



National Drought Management Authority

MAKUENI COUNTY

JANUARY 2021 EW PHASE

Drought Status: **NORMAL**



Shughuli za kawaida

Drought Situation & EW Phase Classification

Biophysical Indicators

- Cessation of the OND short rains was on the 3rd Dekad of December.
- Off season rains were experienced during the first two weeks of the month under review.
- The vegetation greenness (VCI) for the county was above normal.
- Pasture and browse condition ranged from good to fair with the exemption of a few pockets where there was less rain.
- Availability of water was fair across all the three livelihood zone accredited to the 2020 OND short rains.

Socio-Economic Indicators

- Livestock body condition for all species was good across all the three livelihood zones.
- Crops had reached had reached the maturity and was at the harvesting stage however, there was a reduction in production.
- Milk production for the month was above normal.

Access Indicators

- Terms of trade (goat for maize ratio) were favourable for the herders at 15 percent above LTA.
- Distance to water for animals was within normal range

Utilization Indicators

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

Livelihood Zone (LZ)	Phase	Trend
Mixed Farming (Coffee/Dairy)	Normal	stable
Mixed Farming (Food Crop/Livestock)	Normal	Stable
Marginal Mixed Farming	Normal	Worsening
County	Normal	Stable
Biophysical Indicators	Value	Normal Ranges
Rainfall (% of Normal)	68	80-120
VCI- 3 Month	71.86	35-50
State of Water Sources	4	5
Production indicators	Value	Normal
Crop Condition	Harvesting	Harvesting
Livestock Body Condition	Good	Good- Normal
Milk Production	2 Litres	1.6 Litres
Livestock Migration Pattern	No migration	No migration
Livestock deaths (from drought)	No death	No death
Access Indicators	Value	Normal
Terms of Trade (TOT)	106	92
Milk Consumption	0.8 litres	1.0 litres
Return distance water sources	3.9 Km	4.0 Km
Cost of water at source (20 litres)	KSh 2-5	KSh 2-5
Utilization indicators	Value	Normal
Coping Strategy Index (CSI)	7.9	<10

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

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The 2020 OND short rains ceased on the 3rd dekad of December. Subsequently, off season rains were later realized during the first two weeks of the month of January 2021.
- According to the WFP CHIRPS, dekad one recorded 20.5mm against a 20 year long term average of average of 15.9 mm and dekad 2 received 4.6mm against a (1994-2013) long term average of 12.2mm. No rainfall was received on the third dekad of January(null) against a 20 year long term average of 8.9 mm

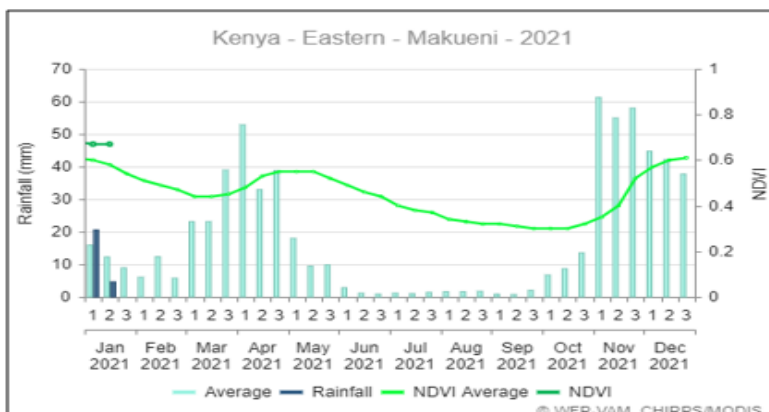


Figure 1: Makueni Average Rainfall, January, 2021

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 71.86, an indication of above normal vegetation greenness. The improvement in vegetation greenness is attributed to the 2020 OND short rains coupled with the January 2021 off-season rains.

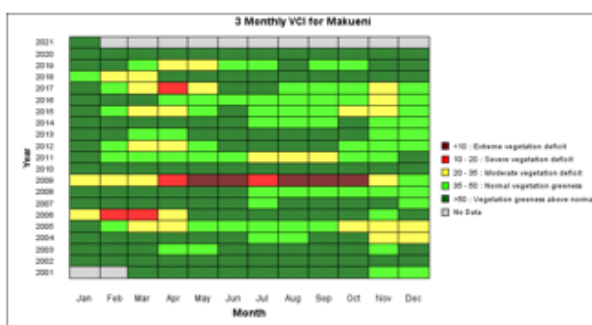


Figure 2a: VCI Matrix for Makueni County January, 2021

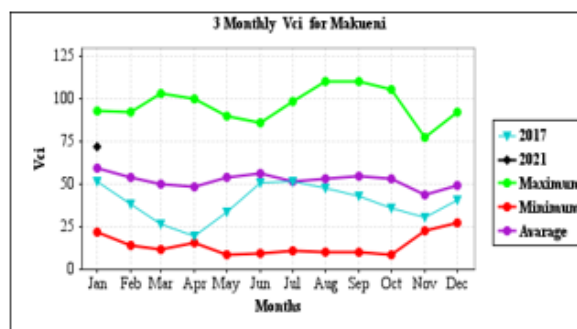


Figure 2b: VCI Graph for Makueni County, January, 2021

2.1.2 Pasture and Browse

- Pasture and browse condition ranged from good to fair with the exemption of a few pockets where there was minimal/no rain. i.e. Parts of Makueni sub county (Mixed Farming Food crops/Livestock); The whole of Kitise/Kithuki ward, some parts of Kathonzweni ward (Kwa kavisi, Kavingoni, Kituluni, Kiangini and Kiteei sub locations and some parts of Mavindini ward (Yekanga, Kanthuni, Iiani, Ivinganzia and Katithi sub locations) Also affected were parts of Mbooni Sub-county in the Marginal Mixed livelihood zone in Kalawa and Kako/Waia wards and Parts of Kilome i.e. Kiima Kiu-Kalanzoni ward also in the Mixed Farming Food crops/Livestock livelihood zone.
- About 64.7 percent of the available pasture was deemed to be good while the remaining 35.3 percent was fair. While for browse 88.2 percent of the available browse was perceived to be good, 5.9 percent fair and the remaining 5.9 percent poor.
- The improvement in pasture and browse condition is attributed to the off-season rains that were received regularly throughout the month of January.
- The current situation is expected to last for at least 3 months up to the coming MAM rains season.
- Maize Stover's and other crop residues is expected to boost the forage availability.

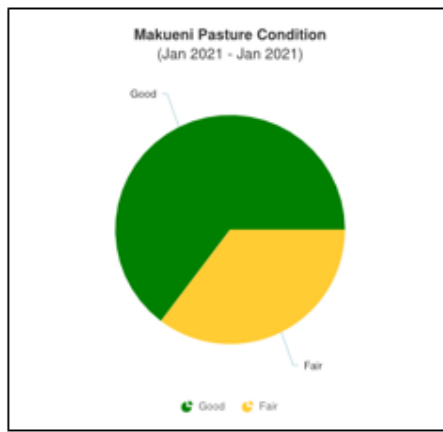


Fig 3: Pasture condition January, 2021

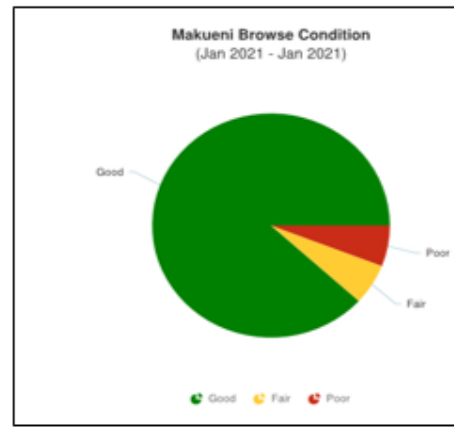


Fig 4: Browse condition, January, 2021

WATER RESOURCE

2.2.1 Sources

- The main sources of water for both human and livestock consumption during the month were: Traditional river wells and Rivers each at 28.6%, shallow wells at 23.8%, Pan & dams and boreholes at 4.8% as illustrated alongside in fig 5.
- Open surface water reservoirs like dams had impounded water to around 50 percent since the rains received in both 2020 OND and January season were not sufficient to generate the surface runoff.
- The available volumes of water were on a decline trend as most households opted for this water sources.
- Other observable water sources majorly in Kilome Sub-county and urban centers were piped water schemes.

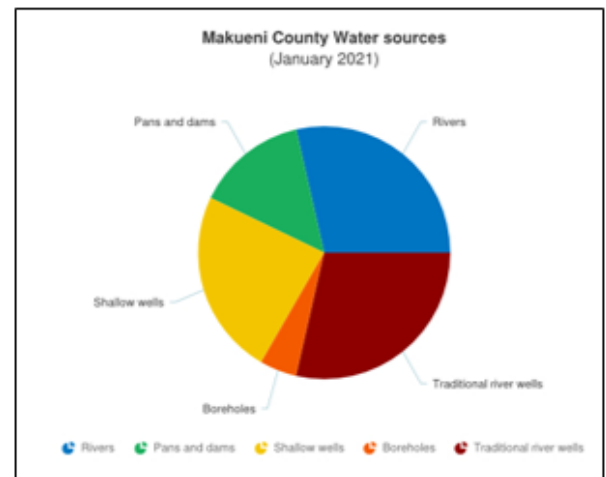


Fig 5: Makueni County Water Sources for January, 2021

2.2.2 Household access and Utilization of water

Distances to water sources (household consumption)

- The average return distance from the household to water sources decreased slightly from 4.0 Km to an average of 3.9 Km, a 2.5% decrease.
- Compared to the good year at this time of the year the current distances were above by 18 percent. This was attributed to the poor recharge of water sources during the 2020 OND rain season.
- Compared to the long-term average the current distances are normal at this time of the year.
- The distances are expected to increase in the coming months as more households opt for alternate water sources.
- The average price of water per 20 litre Jerri can at the source/water Kiosks was between 2-5 Shillings.

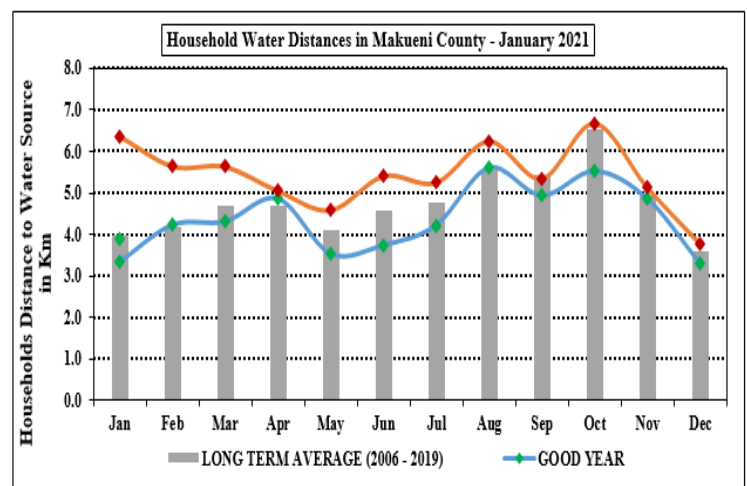


Fig 6: Makueni Household Access to Water, January, 2021

2.2.3 Livestock access to water

- The average return distance from the grazing areas to watering points decreased from 3.6 Km to an average of 4.2 Km, a 14.3% increase.
- Compared to the long-term mean the current distances were above by 17.3%.
- The increase in distance was attributed to the decline in volumes hence change to alternative water sources.
- It's anticipated that the distances will increase more in the coming months as livestock keepers opt for more alternate water sources.

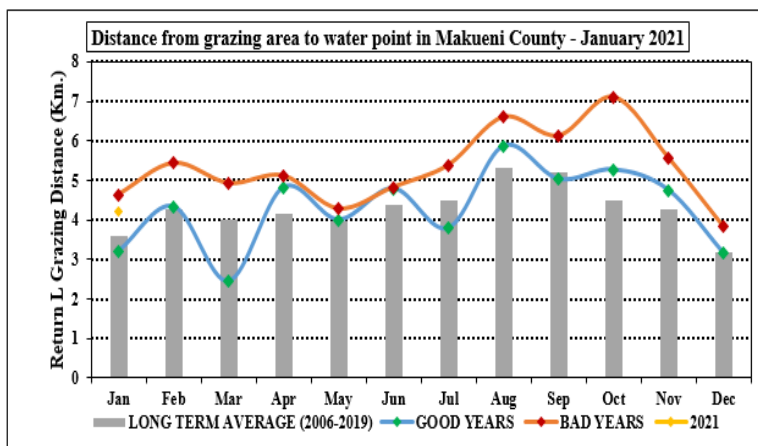


Fig 6: Makueni Average grazing distance, January, 2021

2.3 Implication of the above indicators to Food Security

- Water availability and access to forage in some areas is likely to worsen in the coming months hence affecting the food security situation negatively at household level.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The body condition for all the livestock species in the three livelihood zones was good. On average 76.5 percent had a good smooth appearance while 23.5% were moderate neither fat nor thin.
- The prevailing good body condition is as a result of the available pastures, browse and fodder attributed to the relative good 2020 OND and the January off-season rains.
- It is anticipated that the livestock body condition will remain good until the MAM rains season across all the three livelihood zones with exemptions of; parts of Kilome (Kiima Kiu-Kalanzoni Ward) and parts of Makueni sub-county where the body conditions may decline to fair.

3.1.2 Livestock Diseases

- No disease incidences reported outside the normal situation for cattle, goats and sheep. However for the chicken, Newcastle and Infectious coryza outbreaks were reported across the county. This has caused many bird deaths. Vaccines for infectious coryza were not readily available despite the disease being endemic.

3.1.2 Milk Production

- The average Milk production per household per day was 2.0 litres a 25 percent increase from that of last month.
- Compared to the previous month there was a slight increase in milk production attributed to the availability of pasture and browse.
- Compared to the long-term average the current production was above normal by 23.5%.
- The current milk production is attributed to the availability of pasture and water for the livestock as a result of the OND short rains.

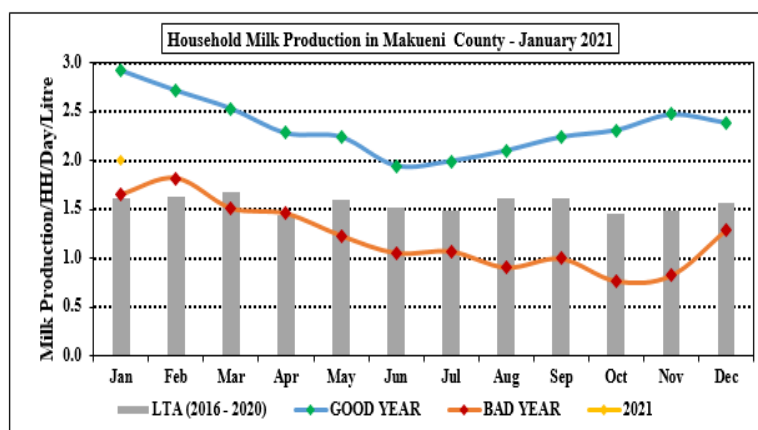


Figure 8: Makueni County Milk Production, January, 2021

3.1.3 Implication of the above indicators on Food security

- The good body conditions should sustain high levels of productivity in terms of meat and milk. This will in turn command good prices hence affecting the food security situation positively at household level.
- However, the current weather forecast portrays depressed rains in the coming 2021 MAM season which may depress market prices hence affecting the food security situation negatively.

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 OND short rain season were cereal food crops i.e. maize, sorghum, millets and pulses i.e. green grams, cowpeas, pigeon peas, Dolichos lab lab and beans.
- In the Mixed farming (Coffee, Dairy and Irrigation) and Mixed farming (Food crops and Livestock) maize was at the harvesting stage while for the beans they had already withered majorly in the midland areas due to moisture stress.
- The maize crop planted in the marginal mixed farming had withered in most pockets in Makindu and Nguu ward in Kibwezi west, Masongaleni in Kibwezi East and in Kilome Sub-counties. The withering of crops was as a result of the delayed onset of the OND rains and the long dry spell in the month of December.
- Other factors which led to reduced yields in the farms were; poor temporal distribution of rain, Shortage of certified seed mostly KS20 in the agro dealer shops hence reduction on the acreage under green grams, fall army worm (FAW) infestation on maize and sorghum and the *Quelea quelea* bird invasion majorly in Mtito Andei, Ivingoni/Nzambani, Thange, Masongaleni, Nguumo, Kikumbulyu north and south, Makindu, Nguu-masumba, Kitise/Kithuki, and Kathonzweni wards.
- The *Quelea quelea* invasion occurred in Marginal Mixed livelihood zone. This occurred from the second week of January, 2021. This was majorly in Kibwezi East and Kibwezi West sub-county. This has affected sorghum, millet, green gram and cowpea growth in Masongaleni, Thange and Ivingoni/Nzambani wards. About 1,358 farmers have been affected. Localized spraying is taking place through the County Department of Agriculture, Irrigation, Livestock and Fisheries development although an appeal has been made to the National government for assistance. It is reported that approximately 560 acres of cow peas (approximately 1.5 percent of area planted), 530 acres of millet and 1,720 acres of sorghum and 2,060 acres (approximately 3 percent of area planted) of green grams have been damaged.

3.2.2 Implication of the above indicators on Food security

- Crop production performed dismally with exemption of a few pockets in the mixed farming livelihood zone (Kaiti Sub-County) this is expected to have a negative impact on the local food security situation.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The price for a 2 year old cattle decreased from KSh 28,800 to an average of KSh 26,000.
- The 9.7% decrease in price was attributed to the high supply of livestock into the livestock markets in search of school fees.
- Compared to the short term average, the current market price was above normal by 14.4%

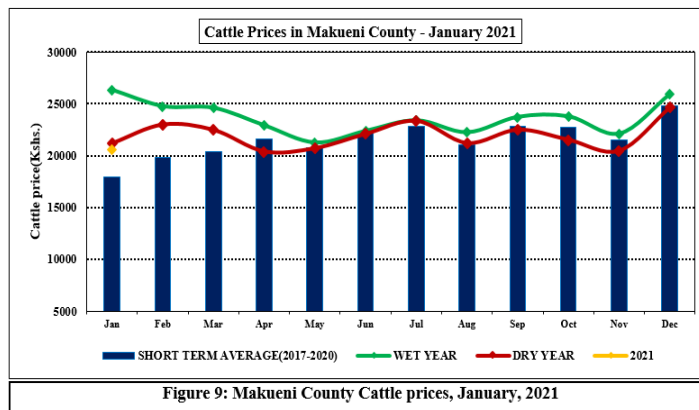


Figure 9: Makueni County Cattle prices, January, 2021

4.1.2 Goat Prices

- The average market price for a medium sized goat reduced from KSh 4,100 to an average of KSh 3800.
- The fair prices are attributed to the prevailing good body condition while the reduction from that of last month is attributed to the increased supply of goats into the livestock markets in search of school fees.
- Compared to both the good season and the long-term average, this month's price was above normal by 2.7%

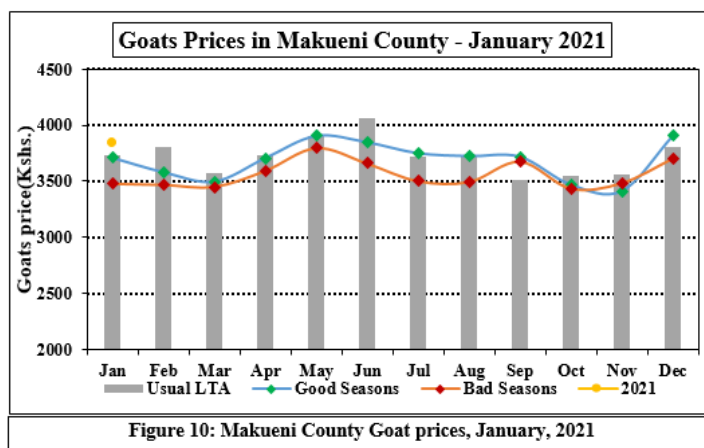


Figure 10: Makueni County Goat prices, January, 2021

4.2 CROP PRICES

4.2.1 Maize

- Maize price remained stable at an average of KSh 36 per kilogram.
- Compared to a similar time during the wet season, the current price was relatively the same but below the short average by 5.3%
- The stability in price is attributed to the available stocks majorly imports from counties in western Kenya and the little harvests from farms.
- However, the price is on an increase trend mostly in the marginal mixed farming livelihood zone due to the poor performance of the produce.

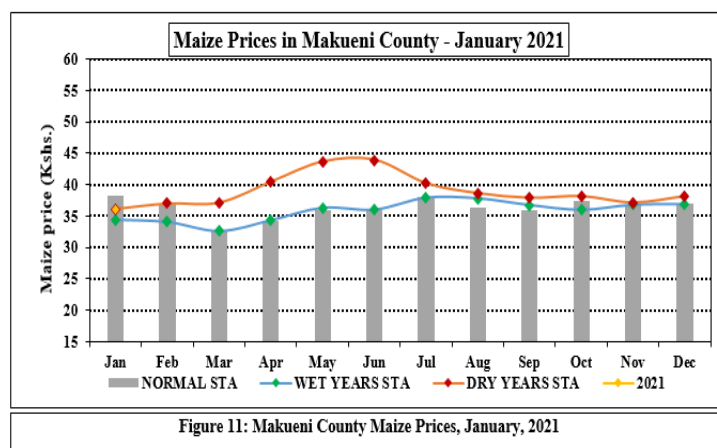


Figure 11: Makueni County Maize Prices, January, 2021

4.2.2 Beans

- The average price for beans at the cereals shop increased to an average of KSh 105 from KSh 100, a 4.8% increase.
- Compared to both the short-term average and the good months, the current price was above normal by 31.2%.
- The high price is attributed to the decline in supply of the commodity into the local markets and the low harvests.
- High prices were recorded in cereal shops within the Marginal Mixed Farming zone where stocks had declined.

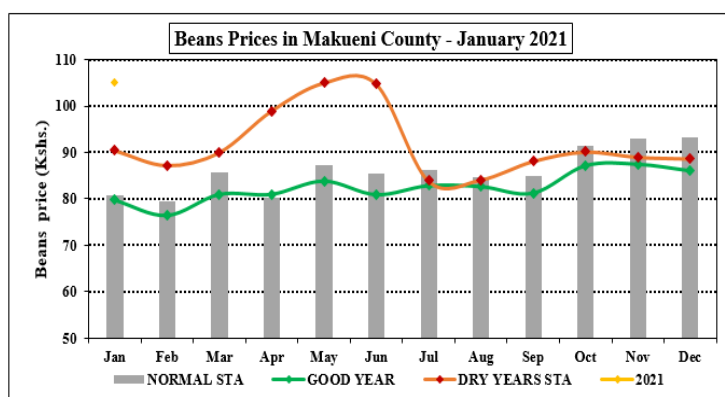


Figure 12: Makueni County Beans Prices, January, 2021

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade (goat for maize) reduced by 8.6% i.e. from 116 to 106.
- This implies that from the sale of one goat, a household would be able to purchase 106 kg of maize.
- Compared to the good year, the current TOT was comparatively the same but above average the long term average by 15%

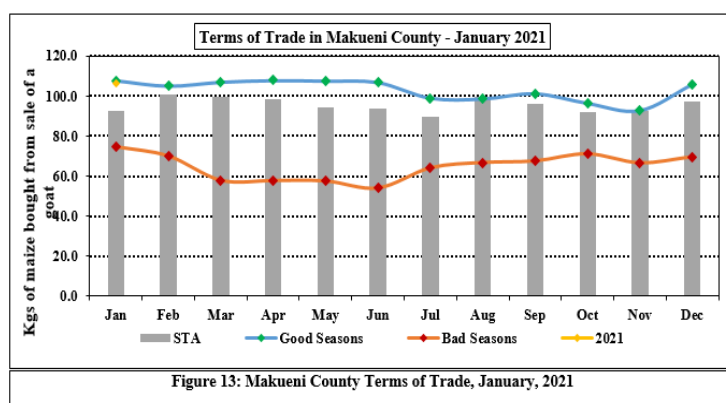


Figure 13: Makueni County Terms of Trade, January, 2021

4.3.3. Implications of the above indicators on Food security.

- The household purchasing power is expected to deteriorate in the coming months following the rise in prices of food commodities.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household relatively stable at 0.8 litres
- Compared to both the long-term Average and the good year, the current milk consumption was below normal.
- The decline in milk consumption at the household is attributed to the collection of the Milk by dairies.

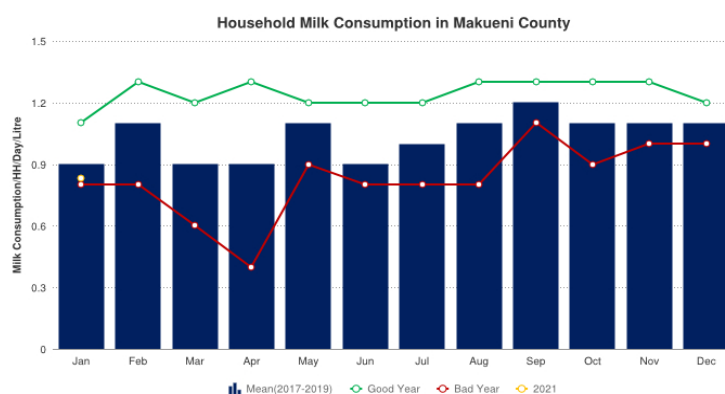


Figure 14: Makueni Milk Consumption, January 2021

5.2 FOOD CONSUMPTION SCORE

- Majority of households in the county had an acceptable food consumption score. An average of 79.8 percent were in this category. About 20.2 percent of households had a borderline food consumption. The Marginal mixed farming livelihood zone had the highest percentage of households with an acceptable food consumption score (91.3 percent). This can be attributed to increase household income from fruit trees such as mangoes coupled with the good livestock body condition which has provided milk for consumption and household income due to good market prices hence the households are therefore able to afford a varied of food stuff at the market.

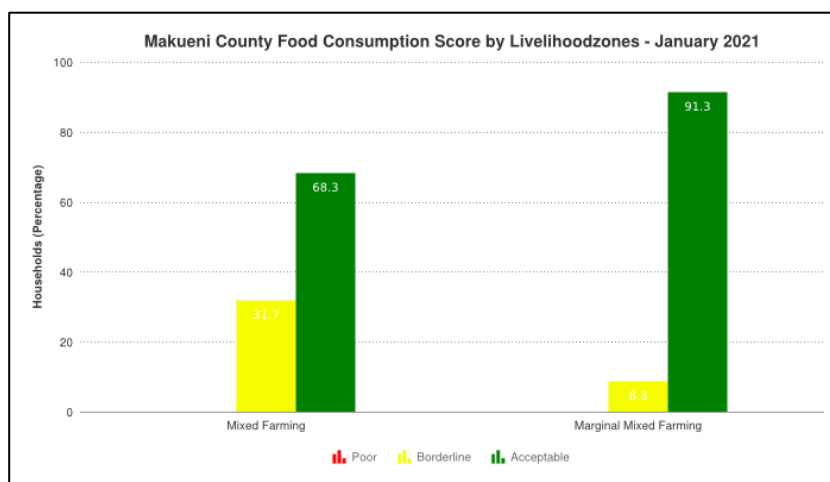


Figure 15: Makueni Food Consumption score as per livelihood zone, January 2021

- The proportion of households in the mixed farming livelihood zone who had an acceptable Food Consumption score was 68.3% while the remaining 31.7% were at the borderline.
- In the marginal mixed farming livelihood zone 91.3% had an acceptable Food Consumption score while the remaining 8.8% were at the borderline food consumption score.
- The acceptable food consumption is attributed to the improvement in dietary diversity and food availability at the household level.
- Most households were consuming at least three meals a day comprising of diverse food groups.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children (under-fives) who were well nourished was 97.9 percent (green) while only 2.1 percent (Yellow) of the sampled children were at risk for acute malnutrition. This proportion was significantly below the (2016-2020) long-term average of 6.3 percent.
- The children who were at risk for acute malnutrition were counselled and referred for follow-up for Growth Promotion and Monitoring (GPM).
- The improvement in MUAC trend is attributed to the constant milk consumption and availability of mangoes mostly for the under-fives.

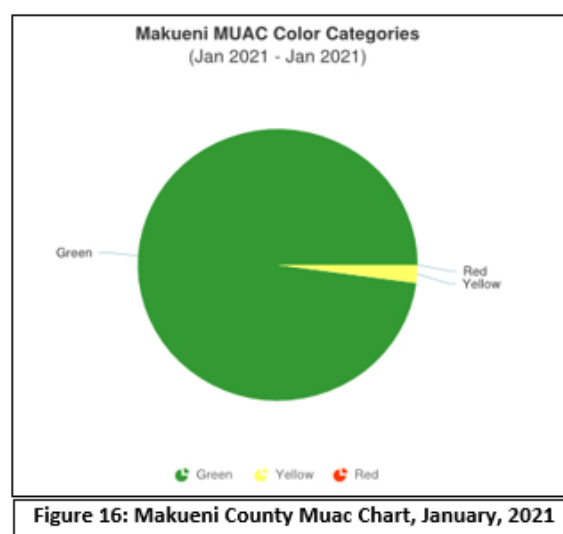
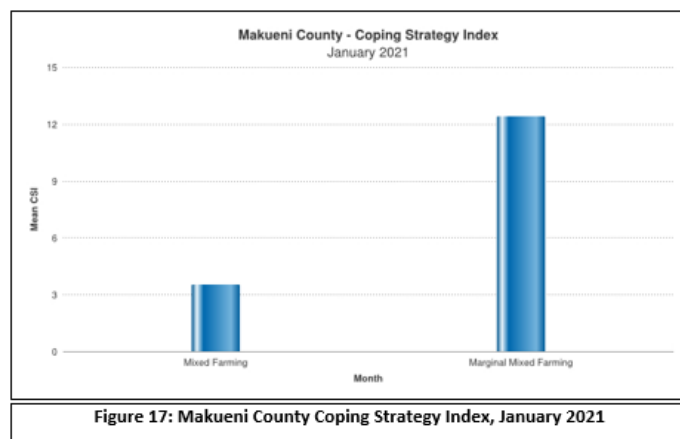


Figure 16: Makueni County Muac Chart, January, 2021

5.4 COPING STRATEGIES

- Average mean CSI for the county reduced by 8.1 percent that is from 8.6 to 7.9
- The CSI has increased when compared to the CSI of 2.5 reported at the same time last year. This has mainly been due to the economic constraints arising from loss of jobs and reduced income for farmers as result of Covid-19. The Marginal mixed farming livelihood zone was employing most of these strategies since the average index was 12.4 while the Mixed farming livelihood zones had an average index of 3.5.



6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

- Economic stimulus programme for the locally assembled desks for the needy public primary and secondary schools.
- National hygiene program/Kazi Mtaani as part of the strategies to alleviate the adverse effects of Covid-19. The program aims at utilizing labour intensive resources at the informal settlements across the county.
- Capacity building of farmers on climate smart agriculture and post-harvest management by DOALF and partners.
- Provision of storage bags (hematic) to beneficiary farmers by the department of Agriculture through the KCEP-CRAL program.
- Auxiliary works at Ngomeni earth dam by NDMA through the support of European Union.
- Construction of Earth dams by National Irrigation Board (NIB)
- Pasture conservation in Makueni, Kilome, Kibwezi East and West.
- Renovation of stockyards Nthongoni in Kibwezi East & Kibwezi West.
- Improvement of indigenous chicken in Kibwezi East, Kibwezi West, Makueni and Mbooni.

6.2 FOOD AID

- There was no food aid allocation for the month under review.

7.0 EMERGING ISSUES

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

- There were reported incidences of human wildlife conflict reported in Mtito Andei. Elephants invaded farms in Ngomani, Makutano and farms along River Athi. One fatality was reported in Ngilani.
- 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 for the next three months

- Although below average harvests are expected to take place during the month of February to mid-March due to reduction in area planted. This is likely to impact positively on the household food security due to availability of food for consumption as well as increased household income from the proceeds of sales from produce. However, some of the crop (especially maize) may not reach full maturity in areas where late planting took place.
- Pasture and browse condition has been good despite the poor temporal distribution of the rainfall. Some off season rains received in January also reinforced the regeneration. The forage is expected to last for at least 3 months which will run into the next March-April-May (MAM) rainy season. Although a below average season is expected, the rains will be adequate to regenerate the pasture and supplement the maize stovers from the current season that the animals will also be feeding on.
- Milk production is expected to remain average for the next 3 months due to the availability of water and quality forage.
- Infectious coryza which has now become endemic if not well contained may affect household income significantly. This is because the average household disposes off its poultry before embarking on larger stock in case of distress.
- *Quelea quelea* infestation which has been reported in the Marginal Mixed Farming livelihood zone if not well contained on time, will significantly reduce the green gram harvest.
- Desert locust invasion in parts of Kisau Kiteta ward in Mbooni East will also be detrimental to the crop harvest especially in parts of the Mixed farming livelihood zones.
- Recharge of water sources was inadequate especially in the Marginal Mixed Farming livelihood zone where small dams and pans are expected to have depleted their water within 1 month to 2 months against a normal of 4 months in some areas. Water in the Mixed Livelihood zones is likely to last for at least 6 months in most areas. Terms of trade are expected to increase in favour of the herders as the harvests from local production trickle in the markets for the first three months, but deteriorate in the next three months as the maize supply reduces with a likely deterioration in body condition of livestock. The under-five body condition and health well-being is expected to remain good due to availability of milk and supplementation from citrus fruits such as oranges, pixie and tangerines as from the month of April.

8. RECOMMENDATIONS

Immediate/Short term contingency measures

- County government should enhance market linkages so as to absorb the harvests from the pigeon peas into the markets at fairly good prices.
- Ensuring proper functioning of markets for major food commodities in the rural areas.
- Intensify livestock disease control measures
- Promotion of livestock feed storage and management practices.
- Continuous community sensitization on COVID-19 preventive measures.
- Enhance peace building and conflict management activities.

Medium and long term

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

Water Sector;

- Construction of more weirs to protect spring
- Rehabilitation of un-operational boreholes; Athi Mavindini water project, Matinga 1 earth dam in Kathonzweni and Manooni dam distribution.

Agriculture Sector;

- Construction of Water harvesting structures e.g. farm ponds (lined), Insitu technologies, CA
- Production and utilization of drought tolerant crop varieties.
- Establish a Strategic Grain Reserve for the County

Livestock Sector;

- Renovate 9 stockyards and provide Covid-19 hygiene facilities.
- Vaccination against LSD, FMD, CCPP, NCD
- Pasture and fodder conservation (mechanized and manual)

Health and Sanitation Sector;

- Sensitize CHVS and ECDES teachers on VAS and growth monitoring.
- Sensitize health providers and CHVs on IFAS.
- Conduct mass screening in hard to reach areas.

Peace and Security;

- Peace building and conflict management initiatives.