

National Drought Management Authority

MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR MARCH 2019



A Vision 2030 Flagship Project



MARCH EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of March was abnormally hot and dry.
- Vegetation greenness for the county was normal.
- Pasture and browse condition was fair in the mixed farming livelihood zone and poor in the marginal mixed farming livelihood zone.
- Surface water levels were declining at a fast rate in the Marginal Mixed Farming due to the high temperatures being experienced.

Socio Economic Indicators (Impact Indicators)

- Land preparation was ongoing in anticipation of the MAM long rains.
- Livestock body condition ranged from good to fair with no abnormal cases of livestock diseases or death.
- Milk production remained fair in the Mixed farming attributed to the available pasture and water for livestock.

Access Indicators

- Compared to last month, the terms of trade (TOT) decreased by 13.7% from 127
- Milk consumption was within the normal range.
- Distances to water sources were longer than long-term average

Utilisation Indicators

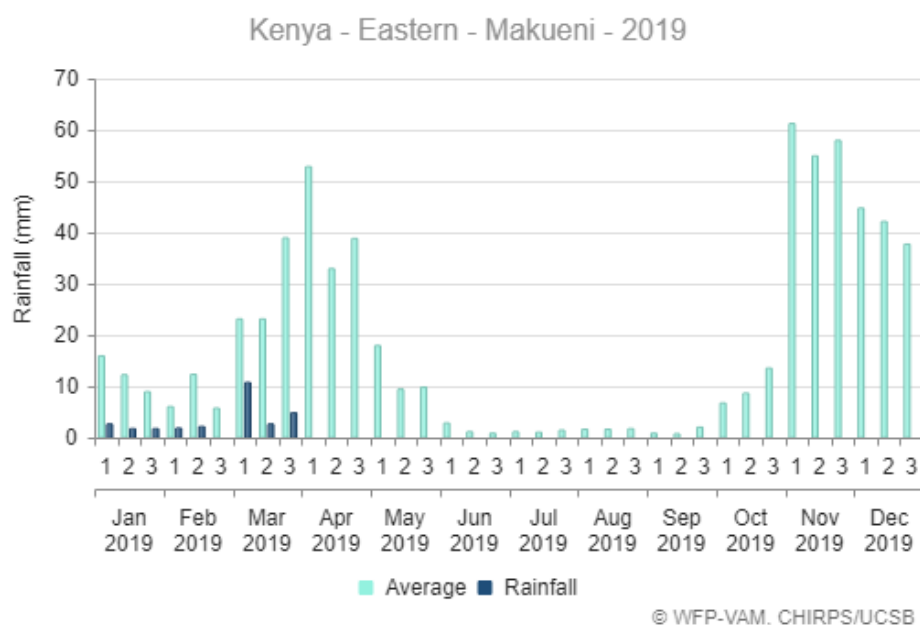
- The percentage of children at risk of malnutrition was slightly above the normal range with one case of moderate nutrition detected from 521 children sampled.
- Majority of the households were employing food-based coping mechanisms which is normal around this time and an implication that they were food secure.

Livelihood Zone	Phase	Trend
Mixed farming coffee/dairy	Normal	Worsening
Mixed farming Food Crop/Livestock	Alert	Worsening
Marginal Mixed Farming	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Ranges
Rainfall (% of Normal)	21	80-120
VCI-3Month	47.47	35-50
State of Water Sources	4	5
Production indicators	Value	Normal
Crop Condition	Land Preparation	Land preparation
Livestock Body Condition	4-5- Normal/Alert	4-5- Normal/Alert
Milk Production	1.7 litres	2.0 Litres
Livestock Migration Pattern	No unusual migration	In-migration
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	113.9	91.7
Milk Consumption	1.2 litres	1.1 litres
Return distance to water sources	5.6 Km	4.7 Km
Cost of water at source (20 litres)	Ksh 3-5	Ksh 3
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	8.5	7.0
Coping Strategy Index (CSI)	6.1	<10

<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. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE



The rainfall onset was delayed. By dekad 3, actual onset had not been realised. Dekad 1 received an average of 10.7 mm against 20 year (1994-2013) a long-term average of 23.1 mm. Dekad 2 received 2.6 mm against a long-term average of 23.1 mm. Dekad 3 received 4.8 mm against an average of 38.9 mm.

2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

The county recorded an average 3 month VCI of 47.47, an implication of normal vegetation greenness. Kibwezi West sub-county had the lowest average of 35.63.

However, looking at the 1 month VCI averages, Kibwezi East, Kibwezi West, Kilome and Makueni sub-counties recorded a one month VCI of 20.33, 29.19, 30.32 and 30.85 respectively an indication of moderate vegetation deficit.

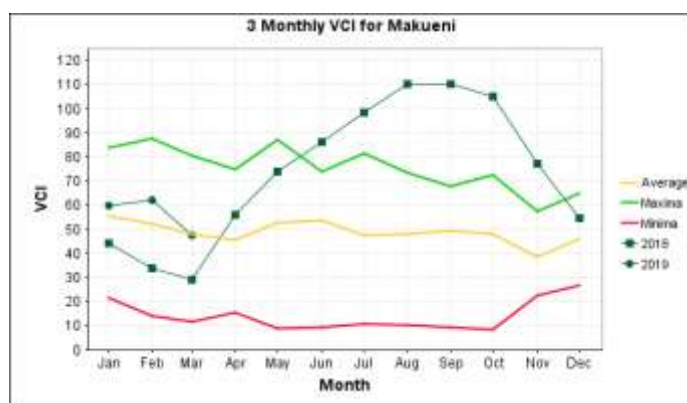


Figure 2: VCI graph for Makueni County, March 2019

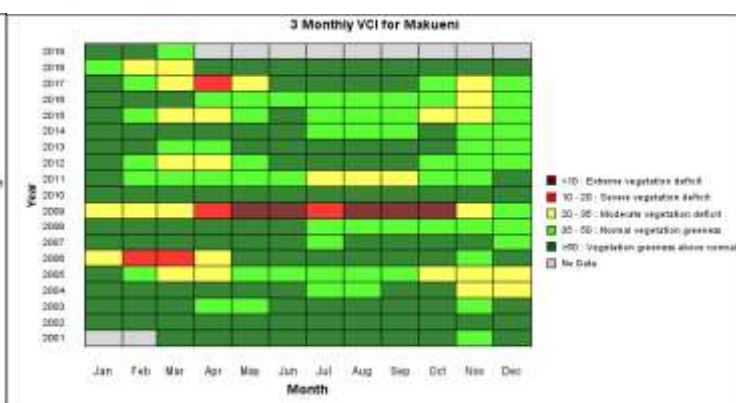


Figure 3: VCI Matrix for Makueni County, March 2019

2.1.2 Pasture and Browse

- Generally, the pasture condition was fair in both mixed farming (Coffee/Dairy) and mixed farming (Livestock/Food Crop), while in Marginal mixed farming livelihood zone it was poor due to the prolonged dry spell mostly in Kitise-Kithuki, Masongaleni, Ivingoni-Nzambani and Kikumbulyu North and South.
- Browse condition ranged from good to fair across all the three livelihood zones.
- The available amount of pasture is expected to sustain the livestock until the MAM rainfall season.

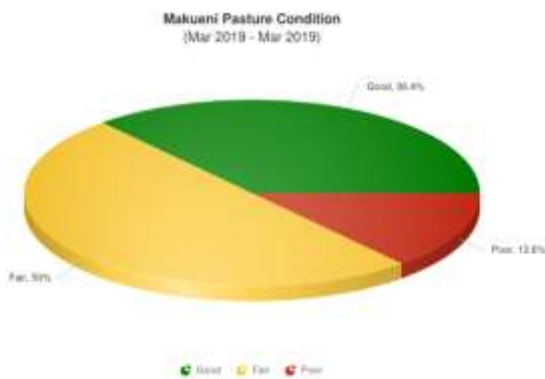


Figure 4: Makueni County Pasture Condition, March 2019

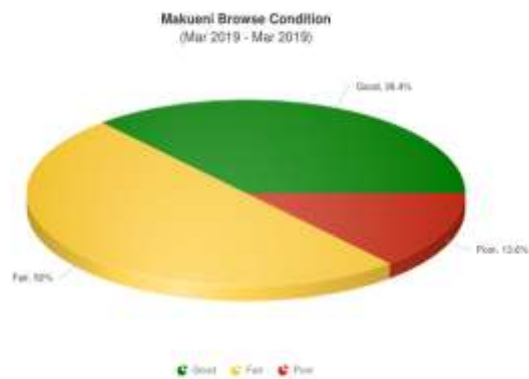


Figure 5: Makueni County Browse Condition, March 2019

WATER RESOURCE

2.2.1 Sources

- Main sources of water for both human and livestock consumption in the county were boreholes, shallow wells and rivers mostly along the River Athi belt.
- Others were piped water schemes in Kilome Sub County i.e. along Mombasa-Nairobi highway.
- Average waiting time was between 10 to 20 minutes which is normal at this time of the year.

Average cost of a 20 litre Jerry can at the water kiosk ranged from Ksh2 to Ksh5 which is within the normal price range.

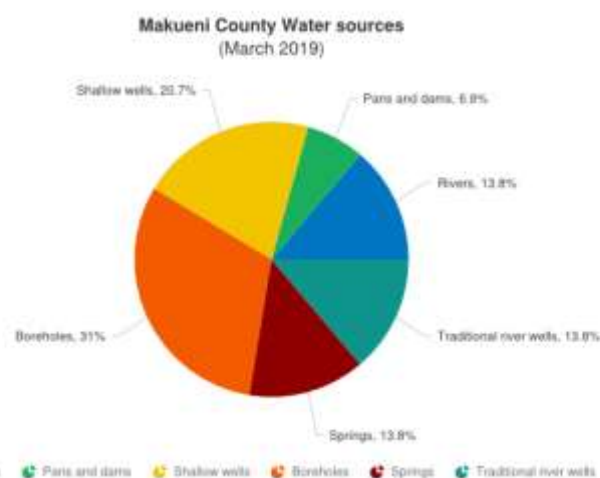


Figure 6: Makueni County major water sources, March 2019

- Congestion due to long queues and increased waiting time was experienced in the broken down boreholes all in the marginal mixed farming livelihood zone.

2.2.2 Household access and Utilization of water

Distances to water sources for household consumption

- Household return distances increased from an average of 4.8km to 5.6Km attributed to the decline in water levels due to the high rate of evaporation and consumption hence the change to alternative available water sources.
- Compared to the long term mean the distances were longer than normal.

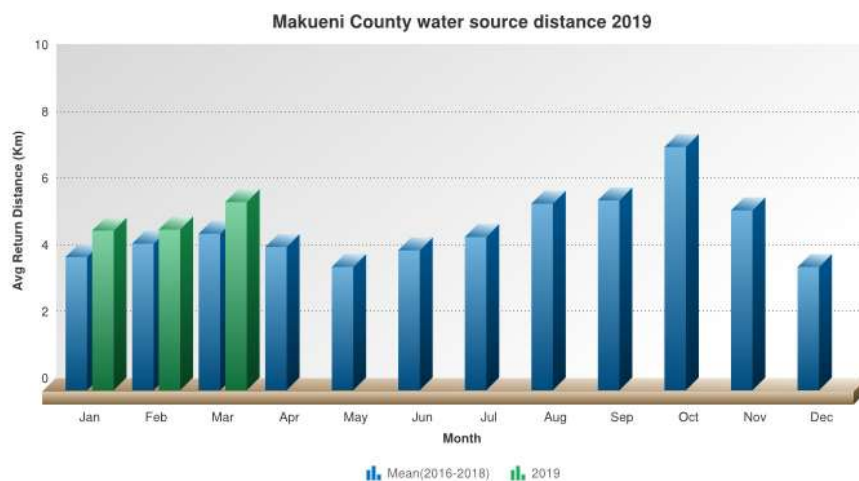


Figure 7: Makueni County Household distances to water sources, March 2019

2.2.3 Livestock access to water

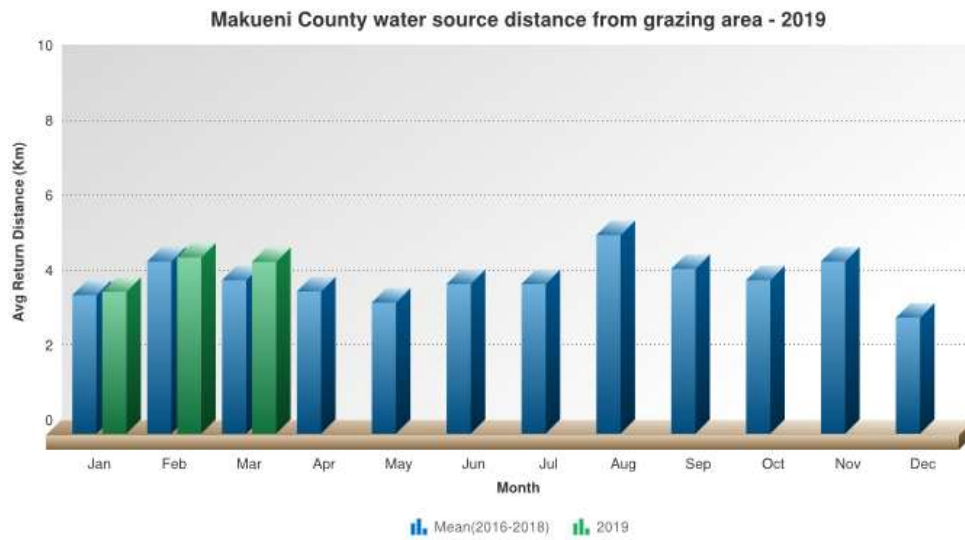


Figure 8: Makueni County Livestock watering distances from grazing areas, March 2019

- The average return distance to water sources for livestock remained stable at 4.6 Km
- Compared to the long term (2016-2018) the current distances were relatively normal.
- The distances are expected to remain stable till the onset of the MAM season.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Body condition for cattle ranged from good to fair while for the shoats, it was good across all the three livelihood zones. For cattle, the score ranged from 4-5 implying that appearance was a good smooth appearance and in some areas they were neither fat nor thin.
- The good body condition was attributed to the availability of pasture, browse and water for livestock.
- The condition is expected to remain the same until the onset of the MAM long rains season.

3.1.2 Livestock Diseases

- Vaccination against Foot and Mouth, Lumpy skin disease and CCPP was ongoing all over the County.
- Poultry vaccination against Newcastle was ongoing.

3.1.3 Milk Production

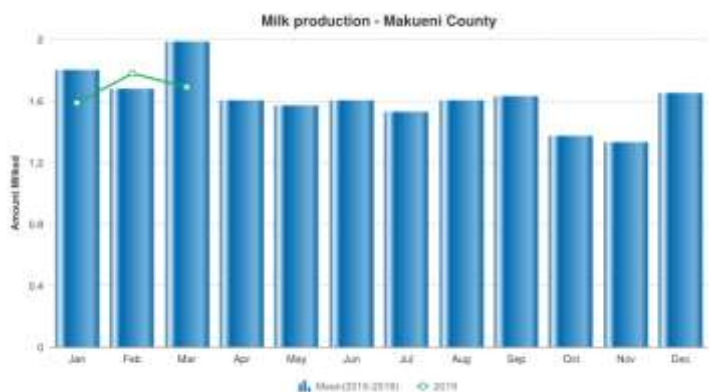


Figure 9: Makeni County Milk production, March 2019.

The decrease in milk production is attributed to decline in pasture quality.

- Milk production for the county was mainly from cows in the mixed livelihood zone and some portion from goats in the marginal mixed livelihood zone.
- The average daily milk production per household decreased by 100mls to an average of 1.7 litres.
- Compared to the (2016-2018) long term average, the current milk production was below normal.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Main agricultural activity was land preparation in anticipation for the March-May long rains.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- Average farm gate prices for cattle (2-3 year) remained stable at Ksh24,250.
- The stability in price is attributed to the good to fair body condition.
- Compared to (2015-2018) long term average, the current price was above normal and this is attributed to the prevailing good to fair body condition due to the availability of pasture and water for livestock.

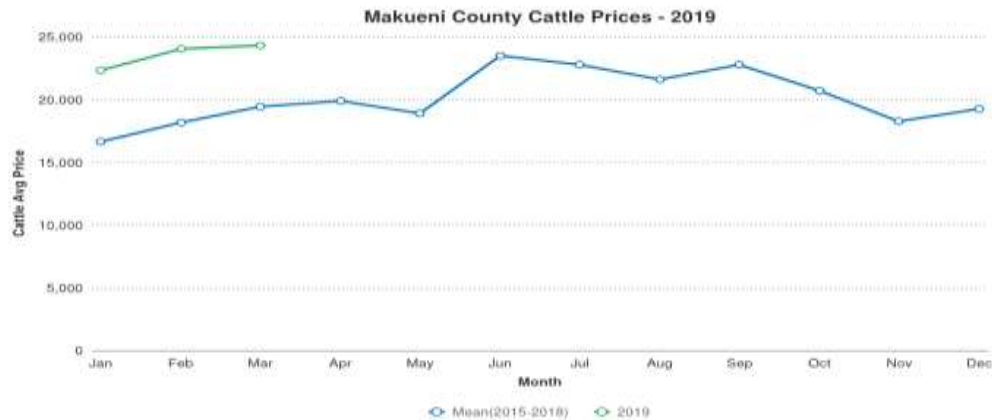


Figure 9: Makueni County average cattle prices, March 2019.

The prices of cattle at different markets across the county were as follows:

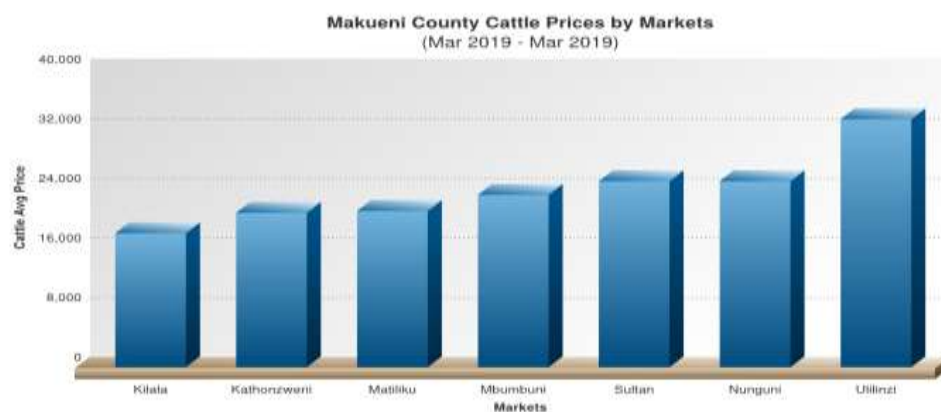


Figure10: Makueni County average cattle market prices, March 2019

4.1.2 Goat Prices

- The average farm-gate price of a goat decreased by 13.7 percent from the previous month to an average of Ksh3,300.
- The fair price is attributed to the prevailing good body condition (body size) due to the availability of browse and water.
- Compared to the 2015-2018 long term mean the current price above normal.



Figure 11: Makueni County average Farm gate prices, March 2019

Average goat prices in various markets was as follows:



Figure 12: Makueni County average goat market prices, March 2019.

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize remained stable at ksh30 per Kg.
- This was attributed to the available stocks from the household harvests and imports from Western Kenya, Eldoret and Trans Nzoia.
- Compared to the (2015-2018) long-term average the prices were below normal.
- The prices had reduced further in the mixed farming livelihood zone where there was fair to good harvest of the commodity.

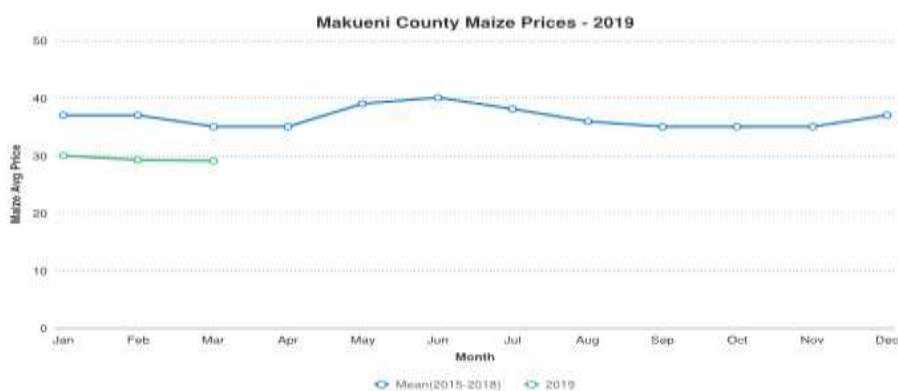


Figure 13: Makueni County average maize market prices, March 2019

4.2.3 Beans

- Average beans price remained stable at Ksh75 which is normal at this time of the month.
- The stability in price is attributed to the availability of the commodity in most households and markets.
- It's expected that the price of the product will stabilize for the next one month.
- Compared to the (2015-2018) long term mean the current price was below normal.



Figure 14: Makueni County average bean market prices, March 2019

4.2.3.1 Other outstanding observations.

- There were no unusual observations.

4.3 Livestock Price Ratio/Terms of Trade

- Average terms of trade was 113.9, an implication that from a sale of one goat a farmer could purchase 113.9kg of maize. This was a 13.9 percent decline from last month which recorded an average of 131.4
- Compared to (2015-2018) long-term average the current TOT was above average.
- Terms of Trade have been on a declining trend since January as a result of reduction in goat prices, although the ToT for the same period still remains above long-term average.

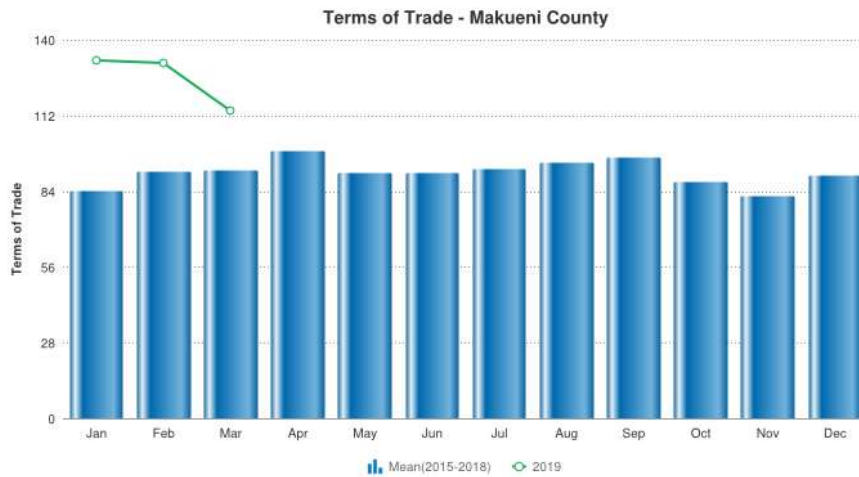


Figure 15: Makueni County Terms of Trade, March 2019.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

The daily milk consumption at household level decreased by 14.3 percent to an average of 1.2 litres. Compared to the 2016-2018 long term, the current milk consumption was above average. It's expected that the milk consumption will decline more should the MAM rains delay.

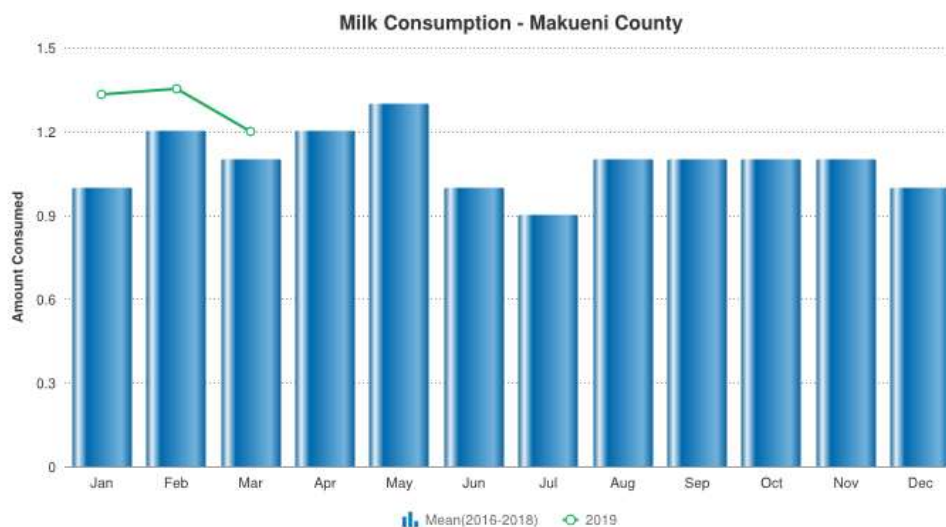


Figure 16: Makueni County Milk consumption, March 2019.

5.2 FOOD CONSUMPTION SCORE

- 81.4 percent of households in the county had an acceptable food consumption score while 18 percent were at the borderline.
- The improvement in Food Consumption Score is attributed to the availability of food from own production and money to buy food.

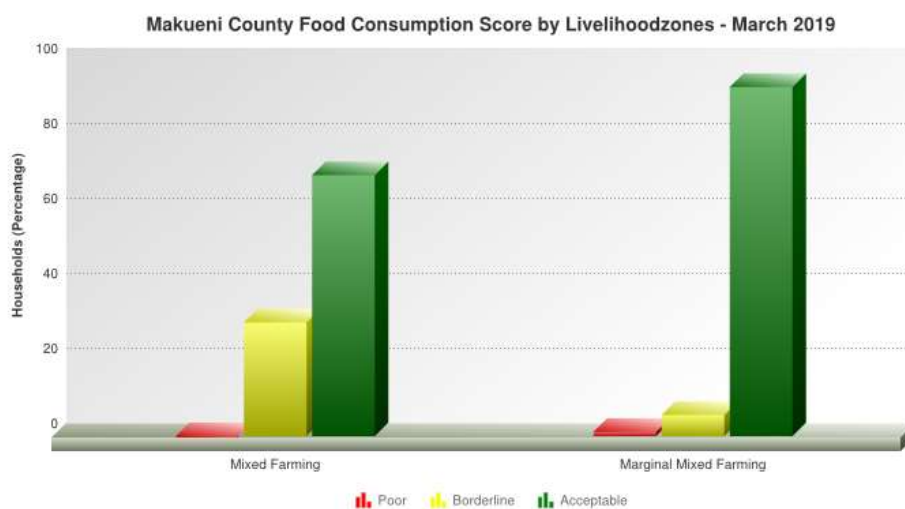


Figure 17: Makueni County Food Consumption Score, March 2019.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The percentage of children (under-fives) at risk of malnutrition increased to an average of 8.5 percent from 6.4 percent the previous month. Compared to the (2014-2018) long-term average of 7 percent the current MUAC was above the normal ranges.

- There were no cases of severe malnourishment (MUAC<115), 1 case of moderate malnourishment (MUAC 115 - 124mm), 35 cases of Mid at Risk (MUAC 125-134 mm). The remaining 485 of the 521 children sampled were not at risk, meaning they had a MUAC of above 135 mm. Of the 521 children sampled, 254 were female and 266 were male. The increase in MUAC is attributed to the decrease in milk production and consumption amounts.

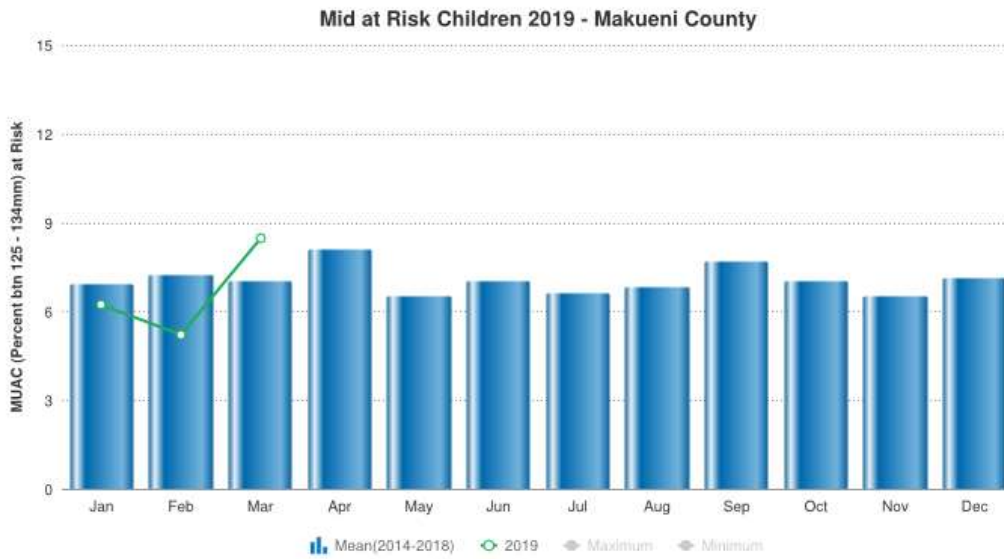


Figure 18: Makueni County MUAC Status, March 2019.

5.4 COPING STRATEGIES

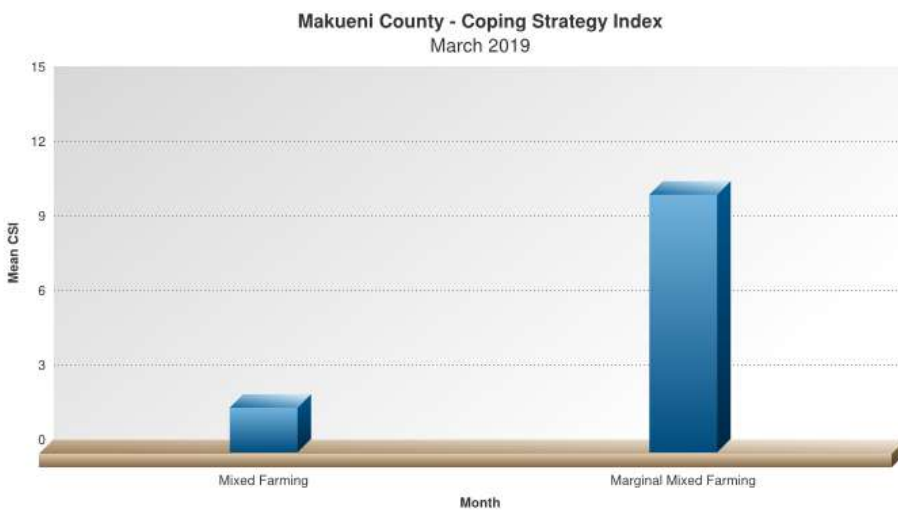


Figure 19: Makueni County CSI, March 2019.

- The CSI in Mixed farming livelihood zone decreased by 48 percent to an average of 1.8, while in the marginal mixed farming zone it decreased by 1.98 percent to an average of 10.2
- The mean CSI for the county was 6.1, a slight decrease from 6.75 that of last month.
- Compared to the long term mean the CSI was within the normal ranges an implication that majority of the households were applying minimal coping strategies.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

- Rehabilitation of Mbasya Earth dam. This was a joint effort by the County Government of Makueni who provided the machinery and operators, European Union (financiers) and implemented by National Drought Management Authority. All the earthworks have been so far completed with the exception of the auxiliary works (watering troughs, water kiosk, check dams and spillway).
- Development of weather advisories by Department of Agriculture, Livestock and Fisheries in partnership with ASDSP, Kenya Meteorological Department and NDMA and subsequent dissemination to farmers.

6.2 FOOD AID

- No food aid received for the period under review.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement/Human Wildlife conflict/Floods

- Cases of human-wildlife conflict especially in areas bordering the Tsavo National park were still a nuisance. Elephants were reported to have destroyed water-harvesting structures in schools in Kafungwa, Kyuasini and Ngwata.

7.2 Migration.

- No major migration cases.

7.3 Food Security Prognosis

- Rainfall onset was expected from week 3-4 of March as per the Department of Meteorology predictions. Hot and dry weather conditions were still persisting by the fourth week of March.
- This has adversely affected the surface water sources such as pans and small earth dams (most of which have dried up). Medium sized dams have held up from last season.
- Markets for both livestock and agricultural produce are however functional, and with the high volumes.
- Livestock body condition had shown a slight decline for the last two months and this has translated to slight reduction in milk production and consumption since January. This has seen an increase in percentage of children at risk of malnutrition.
- With the onset of the March-May expected anytime, pasture is expected to regenerate adequately given that the indications from Department of Meteorology are for a near normal with a tendency to above normal seasonal rainfall season for most parts of the county.
- Livestock body condition, milk production, livestock prices as a result are expected to increase and stabilise in the next two to three months. There is however, a small section of the county in the Marginally Mixed Farming zone that expects depressed rains.
- Close monitoring of the season is advised in Kikumbulyu North, Kikumbulyu South, Masongaleni, Ivingoni/Nzambani, Mtito Andei and Thange wards where a lean season is expected.

8. RECOMMENDATIONS

- Water trucking in areas with no other source of water supply such as Kasemeini, Kathyaka, Kyumani, Ndetwani, Mang'elele, Nthongoni, Mita, Syano, Kasooni and Katulika.
- Fuel subsidy for contingency boreholes
- Stock-piling of strategic boreholes with moveable parts and servicing the broken down boreholes. This is in areas such as Mbaata, (Ngumini, Katangini and Kanini/Kaseu in Kalawa), Kithuki and (Wandei, kithyululu in Ulilinzi)
- Renewable sources of energy should be considered as an alternative to diesel whose cost is untenable (Kitise Water spends about Ksh 100,000 on a weekly basis on fuel costs)
- Mass Screening of the under-fives mostly in the marginal mixed farming livelihood.
- Supplementary feeding for under 5, pregnant and lactating mothers
- Enhance livestock disease surveillance along the county borders
- Peace committees to be set up especially in the areas invaded by wildlife.
- As a long term solution to the wildlife menace (elephants), water pans should be dug in the Tsavo, a live fence on the Chyulu hills section and bee hives provided to the farmers along the R. Athi.