



National Drought Management Authority



MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR JUNE 2021

JUNE 2021 EW PHASE

Drought Status: **NORMAL**



Shughuli za kawaida

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Generally, the month of June was dry characterized by sunny days and cold nights.
- Pasture and browse condition ranged from fair to poor in the in the mixed farming livelihood zone while in the marginal mixed farming zone it was poor.
- Water availability remained fair across all the livelihood zones.

**Socio-Economic Indicators**

- Crops in the mixed farming livelihood zone were at the maturity stage though in low acreage.
- Livestock body condition for the cattle and Shoats ranged from good to fair across all the three livelihood zones.
- Milk production for the month was above normal.

**Access Indicators**

- Terms of trade were above normal by 15%.
- Milk consumption was normal.
- Return water distances were above average by 20.1%.

**Utilization Indicators**

- Households employed minimal consumption based coping strategies to deal with lack of food/money to buy food.
- Percentage of children at risk of malnutrition was within the normal range.

Livelihood Zone (LZ)	Phase	Trend
Mixed Farming (Coffee/Dairy/Irrigation)	Normal	Worsening
Mixed Farming (Food Crop/Livestock)	Normal	Worsening
Marginal Mixed Farming	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Ranges
Rainfall (% of Normal)	53	80-120
VCI- 3 Month	53.03	35-50
State of Water Sources	3-4	5
Production indicators	Value	Normal
Crop Condition	Maturity	Maturity
Livestock Body Condition	Good - Fair	Good- Normal
Milk Production	1.9 Litres	1.5 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	107.6	93.6
Milk Consumption	0.9 litres	0.96 litres
Return distance water sources	5.5 Km	4.58 Km
Cost of water at source (20 litres)	KSh 2-5	KSh 2-5
Utilization indicators	Value	Normal
Coping Strategy Index (CSI)	9.6	<10

<ul style="list-style-type: none"> <li>▪ Short rains harvests</li> <li>▪ Short dry spell</li> <li>▪ Reduced milk yields</li> <li>▪ Increased HH Food Stocks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Planting/Weeding</li> <li>▪ Long rains</li> <li>▪ High Calving Rate</li> <li>▪ Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>▪ Long rains harvests</li> <li>▪ A long dry spell</li> <li>▪ Land preparation</li> <li>▪ Increased HH Food Stocks</li> <li>▪ Kidding (Sept)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Short rains</li> <li>▪ Planting/weeding</li> </ul>								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- Generally, the month of June was dry in most parts of the County characterized by sunny days and cold nights.
- On average, the county recorded 1.5mm of rainfall against a 20 year (1993-2013) average of 1 mm in dekad one , 2.8mm against an average of 1.1mm in dekad two and 0 mm in dekad three against an average of 0.8 mm.

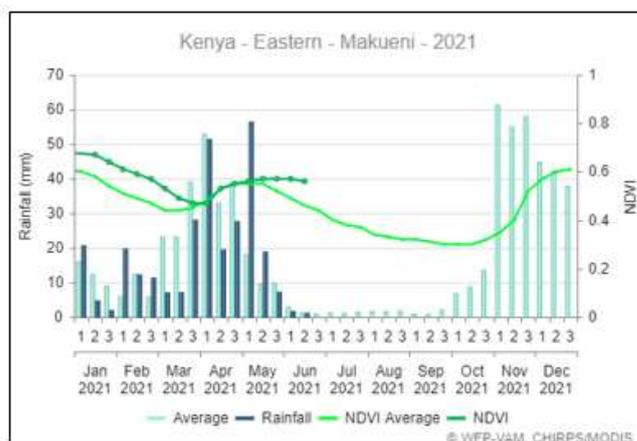


Figure 1: Makeni Average Rainfall, June, 2021

# 2. IMPACTS ON VEGETATION AND WATER

## 2.1 VEGETATION CONDITION INDEX

### 2.1.1 The vegetation condition (VCI)



Figure 2(a): Vegetation Condition Matrix

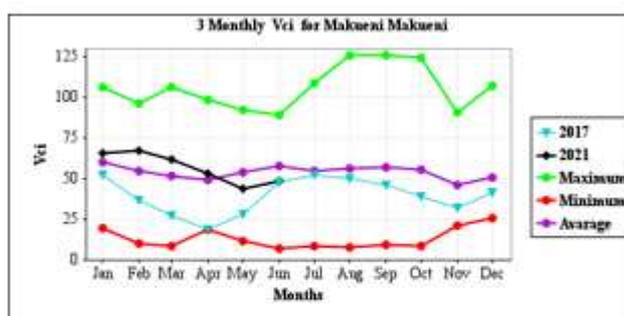


Figure 2(b): Vegetation condition Index

From satellite imagery, the average 3 month county vegetation greenness (VCI) was 53.03, an indication of normal vegetation greenness as shown in figure 2 above. However, from the observation on the ground ,the vegetation condition had really deteriorated as a result of the failed March, April, May rain season majorly in the marginal mixed farming livelihood zone.

### 2.1.2 Pasture and Browse

- Pasture and browse condition ranged from fair to poor across all the three livelihood zones attributed to the heat effect that was being experienced in the month.
- On average of 16.7 percent of the available pasture was estimated to be good, 61.1 percent fair while the remaining 22.2 percent was poor. While for browse, 33.3 percent of the available browse was estimated to be good, 38.9 percent fair and the remaining 27.8 percent poor.
- The available pasture is expected to last for less than 1.5 months across all the livelihood zones compared to 2-3 months normally. Browse is expected to last for less than 2 months compared to 2-3 months during a normal season.

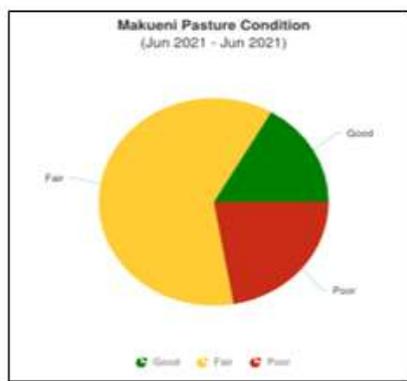


Fig 3: Pasture condition June, 2021

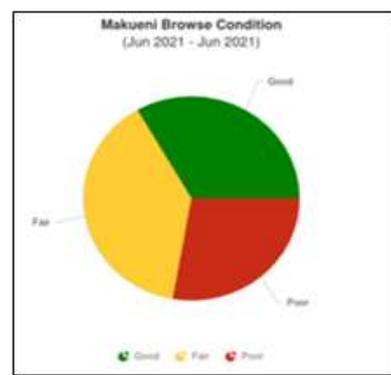


Fig 4: Browse condition, June, 2021

## WATER RESOURCE

### 2.2.1 Sources

- The main sources of water for both human and livestock consumption during the month of June were: Rivers at 40.9%, Traditional River wells at 27.3%, shallow wells at 18.2% and boreholes at 13.6% as illustrated in figure 5 alongside
- Most of the facilities in the Marginal mixed farming had a low recharge level of less than 30% of their Capacity.
- The current situation is not normal (at this time of the year) across all the three livelihood zones.
- Water levels for most open water sources are likely to last for less than months across all the livelihood zones compared to 2-3 months normally. This is mainly attributed to the high levels of siltation and the poor recharge as a result of the below average season (2021 MAM long rains).

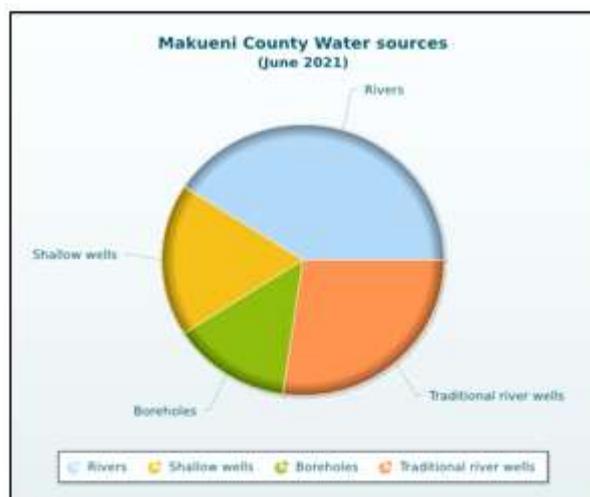


Fig 5: Makueni County Water Sources for June, 2021

### 2.2.2 Household access and Utilization

- Average return distance from the household to water sources increased by 22.2% to an average of 5.5km. The long trekking distances were majorly experienced in the marginal mixed farming livelihood zone.
- Compared to the long-term average the current distances were high by 20%.
- The increase in distances was attributed to the decline in water levels and poor recharge as a result of the below average MAM long rains season.
- The distances are expected to increase more in the coming months as the drought sets in.

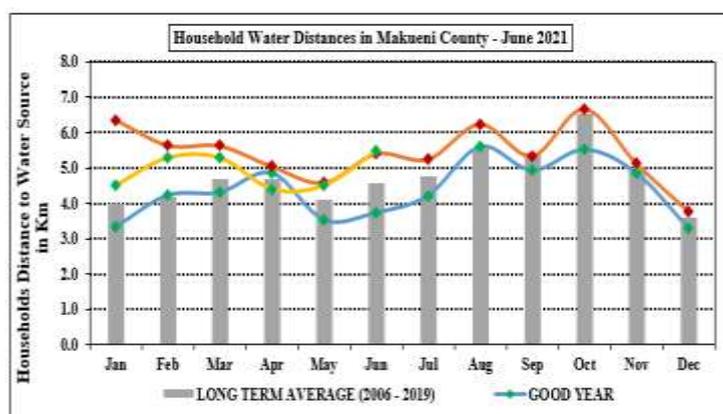


Fig 6: Makueni Household Access to Water, June, 2021

### 2.2.3 Livestock access to water

- Average return distance from the grazing areas to water points increased by 11.4% to an average of 4.9 Km
- Compared to the long-term mean the current distances were above by 11.4%.
- In the marginal mixed farming livelihood, high grazing distances of up to 3.0Km were recorded, attributed to the failed long rains season.
- In Masongaleni ward, communities relied on water trucking since the main pipeline had been vandalized at both the intake by elephants and along the feeder roads by the grader tractors.

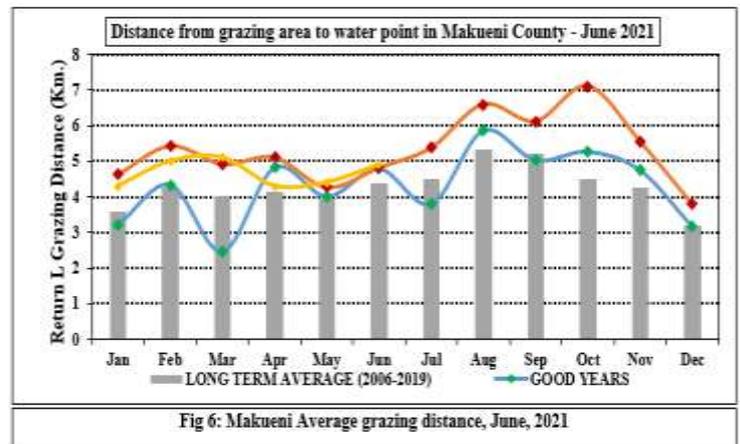


Fig 6: Makueni Average grazing distance, June, 2021

### 2.3 Implication of the above indicators to Food Security

- The declining forage access and availability of water is likely to impact negatively on the household food security situation across all the three livelihood zones.

## 3.0 PRODUCTION INDICATORS

### 3.1 LIVESTOCK PRODUCTION

#### 3.1.1 Livestock Body Condition

- Livestock body condition ranged from good to fair for all species across all the three livelihood zones.
- On average, 66.7% of the livestock had a good smooth appearance an increase from 50% percent that of last month while the remaining 33.3% were at moderate neither fat nor thin.
- The prevailing fair body condition is as a result of the available pastures, water, browse and fodder (maize stovers) majorly in the mixed farming livelihood zone.
- Compared to the year 2020, livestock body condition was better than the current year.

#### 3.1.2 Livestock Diseases

- Few sporadic cases of heart water disease reported in the Masongaleni ward.

#### 3.1.3 Milk Production

- The average daily Milk production per household reduced by 20.8% to an average of 2.4 litres
- The reduction in milk production is attributed to the decline in pasture and water for the livestock.
- Compared to the (2016-2020) long-term average the current production was above normal by 25%.
- The milk production is expected to reduce more in the coming weeks as the state of pasture and browse continue to deteriorate more majorly in the marginal mixed farming livelihood zone.

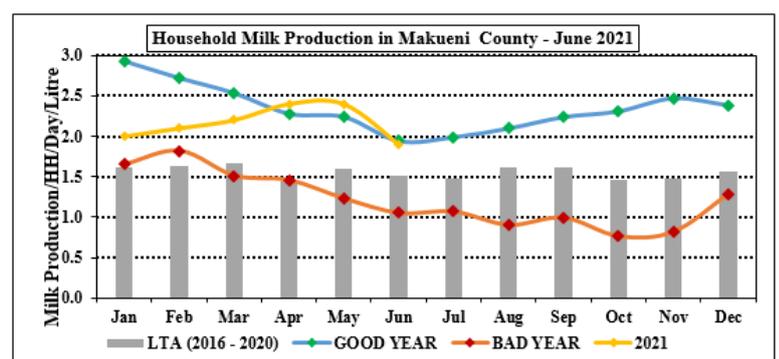


Figure 8: Makueni County Milk Production, June, 2021

#### 3.1.4 Implication of the above indicators on Food security

- The deterioration of pasture, browse and the reduction of water at the available sources will affect the livestock body condition negatively hence a significant decrease in terms of milk production.

## 3.2 RAIN-FED CROP PRODUCTION

### 3.2.1 Stage and Condition of food Crops

- The main crops grown during this season MAM long rain season under rain-fed production were; maize, green grams, cowpeas, beans, pigeon peas, millet and Sorghum.
- The acreage under rain fed production was lower than the long-term average since majority of the households failed to plant their short season crops due to the poor performance of the MAM rains season.
- In the mixed farming livelihood zone majority of the maize crop had reached the maturity stage. Perennial crops like pigeon peas were at the green production stage in both the mixed farming and marginal mixed farming livelihood zone though in low quantities.
- In addition to the rain fed farming, farmers along the main rivers (Athi, Kikuo and Kaiti) and other major streams continued to practice horticultural farming and the crops were at various stages of development.

### 3.2.2 Implication of the above indicators on Food security

- The harvests are expected to be average majorly in the Mixed farming livelihood zone while in the marginal mixed farming livelihood zone it is expected to be low. This will impact negatively on the household food security.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- The average price of a 2 year old cattle decreased by 4.5 percent to an average of KSh 25,800.
- The decrease in price was attributed to the increased supply in the markets in the marginal mixed farming zone by the livestock keepers as they tried to offset them due to the drought that was setting in slowly.
- Compared to both the short term average and a similar time during the good year, the current market price was above normal by 29.8%

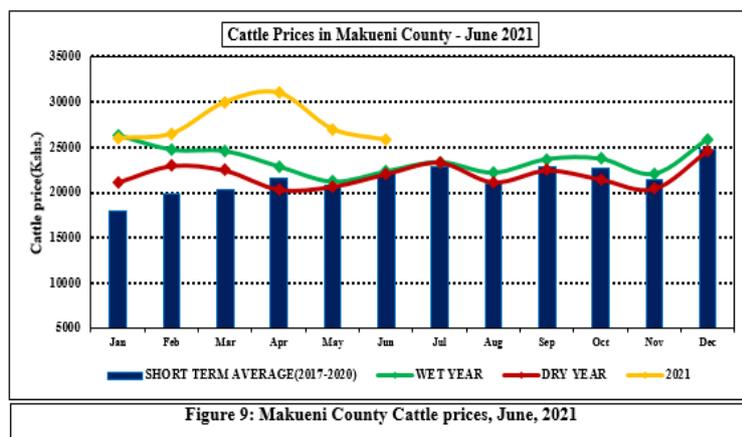


Figure 9: Makueni County Cattle prices, June, 2021

#### 4.1.2 Goat Prices

- The average market price for a medium sized goat was KSh 3700 a 9.8% decline from KSh 4,100
- The decline in price was attributed to increased supply of goats in the markets.
- Compared to both the good season and the long-term average, this month's price was slightly below normal by 3.8% and 9.0% respectively.
- The mixed farming livelihood zone recorded a higher price of KSh 4000 compared to KSh 3400 in the marginal mixed farming livelihood zone.
- The variance in price is attributed to the increased supply of goats in the markets in marginal mixed farming livelihood zone.

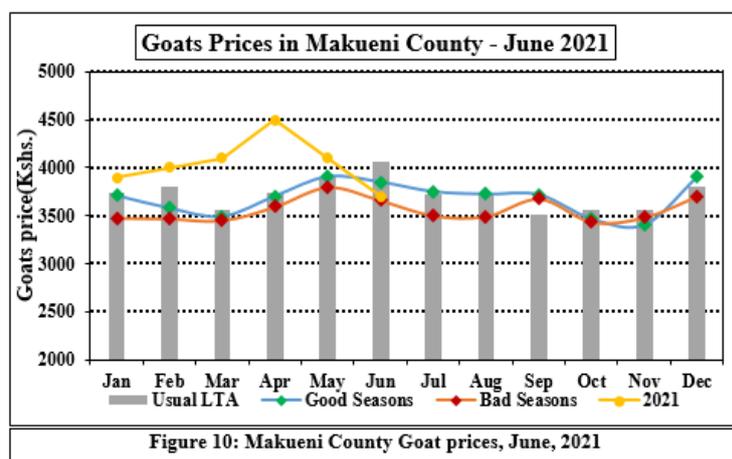
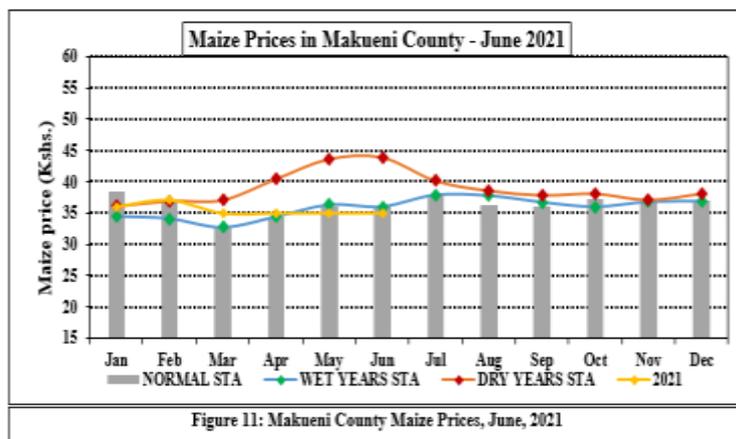


Figure 10: Makueni County Goat prices, June, 2021

## 4.2 CROP PRICES

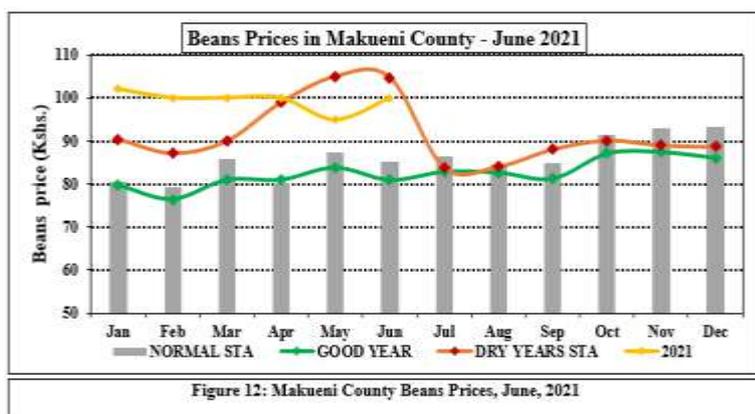
### 4.2.1 Maize

- The average maize price per kilogram remained relatively stable at KSh 35 which is normal at this time of the year.
- This is attributed to the availability of the commodity within the local market and stocks from outside the County.
- Compared to both the wet season and the short term average the current price remained normal.
- No major price variance across the livelihood zones.



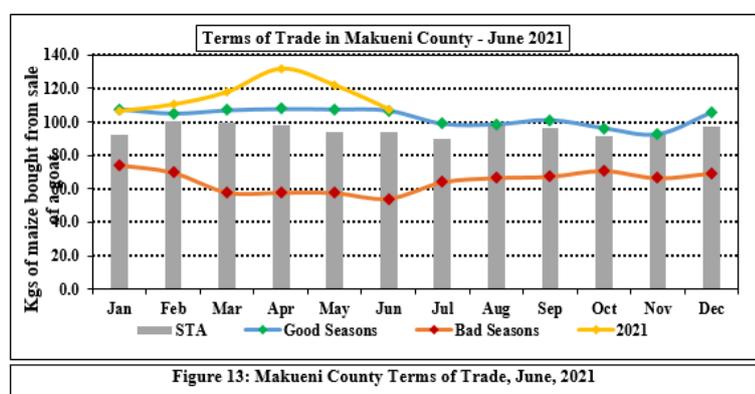
### 4.2.2 Beans

- The average market price for beans was KSh 100, a 5.3 % from that of last month.
- The current beans price was 17.6% higher than the short term average.
- The increase in price for the commodity is attributed to the low harvest from the MAM season.
- There was no major price variation across the three livelihood zones.



## 4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade (goat for maize) decreased by 11.8% to an average of 107.6 an implication that from the sale of one goat, a household would be able to purchase 107.6 kg of maize.
- The sale of one goat in the mixed farming livelihood zone would enable a farmer to get kg of maize
- Compared to both the good year and the short term average, the current TOT was above by 0.7% and 15% respectively.



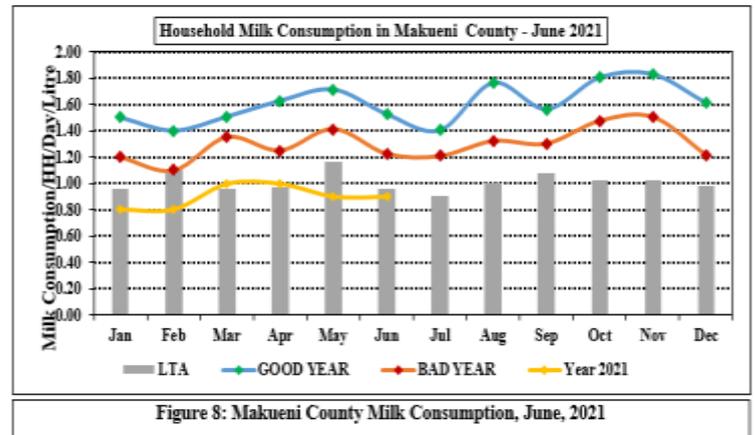
### 4.3.3. Implications of the above indicators on Food security.

- Crop prices are expected to rise following anticipated low harvest. This will impact negatively on household food consumption patterns.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

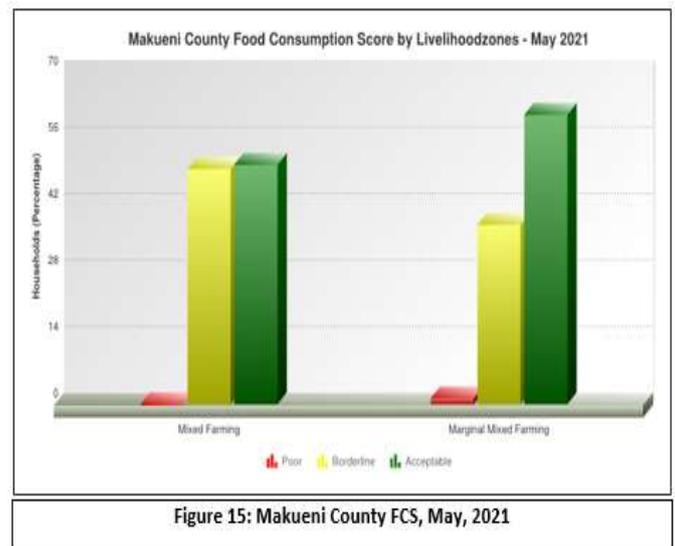
### 5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable at 0.9 litres.
- Compared to both the good year and the long-term average the current milk consumption was below normal attributed to the decline in production.
- On the other hand, compared to last month the slight decrease is attributed to the prevailing fair to good body condition for the cattle due to the available pastures and water for the livestock.



### 5.2 FOOD CONSUMPTION SCORE

- The proportion of households in mixed farming livelihood zone who had an acceptable Food Consumption score declined slightly from 49.6% that of last month to 43.3% while for the borderline it increased from 50.4% to 56.7%
- In the marginal mixed farming livelihood zone there was a slight increase from 61% to 67% for the acceptable Food Consumption score category while for the borderline food consumption score there was an increase from 37.8% to 31.8%. Around 1.1% of the household in this zone were having a poor food consumption score.
- The acceptable food consumption is attributed to the improved dietary diversity and food availability (citrus fruits, Avocadoes, pigeon peas and other crop harvest at the household level.



## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition increased from 3.4% to stand at 3.7% though within the acceptable normal range.
- Around 1% of the children sampled in the marginal mixed farming zone were malnourished.
- The children at risk of malnutrition were counselled and referred for follow-up for Growth Promotion and Monitoring (GPM).
- The stable MUAC trend is attributed to the availability of citrus fruits (Oranges), Avocados, and diversified foods at both the household and the market level.

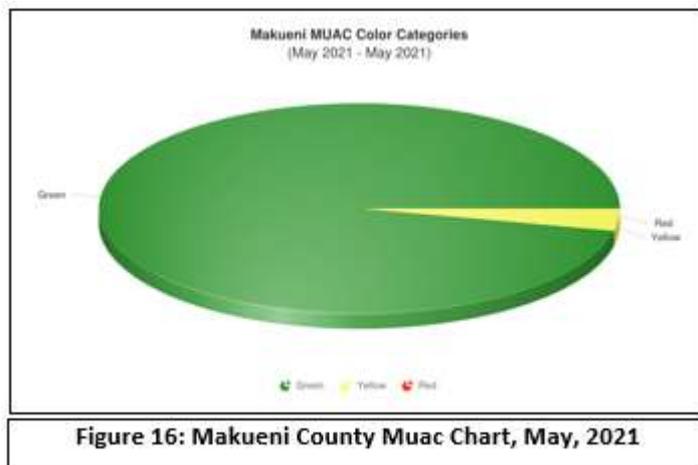


Figure 16: Makueni County Muac Chart, May, 2021

## 5.4 COPING STRATEGIES

- Average mean rCSI for the county increased from 7.1 to an average of 9.6
- The reduced coping strategies index (rCSI) in the marginal mixed farming zone was 13 an increase from 10.5 that of last month while in the Mixed farming livelihood zone it was 6.3 an increase from 3.6 that of last month.
- The main coping strategies that were adopted by most households were: Reliance on less preferred or less expensive food, reduced portion/size of meals and reduced number of meals eaten per day.

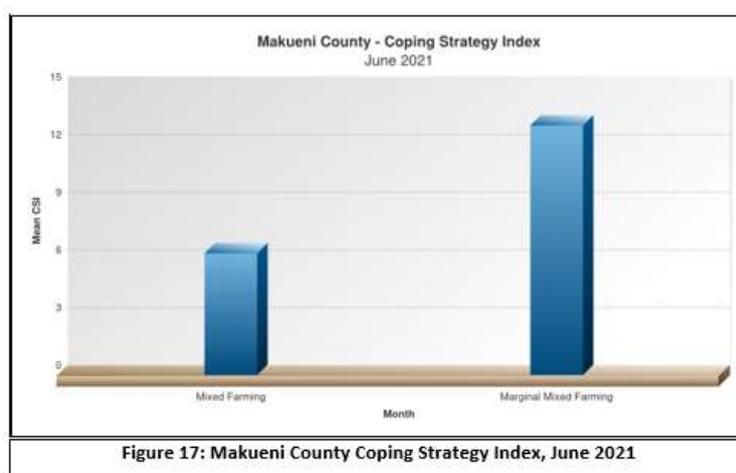


Figure 17: Makueni County Coping Strategy Index, June 2021

## 6.0 CURRENT INTERVENTION MEASURES (ACTION)

### 6.1 NON-FOOD INTERVENTIONS

- National hygiene programme/Kazi Mtaani as part of the strategies to alleviate the adverse effects of Covid-19 was still ongoing. The program aimed at utilizing labour intensive resources at the informal settlements across the county.
- Improvement of indigenous chicken across the County.
- Arrangement to support the affected population with means to acquire food either through a cash transfer programme or distribution of food commodities.
- Plans to absorb the expected harvests from the pigeon peas and maize into the markets at fairly good prices.
- Repair of strategic boreholes especially in the marginal mixed farming livelihood zone which is prone to drought.

### 6.2 FOOD AID

- No food aid allocation for the month under review.

## **7.0 EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement/Human-Wildlife conflict/Floods**

- Enforcement of the daily curfew from 10.00 p.m. to 4 a.m. as a precautionary measure for COVID-19

### **7.2 Migration.**

- There were no reported cases of livestock migration for the period under review.

### **7.3 Food Security Prognosis**

- The positive effects from the enhanced 2020 OND short rains were fast being eroded by the poor performance of the already failed 2021 March, April and May long rain season. Majority of the households failed to plant their short season crops due to the poor rains. A below average crop harvest is thus expected in the county when compared to the long-term average. The ended season also resulted in poor recharge of water storage structures and regeneration of livestock feed. This new development has started to increase the vulnerability of communities in the mixed farming (Food Crop/Livestock) and the marginal mixed farming livelihood zone. The situation has been worsened by the prevailing stiff containment measures on Covid-19 disease which has reduced the trading hours and this has heavily impacted the low income rural households.
- Disease surveillance should be enhanced as intra-migration from the Marginal Mixed areas to the Mixed farming livelihood zones is expected.

## **8. RECOMMENDATIONS**

### **Immediate/Short term contingency measures.**

- Intensify livestock disease surveillance as a result of the expected intra-migration in coming months
- Sensitization on post-harvest storage
- Continuous community sensitization on COVID-19 preventive measures.
- Promote pasture conservation and management practices.

### **Medium and long term**

National Government, County Government and Development partners to collaborate on:

#### **Water Sector;**

- Construction of more weirs for spring protection.
- Awareness creation on the importance of protecting water sources.

#### **Agriculture Sector;**

- Community sensitization on soil conservation structures.

**Livestock Sector;**

- Community sensitization on the importance of fodder preservation and controlled grazing.
- Pasture establishment and seed bulking.
- Feed formulation(cattle, goats, sheep and poultry)

**Health and Sanitation Sector;**

- Promoting home-based water treatment and conservation measures such as storage facilities across the county.
- Continuous sensitization of the community on sanitation and hygiene related to water.

**Social Protection Sector**

- Mapping of vulnerable households, affected food systems and responding through safety-nets (KSEIP).

**Education**

- Implementation of Covid-19 protocols in all learning Institutions.

**Peace and Security Sector**

- Enhancing peace building and conflict management along the County borders with the parks.