

**National Drought Management Authority
LAMU COUNTY
DROUGHT EARLY WARNING BULLETING FOR MARCH 2019**



A Vision 2030 Flagship Project



MARCH 2019: EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- Insignificant rainfall was received during the Month under review.
- The vegetation condition Index (VCI-3Month) was showing a decrease of 3 percent compared to previous month.
- The VCI indicated normal vegetation greenness. However the overall drought phase in the county was at Alert in March, 2019.
- Forage condition was fair to poor across all livelihoods zones.

Socio Economic Indicators

Production indicators

- All livestock species exhibited fair to poor body condition.
- Crop farmers were at land preparation stage in all livelihood zones.
- Milk production decreased when compared to previous month of February.

Access indicators

- Terms of trade were favorable to crop farmers compared to livestock farmers in mixed and pastoral livelihood zones respectively.
- Water access for both human and livestock was fair to poor in all livelihood zones.
- Milk consumption decreased and is lower than the long term Average.

Utilization indicators

- The proportion of children at risk of malnutrition cases increased slightly and below the normal range as indicated by percent of total whose mid upper arm Circumference (MUAC) was measured during the month
- The average coping strategy increased when compared to previous month.

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Agro pastoral/Fishing	Alert	Worsening
Mixed farming/Irrigated cropping	Alert	Worsening
Fisheries /Mangroves	Alert	Worsening
Farming/Casual Labour	Alert	Worsening
Agro pastoral	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Range/Value
Rainfall (% of Normal)	<1	80-120
VCI-3Month	48.69	>35
Forage condition	Fair-poor	Good
Production indicators	Value	Normal
Crop Condition (specify crop)Maize	N/A	N/A
Livestock Body Condition	Fair-poor	Good
Milk Production	1litre	>3 Litres
Livestock Migration Pattern	High	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (ToT)	95	>84
Milk Consumption	0.51	>2litres
Return distance to water sources (HH).	8.8	>5 Km
Cost of water at source (20 litres)	5-10	<5Kshs
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	5.2%	>5%
Coping Strategy Index	9.6	<0.95

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

1.0 CLIMATIC CONDITIONS

1.1 Rainfall performance

- Insignificant rainfall was received during the month under review.
- The current NDVI value is at par to the historical NDVI values.

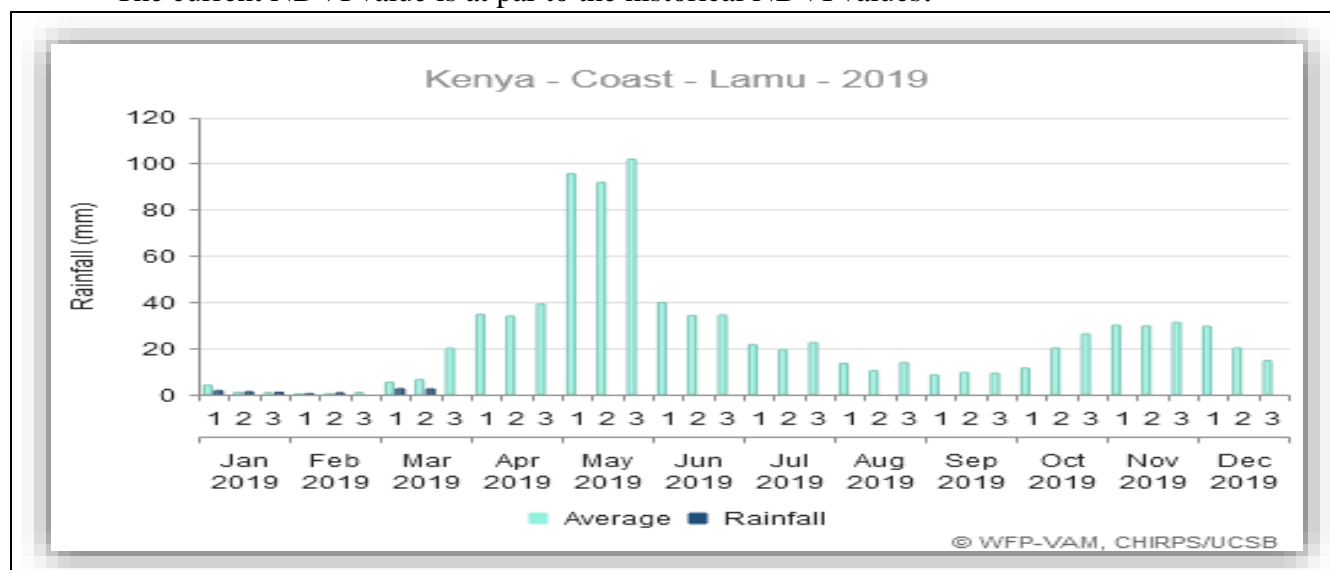


Figure 1: Rainfall Satellite data. (Source: WFP-VAM, CHIRPS/UCSB)

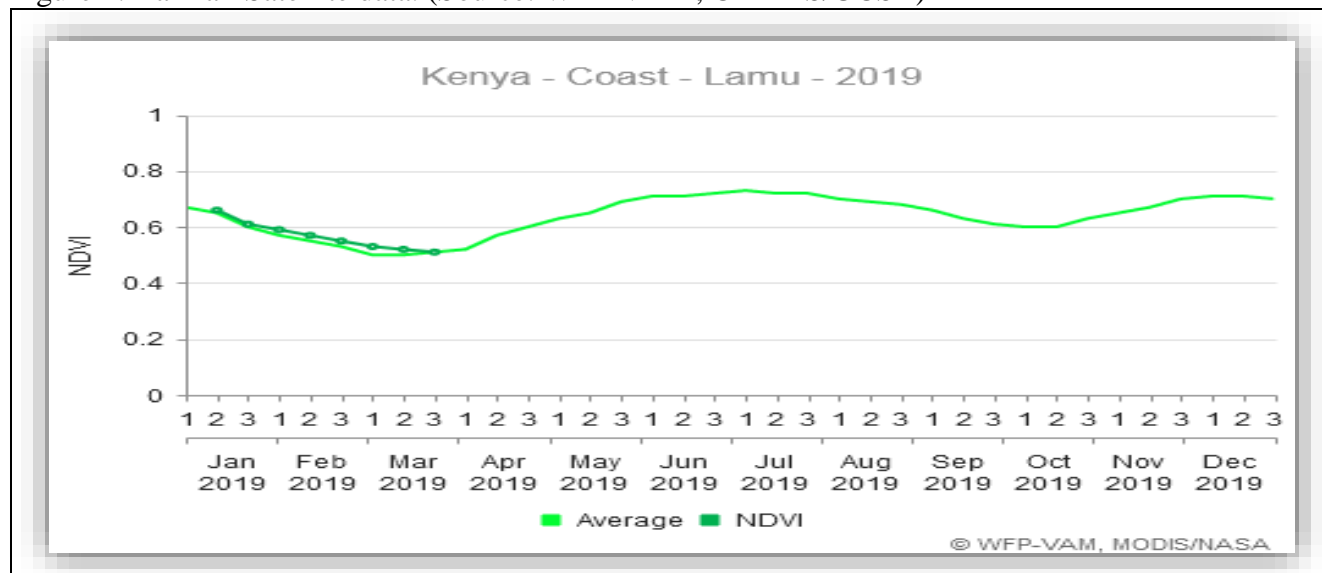


Figure 1: NDVI data {Source: WFP-VAM}

1.2 Amount of rainfall and spatial distribution

- According to VAM WFP rainfall data, the County received a total 4.9 mm of rainfall in the Month of March, 2019 during the 1st and 2nd dekad.
- This was a decrease of in rainfall compared to previous month and was below the long term average of 5.3mm for the 1st dekad as illustrated in figure 1 above.
- This 4.9 mm of rainfall was lower than the amount of 133.3 mm received in same period of the previous year during the long rains.
- The rainfall received was uneven with poor, both in spatial and temporal, distribution in all parts of the livelihood zones of the county.

1.3 Other hazards

- Cases of conflicts between crop farmers and livestock farmers were reported during the month under review.

2.0 VEGETATION CONDITION

2.1 Vegetation Condition Index (VCI)

- The vegetation condition index for the month of March, decrease by 18 percent compared to the previous month. This was due to poor precipitation received during the Month.
- The vegetation condition index for the month of March was 48.69 compared to 50.25 in the previous month.
- The VCI indicated vegetation normal greenness; however, the forage condition is on worsening trend.
- The VCI-3 Months is above the long-term average and the previous year as shown in the figures 2, 3 and table1 below.

Table 1: March 2019 VCI (3M)

ADMINISTRATIVE UNITS	Vegetation greenness	
	VCI-3Month as at 25 th February 2019	VCI-3Month as at 26 th March 2019
County	50.25	48.69
Lamu East	53.75	53.32
Lamu West	48.24	46.02

Figures below show three Months, Vegetation Condition Index (VCI) matrixes for Lamu County. {Source: Boku University, Austria}

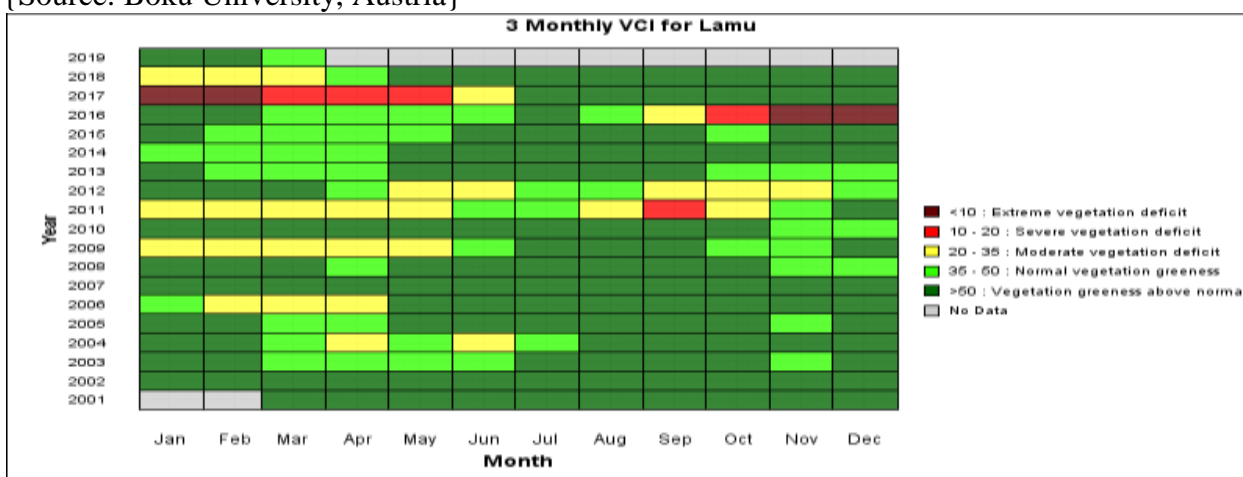


Figure 2: VCI-Lamu County

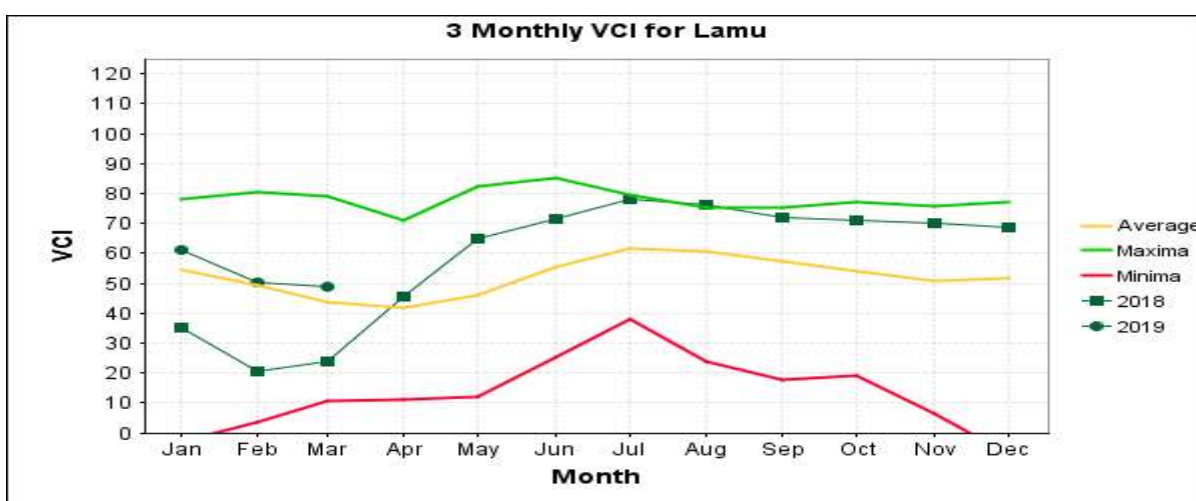


Figure 3: VCI-Lamu County

OBSERVATIONS

Pasture and Browse condition

2.1.2 Pasture

- Pasture condition was fair to poor across all livelihood zones both in quality and quantity 80 percent of Community members interviewed stated that pasture was poor while 20 percent indicated that pasture was fair but with worsening trend as shown in figure 5 below.
- Pasture condition by livelihood zones; Agro pastoral is poor, mixed farming is fair-poor and fishing/ mangrove was equally poor. The available pasture is expected to last less than a month due to the presence of in-migrant livestock from neighbouring counties. The current pasture situation is below the normal range.

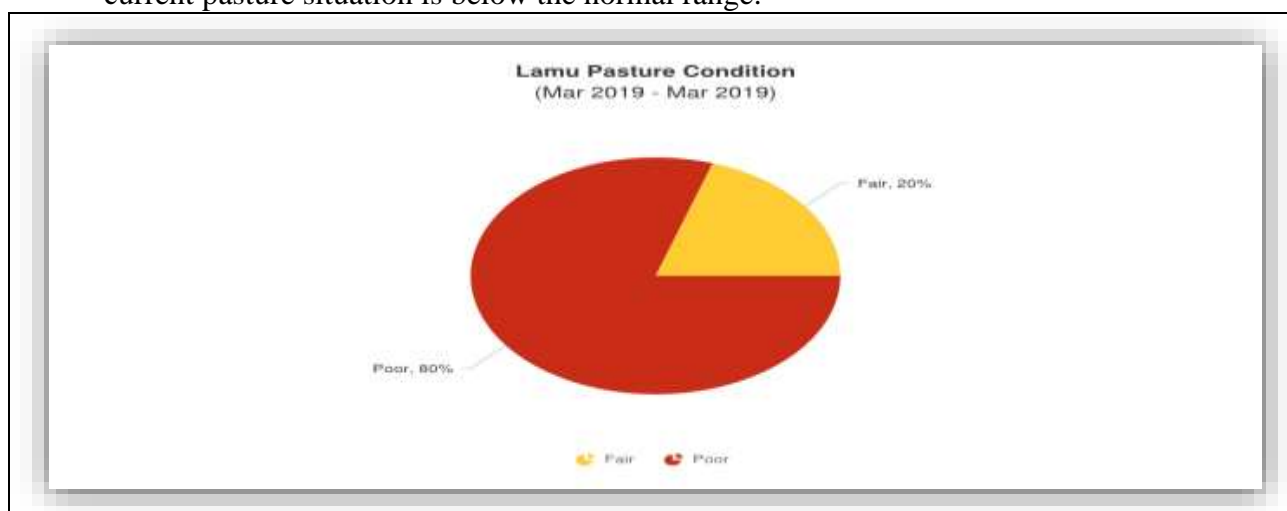


Figure 5: Pasture condition

2.1.3 Browse

- The quantity and quality of browse was good to fair across all livelihood zones in the County except in the Islands. Response of the community members interviewed generated the following information; 80 percent of the respondents stated that browse was poor hence on deteriorating trend due to poor off season's rains and late on set of the long rains coupled with high rate of transpiration as in figure 6 below.
- Browse condition by livelihood zones; Agro pastoral and mixed farming was good to fair while fishing/ mangrove was poor. The browse is expected to last than a months.The current browse condition is below normal range compare to previous year.

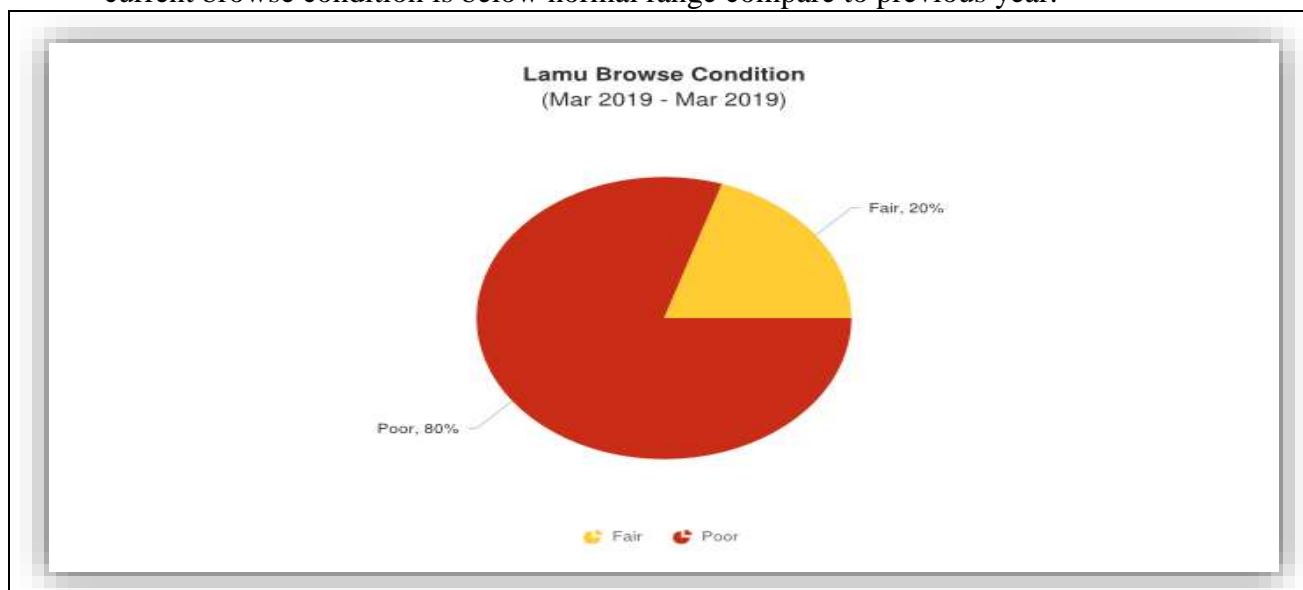


Figure 6: Browse conditions

2.2.0 HYDROLOGICAL DROUGHT

2.2.1 Water Sources and Availability

- The state and condition of water sources in the County was fair to poor across most livelihood zones. However, the current water situation is worsening compared to previous month.
- The main water sources in the month of March; Pans 13.8percent, shallow wells -45.5 percent, Boreholes 13.2 percent, Traditional water wells 18.2 percent, Lakes and River 4.5 percent respectively as in figure 7 .The status of main sources of water is below normal at this period of the year.

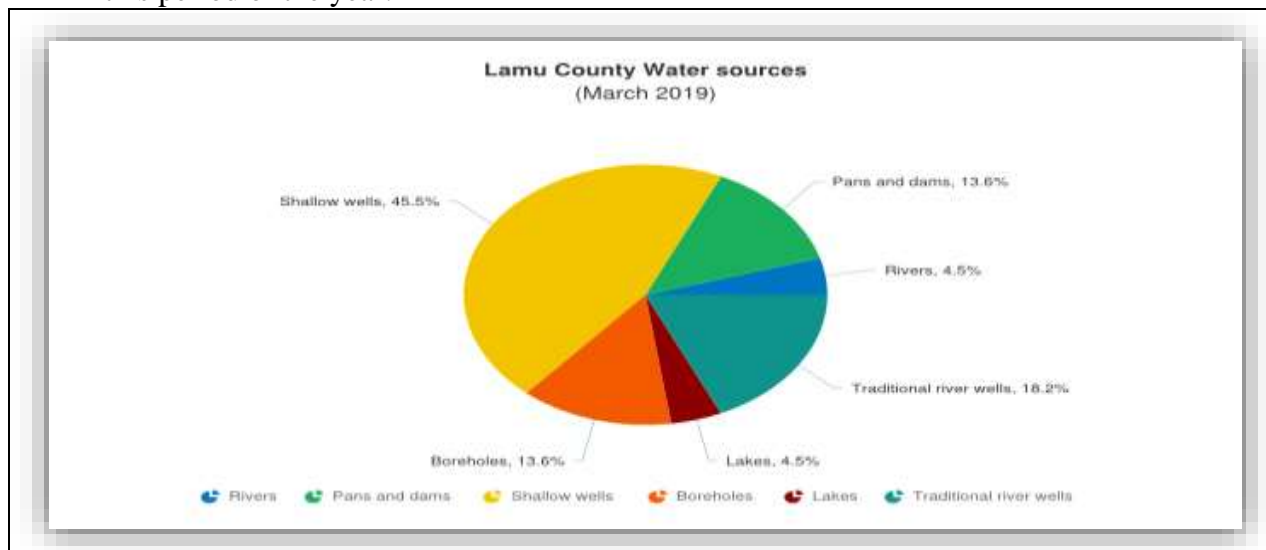


Figure 7: Main sources of water

2.2.2 Household access and Utilization

- Average Household watering return distance was 8.8 Kilometres in March, which was an increase compared to previous month. This was due to below average rainfall received which led to decrease in water levels.
- Household return water distances per livelihood zone were as follows: the Agro pastoral 8.6 Kilometres, Fishing & Mangrove Harvesting 4 Kilometres and for Mixed Farming zone it was 3.4 Kilometres and irrigated farming was 1.1 Kilometres respectively.
- The 2014-2018 average household water distances for March was 10 Kilometres which was lower than the current average household watering distance for March as illustrated in figure 8.
- The average household water consumption per person per day is at 15-20 litres in all livelihood zones except in hot spot areas which are below normal of 30-40litres. Water costs at source are 5-10 Kshs in town/village centres for 20 litre Jerrican while it costs 10-50 Kshs in hot spot areas of Kiunga, Mtanga-wanda, Bahamisi and Bargoni.

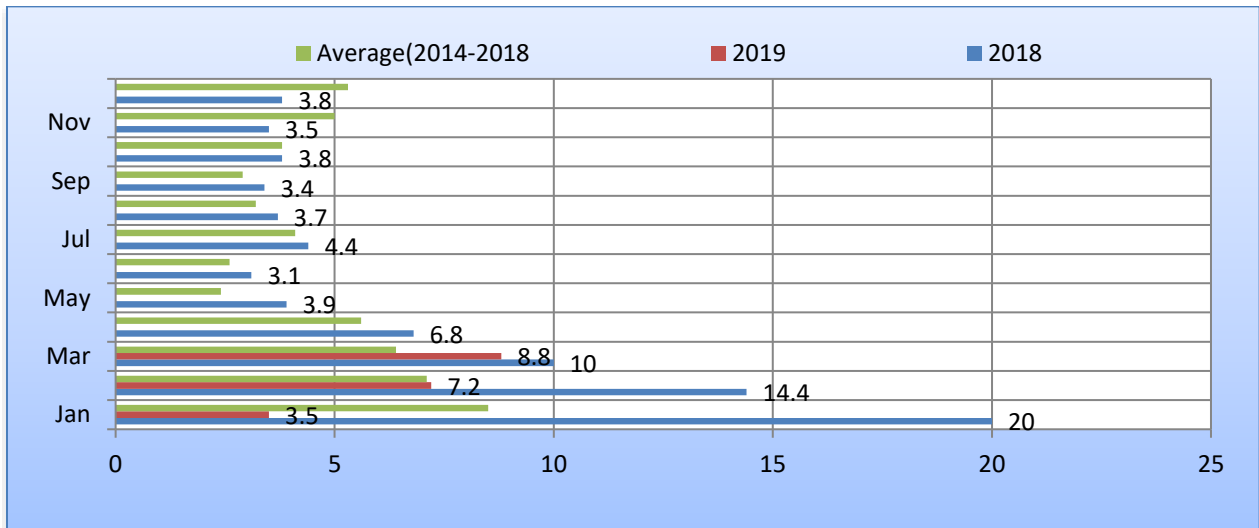


Figure 8: Household water distances-Kms

2.2.3 Livestock access to Water

- Livestock average return distance to water source from grazing Areas increased to 15 Kilometers compared to the previous month of 11.8 Kms as in figure 9.
- Grazing return water distances per livelihood zone were as follows: the Agro pastoral 13.2 Kms, Fishing & Mangrove Harvesting 7.4 Kms and for Mixed Farming Zone it was 4.4 Kms and irrigated farming 4 Km respectively.
- The increase of grazing water distance compared to last month was due to decrease of water level at sources in grazing areas.
- Watering frequencies for livestock species was same. Few of the livestock species were watered daily due to high recharge levels of the open water sources.
- The current average grazing distance for March was 15 Kilometers and was higher than the long-term average of 10 Kilometres.

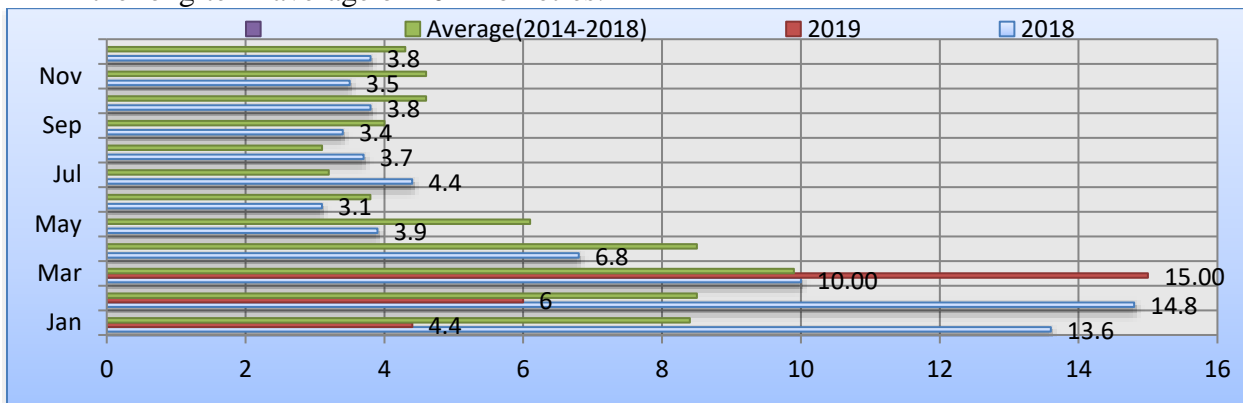


Figure 9: Grazing distances -Kms

2.2.4 Household income

- The main household income for the month of March was distributed as follows: Casual labour 54.7 percent, trade 19.3 percent, Employment 11.3 percent, Sale of livestock and products 6.7 percent and Sale of crops 8 percent respectively as illustrated in figure 10 below.
- However, casual labour and employment decreased by three and two percent respectively, compared to the previous month of February while sales of livestock and its products were severely affected.

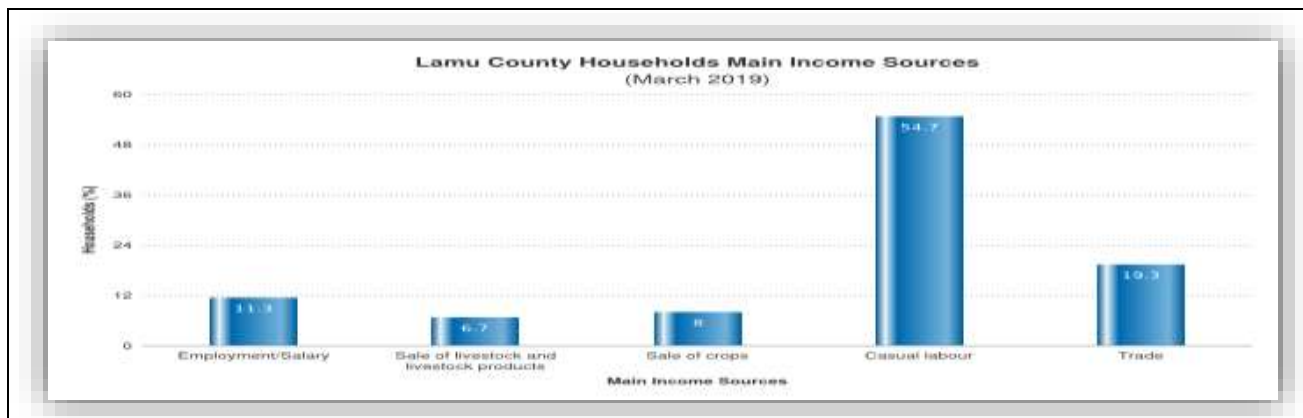


Figure 10: Household sources of income

2.4 Implication to Food Security;

- Fishing and Mangrove livelihood zones have increased water salinity due to water levels decrease of the shallow wells in the Fishing and Mangrove livelihood zones.
- The distances to water sources have had a negative impact on the livestock body condition of animals and household hygiene standards.
- Crop production is depressed due to late onset of long rains season, resultant to low amounts of moisture. This implies that food supplies will further decline and therefore reduced income for both crop and livestock farmers hence increase in food commodities market prices.

3.0 PRODUCTION INDICATORS

3.1.0 Livestock Production

3.1.1 Livestock Migration Patterns

- There were cases of livestock in migration from neighbouring counties, however, the livestock that in-migrated in previous months are still present.

3.1.2 Livestock Body Condition

- The livestock body condition was fair to poor for all for cattle while goat is good to fair across livelihood zones as compared to similar period of the previous year where body condition of all species was good. This is attributed to decrease in quality and quantity of pasture and browse. Considering that pasture is being foreseen to continuously deplete. The body conditions as of animals are expected to worsen further.

3.1.3 Livestock Diseases

- There were many cases of trypanosomiasis menence affecting livestock that were reported during the month under review.

3.1.4 Milk Production

- Milk production decreased from 1.6 litres in February to one (1) litre in March. The decrease was attributed to poor pasture and browse conditions. This was lower than the long-term average of 2.3 litres in March and the same period last year as in figure 11 below.
- Milk productions were distributed as follows: Mixed farming Produced 0.5 litres, Fishing zero litres, and Irrigated 0.7 litres while the Agro pastoral Zone produced average of 0.9 litres. Milk prices are retailing at an average price of Kshs.50-100 per Litre across the livelihood zones which is the normal milk price at these period of the year.
- The change of the household milk production recorded is due to poor pasture and browse conditions.

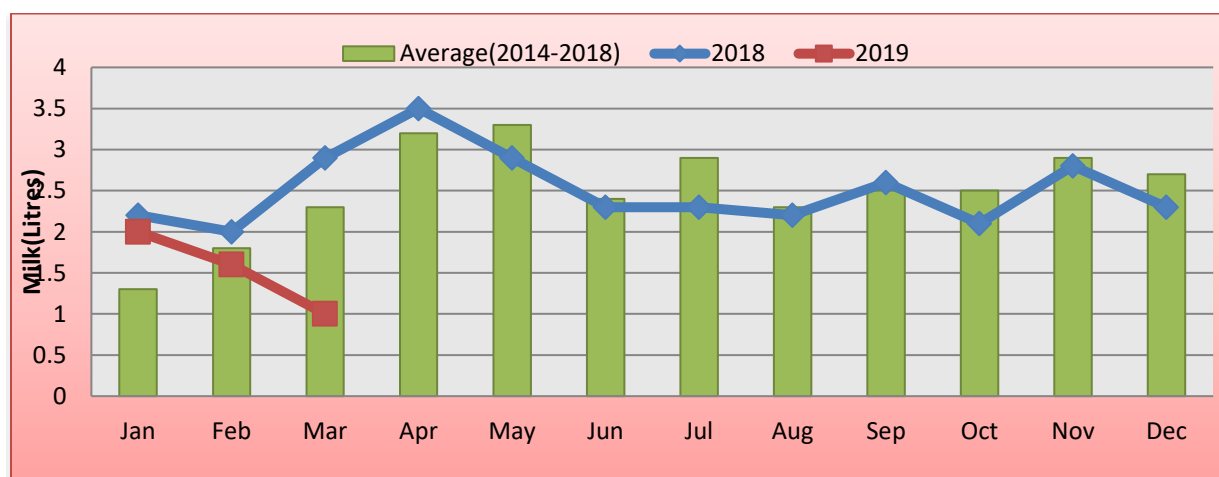


Figure 11: Milk production

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.
- Crop farmers are preparing their farms for the long rains planting.

3.2.2. Crop Harvest

- There were currently no crops harvesting on farms taking place in all livelihood zones zone.

3.2.3 Implications on Food Security;

- The fair body condition of livestock species especially cattle across the livelihood zones decreased the prices resulting to lower income for livestock farmers.
- Crop yields under rain fed reduce among the crop farmers as the entire previous short rains season performance has been below normal. This has already resulted in food shortage locally and will trigger higher commodity prices.

4.0 MARKET PERFORMANCE

4.1 Livestock marketing

4.1.1 Cattle Prices

- Average cattle market price in the month of March decreased by three percent compared to previous month as shown in figure 12 below.
- This decrease in price could be attributed to low demand and coupled with poor body condition arising from depleted pasture conditions.
- The cattle average market prices were distributed as follows: Faza - Kshs 13,000, Witu - Kshs16,500, Kiunga - Kshs16,000, Mswakini - Ksh16,000 and Mokowe - Kshs16,500.
- The average market cattle price for the month of March was Kshs16,000 which was lower than the long-term average price of Kshs.18,400 and lower than the price of similar period last year.

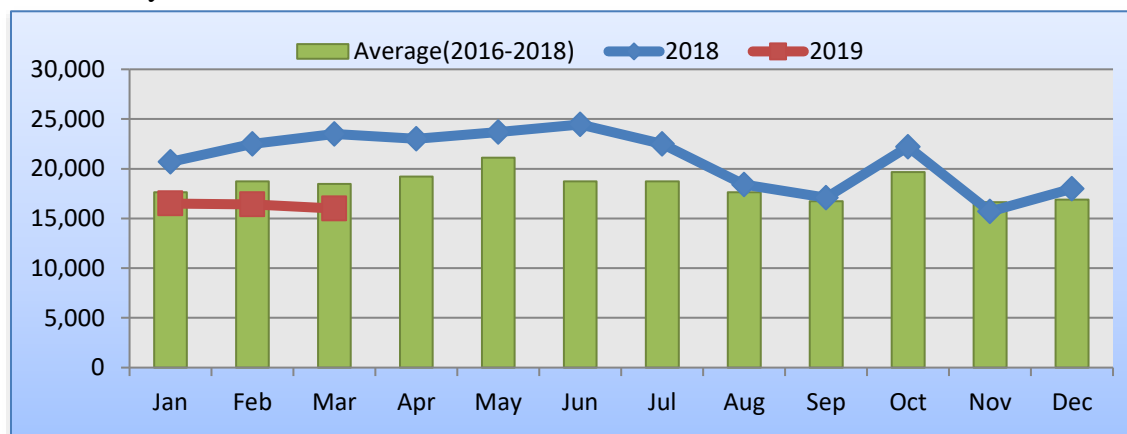


Figure 12: Cattle prices

4.1.2 Small Ruminants Prices

4.1.3 Goat Prices

- Goat prices was stable in March (Kshs-5,300) compared to previous month of February (Kshs 5,300).
- This price was higher than the long term average by 45 percent and the price recorded in previous year at a similar time and following seasonal trends as shown in figure13.
- This decrease in price of goats could be attributed to low market demand and against low supply..
- The goat average market prices were distributed as follows: Mpeketoni - Kshs4,000, Witu - Kshs5,000, Kiunga - Kshs7,500 and Mokowe - Kshs5,000.

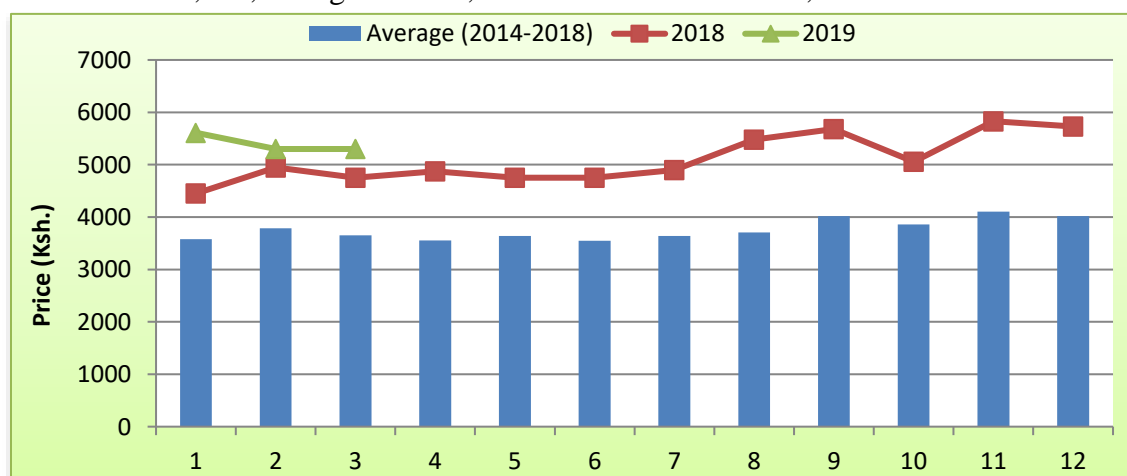


Figure 13: Goat prices

4.2 Crop prices

4.2.1 Maize price

- Maize prices increased from kshs 54 to 56 (4%), this was higher than the long term average of kshs 40.
- The increase was due to low harvest during the short rains coupled with high demand as shown in figure 14.
- The prices were distributed as follows: Hindi centre - Kshs50, Patte - Kshs30, Witu - Kshs42, Mpeketoni - Kshs30 and Kiunga - Kshs100 respectively.
- It is worth noting that price ranges were determined by commodity supply in different markets.

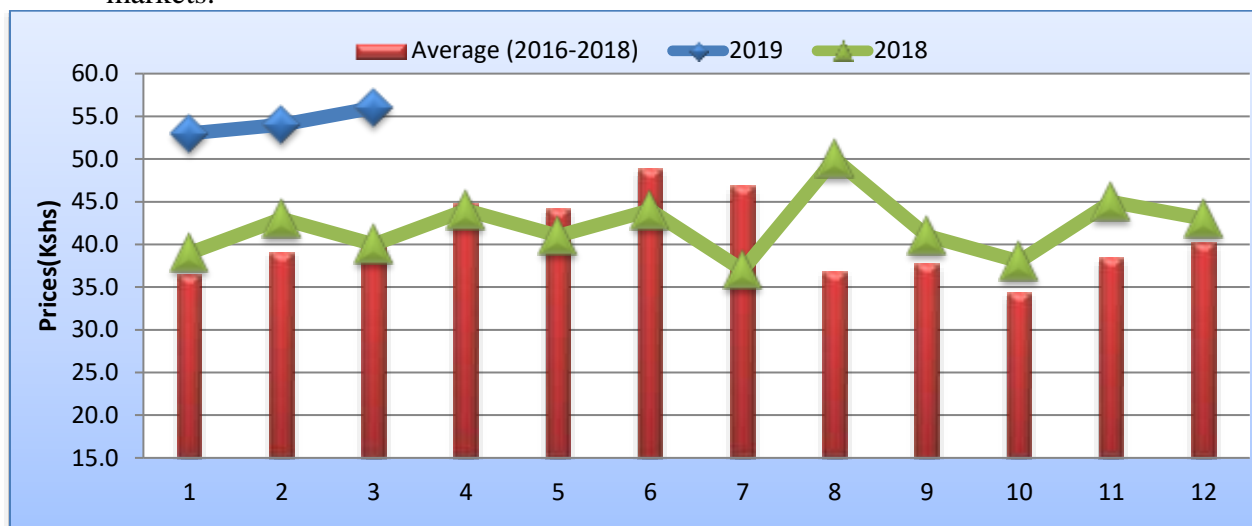


Figure 14: Maize prices

4.2.2 Beans prices

- Average price of Kilogram of beans was Kshs108 in February Slight increased of two percent compared to the previous month of Kshs106 as illustrated in the figure 15 below.
- The increase in price was attributed to high demand and the fact that it is sourced outside the county.
- The beans price was distributed as follows: Mswakini /Hindi centre - Kshs150, Patte - Kshs100 and Witu - Kshs100, Mpeketoni - Kshs80, Mokowe - Kshs140 and Kiunga - Kshs120.
- The trend in Beans price is stable. price ranges were determined by the commodity supply in the different markets.
- The long-term average price of beans was Kshs 86 which is lower compared to the current beans price for the month of March.

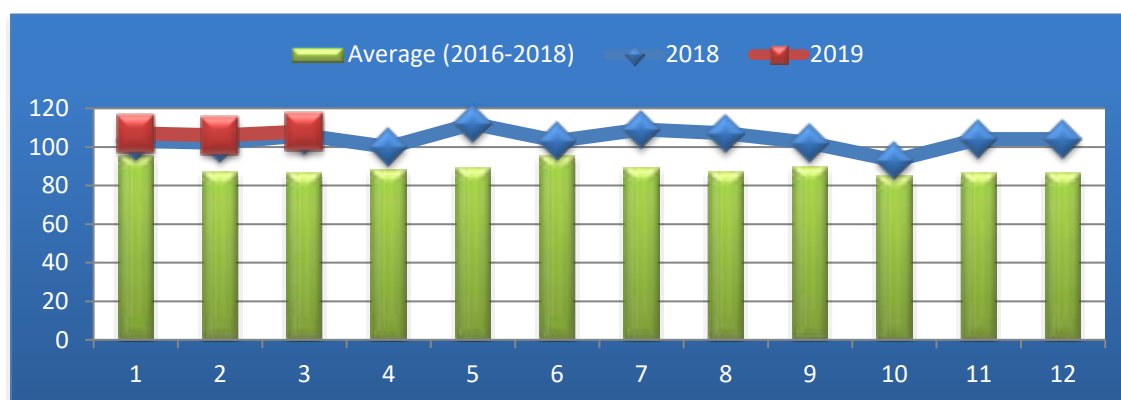


Figure 15: Beans prices

4.3 Livestock Price ratio/Terms of Trade

- The terms of trade (TOT) of March (95Kgs) decreased by four percent compared to previous month of February that stood at (98Kgs) as in figure 16 below. This was lower than the long term average by 10 percent.
- Sale of a medium goat in March would cost a household about 95 kg of maize. This showed the exchange ratio decreased in favour of crop farmers when compared to livestock farmers.
- However, this was determined by supply in the different markets.
- The ToT price was distributed as follows: Agro pastoral -70 Kilograms. Mixed farming - 90 Kilograms- Fishing/mangrove - 53 Kilograms and irrigated farming - 66 Kilograms respectively.

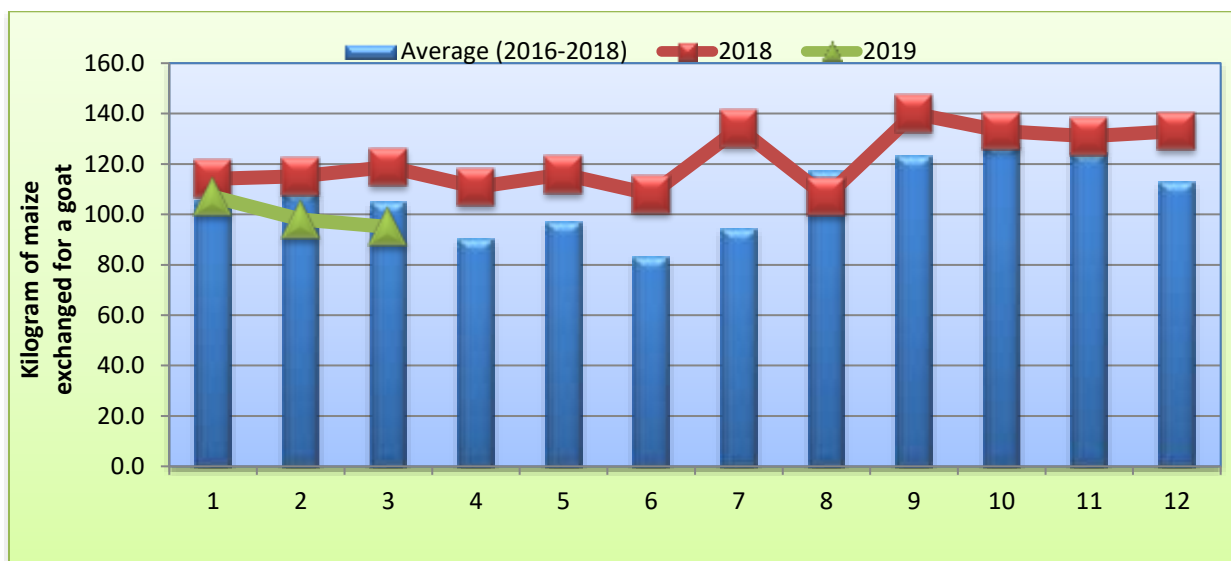


Figure 16: Terms of Trade

4.4 Implication on food security;

- Maize prices slightly increased due to poor short rains harvest coupled with low supply in the markets.
- The Terms of Trade was favorable to crop farmers when compared to livestock farmers.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk for Household Consumption

- Average milk Consumption was half a litre in the month of March, which was a decrease compared to previous month as in figure 17. This was attributed to low milk production.
- Milk consumption was distributed as follows; Agro pastoral 0.9 litres, Mixed farming 0.5, irrigated cropping 0.7 litres and fishing 0.5 litre. This milk consumption is through purchase at household level
- Decreased in milk consumption level is as a result of low production of the commodity. March long term average milk consumption was higher than the current average and lower than previous year.

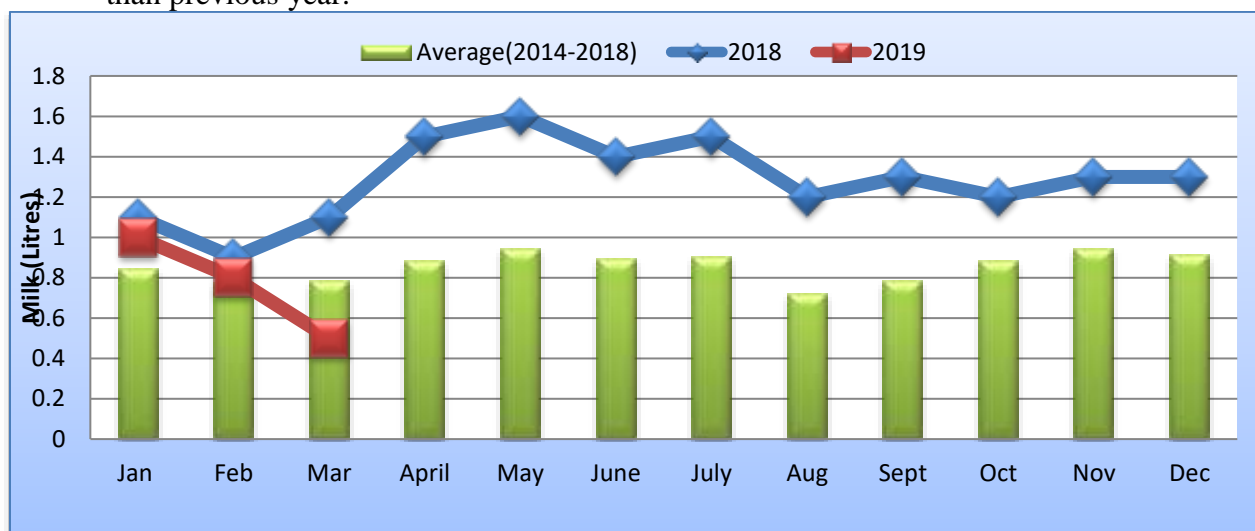


Figure 17: Milk consumption

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 increased to 5.2 percent compared to previous month of 4.9 in February.
- The proportion of children under five with severe category was 0.2 percent percent in the month under review indicating slight increase in the number of children with severe category.
- This was attributed to decline in milk production and consumption at household level. The rates of malnutrition cases reduced in Agro pastoral and Mixed farming Zones of Witu, Hindi and Mpeketoni areas.
- This figure of 5.2 percent MUAC for March was higher compared to long term average of 4.4 as in figure 18.

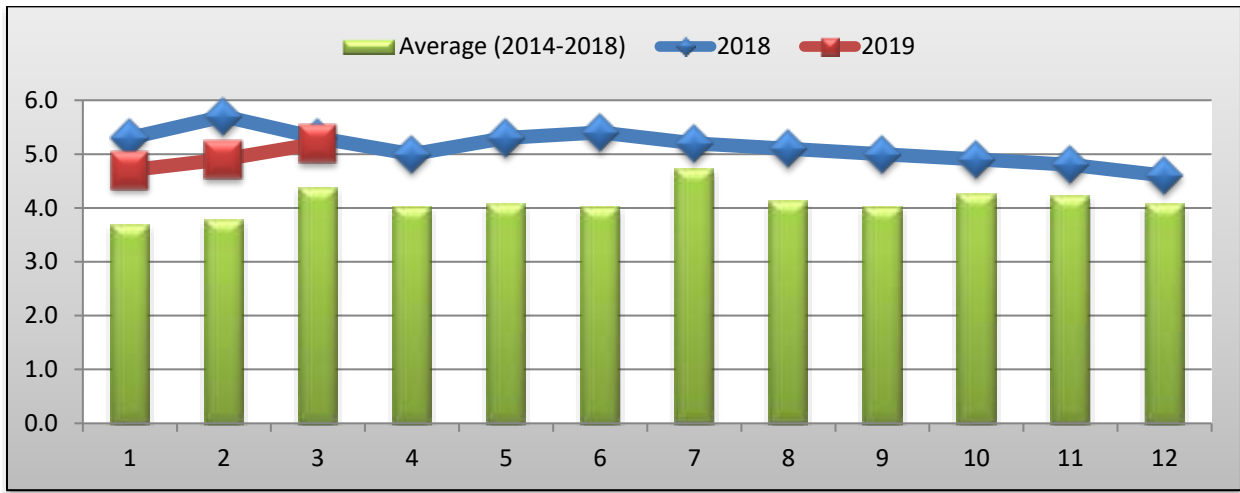


Figure 18: MUAC

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 county recorded 5, 41 and 54 percent of households in the poor, borderline and acceptable food consumption groups respectively.
- Acceptable food consumption was noted in Agro pastoral and Mixed farming zone with 83 and 52 percent of households respectively, owing to availability of food in the markets; however households have low purchasing power, thus consuming two-three meals per day with 3-4 food groups.
- Households' percentage with poor food consumption was seven, five and three percent in the three livelihood zones respectively. However, increased borderline food consumption of 97 percent was noted in fishing /Mangrove livelihood zones.

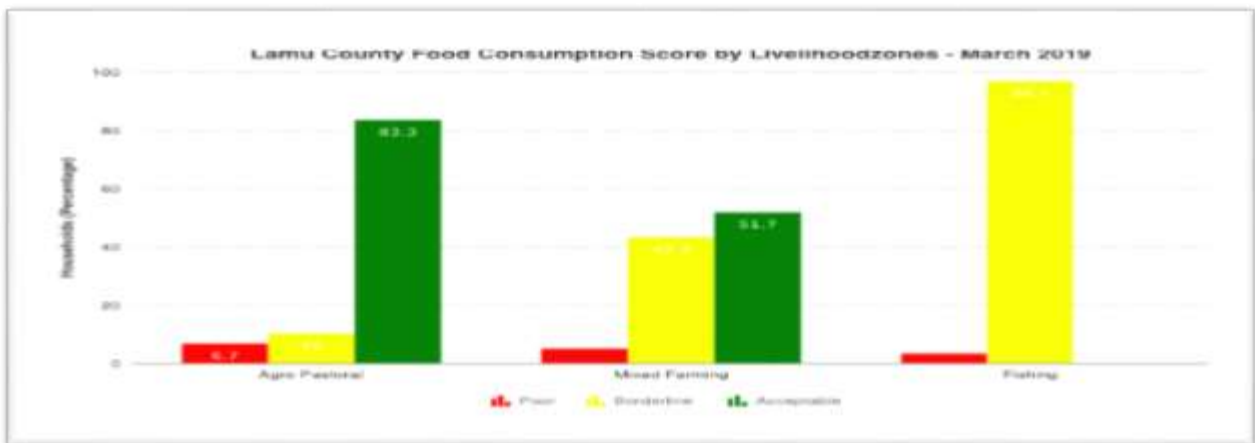


Figure 19: Food consumption score

5.4 Coping strategy index

- The mean coping strategy Index in the Month of March increased by five percent (9.57) compared previous month in March (9.32), indicating increased coping strategies at household level. Agro pastoral Zone had CSI of 5.0; Mixed Farming livelihood zone had 9 while Fishing Livelihood zone had the highest copying strategy index of 21 as figure 20 below.
- Common coping strategies employed by food insecure households in the month of March were; Reduction in the number of meals, Purchase on credit/remittances from relatives,

Borrow food from friends or relatives, and Opting for less preferred or less expensive food.

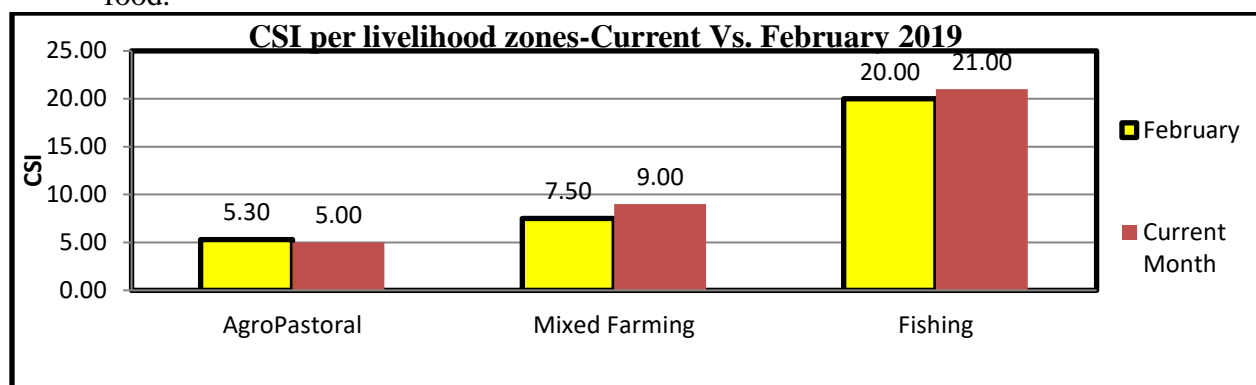


Figure 20: coping strategy index

5.5 Implication on Food Security

- Low milk consumption at household levels across all the Livelihood zones could lead to decreased dietary diversity and hence negative impact on food insecurity.
- Both food consumption and coping strategy increased at mixed farming and fishing livelihood zones, hence negative impact on food security.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Drought Response/Preparedness interventions

- **NDMA** Lamu is carrying out construction of Nagelle integrated drought resilience water (Dam) project, currently at tendering stage.
- Cash transfer by the Social protection department to 3,000 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.
- Implementation of water trucking to areas most severely hit with water scarcity in Lamu West Sub-county by County Government.

- Kenya Redcross distributed relief food to 512 households in Boni Areas comprising different types of food including Rice, Beans and oil.

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.

7.3 Food security prognosis

- The long rains season (March-April-May 2019) will be normal to below normal throughout the county. (KMD).
- Markets will continue to operate normally despite poor infrastructure and insecurity.
- Cereal prices are expected to increase while those of goat prices are projected to decrease, thus terms of trade expected to favour for crop farmers.
- Forage conditions are projected decline further and hence destabilize livestock body conditions, production and prices in coming month.
- The distance to water sources for both human and livestock is expected to increase.
- The forage condition is expected to worsen further in all livelihood zones.
- Malnutrition cases are likely to increase over the period, as children would access less milk.
- Household food stocks are expected to decline further.
- Cases of livestock and crop farmers' conflicts are expected to increase due to declining pasture and browse.

8.0 RECOMMENDATIONS BY SECTORS;

8.1 Water

- Expand water trucking for areas most severely hit with water scarcity.
- Constructions/rehabilitation of water pans/dam for preparedness.
- Conducting of hydro geological survey and drilling of boreholes.
- Promotion of rain water 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 rain fed areas.
- Provision of plastic water tanks to institution and communities in hot spot areas.

- Fuel subsidy to desalination plants

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 so as to maximize production over the short rains period.
- Promote Pasture and fodder planting in the county during and after the long rains.
- Provision of hay band machines for harvesting.
- Promote livestock insurance services.
- Provision of livestock feeds to hot spot areas in the county.

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 long 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.
- Enhance household level water treatment.

8.5 Education

- Support to schools feeding programmes for the most vulnerable communities focusing on the most vulnerable areas in the county to minimize drop outs.
- 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 programmes.