



National Drought Management Authority



MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR SEPTEMBER 2021

SEPTEMBER 2021 EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- Generally the County experienced sunny and dry weather conditions during the month of September.
- State of Pasture and browse condition was poor in both mixed and marginal mixed farming livelihood zone.
- Water availability was fair in the marginal mixed farming (MMF) livelihood zone though with a declining trend.

Socio-Economic Indicators

- Main agricultural activity across the two main livelihood zones, was Land preparation.
- The livestock body condition was fair across the two main livelihood zones though with a declining trend attributed to the deterioration of pastures.

Access Indicators

- Terms of trade were normal.
- Milk consumption was below normal.
- Return distances to water sources were on an increase across all the three livelihood zones.

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 11.4% which was outside the normal range.

Livelihood Zone (LZ)	Phase	Trend
Formal Employment / Unskilled Employment	Alert	Worsening
Mixed Farming	Alert	Worsening
Marginal Mixed Farming	Alert	Worsening
County	Alert	Worsening
Biophysical Indicators	Value	Normal Ranges
Rainfall Estimate (RFE) (% of Normal)	0	80-120
VCI- 3 Month	60.5	35-50
State of Water Sources	3-4	5
Production indicators	Value	Normal
Crop Condition	Land Preparation	Land Preparation
Livestock Body Condition	Moderate	Good- Normal
Milk Production	2.2 Litres	2.24 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	96.5	96.2
Milk Consumption	0.8 litres	1.56 litres
Return distance water sources	5.3 Km	5.4Km
Cost of water at source (20 litres)	KSh 2-5	KSh 2-5
Utilization indicators	Value	Normal
Coping Strategy Index (CSI)	9.8	<10

- 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
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1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- Generally the county experienced sunny mornings, sunny afternoons and partly cloudy conditions in the nights. This is normal at this time of the year.
- From the weather stations (rain gauges) spread across the six sub-counties nil amount of rainfall was recorded.
- Forecast by Kenya meteorological department depicts depressed rainfall distributed in both space and time.
- The seasonal rains are expected to start from 15th to 22nd November 2021 and end by 14th to 21st December 2021. This is a late onset and early cessation going by the traditional seasonal calendar.

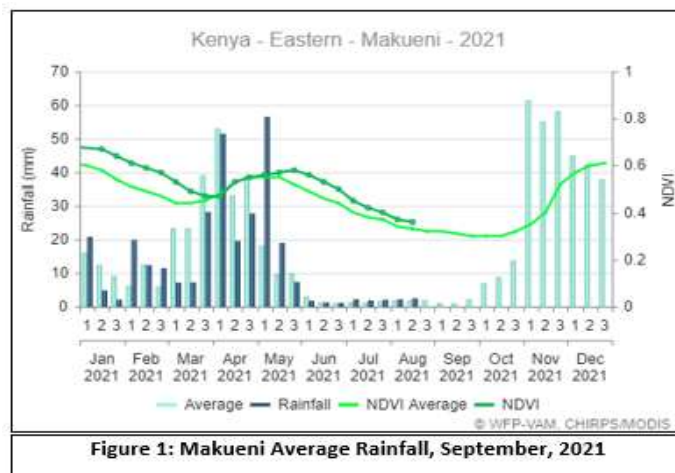


Figure 1: Makueni Average Rainfall, September, 2021

2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION INDEX

2.1.1 The vegetation condition (VCI)

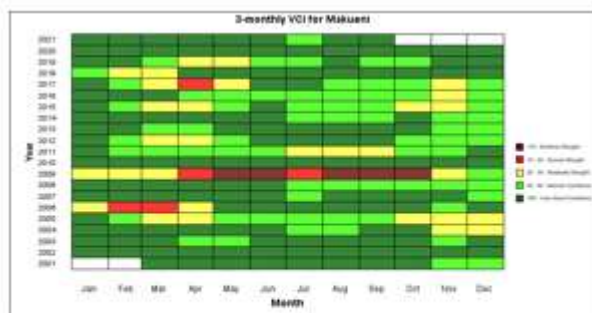


Figure 2(a): Vegetation Condition Matrix

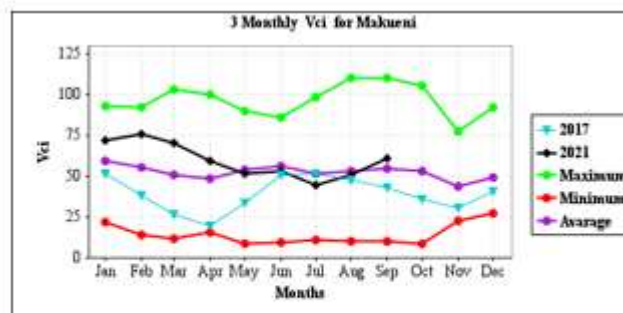


Figure 2(b): Vegetation condition Index

- The average three month vegetation greenness (VCI) for the county was 60.5, an indication of normal vegetation greenness as illustrated above. However, from the visual observation on the ground, the situation had deteriorated more in marginal mixed farming livelihood zone.

2.1.2 Pasture and Browse

- Pasture and browse condition ranged from fair to poor with a declining trend across all the three livelihood zones. This was as a result of the continuous heat effect that was being experienced during the month.
- An average of 22.2 percent of the available pasture was deemed to be fair and the remaining 77.8 percent was poor. While for browse, 22.2 percent of the available browse was deemed fair and the remaining 77.8 percent poor.

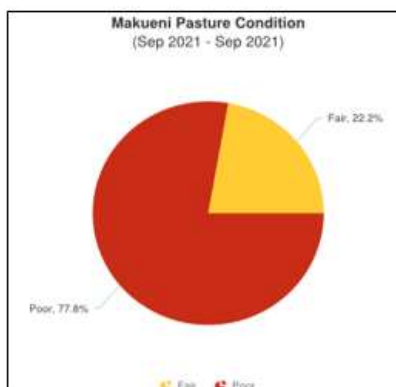


Fig 3: Pasture condition September, 2021

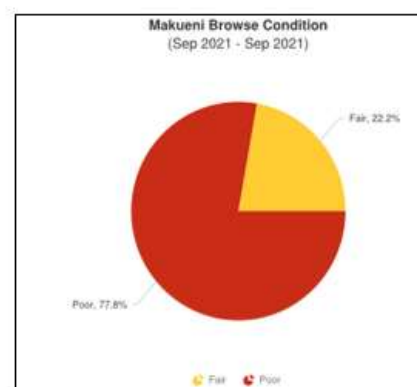


Fig 4: Browse condition, September, 2021

- Majority of the livestock keepers had depleted the available maize stalks, fodder and hay from the previous season.
- The current situation is expected to decline more until the onset of the 2021 OND short rains.

WATER RESOURCE

2.2.1 Sources

- The main sources of water for both human and livestock consumption during the month of September were: Rivers at 28.6%, Traditional River wells at 28.6%, shallow wells at 19%, boreholes at 19% and Springs 4.8% as illustrated in figure 5 alongside
- Water levels in majority of surface water sources was below 20 percent of their capacity the county while majority of the water pans had dried up in the Marginal Mixed Farming livelihood zones.
- The current situation is below normal (at this time of the year) across all the three livelihood zones.
- Water levels in surface water had reduced significantly due siltation and the high evaporation.

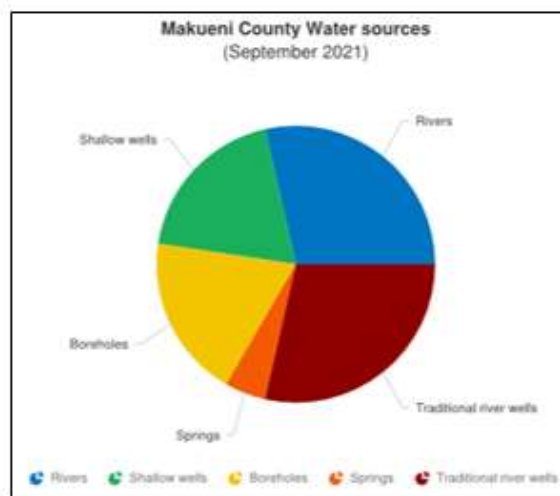


Fig 5: Makueni County Water Sources for September, 2021

2.2.2 Household access and Utilization

- Average return distance from the household to water sources increased by 3.9 percent to an average of 5.3 km. The long distances were majorly witnessed in the marginal mixed farming livelihood zone.
- The current water distance is 2.6 percent lower than the long-term mean
- The distances are expected to increase in the coming weeks as more surface water structures dry up majorly in the marginal mixed livelihood zone.

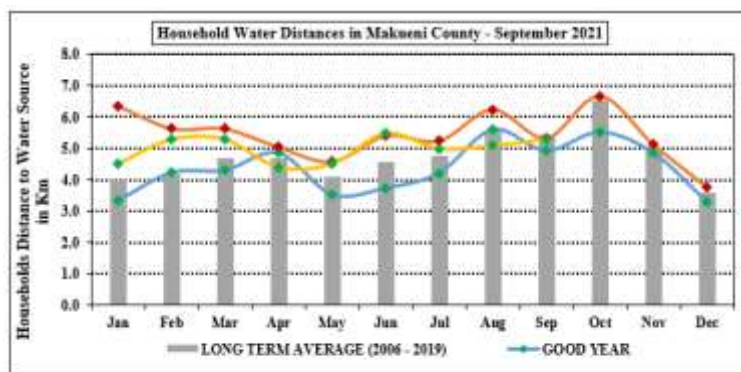


Fig 6: Makueni Household Access to Water, September, 2021

2.2.3 Livestock access to water

- The average return distance from the grazing areas remained relatively high at 5.5 km
- Livestock trekking distances has been on an increase trend since June 2021, attributed to drying up of nearby water resources as a result of poor recharge and the high evaporation rates due to the current prevailing heat effect.
- Compared to the long-term mean, the current distances were above normal by 5.8%.
- Longer return distance of more than 5Km were witnessed in the marginal mixed farming zone.

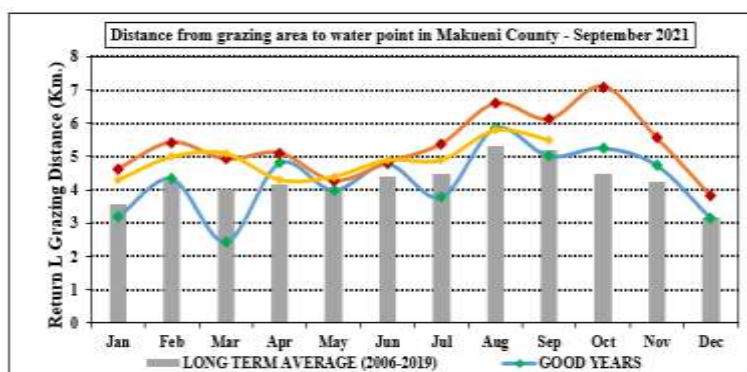


Fig 6: Makueni Average grazing distance, September, 2021

2.3 Implication of the above indicators to Food Security

- The declining water and fodder access & availability is likely to worsen food security situation.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition ranged from fair to poor for all species across all the three livelihood zones attributed to the declining fodder and water availability.
- 88.9% of the livestock had a moderate (neither fat nor thin) body condition while the remaining 11.1 were at the borderline (fore ribs not visible, 12th and 13th visible).
- With the late onset of the OND short rains the condition is expected to worsen more in the next one month as the available pasture and fodder gets depleted.

3.1.2 Livestock Diseases

- Sporadic cases of livestock diseases reported.

3.1.3 Milk Production

- The average daily milk production per household remained relatively stable at 2.2 litres. This is attributed to the availability of maize stovers, pasture and water over the last few months.
- A decline in milk production is expected in the next few months as a result of the increase in watering distance and the decline in fodder availability and quality.
- Compared to the (2016-2020) long-term average the current production was below normal by 4%.
- The milk production is expected to reduce more as the state of livestock feeds deteriorate more across all the three livelihood zone.

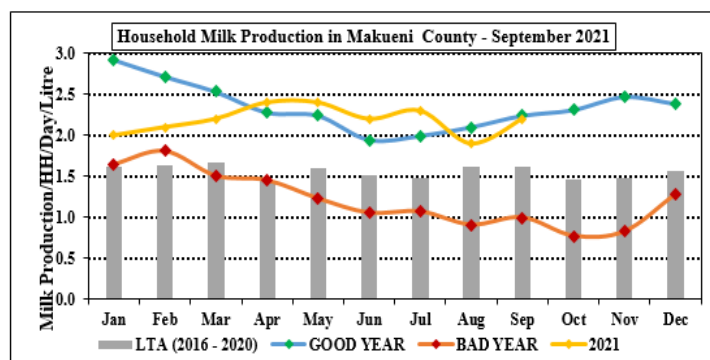


Figure 8: Makueni County Milk Production, September, 2021

3.1.4 Implication of the above indicators on Food security

- As the pasture and browse condition deteriorates more, the livestock body condition will be negatively affected hence a significant decrease in terms of meat and milk production. The livestock herds will fetch lower prices hence lower household purchasing power.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- Currently there were no crops in the farms apart from a few pigeon peas which were being harvested.
- Farmers were busy ploughing their farms across all the two livelihood as part of the early preparation for 2021 October, November, December (OND) season.

3.2.2 Implication of the above indicators on Food security

- Households are likely to continue depending on markets for food commodities following depletion of food stocks at household levels. This will diminish household terms of trade and impact negatively on food consumption patterns.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average price of a medium sized cattle (2-3 year old) decreased by 15.9% to an average of KSh 20,300.
- The decrease in price was attributed to the increased supply in the markets across the livelihood zones by the livestock keepers as the drought sets in.
- Compared to both the short term average and a similar time during the good year, the current market price was comparatively below normal.

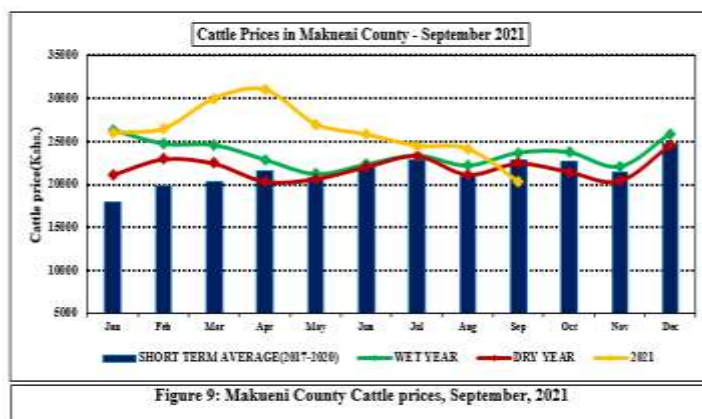


Figure 9: Makueni County Cattle prices, September, 2021

4.1.2 Goat Prices

- The average market price for a medium sized goat decreased by 10.5% to an average of KSh 3,400
- The decline in price is attributed to increased supply of goats in the markets in search of money to buy food.
- Compared to the long-term average, the price was comparatively stable.

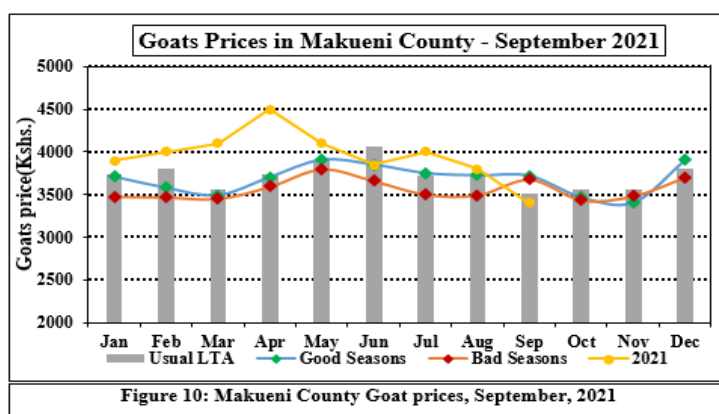


Figure 10: Makueni County Goat prices, September, 2021

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize per kilogram remained 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 (from own production) and stocks from outside the county.
- Compared to the short term average the current price remained is normal.
- There was no major price variation across the three livelihood zones.

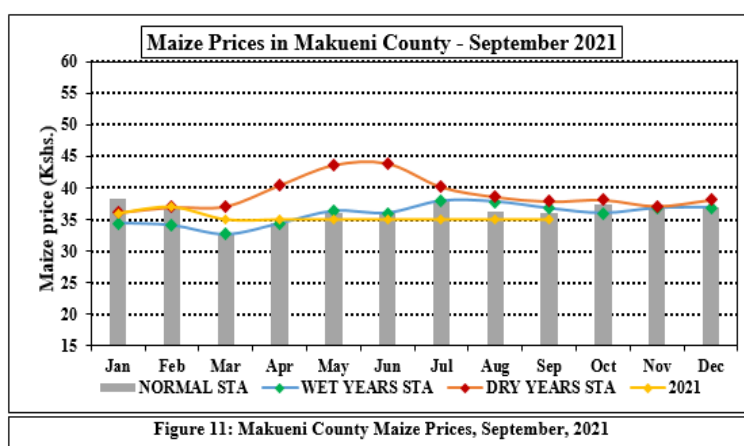


Figure 11: Makueni County Maize Prices, September, 2021

4.2.2 Beans

- The average market price of beans per kilogram remained stable at KSh 100.
- The current beans price was 17.6% higher than the short term average.
- The high price for the commodity is attributed to the exhaustion of the household stock hence reliance on stocks from outside the county.
- High prices of up to KSh 120 were recorded in the marginal mixed farming livelihood zone.

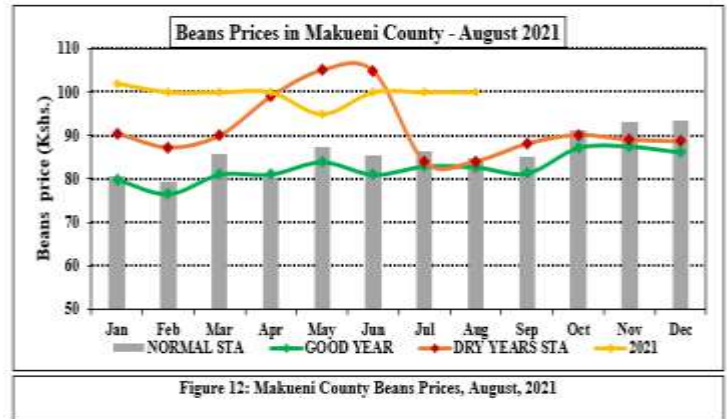


Figure 12: Makueni County Beans Prices, August, 2021

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade (ToT) or goat for maize ratio decreased by 3.2% to an average of 96.5 an implication that from the sale of one goat, a household would be able to purchase 96.5 kg of maize.
- Compared to both the short term average, the current TOT was comparatively normal.
- The TOT is expected to decline more in the coming months as the price for the goats' decreases and that of maize increases.

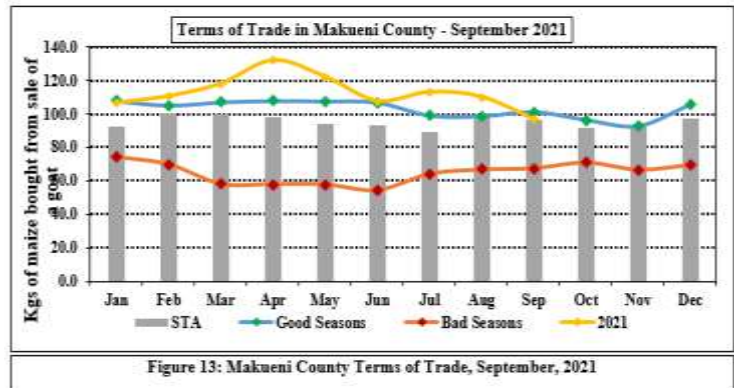


Figure 13: Makueni County Terms of Trade, September, 2021

4.3.3. Implications of the above indicators on Food security.

- Prices of staple food commodities are likely to rise following depletion of household food stocks and dependence of markets for food commodities. 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 relatively stable at 0.8 litres.
- Compared to the long-term average, the current milk consumption was below normal by 49 percent attributed to the decrease in milk production.
- It is expected as the dry conditions continue to set in, milk consumption will decline further.

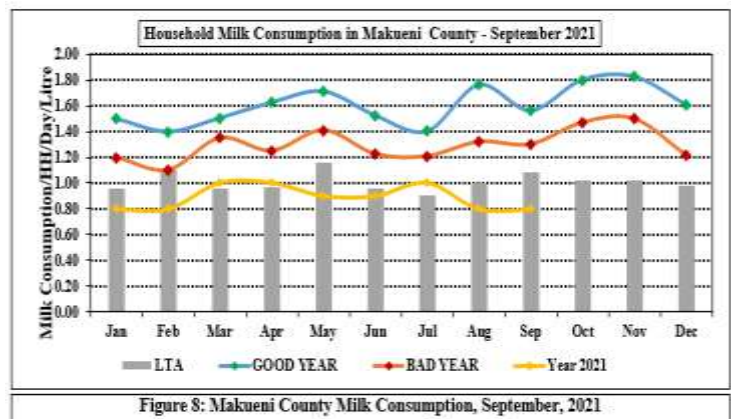


Figure 8: Makueni County Milk Consumption, September, 2021

5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category in the mixed farming livelihood zone declined from 66.4% to 62.4% while for the borderline it increased from 33.6% to 37.6%. In the marginal mixed farming livelihood zone score 56.8% had an acceptable Food Consumption a decrease from 59% while the remaining 43.2% of households were at the borderline food consumption score.
- The continuous reduction in food consumption is attributed to the decrease in dietary diversity and food availability at the household level.

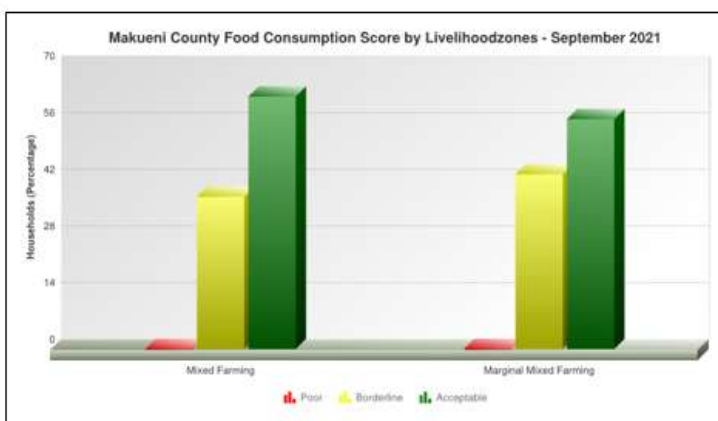


Figure 15: Makueni County FCS, September, 2021

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition was 11.4%, an increase from 3.8% reported last month. This is attributed to reduction in dietary diversity amongst households over the last one month. The current MUAC was outside the current normal range. These cases were recorded in the marginal mixed farming livelihood zone.
- 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, avocados, and diversified foods at both the household and the market level.

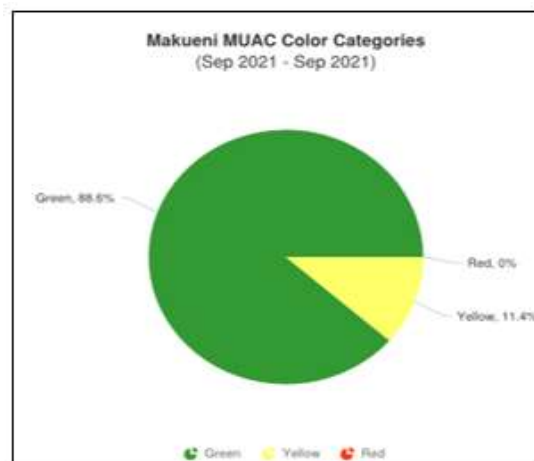


Figure 16: Makueni County Muac Chart, September, 2021

5.4 COPING STRATEGIES

- Average mean rCSI for the county increased from 8.6 to 9.8
- The reduced coping strategies index (rCSI) in the marginal mixed farming zone reduced from 15.7 to 13.3 while in the Mixed farming livelihood zone it increased from 3.8 to 3.9
- 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.

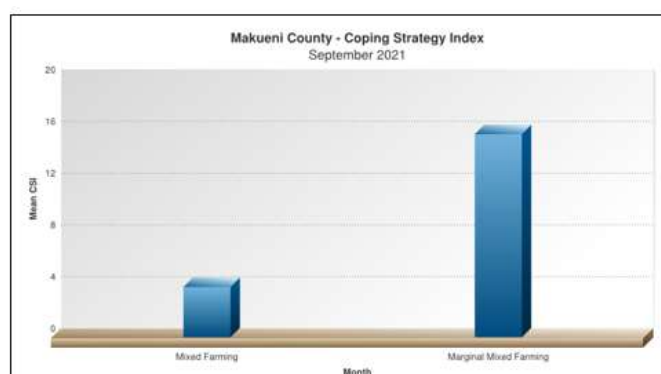


Figure 17: Makueni County Coping Strategy Index, September 2021

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

- Improvement of indigenous chicken across the County.
- Arrangement to support the stressed population with means to acquire food either through a cash transfer programme or distribution of food commodities.
- Repair of strategic boreholes and expansion of new water pipelines mostly in the marginal mixed farming livelihood zone which is prone to drought.

6.2 FOOD AID

- No food aid allocation took place during the month of September.

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 forecast of a late onset for the October November rains by close to a month according to the forecasts given by the Department of Meteorology could put a huge stress on the already diminishing water, pasture and browse resources. This could easily see some sections of the county progress to the alarm drought phase with a worsening trend. Already, all the three livelihood zones (with the Marginal Mixed farming zone being the most affected) could be categorized as being under stressed IPC phase where households are eating minimally adequate diets but must make significant changes to their lifestyles to support other non-food needs. The government and development partners should take the recommended measures to ensure that areas that could slip to phase 3 of IPC (where households are marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis-coping strategies) in the Marginal Mixed farming zone towards the end of November are well cushioned.

8. RECOMMENDATIONS

Immediate/Short term contingency measures.

- Rapid food security assessment should be carried out to assess the current food security situation.
- Repair and servicing of strategic boreholes.
- Provision of plastic water tanks to schools, other institutions and other strategic watering points.
- Provision of water treatment chemicals to households.
- Integrated Health and Nutrition Outreach Services and Sensitization of CHVs on Maternal Infant and Young Child Nutrition-in Emergencies (MIYCN –E)
- Supplementary feeds for calves and breeding stock.
- Livestock care through vaccination and deworming.
- Continuous community sensitization on COVID-19 preventive measures.
- Promotion of pasture conservation and management practices.

Medium and long term

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

Water Sector;

- Participatory watershed management should be embraced to reduce conflicts majorly where there is irrigated farming.
- Those living upstream of water sources advised to enhance soil conservation to reduce siltation of dams and water pans.

Agriculture Sector;

- Reduced seasonal rainfall amounts, late onset, early cessation and poor distribution is likely to affect the agricultural production negatively especially the marginal mixed farming and Mixed farming (middle zone).
- Farmers are encouraged to adopt climate smart technologies, innovations and management practices: Choice of drought tolerant and fast maturing varieties; adopting Conservation Agriculture (minimal or zero tillage, mulching, inclusion of cover crops); on-farm rainwater harvesting among others.
- Agriculture extension officers called upon to advice farmers on the appropriate variety and type of crops to plant.

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

- Vulnerable households' response (affected food systems) through safety-nets (KSEIP).

Education

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

Peace and Security Sector

- Human-wildlife conflict is likely to escalate in areas sharing the boundary with Tsavo West national game park therefore, relevant government authorities should put in place the necessary contingency plans and early action response.