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

A Vision 2030 Flagship Project

January 2019: EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicators

- The County received below average off season rainfall during the Month under review.
- The vegetation condition Index (VCI-3Month) was showing a decrease of 11 percent compared to previous month.
- The VCI indicated vegetation greenness above normal. The overall drought phase in the county was at Normal in January, 2019.
- Forage condition was good to fair across all livelihoods zones during the month.

Socio Economic Indicators

Production indicators

- All livestock species exhibited fair to good body condition.
- Maize crop is at harvesting stage in mixed farming zone.
- Milk production decreased by 13 percent compared to previous month of December, 2019.

Access indicators

- Terms of trade were favorable to both crop farmers and livestock farmers in mixed and pastoral livelihood zones.
- Water access for both human and livestock was good and stable in all the livelihood zones except in the Islands.
- 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 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	Deteriorating
Mixed farming/Irrigated cropping	Normal	Deteriorating
Fisheries /Mangroves	Normal	Deteriorating
Farming/Casual Labour	Normal	Deteriorating
Agro pastoral	Normal	Stable
County	Normal	Stable
Biophysical Indicators	**Value**	**Normal Range/Value**
Rainfall (% of Normal)	3	80 -120
VCI-3Month	61.07	<35
Forage condition	Good to fair	Good
Production indicators	**Value**	**Normal**
Crop Condition(specify crop)Maize	Good	Good
Livestock Body Condition	Good to fair	Good
Milk Production	2	>3 Litres
Livestock Migration Pattern	Normal	Normal
Livestock deaths (from drought)	No death	No death
Access Indicators	**Value**	**Normal**
Terms of Trade (ToT)	107	84
Milk Consumption	1.0	>2litres
Return distance to water sources (HH).	3.5	<5 Km
Cost of water at source (20 litres)	5-10	<5Kshs
Utilization indicators	**Value**	**Normal**
Nutrition Status, MUAC (% at risk of malnutrition)	4.7%	>5%
Coping Strategy Index (CSI)	9.78	<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

- Off season rainfall received during the month under review, with low intensity compared to the previous months as recorded in the first to third dekad of January 2019 as in figure 1 below.
- The current NDVI value is slightly above the historical NDVI values.

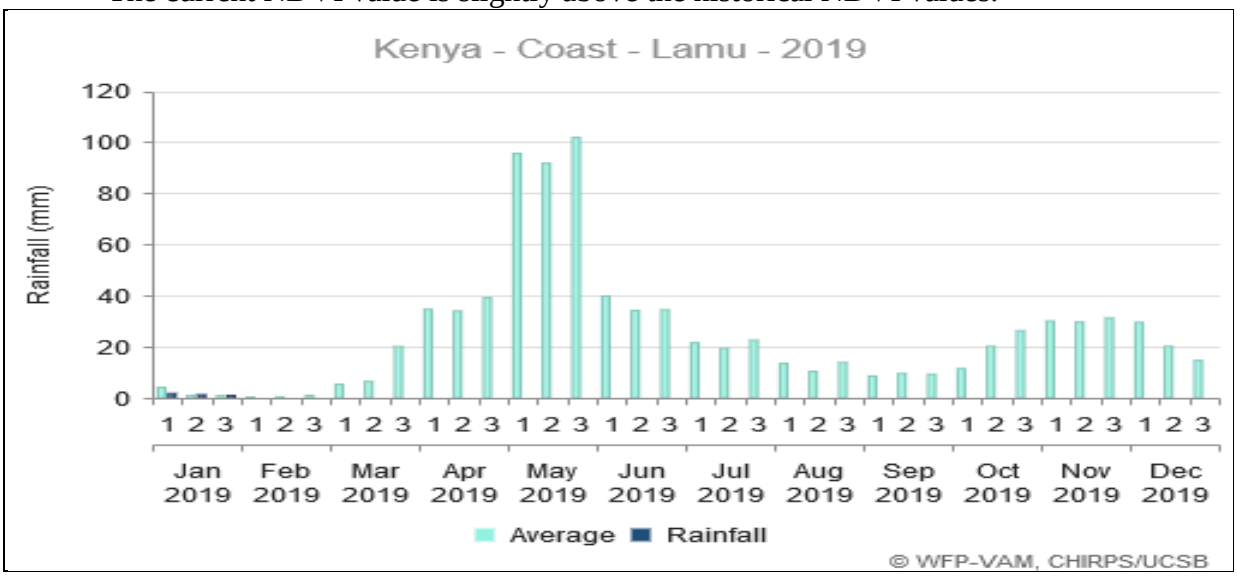


Figure 1: Rainfall Satellite data. (Source: WFP-VAM, CHIRPS/UCSB)

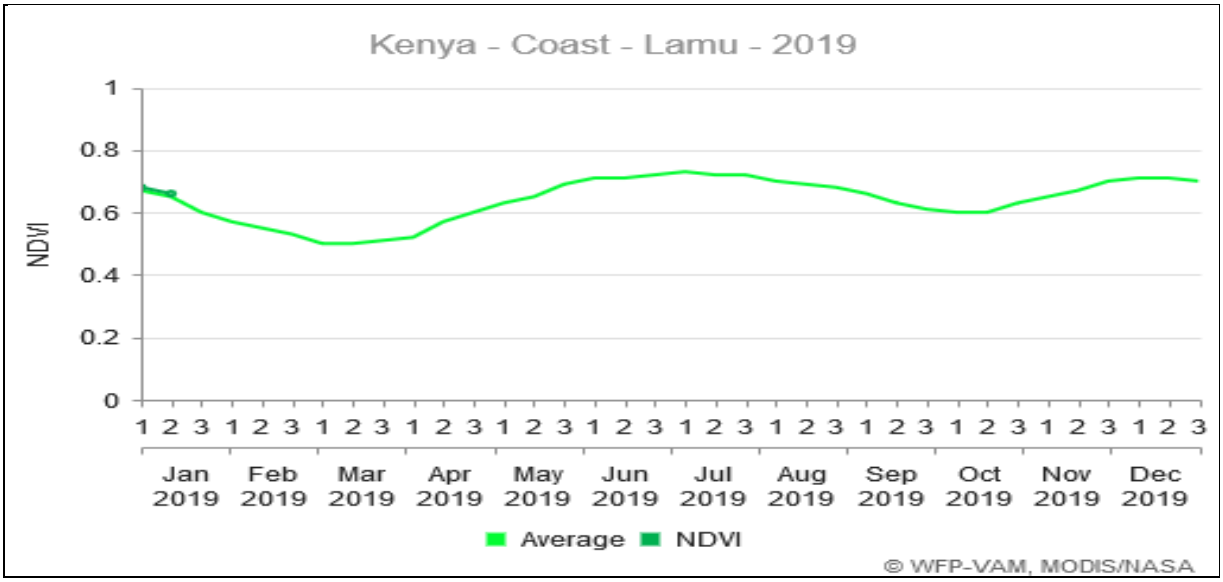


Figure 1: NDVI data {Source: WFP-VAM}

1.2 Amount of rainfall and spatial distribution

- According to VAM WFP rainfall data, the County received a total of 3.8mm of rainfall in the Month of January, 2019 during the 1st 2nd and 3rd dekad.
- There was a decrease of 97% rainfall compared to previous month; however this was below the long term average of 5.7mm for the three dekad as in figure 1 above.
- This 3.8mm of rainfall was slightly higher than the amount of 3.3 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

- No hazards report during the month under review.

2.0 VEGETATION CONDITION

2.1 Vegetation Condition Index (VCI)

- The vegetation condition index for the month of January, 2019 decreased by 11percent compared to the previous month. This was due to low precipitation received during the Month.
- The vegetation condition index for the month of January, 2019 was 61.07 compared to 68.79 in the previous month.
- The VCI indicated vegetation greenness above normal in the County.
- The VCI-3Months is above the long-term average and the previous year as shown in the figures 3, 4 and table1 below.

Table 1:January 2018 VCI (3M)

ADMINISTRATIVE UNITS	Vegetation greenness	
	VCI-3Month as at 3rd December 2018	VCI-3Month as at 28th January 2019
County	68.79	61.07
Lamu East	72.69	65.13
Lamu West	66.53	58.72

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

Figure 2: VCI-Lamu county

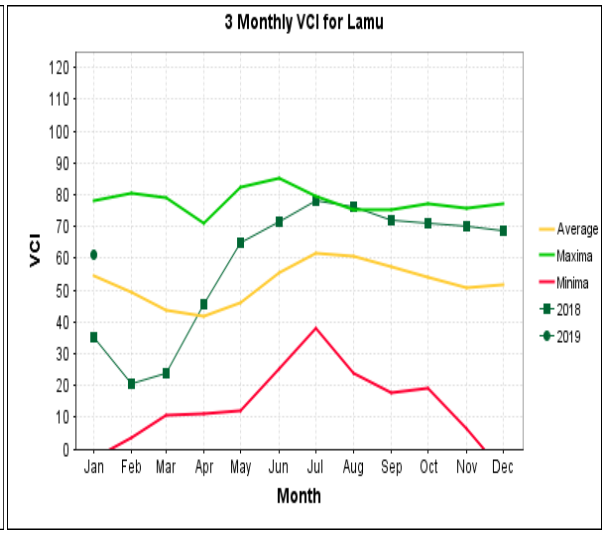


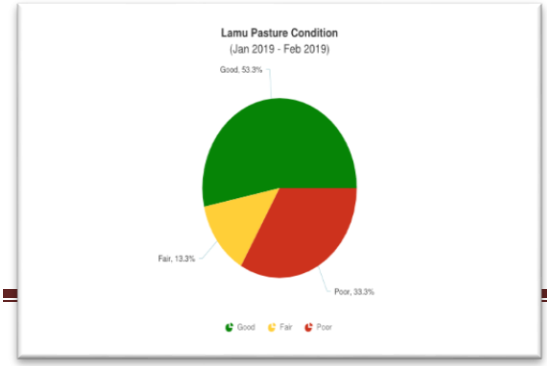
Figure 3: VCI-Lamu county

OBSERVATIONS

Pasture and Browse Conditions

2.1.2 Pasture

Pasture condition was good across all livelihood zones both in quality and quantity 53 percent of Community members interviewed stated that pasture was good while 33 percent indicated that pasture was poor but with deteriorating trend as in figure 5.Pasture condition by livelihood zones; Agro pastoral is good, mixed farming is good and fishing/ mangrove was fair to poor as well. The available pasture is expected to last between one to two months due to the presence of in-migrant livestock from



neighbouring counties. The current pasture situation is within the normal range.

2.1.3 Browse

The quantity and quality of browse was good across all livelihood zones in the County. Community members interviewed indicated; 53percent of the respondents stated that browse was good while 33percent stated it was poor but on deteriorating trend due to poor off seasons rains and high rate of transpiration as in figure 6.

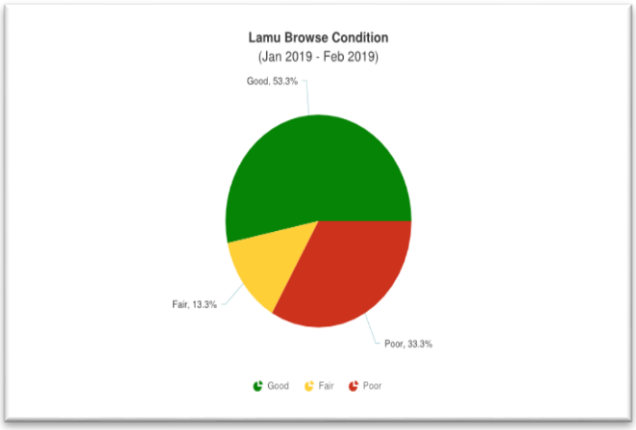


Figure 6: Browse conditions

Browse condition by livelihood zones; Agro pastoral and mixed farming was good while fishing/ mangrove was poor. The browse is expected to last between one to two months.

The current browse condition is normal range compare to previous year.

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 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 January, 2019; Pans and dams 13.6percent, shallow wells-45.5percent, Boreholes 18.2percent, Traditional water wells 13.6percent, Lakes 4.5 and Rivers 4.5percent respectively as in figure 7 .The status of main sources of water is above normal at this time of the year.

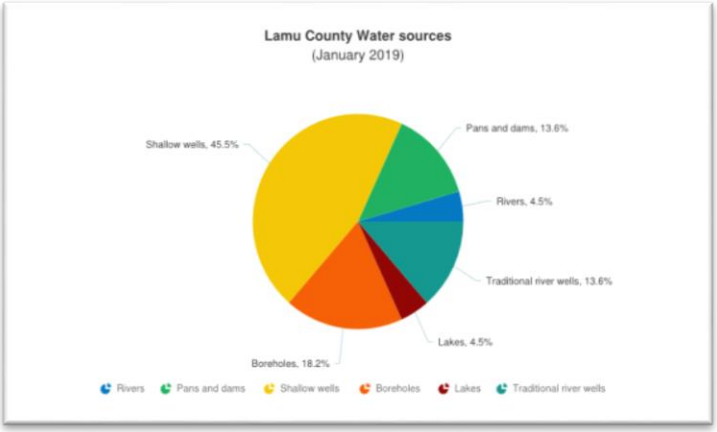


Figure7: Main sources of water

2.2.2 Household access and Utilization

Average Household watering return distance was 3.5Km in January, 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 2.9Km, Fishing & Mangrove Harvesting 1.8Km and for Mixed Farming Zone it was 3.3Km and irrigated farming 1.2Km respectively. The 2014-2018 average household water distances for December was 2.4Kilometres which was lower than the current average household watering distance for January, 2019 as in figure 8. The average household water consumption per

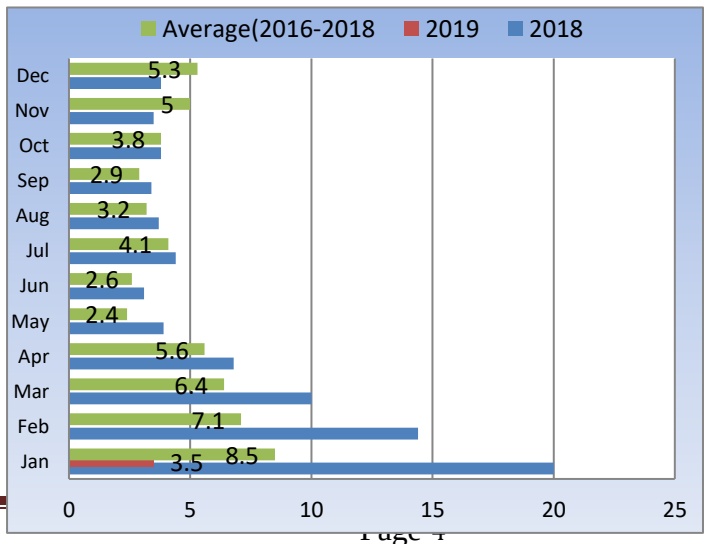


Figure 8: Household water distances-Kms

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.

2.2.3 Livestock access to Water

Livestock average distance to water source from grazing Areas increased to 4.4km compared to the previous month of 3.8 as in figure 9. Grazing return water distances per livelihood zone were as follows: the Agro pastoral 5.4Km, Fishing & Mangrove Harvesting 3.6Km and for Mixed Farming Zone it was 1.9Km and irrigated farming 2.8Km 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 same. Most of the livestock species were watered daily due to high recharge levels of the open water sources. The current average grazing distance for January,2019 was 4.4Kilometers lower than the long-term average of 8.4 Kilometres.

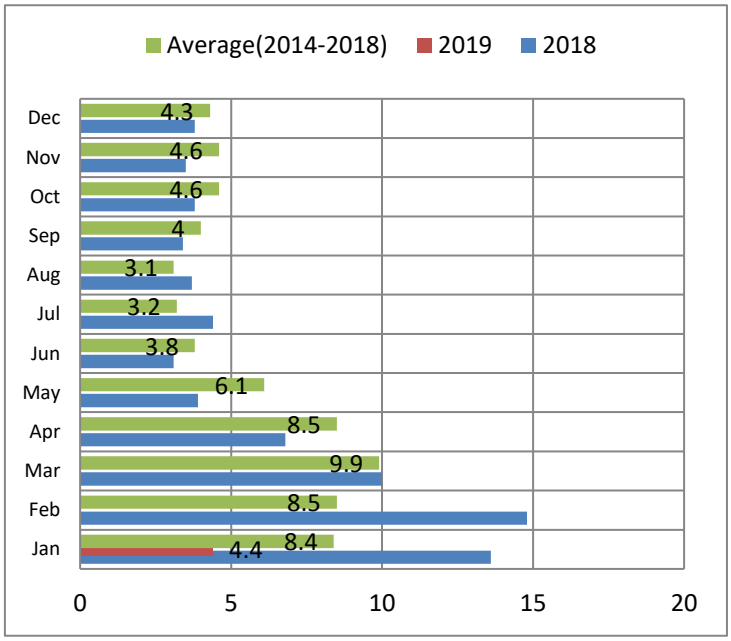
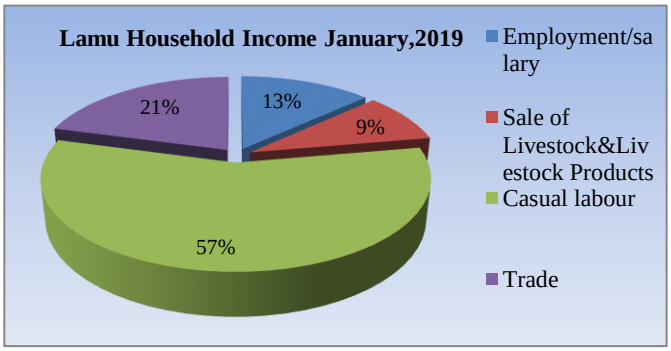


Figure 9: Grazing distances -Km

2.2.4 Household Income



The main household income for the month of January,2019 was as follows: Casual labour 57percent, trade 21percent, Employment 13percent, Sale of ;livestock and livestock products 9percent respectively as in figure 10 below.

However, casual labour and employment decreased by five and one percent respectively, compared to the previous month of December,2018.

Figure 10: Household sources of income

2.4 Implication to Food Security;

- Fishing and Mangrove livelihood zones have increased water salinity due to less recharge of the shallow wells in the Islands.
- The distances to water sources have had a positive impact on the livestock body condition of animals and household hygiene standards.
- Crop production will be depressed due to low off season rainfall performance, resultant to low amounts of moisture. This implies that food supplies will decline and therefore reduced income for crop farmers and possible increase in commodity's market prices.

3.0 PRODUCTION INDICATORS

3.1.0 Livestock Production

3.1.1 Livestock Migration Patterns

- There were no reported cases of livestock in or out migration, however the livestock that in-migrated from neighbouring counties in previous months are still present.

3.1.2 Livestock Body Condition

- The livestock body condition was good to fair for all for species across livelihood zones. This is attributed to decreased quality and quantity of pasture and browse due to low off season precipitation.
- In comparison to similar periods during previous years, the body condition of all species was good and this is attributed to good to fair forage condition in all the livelihood zones except in the Islands. However, due to pasture deteriorating the body conditions are expected to worsen further.

3.1.3 Livestock Diseases

- There were suspect of livestock diseases reported (foot and mouth diseases)during the month in areas of Koreni affecting cattle.

3.1.4 Milk Production

Milk production decreased from 2.3 litres in December to 2.0 litres in January, 2019. This was higher than the long-term average of 1.3litres in January, 2019 as in figure 11. Milk productions were distributed as follows: Mixed farming Produced 1.5litres, Fishing 1.2litres, and Irrigated 1.4litres while the Agro pastoral Zone produced average of 2.3litres.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 increased grazing water distances.

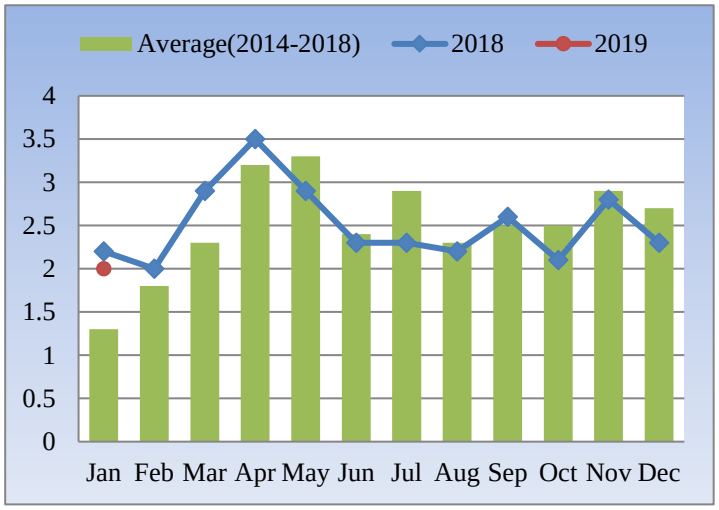


Figure 11: Milk production

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.

3.2.2. Crop Harvest

- Few Crop farmers are harvesting Maize and Simsim in mixed farming 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 short rains season performance has been below normal. This will result 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 January decreased by 7percent compared to previous month as in figure 12. This decrease in price could be attributed to low demand and the below average rainfall performance. The cattle average market prices were distributed as follows: Faza Kshs 13,000, Witu Kshs 18,000, Kiunga Kshs 14,000, Mswakini 18,000 and Mokowe Kshs 17,600. The average market cattle price for the month of January 2019 was Kshs.16, 711 which was lower than the long-term average price of Kshs.17, 600 and lower than the similar period last year.

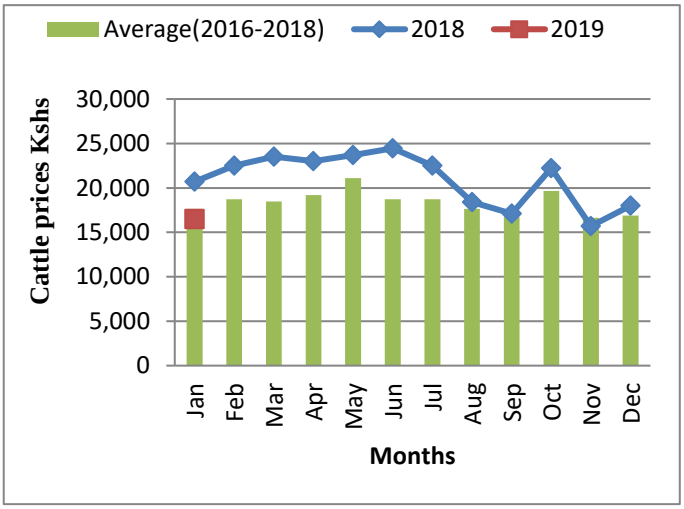


Figure 12: Cattle prices

4.1.2 Small Ruminants Prices

4.1.3 Goat Prices

Goat prices decreased by 3 percent in January 2019 compared to pevious month of December(5730Kshs) 2018.This price was higher than the long term average by 31percent 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. The goat average market prices were distributed as follows: Mpeketoni Kshs 3,900, Witu Kshs 5,000, Kiunga Kshs 7,500 and Mokowe Kshs 4,800.

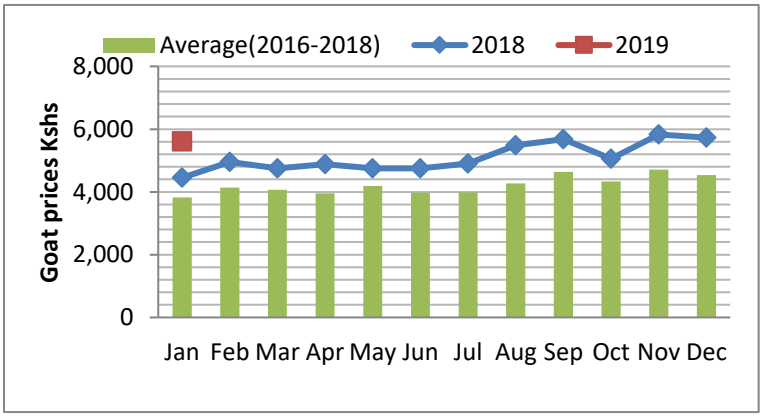
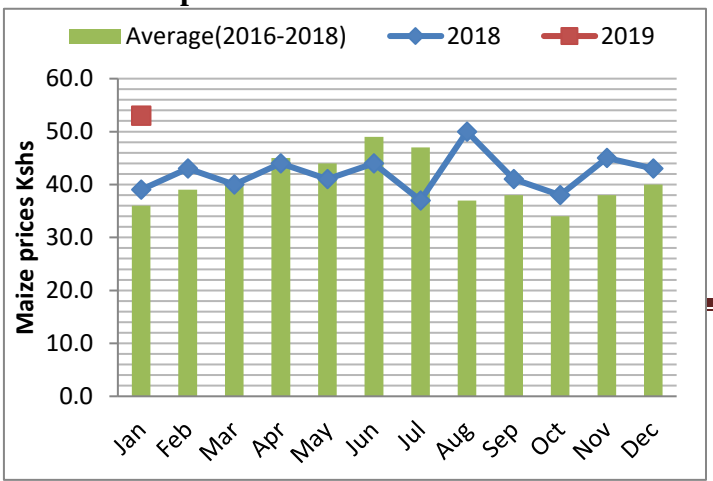


Figure 13: Goat prices

4.2 Crop prices

4.2.1 Maize price



In January 2019, Maize prices increased from kshs 43 to 53(19%), this was higher than the long term average of kshs 36. 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 Kshs 50, Patte Kshs 30, Witu Kshs 35, Mpeketoni Kshs 20 and Kiunga Kshs 100 respectively.
However, price ranges is determined by commodity supply in different markets.

4.2.2 Beans prices

Average price of Kilogram of beans was Kshs 106 in January 2019, increased compared to the previous month of 104 Kshs as in the figure 15 below. The rise in price was attributed to slightly high demand. The beans price was distributed as follows: Mswakini /Hindi centre Kshs 130, Patte Kshs100 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 95 which is lower compared to the current beans price for the month of January 2019.

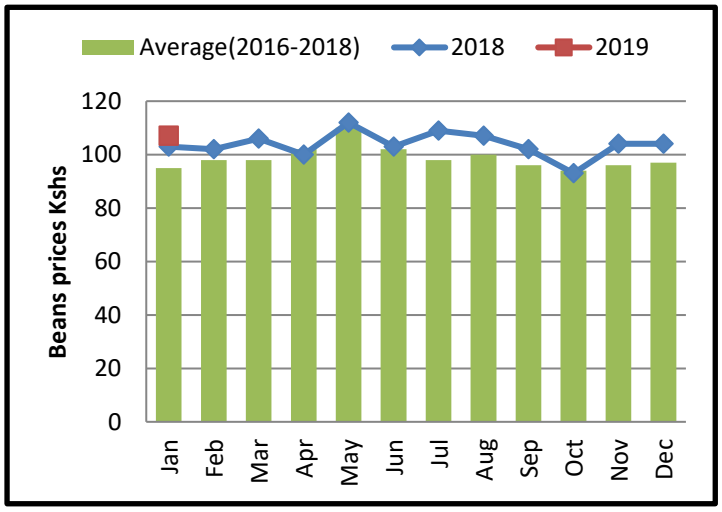


Figure 15: Beans prices

4.3 Livestock Price ratio/Terms of Trade

The terms of trade (TOT) of January(107Kgs) decreased by 20percent compared to previous month of December (133Kgs) as in figure 16 alongside. This was higher than the long term average by 2percent. Sale of a medium goat in January 2019 would cost a household about 107kg 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 124Kg in Lamu West and 110Kg in Lamu East. The ToT for January 2019 was higher than the long term average of 105Kg.

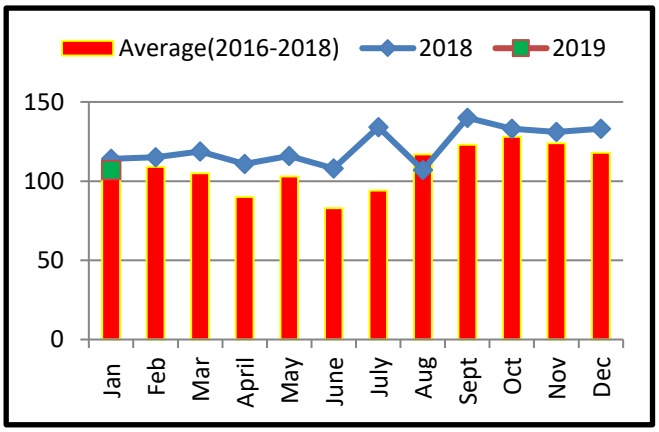


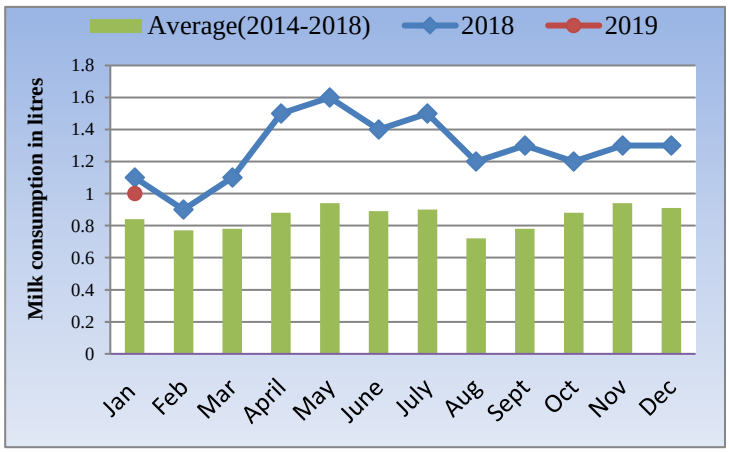
Figure 16: Terms of Trade

4.4 Implication on food security;

- Maize prices slightly increased due to poor long rains harvest coupled with low supply in the markets.
- Farmers are able to sell livestock at good prices, hence improves food security at household level.
- The Terms of Trade was favorable to both pastoral and crop farmers.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk for Household Consumption



Average milk Consumption was 1litre in the month of January 2019, which decreased (1.3litres) compared to previous month as in figure 17. Milk consumption was distributed as follows; Agro pastoral 1.7 litres, Mixed farming 1.4, Irrigated cropping 1.2litres and fishing below one litre.

Decreased in milk consumption level is as a result of low production of the commodity. January long term average milk consumption was lower than the current average of milk consumption.

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 decreased to 4.7 percent compared to previous month of December.The proportion of children under five with severe category was 0.2percent percent in the month under review indicating slifgt increase in the number of children with severe category.This was attributed to low of 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 4.7 percent MUAC for January 2019 was higher by 0.6percent compared to long term average of 4.1 percent as in figure 18.

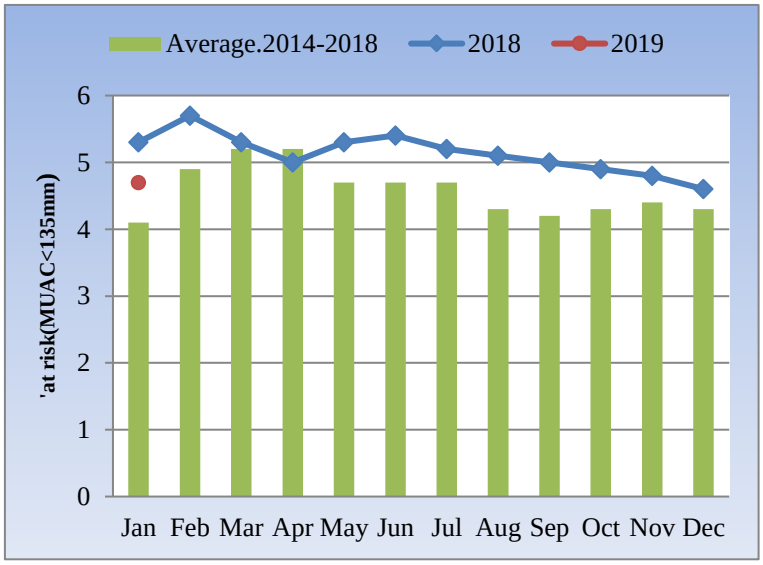


Figure 18: MUAC

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

- Acceptable food consumption was noted in Agro pastoral and Mixed farming zone with 98.3 and 48.3 percent of households respectively, owing to availability of food in the markets; however households have low purchasing power.
- Households' percentage with poor food consumption increased from 6.7 to 11.7 percent at mixed farming and increased poor food consumption of 10percent was noted in fishing /Mangrove livelihood zones.

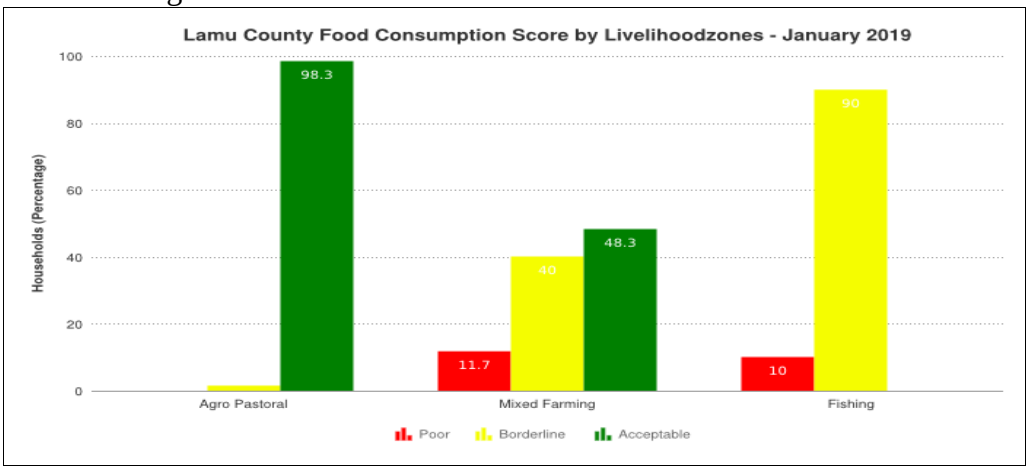
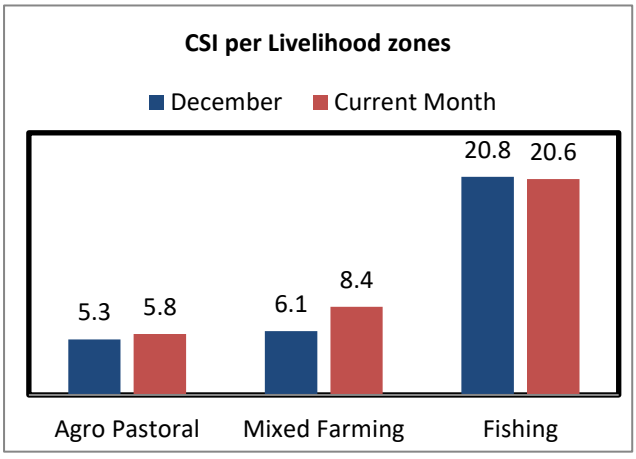


Figure 19: Food consumption score

5.4 Coping strategy index

The mean coping strategy Index in the Month of January increased by 13percent (9.78) compared previous month (8.69) in December 2018, indicating increased coping strategies at household level. Agro pastoral Zone had CSI of 5.8; Mixed Farming livelihood zone had 8.4 while Fishing Livelihood zone had the highest copying strategy index of 20.6 as figure 20 below. Common coping strategies employed by food insecure households in the month of January 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.



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 insecurity.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Food and Non-food interventions

6.2 Drought Response 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.

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

- Markets will continue to operate normally despite poor infrastructure and insecurity.
- Cereal prices are expected to decrease while those of goat prices are projected to increase, thus terms of trade expected to favour for livestock farmers.
- Forage conditions are projected decline and hence destabilize livestock body conditions, production and prices in coming months.
- The distance to water sources for both human and livestock is expected to increase.
- The vegetation condition is expected to deteriorate further in fishing livelihood zone.
- Malnutrition cases are likely to increase over the period, as children would access less milk.
- Cases of conflicts pitting livestock and crop farmers are expected to increase due to declining pasture and browse.

8.0 RECOMMENDATIONS BY SECTORS;

8.1 Water

- 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.

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 short rains.
- Provision of hay band machines for harvesting.
- Promote livestock insurance services.

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.
- 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.

8.6 Peace and Security Sector

- Peace and security meetings should be enhanced in the County
- Inter Counties peace and security to be enhanced in order to avert future conflicts.

8.7 Information Communication Technology

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