



A Vision 2030 Flagship Project



National Drought Management Authority

MAKUENI COUNTY

DROUGHT EARLY WARNING BULLETIN FOR MAY 2022

MAY 2022 EW PHASE

Drought Status: **NORMAL**



Shughuli za kawaida

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of May was generally dry across all the three livelihood zones marking the cessation of the 2022 March-April-May (MAM) long rains season.
- The average County 3 Month Vegetation Condition Index (VCI) was normal. However, several wards in Kibwezi East experienced severe drought going by the 3 month VCI (Kikumbulyu North-12.73, 14.36, Kikumbulyu South-17.52) while some wards experienced moderate drought conditions (Mtito Andei-27.77, Makindu-31.38 and Kitise kithuki-32.54)
- The quantity and quality of pasture and browse condition was fair in the mixed farming zone while in the marginal mixed zone (Masongaleni) it had deteriorated substantially.
- Availability of water was fair across all the three livelihood despite the increase in trekking distances

Socio-Economic Indicators

- Livestock body condition ranged from fair to good attributed to the availability of pastures although diminishing.
- The crops planted had withered due to moisture stress.

Access Indicators

- Milk consumption was normal.
- Household return distances to water was above normal.

Utilization Indicators

- Terms of trade was below normal.

Livelihood Zone (LZ)	Phase	Trend
Formal Employment / Unskilled Employment	Normal	Worsening
Mixed Farming	Normal	Worsening
Marginal Mixed Farming	Alert	Worsening
County	Normal	Worsening
Biophysical Indicators	Value	Normal Ranges
Rainfall Estimate (RFE) (% of Normal)	41.5	80-120
VCI- 3 Month	41.79	35-50
State of Water Sources	4	5
Production indicators	Value	Normal
Crop Condition	Withering	Tussling/ Knee-high
Livestock Body Condition	Good to Fair	Good
Milk Production	2.3 Litres	1.9 Litres
Livestock Migration Pattern	None	None
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	78	109
Milk Consumption	0.9 litres	0.9 litres
Return distance water sources	5.5 Km	5.2 Km
Cost of water at source (20 litres)	KSh 2-5	KSh 2-5
Utilization indicators	Value	Normal
Coping Strategy Index (CSI)	10.4	<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

- The month of May was generally dry throughout the county marking the cessation of the 2022 March-April-May (MAM) long rains season.
- According to CHIRPS, Dekad one and two recorded 6.2mm and 4.7mm against an average of 16.9mm and 9.4mm respectively.
- Generally, the 2022 March-April-May (MAM) long rains season was below average in most parts of the county. Failure of the long rains was recorded in both Kibwezi East and West sub-counties. The distribution of the rains was also poor in both time and space. The season was also short since the rains started late (4th week of March) and early cessation (3rd week of April)

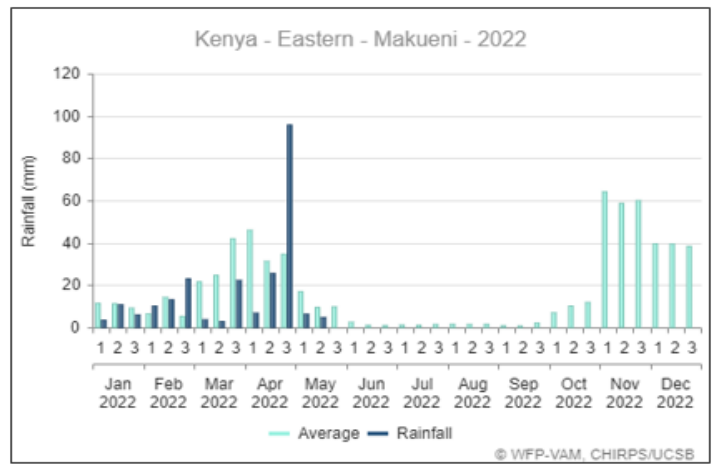


Figure 1: Makueni Rainfall Estimate, May 2022

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION INDEX

2.1.1 The vegetation condition (VCI)

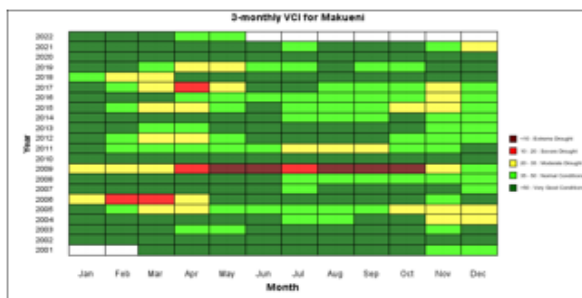


Figure 2(a): Vegetation Condition Matrix

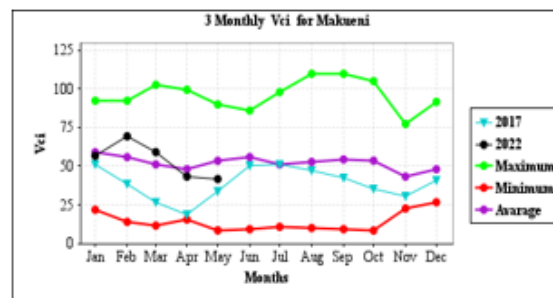


Figure 2(b): Vegetation condition Index

- The county 3-month vegetation condition index (VCI) was 41.79 a decline from 59.34 recorded last month, an indication of normal vegetation condition. Kibwezi East and West recorded a 3 month VCI of 34.67 and 41.4 respectively an indication of moderate vegetation deficit.
- However, the situation in several wards in Kibwezi East experienced severe drought going by the 3 month VCI (Kikumbulyu North-12.73, 14.36, Kikumbulyu South-17.52) while some wards experienced moderate drought conditions (Mtito Andei-27.77, Makindu-31.38 and Kitise kithuki-32.54).

2.1.2 Pasture and Browse

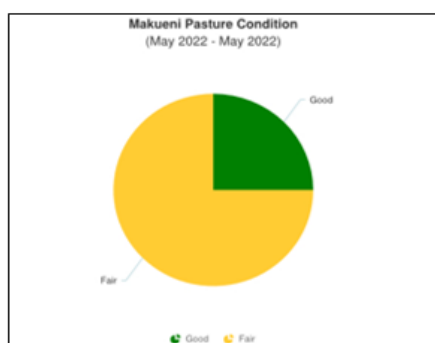


Fig 3: Pasture condition May, 2022

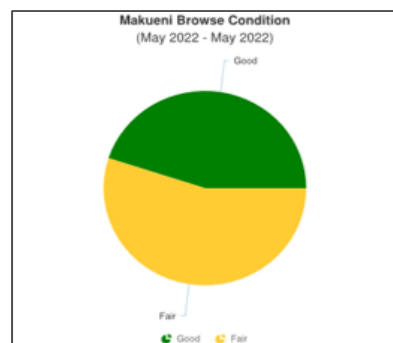


Fig 4: Browse condition, May, 2022

- During the month of May, 25% of the available pasture within the county was considered to be good, while the remaining 75% was viewed to be fair. About 45% of browse was considered to be good (an increase from 18.2 % percent reported last month), while the remaining 55% of browse was regarded to be fair.

- The quantity and quality of the available pasture had deteriorated more in the marginal mixed farming livelihood attributed to the depressed 2022 MAM long rains which failed to trigger regeneration.
- The worst affected areas were Masongaleni and Mito-Andei wards in Kibwezi East and parts of Makindu in Kibwezi West sub-county.

WATER RESOURCE

2.2.1 Sources

- The main sources of water for both human and livestock consumption during the month of May were Rivers at 27.3 percent, traditional river wells at 22.7 percent, springs, shallow wells and boreholes at 13.6 percent each and Pan & dams at 9.1 percent as illustrated in figure 5 alongside.
- In Kilome Sub-County and other major towns mainly in the marginal mixed farming livelihood zone water rationing was being witnessed.
- With the cessation of the 2022 MAM long rains coupled with the failed season mainly in the marginal mixed farming livelihood zone, water levels in surface surface sources are expected to decline more leading to drying up.

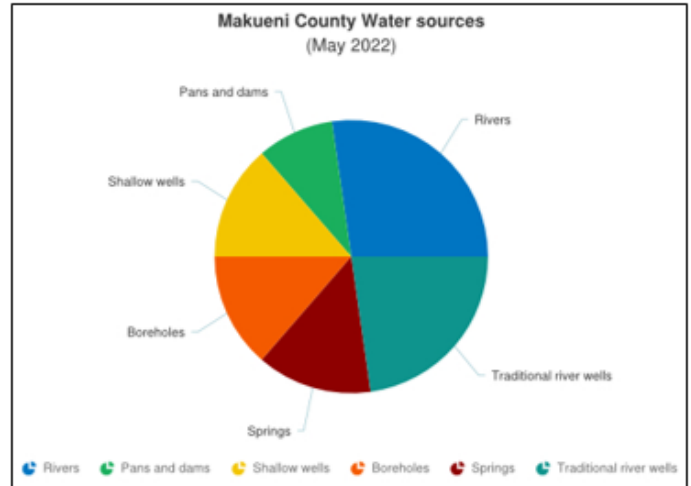


Fig 5: Makueni County Water Sources for May, 2022

2.2.2 Household access and Utilization

- Average return distance from the household in search of potable water increased by 2.5% to an average distance of 5.5Km.
- Compared to the short-term average, the current distances were slightly above normal by 5.8%.
- The increase in distances is attributed to the change to alternate water sources as most nearby water sources continue to dry up.
- It is anticipated that the distances will increase more in the coming weeks as the water levels in surface water sources decline more.
- The average price of water per 20 litre Jerri can at the source/water kiosks retailed between 2-5 Shillings.

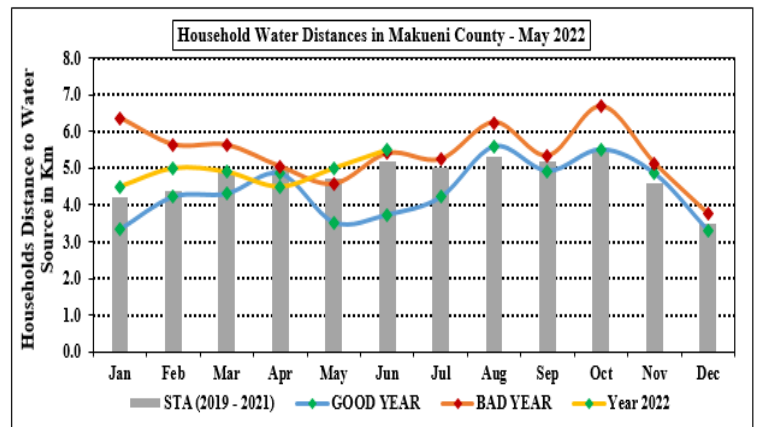


Fig 6: Makueni Household Access to Water, May, 2022

2.2.3 Livestock access to water

- The average return distance from the grazing areas to watering points increased by 22% to an average of 5 Km.
- Compared to the short-term average, the current distances were above average by 8.7%.
- In the marginal mixed farming livelihood the grazing distances had increased from 3.6Km to an average of 4.0km as compared to the mixed farming livelihood zone which remained stable at 1.5Km
- The above average distances are attributed to the decline in volumes and drying up of water sources hence change to alternative water sources.

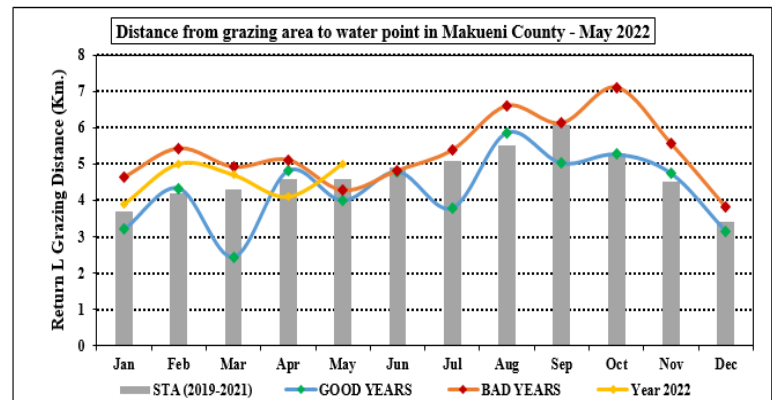


Fig 6: Makueni Average grazing distance, May, 2022

2.3 Implication of the above indicators to Food Security

- With the early cessation of the 2022 March-May (MAM) long rains, Water and forage access & availability is likely to deteriorate further in the marginal mixed farming livelihood zone hence impacting negatively on the household food security situation.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition for all species ranged from good to fair in the mixed farming livelihood zone and fair in the marginal mixed farming livelihood zones attributed to the decline in availability of water, pastures and browse mainly in the marginal mixed farming livelihood zone.
- On average, 65% of the livestock had a good smooth appearance an increase from 54.5% % recorded last month while the remaining 35% were at moderate (neither fat nor thin) a decrease from 45.5% % recorded in the previous month.
- It is anticipated that the prevailing good fair to good livestock body condition will prevail for the next one to two months with the available pastures and browse However, the situation is likely to worsen

3.1.2 Livestock Diseases

- There was no major livestock diseases outbreak reported neither livestock mortalities as a result of drought.

3.1.3 Milk Production

- The average daily milk production per household per day remained relatively stable at 2.2 litres. This was primarily in the mixed farming livelihood zone.
- The stability in production is attributed to the prevailing fair to good body condition for the cattle as a result of the available pasture and fodder.
- Compared to the short-term average the current production was above normal by 17.4%.
- On the other hand, compared to a similar time during the previous year, the current milk production was comparably the same.

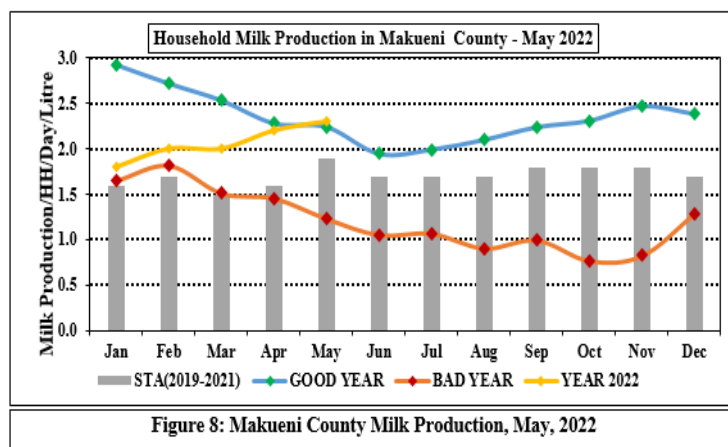


Figure 8: Makueni County Milk Production, May, 2022

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 during the March-May-May long rain season are maize, sorghum, millets and pulses (Green grams, Cowpeas, Pigeon peas and Beans.)
- In the Mixed farming livelihood zone; maize was between Tussling and knee high though area put under production had reduced due to the poor performance of the rains. In the marginal mixed farming livelihood zone, the sparsely planted crops had completely withered due to moisture stress.
- Outbreak of the African army worm had been reported in the county during the month of April. The department of agriculture has been in the frontline in intensifying the surveillance and providing the spraying chemicals to avert damage on the available crops majorly in the mixed farming livelihood zone.
- 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 Indicator to Food Security

- With the poor performance of the 2021 MAM long rains season, crops are expected to perform dismally across all the three livelihood zones hence impacting negatively on the household food security.

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) increased by 10.6% to an average of KSh 25,000.
- The prevailing fair market price was attributed to the good to fair livestock body condition.
- However, with the poor performance of the March-May rains, the above average prices may last for 1-2 months before declining as the body condition may also decline.
- Compared to the short term average the current market price was high by 14.7%. On the other hand, compared to a similar season last year, the current market price was lower by 7.4%.

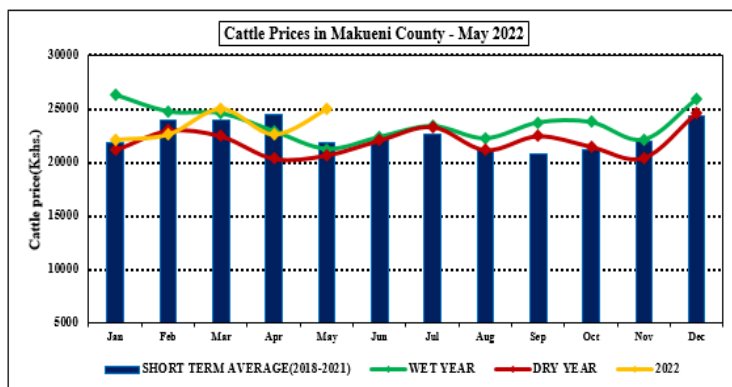


Figure 9: Makeni County Cattle prices, May, 2022

4.1.2 Goat Prices

- The average market price for a medium sized goat decreased slightly by 7% reported in the previous month to an average of KSh 4,500.
- The prevailing good market price is attributed to the prevailing good body condition for the goats as a result of the available pastures and browse.
- Compared to the short-term average, the current market price was above normal by 12.5%.

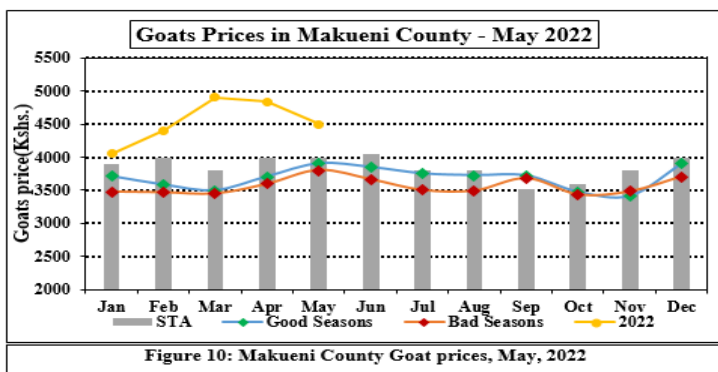


Figure 10: Makeni County Goat prices, May, 2022

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize per kilogram increased by 20% from last month to an average of KSh 60 per kg. This was 71 percent above the short term average. This is attributed to the depletion of household stocks and the failed season hence over reliance on exports.
- It is expected that the maize price will remain high for the next 8 - 9 months. (until proceeds of 2022 OND season are realized)
- Compared to the short term average, the current maize price was above normal by 48%.
- On the other hand, compared to a similar period last year the current price was above by 71.4%.

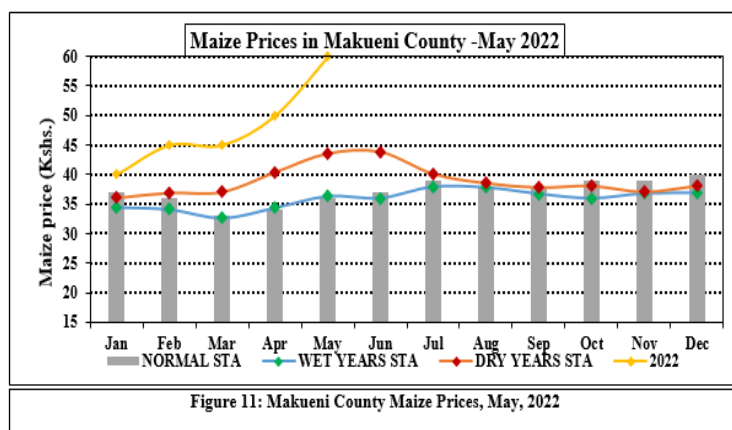
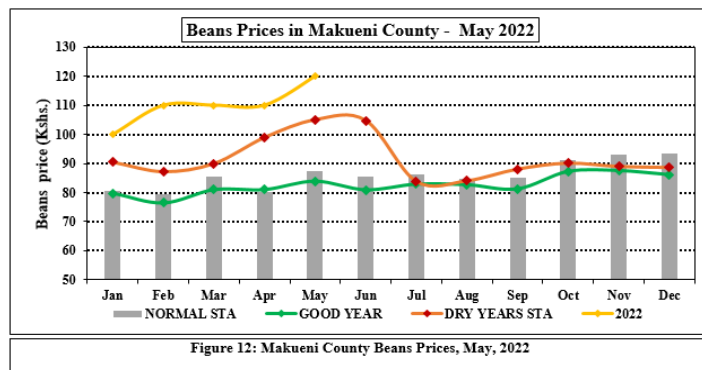


Figure 11: Makeni County Maize Prices, May, 2022

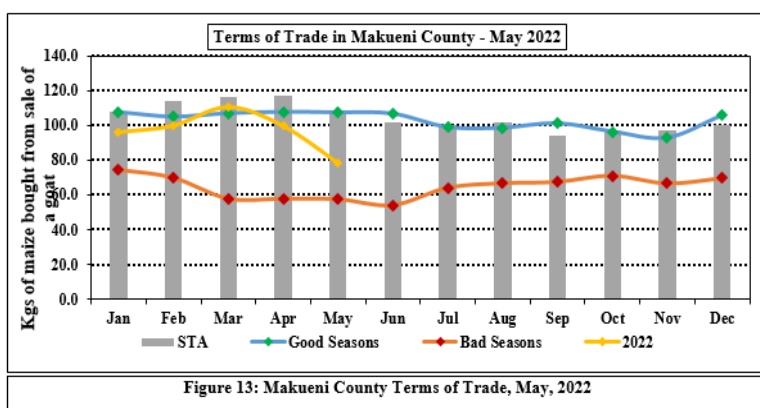
4.2.2 Beans

- The average market price of beans per kilogram increased by 9 percent to an average of Ksh120.
- The high prices for the commodity is attributed to the depletion of household stocks hence reliance on imports from other counties.
- Price variation of up to KSh 10 was notable for the different bean varieties (Yellow and Nyota beans).
- The current beans price was above the normal by 33%.



4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade (ToT) or goat for maize ratio remained decreased by 22% to an average of 78, an implication that from the sale of a single goat, a household would be able to purchase 78 kg of maize.
- Compared to the short term average, the current TOT was below normal by 28.4%.
- The TOT is expected to decrease more in the coming months with the increase in maize prices.



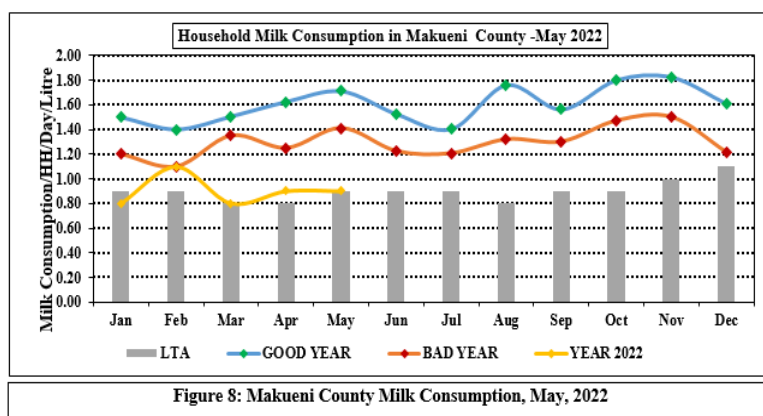
4.3.3. Implications of the above indicators on Food security.

- The price of staple food commodities is likely to remain high following the dismal performance of crops hence negative impact on the food consumption patterns.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household remained stable at an average of 0.9 litres.
- Compared to both the long-term average and a similar time last year, the current milk consumption was normal.
- The low milk consumption over the last three months is attributed to the prevailing high milk price making the affordability of the milk product a challenge for most households.



5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption category in the mixed farming livelihood zone increased from 49.2% to 54.1% while for the borderline it decreased from 50.8% to 45.9%.
- In the marginal mixed farming livelihood zone, 70.8% had an acceptable Food Consumption score a decline from 72.5% while 28.1% was at the borderline while the remaining 1.1% of the remaining households had a poor consumption score.
- The decline in acceptable food consumption score was attributed to the decline in dietary diversity and food availability at the household level.

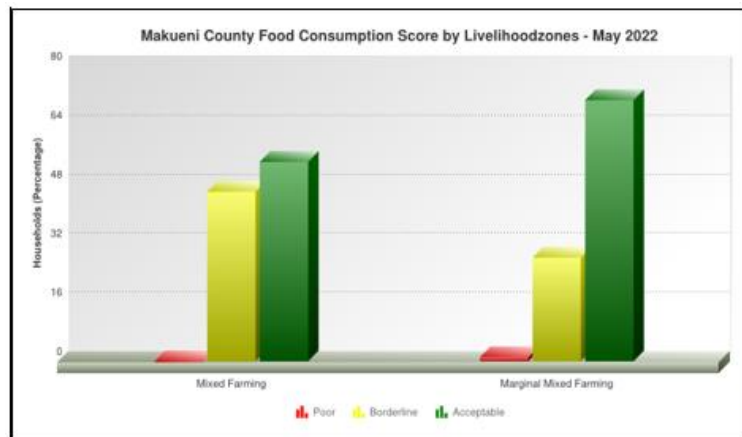


Figure 15: Makueni County FCS, May, 2022

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition was 3.5% an increase from 2.8% recorded last month. The slight decline in nutritional status is attributed to the decline in food consumption patterns majorly in the marginal mixed farming livelihood zone.
- The identified cases of children at risk of malnutrition were counselled and referred for follow-up for Growth Promotion and Monitoring (GPM).

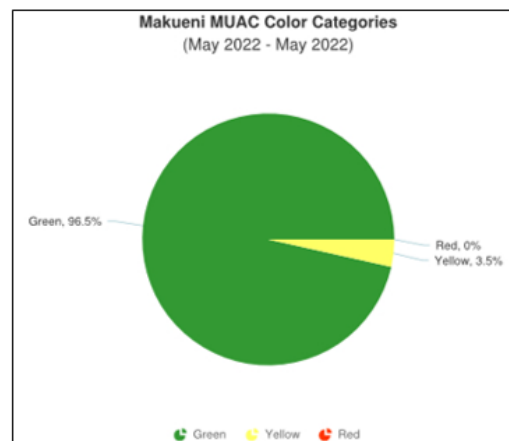


Figure 16: Makueni County Muac Chart, May, 2022

5.4 COPING STRATEGIES

- Average mean rCSI for the county increased from 8.8 to an average of 10.4
- The reduced Coping Strategies Index (rCSI) in the marginal mixed farming zone increased from 12.9 to an average rCSI of 15.8 while in the Mixed farming livelihood zone it increased from an average rCSI of 4.7 to 5
- The main coping strategies adopted by most households were food based coping strategies such as reliance on less preferred/less expensive food, reduced portion/size of meals and reduced number of meals eaten per day.

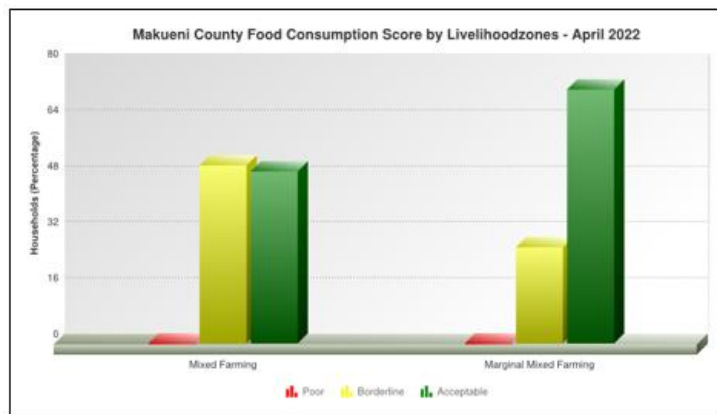


Figure 15: Makueni County FCS, April, 2022

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.2 ONGOING NON-FOOD INTERVENTIONS

- Support in supply and distribution of RUTFS (PLUMBY) nuts to 102 health facilities by KRCS.
- Through ADRA Kenya, 450 households redeemed the second and third cycles e-voucher food commodities with each household receiving 20 kg rice, 25 kg maize, 12 kg maize flour, 15 kg beans, 5 litres of vegetable oil, 2kg of sugar and 1 kg of salt per cycle. Each e-voucher is valued at Ksh 10,300. There are however no funds to support these vulnerable households from August, 2022 to February 2023 when harvests from the October –December rains of 2022 are expected to be realised.

6.3 ONGOING NON-FOOD INTERVENTIONS

Agriculture

- Promotion of Agricultural value chains (AVCs) and Development aggregation of green grams, mangoes,
- Repair of strategic boreholes and expansion of new water pipelines mostly in the marginal mixed farming livelihood zone which is prone to drought.
- Training on climate smart agriculture and round 2 on pests/diseases and post-harvest handling.
- Support to pasture development and conservation
- Training and sensitizing on water efficient irrigation technologies
- Training and sensitizing on use of soil Moisture conservation technologies (e.g. Belsap)
- Training and sensitizing on biology technologies that mediates drought and aridity adverse effects on crops (e.g. Green Miracle)
- Training and sensitizing on foliar feeding fertilizers (e.g. Waxul)
- Training and sensitizing on crop weather index digital insurance

Livestock

- Livestock disease surveillance and vaccination. FMD (10,000 doses) LSD (50,000 doses), CCPP (50,000 doses), NCD (200,000 doses) vaccines= Ksh 3.5m by county.
- Deworming and treatment with FAO
- Livestock breeds improvements
 - (AI= ksh7m, county wide;
 - Goats improvement- Ksh 1.8m- Kikumbulyu S ward
 - Poultry development- Over Ksh 15m county wide with partners (ASDSP, NARIGP)

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

- Elephant invasion in farms bordering Chyulu and Tsavo East national park.

7.2 Migration.

- No livestock migration as a result of drought.

7.3 Food Security Prognosis

The current reduction in the Terms of Trade (goat to maize ratio) as a result of the increased maize prices (20 percent above STA) is likely to negatively affect the food security of households. These prices are likely to remain high until early next year when the proceeds of the October-December 2022 rainy season are expected. Livestock body condition and market prices for cattle, goats and sheep are currently good. However, with the poor March-May rainy season performance coupled with the current hot and dry conditions, it is expected that the prices and body condition for livestock will gradually decline as from the month of July through November when the next rains are expected. Most households have been employing more consumption based-coping strategies when faced with food shortage or money to buy food. Although majority of households across all the livelihood zones have an acceptable and

borderline Food Consumption Score, this is likely to change in the coming months with more houses expected to shift to the borderline and poor food consumption categories

8. RECOMMENDATIONS

Immediate/Short term contingency measures.

- Repair and servicing of strategic boreholes.
- Provision of livestock feeds
- Promotion of pasture conservation and management practices.

Medium and long term

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

Water Sector;

- Continuous enhancement of soil conservation measures to reduce siltation of dams and water pans.

Agriculture Sector;

- Repair and servicing of strategic boreholes.
- Training of farmers on crop husbandry and pasture management
- Promotion of pasture conservation and management practices.
- Promoting water efficient irrigation technologies (e.g. Drip Irrigation)
- Promoting use of Moisture conservation technologies (e.g. Belsap)
- Promoting synthetic biology technologies that mediates drought and aridity adverse effects on crops (e.g. Green Miracle)
- Promoting foliar feeding fertilizers (e.g. Waxul)
- Promoting crop weather index digital insurance

Livestock Sector;

Sensitise farmers to undertake off take measures

Medium and long term

- Breed improvement initiatives for Chicken, cattle, goats
- Promote alternative livestock livelihoods like beekeeping
- Sensitise farmers on livestock management practices like stocking rates and agribusiness considerations.

Health and Sanitation Sector;

- Continuous sensitization of the community on sanitation and hygiene related to water.

Social Protection Sector

- Response to the vulnerable households through safety-nets cash programmes (e.g. KSEIP)