National Drought Management Authority

MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR AUGUST 2019

A Vision 2030 Flagship Project   KENYA VISION 2030

AUGUST EW PHASE

Drought Status: ALERT

Maandalizi ya mapema

Livelihood Zone (LZ)	Phase	Trend
Mixed Farming (Coffee/Dairy)	Alert	Worsening
Mixed Farming (Food Crop/Livestock)	Alert	Worsening
Marginal Mixed Farming	Alarm	Worsening
County	Alert	Worsening

Biophysical Indicators	Value	Normal Ranges
Rainfall (% of Normal)	66.3%	80-120%
VCI-3Month	50.84	35-50
State of Water Sources	3-4	5

Production indicators	Value	Normal
Crop Condition	None	Harvesting
Livestock Body Condition	Fair	4-5 Normal
Milk Production	1.2 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)	76.8	94.6
Milk Consumption	1.0 litres	1.1 litres
Return distance water sources	6.5 Km	5.6 Km
Cost of water at source (20 litres)	KSh 3-5	KSh 2-5

Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	7.5	6.8
Coping Strategy Index (CSI)	8.65	<10

Drought Situation & EW Phase Classification
Biophysical Indicators
- No rainfall received during the month of August.
- The vegetation greenness across all the three livelihood zones was below normal
- Pasture and browse condition was fair in the mixed farming LZ and poor in Marginal Mixed Farming LZ.

Socio-Economic Indicators
- Low harvest for pigeon peas was ongoing in the Mixed Farming zones.
- Cattle body condition was fair in the Mixed Farming zones and fair to poor in MMF zones while for shoats it was good across all the livelihood zones.
- Milk production was below the normal range.

Access Indicators
- Compared to the LTA, distances to water sources for both domestic and livestock consumption were high.
- Compared to the long term mean the terms of trade were unfavorable at 76.8
- Milk consumption was slightly below the normal average.

Utilization Indicators
- The percentage of children at risk of malnutrition increased slightly and was above the normal range.
- Majority of the households were employing food-based coping mechanisms which is normal around this time, while a good number in the MMF were employing livelihood-based coping strategies.

▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks	▪ 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

- Generally, the month of August was dry and hot with no significant rain received.
- On average, the County recorded an average of 3.2mm in dekad one while dekad two and three recorded zero (Stress)
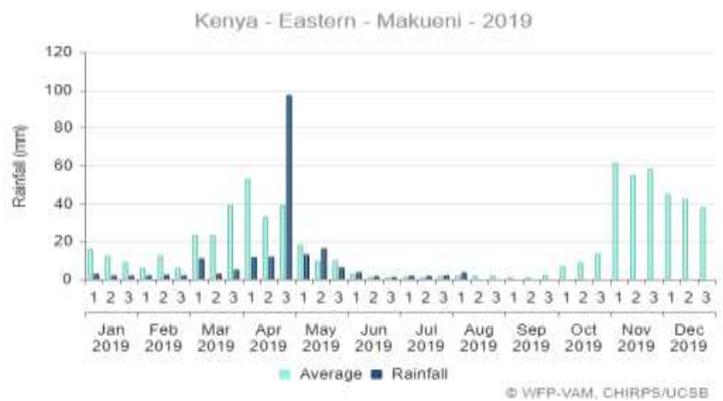

Figure 1: Average rainfall August, 2019

2. IMPACTS ON VEGETATION AND WATER
2.1 VEGETATION CONDITION INDEX

2.1.1 The vegetation condition (VCI)
- The average 3 month VCI for the County was 50.84, an implication of normal vegetation greenness.
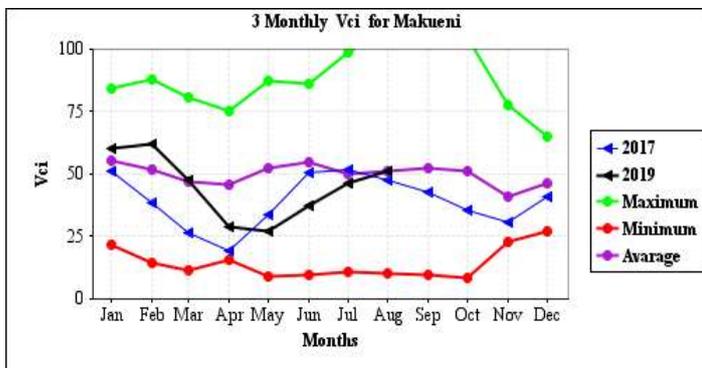- Kibwezi East in the marginal mixed farming livelihood zone recorded the lowest VCI at 34.63.

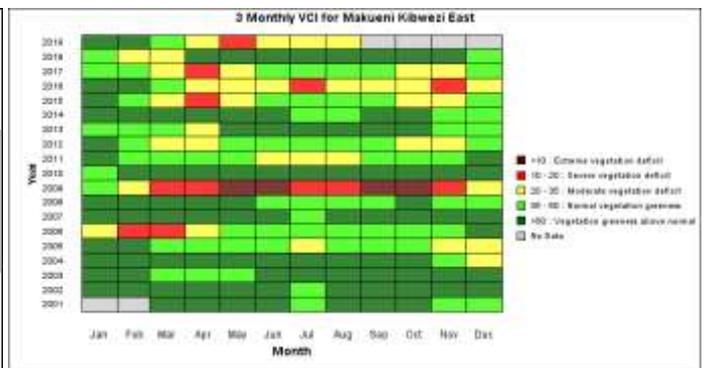**Figure 2.1a: Makueni County 3 month VCI Chart, August 2019.**   **Figure 2.1b: Makueni County 3 month VCI Matrix, August 2019**

2.1.2 Pasture and Browse
- The quality and quantity of pasture ranged from fair to poor across all the three livelihood zones.
- 63.6 percent of the County was considered to have Poor pasture condition while the remaining 36.4 percent had fair pasture condition.
- The most affected wards were Masongaleni, Kikumbulyu North and South, Kithuki-Kitise, Mtito-Andei, Makindu and Kalawa Wards.
- About 50 percent of the browse condition was fair while the remaining 50 percent was poor.
- The fair to poor condition of both pasture and browse is attributed to the high temperatures and the inadequate rainfall which affected growth and regeneration of pasture across all the livelihood zones.
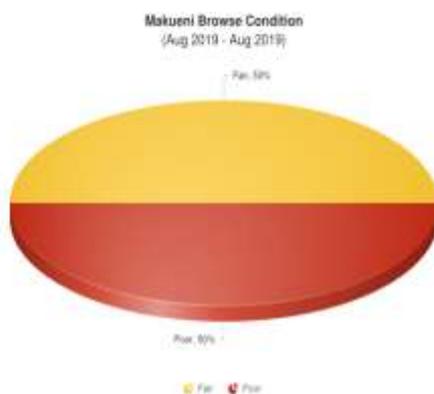

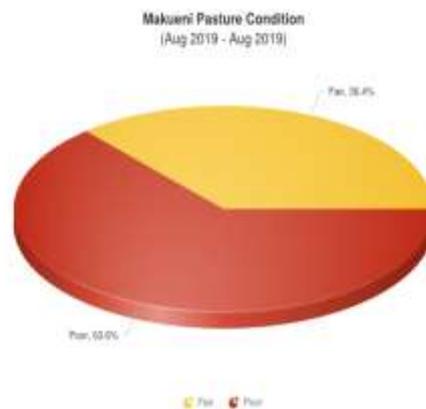**Figure 4: Makueni County Browse Condition, August 2019**   **Figure 5: Makueni County Pasture Condition, August 2019**

WATER RESOURCE

2.2.1   Sources

- Major water sources for both human and livestock consumption were boreholes 27.5%, Shallow wells at 25%, rivers 22.5%, and traditional river wells at 15%.

- Water levels in most open water sources remained low given that a good number of this sources had dried up majorly in the marginal mixed farming livelihood zone.

- Water quality remained a major challenge following the heavy congestion of people and livestock at the available open water sources mostly in the marginal mixed farming livelihood zone.
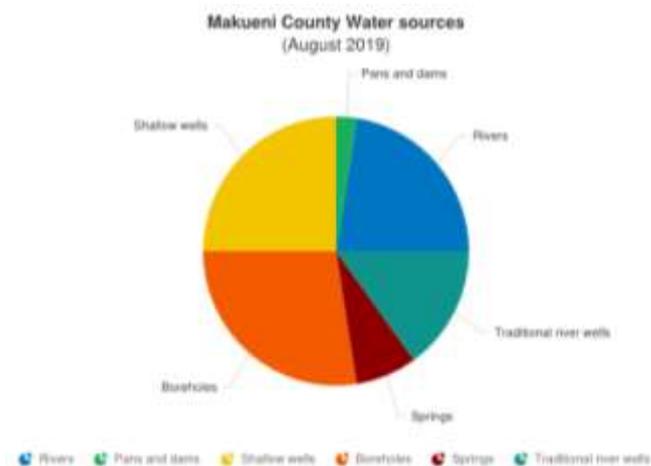
Figure 6: Makueni County Water Sources for August 2019

2.2.2 Household access and Utilization of water
   Distances to water sources for household consumption

- The average return distance from the household to water sources was 6.5Km which was above the long-term average of 5.6Km.

- Compared to the mixed farming livelihood zone, longer distances were experienced in the marginal mixed farming livelihood zone.

- In the marginal mixed farming livelihood zone the Waiting time ranged between one to two hours, while in the Mixed Farming (coffee/diary) and Mixed Farming (food crops/ livestock) it ranged between 30 min to 1 hour.

- The average water consumption per day in the marginal mixed farming zone ranged from 10-15 litres while in the Mixed farming livelihood zone it ranged between 15 to 20 litres.
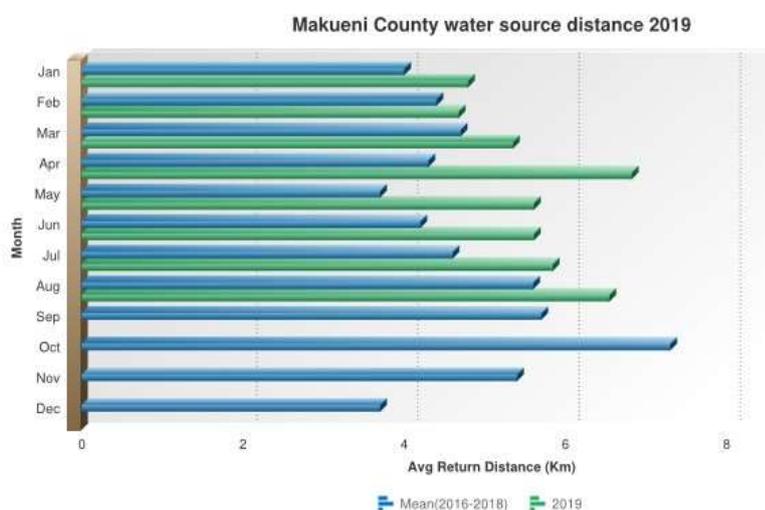

Figure 7: Household Access to Water, August 2019

2.2.3 Livestock access to water

- The average return distance from the grazing areas to watering points increased by 7.8 percent to stand at 6.9 Km in the month of August, attributed to the drying up of most open water sources.
- Longer distances were recorded in the Marginal mixed farming livelihood zone where over 80 percent of open water sources had dried up.
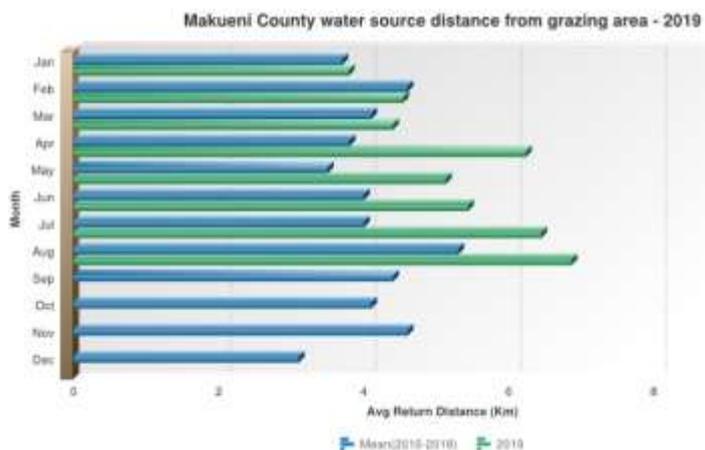

Figure 8: Average grazing Distances, August 2019

2.3 Implication of the above indicators to Food Security

Livestock production is expected to deteriorate more due to the decline of forage and the increased trekking distances to water sources for the livestock.

3.0 PRODUCTION INDICATORS
3.1 LIVESTOCK PRODUCTION
3.1.1 Livestock Body Condition

- Body condition for Shoats was good across all the livelihood zones.
- body condition for the cattle in the mixed farming livelihood zone was moderate (neither fat nor thin) while in the marginal mixed farming livelihood zone over 70 percent were at the borderline (fore-ribs not visible)
- This was attributed to the diminished forage and the increased trekking distances to the available water sources.

3.1.2 Livestock Diseases

- No major notifiable disease outbreak apart from a few confirmed Cases of Foot and Mouth Disease (FMD) in Kilome (Malili, Ngaamba, Kaluli, Kiima/Kiu wards) and Makueni (Kathonzweni) Sub-Counties.
- New Castle Disease (NCD) and Fowl pox were some of the poultry diseases reported across the County.

3.1.2 Milk Production

- The average daily Milk production per household was 1.5 litres which was below the long term average.
- This is attributed to the deteriorated livestock body condition.
- Compared to the Mixed farming livelihood zone less production was recorded in the marginal mixed farming livelihood zone attributed to the declined pastures and increased trekking distances.
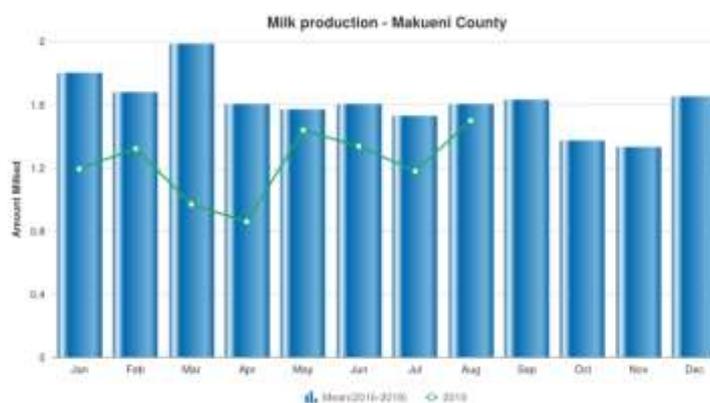

Figure 9: Makueni county milk production, August 2019

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Main crops grown under rain-fed production in the County includes; maize, green grams, cowpeas, beans, pigeon peas millet and Sorghum.
- Total crop failure had been reported in the Marginal Mixed Farming zone for both cereals and legumes.
- Overall production for the season (maize, cowpeas and green grams) was estimated at 2.6%, 2.3% and 0.7% of the Long term average production respectively.
- Minimal harvests of pigeon peas was still ongoing in the mixed farming livelihood zone.
- The total crop production across the county was below the long-term average.

4.0   MARKET PERFORMANCE
4.1   LIVESTOCK MARKETING
4.1.1   Cattle Prices

- The average price for cattle decreased by three percent to KSh18,300.
- The price recorded during the month of August was below the long term average by 15 percent.
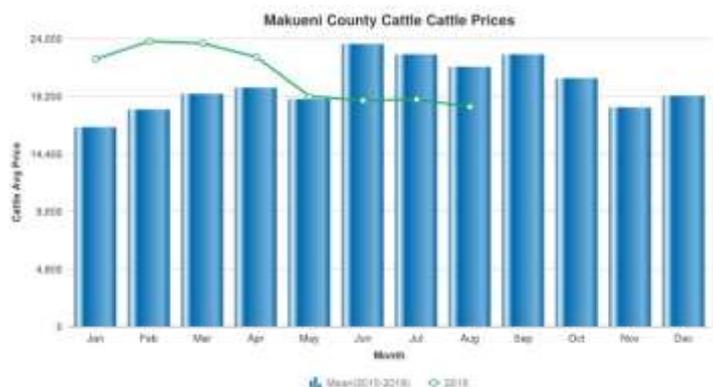- Compared to Marginal mixed farming livelihood zone, the Mixed farming livelihood zone recorded the High prices.

Figure 10: Makueni County Cattle Prices, August 2019

4.1.2   Goat Prices

- The average goat price for the month under review remained stable at KSh 3,500.
- Compared to the long term mean this was a 5.5 percent increase.
- The stability in goat price is attributed to the prevailing good body condition for the shoats.

Figure 11: Makueni County Goat Prices, August 2019

4.2 CROP PRICES

4.2.1 Maize

- The average market price for maize per kilogram remained stable at KSh 45.
- Compared to the last five months the trend of maize prices has been on an increase and higher than (2015-2018) long-term average of KSh 36.
- This is attributed to diminished stocks of maize at household level. Households were primarily depending on the market supplies for the produce hence increased prices.

Figure 12: Makueni county Maize Prices, August 2019

4.2.2 Beans

- Average beans price remained stable at KSh 89.
- Compared to (2015-2018) long-term average of KSh 82, the price remained comparatively high. Markets in in the Marginal Mixed Farming livelihood zone recorded high prices of up to KSh 120 in Kithyululu.
- This was as a result of the diminished household stocks due to the poor harvests.

Figure 13: Makueni County Beans prices, August 2019

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade reduced to 76.8 in August compared to 80 that of last month (a 4 percent decrease.)
- The above implies that from the sale of one goat, a farmer could purchase 76.8 kg of maize.
- The 4 percent decrease was attributed to increase in maize prices and the stability in goat prices.
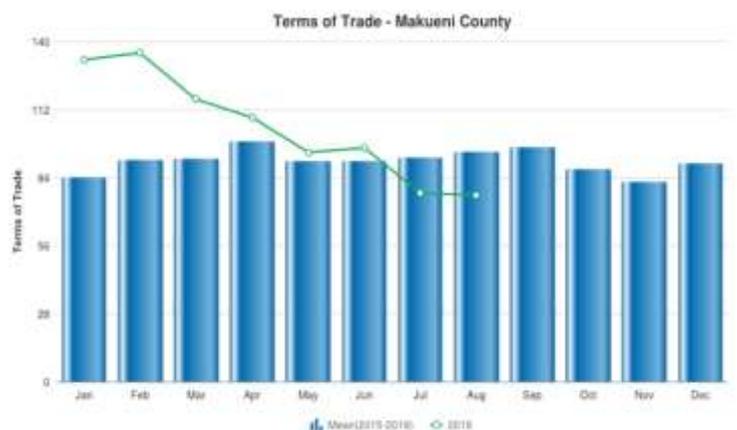- The current terms of trade (TOT) was 18.9 percent below the (2015-2018) Long term Average.

Figure 14: Makueni County Terms of Trade, August 2019

4.3.3. Implications of the above indicators on Food security.

- The price of food commodities is likely to increase more due to the overreliance on markets for food supplies and this might impact negatively on the household purchasing power.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household was 1.0 litre a slight increase from 0.9 litres that of last month.
- Compared to the Mixed farming LZ, Households in the marginal mixed LZ consumed less milk an average of 0.8 litres of milk
- The current milk consumption is 10 percent lower than the long term mean as illustrated in figure 15.
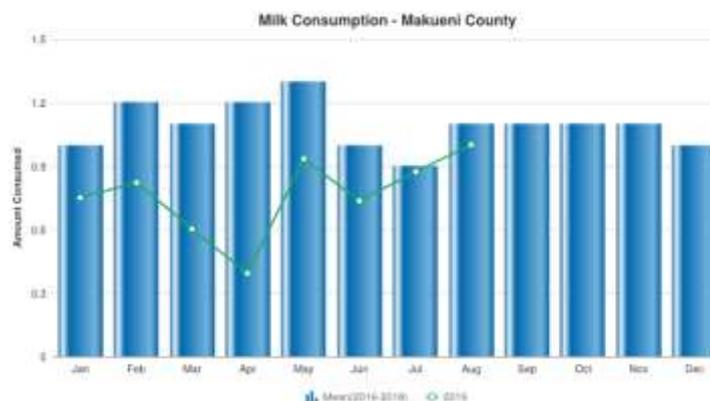

Figure 15: Makueni County milk consumption, August 2019

5.2 FOOD CONSUMPTION SCORE

- The proportion of household with acceptable food consumption score was 55.2 percent, 43.6 percent were at the borderline while the remaining 1.2 percent of the household had a poor food consumption score.
- The decrease in food consumption is attributed to the diminishing food stocks and the household purchasing power.
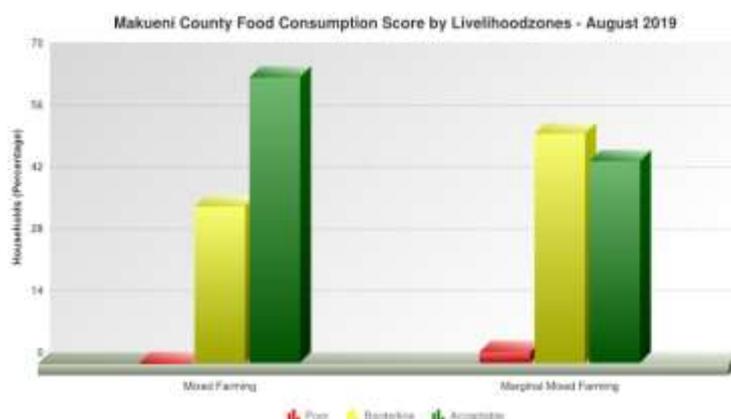

Figure 16: Food Consumption score, August 2019

5.3 HEALTH AND NUTRITION STATUS
5.3.1 Nutrition Status

- The proportion of children (under-fives) at risk of malnutrition for the month of August was 7.5 percent a noteworthy increase from 6.1 percent that of July.
- No cases of severe (MUAC<115) and moderate malnourishment (MUAC 115 - 124mm
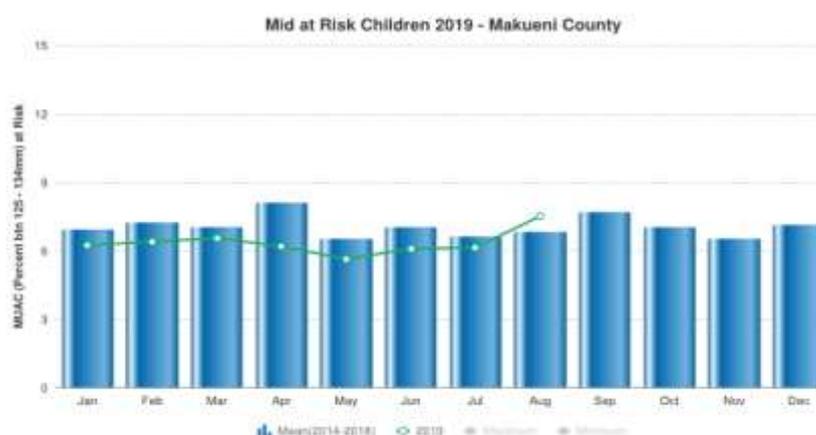- Compared to a similar period in 2018 and the long term average the current Muac is high.

Figure 17: Makueni County, Mid at Risk Children, August 2019

5.4 COPING STRATEGIES

- The coping strategy index (CSI) in Mixed farming livelihood zone was 1.7 a decrease from 3 that of last month, while in the marginal mixed farming zone it was 15.6.
- Average mean CSI for the county was 8.65, comparatively stable from 8.07 reported the previous month.
- The mechanisms applied by most household were mainly consumption-based though a good number of households had started to employ livelihood based coping mechanism such as selling more of the non-productive animals than usual in bid to bridge the food deficit.
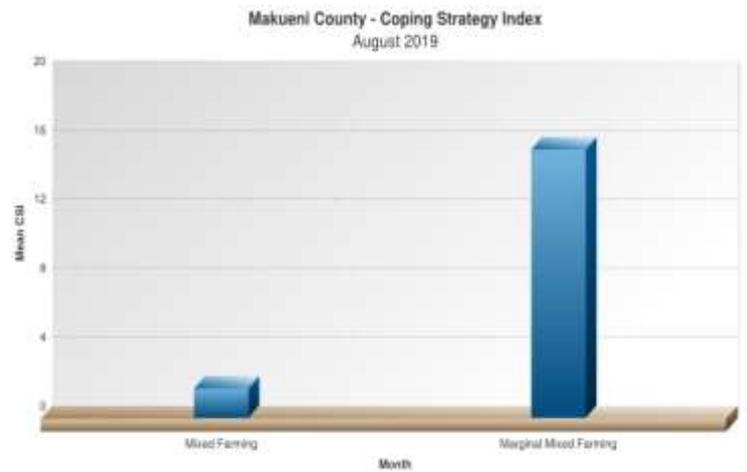

Figure 18: Makueni County Coping Strategy Index, August 2019

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

Water
- Feasibility study, survey and design of projects to be implemented in the financial year 2019/2020
- Rehabilation of Earth dams, drilling of new boreholes and equipping of existing borehole with solar panels and gensets.
- Kibwezi Makindu Water and Sanitation Company (KIMAWASCO) had rebilitated four piped water connections within the area of operation covering 80Km of pipeline of variuos sizes increasing water distribution to 460 cubic metres per day and benefitting 9000 HHs

Health and Nutrition.
- Vitamin A supplementation on all the health centers and ECD centers countywide.
- Management of Acute Malnutrition (IMAM) in all the health facilities countywide.
- Zinc Supplementation on all the health centers county wide.

Agriculture

- Promotion of water harvesting technologies especially through mechanized farm pond excavation for production and conservation agriculture techniques.
- Support to small scale irrigation

Peace and Security.
- Public Barazas in Mikululo to initiate Peace and manage conflicts.
- Frequent police patrol along the border of the two communities
- Ban on transportation of Livestock Meat past 6.00 P.m.

6.2 FOOD AID

- Food Aid from National Government - directorate of Special Programme for the Month of August was on the process of being delivered to the County.
- The allocation for each Sub-County (9 administrative boundaries) were as follows: Maize 700 (50 kg) bags, Rice 200 (50kg) bags, beans 350(50kg) bags and cooking oil 50 cartons(24× 0.5litres) and 70 bales of Health Food.

7.0 EMERGING ISSUES

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

- Cases of human-wildlife conflict were reported in parts of Kibwezi west and East especially in Masongaleni and Makindu wards.
- To date four victims had died as a result of human wildlife conflict, the most recent being a teacher in Makindu (Kibwezi West) who was attacked and killed by a straying Lion.
- Resource based conflicts between the Kamba and Maasai community in Mikululo were reported in which one life was lost and four people injured.
- Cases of Livestock theft and criminology were reported in most parts of the County.

7.2 Migration.
- Migration was notable in several areas with cattle trekking longer distances in search of pasture. In the marginal mixed livelihood zone, Masongaleni Ward (Wandei) migration was witnessed whereby livestock were crossing Athi River to Tsavo East National park in search of pasture.
- Livestock migration was also expected in areas of Malili from the neighboring County of Kajiado (Mashuru to Mikululo) and areas bordering Kyullu national Park.

7.3 Food Security Prognosis
- Maize prices are likely to increase due to the little harvest experienced during the MAM season leading to increased market demand.
- Farmers are expected to start selling their goats to fill the household gap hence reduction in prices of goats in the market.
- Terms of trade are likely to reduce further as the prizes of maize continues to increase while that of goats maintains stability and decreases in the long term.
- Competition over the limited resources is likely to result to resource based conflicts which will likely lead to displacement of households and market disruptions.

8. RECOMMENDATIONS

Livestock
- Provision of high protein, energy and mineral pellets to 4,500 households.
- Water trucking for animals.
- Enhanced sensitization on market off take.
- Livestock disease surveillance.
- Provision of hay to 1,000 HHs.
- Livestock vaccination in 21 wards along the borders with other counties (70,000 cattle and 70,000 goats).

Water
- Rehabilitation of 5 strategic boreholes by replacing gen-sets (1,200 HH).
- Provision of fuel subsidy to 60 strategic boreholes (15,000 HH).
- Water trucking to 149 strategic centers.
- Procurement of 15 (10,000 litres) water tanks to strategic centers (schools, markets and health centers).
- Repair and servicing of key strategic Boreholes.

Agriculture
- Food Aid for the affected 247,000 persons (41,167 HH).

Health Sector
- Support Mass screening and integrated outreaches 7,000 beneficiaries (2 months).
- Therapeutic and supplementary feeding Programme.
- Sensitization of CHVs on nutrition and WASH (5 Sub-Counties).
- Procurement of water treatment chemicals and sensitization on water safety.

Peace and security
- Hold peace meetings on human/human and human wildlife conflicts.