National Drought Management Authority
SAMBURU COUNTY

A Vision 2030 Flagship Project

DROUGHT EARLY WARNING BULLETIN FOR MAY 2017

MAY 2017 EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicators

- Onset of the long rains was late and was realized in the third dekad (10 day period) of the month of April as opposed to normally 2nd or 3rd dekad of March with uneven temporal distribution and poor coverage in space.
- Rangeland resources have improved following rainfall experienced with the county. The overall vegetation cover increased to 15.71 from 7.36 recorded last month as measured by vegetation condition index.
- The received rainfall replenished surface and underground water sources across the livelihood zones resulting in decrease in trekking distance for both households and livestock.

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 Sarara hills and Loijuk in Samburu east. In Samburu North, cattle are in Ngorishe, Angata sikira and Marti plains. Milk production and consumption slightly decreased during the period under review.
- Body condition for browsers improved while for grazers is ranging between fair to poor which contributed to low livestock products and prices for all species.
- Further increase in Posho market prices was observed from Ksh 60 to Ksh 55. Current term of trade was 1:35.2 compared to 1:36 recorded last month.
- The proportion of sampled children under-five years at risk of malnutrition improved compared to last month although remained high at 24.74 per cent.

Early Warning Phase Classification

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

Biophysical Indicators		Value	Normal range/Value
VCI-3month (Samburu County)		15.71	35-50
VCI-3month -Samburu East		14.4	35-50
VCI-3month -Samburu North		16.34	35-50
VCI-3month-Samburu West		18.9	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
Livestock deaths due to drought		Minimal Deaths	No death
Access Indicators		**Value**	**Normal ranges**
Terms of Trade (TOT)		35.2	>55
Milk Consumption		0.9	>1.7
Return distance	Household	3.6	<2.8
	Livestock	7.1	<6.6
Acceptable FCS	Pastoral	51.7	100
	Agro pastoral	100	100
Utilization indicators		**Value**	**Normal ranges**
MUAC		24.74%	<18.83%
Mean CSI		20.57	<56

▪ 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 onset of the long rains was late and was realized in the third dekad (10 day period) of the month of April as opposed to normally 2nd or 3rd dekad of March.
- The rains were intermittent in the month of May and cumulatively amounted to 27.6 mm in the first dekad, 6.3 mm in the second dekad and 21.1 mm in the third dekads.

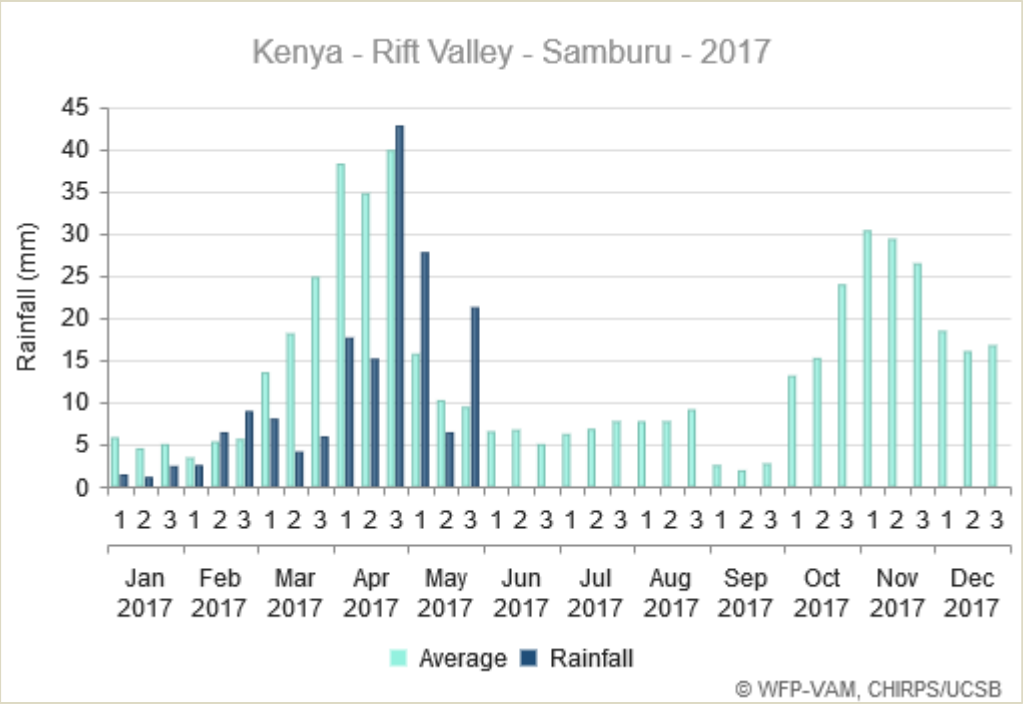


Figure 1: Graph showing rainfall trends as measured by rainfall estimates **(Source: Meteorology Department)**

1.1.1 Temporal and Spatial Distribution

- The rainfall received was unevenly distribution in time and fair distribution in terms of space. 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, 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 7.36 recorded in the month of April to 15.71 in May as measured by VCI. Despite the improvement, the situation indicates severe vegetation deficit.
- The current situation remained below normal and was noticed only in 2011 and 2009 at the same period of the year (Fig. 2).

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

- In Sambur East (pastoral livelihood) the vegetation cover also improved with the 3 month VCI standing at 14.4 up from 5.25 noted in the previous month signifying severe 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).

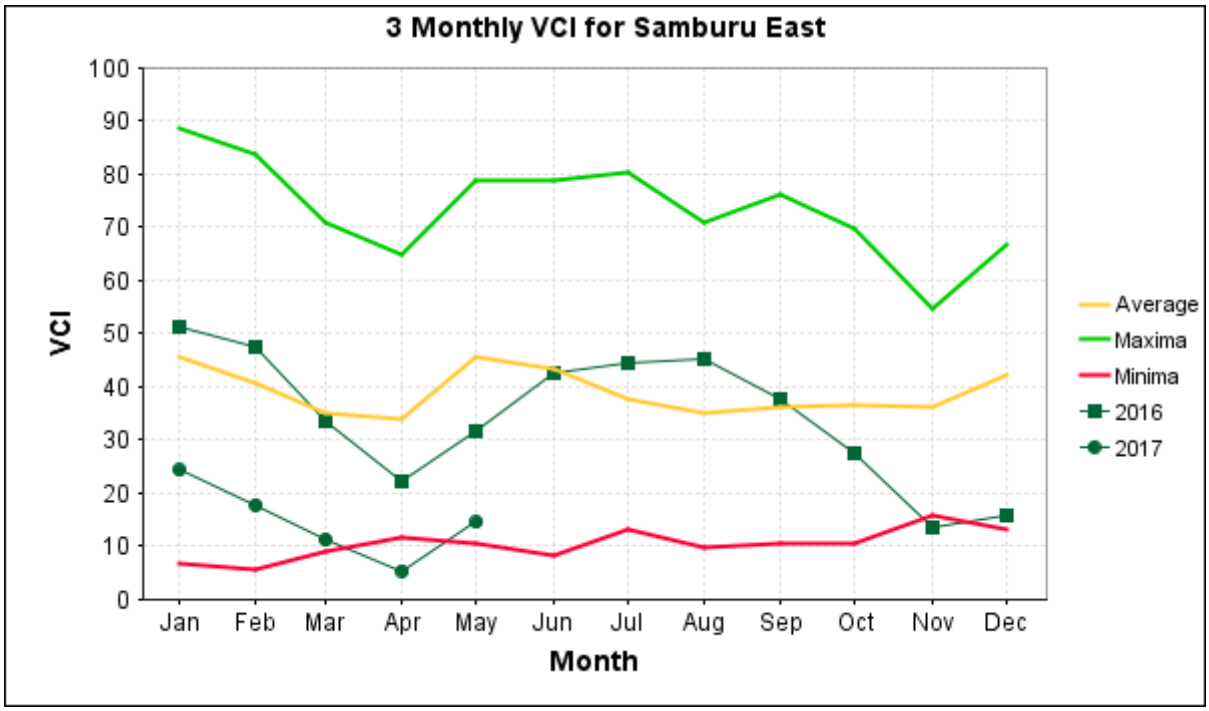


Figure 3: Graph Showing Historical VCI trends for Samburu East sub county
(**Source**: Boku University)

2.1.1 Field Observations (Pasture and Browse Conditions)

Quality

- Pasture and browse quality is fair to poor across the livelihoods with localized areas with good browse attributed to enhanced rains.

Quantity

- The quantity of pasture remained poor to fair due to high population sheep in the highland and cattle resulting into compact soil structure and destroying vegetation on areas they congregate and tread most often during grazing.

2.2. WATER RESOURCE

2.2.1 Sources

- The experienced rains replenished most of the water sources across the livelihoods, with open water sources recharging to half full of their carrying capacity. The current majorly used water sources both by livestock and domestic use include pans and dams, Shallow wells, Traditional river wells and Boreholes.
- Boreholes and pans and dams usage increased to 18.4 percent from 15 percent and to 22.4 percent from 17.5 percent respectively.
- Contribution of Shallow wells during the period under review stabilized at 20.4 percent as compared to 20 percent recorded in the month of April.

- Natural ponds, springs, seasonal streams and rivers were also other utilized water sources as evidenced in the chart below (Fig 4).

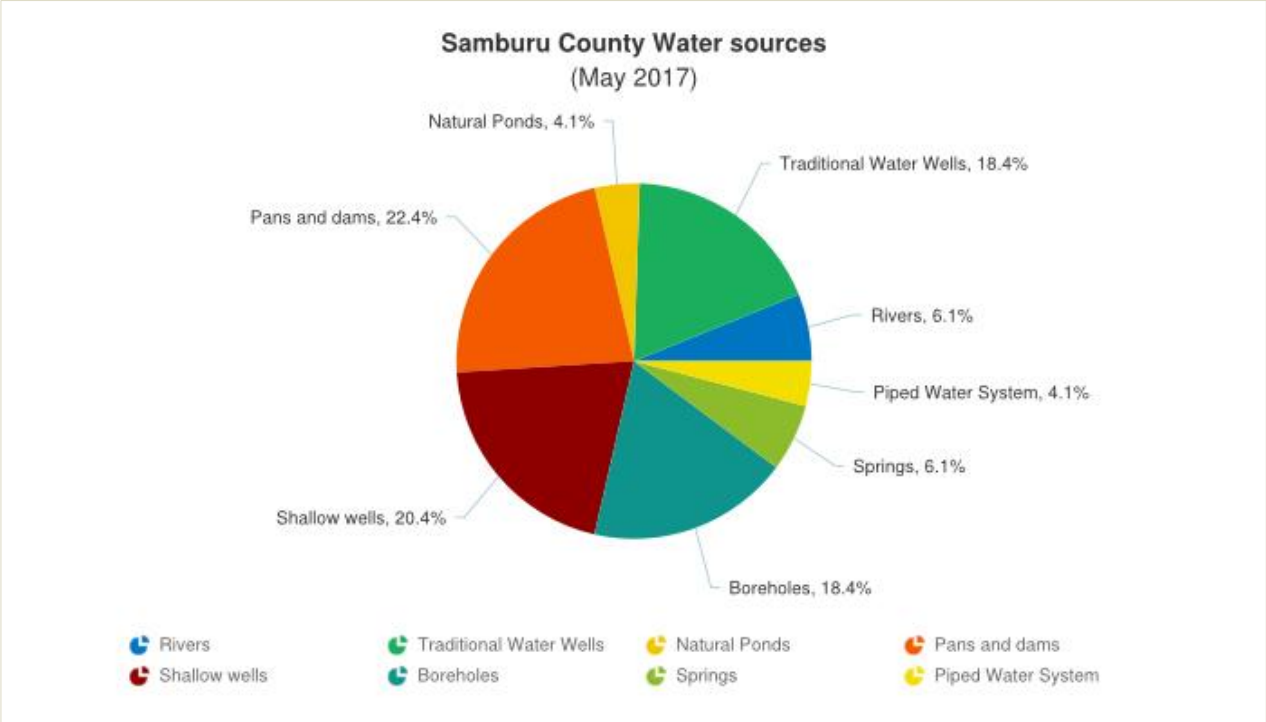


Figure 4: Common water sources

2.2.2 Household Access and Utilization

- Availability and access to water by households improved attributed to increase in recharge levels of water sources following the rains received particularly in agro pastoral livelihood and parts of northern areas of pastoral livelihood zone which made water to be easily accessible.
- Westgate recorded the longest household distances to water points at 8.5 km while Arsim continued to record the shortest distance at 0.4 km due availability of springs within the area.
- Current household return average trekking distance of 3.6 km still remained above the long term value at this time of the year (Fig. 5).

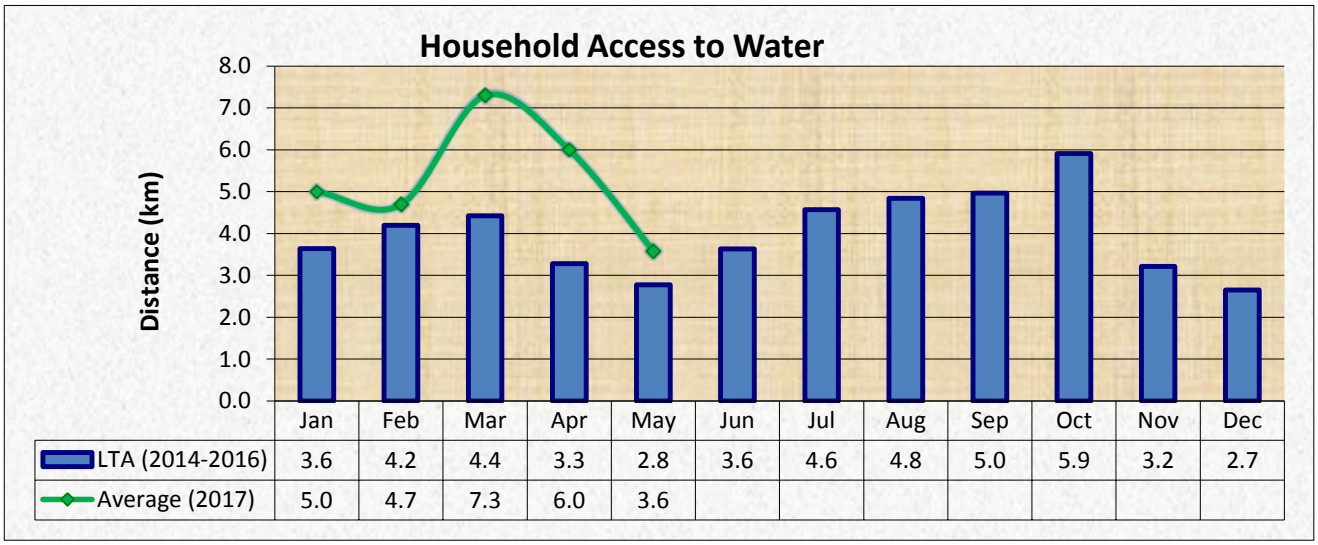
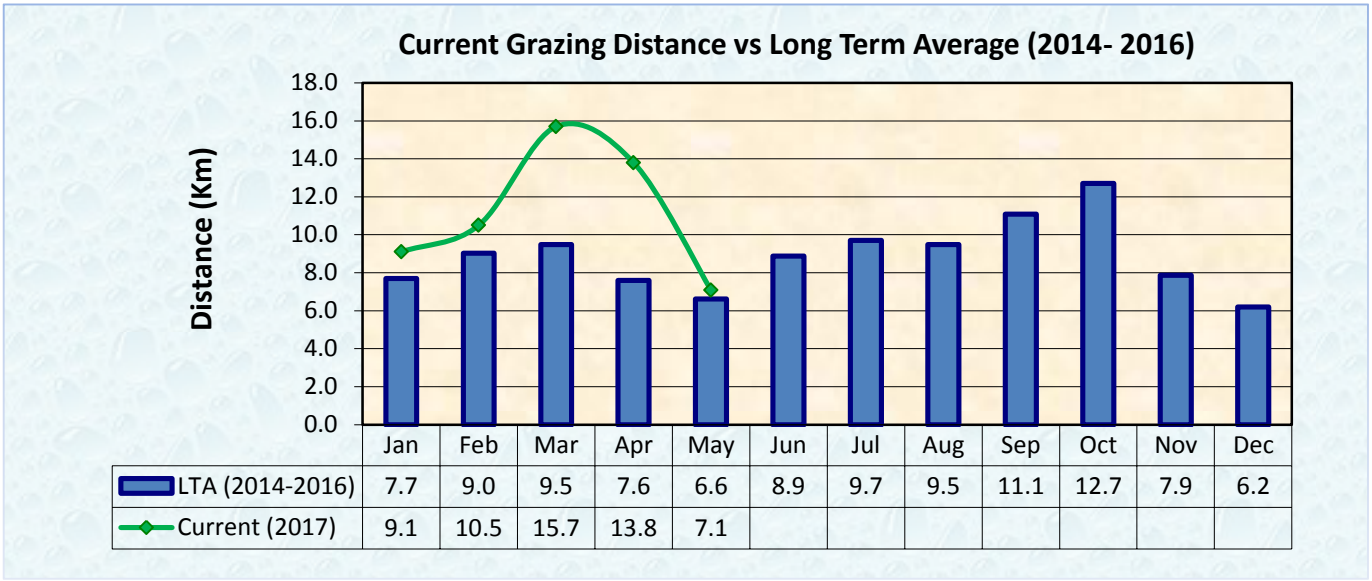


Figure 5: Average Distance Travelled by Households in Search of Water

2.2.3 Grazing Distances to Water Points

- Return average trekking distances to livestock watering points from grazing areas decreased 7.1 km from 13.8 km observed in last month. The decrease is attributed to rainfall experienced that resulted in improvement in recharge levels of surface water sources such as natural ponds, pans and dams.
- Areas of Nairimirimo n Samburu East and Kawop in Samburu North continued to record long trekking distances from grazing fields to watering points at 8 km and 7.7 though with greater decline margin from 20.7 and 20 km respectively.
- A marginal decrease was noted in average return trekking distances in pastoral livelihood from 16.1 km in last month to 7.7 km attributed to enhance rainfall in pastoral areas of Baragoi and its environs while in agro pastoral, return trekking distances increase to 7 km from 5 km.
- Despite the decrease, the current average return grazing distance of 7.1 km remained above long term average by 8 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							

Figure 6: Distance travelled to water points from grazing areas

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Migration Patterns

- In Samburu Central, Internal movement of cattle has been noticed to areas of Pura in Loosuk ward and Kirisia hills in parts of Lodokejek ward. Cattle in Samburu East remained in Loijuk, Mathew ranges and Sarara hills. The majority of households have their small stocks (Goats and sheep) in both livelihoods are currently grazing in wet season areas near the homesteads although supporting limited livestock products.
- Cattle from Samburu North are concentrated in Ngorishe and its environs and others are in Marti plains.

3.1.2 Livestock Body Condition

- Cattle body condition remained between alert worsening/alarm (thin fore ribs visible) and emergency (very thin no fat, bones visible) attributed to little lush grass resulted to loss of body weight. For small stocks and browsers, the body condition slightly improved ranging between moderate neither fat nor thin.

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

- Milk production during the period under review stabilized at 1.2 litres per household as compared to last month production of 1.3 litres per household. 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.
- Current milk production per household still remained below the long term value by 40 percent at this time of the year (Fig. 7).

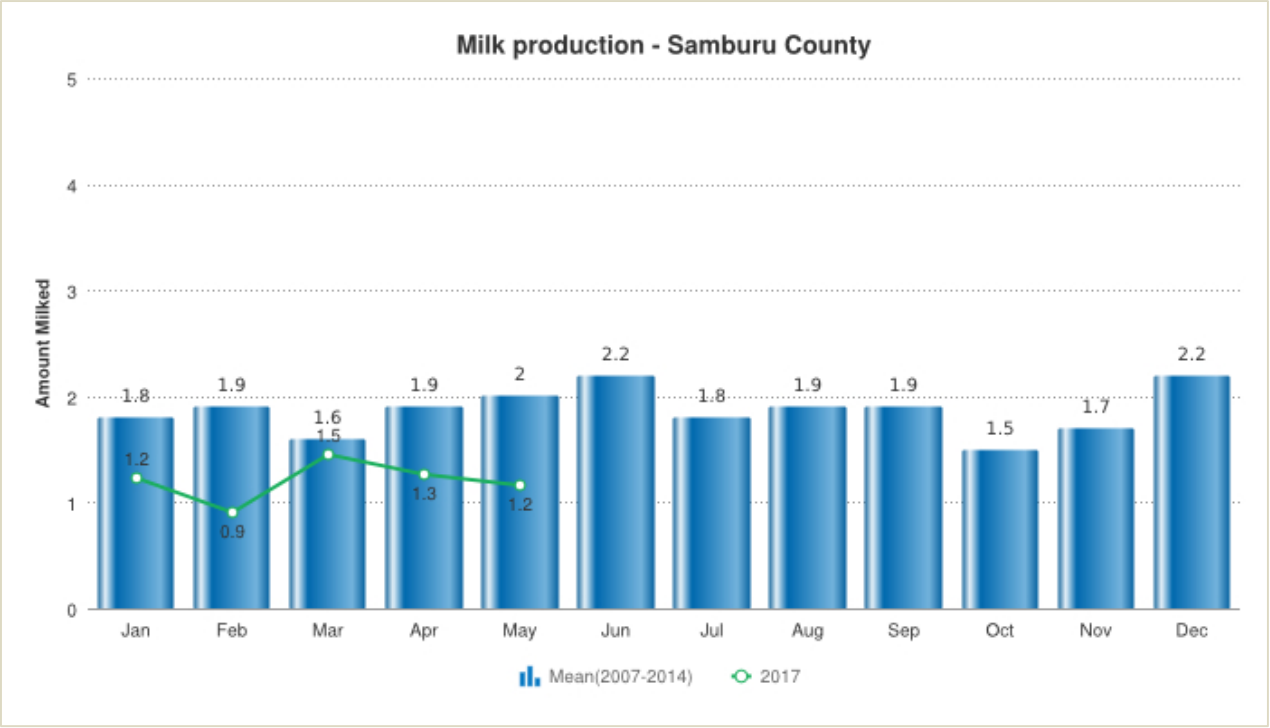


Figure 7: Trends in Milk Production per Household

- Like milk production, downward trend was also noticed in milk consumption from 1.1 litres per household to 0.9 litres per household. 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.

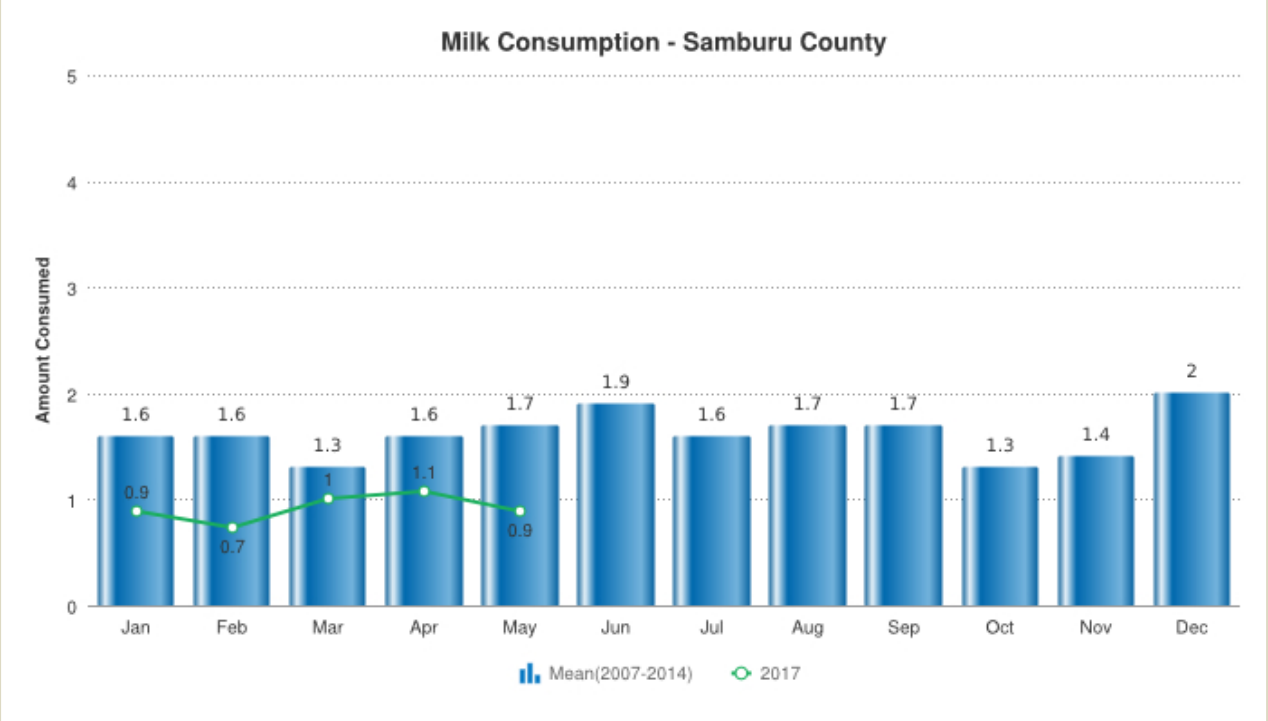


Figure 8: Trends in Milk Consumption per Household

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, maize and beans are at first weeding stage of development for rain fed crops providing labour on-farm opportunities, albeit blow normal. The condition of the crops in field in the highland is so far good.

3.2.2 Harvest of Crop

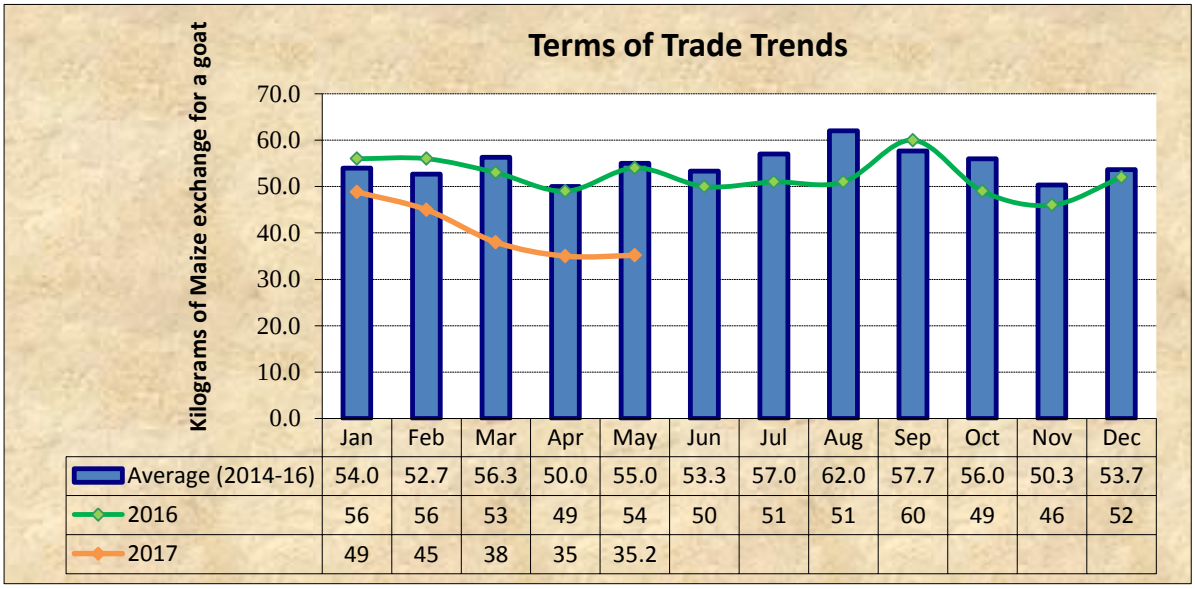
- No harvest was reported during the reporting month.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Livestock Terms of Trade (TOT)

- The current TOT stabilized at 35 indicating that income from sale of one goat can fetch 35 kilograms of maize/posho from the market. This is unfavourable to the pastoralist when compared to the long term average value of 55 at the same time of the year.
- The stable term of trades can be attributed to national government intervention to control escalation of maize prices in the markets.
- The term of trade is better in agro pastoral livelihood zone than in pastoral livelihood. The difference can be attributed to availability and accessibility of cereals in agro pastoral livelihood markets.

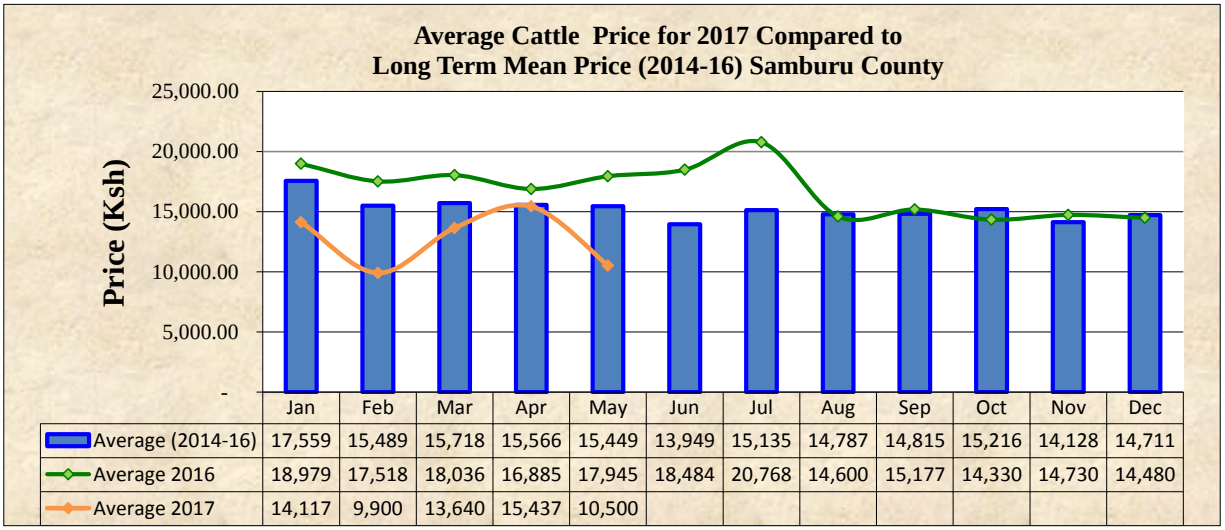


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2014-16)	54.0	52.7	56.3	50.0	55.0	53.3	57.0	62.0	57.7	56.0	50.3	53.7
2016	56	56	53	49	54	50	51	51	60	49	46	52
2017	49	45	38	35	35.2							

Figure 9: Trends in Terms of Trade (TOT)

4.1.2 Cattle Prices

- The cattle prices decrease to Ksh 10,500 from Ksh 15,437 recorded in last month. The reduction can be attributed to poor body conditions and poor market prices.
- The sale of cattle was only reported in Longewan and Nairimirimo at Ksh 14,000 and Ksh 7,000 respectively.

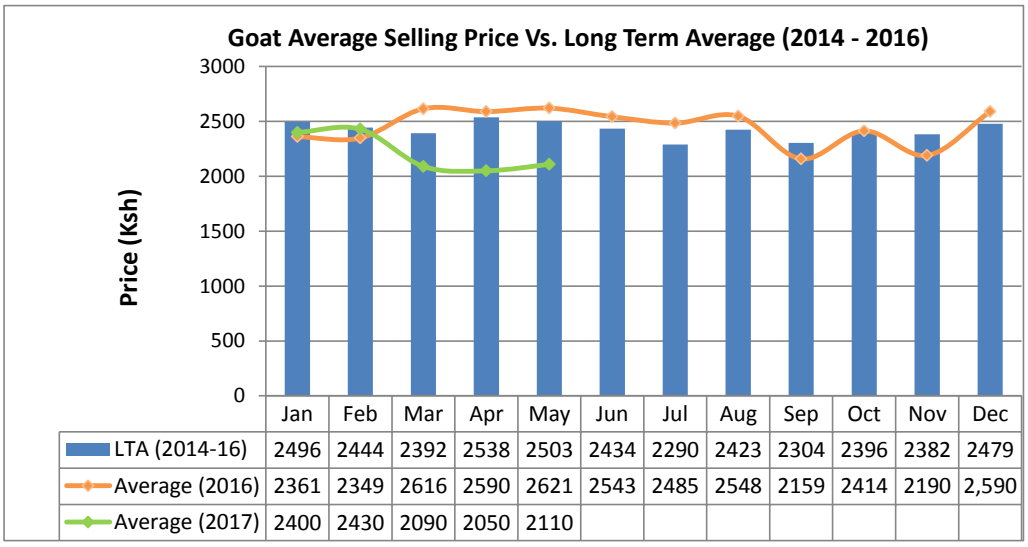


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2014-16)	17,559	15,489	15,718	15,566	15,449	13,949	15,135	14,787	14,815	15,216	14,128	14,711
Average 2016	18,979	17,518	18,036	16,885	17,945	18,484	20,768	14,600	15,177	14,330	14,730	14,480
Average 2017	14,117	9,900	13,640	15,437	10,500							

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

4.1.3 Goat Prices

- Unlike cattle, goats' market selling price slightly increased to Ksh 2,110 from Ksh 2,050 attributed to fair body condition and high demand as compared to other livestock.
- Markets in pastoral areas of Kawop recorded highest market price at Ksh 2,800 followed by Westgate at Ksh 2,460 while lowest market price was noted in Arsim at Ksh 1,670.
- Markets in agro pastoral reported average selling prices for a goat at Ksh 2,000 while markets in pastoral livelihood recorded an average selling price of Ksh 1,800. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014-16)	2496	2444	2392	2538	2503	2434	2290	2423	2304	2396	2382	2479
Average (2016)	2361	2349	2616	2590	2621	2543	2485	2548	2159	2414	2190	2,590
Average (2017)	2400	2430	2090	2050	2110							

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

4.1.4 Sheep Prices

- Downward trend in average selling price for sheep continue to be settling at Ksh 1,700 compared to Ksh 1,980 recorded in last month. The low prices for sheep can be attributed to poor body conditions coupled with low demand at the markets for the sheep.
- Average selling price in agro pastoral livelihood zone stand at Ksh 2,170 while pastoral zone reported average price of Ksh 1,450.
- Compared to long term value, the current price of Ksh 1,700 remained below normal by 22.4 percent at this time of the year (Fig. 12).

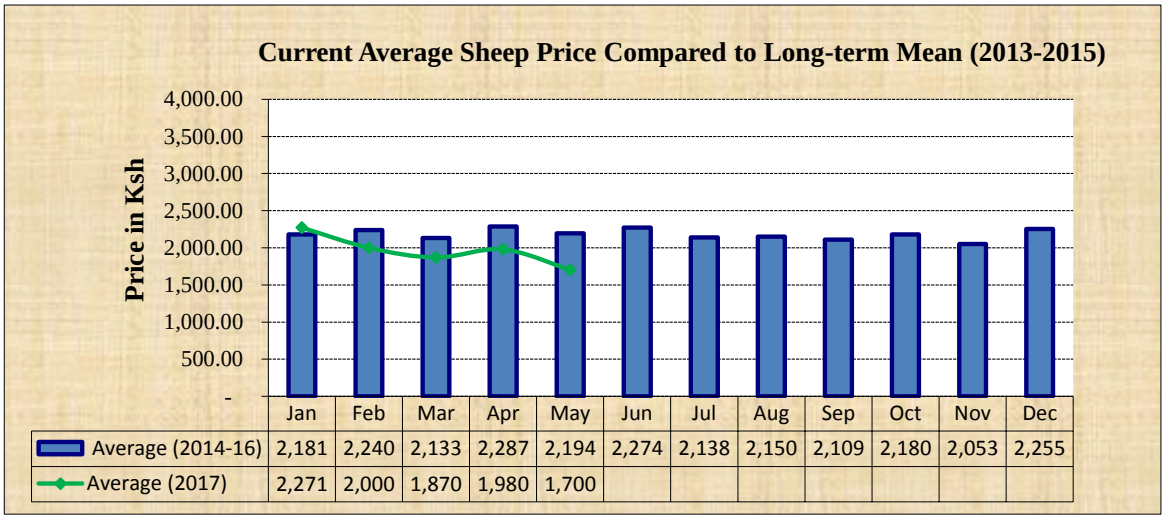


Figure 12: Graph Showing Sheep Selling Price Trends at Farm Gate and Market Level

4.2 CROP PRICES

4.2.1 Posho (Milled Maize)

- The posho prices have steadily been increasing with the current average price standing at Ksh 67 per kilo compared to last month price of Ksh 60. The increase can be attributed to scarcity of maize at household as well as at market level.
- Pastoral areas of Nairimirimo, Lodung'okwe and Arsim had high posho price at Ksh, 90, Ksh 80 and Ksh 70 respectively while Longewan recorded Ksh 50. Pastoral livelihood average price was Ksh 77 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.

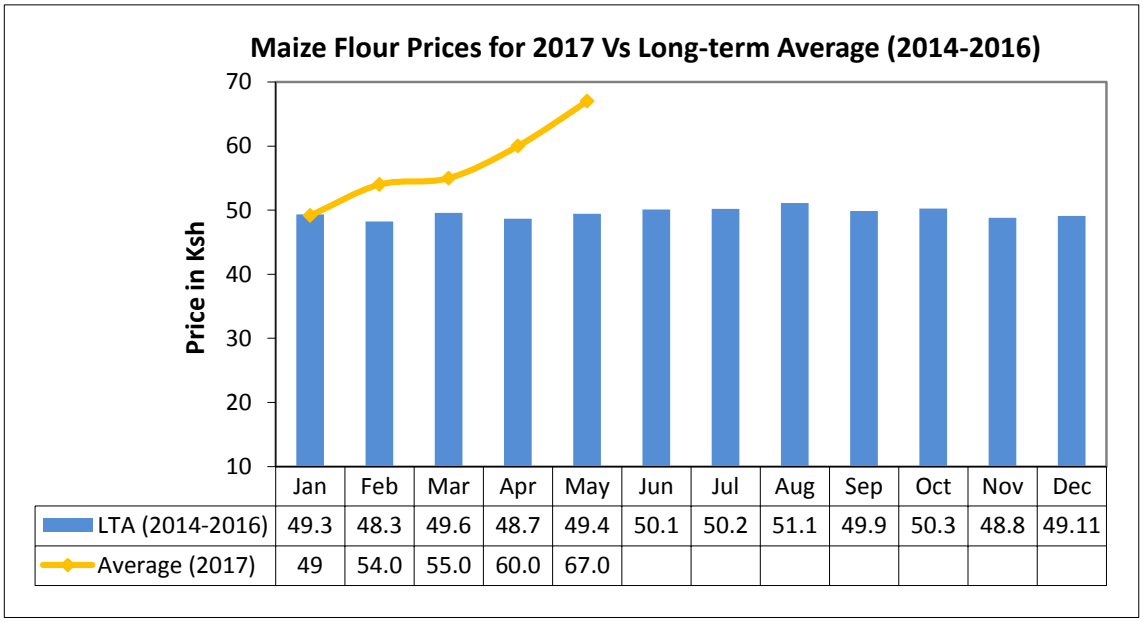


Figure 13: Graph Showing Maize meal Price Trends

4.3 Source of Income

- The major source income remained sale of livestock at this time of the year, with a proportion contribution of 51 percent. Casual labour contribution increased to 25 percent from 23 percent attributed to on-going weeding in the farms.

- Other sources include sale of charcoal, remittances and sale of wood products contributing 8, 6 and 5 percent respectively.

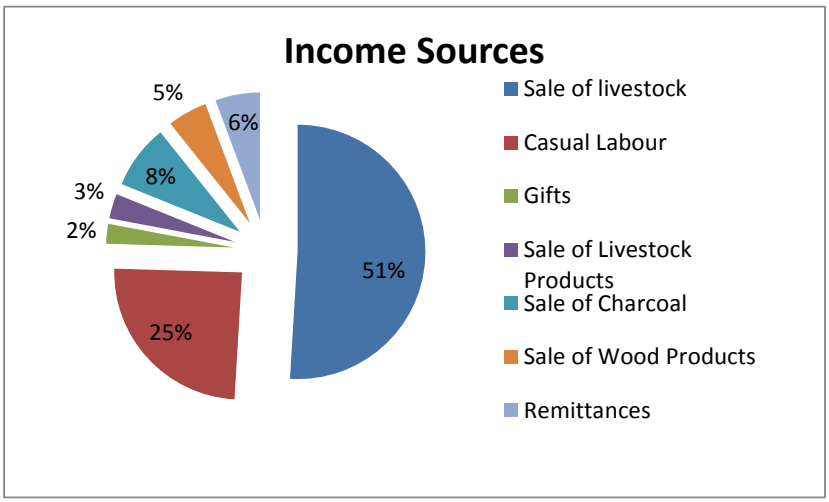


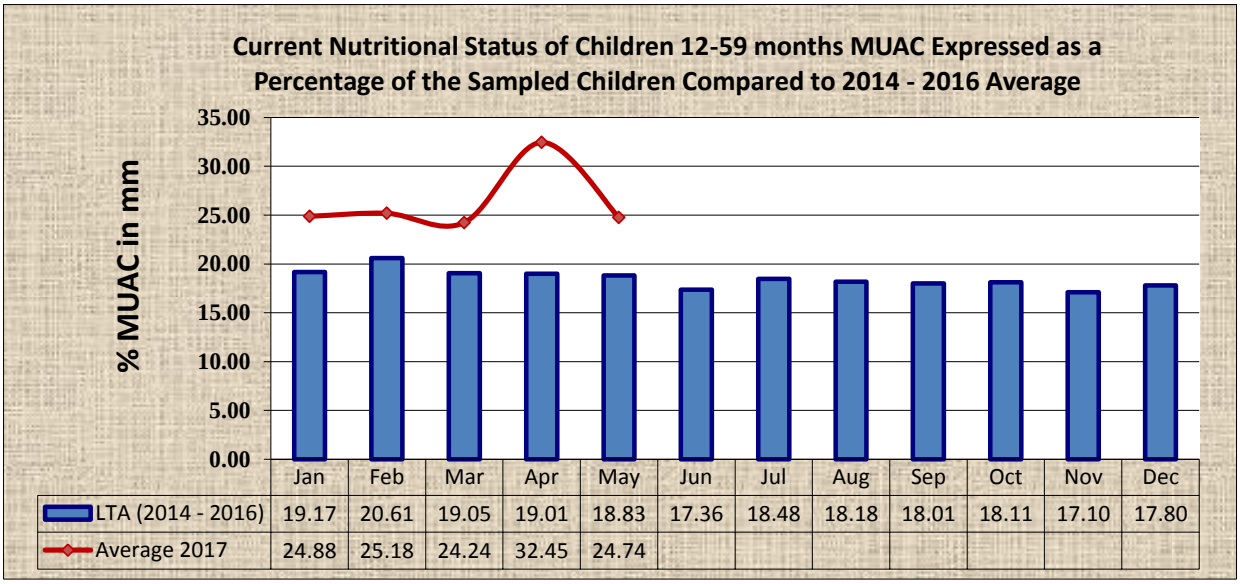
Figure 14: Households Common Sources of Income

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) has improved to 24.74 percent from 32.45 percent recorded in last month. The improvement can be attributed to availability of green traditional vegetables, treatment, advocacy and awareness creation by nutrition department and stakeholders.
- High cases of children at risk of malnutrition were reported in Arsim and Kawop both in Samburu North Sub County at 48.8 percent and 31 percent respectively.
- In pastoral livelihood, the number of sampled children at risk of malnutrition were at 25.9 percent while in agro pastoral was at two percent. The variation could be attributed to limited food gaps in pastoral livelihood due to poor feeder roads hindering accessibility to markets by suppliers.



	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							

Figure 15: Graph showing average Nutritional status (MUAC)

5.1.2 Food Consumption Score

- Household food consumption declined in Samburu North with household having poor food consumption score increasing to 55.7 percent from 37.1 percent indication that they are consuming low food dietary diversity less frequently.
- In Samburu central, 90.3 percent of households had acceptable food consumption score implying better dietary diversity.

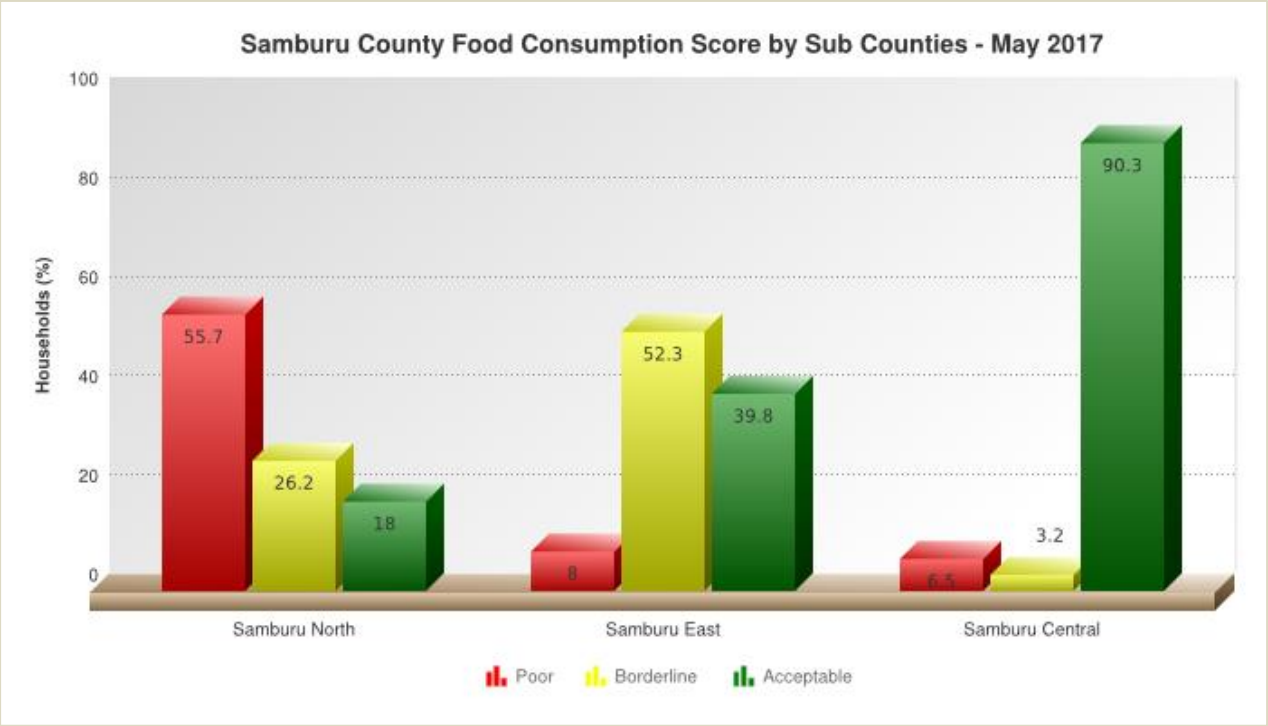


Figure 16: Bar chart showing FCS per Sub County

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

- Mean coping strategy index (CSI) was 20.57 compared to 20.77 recorded in the month of April.
- 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.

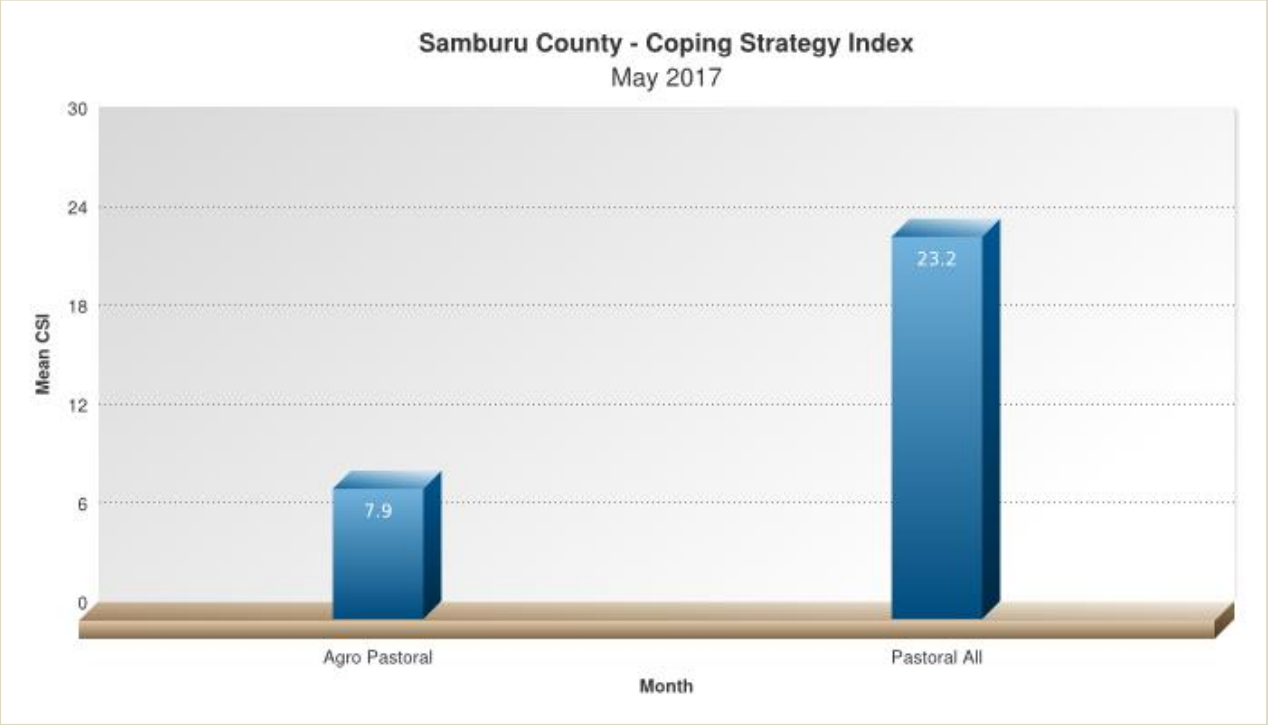


Figure 17: Bar chart showing CSI

6. CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-food On-going interventions

- Provision of livestock feeds (UMMBs) by national government through county department of livestock to weak animals across the county.
- Rangeland rehabilitation in Nkaroni in Samburu East implemented by regional pastoral livelihood resilience project (RPLRP).
- On-going cash transfer to vulnerable elderly, people with disabilities and orphaned children by National government through department of social services and Red Cross Kenya.
- Entrepreneurship mentorship to individuals and groups implemented by Boma project in Samburu central sub county.

6.2 Food Aid

- Provision of oil, sorghum and pulses targeting 20,000 FFA beneficiaries in Samburu Central.
- 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

- No major emerging issues were experienced, however isolated cases of livestock larceny and few cases of isolated highway banditry were observed within the county.

7.2 Food Security Prognosis

- Late onset and early cessation is most likely to affect the crops development and production and even possibly rejuvenation of forage although below normal.
- Labour opportunities resulting from farms weeding is likely to improve household income and probably will enhance purchase power.
- Body condition of cattle will likely remained fair to poor as the pastures are still below normal due to poor rainfall performance.
- Milk production and consumption at household level might improve albeit below long term value owing to below normal rangeland resources as result of poor rainfall performance.

8.0 RECOMMENDATIONS

- 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.
- 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.

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	