

National Drought Management Authority

MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR June 2019



A Vision 2030 Flagship Project



JUNE EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- Only traces of rain were received during the month mostly in the mixed farming livelihood zones.
- Pasture and browse condition was fair in the mixed farming livelihood zone and poor in the marginal mixed farming livelihood zone.
- Vegetation greenness for the Marginal Mixed Farming livelihood zone was below normal.

Socio Economic Indicators (Impact Indicators)

- Harvesting of beans was ongoing in the Marginal Mixed Farming zone.
- Livestock body condition ranged from fair to good though expected to fast deteriorate in the coming few months
- Milk production was slightly below the normal range

Access Indicators

- Terms of trade (TOT) have slowly been declining since February as the price of maize increases
- Milk consumption was slightly below the normal range.
- Majority of earth dams in Marginally Mixed Farming zone were not adequately replenished and are expected to have dried up by end of August

Utilisation Indicators

- The percentage of children at risk of malnutrition remained stable (within normal)
- Majority of the households were employing food-based coping mechanisms which is normal around this time although a good number had started employing livelihood-based coping strategies.

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)	117	80-120
VCI-3Month	47.78	35-50
State of Water Sources	4	5
Production indicators	Value	Normal
Crop Condition	Crop in field-MF(C/D)LZ	Harvesting
Livestock Body Condition	4-5-Normal/Alert	4-5 Normal
Milk Production	1.4 litres	1.6 Litres
Livestock Migration Pattern	Intra-migration	In-migration
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	95.8	90.8
Milk Consumption	1.4 litres	1.6 litres
Return distance to water sources	5.9 Km	4.2 Km
Cost of water at source (20 litres)	Ksh 3-5	Ksh 3-5
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	7.4	7.4
Coping Strategy Index (CSI)	8.65	<10

- 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. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

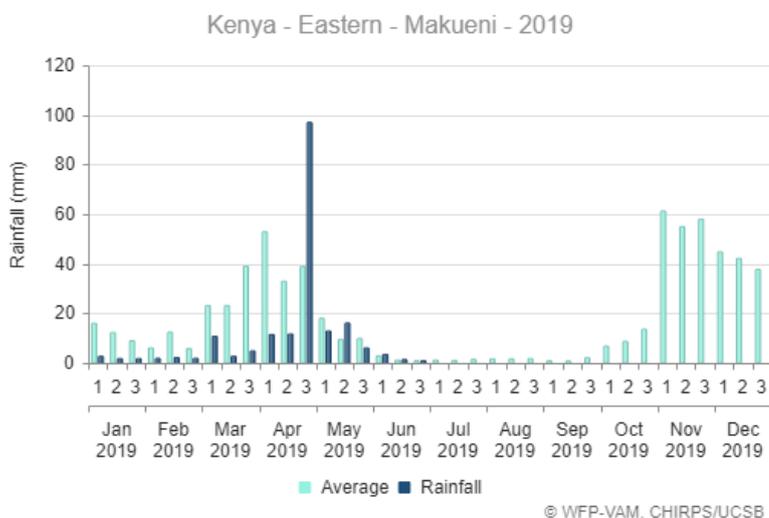


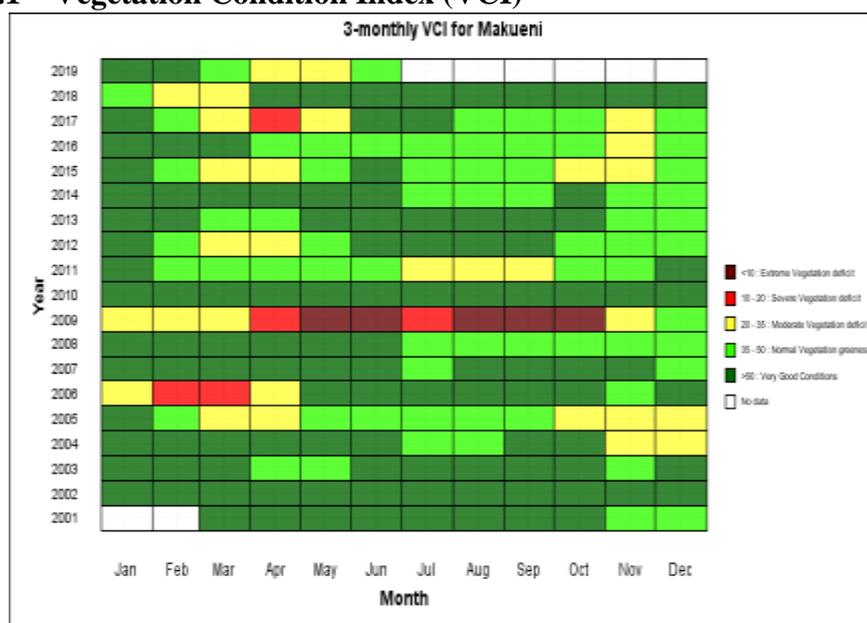
Figure 1: Makueni Rainfall performance, June 2019

Only traces of rainfall were received during the month of June with 3.4 mm received in dekad 1, 1.3mm in dekad 2 and 0.8mm in dekad 3 of June. When compared to the long-term, the county receives 3.4mm, 1.3mm and 0.8 mm in for dekad 1, dekad 2 and dekad 3 respectively. This follows the early cessation of rains in dekad 2 of May. For the entire MAM season whose onset was on dekad 3 of and cessation in dekad 2 of May, 77 percent of the total rainfall was received in dekad 3 of April. The season had a very poor temporal distribution.

2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)



Moderate vegetation deficit was recorded in Kibwezi East using the 1 month VCI index of 29.44 as an indicator. The county in general recorded a one month average VCI of 37.18 This was still below the long-term average as indicated in figure 3. Kibwezi West, Kilome and Makueni sub-counties were all categorised to have normal vegetation indices going by their recorded 1 month indices of 35.83, 46.27 and 35.69 respectively. Kaiti sub-county was above this threshold with a one month index of 50.74, an indication of above normal greenness.

Figure 1: VCI matrix for Makueni County, June 2019

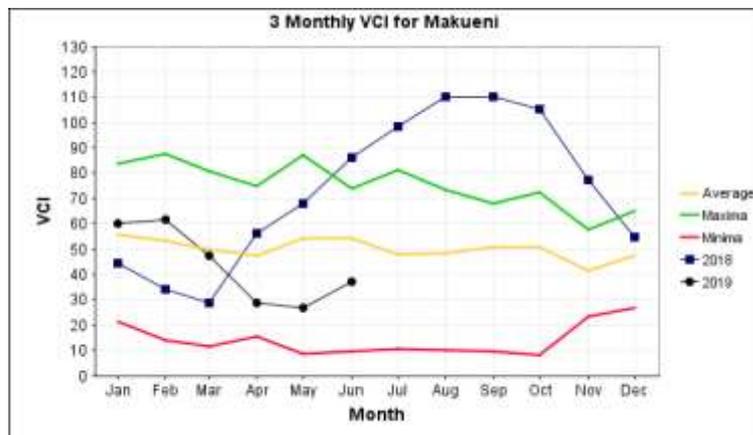


Figure 2: VCI graph for Makueni County, June 2019

2.1.2 Pasture and Browse

- From observations, pasturelands were generally scantily covered in grass. Regeneration was poor with 65% land totally bare.
- The standing hay in a few farms that had any was short for the month of June. This was below normal. Most of the grass was too short to be harvested for the farmers who normally perform baling operations.
- On terrace embankments on croplands, where most of the stored grass is harvested, it was also relatively short. Yields are below normal.
- Vast majority of pasture in the mixed farming (Coffee/Dairy) and mixed farming (Livestock/Food Crop) was fair to poor percent (about 67).
- Pasture is expected to last to Mid-July in the Marginally Mixed livelihood zone and to around Mid-august in the Mixed farming livelihood zones.
- **Browse:** Compared to similar periods of the year, the regeneration was below normal. It may not last beyond 2½ months which will translate into heightened feed scarcity for goats from Mid-August to end of October.
- **Farm residues:** The Marginally mixed livelihood zone experienced total maize crop failure which means either no residues or yields far below the normal. Parts of the Mixed farming livelihood zones that still have crop in the fields or have so far harvested some maize crop will have a fair amount of stover as residue.

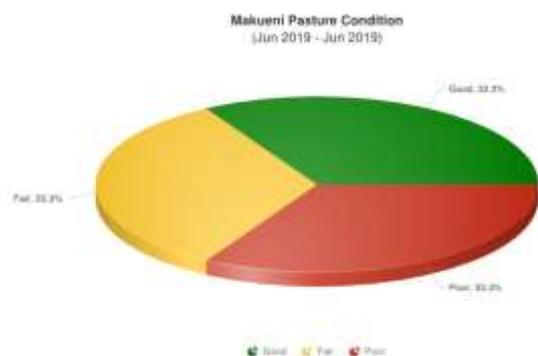


Figure 4: Makueni County Pasture Condition, June 2019

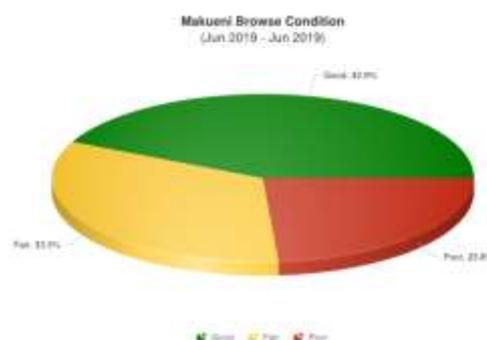


Figure 5: Makueni County Browse Condition, June 2019

WATER RESOURCE

2.2.1 Sources

- Main sources of water for both human and livestock consumption were shallow wells, traditional river wells, rivers and boreholes.
- Other observable water sources were piped water schemes mostly in Kilome Sub-County i.e. along Mombasa-Nairobi highway.
- Recharge of most surface water sources was observed across the mixed farming livelihood zone attributed to the MAM rains received while in the marginal mixed farming livelihood zone the water level were declining.
- Water quality was being compromised following the heavy congestion of people and livestock at the main water sources mostly in the marginal mixed farming livelihood zone.
- Surface water sources have dried in Marginal Mixed livelihood zone and those remaining are expected to last to Mid-July.

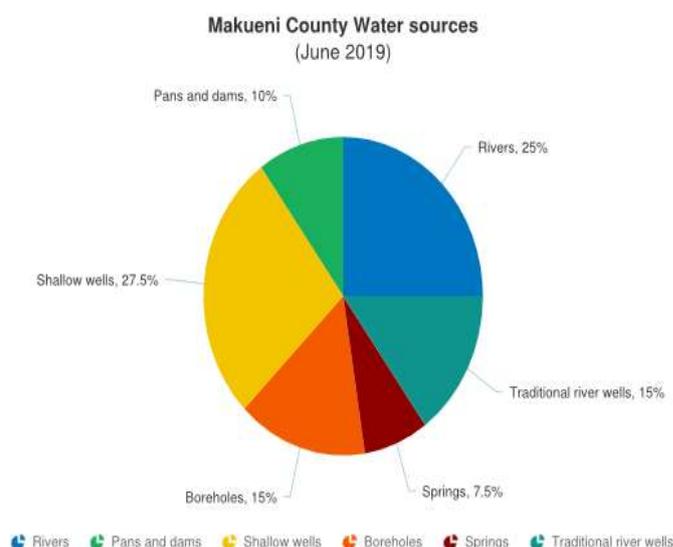
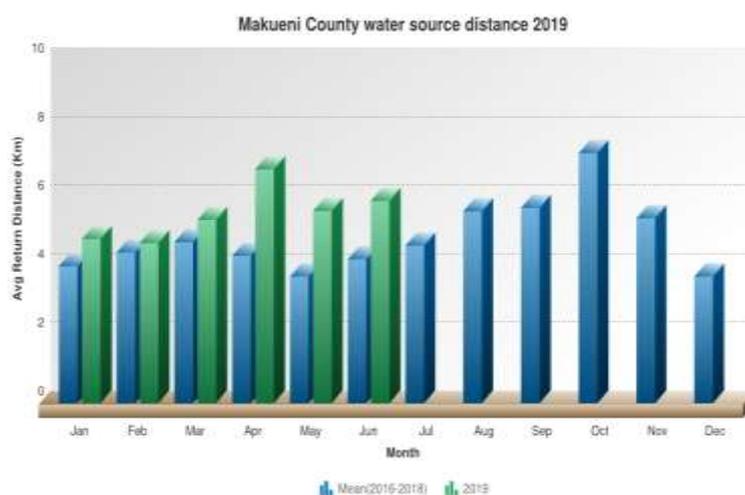


Figure 6: Makueni County major water sources, June 2019

2.2.2 Household access and Utilization of water

Distances to water sources for household consumption

- The average return distances from households to water sources increased from the previous month's distance by 5.4 percent to 5.9 Km, this was attributed to the hot weather condition being experienced that has led to evaporation of water.
- Compared to the Marginal mixed farming livelihood zone, the distances in the mixed farming livelihood zone remained relatively shorter.
- Average waiting time was 10 to 20 minutes which is not normal at this time of the year.



- Average cost of a 20 litre Jerry can at the water kiosk ranged from Ksh 3 to Ksh5 which is within the normal price range due to regulation by County Government. It is worth noting that the price of water private vendors is much higher with the price reaching up to Ksh 50 per 20 litre jerry in some areas such as Makindu.
- Compared to the long term mean of 3.7km the distances remained longer than normal.
- The frequency of rationing had however increased especially in the areas covered by KIMAWASCO

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

2.2.3 Livestock access to water

- The average return distance to water from grazing areas to watering points increased by 11.8 percent i.e. from 5.1 km to 5.7 km.
- Compared to the (2016-2018) long term average of 4.0 km, the current distances were above normal.
- Longer distances were recorded in the Marginal mixed farming livelihood zone where the rains had performed poorly.

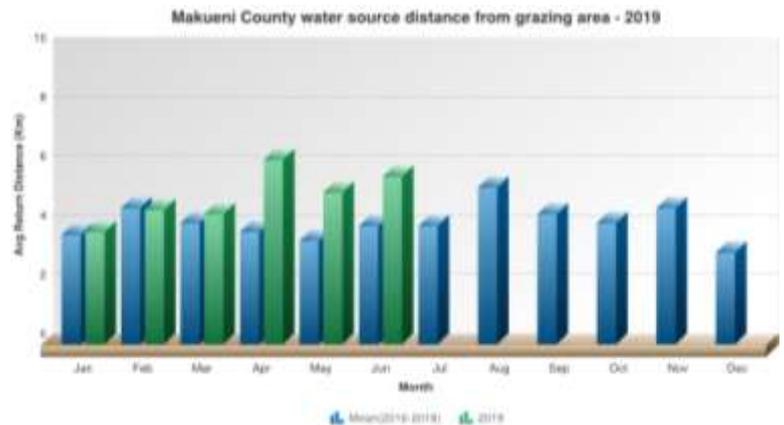


Figure 8: Livestock watering distances from grazing areas, June 2019

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- For all the animal categories, body conditions were generally good. This is normal for this period of the year.
- However, since the available pasture and browse is limited and likely to be depleted within two months, body conditions are expected to deteriorate rapidly.
- By end of August, most livestock may be faced with severe feed shortages and possible loss of livestock thereafter

3.1.2 Livestock Diseases

- There were confirmed cases of FMD outbreak in Kasikeu and Kiima Kiu/Kalanzoni areas.

3.1.3 Milk Production

- 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 was 1.4 litres.
- Compared to the (2016-2018) long term average of 1.6 litres, the current milk production was below normal.
- It's expected that milk production is expected to reduce in the coming months as the pasture quality deteriorates.

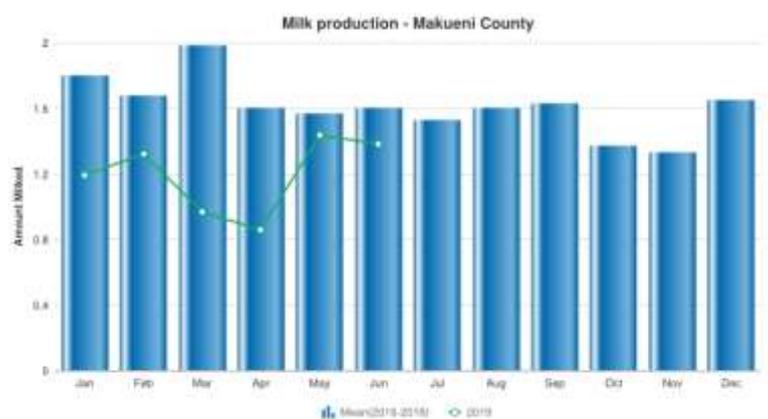


Figure 9: Makueni County Milk production, June 2019.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- In the mixed farming livelihood zones especially in the hilly masses of and areas such as Kiima Kiu Kalanzoni, maize crop was past the cob formation stage but had not attained physiological maturity yet. Farmers should expect a some harvest in these areas as the rains were good. There was reported maize crop failure in Tulimani (Mbooni) which traditionally receives adequate rainfall for a fairly good harvest.
- Some areas of the Mixed Farming (food crop/livestock) Livelihood zone such as Kilala were consuming maize in its green state.
- In the marginal mixed farming livelihood zone, pulses were currently being harvested in Thange and Ivingoni/Nzambani ward. A high percentage of farmers in the MMF (Kalawa, Kitise/Kithuki, Makindu, Masongaleni and Mtito-Andei ward) had not planted since the rains received so far have been poor (below normal).
- Crop production across all three livelihood zones has been affected adversely since the length of growing period for most crops which are rainfall dependent was significantly reduced. As a result of moisture stress, following the poor temporal distribution of rains, it appears that crop production will fall below the long-term average production.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices



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

- Average farm gate prices for cattle (2-3 year) decreased from Ksh19, 000 to Ksh18, 786.
- The decrease in price is attributed to the high supply in market in anticipation of an imminent drought mostly in the marginal mixed farming livelihood zone.
- This price was below the (2015-2018) long-term average of Ksh 23,500 by 20 percent.

- A visit to Kathonzweni Livestock market revealed a higher than normal supply of mature bulls. An estimated 700-900 heads of cattle were offered for sale. This is way beyond the normal 450/550 heads. Farmers were trying to sell off big sized animals either to put the money into other uses or purchase younger stock with a reduced feed intake demand.
- The prices for cattle were below normal. A mature bull (300kg live weight) was attracting about Ksh 35,000- 38,000 against a normal of Ksh 45,000- 50,000
- A significant number of the cattle had been brought in from Kitui county
- The main destination market was Nairobi (65%) and about 35% to Mombasa and other markets.

4.1.2 Goat Prices

- The average farm-gate price of a goat increased to Ksh3, 786 from Ksh. 3,683 the previous month.
- 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 average price of Ksh 3,315, the current price was 14.2 percent above normal.

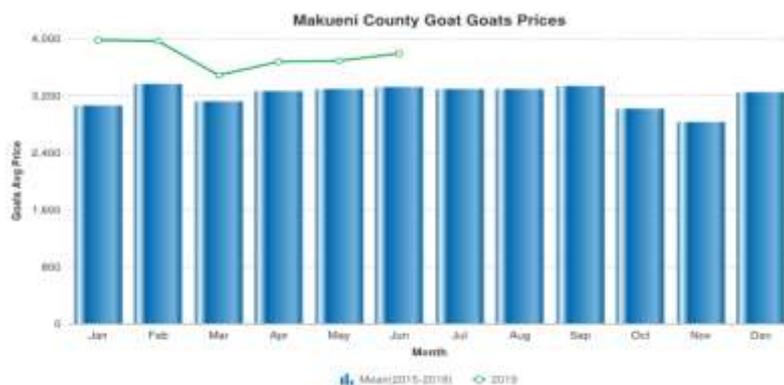


Figure 11: Makueni County average Farm gate prices, June 2019

Average goat prices in various markets was as follows:



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

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize has steadily been on the rise since February and increased to ksh40 per Kg. The price in the Markets especially in the Marginally Mixed Farming had reached Ksh 45.
- This was attributed to the decline in stocks from the household harvests and imports.
- Compared to the (2015-2018) long-term average the prices were similar (Normal).



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

4.2.3 Beans

- Average beans price was Ksh80 compared to a (2015-2018) LTA of Ksh 87. Markets in Ulilinzi (in the marginal mixed farming livelihood zone) recorded prices as high as Ksh120.
- The price was stable from last month's recorded price of Ksh 86 and (2015-2018) long term average of Ksh 88.

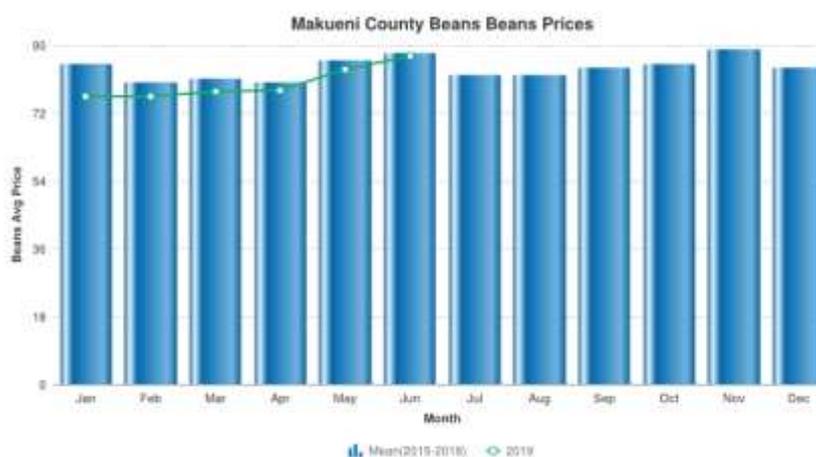


Figure 14: Makueni County average bean market prices, June 2019

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 95.8 from 94.1 recorded the previous month, an implication that from a sale of one goat a farmer could purchase 95.8 kg of maize.
- Compared to (2015-2018) long-term average of 90.8, the current TOT was slightly above average.
- The purchasing power has been on a declining trend since February as a result of declining goat prices but stabilized over the last one month

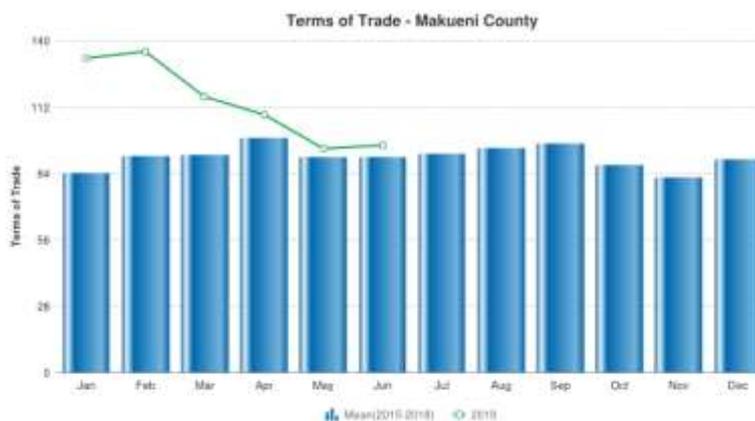


Figure 15: Makueni County Terms of Trade, June 2019.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

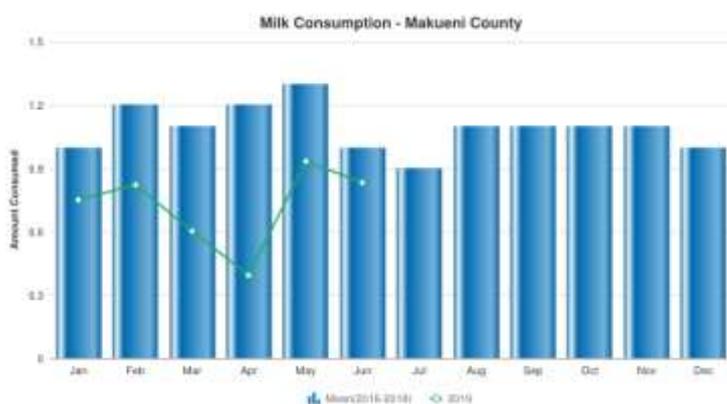


Figure 16: Makueni County Milk consumption, June 2019.

- The daily milk consumption at household level remained stable at an average of 1.4 litres same as what was reported the previous month.
- Compared to the 2016-2018 long term average of 1.6, the current milk consumption was below average.
- Milk production is expected to dwindle in the coming months as a result of the poor rainfall performance experienced and as the season approaches the leaner months of August and September.

5.2 FOOD CONSUMPTION SCORE

- 67 percent of households in the county had an acceptable food consumption score while 32 percent were at the borderline. 1 percent had a poor food consumption score. This did not change from the previous month where 68 percent of households had acceptable food consumption score while 65 percent were at the borderline.
- The decline in Food Consumption Score could be attributed to the diminishing food stocks and a decrease in purchasing power

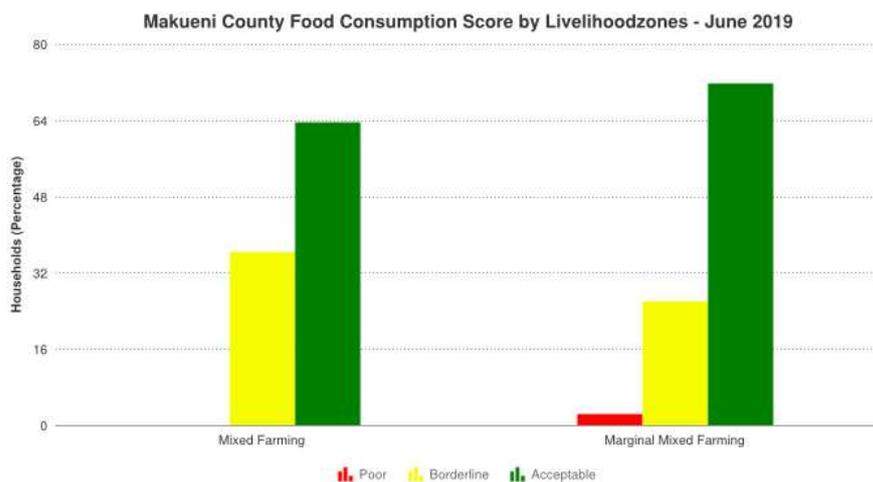


Figure 17: Makueni County Food Consumption Score, June 2019.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- Of the 513 children sampled, 38 were in the mid-at risk category (MUAC of between 125-124mm) and majority had a MUAC of more than 135 mm
- The percentage of children (under-fives) at risk of malnutrition increased to 7.4 percent from an average of 5.8 percent recorded the previous month.

- The deterioration in MUAC can be attributed to reduction in milk consumption.
- The current MUAC was the same as the (2014-2018) long-term average of 7.4 percent.

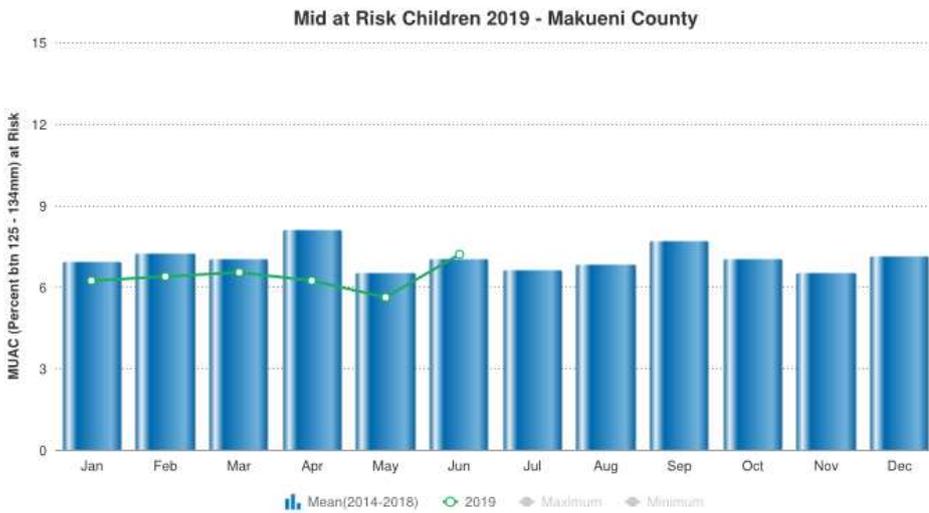


Figure 18: Makueni County Mid at Risk Children, June 2019.

- There were no reported cases of severe malnourishment (MUAC<115) neither moderate malnourishment (MUAC 115 - 124mm).

5.4 COPING STRATEGIES

- The CSI in Mixed farming livelihood zone was 3.1, while in the marginal mixed farming zone it was 16.4
- The mean CSI for the county was 8.65 down from 9.75 last month.
- The Coping Strategies applied by household were mainly consumption-based in majority of the households though a good number had started applying livelihood based-coping strategies such as selling more of the non-productive animals than usual.

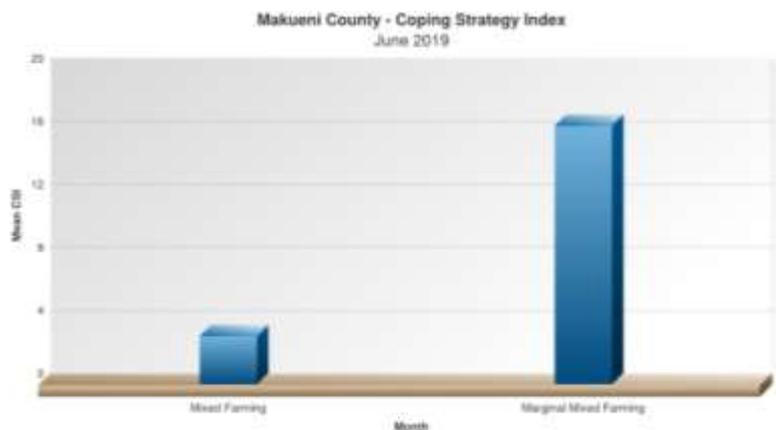


Figure 19: Makueni County CSI, June 2019.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

Water

- Seven earth dams out of breached earth dams during MAMS rains 2018 namely Katilini earth dam in Kiima Kiu Ward, Kilole earth dam in Kathonzweni ward, Kaketi and Ngunini earth dams in Kalawa ward on going, Muthungue and Mikuyuni earth dams in Thange ward and kyuasini in Masongeleni ward are repaired and others on going

- Eighteen (18) piped water schemes of about 300km extended to increase water availability by 7,000 cubic metres per day
- Kibwezi Makindu Water and Sanitation Company (KIMAWASCO)has rehabilitated four piped water within the area of operation covering 80Km, of pipeline of variuos sizes increasing water distribution to 460 cubic metres per day and benefitting 9000 households

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 were reported in Makindu where a teacher was mauled by a carnivore. Elephant invasion was reported in Ivisia- Kasemeini areas in Kikumbulyu South ward.

7.2 Migration.

- There were reported cases of livestock migration from Kiangine in Kathonzweni, Kalie, lower Nguu towards upper Nguu and upper Mbitini and from Masongaleni towards Tsavo East.(About 40 percent of the cattle are migrating)

7.3 Food Security Prognosis

The food security situation is fairly stable in the Mixed Farming- Coffee, dairy, and irrigation zone and in some parts of Mixed Farming-food crops, and cotton zone and the livestock zone due to access to income enabling the households purchase food. In the marginal mixed farming zone, the food security situation has deteriorated after the failed long rains March-May combined with poor harvests of the OND Short Rains

Cereal prices have continued to increase to Kshs.40per Kg due to the soaring demand and diminishing household stocks. All the stocks in the local markets of maize are coming from outside the County (Busia, Bungoma, Tanzania and Uganda).Beans are retailing at an average price of Kshs.90 per Kg but have reached Ksh 120 in most markets in the Marginally Mixed Livelihood zone. In the water sector, 70 percent of the earth dams and pans in Kibwezi East, Kibwezi west and Makueni Sub County most affected wards received minimal rains are likely to dry up by the end of August, 2019 whereas 30 percent of piped water schemes are operating at low rates since most of the sources were not fully charged due to the poor rains. Food prices are expected to rise in the coming months following the dismal performance of the long rains.

8. RECOMMENDATIONS

- Vaccination against FMD, LSD
- Close monitoring of market prices of food stuffs at major markets.
- Disease surveillance
- Sensitize farmers on livestock off takes
- Provide supplementary feeds and veterinary care
- Support livestock keepers/ groups to source and transport hay and other feeds. Provide farmers with subsidized transport for feeds that they purchase themselves.