

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



A Vision 2030 Flagship Project



APRIL 2019: EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

- **Biophysical Indicators**
- The County received below average seasonal rainfall during the Month under review.
- The vegetation condition Index (VCI-3Month) was showing a increase of two percent compared to previous month.
- The VCI indicated normal vegetation greenness. However the overall drought phase in the county was at Alert in April.
- 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 March.

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 remained stable and is lower than the long term Average.

Utilization indicators

- The proportion of children at risk of malnutrition cases increased and above the normal range as indicated by percent of total whose mid upper arm Circumference (MUAC) was measured during the month
- There was insignificant reduction in coping strategy during the Month when compared to previous month of March.

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)	50	80-120
VCI-3Month	49.61	>35
Forage condition	Fair-poor	Good
Production indicators	Value	Normal
Crop Condition (specify crop)Maize	Poor	good
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)	92	>84
Milk Consumption	0.51	>2litres
Return distance to water sources (HH).	11	>5 Km
Cost of water at source (20 litres)	5-10	<5Kshs
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	6.9%	>5%
Coping Strategy Index	9.43	<0.95

Seasonal Calendar

<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

- The onset of the long rains varied across the county. It was late in the first dekad of April.
- Below average seasonal rainfall was received during the month under review, with high intensity compared to the previous months as recorded in the first to third dekad of April as in figure 1 below.
- The current NDVI value is below the historical NDVI values showing decline in vegetation.

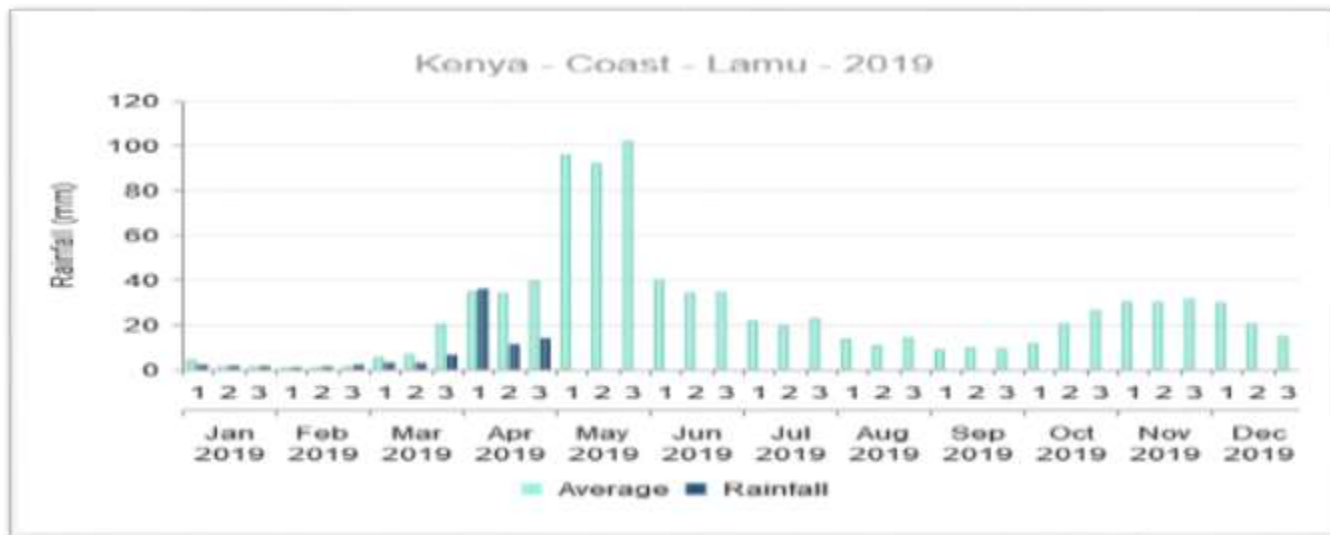


Figure 1: Rainfall Satellite data. (Source: WFP-VAM, CHIRPS/UCSB)

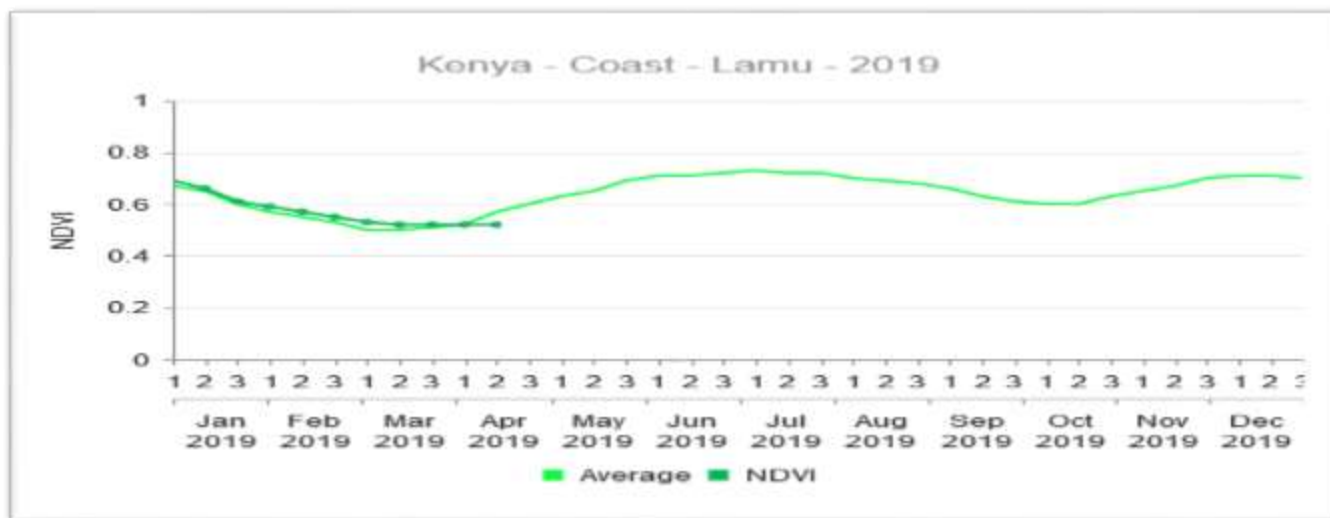


Figure 1: NDVI data. {Source: wfp-Vam}

1.2 Amount of rainfall and spatial distribution

- According to VAM WFP rainfall data, the County received a total of 60.1 mm of rainfall in the Month of April during the first, second and third dekad respectively.
- These were an increase of 87 percent rainfall compared to previous month; however this was below the long term average of 107.6mm for the three dekads as in figure 1 above.
- This 60.1 mm of rainfall was lower than the amount of 178.4 mm received in same period of the previous year.
- 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.

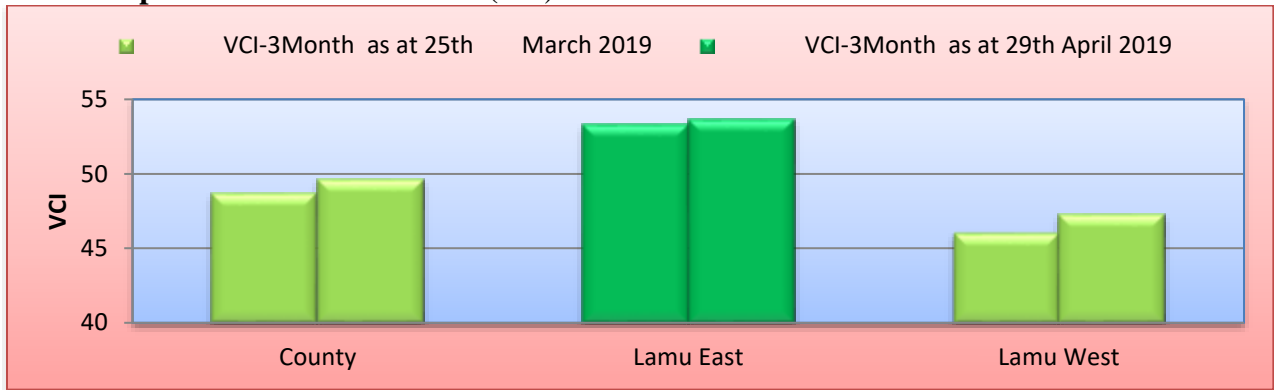
- Cases of conflicts between crop farmers and livestock farmers were reported during the month under review.

2.0 VEGETATION CONDITION

2.1 Vegetation Condition Index (VCI)

- The vegetation condition index for the month of April increased by two percent compared to the previous month. This was due to below average precipitation received during the Month.
- The vegetation condition index for the month of April was 49.61 compared to 48.69 in the previous month for the county.
- The current VCI indicated vegetation normal greenness in the County.
- The current VCI-3Months is slightly above the long-term average and the previous year as shown in the figures 2, 3 and table 1 below.

Table 1: April Vs March 2019 VCI (3M)



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

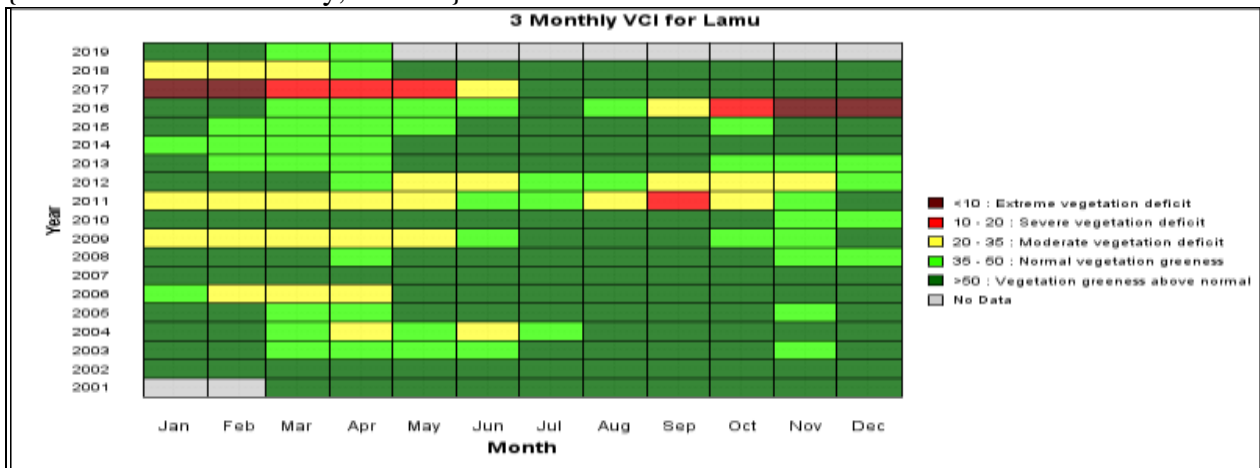


Figure 2: VCI-Lamu County

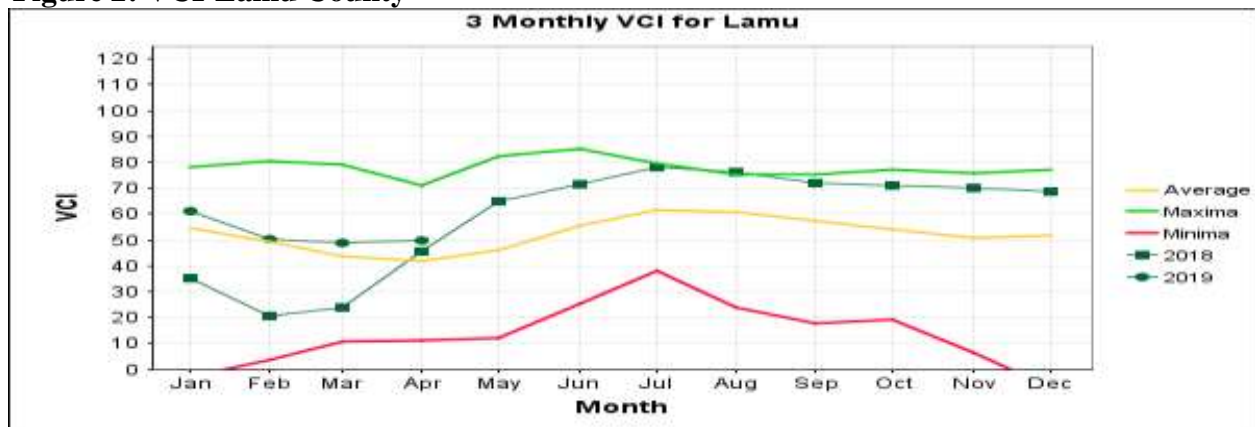


Figure 3: VCI-Lamu County

OBSERVATIONS

Pasture and Browse condition

2.1.2 Pasture

- Pasture condition was very poor across all livelihood zones both in quality and quantity 95 percent of Community members interviewed stated that pasture was poor while 5 percent indicated that pasture was fair but with worsening trend as in figure 5.
- Pasture condition by livelihood zones; Agro pastoral is poor, mixed farming is poor and fishing/ mangrove was very poor as well.
- The available pasture is expected to less than a month due to the presence of in-migrant livestock from neighbouring counties. The current pasture situation is within the normal range.

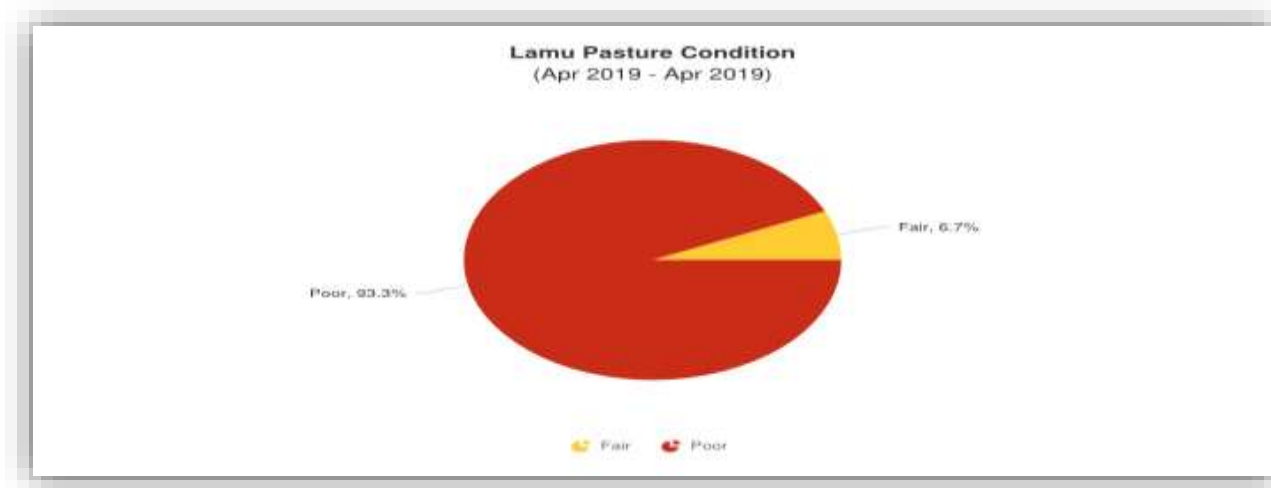


Figure 5: Pasture condition

2.1.3 Browse

- The quantity and quality of browse was good to fair across all livelihood zones in the County.
- Community members interviewed indicated; 70 percent of the respondents stated that browse was very poor while on deteriorating trend due to poor o seasonal rains and high rate of transpiration as in figure Browse condition by livelihood zones; Agro pastoral and mixed farming was fair while fishing/ mangrove was poor.
- The browse is expected to less than a month. The current browse condition is normal range compare to previous year.

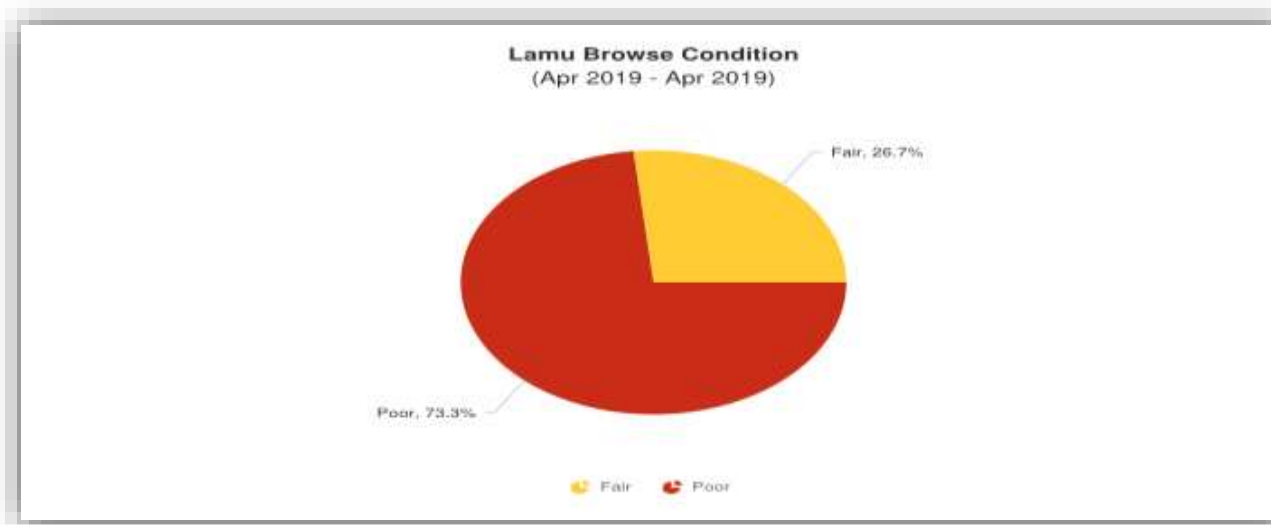


Figure 6: Browse conditions

2.2.0 HYDROLOGICAL DROUGHT

2.2.1 Water Sources and Availability

- The state and condition of water sources in the County was fair across most livelihood zones except for Bahari ward where the rains performed poorly.
- However, the current water situation remained the same compared to previous month. The main water sources in the month of March, 2019; Pans and dams 15.8 percent, shallow wells 52.6 percent, Boreholes 21.1 percent, Traditional water wells 10.5 percent, as shown in the figure 7.
- The status of main sources of water is normal at this time of the year.

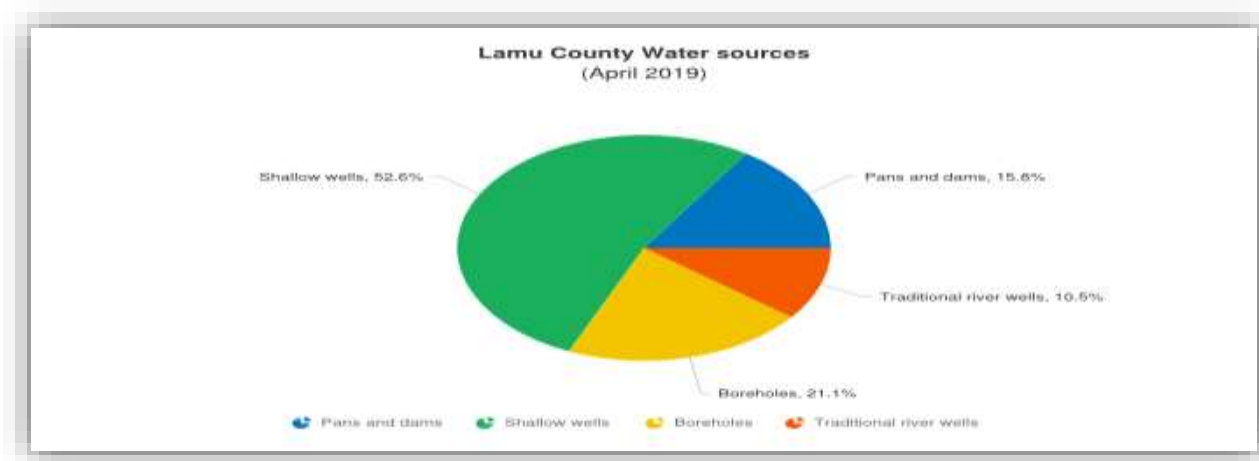


Figure 7: Main sources of water

2.2.2 Household access and Utilization

- Average Household watering return distance was 11 Km in April, 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 4.7Km, Fishing & Mangrove Harvesting 2.3Km and for Mixed Farming Zone it was 2.1Km and irrigated farming 1.3Km respectively.
- The 2019 average household water distances for March was 8.8 Kilometres which was lower than the current average household watering distance for April as in figure 8. The average household water consumption per person per day is at 15-20 litres in all livelihood zones. Water costs at source are 3-5Kshs in town/village centres for 20 litre Jerrican.

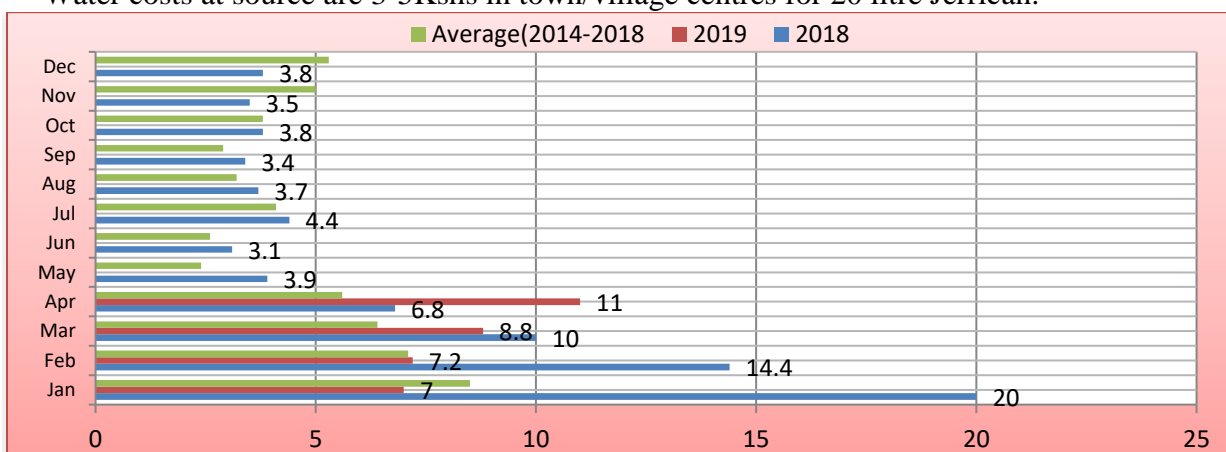


Figure 8: Household water distances-Kms

2.2.3 Livestock access to Water

- Livestock average return distance to water source from grazing Areas increased to 15.2 Kilometers compared to the previous month of 15 Kms as in figure 9.

- Grazing return water distances per livelihood zone were as follows: the Agro pastoral 15.6 Kms, Fishing & Mangrove Harvesting 4.6Km and for Mixed Farming Zone it was 6Km and irrigated farming 8.2Km respectively.
- The increase of grazing water distance compared to last month was due to decrease of water level in grazing areas.
- Watering frequencies for livestock species was three to five times aweek. The current average grazing distance for April was 15.2 Kilometers higher than the long-term average of 8.5 Kilometres.

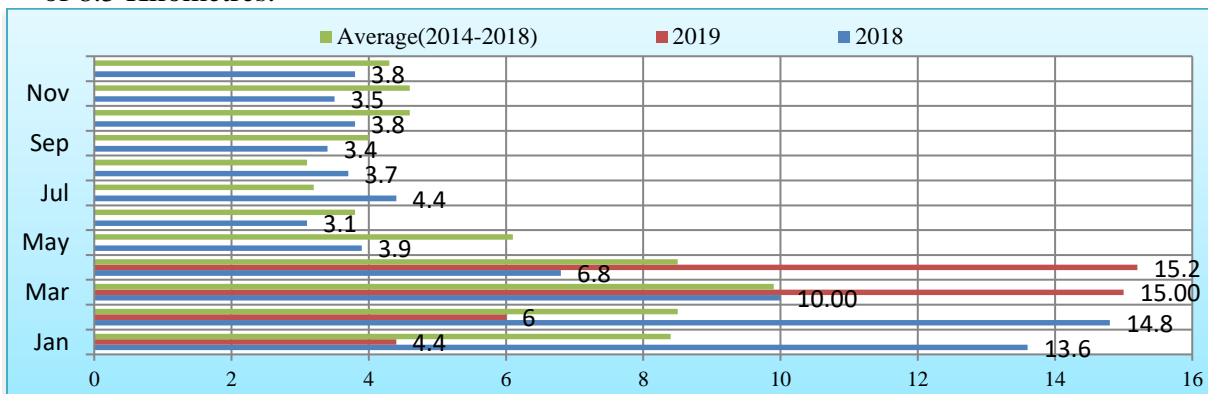


Figure 9: Grazing distances -Kms

2.2.4 Household income

- The main household income for the month of April was distributed as follows: Casual labour 54.7 percent, trade 16.7 percent, Employment 12 percent, Sale of ;livestock and products 9.3 percent as in figure 10 below.
- However, casual labour, employment and sales of livestock and its products decreased by four, one and 0.7, percent respectively, compared to the previous month of March.

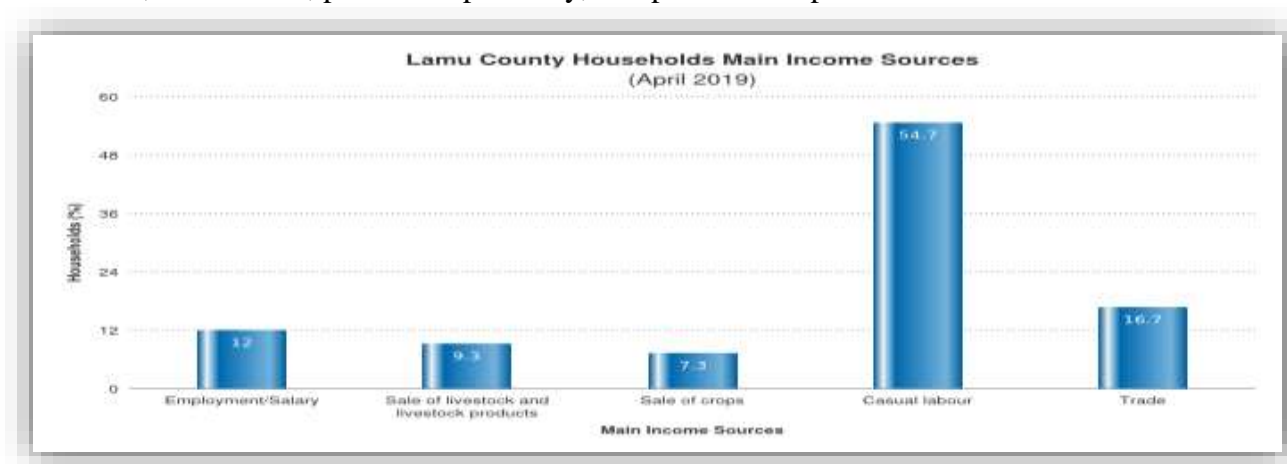


Figure 10: Household sources of income

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 menace affecting livestock that were reported during the month under review.

3.1.4 Milk Production

- Milk production remained stable at one litre compared to previous month. The stability was attributed due to below average rainfall.
- Milk productions were distributed as follows: Mixed farming Produced 1.3litres, Fishing 1.1litres, and Irrigated 1.2litres while the Agro pastoral Zone produced average of 2.0litres. 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 in-migration of livestock from neighbouring counties

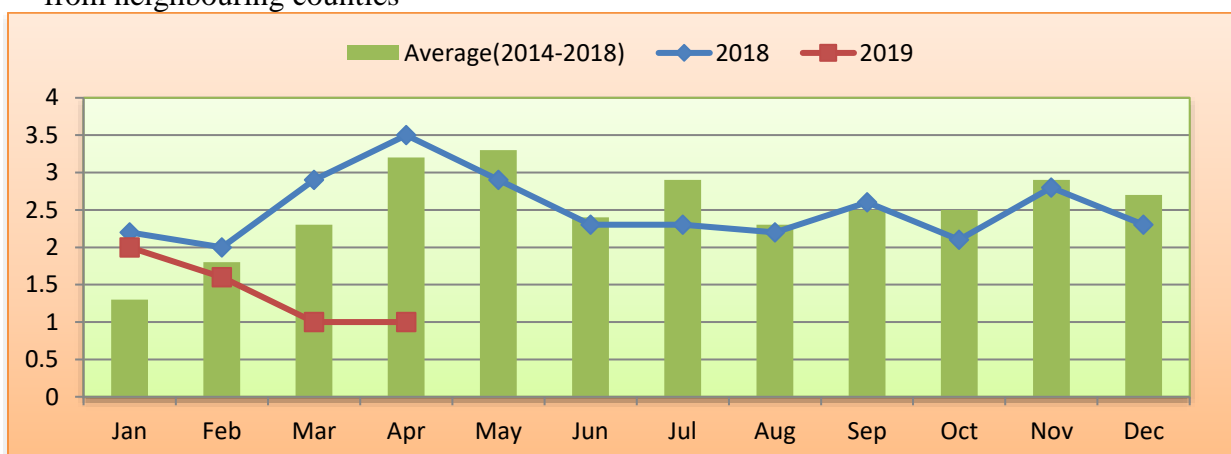


Figure 11: Milk production

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.
- Crop farmers are preparing, sowing and planting their farms for the long rains.
- However few areas that received rains earlier have their crops at germination stage specially in mixed farming zone of Basuba and Mkunumbi wards

3.2.2. Crop Harvest

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

3.2.3 Implications on Food Security

- The fair body condition of livestock especially cattle across the livelihood zones increased the prices resulting to improve income for livestock farmers.
- Crop yields under rain fed reduce during previous short rains season performed below normal resulted in food shortage locally and trigger further higher commodity prices.

4.0 MARKET PERFORMANCE

4.1 Livestock marketing

4.1.1 Cattle Prices

- Average cattle market price in the month of April increased by 14 percent compared to previous month as in figure 12.
- This increase in price could be attributed to high demand and expected good long rainfall performance.
- The cattle average market prices were distributed as follows: Faza Kshs 16,000, Witu Kshs 23,300, Kiunga Kshs 17,300, Mswakini 16,000 and Mokowe Kshs 18,000.
- The average market cattle price for the month of April was Kshs.19,438 which were higher than the long-term average price of Kshs.19, 200.

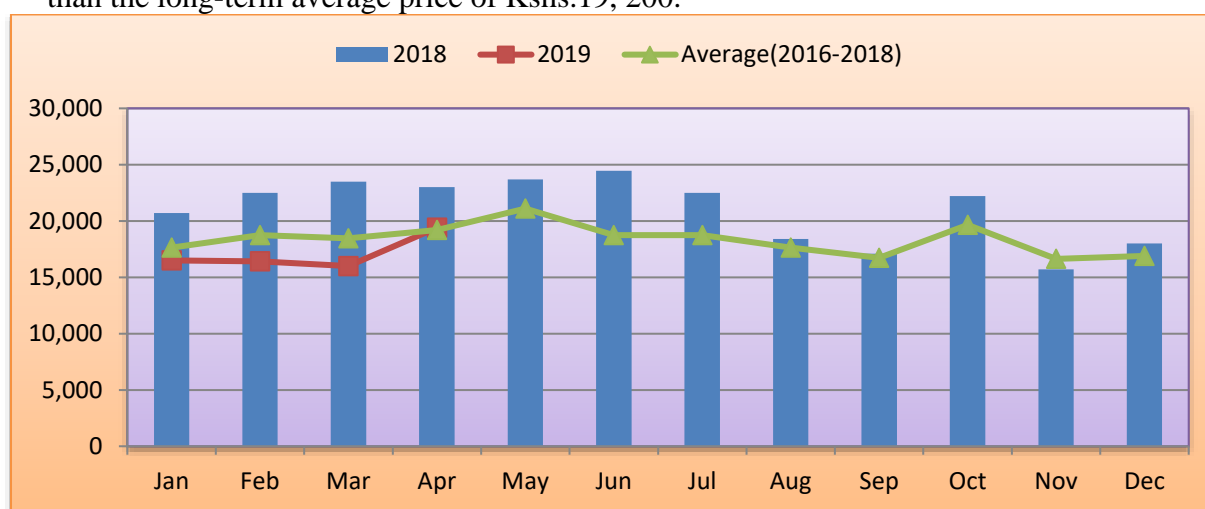


Figure 12: Cattle prices

4.1.2 Small Ruminants Prices

4.1.3 Goat Prices

- Goat prices decreased by two percent in April (5,200) compared to previous month of March (Kshs-5,300). This price was higher than the long term average by 24 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 expected long rains season. The goat average market prices were distributed as follows: Mpeketoni Kshs 3,500, Witu Kshs 5,000, Kiunga Kshs 8,500 and Mokowe Kshs 4,200.

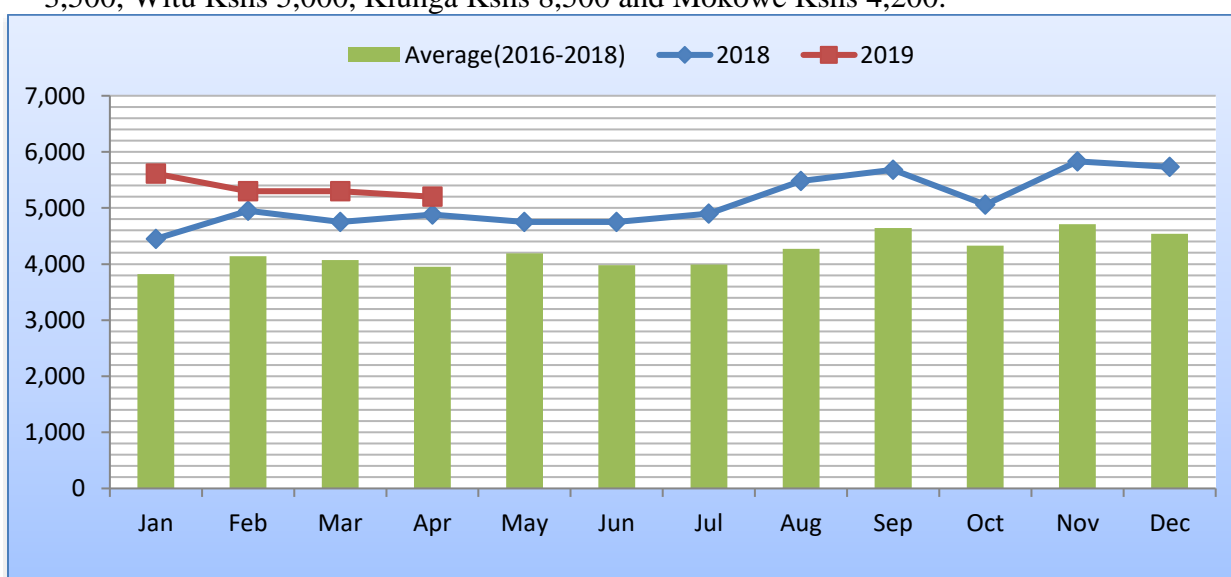


Figure 13: Goat prices

4.2 Crop prices

4.2.1 Maize price

- Maize prices remained stable at Kshs 56 compared to previous month of March.
- The stability 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 Kshs 50, Patte Kshs 50, Witu Kshs 40, Mpeketoni Kshs 30 and Kiunga Kshs 100. However, price ranges is determined by commodity supply in different markets.
- The Maize price for the current Month was higher than the long term and the previous year.

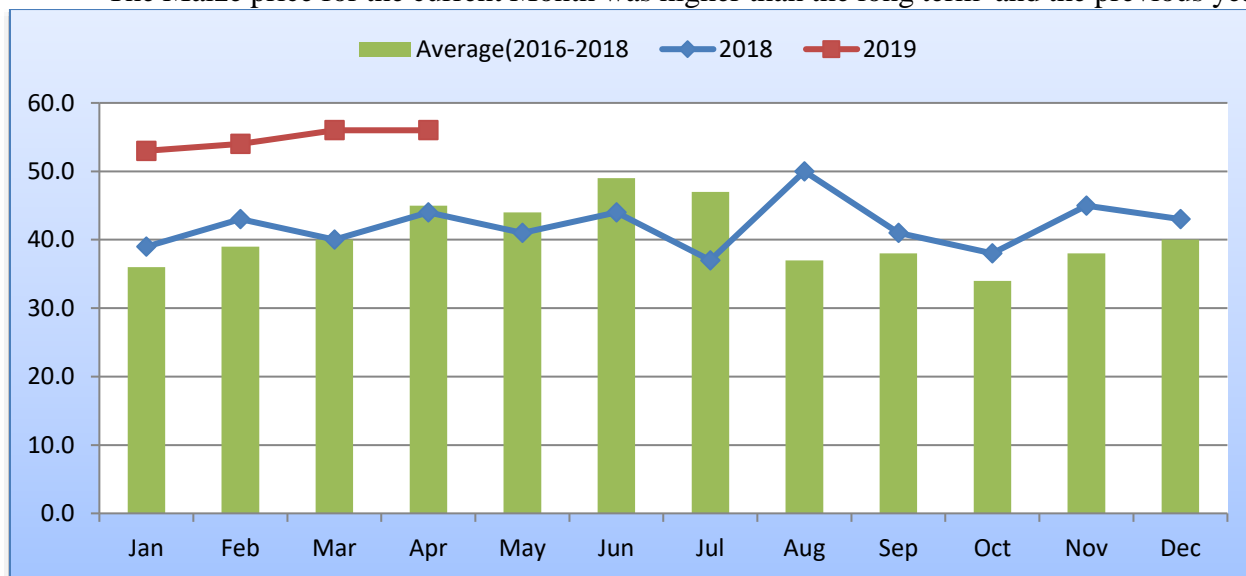


Figure 14: Maize prices

4.2.2 Beans prices

- Average price of Kilogram of beans was Kshs 102 in April, Decreased compared to the previous month of March from Kshs 106 as in the figure 15 above.
- The decreased in price was attributed to low demand and high supply in the markets.
- The beans price was distributed as follows: Mswakini /Hindi centre Kshs 90, Patte Kshs 100 and Witu Kshs 100, Mpeketoni Kshs 80 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 102 which is same compared to the current beans price for the month of April and slightly above the the previous year 2018.

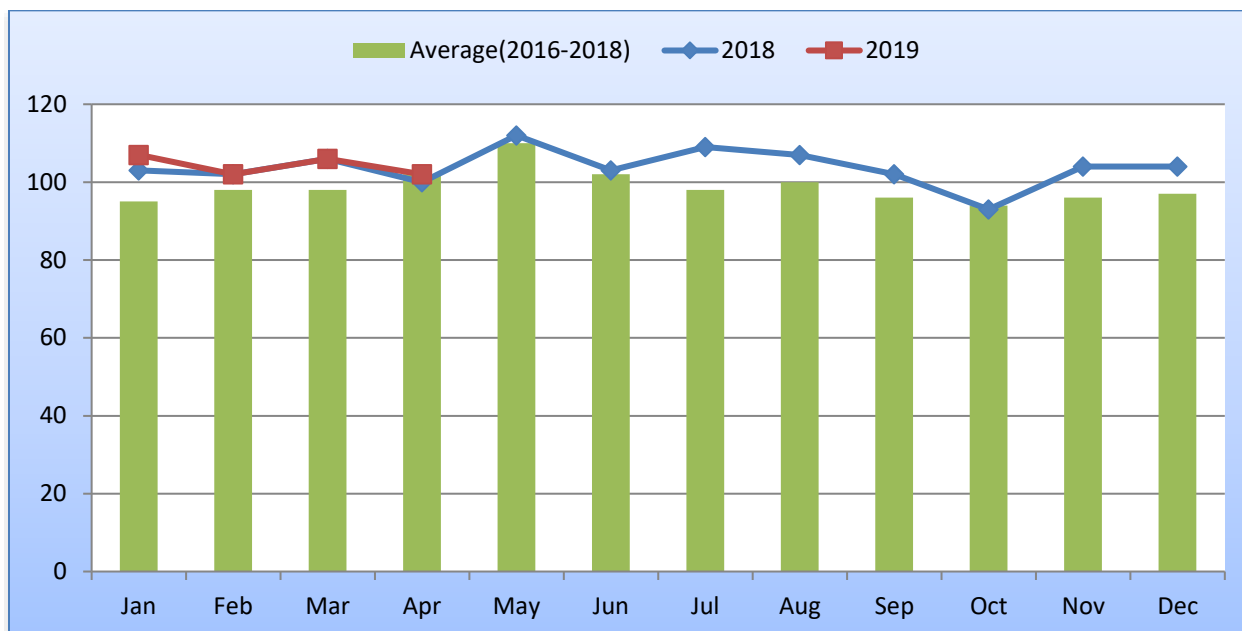


Figure 15: Beans prices

4.3 Livestock Price ratio/Terms of Trade

- The terms of trade (TOT) of April (92Kgs) decreased by 3percent compared to previous month of March (95Kgs) as in figure 16 alongside.
- This was higher than the long term average by 2percent. Sale of a medium goat in April 2019 would cost a household about 92 kg of maize.
- This showed the exchange ratio decreased in favour of crop farmers when compared to goat sellers. However, this was determined by supply in the different markets.
- The ToT was 104 Kilograms in Lamu West and 85 Kilograms in Lamu East. The ToT for April was higher than the long term average of 90 Kilograms.

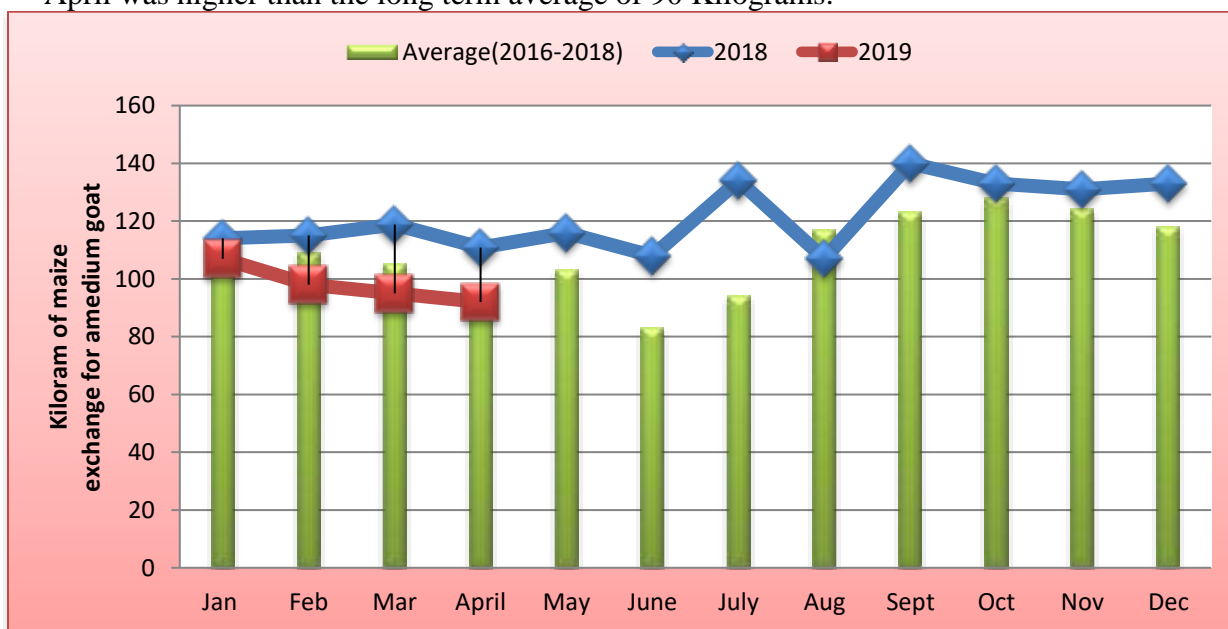


Figure 16: Terms of Trade

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 April and remained stable, 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.
- April long term average milk consumption was higher than the current average price for April.

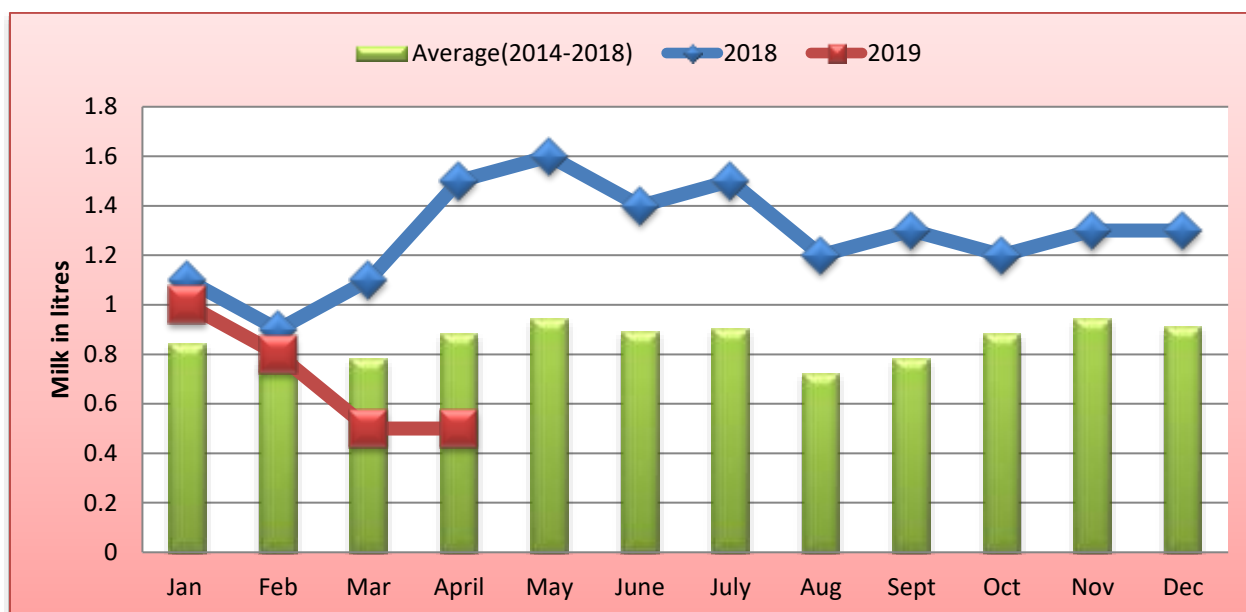


Figure 17: Milk consumption

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 6.9 percent compared to previous month of March .
- The proportion of children under five with severe category was zero percent percent in the month under review indicating decrease in the number of children with severe category.
- This was attributed to low 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 6.9 percent MUAC for April was higher than long term average and the previous year as in figure 18 below.

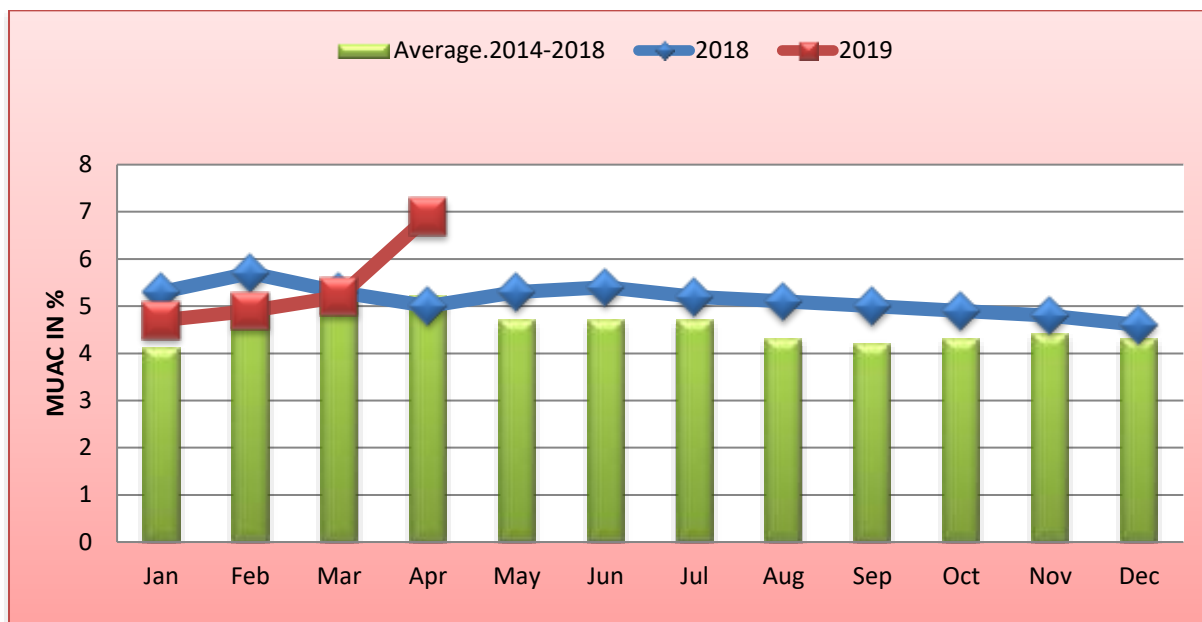


Figure 18: MUAC

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

- Acceptable food consumption was noted in Agro pastoral and Mixed farming zone with 50 and 48.3 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 increased from by 10 percent at fishing/Mangrove livelihood zones compared to the previous Month of April, as a result an increased in borderline food consumption of 86.7 percent was also noted in fishing /Mangrove livelihood zones.

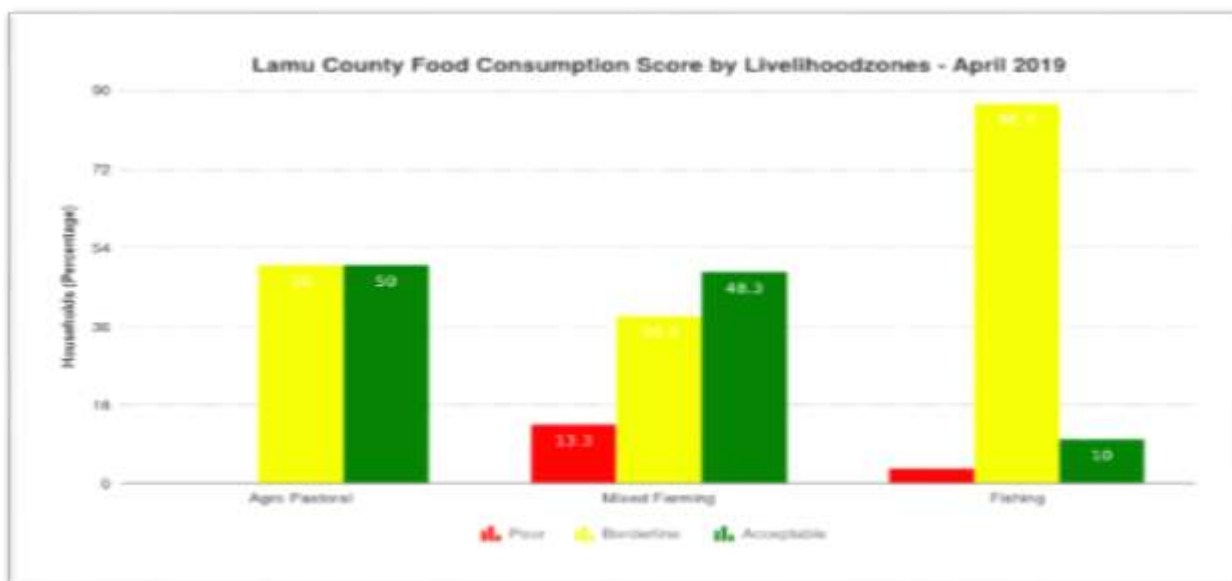


Figure 19: Food consumption score

5.4 Coping strategy index

- The mean coping strategy Index in the Month of April decreased by three percent (9.43) compared previous month in March (9.57), indicating decreased coping strategies at household level.
- Agro pastoral Zone had CSI of 5.6; Mixed Farming livelihood zone had 7.5 while Fishing Livelihood zone had the highest coping strategy index of 21 as figure 20 below.
- Common coping strategies employed by food insecure households in the month of April 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.

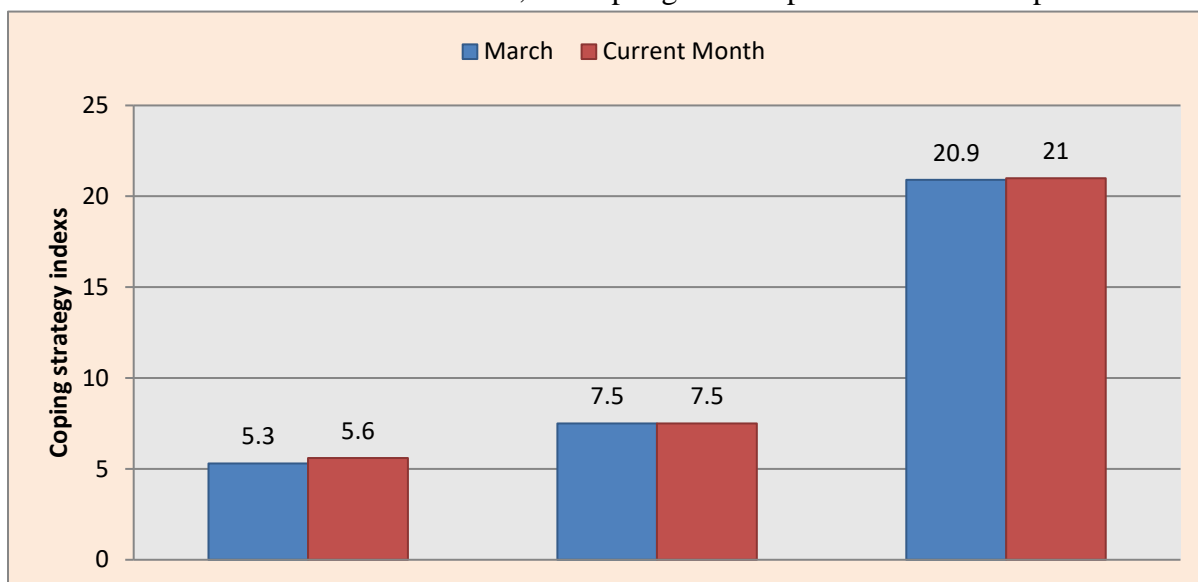


Figure 20: coping strategy index

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 an indication of existence of negative impact in terms food security.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Food and Non-food interventions

6.2 Drought Response/Preparedness interventions.

- **NDMA** Lamu is carrying out construction of Nagelle integrated drought resilience water (Pan) project, currently at Implementation stage.
- 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.
- Implementation of water trucking to areas most severely hit with water scarcity in Lamu West Sub-county by County Government.

7.0 EMERGING ISSUES

7.1 Insecurity

- No insecurity incident reported during the month under review.
- Increased cases of human-wildlife conflict and tsetse fly infestation as livestock invaded core wildlife habitats in the Boni forest in such of pasture, the bone of contention here being predation specially committed by lions and with pastoralists threatening to kill wildlife by any means including through poisoning.

7.2 Migration

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

7.3 Food security prognosis

- 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 improve and hence stabilize livestock body conditions, production and prices in coming months.
- The distance to water sources for both human and livestock is expected to decrease.

- The forage condition is expected to improve 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 decline due to regeneration of pasture and browse due ongoing long rains.

8.0 RECOMMENDATIONS BY SECTORS;

8.1 Water

- Provision of water trucking to 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.

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 .
- Sensitize farmers on conservation agriculture and the adoption of drought resilient crops as to increase crop yields.

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.
- Sensitize and advice communities on sanitation and hygiene.

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.