




A Vision 2030 Flagship Project



**National Drought Management Authority
NAROK COUNTY
DROUGHT EARLY WARNING BULLETIN FOR OCTOBER 2022**

OCTOBER EW PHASE		Early Warning Phase Classification		
<p>Drought Status: ALERT</p>  <p>Maandalizi ya mapema</p>	LIVELIHOOD ZONE	EW PHASE	TRENDS	
	Agro Pastoral	Alert	Worsening	
	Mixed Farming	Alert	Worsening	
	Pastoral	Alarm	Worsening	
	County	Alert	Worsening	
Drought Situation & EW Phase Classification		Biophysical Indicators	Value	Normal ranges
<u>Biophysical Indicators</u>		Rainfall (% of normal)	119	80-120
<ul style="list-style-type: none"> False onset of October November December (OND) rains was reported The OND distribution in both time and space was generally poor across all the livelihood zone. State of water is on a decline(worsening) Vegetation greenness and forage condition was above normal. 		State of Water	Declining	Improving
		VCI-3 month	53	35-50
		Forage Condition	Fair to Poor	Fair to Good
		Production indicators	Value	Normal ranges
		Maize Crop Condition	Fair-poor	Fair
		Livestock Body Condition	Fair to Poor	Fair
		Milk Production (in litres)	2.2	≥ 3.07
		Livestock Migration Pattern	Not Normal	Normal
		Livestock Deaths (from Drought)	0.1%	≤ 2%
		Access Indicators	Value	Normal ranges
		Terms of Trade (ToT)	57	≥ 92.67
		Milk Consumption (in litres)	1.7	≥ 2.2
		Return Distance to Water Sources (Km)	3.7	≤ 3.13
			4.3	≤ 4.3
		Water Consumption	12	≥ 15
		Utilization indicators	Value	Normal ranges
		Nutrition Status of malnourished children 6-59 months (% MAM+SAM) by Family MUAC	5.0	≤ 7.0
		Reduced Coping Strategy Index (rCSI)	5.3	≤ 4.8
		Food Consumption Score (%)	84.9	≥ 80
			7.8	≤ 20
			7.3	0

<ul style="list-style-type: none"> Short rains harvests Short dry spell Reduced milk yields Increased HH Food Stocks Land preparation 	<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 								
Dry Season	Long Rains	Dry Cool Season	Short Rains Season								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The County had a false onset of October November December 2022 short rains in the first dekad of October.
- The month of October was characterized by light showers in pockets of the County with 10-20 dry days intervals, portraying a temporal distribution being fair while spatial distribution being uneven.
- According to WFP-VAM, CHIRPS/MODIS data, the county recorded an average of 13.39 and 14.47 milimetres of rainfall in the first and second dekad of October compared to 13.12 and 12.27 milimetres normally respectively. This was 119 percent of normal rainfall recorded in October as shown in figure 1.

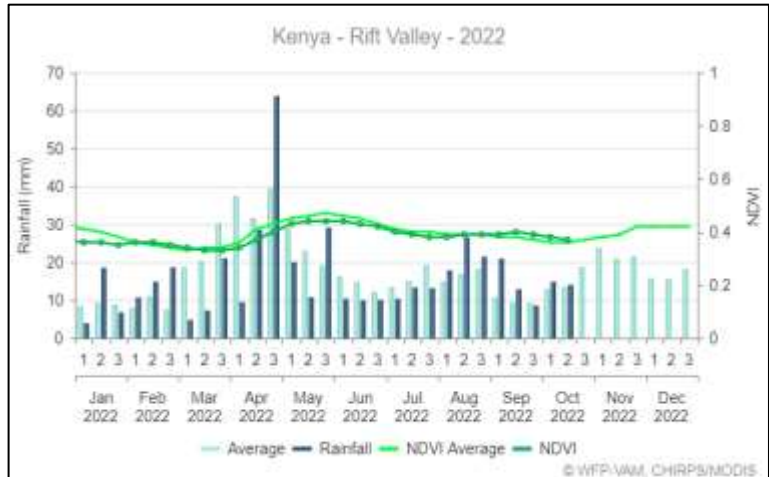


Figure 1: Rainfall and NDVI Distribution

- The October Normalized Difference Vegetation Index (NDVI) was 103 percent of normal NDVI values.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- Current county vegetation greenness increased by 28 percent and stood at 3 month VCI of 53 in October from 41.46 in previous month. This is an indication of above normal condition of vegetation greenness.

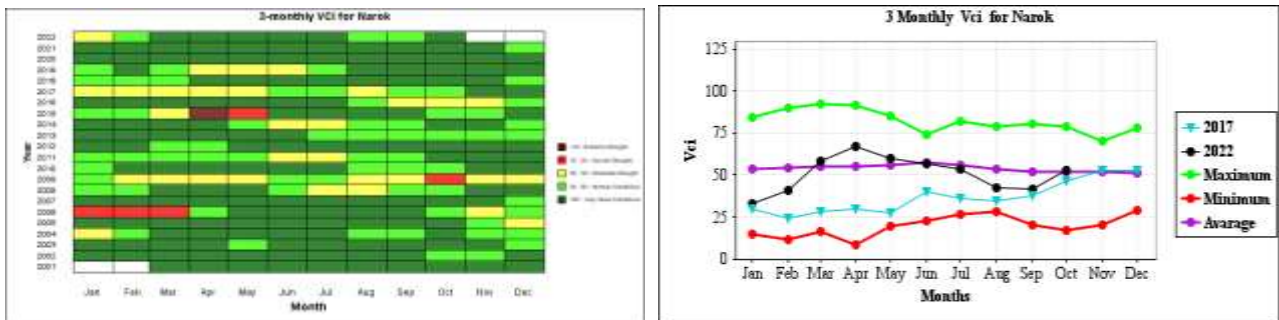


Figure 2: Narok County 3 Month VCI Matrix and Trends

- The current vegetation greenness is normal as shown in figure 2.
- Emurua Dikirr, Kilgoris and Narok West subcounties recorded above normal vegetation greenness at a 3 month VCI of 78.88, 69.62 and 68.62 respectively, Narok South, Narok North and Narok East sub counties recording normal vegetation greenness of 40.68, 37.97 and 37.57 respectively.
- The vegetation greenness improved but did not have direct impact to support forage regeneration owed to more dry days especially in the pastoral livelihood zone.

2.1.2 Pasture

- The quality and quantity of pasture have worsened owing to low amounts of rains received and more dry days experienced across. Moreover, pasture availability and access being affected by overgrazing, competition with wildlife and land demarcation in the county. Pasture was mainly fair to poor across the livelihood zones with a worsening trend across all the livelihood zones as shown in figure 3.
- Approximately, 72 percent of pasture was poor in both quality and quantity in October compared to 53 percent in previous month. The remaining 28 percent of pasture was fair. In the pastoral areas of Nkareta, Naroosura, Mosiro, Siana, Ntuka, and Koyiaki, pasture is likely to deteriorate further due to overgrazing compounded by migration.
- Pasture condition was worse than year 2020 and 2021 attributed to wildlife competing need, livestock disease and drier condition with low amounts of rains and more dry days experienced during the month under review.
- The available pasture is likely to last for one month compared to 2-3 months normally.

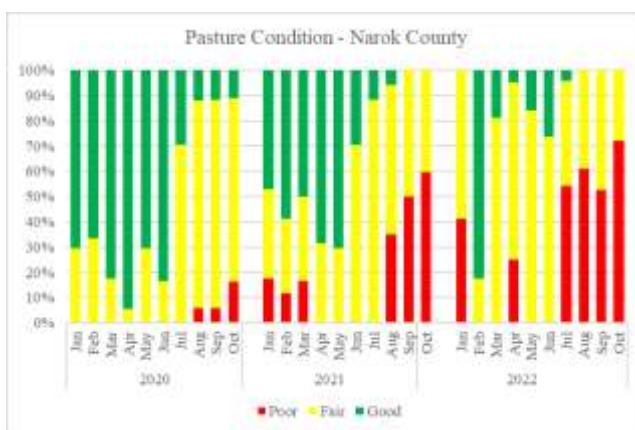


Figure 3: Narok County Pasture Condition

2.1.3 Browse

- In the month of October, browse ranged from fair to poor in both quality and quantity, this was a worsening trend from previous month (figure 4).
- About 61 percent of browse was in poor condition compared to 42 percent in the previous month. The remaining 39 percent being in fair condition.
- Browse condition was worse than similar period in year 2020 and 2021.
- The available browse is likely to last for a month compared to 2-3 months normally.

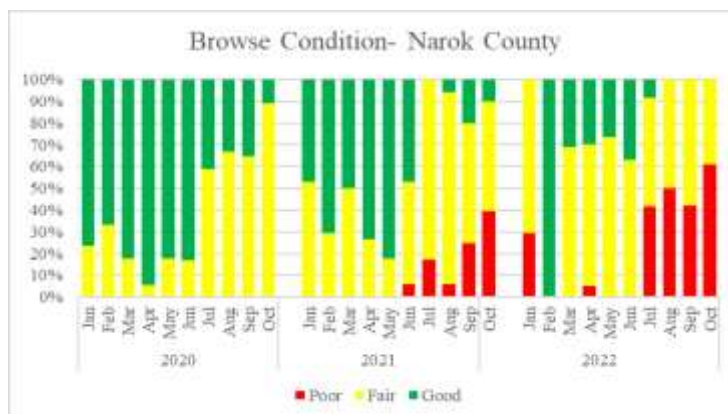


Figure 4: Narok County Browse Condition

2.2 WATER RESOURCE

2.2.1 Sources

- The major water sources for both human and livestock consumption during the month of October were pans and dams, rivers, shallow wells, and pipe systems/boreholes as shown in figure 5.
- Pans and dams were relied by 25 percent of the households while rivers, shallow wells and pipe systems alternating with were each relied by 18, 12 and ten percent of the households respectively.
- This situation is not normal at this time of the year. State of water has been on a decline
- The available open water sources are likely to last 1-2 months compared 3-4 normally.

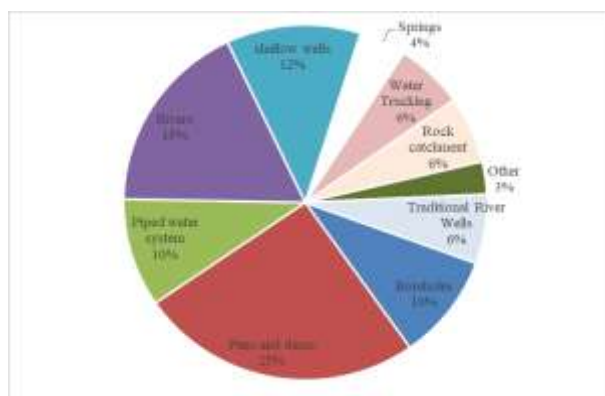


Figure 5: Water Sources in Narok County

2.2.2 Household Access and Utilization

- The average return distances from the households to water sources increased by 32 percent to stand at 3.7 km in October from 2.8km recorded in previous month. The trekking distances have remained high due to continued pressure to available water sources with high evaporation rate, this would lead to reduction in water capacities in open water sources facilities.

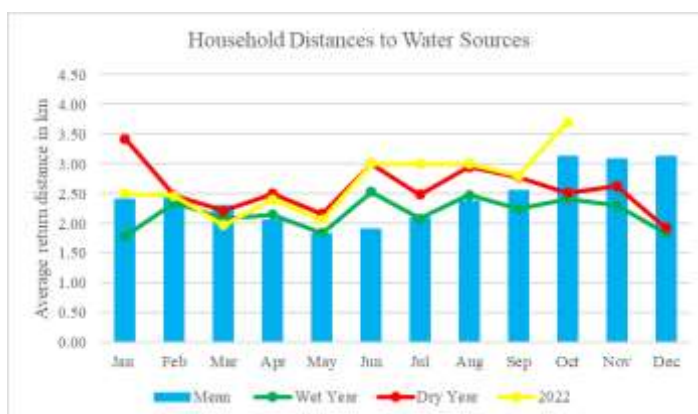


Figure 6: Household Access to Water

- Households in Pastoral livelihood zone trekked an average of 6.2 km compared two km in Agro Pastoral livelihood zone.
- The current water distance is 18.4 percent higher than the long-term mean as shown in figure 6.
- Water consumption per person per day increased to 12 litres in October which remained the same as that of previous month. Most of the households do not treat water.

2.2.3 Livestock Access

- The average return distances from livestock grazing areas to watering points increased by 34 percent to stand at 4.3 km in October from 3.2 km in previous month.
- Livestock in Pastoral livelihood zones trekked a distance of 8.1 km compared to 2km in Agro Pastoral Livelihood zone.
- Livestock watering frequency was daily across the livelihood zones.
- The current average distance from livestock grazing areas to watering points is normal as shown in figure 7.

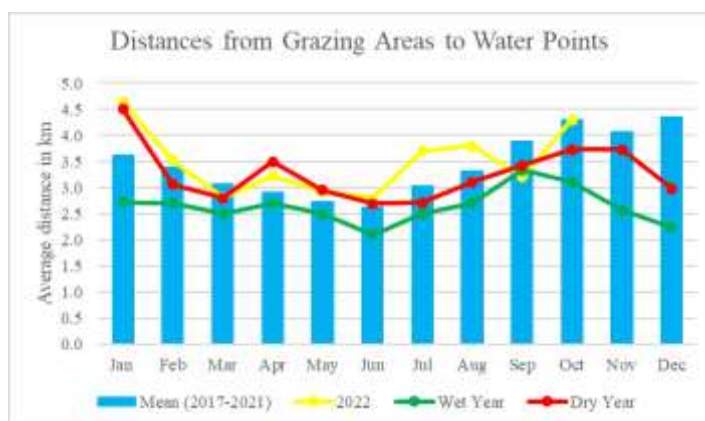


Figure 7: Distances from grazing areas to water points

2.3 Implication of the Above Indicators to Food Security

- Livestock productivity is likely to worsen following worsening situation of pasture and browse. Moreover, the worsening water state would affect negatively access to pasture and browse since the available pasture, browse and water is short lived.

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 the livelihood zones depicting a worsening trend. The worsening trend is attributed to increased livestock trekking distance to access water and pasture coupled with deteriorating pasture condition.
- Generally, 17 percent of cattle had emaciated bone visible body appearance condition in October compared to zero percent in previous month.
- The remaining 50 and 33 percent of cattle had thin fore ribs visible and moderate (neither fat nor thin) body condition respectively as shown in figure 7.

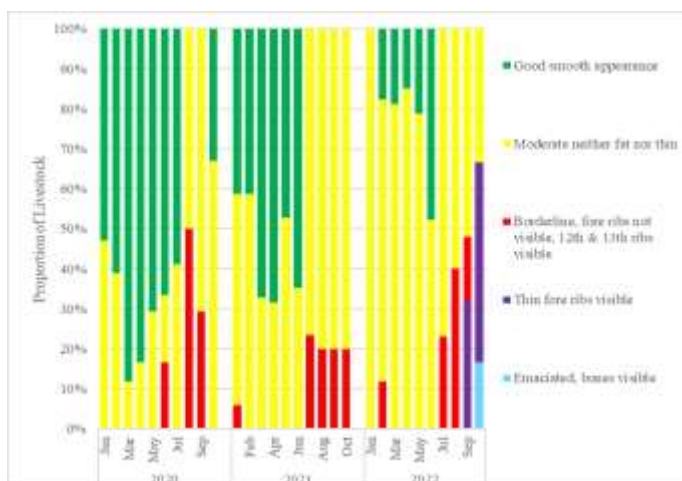


Figure 7: Cattle Body Condition

- The current livestock body condition is worse than year 2020 and 2021 at this time of the year.

3.1.2 Livestock Diseases

- Persistent suspected cases of foot and mouth disease (FMD) in cattle were reported in Siana, Nkareta and Naroosura wards of Narok West, Narok North and Narok South Sub Counties respectively. In addition, Suspected cases of contagious caprine pleuro-pneumonia (CPP) also reported in Naroosura-Maji moto of Narok South.

3.1.3 Milk Production

- In October, the county recorded an average milk production of 2.2 litres per household per day, representing a ten percent increase from 2.0 litres recorded in previous month.
- Milk production was higher in Mixed Farming and Agro Pastoral livelihood zones at 3.7 litres and 2.8 litres respectively compared to 1.7 litres in Pastoral livelihood zone.
- The increase in household milk production trend is linked to livestock feeds supplementation during the month under review.

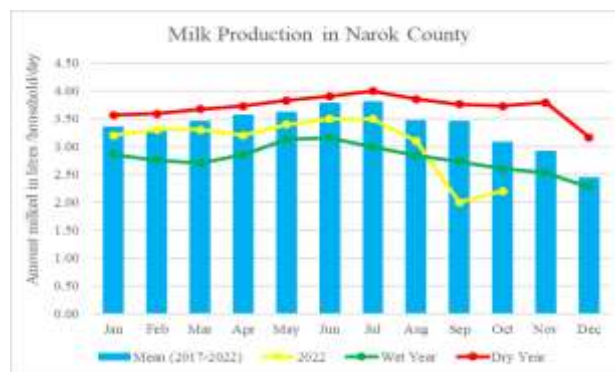


Figure 8: Milk Production

- Current milk production is 28 percent lower than the long-term mean as shown in figure 8.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- The major crops planted in Agro Pastoral livelihood zone were maize, beans and maize while maize, beans, Irish potatoes and wheat were major crops planted in Mixed Farming livelihood zone.
- Currently weeding is on-going in areas that received light to moderate showers. Some of the crops (Maize and Beans) at early vegetative/Knee stage and are in fair condition due to long dry days.

- In addition to rain-fed cropping, farmers in irrigation schemes (Mosiro and Naroosura), along seasonal rivers and private owned farms with boreholes are growing tomatoes, onions, maize and cabbages.

3.3 Implication of the Above Indicators to Food Security

- Worsened livestock and low crop productivity are likely to affect negatively on household purchasing power and access to diversified foods.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average market price for cattle decreased by 11 percent and stood at Ksh.19,907 in October from Ksh. 22, 574 in previous month.
- Cattle prices were higher in Agro Pastoral livelihood zone at Ksh. 20,000 compared to Ksh. 19, 833 in Mixed Farming livelihood zone. Higher livestock prices in the pastoral livelihood zone is attributed to high demand of the commodity in the local market, the traders are sourcing from Mixed Farming and selling at Pastoral areas because of organized market structures in this area.
- The current market price of cattle is a percent lower than the long-term mean (Figure 9).

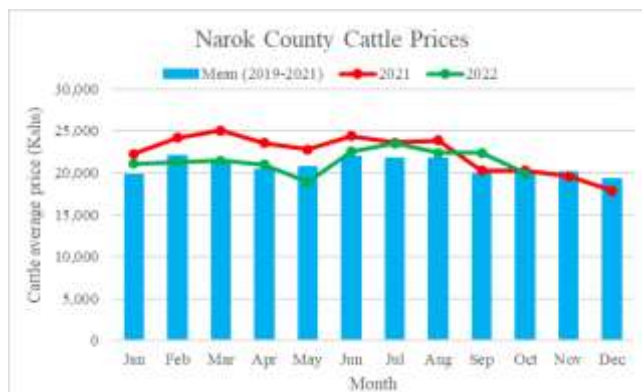


Figure 9: Cattle Prices

4.1.2 Small Ruminants Prices (Goat Price)

- The average market price of a goat decreased by ten percent and stood at Ksh. 4,765 in October from Ksh. 5,350 in previous month.
- Mixed Farming livelihood zone recorded a higher price of Ksh. 5,166 compared to Ksh. 4,378 in Pastoral livelihood zone.
- The current market price of a goat is 18 percent higher than the long-term mean and this is due to decreased demand of the commodity in the market and worsening browse condition (Figure 10).

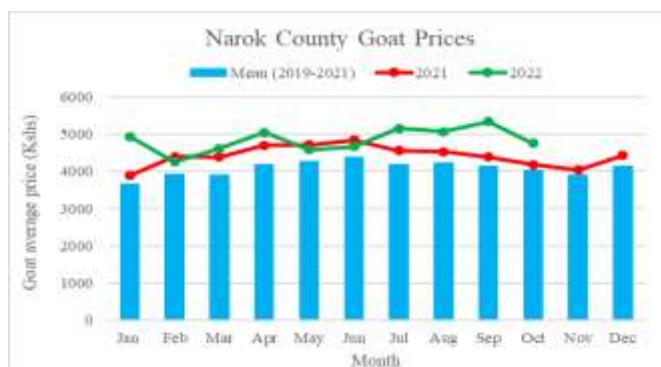


Figure 10: Goat Prices

4.2 CROP PRICES

4.2.1 Maize

- The average market price of maize per kilogram increased by a percent and stood at Ksh.83 in October from Ksh.82 in previous month.
- Maize prices ranged at 80-85 shillings across the livelihood zones attributed increased cost of production and transport to markets.
- The current market price of maize is 89 percent higher than the long-term mean as shown in figure 12. This is mainly due to reliance on the markets by pastoralist for the commodity (Figure 11).

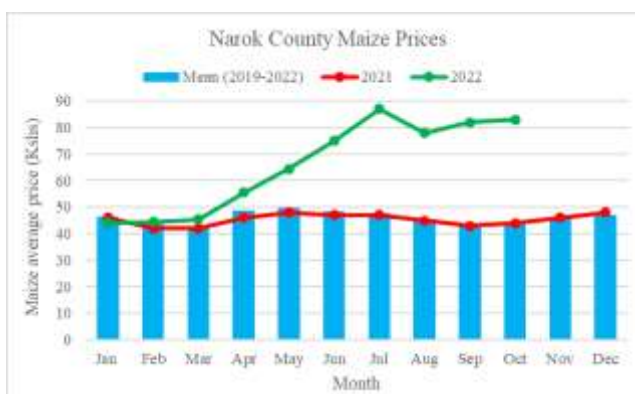


Figure 11: Maize Prices

4.2.2 Beans

- The average market price of beans per kilogram increased by 20 percent and stood at Ksh.142 in October from Ksh.113 in previous month.
- Beans price was higher in Pastoral and Mixed Farming livelihood zone at Ksh.150 compared to Ksh.125 in Agro Pastoral livelihood zone.
- The current beans price is 48 percent higher than the long-term mean as shown in figure 12.

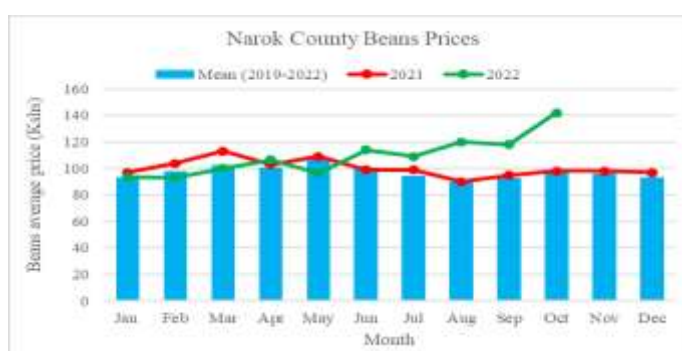


Figure 12: Beans Prices

4.3 Livestock Price Ratio/Terms of Trade

- Terms of trade worsened by 12 percent at 57 in October. This implies that, households were able to purchase 57 kilograms of maize from exchange of a goat in October from 65 kilograms in previous month.
- Terms of trade was higher in Mixed Farming livelihood zone at 59 compared to 56 in Agro Pastoral livelihood zone.
- The current terms of trade is 38 percent lower than the long-term mean as shown in figure 13.

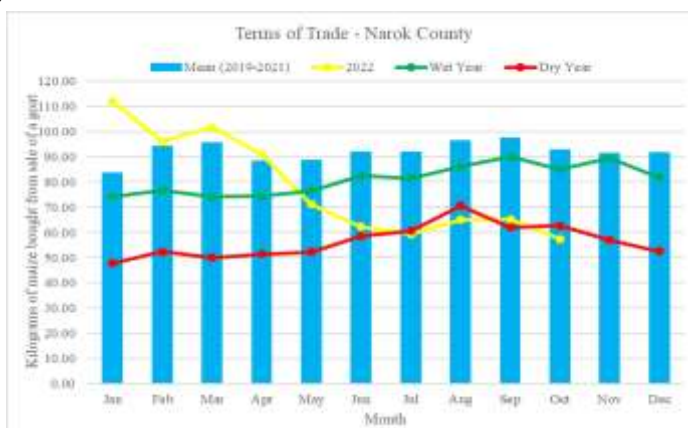


Figure 13: Terms of Trade

4.4 Implication of the Above Indicators to Food Security

- Household purchasing power is likely to deteriorate following high staple food prices, which will impact negatively on food consumption patterns and nutrition status.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The average daily milk consumption per household increased by 13 percent and stood at 1.7 litres in October from 1.5 litres recorded in previous month.
- The increase in milk consumption is attributed to complementing produced milk at household with purchased one.
- There was no major variation across the livelihood zones.
- The current milk consumption is 21 percent lower than the long-term average as shown in figure 14.

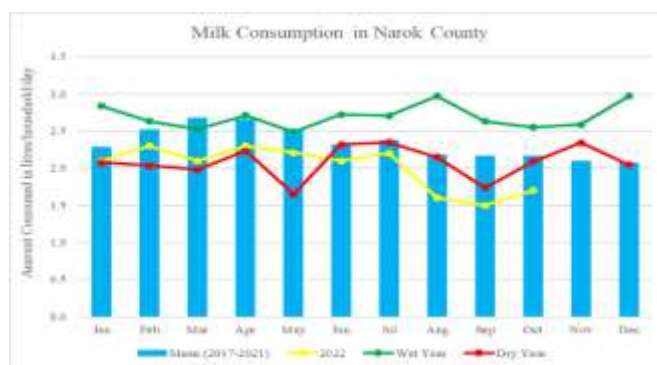


Figure 14: Milk Consumption

5.2 FOOD CONSUMPTION SCORE

- The proportion of households in acceptable food consumption group increased marginally to 84.9 percent in October from 84.3 percent in previous month. The remaining 7.8 and 7.3 percent of households were in borderline and poor food consumption category respectively.
- Mixed Farming and Agro Pastoral livelihood zones had the highest number of households in acceptable food consumption category at 100 percent compared to 70 percent in Pastoral livelihood zone.
- Households in Pastoral livelihood zone had 15.6 and 14.4 percent in borderline and poor food consumption categories respectively.
- Households with acceptable food consumption score were lower in October 2022 at 84.9 percent compared to 94.9 and 93.2 percent in similar period in year 2020 and 2021 respectively as shown in figure 15. This was due to worsening food dietary diversity during the month under review

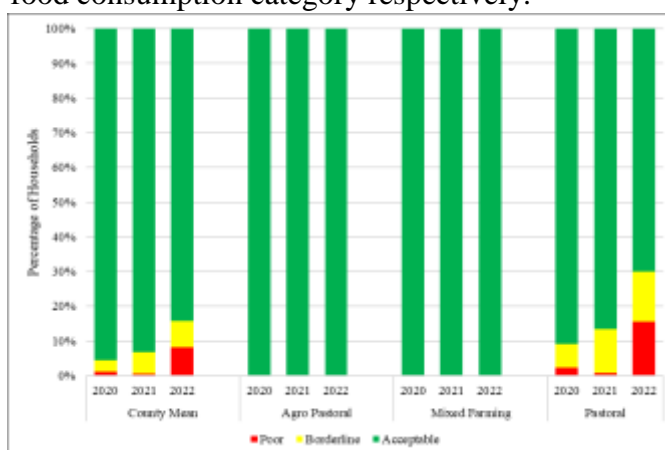


Figure 15: Food Consumption Score (FCS)

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children 6-59 months who were malnourished increased to 5.0 percent in October from 1.1 percent in previous month. This was attributed to worsening food dietary diversity.
- The Pastoral livelihood zone recorded the highest proportion of children who were at risk of being malnourished at 8 percent.
- The current level of children who are malnourished is below normal as shown in figure 16.

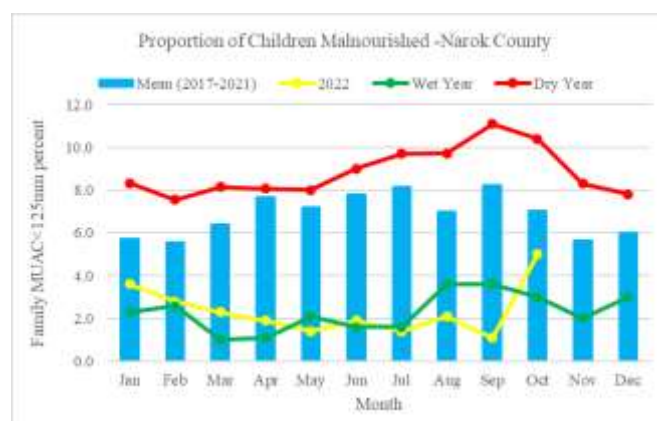


Figure 16: Children at Risk of Malnutrition

5.3.2 Health

- The proportion of children suspected to have fever with chills like malaria, diarrhoea and fever with breathing difficulties cases stood at 7.0, 0.63 and 0.32 percent in October compared to at 6.17, 0.97 and zero percent in previous month respectively.
- During the month under review, about 15 percent highest cases fever with chills like malaria was reported in Agro-Pastoral Livelihood zone while the least about 1.3 percent was reported in the Mixed Farming Livelihood zone.

5.3 COPING STRATEGIES

- The mean of reduced coping strategy index (rCSI) increased to 5.3 in October from 2.9 in the previous month.
- Households in Pastoral livelihood zone had a high rCSI of 10.4 compared to the other livelihoods who were not employing any coping strategy.
- Reliance on less preferred or less expensive food, reduced portion size of meals, reduced quantity of food for children to eat, reduced number of meals eaten per day were the most frequent coping mechanisms adopted across the livelihood zones.
- The current rCSI is 11 percent higher than the long-term mean as shown in figure 17.
- Households employing stressed and crisis food-based coping mechanisms were at 19.6 and 14 percent in October compared to 35 and zero percent in previous month respectively.
- In Pastoral livelihood zone, 38.9 and 27.8 percent of households employed stressed and crisis food-based coping mechanisms respectively compared to zero percent in Mixed Farming and Agro Pastoral livelihood zones.
- 0.6 percent emergency livelihood coping mechanisms to cope with lack of food or money.
- Households employed food based coping mechanisms More frequently in October 2022 compared to similar period in 2020 and 2021 as shown in figure 18.



Figure 17: Reduced Coping Strategy Index (rCSI)



Figure 18: Households Employing Coping Mechanisms

6.0 CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- No non-food intervention.
 - Distribution of livestock feeds (Range cubes) 1,600 households targeting Mosiro Ward, Narok East Sub county. The activity is being implemented by County and National Government, National Drought Management Authority in collaboration with Food and Agriculture Organization of the United Nations through contracted Vetworks Eastern Africa as its service provider.

6.2 FOOD INTERVENTIONS

- **Relief food distribution**
- On-going Therapeutic integrated management of acute malnutrition for the under-fives, pregnant and lactating mothers [supplementary feeding program (SFP)], outpatient therapeutic program (OTP) and stabilization centres by Ministry of Health supported by several partners.
- Relief food distribution targeting 2050 beneficiaries in Oleserian and Mosiro in Narok East sub County, Olepariata and Nkuruman in Narok North sub county and AIC Ongata in Narok South. The activity was funded and flagged off by H.E Pastor Dorcus Gachagua. The distribution was done through Kenya Red Cross Society and the National Drought Management Authority.
- Relief food distribution totaling 3200 bags and 1280 bags of 50kg Rice and Beans respectively targeting eight sub counties by State Department for Social Protection, Senior citizen affairs and Special Programs, through county steering group.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- No major conflict issues that are related to drought were reported during the month under review.

7.2 Migration

- Livestock migration observed from Narok to Loita and irrigation scheme, Mosiro to Ntulele wheat harvested areas.
- Some of livestock are migrating from Kajiado County which poses a threat to the hosts in Mosiro and Ntulele.

7.3 FOOD SECURITY PROGNOSIS

- Based on Kenya Meteorological Department Weather Outlook for October-November-December (OND) 2022 “Short Rains” season issued on 31st August 2022, where it is expected that most parts of the county will experience depressed (below average) rainfall that will be poorly distributed in both time and space. However, isolated incidences of storms that could cause flash floods are likely to occur despite the expected depressed rains. In addition, it is expected season would have late onset (third week of October and first week of November) and early cessation (Rains would continue through January 2023). As a result of OND rains, both crop and livestock productivity would be affected negatively in crop yields, milk and meat production hence reducing food consumption patterns and dietary diversity at household level.
- The prices of staple food commodities are likely to remain higher than the long-term average until the next harvest season.
- Household food consumption patterns and nutrition status are likely to worsen following unfavourable terms of trade and high food prices.
- Open water sources would be recharged fairly however due to high siltation levels would hamper the maximum holding capacities.
- Risk of malnutrition would persist in an increasing trend coupled with increasing households in borderline and poor food consumption scores. Consequently, leading to stressed and crisis (food based and livelihood change) coping strategies.

- Increased human wildlife conflicts, livestock diseases and livestock migration would continue to be exhibited based on the prevailing conditions.

8.0 RECOMMENDATIONS

Immediate/Short term

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

SECTOR	INTERVENTION	TARGET AREA	ESTIMATED COST (Ksh.) in Million
Agriculture	Soil Conservation and Provision of seed subsidy	County wide	10
Livestock	Wildlife -livestock related conflicts interventions at wildlife buffer areas	County wide	3.5
	Intensive disease control for endemic notifiable diseases	County wide	1.5
	Promote pasture conservation and management practices	County wide	0.5
	Sensitization and awareness creation on commercial livestock off take	County wide	20
	Provide supplementary feed for key animals	County wide	20
Water	Carry out strategic water needs assessment. Systematically check on the condition of all boreholes, pumps and gen-sets, and maintenance.	County wide	2.5
	Desilting of open water sources in preparation for OND rains	County wide	15
Health and Nutrition	Promoting home-based water treatment and conservation measures	County wide	0.5
	Maintain essential dietary components for the most vulnerable groups, e.g. programme to maintain milk access for young children in poor households. May involve an advocacy role with the livestock and natural resource sectors.	County wide	1.5
Education	Target support to girls' schools, since girls are often the first to be withdrawn to help the household, and/or provide water to families to reduce demands on girls	County Wide	2.0
Coordination	Awareness creation and induction of stakeholders involved on National Drought Emergency Fund (NDEF) structures	County and Sub County level actors	1.9
Cross cutting	Dissemination of OND Seasonal Participatory scenario planning advisories and weekly updates	County wide	0.5