

**National Drought Management Authority
KILIFI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2018**



A Vision 2030 Flagship Project



FEBRUARY EW PHASE



Drought situation and phase classification

Biophysical Indicators (Environmental indicators)

- Below normal rainfall was received during the month.
- Forage condition ranged between fair to good across the livelihood zones but with declining trend.
- The 3-month vegetation Condition Index (VCI) was moderate.

Socio Economic Indicators (Impact Indicators)

Production indicators

- Livestock body condition was normal for all livestock species at this time of the year.
- Milk production was above normal.
- In migration of livestock was reported in Magarini Sub County.
- Out migration of Livestock from Magarini towards Tsavo National park reported.

Access indicators

- Milk consumption was slightly above normal.
- The average distances to water sources for households and livestock were above normal.
- Food prices remain stable as compared to the previous month.
- The Terms of Trade were above normal for the month under review.

Utilization indicators

- The proportion of children at risk of malnutrition was above normal at this time of the year.

Early Warning(EW) Phase Classification and trends

Livelihood Zone	Stage	Trend
Marginal Mixed farming	Alert	Worsening
Livestock/Ranching	Alarm	Worsening
Cash Cropping/Dairy	Alert	Worsening
Food Cropping	Alert	Worsening
COUNTY	Alert	Worsening
Biophysical Indicators	Value	Normal
Average Rainfall (mm)	1.4	2.6
VCI-3month	34.56	35-50
Production indicators	Value	Normal
Livestock Migration Pattern	In migration	No intra-migration
Livestock Body Conditions	4-6	6-8
Milk Production ltr/hh/day	5.9	≥4.0
Crop condition	poor	Good
Access Indicators	Value	Normal
Terms of Trade (ToT)	84.5	≥54.0
Milk Consumption (% range)	1.6	≥1.5
Average Water Distance for Households (Km)	3.7	≤ 2.5
Average Grazing-Water point Distance (Km)	4.7	≤ 4.6
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	5.4	4.7

<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"> ▪ Long rains ▪ Planting/Weeding ▪ 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

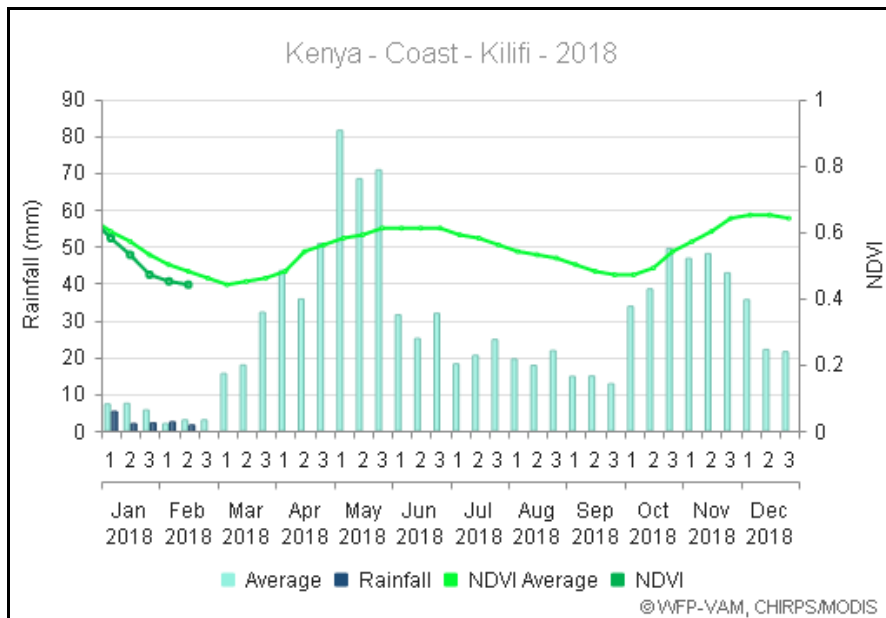


Figure 1a: Rainfall estimates and Normalized Difference Vegetation Index

- An average rainfall of 1.4mm was recorded in the month of February, this was an offseason storm of one day recorded along southern coastal strip. The month was generally characterized by hot weather conditions coupled with high temperature.

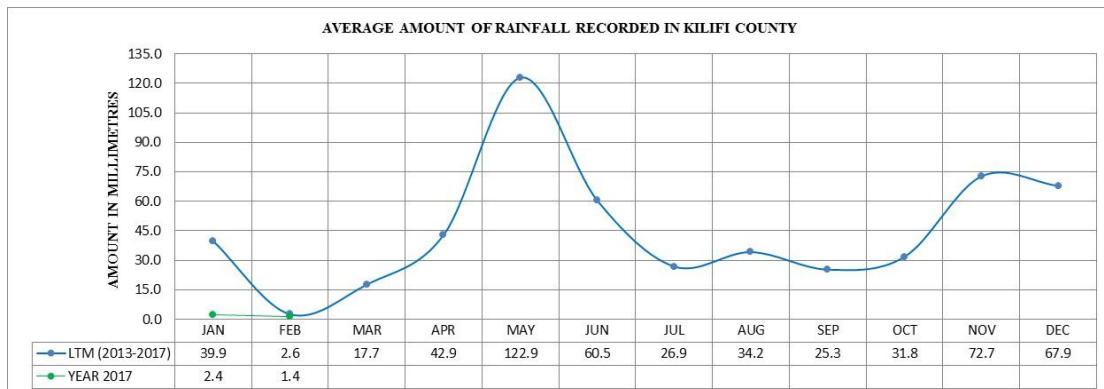


Figure 1b: Average Rainfall

- The amount received during the month was 46 percent below long term average at this time of the year.

2.0 IMPACT ON VEGETATION AND WATER

2.1 Vegetation Condition

2.1.1 Vegetation Condition Index [VCI]

- The county 3 month Vegetation Condition Index as indicated in table below.

Sub County	VCI-3month As at 31 st October, 2017	VCI-3month As at 27 th November, 2017	VCI-3month As at 25 th December, 2017	VCI-3month As at 29 th January, 2018	VCI -3month As at 26 th February, 2018
County	37.5	34.96	41.39	44.97	34.56
Ganze	34.89	35.4	45.34	47.84	34.37
Kaloleni	49.57	52.65	62.58	64.77	52.34
Magarini	35.93	29.92	34.55	39.74	30.84
Malindi	29.15	29.73	35.34	35.94	26.02
Kilifi-North	43.04	47.63	54.3	55.83	44.89
Rabai	50.78	53.05	61.08	59.34	47.49
Kilifi-South	56.7	60.57	65.78	63.00	53.84

Figure 2a: Sub County 3-month Vegetation Condition Index analysis [Source: Boku University - Austria]

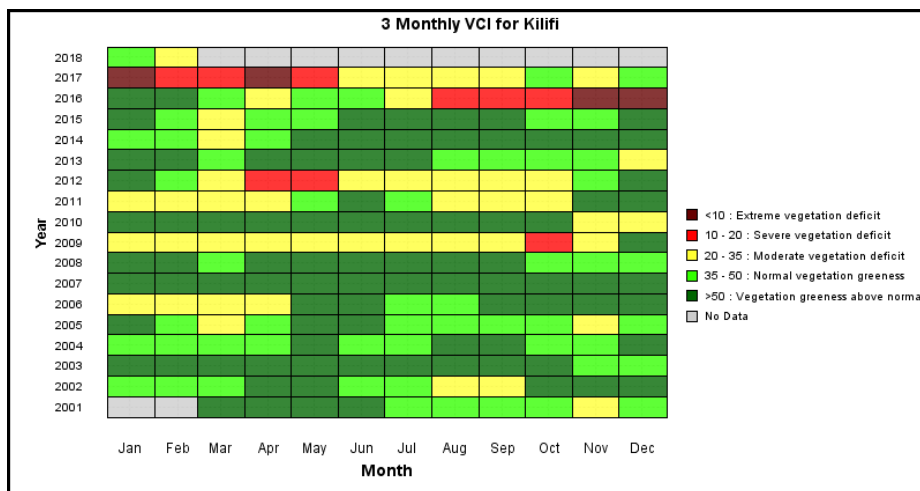


Figure 2b: Kilifi county 3-month Vegetation Condition Index [Source: Boku University -Austria]

- The county was in moderate vegetation deficit as shown by the figure above.

- The 3-month Vegetation Condition Index (VCI) for the month under review was at value of 34.56.
- Malindi, Magarini and Ganze Sub Counties recorded a low VCI of 26.02, 30.84 and 34.87 respectively. The 3 Sub Counties is in moderate vegetation deficit with worsening trend as indicated in figure 2 below.

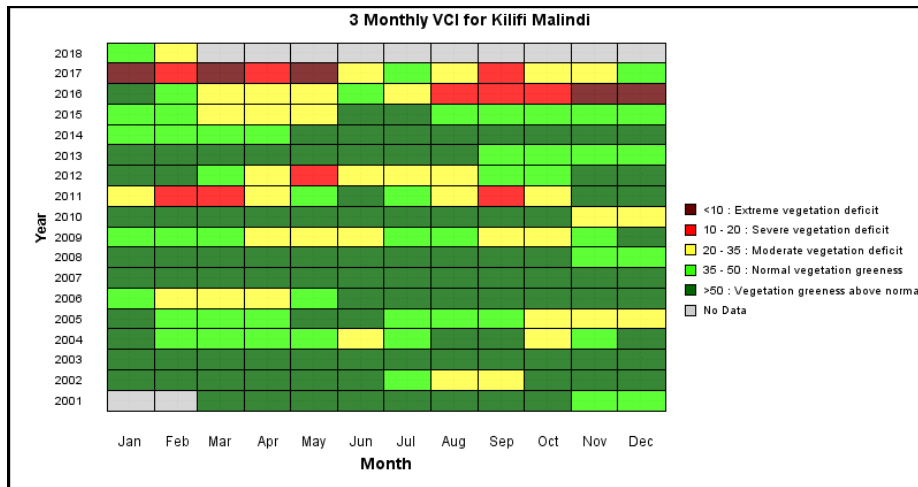


Figure 2c: Malindi Sub County 3-month Vegetation Condition Index [Source: Boku University - Austria]

- The current vegetation condition index in the County is shown in the graph and matrix below

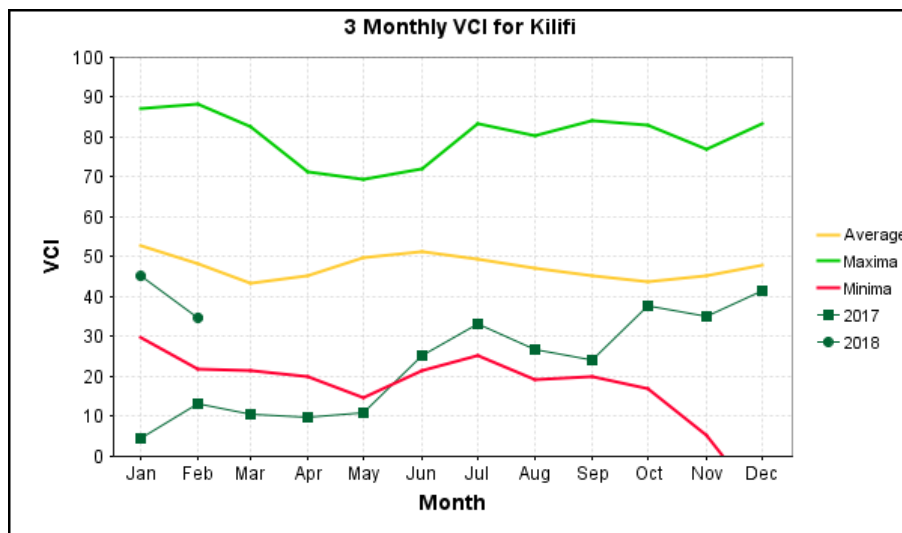


Figure 2d: Kilifi county 3-month Vegetation Condition Index time series analysis [Source: Boku University -Austria]

- The 3-month Vegetation Condition Index (VCI) for the county in month of February is below normal average.

2.1.2 Pasture

- Pasture condition in the month of February is generally fair across the livelihood zones.
- The current pasture situation is worsening due to dry weather spell experienced across the County; generally the existing pasture is fairly dry.
- Due to in migration of large number of livestock from neighboring counties reported in Adu ward, overstocking of livestock in the area will negatively impact the already depleted pasture situation.

2.1.3 Browse

- The browse situation is generally from fair to good both in quality and quantity across all the livelihood zones during the month under review.

2.2 Water Resources

2.2.1 Sources

- The main water sources for domestic and livestock use for the month were rivers, spring, pans/dams, pipelines, shallow wells and boreholes across all livelihood zones.
- Pans and dams which are the main source of water in the county for both livestock and human consumption are likely to last in coming 2 months. In Magarini Sub County all small pans and dams were dry due to poor recharge during the OND season.

2.2.2 Household water access and utilization

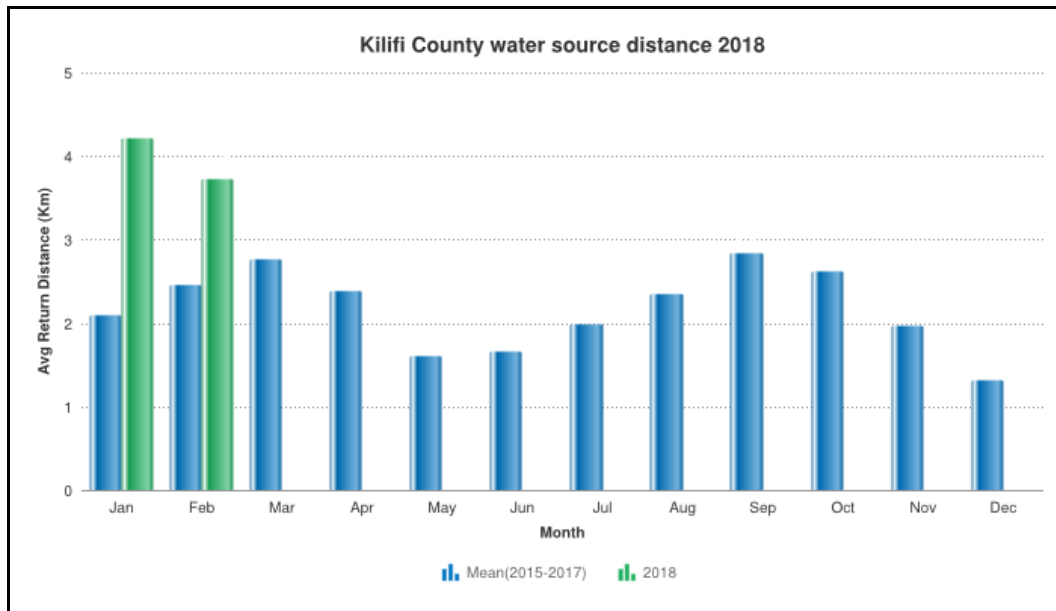


Figure 3: Households average distance to water points.

- The average distance to water sources for households during the month of February was recorded at 3.7km a decrease of 12 percent compared to the previous month.

- The decrease is attributed to normalization of functional pipelines which are under construction during January.
- The average distance is higher than normal during the month under review with households in agro pastoral livelihood zones recording longer distances to water sources.

2.2.3 Livestock access to water

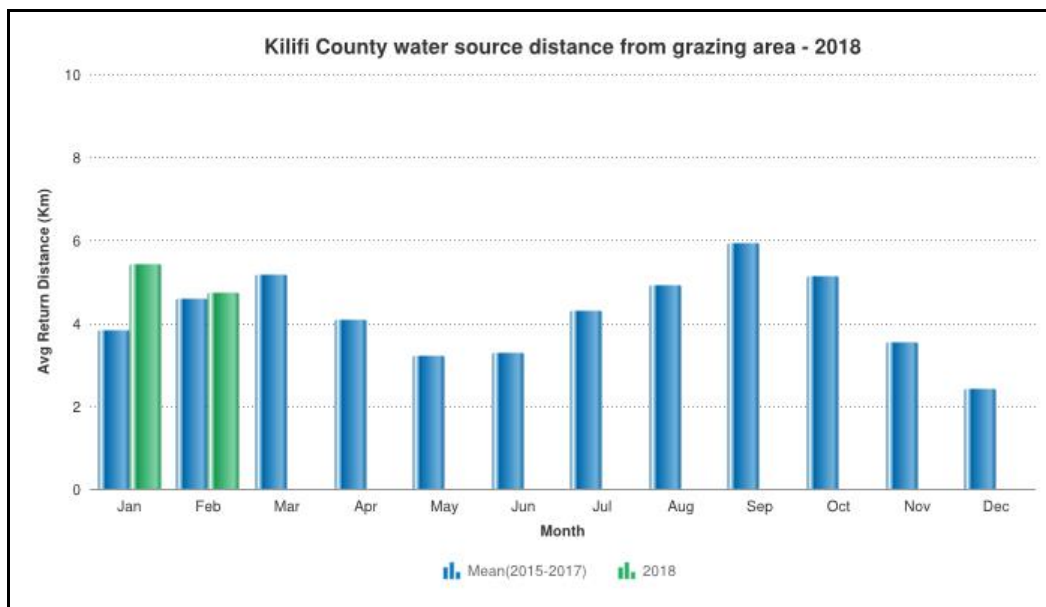


Figure 4: Average livestock return distance to water point from grazing area.

- The average trekking distance, one way from the grazing areas to the water sources for livestock was recorded at 4.7Km during the month. This is a decrease of 12 percent compared to the previous month.
- The decrease is attributed to livestock farmers watering their livestock from pipelines meant for domestic supply due to drying up of pans and dams in areas of Malindi and Magarini Sub Counties.
- The average distance to water sources from grazing areas during the month under review is stable compared to normal at this time of the year. However all pastoral species zone recorded longer trekking distance during the month.

PRODUCTION INDICATORS

3.0 Livestock Production

3.1.1 Livestock body condition

- The Livestock body condition across all livelihood zones recorded good to fair with all species during the month under review.
- The body condition is expected to decline from good to fair in coming months due to continued depleted pasture, increase in pasture and water distance across livelihood zones coupled with overstocking due to in-migration of livestock.

3.1.2 Livestock disease

- CBPP, LSD, Lameness, worms, foot and mouth are the diseases reported by the livestock farmers in Magarini and Kaloleni Sub Counties.

3.1.3 Livestock Migration.

- In-migration of livestock from Tana River and Taita Taveta Counties was reported in Adu ward Magarini sub county in areas of Chakama ranch.
- There has been reported out-migration of livestock in Raukani, Adu ward to Msimba and Tsavo East National park for search of pasture and water. Conflict over farmlands due to private ownership after title deeds were given to farmers also contributed to this migration.

3.1.4 Milk production

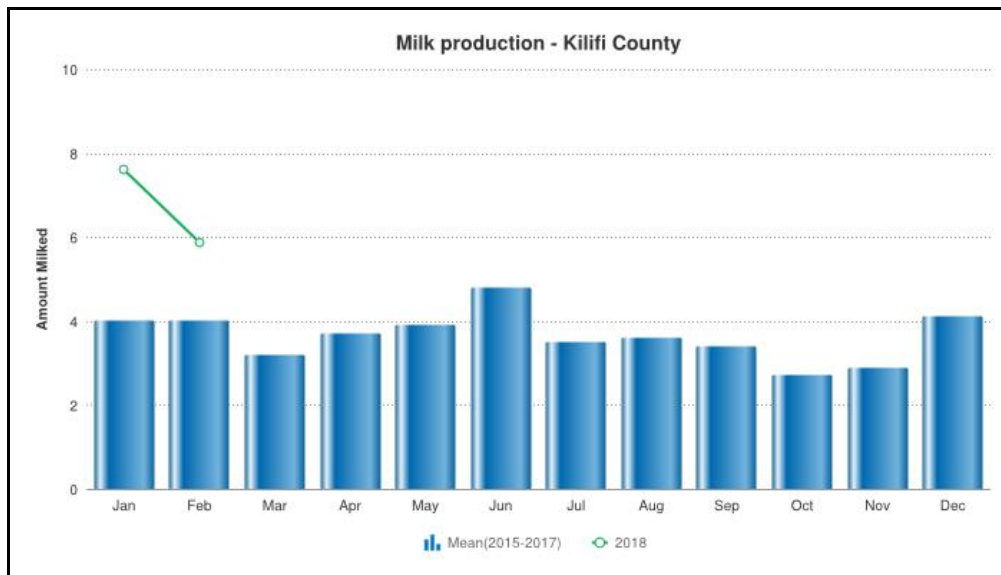


Figure 5: Average Milk Production

- Cows are the only major producer of milk in the county, there was culture where goat milk are not consumed by the farmers but only reared for meat and sales.

- The average milk production decreased from 7.6 liters in January to 5.9 liters in February, this was 22 percent decrease compared to the month of January.
- Milk production is expected to drop in subsequent month following worsening trend in pasture and browse both in quantity and quality as drought situation continue to worsen in the County.
- The average milk production was 32 percent higher compared to the long term mean at this time of the year.

3.2 RAIN FED CROP PRODUCTION

3.2.1 Stage and condition of food crops

- The main crops grown by the farmers were maize, cowpeas and green grams.
- Most of the crop is either dried up or at harvesting stage.

3.2.2. Crop Harvest

- Harvesting of maize, cowpeas and green grams along the coastal strip reported. The production was fairly above long rain season for the farmers around Rabai Sub County.
- Minimal harvesting of irrigated crops along river Galana/Sabaki such as maize, peppers, Tomatoes, Coconuts and watermelons reported.

4.0 MARKET PERFORMANCE

4.1. LIVESTOCK MARKET

4.1.1 Cattle prices

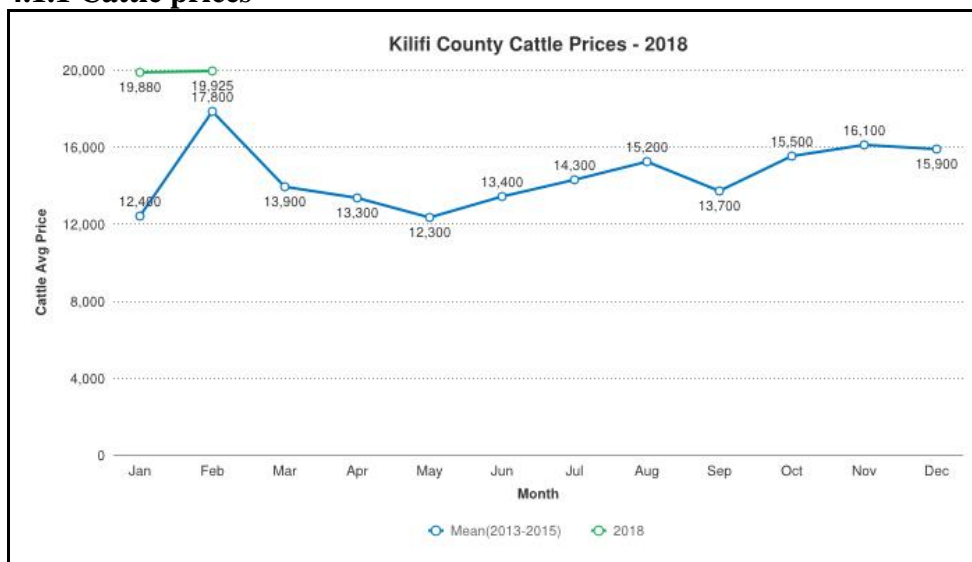


Figure 6: Average cattle price (4 year bull/steer) in major livestock markets in Kilifi County.

- The average cattle prices during the month under review remain stable as compared to the month of January.
- The highest market price was recorded Kakuyuni in Malindi Sub County at Ksh.31, 667. This is due to proximity of Malindi town and lowest price recorded in Rabai at Ksh. 8000

- The current average price was 11 percent higher compared to the long term mean at this time of the year. The price is expected to decrease in coming month due to current weather conditions.

4.1.2 Goat prices.

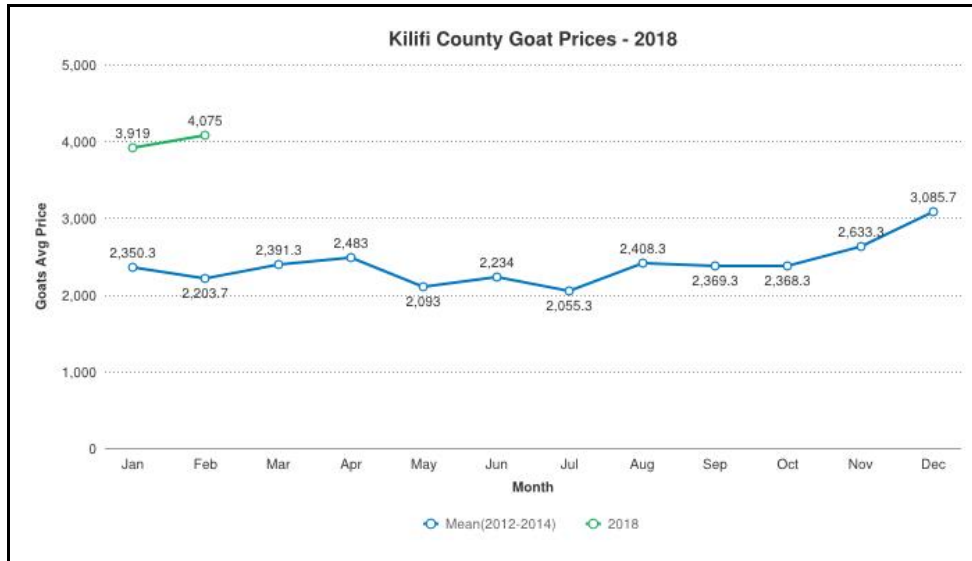


Figure 7: Average goat price (3 year old) at market level in Kilifi County.

- The average goat price during the month under review was Ksh. 4,075 which was 4 percent higher compared to the month of January.
- The increase can be attributed to good body condition, demand for goat meat and low supply of cattle in the market for the households to purchase food stuffs.
- The highest average price was recorded in Kakuyuni and lowest average price recorded in Mwarakaya at Ksh. 5,000 and Ksh. 3,833 respectively.
- However the average price recorded in the month under review was 46 percent higher compared to the long term mean at this time of the year.

4.2 Crop prices

4.2.1 Maize

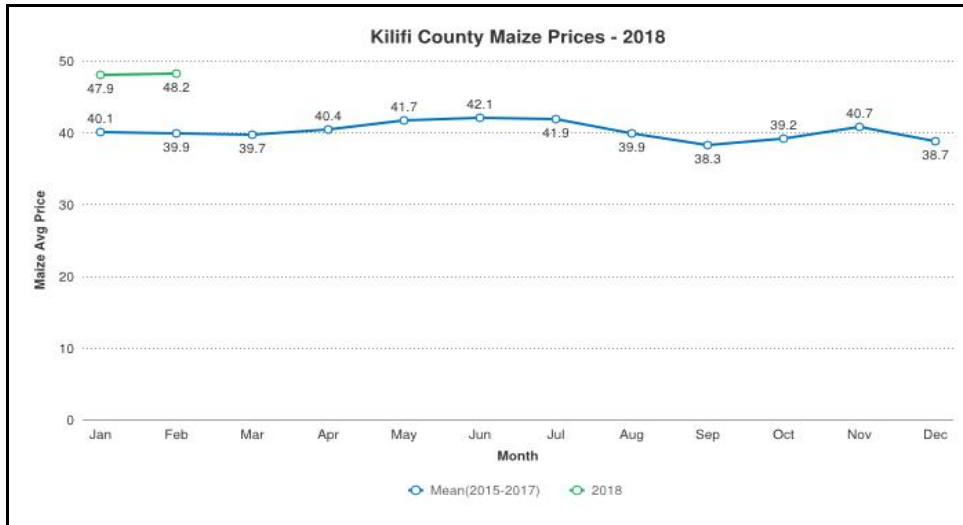


Figure 8: Average maize price in Kilifi County.

- The average maize prices remain stable at Ksh. 48.2 compared to previous month as shown in figure 8 above.
- The highest average price was recorded in Kaloleni traded at Ksh. 51.00 per kilo and lowest in Mwarakaya traded at Ksh 45.00 per kilo.
- The average price recorded for the month under review was 17 percent higher than the long term average of Ksh 40 at this time of the year. However the average price is expected to increase in coming months.

4.2.2 Beans

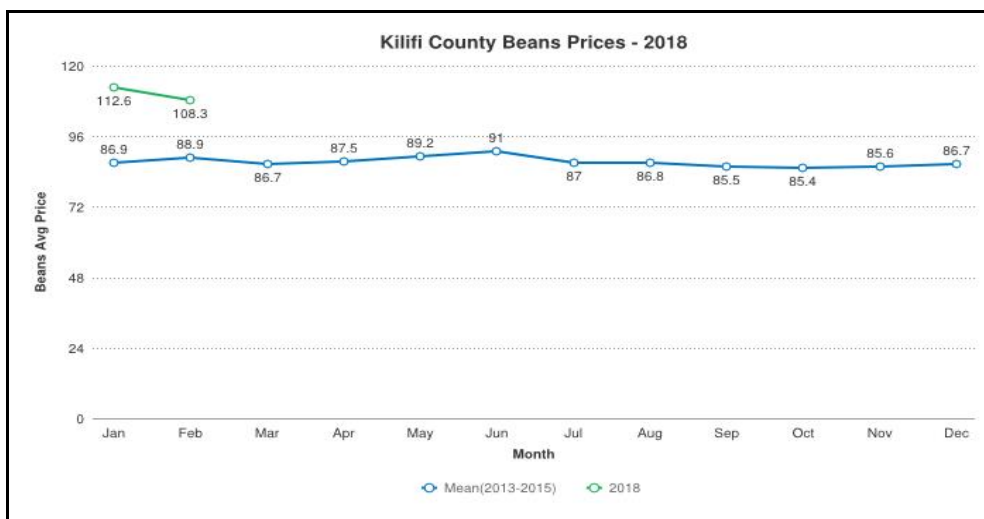


Figure 9: Average beans price in Kilifi County.

- The average beans price per kilogram during the month under review was at Ksh. 108 compared to previous month price of Ksh 113.
- The average beans price during the month recorded a decreased of 4 percent compared to previous month.
- The highest average price was recorded in Kaloleni traded at Ksh.130 per kilogram and lowest in Kakuyuni traded at Ksh.77 per kilogram
- The current average price was 18 percent higher compared to the long term mean at this time of the year.

4.3 TERMS OF TRADE

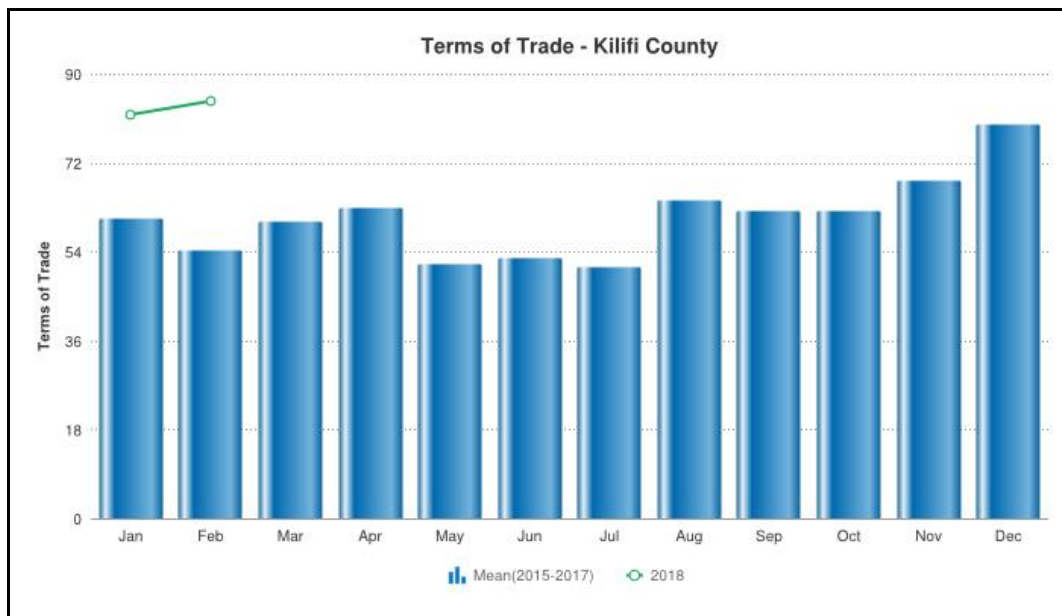


Figure 10: Terms of Trade for Kilifi County.

- In the month of February a slight increase of 3 percent in Terms of Trade was recorded compared to previous month.
- The goat sellers were able to buy 84.5 Kilogram of maize by selling one goat. The increase can be attributed to stable price in food stuffs as the goat prices increase compared to previous month.
- The Terms of Trade for the month under review was 36 percent higher than long term average.
- The current Term of trade is favorable for the livestock keeper at this time of the year.

5.0 NUTRITION STATUS

5.1 MILK CONSUMPTION

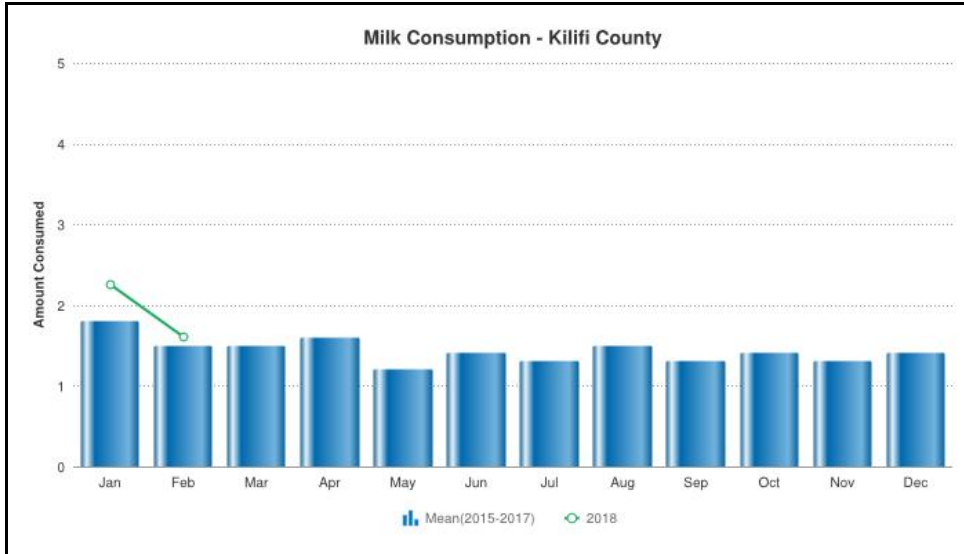


Figure 11: Milk consumption chart

- Milk consumption during the month under review recorded a significant decrease by 30 percent compared to month of January.
- The total number of milk consumed on average across the livelihood zones was 1.6 liters per day per households. The average milk price per litre was Ksh.50 during the month under review.
- The current average milk consumption per household per day remain stable compared to long term average at this time of the year.

5.2 Health and Nutrition Status

5.2.1 Mid Upper Arm Circumstance (MUAC)

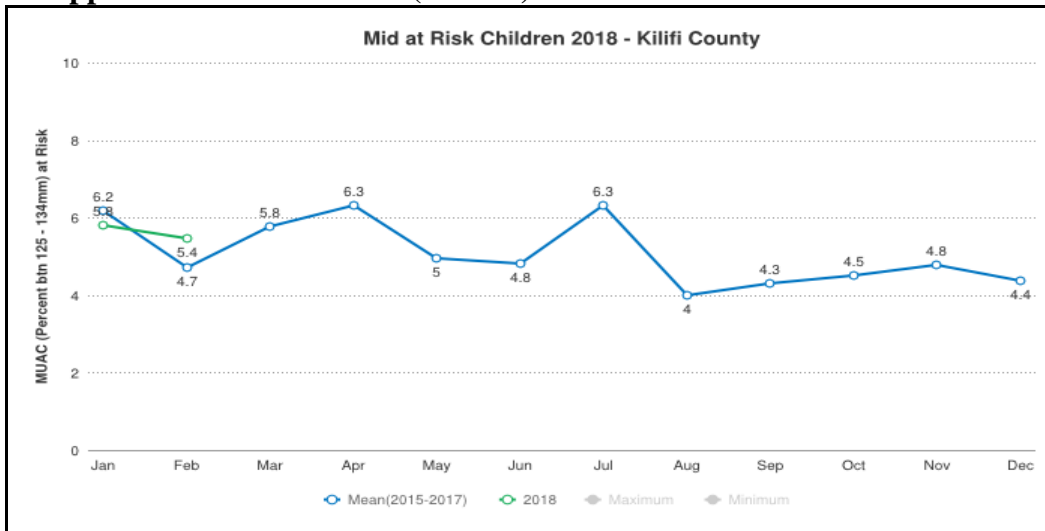


Figure 12: Proportion of children under five years at risk of malnutrition.

- The month of February recorded an average of 5.4 for the number of children under five years at risk of malnutrition. The average number of children at risk of malnutrition slightly decreased by 7 percent compared to the previous month.
- The current nutrition status in the county was 13 percent above the long term mean at this time of the year.

5.2.2 Food Consumption Score.

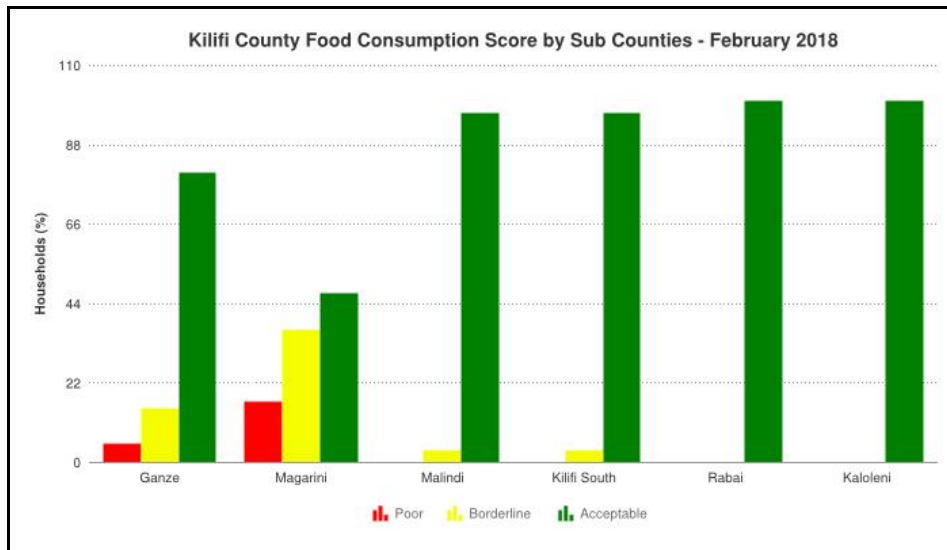


Figure 13: Food Consumption Score.

- During the month under review 86 percent of households across all livelihood zones recorded acceptable food consumptions.
- All households in Cash cropping/dairy farming and marginal mixed farming recorded acceptable food consumptions.
- Households in livestock farming zones recorded 46.7 percent number of households under acceptable FCS, 36.7 percent under borderline FCS and 16.7 percent under poor FCS.

5.3 COPING STRATEGIES

5.3.1 Coping Strategy Index

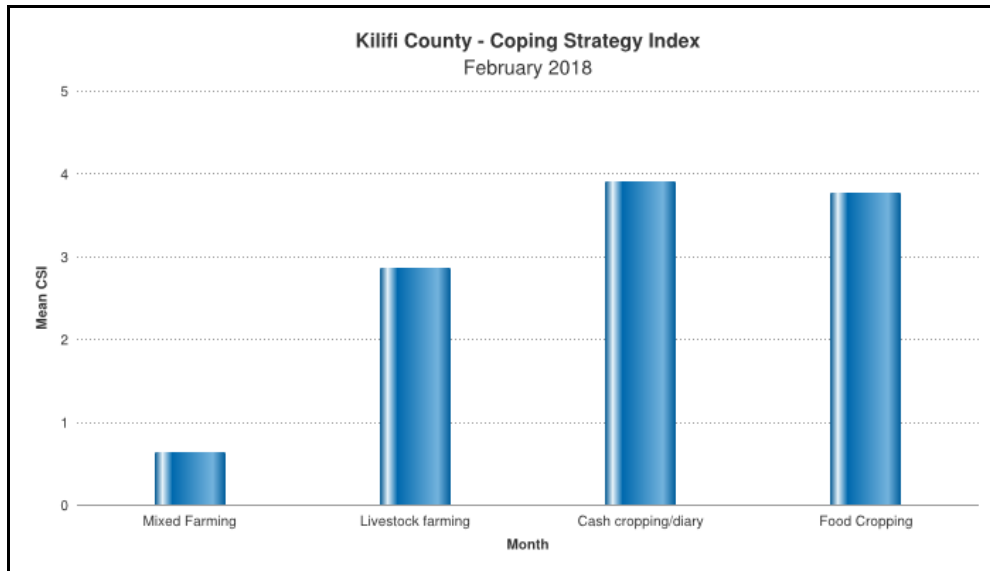


Figure 14: Coping Strategy Index for Kilifi County

- The mean coping strategy index (CSI) for the month was 2.13 which is drop from 2.76 recorded in January. This trend is attributed to high price of household food stuffs.
- Minimal household's food shortage was recorded in mixed farming and ranching zones due to minimal harvesting recorded in this month and previous season.
- Most employed coping strategies among households that faced food shortages in January were
Purchase of food on credit terms, Charcoal trade, aloe vera and other petty trades, Casual works like weeding in exchange for food, Borrowing.

6.0 CURRENT ONGOING INTERVENTION MEASURES

6.1 Food- aid

- Supplementary feeding for the malnourished at the health facilities across all livelihood zones by World Vision Kenya.
- School Feeding for ECD by World Vision Kenya
- Home grown school meals programme in selected schools on Ganze, Kaloleni and Magarini sub counties - GoK

Non-food aid

Social- Protection

- Cash for Asset by GoK/ WFP, World Vision, Kenya Red Cross Society and NDMA in Ganze, Kaloleni, Malindi, Rabai and Magarini Sub Counties to 12,200No.of vulnerable households.
- Cash Transfer to the Elderly, OVC, People living with Disability – GoK

Agriculture sector

- Promotion of drought tolerant crop farming – Caritas, CG of Kilifi
- Promotion of conservation agriculture – FAO and CG Kilifi
- Promotion of cassava production – Ustad Foundation - funded by EU
- Support to irrigation farming – CGK, IRK, UNDP/NDMA, Plan International

Livestock Sector

- Support to Livestock disease surveillance – CGK, Caritas and IRK.
- Support to Livestock restocking programme – NDMA/County Government of Kilifi
- Promotion of pasture production –CGK
- Support to apiculture – County Government of Kilifi, World Vision, KRCS
- Support to poultry production – UNDP/NDMA/ County Government of Kilifi

Health Sector

- Integrated outreach service – WV, CGK, KRCS, UNICEF

Water sector

- Extension of pipelines – County Government of Kilifi, KRCS, WV
- Support to WASH activities – PLAN, WV, KRCS, ACTION AID, SNV
- Support to rainwater harvesting through pans and dams – NG, CGK, NDMA

7.0 EMERGING ISSUES

- In-migration of livestock from Tana River County to Adu and Bamba wards.
- Unknown Disease causing lameness in cattle reported Kaloleni sub county
- Resource based conflicts in areas of Adu and Bamba wards.

7.1 Food Security Prognosis

- The performance of short rains was poor coupled with low acreage opened for agriculture and fall army worm infestation resulted to low harvest. This will increase likelihood of household food insecurity within two months.
- The current heat wave being experienced is expected to accelerate drying up of water sources leading to increased distances in accessing water for both livestock and domestic use.
- Increased distances to water and pasture is expected to cause deteriorate of livestock body condition leading to low milk production.
- Resource based conflicts are expected to increase due to increased immigration of livestock.
- The dry weather condition is expected to continue through March where long rains are expected.

8. RECOMMENDATIONS

Water Sector

- Rapid assessment of water and livestock situation in Magarini and Malindi sub counties.
- Need to conduct routine water assessment, feasibility study and survey to inform future planning intervention by partners for easier resource mobilization
- Need to develop strong synergy moving forward to ensure consistency and quality of work done
- Construction of strategic mega dams in drought prone areas such as Ganze, Kaloleni and Magarini sub-counties which can also be used for small scale irrigation to improve food security
- Construction of big ferrocement tanks for rain water harvesting for schools which can support them during the dry
- Need to have synchronized data base for surveyed/ designed water pan/dams to avoid duplication and undocumented works

Livestock Sector

- Support to fodder and pasture production and conservation across the county
- Support supplementary livestock feeding in Magarini sub county

- Support livestock disease surveillance across the county

Health Sector

- Increase interventions geared towards reducing cases of malnutrition across the county.

Agriculture Sector

- Support post harvest management for farmers harvesting their crops.