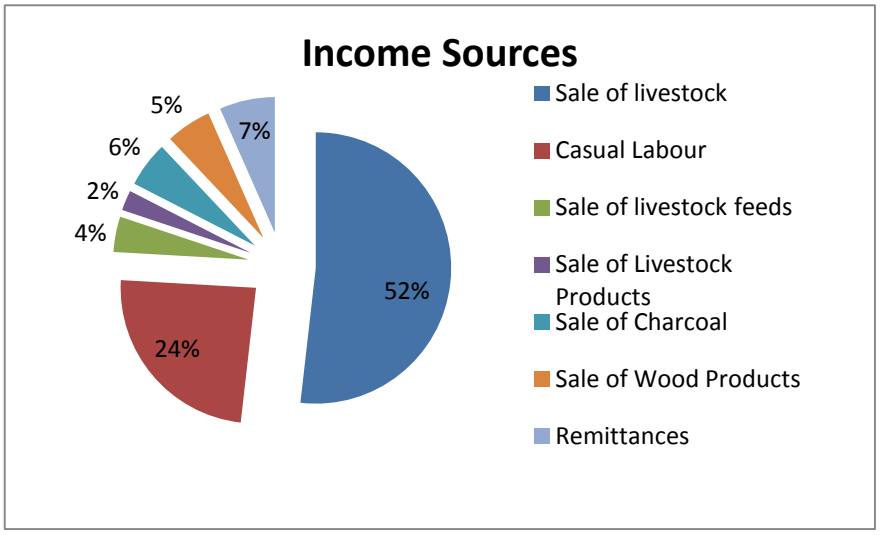


Figure 14: Households Common Sources of Income

5.0 UTILIZATION INDICATORS

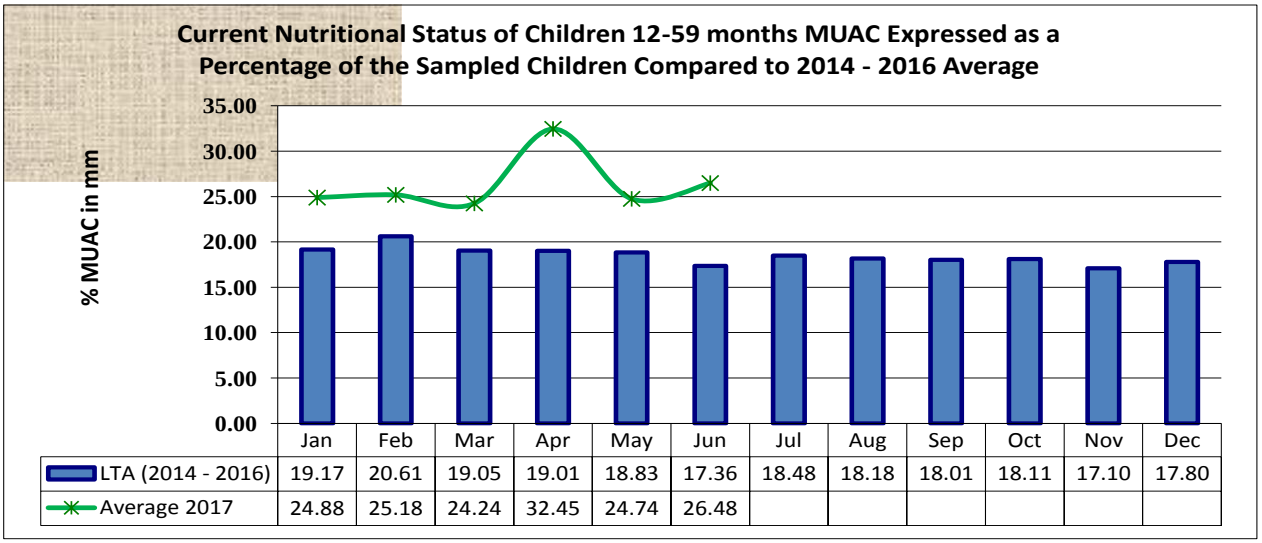
5.1 Health and Nutrition Status

5.1.1 MUAC (<135 mm)

- The proportion of children under five years at risk of malnutrition based mid upper arm

circumference (MUAC <135 mm) increased to 26.48 percent from 24.74 percent recorded last month. The increase can be attributed to unavailability of milk and adequate food, poor child feeding practices and diseases.

- High cases of children at risk of malnutrition were reported in Arsim and Kawop both in Samburu North Sub County at 43.8 percent and 38.8 percent respectively.
- In pastoral livelihood, the number of sampled children at risk of malnutrition were at 26.5 percent while in agro pastoral was at 7.1 percent. The variation could be attributed to limited food types in pastoral livelihood due to poor feeder roads hindering accessibility to markets by suppliers whereas their agro pastoral livelihood are able to access vegetables and fruits.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014 - 2016)	19.17	20.61	19.05	19.01	18.83	17.36	18.48	18.18	18.01	18.11	17.10	17.80
Average 2017	24.88	25.18	24.24	32.45	24.74	26.48						

Figure 15: Graph showing average Nutritional status (MUAC)

5.1.2 Food Consumption Score

- The proportion of household with poor and borderline food consumption scores remained high in Samburu North standing at 84.2 percent compared to 81.9 percent noted in last month. In Samburu East and Central, the current proportion with poor and borderline was at 58.4 and 7.7 percent respective.
- The low food consumption especially in pastoral areas can be attributed to high cost of food stocks in the markets occasioning to poor dietary diversity, depleted stocks in the households and low availability of livestock's products at household level due livestock migrations.
- Food consumption score in agro pastoral livelihood in Samburu Central was 92.3 percent compared to 90.3 percent recorded in last month which implies better food dietary diversity probably attributed to availability of traditional green vegetables during the period under review and accessibility other food stocks in the markets within the livelihood.

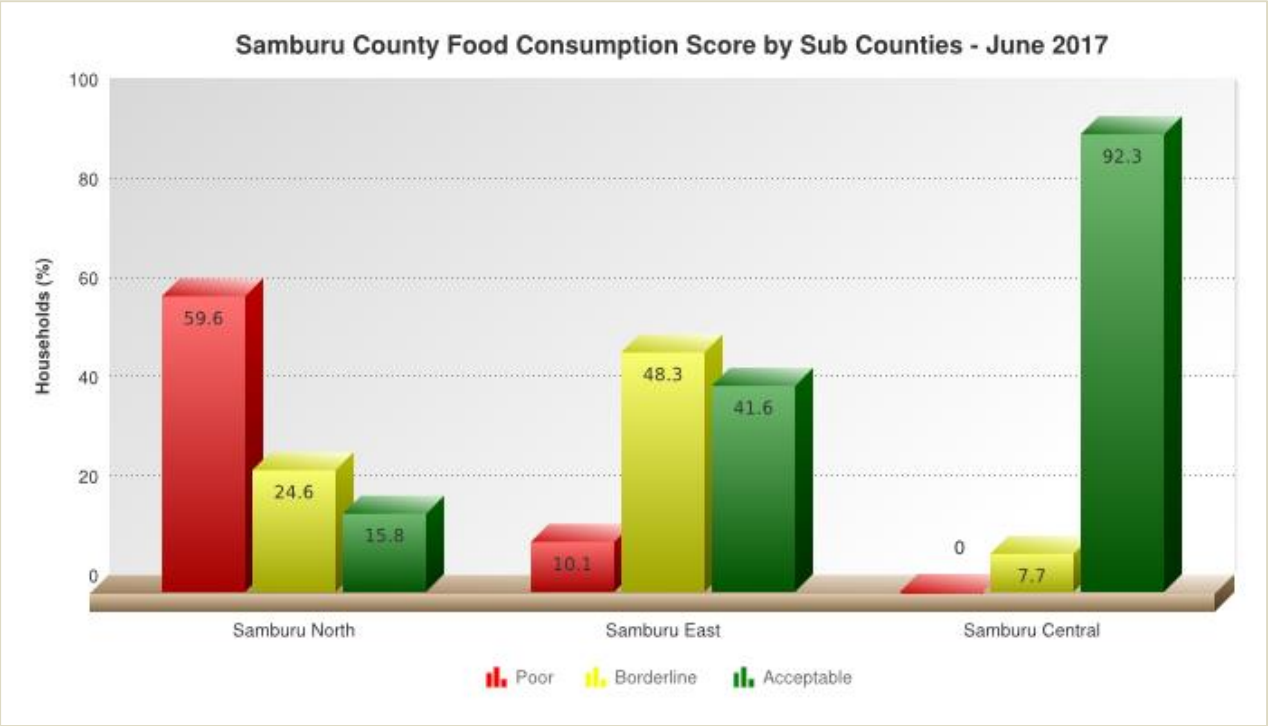


Figure 16: Bar chart showing FCS per Sub County

5.1.3 Health

- No major disease outbreak was reported although cases of coughing, URTI and diarrhoea continued to be reported across the livelihoods.
- Most of the households pursued assistance for the aliments from public health centres/ dispensaries, private clinics and others used local herbs for treatment.

5.1.4 Coping Strategies

- The current mean coping strategy index (CSI) declined to 14.91 compared to 20.57 recorded in the previous month.
- The decrease in mean CSI implies a reduction in frequency and the number of households using the consumption based coping strategies.
- The most commonly utilized consumption based coping strategies remained reduction in the number of meals eaten per day, reduction in the portion size of meals and relying on less preferred and/or less expensive food.

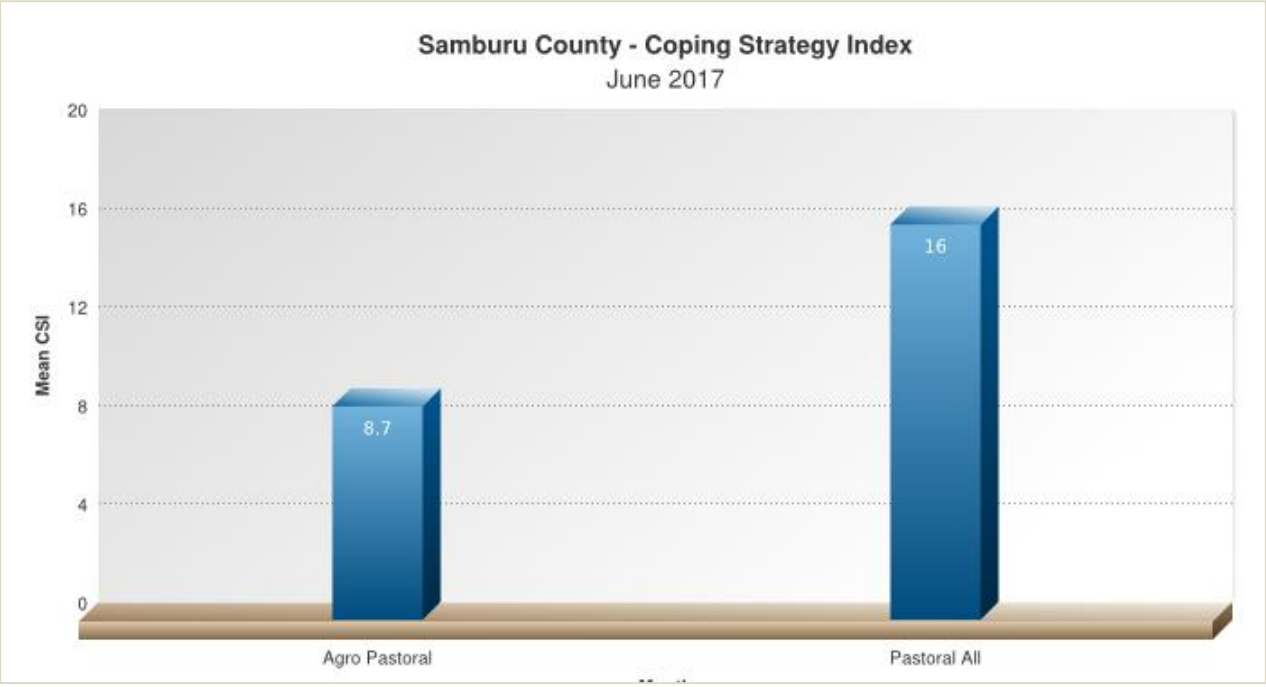


Figure 17: Bar chart showing CSI

6. CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-food On-going interventions

SECTOR	INTERVENTION	IMPLEMENTERS
LIVESTOCK	Provision of livestock feeds (UMMBs)	National government and county department of livestock
	Provision of Range cubes	National government and county department of livestock
	Rangeland rehabilitation in Nkaroni in Samburu East	regional pastoral livelihood resilience project (RPLRP)
SOCIAL SERVICES	On-going cash transfer to vulnerable elderly, people with disabilities and orphaned children	National government.
	Entrepreneurship mentorship to individuals and groups in Samburu central sub county	Boma project.
	Cash transfer program targeting 810 household under IMAM program in Lokuniani,Baawa,Suguta,Ledero and Maralal	Acted
Agriculture	Extension training	MOA/AMREF
	Crops diseases and pest surveillance	MOA
Water	Repair of Kilepoi and marti,Lojuk and Ngutuk engiron borehole	MOW
	Equipping of 38 drilled boreholes	MOW
Health	On-going High Impact Nutritional Interventions (HINI) implemented by partners in collaboration with MOH in 47 health facilities across the County	MOH,IMC,NHP Plus andUNICEF
	SMART Survey	MOH,IMC,NHP Plus andUNICEF

6.2 Food Aid

- Provision of oil, sorghum and pulses targeting 20,000 FFA beneficiaries in Samburu Central.
- Provision of 600 bags of beans, 1200 bags of rice and 1200 bags of maize by ministry of devolution.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Cases of cattle rustling between communities living in the border between Samburu and Isiolo in particular Westgate resulted to loss of livestock and displacement of families from their homes to higher grounds but within the same locality.

7.2 Food Security Prognosis

- Showers which continue to be experienced in agro pastoral livelihood might resuscitate the existing maize crops in the farms.
- Further improvement in pasture and browse is also likely with the ongoing rains. This will directly translate to improved body condition and improved milk production. The good body condition will also result in high livestock prices which will

8.0 RECOMMENDATIONS

Nutrition and Health

- Nutrition intervention programs in Arsim and Kawop to reduce the high level of malnutrition for under five.

Livestock

- Provision of livestock feeds such as UMMB and Range cubes should be enhanced.
- Awareness creation on proper rangeland management practices such as paddocking to conserve pasture for dry periods.
- Disease surveillance to confirm cases of reported FMD and CCPP.

Education

- Provision of relief food to school to ensure maximum retention in schools.

Agriculture

- Enhanced small scale irrigation farming.
- Promotion of drought tolerant crops.

Water

- Fuel subsidy in Mbukoi, Lojuk and Lesirkan.
- Roof water harvesting in schools.
- Water trucking to institutions in Samburu East.

Annexes

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	