NATIONAL DROUGHT MANAGEMENT AUTHORITY
LAMU COUNTY
DROUGHT EARLY WARNING BULLETING FOR OCTOBER 2019

A Vision 2030 Flagship Project

OCTOBER 2019: EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicators

- The County received above average rainfall during the Month under review.
- The vegetation condition Index (VCI-3Month) was showing increase of 14 percent compared to previous month.
- The VCI indicated normal vegetation greenness. However, the overall drought phase in the county was at Normal in October.
- Forage condition was fair to good across all livelihoods' zones during the month.

Socio Economic Indicators

Production indicators

- All livestock species exhibited fair to good body condition.
- Crop farmers are currently in land preparations in all livelihood zones.
- Milk production increased and is below when compared to the LTA and previous month of September.

Access indicators

- Terms of trade were favorable to crop farmers' than livestock herders in mixed and pastoral livelihood zones respectively.
- Water access for both human and livestock was good and increased in all the livelihood zones.
- Milk consumption improved when compared with previous month, it was lower than the long-term Average.

Utilization indicators

- The proportion of children at risk of malnutrition cases decreased and above the normal range as indicated by percent of mid upper arm Circumference (MUAC).
- The average coping strategy increased compared to previous month.

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Agro pastoral/Fishing	Normal	Stable
Mixed farming/Irrigated cropping	Normal	Stable
Fisheries /Mangroves	Normal	Stable
Farming/Casual Labour	Normal	Stable
Agro pastoral	Normal	Stable
County	Normal	Stable
Biophysical Indicators	**Value**	**Normal Range/Value**
Rainfall (% of Normal)	80	80 -120
VCI-3Month	61.68	<50
Forage condition	fair to good	Good
Production indicators	**Value**	**Normal**
Crop Condition (specify crop) Maize	Fair	Good
Livestock Body Condition	fair to good	Good
Milk Production	1.1 litres	>3 Litres
Livestock Migration Pattern	Not Normal	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	**Value**	**Normal**
Terms of Trade (ToT)	86.3	84
Milk Consumption	0.8litres	>2litres
Return distance to water sources (HH).	2.0	<5 Km
Cost of water at source (20 litres)	5-10Kshs	<5Kshs
Utilization indicators	**Value**	**Normal**
Nutrition Status, MUAC (% at risk of malnutrition)	8.4%	<5%
Coping Strategy Index (CSI)	9.71	<0.95

Seasonal Calendar

▪ 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 was witnessed in the 1st dekad of October. The onset is timely compared to the same period during the previous year in 3rd dekad of October 2018.
- Above average rainfall was received during the month under review, with high intensity compared to the previous months as recorded in the first and second dekad of October as in figure 1a below.
- The current NDVI value is above the historical long-term values as shown in figure 1b.

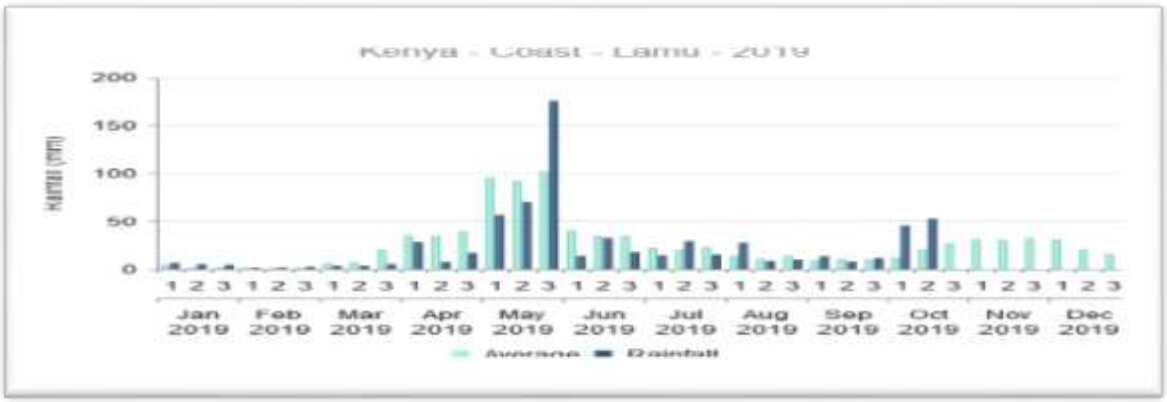

Figure 1a: Rainfall Satellite data. (Source: WFP-VAM, CHIRPS/UCSB)

Figure 1b: NDVI data. {Source: wfp-Vam}

1.2 Amount of rainfall and spatial distribution

- According to VAM WFP rainfall and vegetation data, the County received a total of 96.5mm of rainfall in the month of October during the first and second dekad.
- This was an increase of over 100 percent rainfall when compared to previous month of September (31mm); however, this (96.5mm) was higher when compared to long-term average of 31.5mm as in the figure 1a above.
- This 96.5mm of rainfall was much higher when compared to 18.4mm received in the same period during the previous year.
- The rainfall received was good, both in spatial and temporal distribution in all parts of the livelihood zones of the county during the month under review.

1.3 Floods and other hazards.

- Flooding have been reported with more than 500 households, including school-going children and security agencies, in villages around Boni Forest have been affected by floods after River Lagwarera connecting to Mangai river which is seasonal, burst its banks affecting residents of Bodhei, Mangai, Milimani, Mararani and Bargoni villages, were left stranded after some parts of the Hindi-Kiunga road and several bridges washed away. This also affected crop farmers in the area.

2.0 VEGETATION CONDITION

2.1Vegetation Condition Index (VCI)

- The vegetation condition index for the month of October increased by 14percent compared to the previous month. This was due to increased precipitation received during the month.
- The vegetation condition index for the month of October was 61.68 when compared to 53.73 during the previous month.
- The VCI indicated vegetation normal greenness in the County.
- The VCI-3 Months is above the long-term average and at par when compared to the previous year as shown in the figures 2a and 2b below.

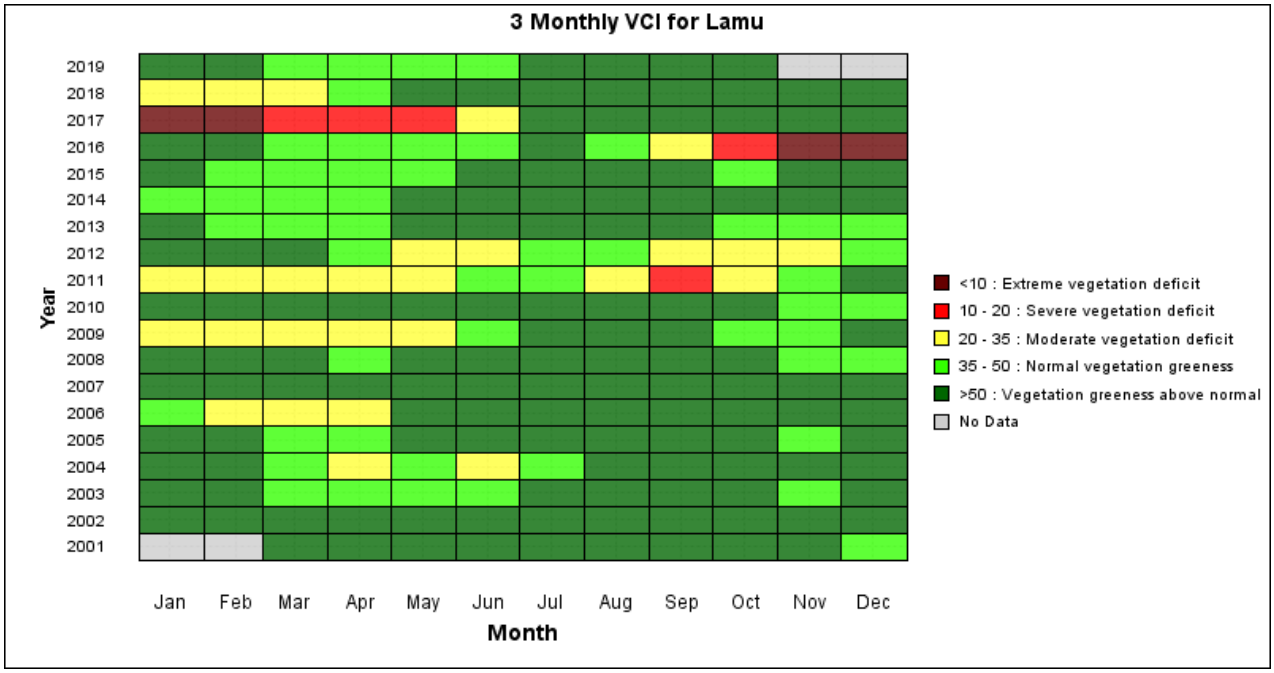

Figure 1a: VCI-Lamu County **{Source: Boku University, Austria}**

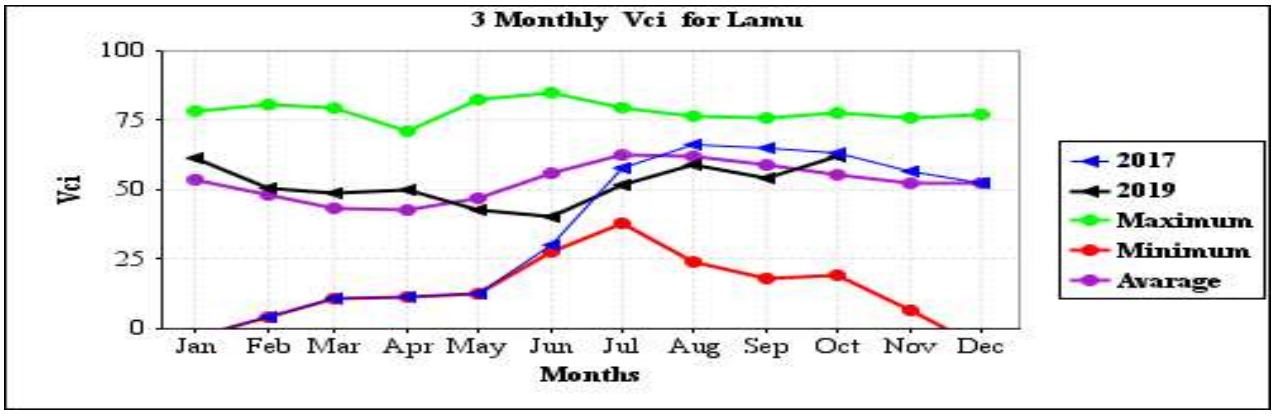

Figure 2b: VCI-Lamu County {Source: Boku University, Austria}

OBSERVATIONS-PASTURE AND BROWSE CONDITION

2.1.2 Pasture

- Pasture condition was good across all livelihood zones both in quality and quantity**.**
- 80 percent of Community members interviewed stated that pasture was good while 20 percent indicated that pasture was fair but with improvin**g** trend as in figure 3.
- Pasture condition by livelihood zones was as follows; Agro pastoral is fair to good, mixed farming and fishing/ mangrove was good as well.

- The available pasture is expected to last three months. The current pasture situation is within the normal range.

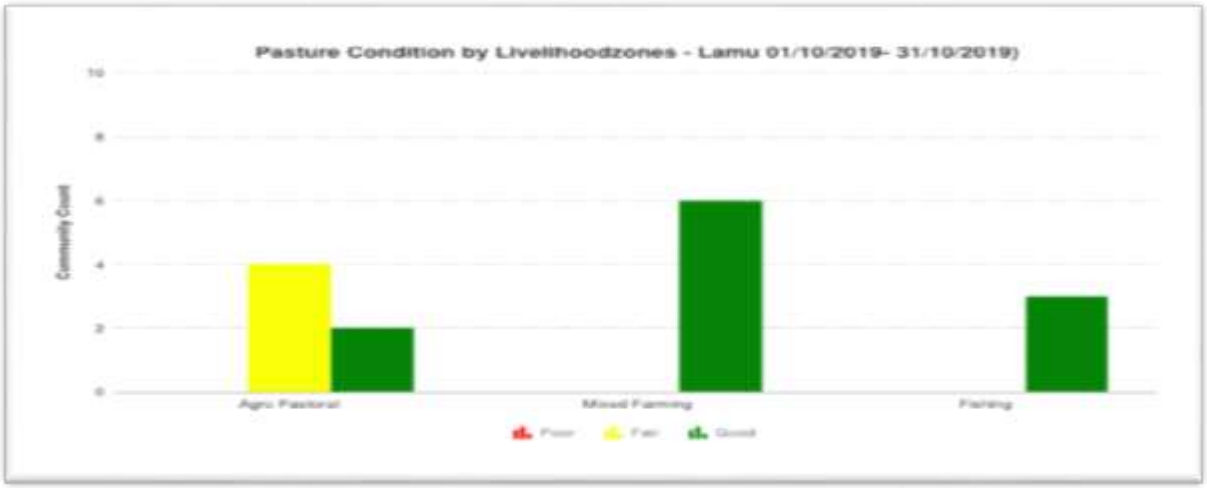

Figure 3: Pasture condition

2.1.3 Browse conditions

- The quantity and quality of browse was good across all livelihood zones.
- Community members interviewed indicated as follows; 80 percent of the respondents stated that browse was good while on improving trend due to the seasonal rains and low rate of transpiration as in the figure 4.
- Browse condition by livelihood zones was as follows; Agro pastoral was fair to good while mixed farming and fishing/ mangrove was also good.
- The browse is expected to last more than three months. The current browse condition is within the normal range compare to previous year.

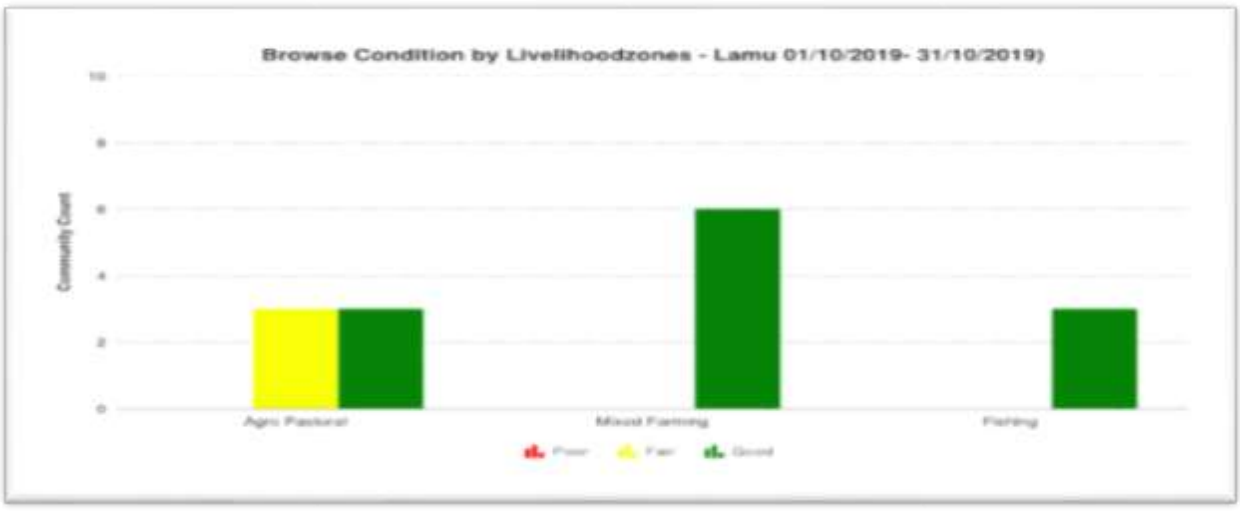

Figure 4: Browse condition

2.2.0 HYDROLOGICAL DROUGHT

2.2.1 Water Sources and availability

- The state and condition of water sources in the County was good across most livelihood zones. Open water were recharged between 50 to 85 percent of their capacities.
- Current water condition and availability improved compared to previous month.
- The main water sources in the month of October; Pans 30 percent, shallow wells 35 percent, Boreholes 30percent and Traditional river wells five percent, as shown in the figure 5.

- The status of main sources of water has improved at this time of the year.

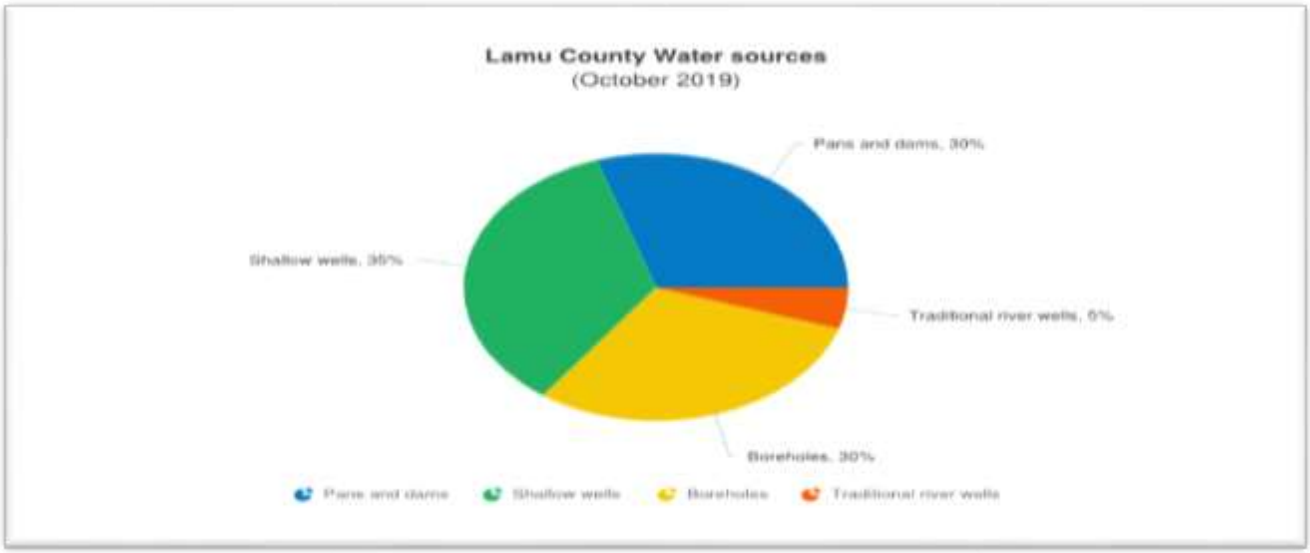

Figure 5: Main sources of water

2.2.2 Household access and Utilization

- Average household watering return distance was stable when compared to previous month of 2.1 Kilometres.
- The stable condition of water distance was due to seasonal rainfall received during the month.
- Household return water distances per livelihood zone were as follows; the Agro pastoral 2.7Kilometres, Fishing & Mangrove Harvesting 2.4Kilometres and for Mixed Farming Zone it was 1.6 Kilometres and irrigated farming one Kilometres respectively.
- The average household water distance for October was two Kilometres, which is below LTA as shown in figure 6 below.
- The average household water consumption per person per day is at 20-25liters in all livelihood zones.
- Water costs at source are 5-10 Kshs in town/village centers for 20 liters Jerri can.

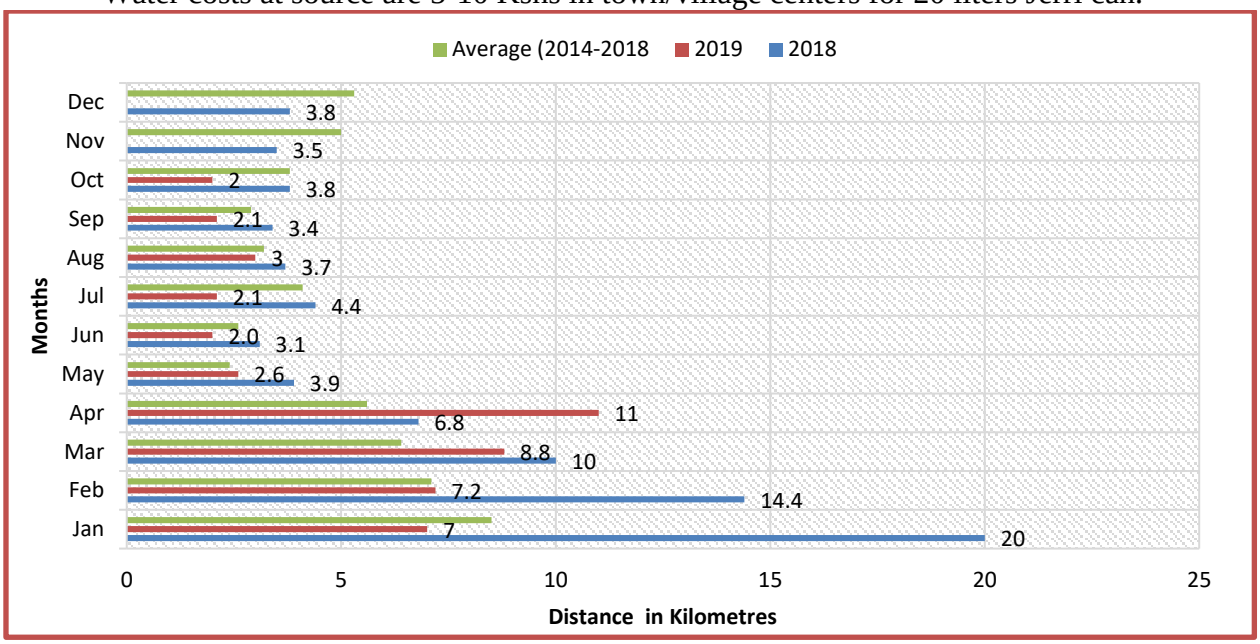

Figure 6: Household water distances-Kilometers

2.2.3 Livestock access to Water

- Livestock average distance to water source from grazing Areas decreased to 4.5 Kilometres compared to the previous month of seven Kilometres as in figure 7. However attributed to season precipitation received during the month under review.
- Grazing return water distances per livelihood zone were as follows: The Agro pastoral three Kilometres, Fishing & Mangrove harvesting two Kilometres and for Mixed Farming zone it was two Kilometres and irrigated farming 3.5Kilometres respectively.
- The decrease in grazing water distance compared to last month was due to improved water availability in grazing areas.
- Watering frequencies for livestock species was five to seven times per week.
- The current average grazing distance for October was 4.5Kilometers, which is at par when compared to the long-term average of 4.6 Kilometres.

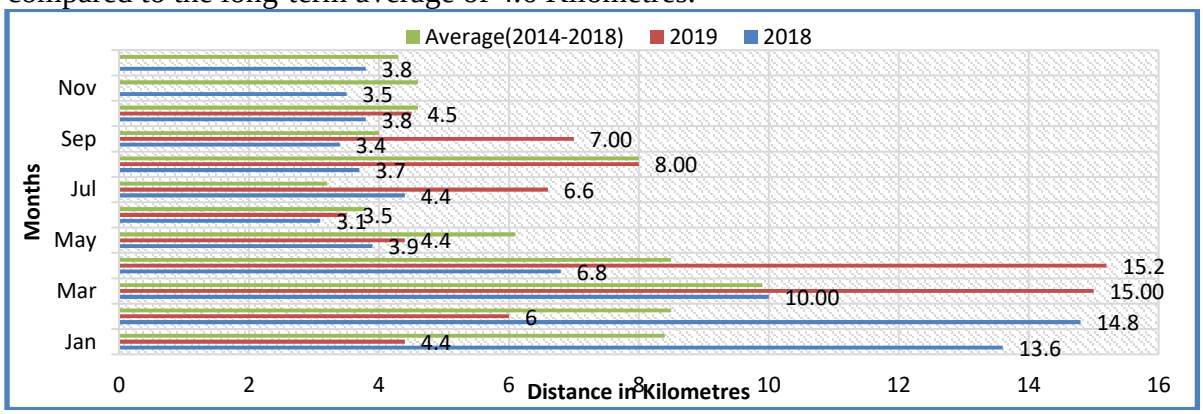

Figure 7: Grazing distance-Kilometers

2.2.4 Household Income

- The main household income for the month of October was distributed as follows: Casual labour 68 percent an increase by one percent when compared to previous month, trade 11.3 percent also a decrease by 1.4 when compared to last month,
- Employment 8.7 percent, Sale of livestock and crop was six percent and stable when compared to previous months in figure 8 below.

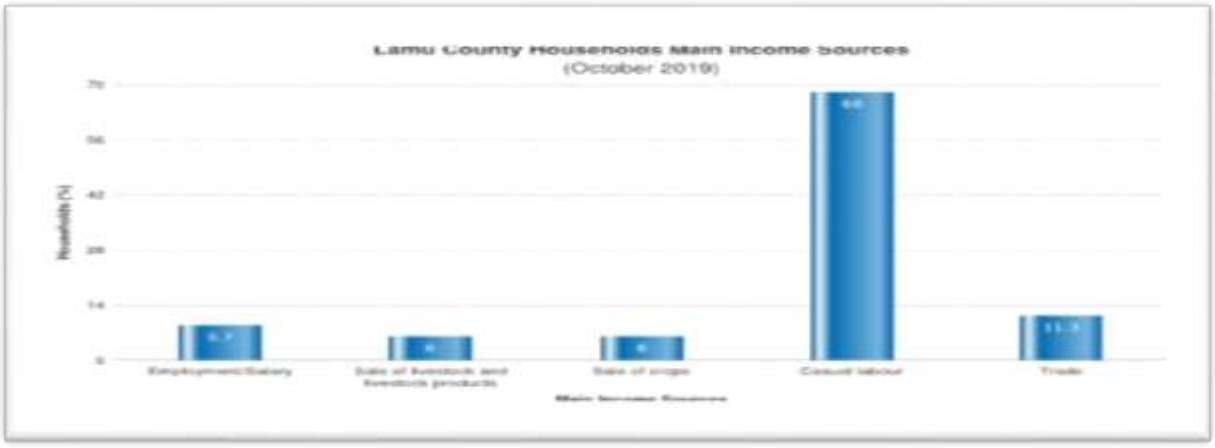

Figure 8: Household sources of income

2.4 Implication to Food Security;

- Fishing and Mangrove livelihood zones have increased water salinity due to low recharge coupled with low level of water table of the shallow wells in the Islands.
- The distances to water sources have had a negative impact on the livestock body condition of animals and household hygiene standards.

3.0 PRODUCTION INDICATORS

3.1.0 Livestock Production

3.1.1 Livestock Migration Patterns

- **Out-migration** of livestock from Lamu to Tana River County from Agro pastoral area of Witu. This is due to Tsetse free zone in Tana River County.
- This out-migration is normal during this period of the season.

3.1.2 Livestock Body Condition

- The livestock body condition was fair to moderately good for all for species.
- This was attributed to increased quality and quantity of pasture and browse due to improved seasonal precipitations.
- However, due to pasture improvement the body conditions are expected to improve further.

3.1.3 Livestock Diseases

- There were no cases of livestock death reported during the period under review.

3.1.4 Milk Production

- Milk production increased from 0.7 litres to 1.1litres when compared to previous month.
- The increase was attributed due to improve pasture condition as a result good season rainfall receive and hence regeneration of pasture which was depleted by in migration of livestock from neighboring counties.
- Milk productions were distributed as follows: Mixed farming Produced 1.3litres, Fishing 0.9 litres, and Irrigated 1.3litres while the Agro pastoral Zone produced average of 1.9 litres.
- Milk prices are retailing at an average price of Kshs.50-100 per Liter across the livelihood zones which is the normal milk price at these period of the year.

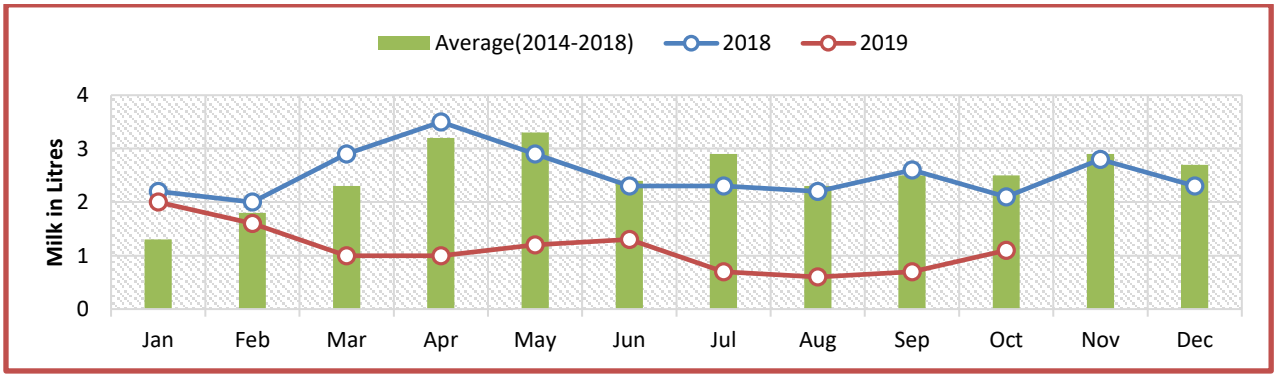

Figure 9: Milk production

3.2 Rain fed crop production

3.2.1 Stage and condition of food crop

- The main crops grown are Maize, Cowpeas, Green grams and Simsim in the County. Land preparation is currently ongoing in all livelihood zones. However, few farmers have planted owing to low rainfall performance.
- Currently the Maize crop is at different stages, for example- Land preparation, Germination, below, at Knee high and above knee high Crop farmers are on land preparation currently.

3.2.2. Crop Harvest

- No harvesting was taking place in all livelihood zones.

3.2.3 Implications on Food Security;

- The improve body condition of livestock species across the livelihood zones increased the prices resulting to higher income for livestock farmers.

4.0 MARKET PERFORMANCE

4.1 Livestock marketing

4.1.1 Cattle Prices

- Average cattle market price in the month of October decreased by nine percent compared to previous months as in figure 10 below.
- This decrease in price could be attributed to low demand and high supply of animals by local herds and in migrating satellite herds owing to improved water and pasture conditions.
- The cattle average market prices were distributed as follows: Faza Kshs 25,000, Witu Kshs 17,700, Kiunga Kshs 28,000, Mswakini Kshs 21,000 and Mokowe Kshs 23,000.
- The average market cattle price for the month of October was higher when compared to long-term average price and previous year.

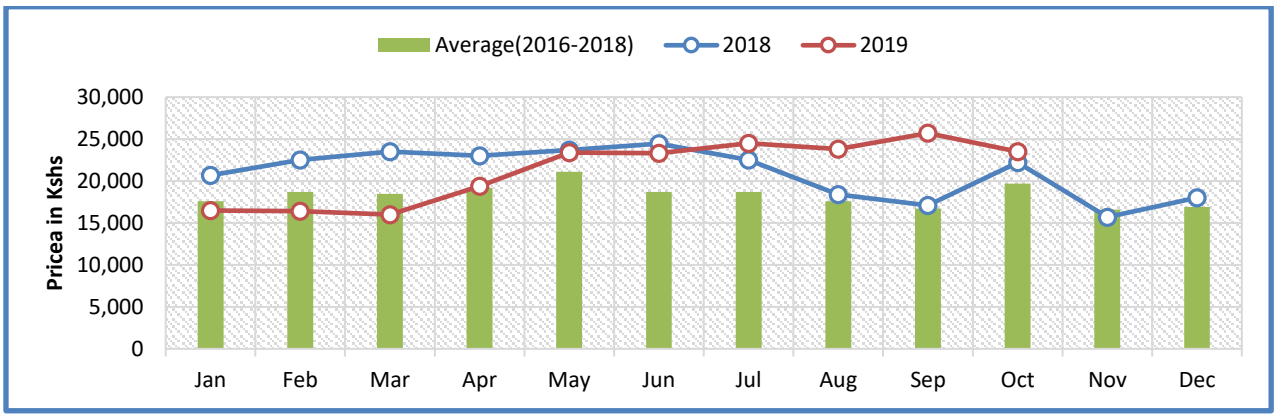

Figure 10: Cattle prices

4.1.2 Small Ruminants Prices

4.1.3 Goat Prices

- Goat prices slightly decreased (5,100) compared to pevious month of September (5,200).
- This decrease in price of goats could be attributed to low market demand coupled with high supply.
- The goat average market prices were distributed as follows: Mpeketoni Kshs 4,800, Witu Kshs 5,000, Kiunga Kshs 6,500 and Mokowe Kshs 5,000.
- This price Kshs 5,100 was higher than the long term average by 18 percent and lower than the price recorded in previous year at a similar time and hence following seasonal trends as shown in figure11.

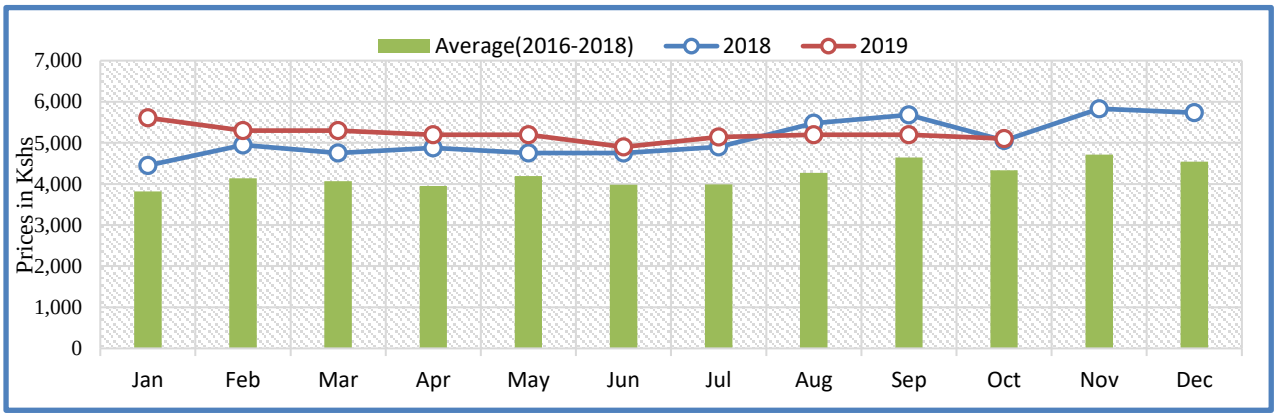

Figure 11: Goat prices

4.2: Crop prices

4.2.1 Maize price

- The maize prices increased by 40 percent when compared to previous month of September as shown in the figure above.
- The increase of price was due low supply of the commodity coupled with high demand as shown in figure 12.
- The prices were distributed as follows; Hindi center Kshs 35, Patte Kshs 30, Witu Kshs 45, Mpeketoni Kshs 30 and Kiunga Kshs 120. However, price ranges are determined by commodity supply in different markets.

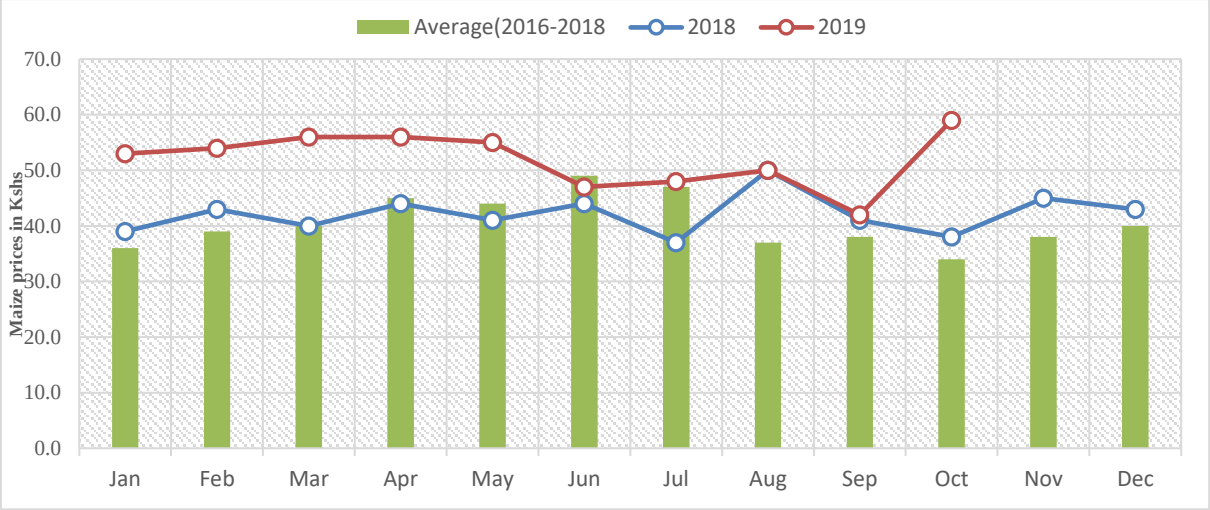

Figure 12: Maize prices

4.2.2 Beans prices

- Average price of Kilogram of beans increased by five percent when compared to the previous month of September at Kshs 106 as in the figure 13 below.
- The increase in price was attributed to low supply, high demand and below average off seasonal yields. The beans price was distributed as follows: Mswakini /Hindi Centre Kshs 80, Patte Kshs120 and Witu Kshs 120, Mpeketoni Kshs 100, Bahari Kshs 115 and Kiunga Kshs 120.
- However, price ranges is determined by commodity supply in the different markets.
- The long-term average price of beans was Kshs 94 was18 percent lower compared to the current beans price for the month of October.

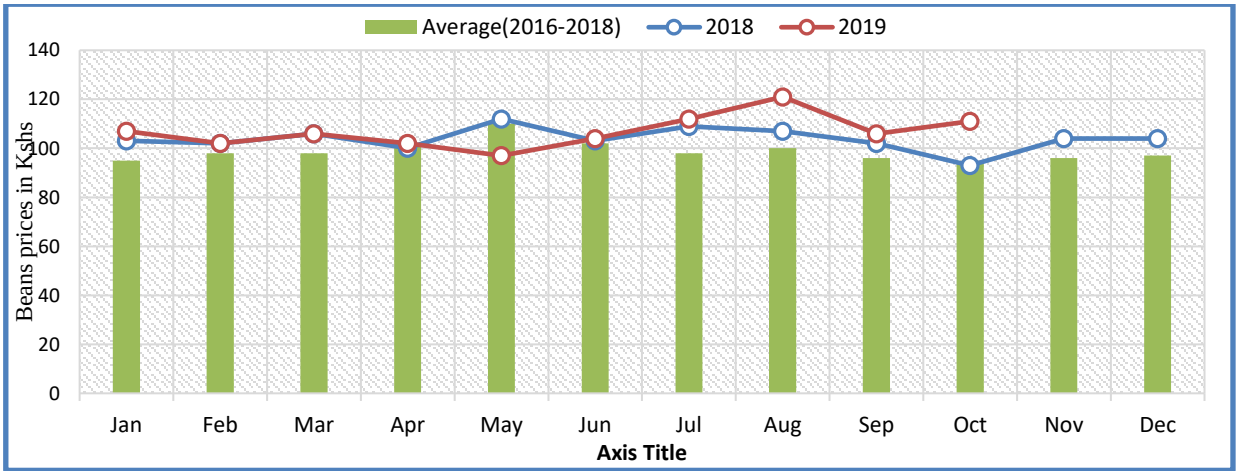

Figure 13: Beans prices

4.3 Livestock Price ratio/Terms of Trade

- The terms of trade (ToT) of October (86.3Kgs) decreased by 39 percent compared to previous month of September (120Kgs) as in figure 14 below.
- This was lower than the long-term average by 48 percent. Sale of a medium goat in October would cost a household about 86.3 kilograms of maize.
- This showed the exchange ratio increased in favour of crop farmers when compared to goat sellers, however this was determined by supply in the different markets.
- The ToT was 129 Kilograms in Lamu West and 74.3 Kilograms in Lamu East.
- The average ToT for October was lower than the long-term average and the previous year.

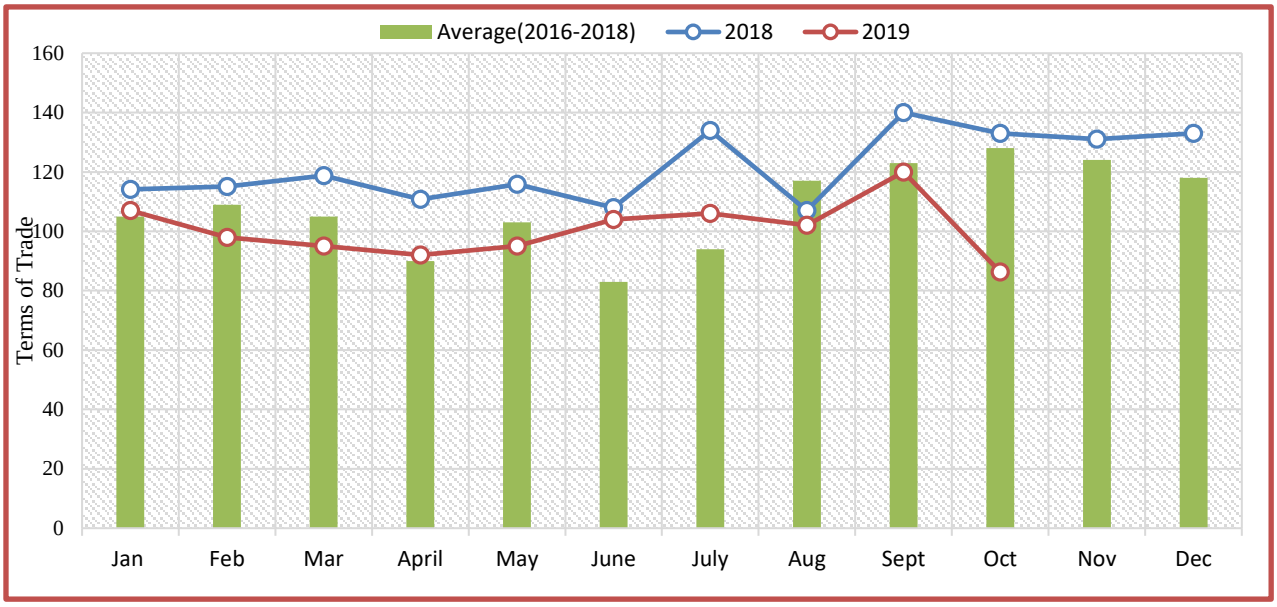

Figure 14: Terms of Trade

4.4 Implication on food security;

- Maize prices increased due to high demand and low market supply of the commodity.
- Farmers are able to sell livestock at fair prices, hence improved food security at household level.
- The Terms of Trade was favorable to crop famers when compared to livestock keepers.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1Milk for Household Consumption

- Average milk Consumption was 0.8 litres in the month of October, which was slight increase compared to previous month as in figure 15.
- Milk consumption was distributed as follows; Agro pastoral 1.5 litres, Mixed farming 1.7, irrigated cropping 1.0 litres and fishing 0.5 litres.
- The increase in milk consumption level was as a result of slight increase in milk production and household purchase of the commodity.
- October long term average milk consumption was higher than the current average and the previous year.

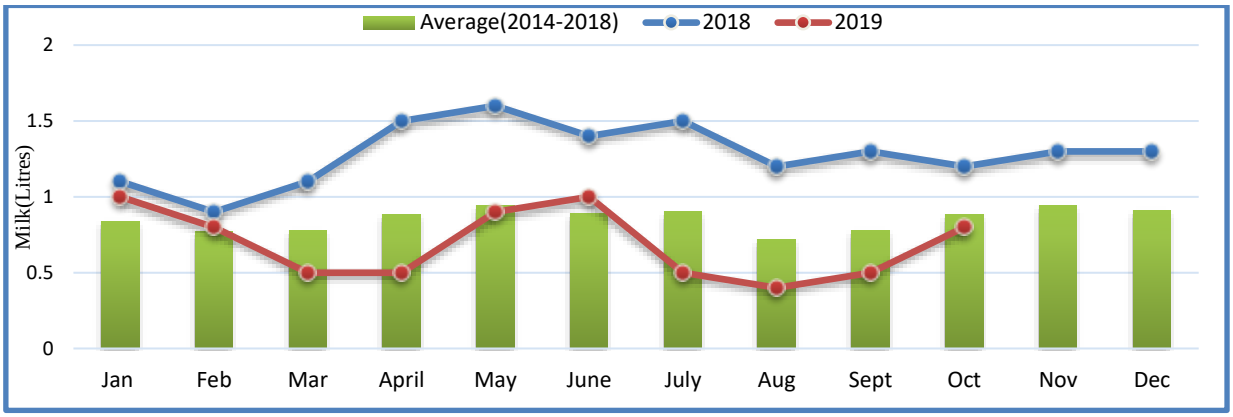

Figure 15: Milk consumption

5.2 Health and Nutrition status

5.2.1 MUAC

- The proportion of children under five at risk of malnutrition with Mid Upper Arm Circumference below 135mm decreased to 8.4 percent when compared to previous month of September at 9.1 percent.
- The proportion of children under five with severe category was zero percent during the month under review, indicating decrease in the number of children with severe category.
- This was attributed to increased milk production and consumption at household level.
- The rates of malnutrition cases reduced in all the livelihood zones.
- The figure of 8.4 percent MUAC for October, was higher when compared to long term average and the previous year as in figure 16.

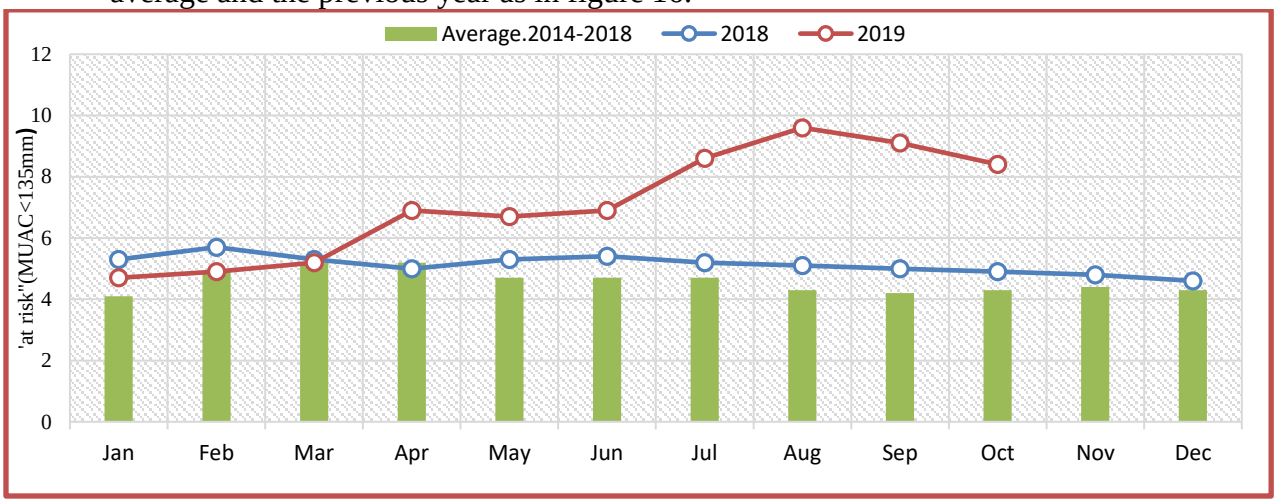

Figure 16: MUAC

5.2.2 Health

- There were no cases of major disease outbreak both for children and general population in the County.

5.3 Food consumption score

- The population with poor, borderline and Acceptable food consumption in the county was 5, 53 and 42 percent respectively. The two sub counties of Lamu west and east have 56.7 and 48.3 of food consumption in borderline respectively.
- A decrease in acceptable food consumption was noted in Agro pastoral zone with 10 percent each owing to decline in availability of food at households' level; however.
- Households have low purchasing power, thus consuming two to three meals per day with three to four food groups as in figure 17 below, however there was increase in acceptable and borderline food consumption but increased in poor by three percent in mixed zone.
- Households' percentage with acceptable increased by 17percent and consequently decreased the borderline food consumption in fishing zone when compared to previous month.

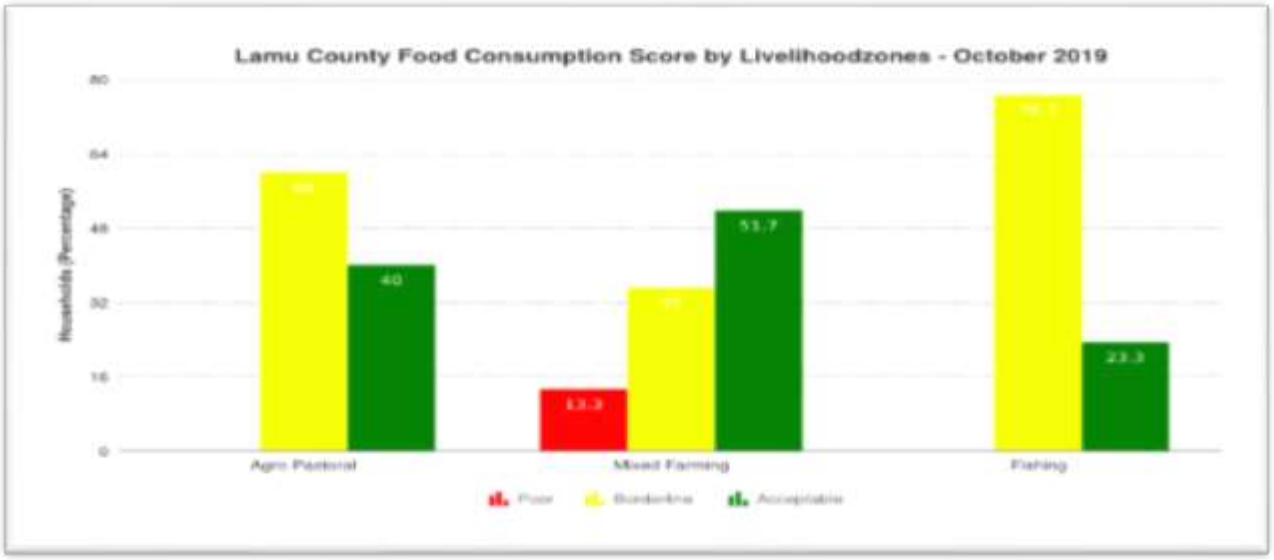

Figure 17: Food consumption score

5.4 Coping strategy index

- The mean coping strategy Index in the Month of October (9.71) increased by seven percent compared previous month in September (9.09) indicating increased trend in coping strategies at household levels.
- Agro pastoral Zone had CSI of 8.1an increase from 6.4; Mixed Farming livelihood zone had 4.8 a decrease from 5.9 while Fishing Livelihood zone had the highest copying strategy index of 22.7 as figure 18 below.
- Common coping strategies employed by food insecure households in the month of October were; Consumption of low-quality food, Purchase on credit, borrow food from friends or relatives, reduced the quantity of food consumed by adults to children had enough to eat, adopting for less preferred or less expensive food.

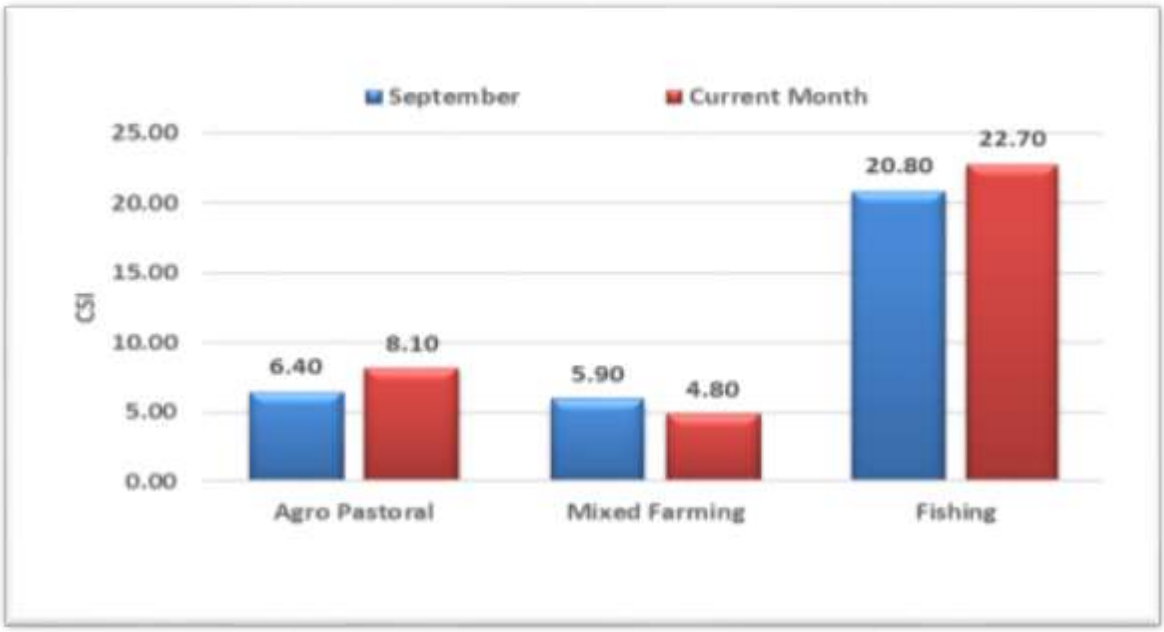

Figure 18: coping strategy index

5.5 Implication on Food Security

- The increased milk consumption at household levels across all the Livelihood zones could lead to increased dietary diversity and hence have positive impact on food insecurity trends.
- Coping strategy increased in Agro pastoral livelihood zones, with the highest coping being the fishing and mangrove zone, hence negative impact on food security at household level.
- The coping strategy is indicating increase trend at household level.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Food aid

- No reports on food aid interventions.

6.2 Non-food interventions

- The construction of Nagelle integrated drought resilience water (pan) project is ongoing at 85 percent complete.
- Cash transfer by the Social protection department to 3,500 households for older persons, Orphans and people with disabilities respectively for the entire county.
- The cash transfer will improve the purchasing power of the households to access food of their preferences.

7.0 EMERGING ISSUES

7.1 Insecurity

- No insecurity incident reported during the month under review.

7.2 Migration

- There were no abnormal cases of human migration during the month.

7.2 Food security prognosis

- Most parts of the county are likely to experience above-average rainfall during the month of November.
- Markets will continue to operate normally despite poor infrastructure and insecurity.
- Forage and water resources are expected to improve further hence livestock will return to their normal grazing areas in late November.
- Livestock body conditions are most likely to be improve further, leading to seasonal increases in livestock retail prices.
- Some births will also offer a seasonal increase in milk availability, though expected to remain below normal levels due to low birth rates and below-normal herd sizes at household levels.
- Food and milk intake are expected to improves, acute malnutrition levels are expected to decline, but are still likely to remain high due to below-average milk production and consumption and poor child-care practices.
- The distance to water sources for both human and livestock is expected to decrease.
- Water salinity is expected to decline due the increase in water levels in fishing livelihood zone.
- Cases of livestock herders' and crop farmers' conflicts are expected to decline due to expected influx to return to their normal grazing zones to their counties.

8.0 RECOMMENDATIONS BY SECTORS;

8.1 Water

- Constructions/rehabilitation of water pans for preparedness.
- Conducting of hydro geological survey and drilling of boreholes.
- Promotion of rainwater harvesting, repair of Djabias, roof catchment areas, installation of gutters and tanks in Villages and Institutions.
- Provision of water treatment tabs to households mainly in Agro pastoral and mixed farming.

8.2 Livestock

- Livestock disease surveillance, Vaccinations and control to curb spread of livestock diseases.
- Upscale efforts aimed at stock piling livestock feeds in strategic hay reserves for use during the dry season by providing farmer groups with pasture seeds to maximize production over the short rains period.
- Promote Pasture and fodder planting in the county during and after the short rains.
- Provision of hay band machines for harvesting.
- Promote livestock insurance services.
- Construction of vaccination crushes and cattle dips.

8.3 Agriculture

- Build Capacity of crop farmers to plant drought resistance food crops.
- Mobilization and sensitization of farmers on crop insurance.
- Provision of seeds and fertilizers to farmers during the short rains period.
- Training communities on CMDRR.

8.4 Health and Nutrition

- Strengthen malnutrition screening and active case search as well as strengthen integrated management of acute malnutrition in the community.
- Enhance disease and nutritional surveillance in hot spot areas.
- Deworming exercise for both adults and children.
- Conduct SMART survey in all livelihood zones to establish the nutrition status of the under-fives.

8.5 Education

- Support to schools feeding programs for the most vulnerable communities focusing on the most vulnerable areas in the county to minimize dropouts.
- Provide Food for fees for students hailing from Vulnerable and poor families.
- Provision of water plastic tank to learning institution for preparedness.

8.6 Peace and Security Sector (Co-ordination)

- Peace and security meetings should be enhanced in the County
- Inter Counties peace and security to be enhanced in order to avert future conflicts.
- Provision of relief food to vulnerable household in the County.

8.7 Information Communication Technology

- Promote use of ICT on drought information (Forums) sharing and development programs.