

# National Drought Management Authority SAMBURU COUNTY



A Vision 2030 Flagship Project



## DROUGHT EARLY WARNING BULLETIN FOR JULY 2017

### JULY 2017 EW PHASE

**Drought Status: ALERT**



**Maandalizi ya mapema**

#### Drought Situation & EW Phase Classification

##### Biophysical Indicators

- The county received cumulative rainfall amounting to 7.1 mm, 8.1 mm and 10.6 mm in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> dekads respectively. The rains distribution was uneven in space and fair in time.
- Improvement observed in rangeland cover for the county from 24.3 in June to 29.92 as measured by vegetation condition index (VCI).
- In agro pastoral, surface and underground water sources recharged half full while remained partially dry in pastoral livelihood.

##### Socio economic indicators details

- Inter migrations of cattle was observed from Samburu East to Suiyan and Marti in Samburu North, Pura and Kirisia hills to Longese in Suguta ward and few cattle from Laikipia County moved to Suguta ward. In Samburu North, cattle remained in Ngorishe, Angata sikira and Marti plains.
- Milk production and consumption remained below normal although stable as compared to last month.
- Browsers body condition remained good to fair while for cattle is ranging between fair to poor which contributed to low prices for all species.
- Market prices for Posho (milled maize) remained stable at Ksh 65 compared with Ksh 65.3 in June.
- Current term of Trade (TOT) was 33 kg of cereals obtained from the income from sale of one goat.
- Proportion children under-five years at risk of malnutrition improved from 26.48 percent to 23.9 percent recorded last month.

#### Early Warning Phase Classification

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

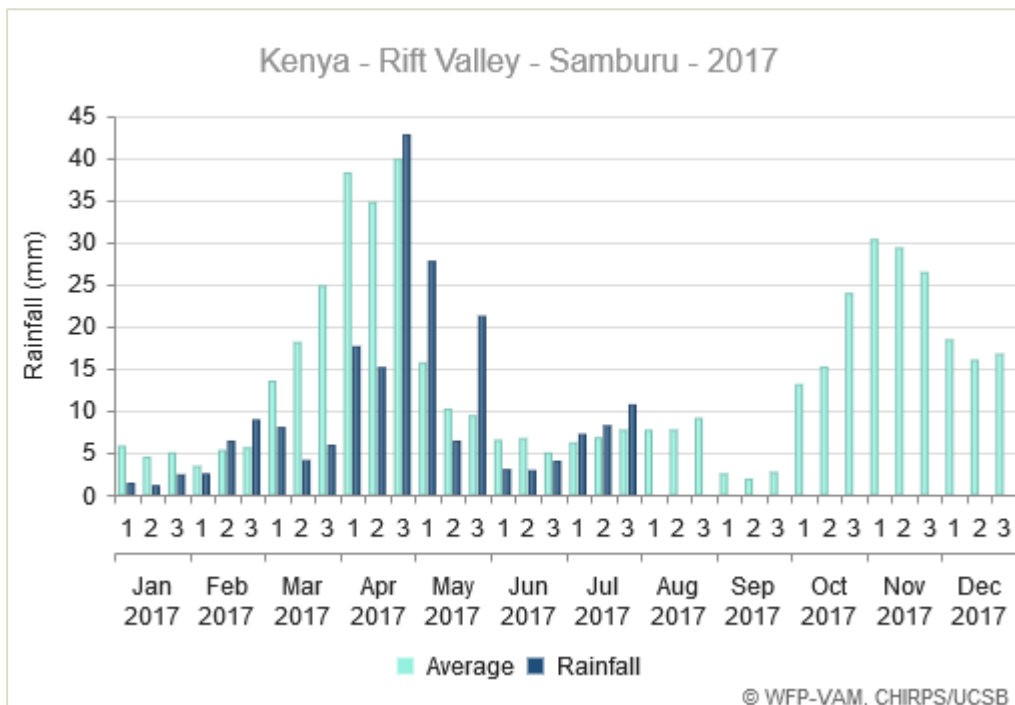
Biophysical Indicators	Value	Normal range/Value
VCI-3month (Samburu County)	29.92	35-50
VCI-3month -Samburu East	22.82	35-50
VCI-3month -Samburu North	36.11	35-50
VCI-3month-Samburu West	37.52	35-50
Production indicators	Value	Normal ranges
Livestock Migration Pattern	In/Out Migration across all livelihoods	No Migration
Livestock Body Conditions	Thin Fore ribs visible	Fat Smooth & appearance
Milk Production	1.5	>1.8
Livestock deaths due to drought	Minimal Deaths	No death
Access Indicators	Value	Normal ranges
Terms of Trade (TOT)	33	>57
Milk Consumption	0.9	>1.6
Return distance	Household: 4.6 Livestock: 8.6	<4.6 <9.7
Poor	Pastoral: 26.2 Agro pastoral: 3.6	<21% <21%
Utilization indicators	Value	Normal ranges
MUAC	23.9%	<18.48%
Mean CSI	Pastoral: 16 Agro pastoral: 8.7	<56 <56

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

## 1.0 CLIMATIC CONDITIONS

### 1.1 Rainfall Performance

- The precipitations during the period under review were slight above the long term average (LTA) at this time of the year. The cumulative amounts recorded were 7.1 mm as compared to LTA of 6.1 in the first dekad and 8.1 mm compared to LTA of 6.7 in the second dekad that progressed well into the 3<sup>rd</sup> dakad amounting to 10.6 mm against LTA of 7.6 mm (**WFP-VAM, CHIRPS/UCSB**).



**Figure 1:** Graph Showing Rainfall Trends Rainfall Estimates (RFE)  
(Source: WFP-VAM, CHIRPS/UCSB)

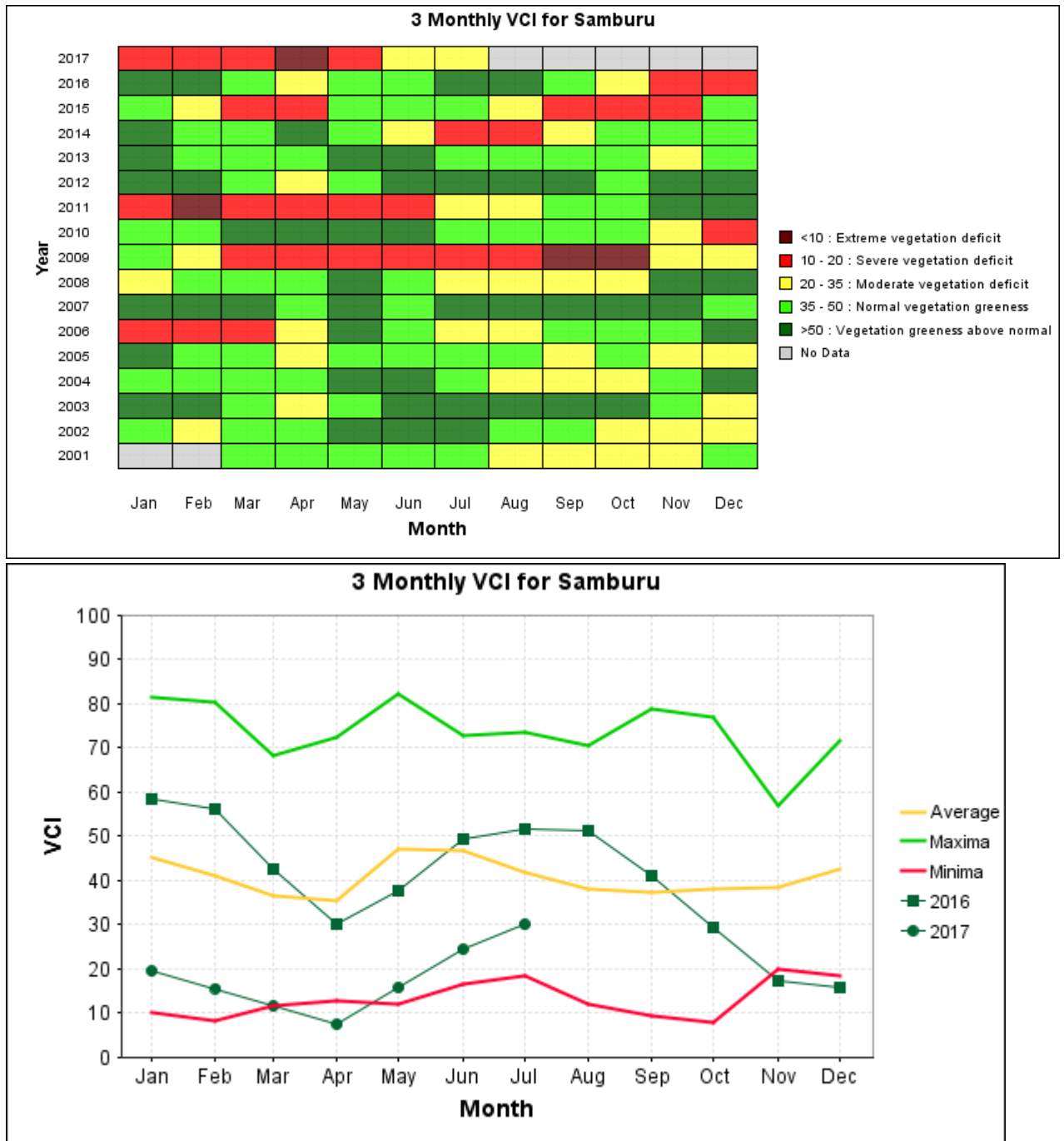
#### 1.1.1 Temporal and Spatial Distribution

- In agro pastoral livelihood, temporal distribution was fair and poor in pastoral livelihood while spatial distribution was uneven as only agro pastoral areas received 10 or 12 days rainfall within the period under review. The rains had varying intensities although more pronounced in marginal pockets of Samburu central.

## 2.0 IMPACTS ON VEGETATION AND WATER

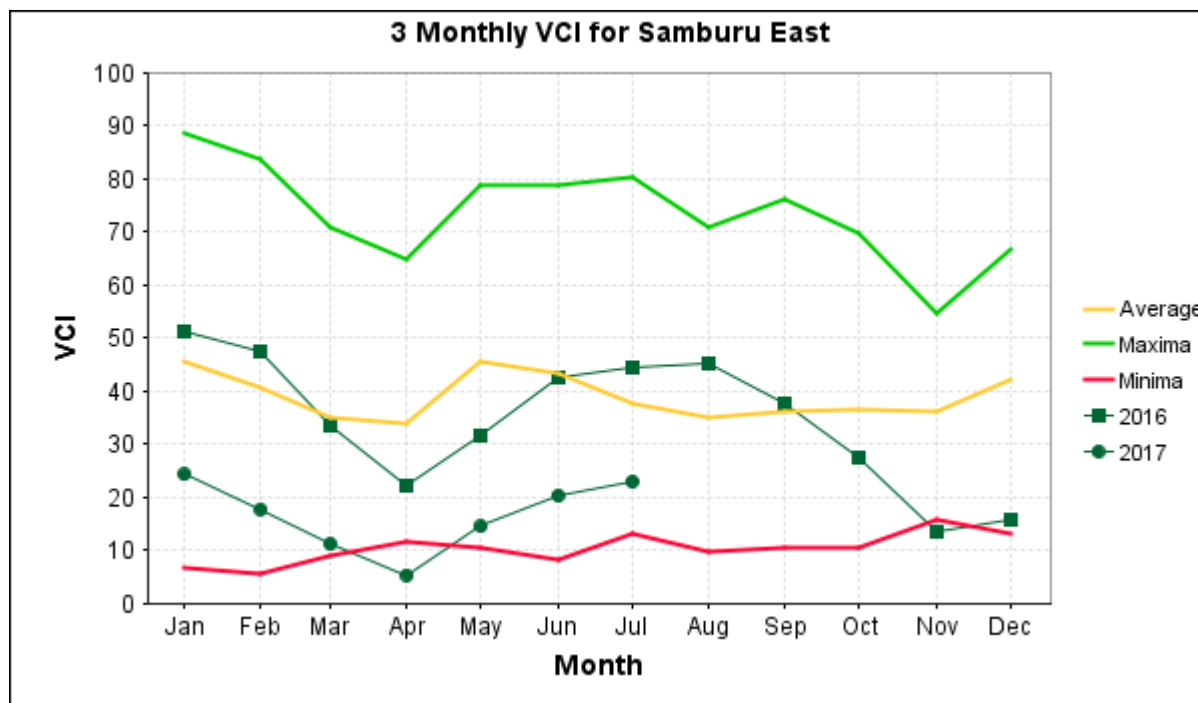
### 2.1 Vegetation Condition Index (VCI)

- Slight improvement in rangeland resources continued to be observed remaining in moderate vegetation deficit, though at below normal levels. The improvement in vegetation cover can be attributed to rainfall received mostly in agro pastoral livelihood in the month progressing to the beginning of August. The average 3 month VCI for the county stands at 29.92 up from 24.3 in June as measured by VCI. Despite the improvement, the situation indicates moderate vegetation deficit.
- Upward trends observed rangeland resources since April, however it remained below the long term average and above the minima at this time of the year (Fig. 2).



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

- The 3 month VCI in Samburu East was 22.82 compared to 20.18 recorded in the previous month remaining in moderate vegetation deficit. Marginal pocket of Samburu East which include Lodung'kwe have received light showers and the entire Samburu will most likely not recorded significant change in VCI till the onset of short rains. The current 3 month average VCI remained below the long term value but slightly 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

- Forage quality remained poor in pastoral areas of Samburu East and parts of Samburu North which include Seren, Illaut, Loonjorin and Nachola. In agro pastoral livelihood zone, pasture quality is fair while browse is fair to good. In Samburu North, some localized areas have fair forage conditions however with limited access due to resource base conflicts.

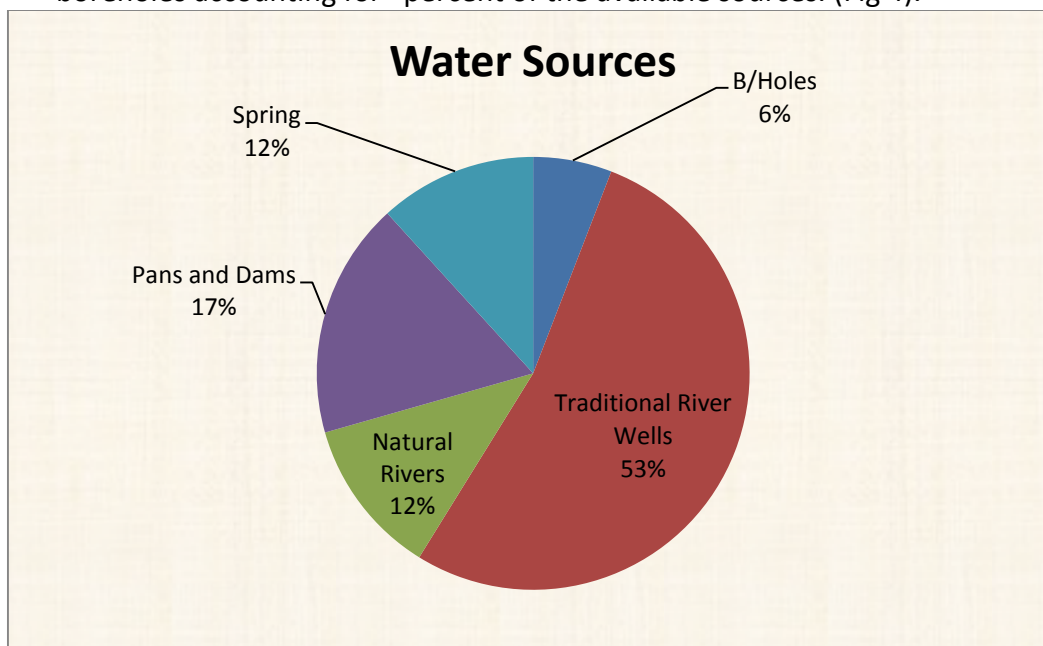
#### Quantity

- In pastoral areas of Samburu East, pastures have depleted and the little available browse is drying up attributed to below average precipitation and high daytime temperatures. In agro pastoral livelihood slush grass is available following the rains received within the month. 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

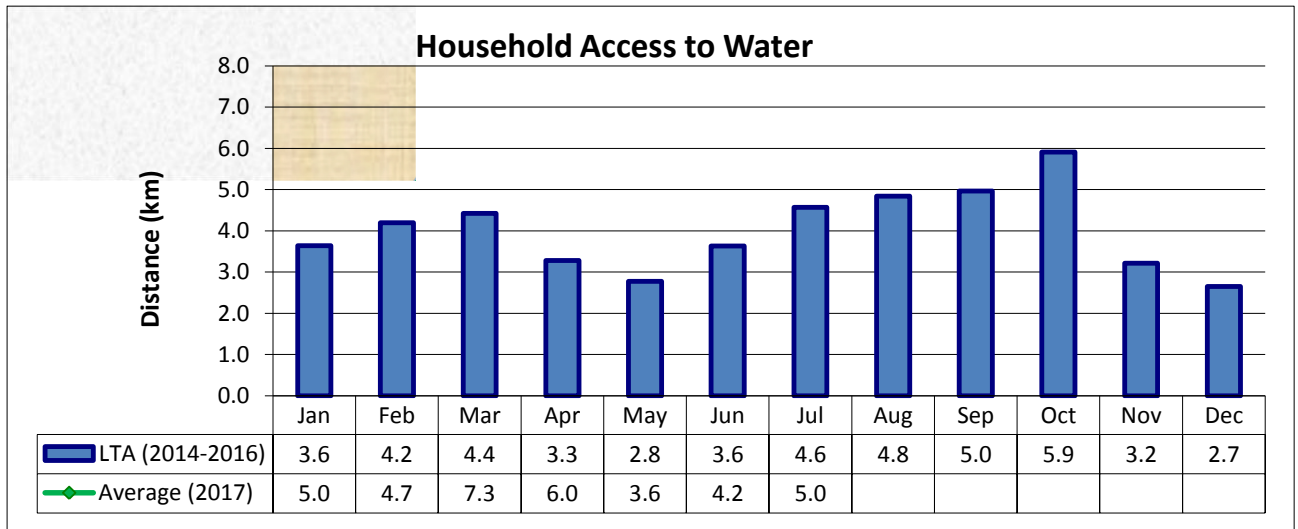
- Traditional river wells and pans and dams were the main sources of water 53 percent and 17 percent of available water respectively.
- The water sources recharge level in agro pastoral improved resulting in significant improvement in water availability and access. Lowest recharge of open water sources have been noted in Samburu East and marginal pockets of Samburu North.
- Other minor water sources utilized both by households and livestock during the period under review include: Natural rivers and springs each contributing 12 percent and boreholes accounting for 6 percent of the available sources. (Fig 4).



**Figure 4:** Common water sources

### 2.2.2 Household Access and Utilization

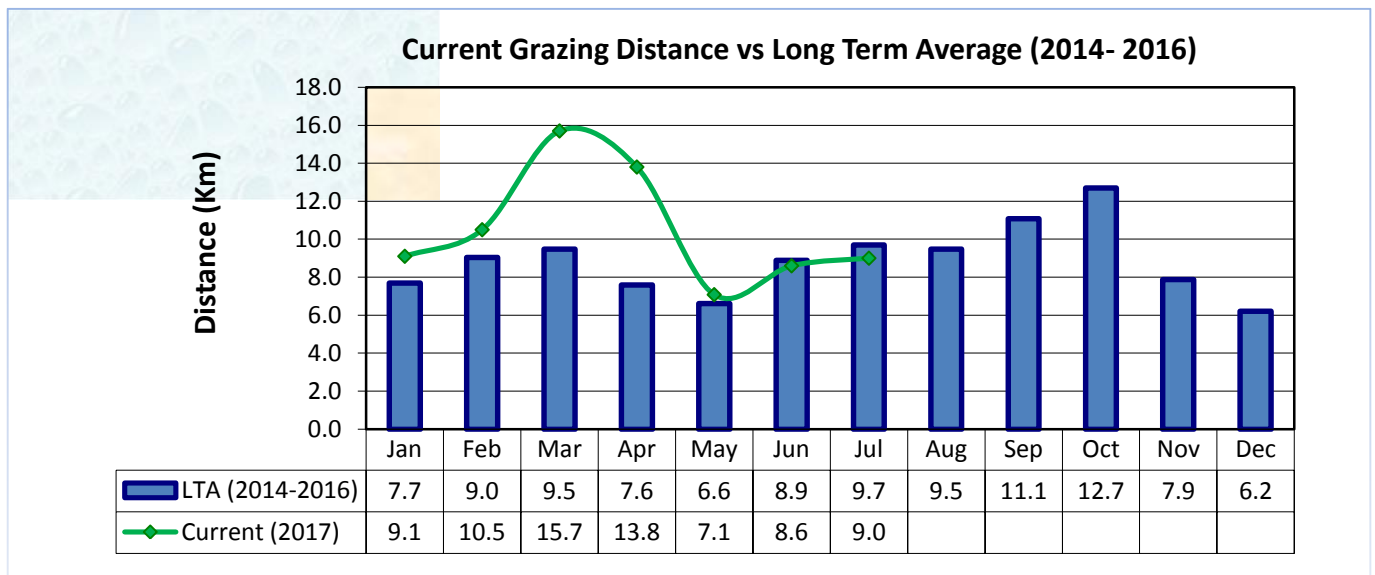
- Households trekking distance to water sources increased to 5 km from 4.2 km recorded in the previous month. The increase can be attributed to drying up of water sources especially in Samburu East and Samburu North thus forcing households to trek further to access water.
- Trekking distance for household in agro pastoral decreased from an average of 3.3 km to 2.7 km whereas household in pastoral increased from an average of 4.1 km to 4.9 km. The variation can be attributed to rainfall received in agro pastoral zone as compared to pastoral zone.
- Longest trekking distances continued to be recorded in Kiltamany to water points increasing from 9 km to 12 km. Arsim still remained with the shortest distance at 1 km due to 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 to access water for domestic and livestock use.
- The current average households return trekking distance remained above the long term value by 9 percent 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

- An increase was noted in livestock return average trekking distances from watering points to grazing fields from 8.6 km in last month to 9.0 km. The increase can be attributed to drying up of surface water points and depletion of forage in pastoral areas forcing the livestock to trek for longer distances.
- Long trekking distances was reported in pastoral areas of Kiltamany and Swaari in Samburu East at 16 km and 11 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.
- Compared to long term average, the current average return grazing distance of 9 km remained above LTA by 7 percent at this time of the year (Fig. 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**

- Influx of cattle has been observed in conflict prone areas of Suiyan and Marti in Samburu North particularly from Samburu East. Cattle from agro pastoral that were in Pura and others in Kirisia hills have returned back near homesteads following enhanced rainfall received in agro pastoral livelihood.
- In migration of cattle from Laikipia County was noted towards Longese attributed to armed forces operation in Laikipia County to get rid of herders that invaded the private ranches. The majority of households have their small stocks (Goats and sheep) currently grazing in wet season areas near the homesteads.
- In Samburu North cattle are concentrated in Ngorishe and its environs and others are in Marti plains although tension is high following reported cattle rustling in the area. 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**

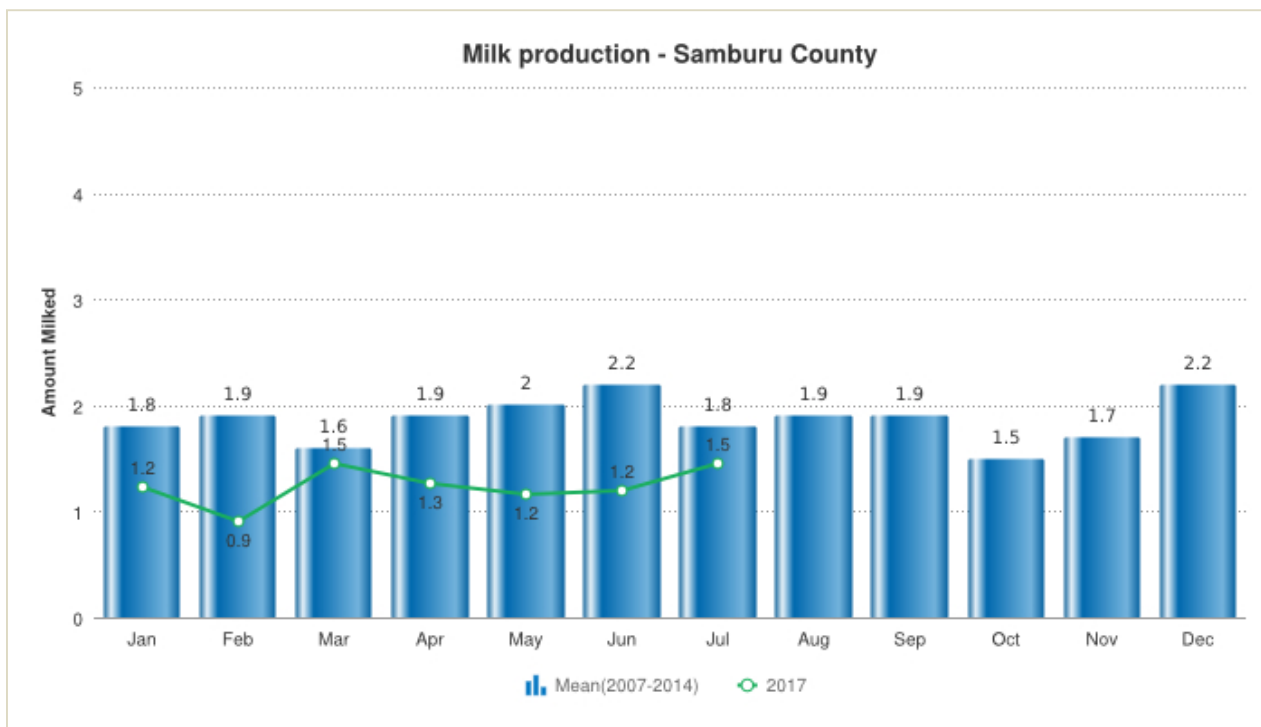
- Cattle body condition remained between alert worsening/alarm (thin fore ribs visible) and emergency (very thin no fat, bones visible). The poor body condition of cattle can be attributed to poor forage conditions resulting into low livestock productivity. For small stocks and browsers, the body condition slightly improved ranging between moderate neither fat nor thin and smooth good appearance (*Refer to table 1 in annex*).

##### **3.1.3 Livestock Diseases**

- There were no notifiable disease outbreaks reported across the livelihood zones. However, cases of endemic diseases such as sheep and goat pox, Contagious Caprine Pleuropneumonia (CCPP) and Anaplasmosis have been reported across the livelihood zones.
- Cases of liver-flukes infestation were reported for livestock in agro pastoral livelihood zone.

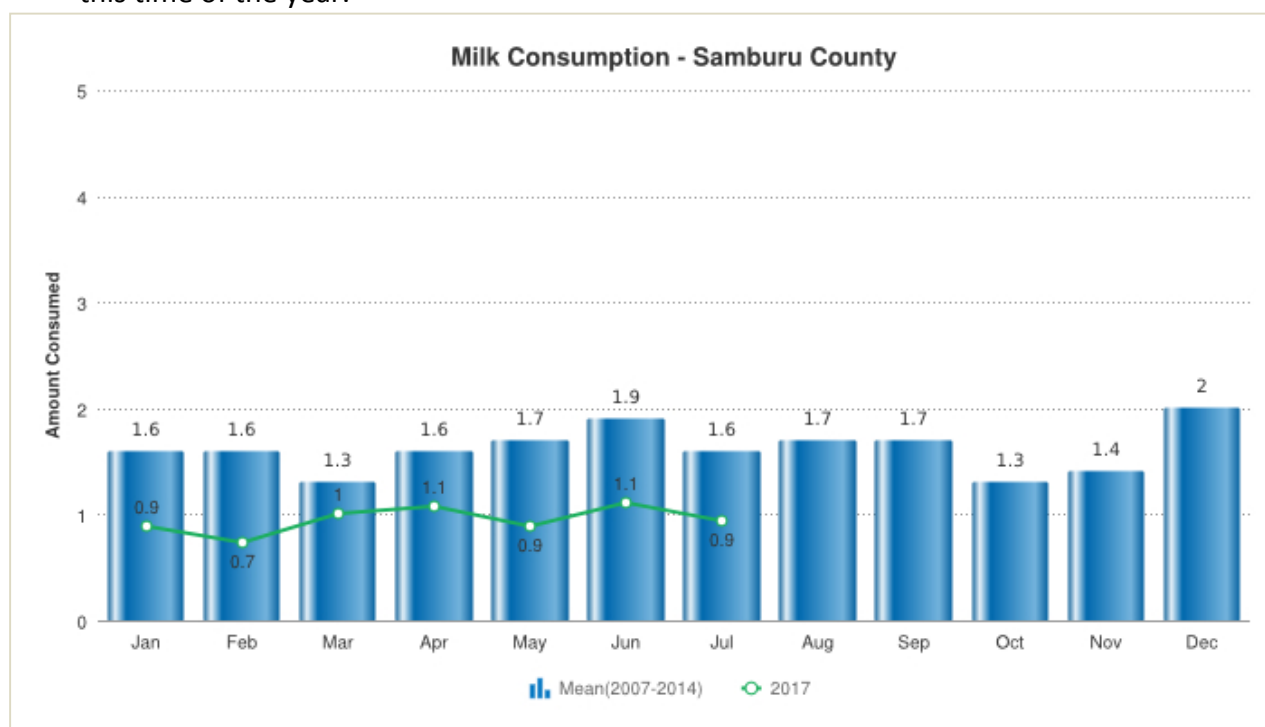
##### **3.1.4 Milk Production**

- Average milk production per household was 1.5 litres compared to 1.2 litres in June. 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 17 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

- No livestock deaths were reported particularly associated with starvation. However cases of 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**

- Maize crops in the agro pastoral areas of Samburu central, depending on the time farmers planted are at tussling weeding stage while others are at Knee high stage.
- Bean crop on the other hand is on the pond filling stage and few farmers are utilizing the green beans.

### **3.2.2 Harvest of Crop**

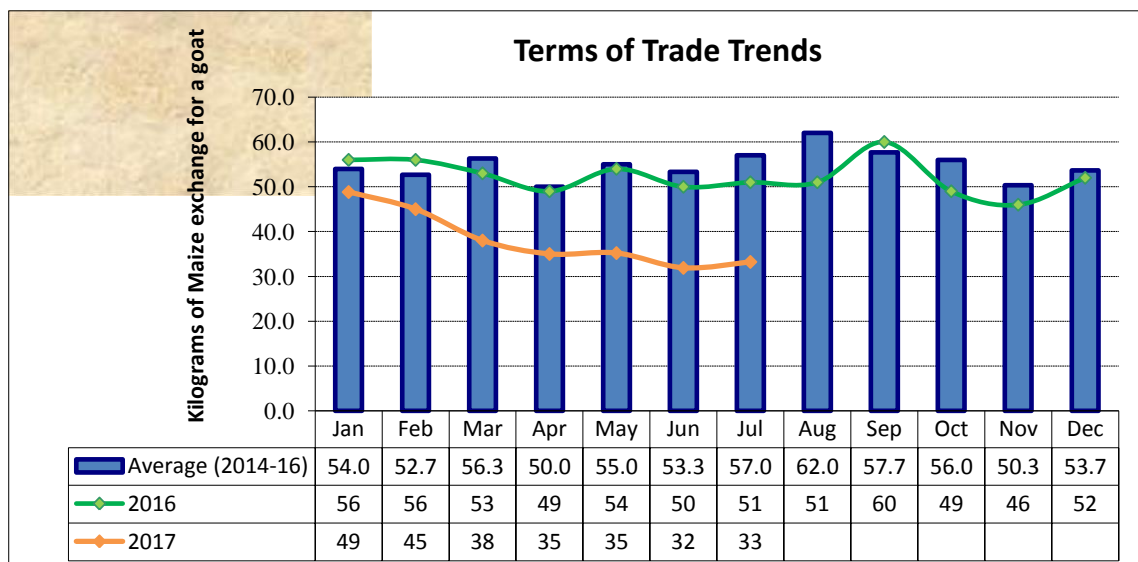
- Farmers in the highland plateau that dry planted their crops have started harvesting beans. The on-going rains in the highland are mostly likely to hinder harvesting of beans due to cold and wet weather conditions.

## 4.0 MARKET PERFORMANCE

### 4.1 Livestock Prices

#### 4.1.1 Livestock Terms of Trade (TOT)

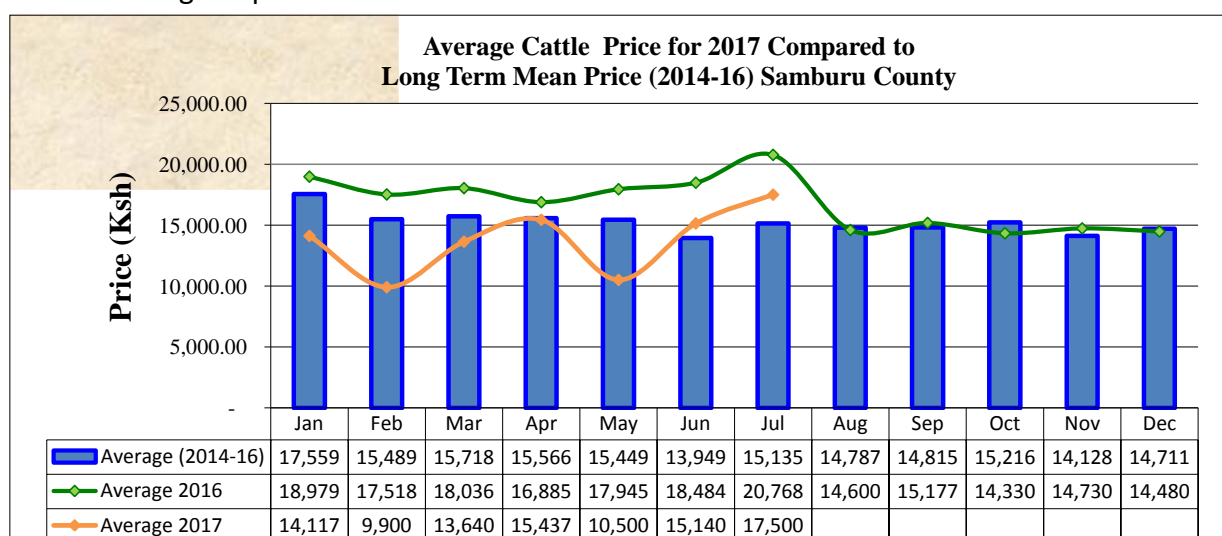
- The terms of trade remained unfavourable to pastoralist and below the LTA by 67 percent. Income from the sale of one goat can fetch approximately 33 kilograms of maize/posho compared to around 32 kg recorded last month. The decrease can be attributed to low livestock prices and high maize prices.
- The terms of trade is better in agro pastoral livelihood zone as compared to pastoral livelihood. The difference can be attributed to poor roads in pastoral areas hindering access to markets.



**Figure 9:** Trends in Terms of Trade (TOT)

#### 4.1.2 Cattle Prices

- Current cattle average market price increased from Ksh 15,140 recorded in June to Ksh 17,500.
- Pastoral areas of Wamba North recorded high price attributed to good market prices in Lolkuniani market which is easily accessed by residents of Nairimirimo sentinel site while Arsim in Ndoto recorded lowest cattle prices. Body condition of cattle remains poor and will not fetch good prices hence the few sales recorded.



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

#### 4.1.3 Goat Prices

- Like cattle price, goats market prices also increased to Ksh 2,160 compared to 2,082 in last month. 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 2,080. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.
- The current average price remained below the LTA by 6 percent.

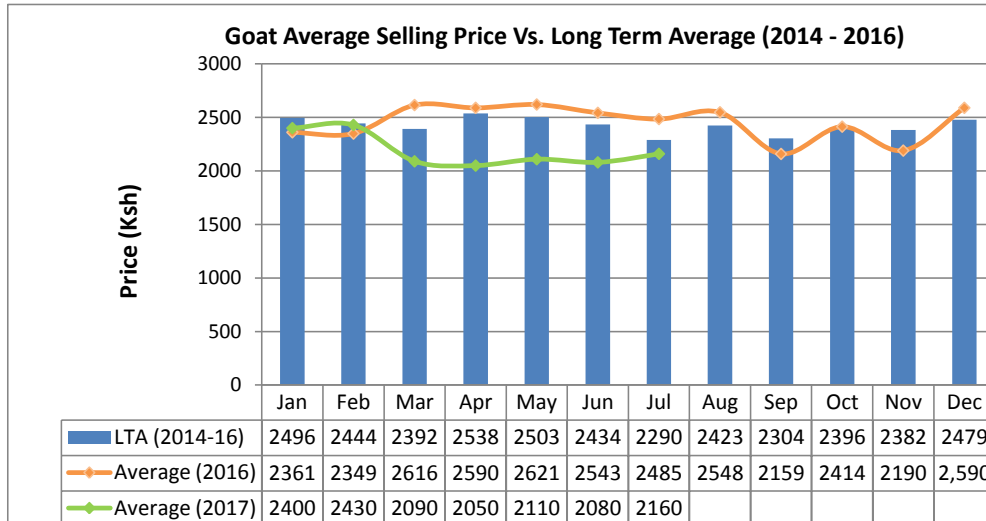
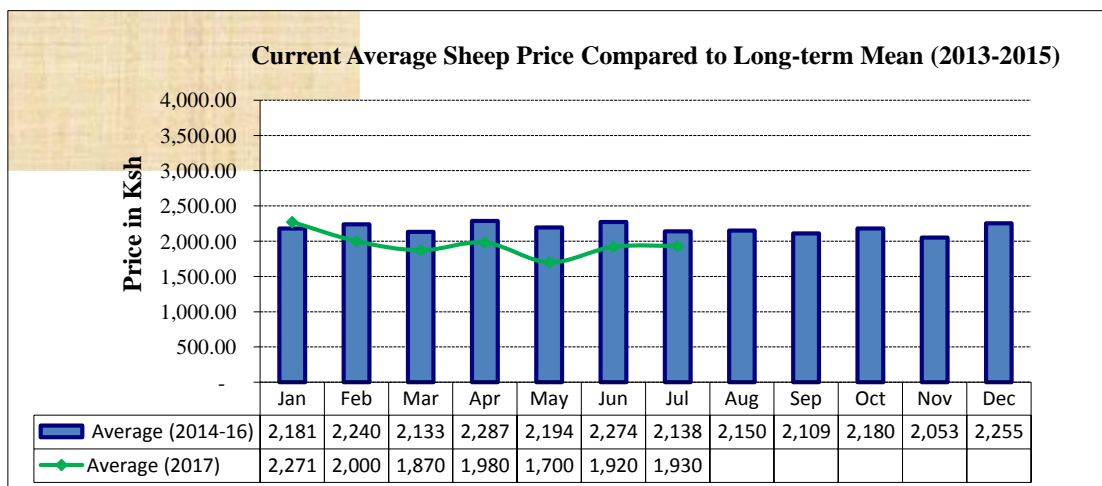


Figure 11: Graph Showing Goats' Selling Price Trends at Farm Gate and market Level

#### 4.1.4 Sheep Prices

- Current average market price stabilize at Ksh 1,930 compared to Ksh 1920 recorded in June. Despite the fair to good body condition of the sheep, the market demand is very low resulting into low prices.
- Average selling price in agro pastoral livelihood zone stand at Ksh 2,000 while pastoral zone reported average price of Ksh 1,830. The variation can be attributed to favourable market condition in agro pastoral livelihood as compared to pastoral livelihood.
- The current average price is 10 percent below the long term value at the same time of the year (Fig. 12).



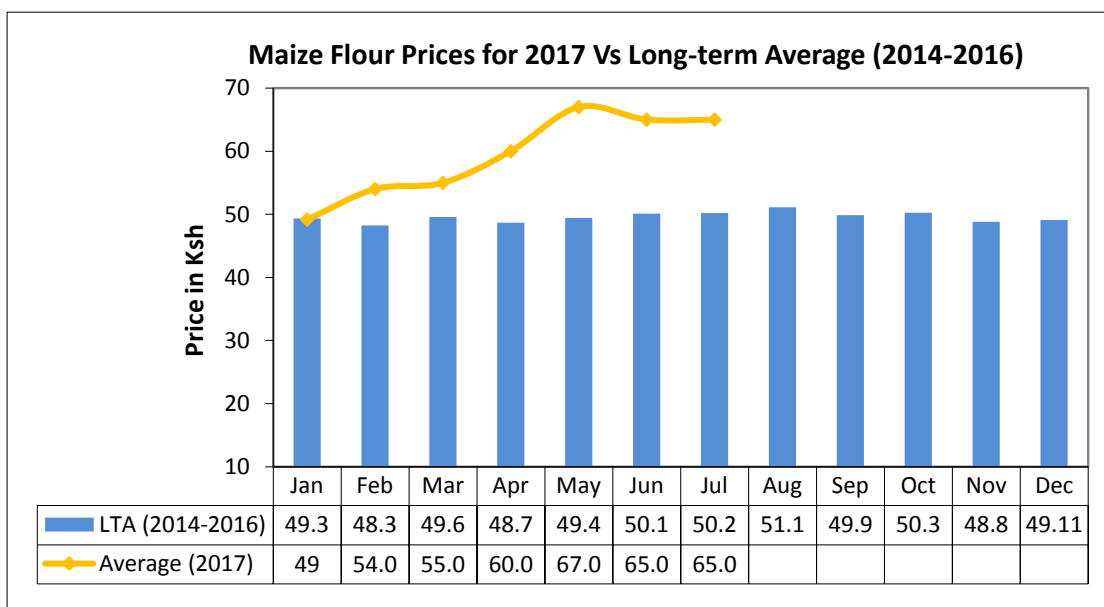
Figure

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

## 4.2 CROP PRICES

### 4.2.1 Posho (Milled Maize)

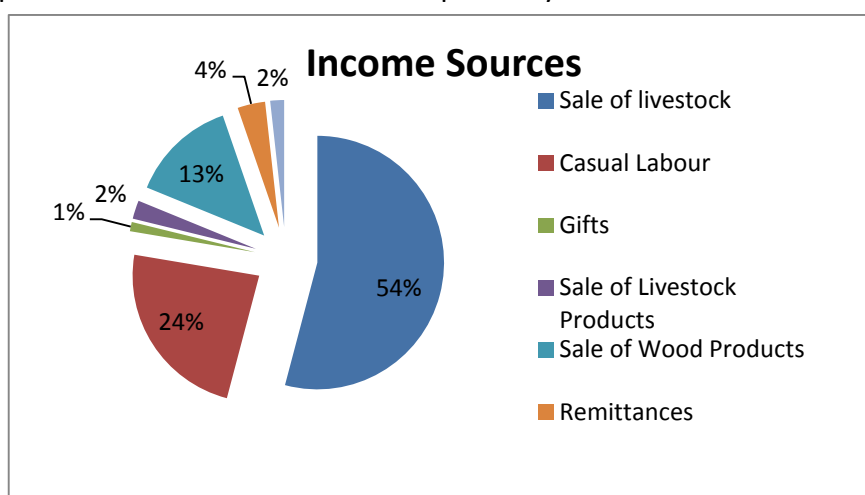
- Average posho/Milled maize market price remained at Ksh 65 per kilogram.
- Nairimirimo market in pastoral livelihood recorded the highest market price of Ksh 80 per kg followed by markets in pastoral areas of Lpus, Archers Post and Illaut at Ksh 70 per kg. Longewan and Lolmolok markets both in agro pastoral recorded a price of Ksh 50 per kilo. The variation can be attributed to added transport charges owing to poor condition of access roads in pastoral.



**Figure 13:** Graph Showing Maize meal Price Trends

### 4.3 Source of Income

- The main sources income during the period under review remained sale of livestock with a proportion contribution of 54 percent followed by Casual labour at 24 percent.
- Other sources include sale of wood products and remittances contributing 13 and 4 percent of the income sources respectively.



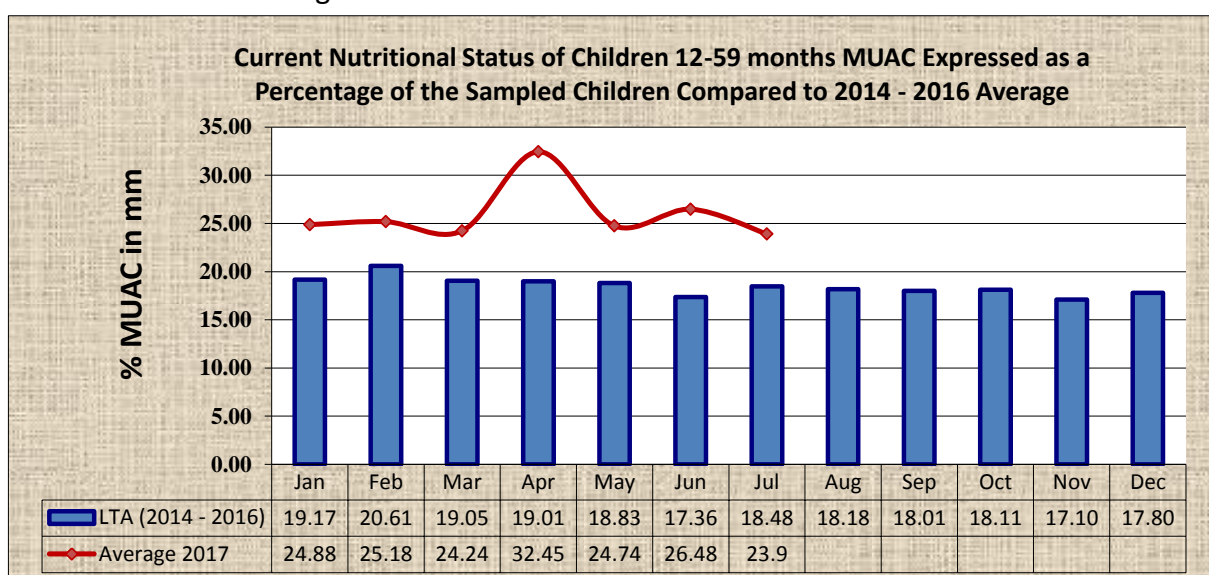
**Figure 14:** Households Common Sources of Income

## 5.0 UTILIZATION INDICATORS

### 5.1 Health and Nutrition Status

#### 5.1.1 MUAC (<135 mm)

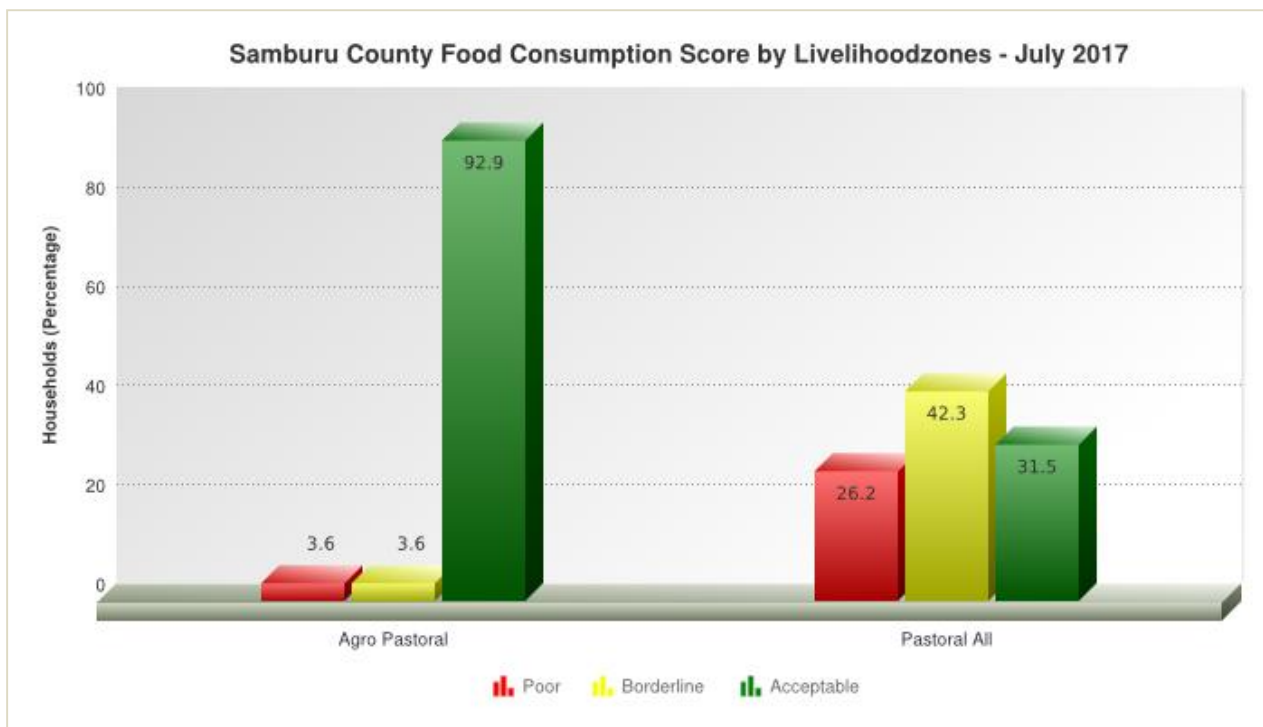
- Malnutrition rates for children under-five based on mid upper arm circumference (MUAC <135 mm) improved from 26.48 percent in June to 23.9 percent. The improvement can be attributed to availability of traditional green vegetables and beans in agro pastoral areas and advocacy for good child cares practices by nutrition department and partners.
- Pastoral areas of Arsim, Kawop, Lodungokwe and Westgate reported high cases of children at risk of malnutrition at 38 percent, 31.2 percent, 26.3 percent and 22.6 percent respectively
- Malnutrition rates were low in agro pastoral livelihood averaging at 8.6 percent while in pastoral livelihood had an average of 25 percent of children at risk of malnutrition. 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.



**Figure 15:** Graph showing average Nutritional status (MUAC)

#### 5.1.2 Food Consumption Score

- In the pastoral livelihood, the proportion of households having poor and borderline food consumption scores was 68.5 percent while in agro pastoral was 7.2 percent. The food consumption gaps in pastoral areas indicated that households are frequently engaging on consumption based strategies.
- 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.



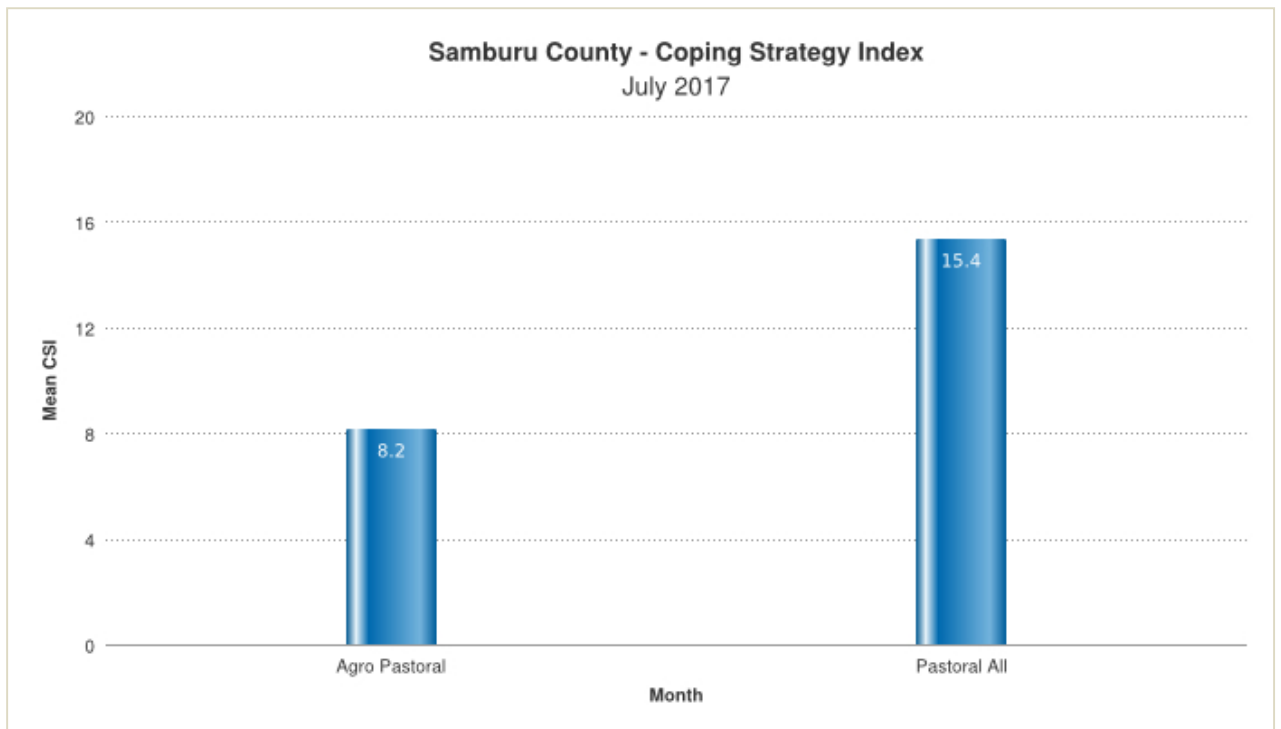
**Figure 16:** Bar chart showing FCS per Sub County

### 5.1.3 Health

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

### 5.1.4 Coping Strategies

- The average coping strategy index (CSI) during the period under review was 14.23 down from 14.91 in June and 20.57 in May.
- 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
<b>LIVESTOCK</b>	Provision of Range cubes and survival mash to core breeding herds	National government and county department of livestock
	On-going rangeland rehabilitation in Nkaroni in Samburu East	regional pastoral livelihood resilience project (RPLRP)
<b>SOCIAL SERVICES</b>	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 household under IMAM program and vulnerable households	Acted, WFP, National government
<b>Agriculture</b>	Crops diseases and pest surveillance	MOA
<b>Health</b>	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 and UNICEF

### 6.2 Food Aid

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

## 7.0 EMERGING ISSUES

### 7.1 Insecurity/Conflict/Human Displacement

- Cases of resources based conflicts and cattle rustling was reported between communities living in Baragoi resulted to death of three people. Tension is high in the areas in fear of retaliation attacks.

### 7.2 Food Security Prognosis

- Following the on-going showers in agro pastoral livelihood is most likely to revive the crops in the farms although the projection production will probably be below normal.
- The experienced rains will likely result into intra migrations into agro pastoral thus affecting regeneration of pastures. Surface water sources recharge level will likely improve while in agro pastoral will remained dry till the onset of short rain in October.
- Staple food commodity prices will most likely remain high till the harvest of the long rains crops probably in September.

## 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.

**Agriculture**

- Promotion of drought tolerant crops.

**Water**

- Fuel subsidy in Mbukoi, Loijuk and Lesirkan.
- Promotion of roof water harvesting in schools, dispensaries and at household level.

## 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	