



A Vision 2030 Flagship Project



**National Drought Management Authority  
NYERI (KIENI) COUNTY  
DROUGHT EARLY WARNING BULLETIN FOR APRIL 2022**

**APRIL EWS PHASE**

**Drought Status: ALERT**



**Maandalizi ya mapema**

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Warmer than normal dry conditions were prevalent across the Kieni livelihood zones with an exemption high attitude zones that experience favourable micro environmental conditions.
- Forage condition was poor across the livelihood zones with an exception of Kabarú ward and some pockets in upper Enderasha/Mwiyo ward bordering the highlands.
- Unpredictable weather patterns have led to a fourth season failure back to back, as cultivated crops succumbed to water stress shortly after germination.

**Socio Economic Indicators (Impact Indicators)**

- Livestock body condition for all species was poor to fair, as pasture quality and quantity was wanting.
- The month's milk production was lower by 47 percent to the LTA of 5.9 litres.
- Return distances to water sources for households use and from watering points for livestock dropped by 46 and 115 percent respectively after an enhanced uptake of localised roof and surface run off harvesting techniques.
- Children at risk of malnutrition slightly increased to 1.4 percent from 1.3 percent last month and 8 percent higher to the long-term average.

**Early Warning (EW) Phase Classification**

Livelihood Zone	Phase	Trend
Mixed Farming	Alert	Stable
Marginal Mixed Farming	Alert	Stable
County	Alert	Stable
Biophysical Indicators	Value	Normal Range/Value
Rainfall (%)	77	90-110% of LTA
VCI	51.21	>35
Forage condition	Poor	Fair
Production indicators	Value	Normal
Livestock Body Condition	Poor	Fair
Milk Production	3.1 Lts	5.9 litres
Access Indicators	Value	Normal
Terms of Trade (ToT)	58	99
Milk Consumption	1.1 Lts	1.3 litres
Return distance to water sources for household use	1.9 Km	1.3 Km
Return distance to water sources from grazing field.	2.8 Km	1.3 Km
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	1.4	1.3
Coping Strategy Index	5.12	>10

**SEASONAL CALENDER**

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

## 1.0 CLIMATIC CONDITIONS

### 1.1 RAINFALL PERFORMANCE

- The month of April remained hot and dry conditions across the livelihood zones with an exemption of areas bordering Mt Kenya and Aberdare ranges that continued to enjoy favourable micro environmental conditions within the two water towers.
- However, Kieni experienced rains in the third dekad of April of between one to 3 days.

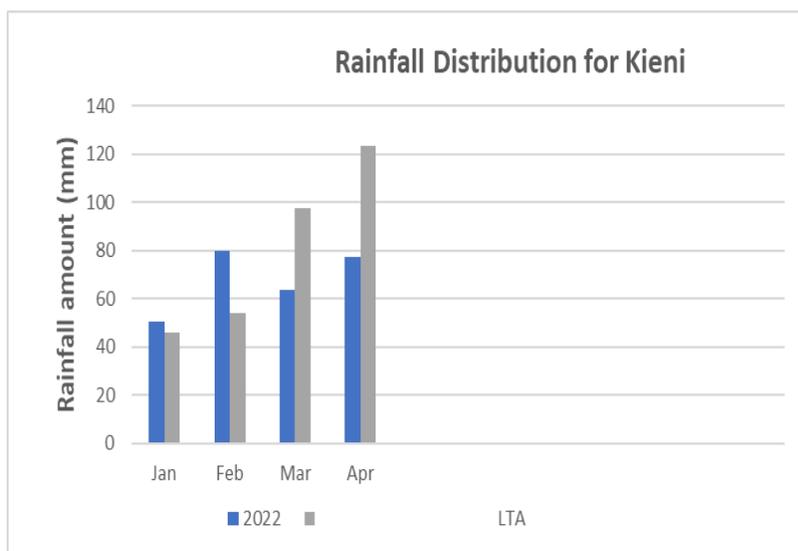


Figure 1: Rainfall distribution for Kieni

- Received rainfall amounted to 77 percent of normal, poorly distributed both in time and in space.
- In Lower zones, received rainfall was insignificant for any impact on crop and or livestock production.

## 1.2 TEMPERATURES

### 1.2.1 LAND SURFACE TEMPERATURES (LST)

- Figure 2 indicates of higher than normal daytime temperature of 31.91 degree Celsius as compared to long-term average temperatures of 29.03 degree Celsius. Reported temperature have been on an upward trend since January.

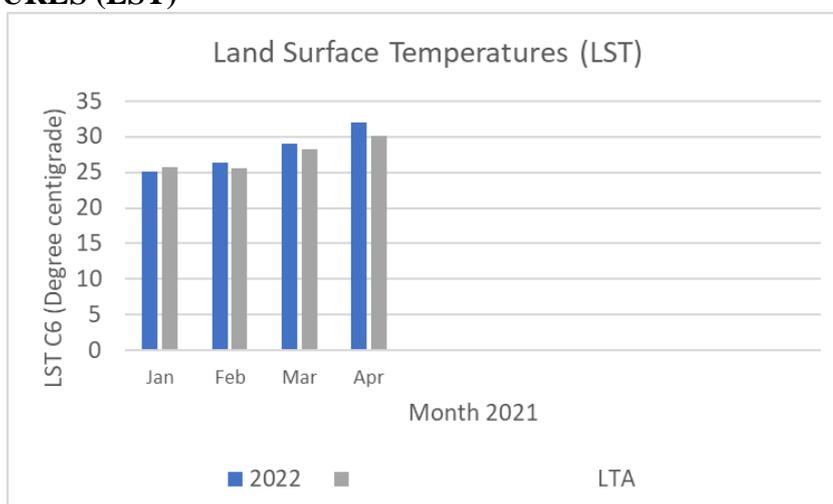


Figure 2: land surface temperatures for Kieni

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 VEGETATION CONDITION INDEX(VCI)

- The vegetation condition index for Kieni was comparable to the long-term averages as shown in figure three (a, & b) 3-monthly VCI of 51.21 below. However, observed greenness mostly consist of unpalatable species and vegetation canopy associated with the region proximity to Mt Kenya and Aberdare forests.
- High daytime temperatures prevalent during the month affected vegetation along Kieni lower zones, with an exception of Kabaruu ward and upper Mwiyo/ Endarasha ward that touch on the highlands. Further, competition over pastures between locals and immigrant herders further worsened the situation.

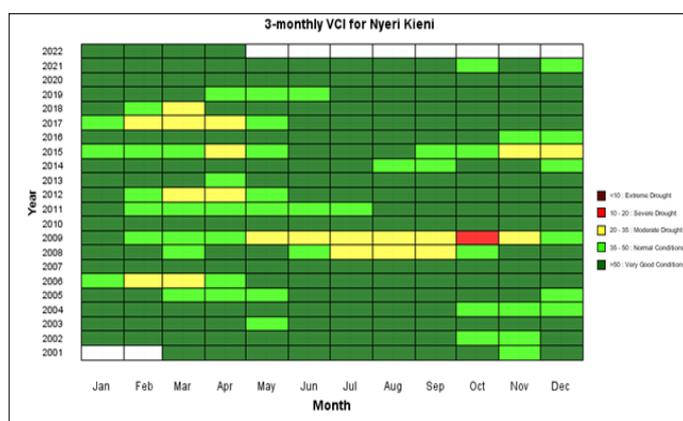


Figure 3 (a): 3 monthly VCI for Kieni

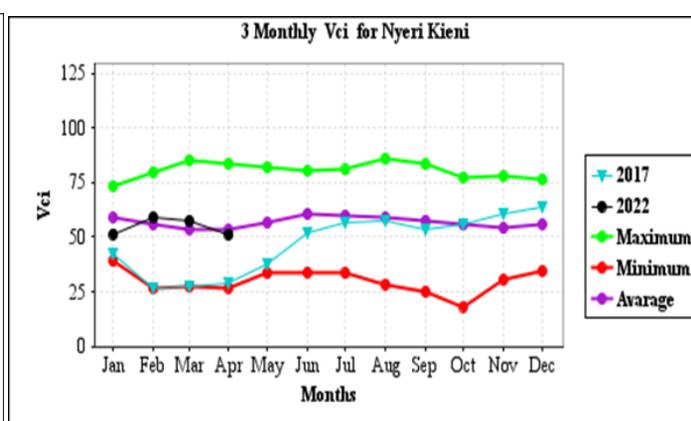


Figure 3 (b): 3 monthly VCI for Kieni

#### 2.1.1 Pasture

- Pasture condition was poor across all the livelihood zones with an exception of the areas bordering Mt Kenya and the Aberdare ranges whereby pasture condition was favourable.
- Compared to a similar period normally, forage levels currently are much lower. Besides, expected recovery during the MAM season rains remains a pipe dream following the poor rainfall performance during the season.

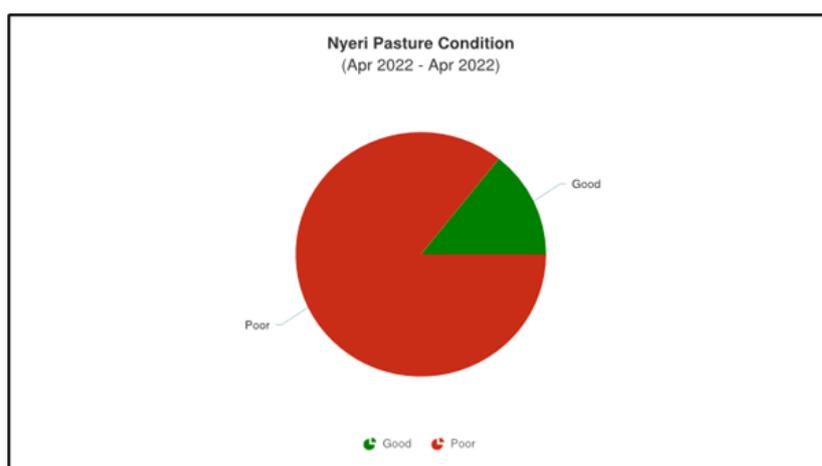


Figure 4 (a): presentation of pasture condition for Nyeri (Kieni) County

- Regenerating at natural grazing field was slow, thus forcing grazers both local and in-migrant to continue grazing at gazetted forest zones under the Community Forest Associations (CFA).
- Areas that are highly depleted of natural pastures are Karemeno, Lamuria, lower Mwiyo, Muthuni and Labura in Kieni West Sub County, and Thungari, Gathiuru and Rongai in Kieni East Sub County.

### 2.1.2 Browse

- Browse registered a slight improvement from last month as observed in figure 4(b).
- It is likely that poor performance of the MAM season will have a negative impact to conventional browse performance trends.

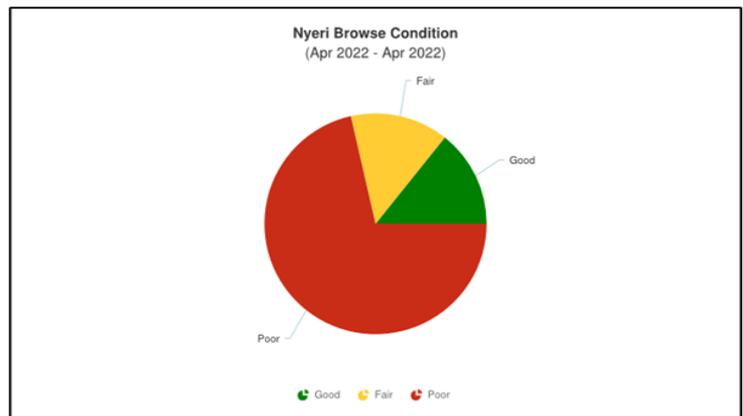


Figure 4 (b): presentation of browse condition for Nyeri (Kieni) County

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- Rivers remained the main source of water in Kieni at 52.4 per cent, followed by pans and dams at 14.3 percent, boreholes at 33.3 per cent. Water access at high attitude zones of Kabar, Endarasha and Amboni was good, compared to lower zones, due to their proximity to water catchment zones.

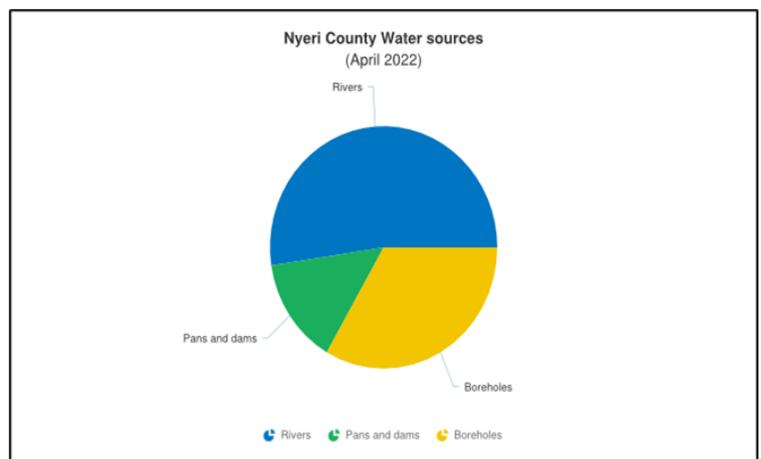


Figure 5: Shows main water sources for Kieni

- Access to water for domestic and livestock use slightly improved in April compared to the previous months. However, recharge of water sources was poor, with rivers flowing at below normal flows following the season poor performance.

### 2.2.1 Household access and Utilization

□ The average return distance from the homestead to water sources reduced by 47 percent from 2.8 Km in March to 1.9 Km in April. This is due to an uptake of roof catchment water harvesting techniques by majority of the households, in addition to an enhanced pipe water supply within the water projects.

□ The recorded distances during the month under review was lower by 46 percent compared to the Long- Term average (LTA) of 1.3 Km as shown in figure 6.

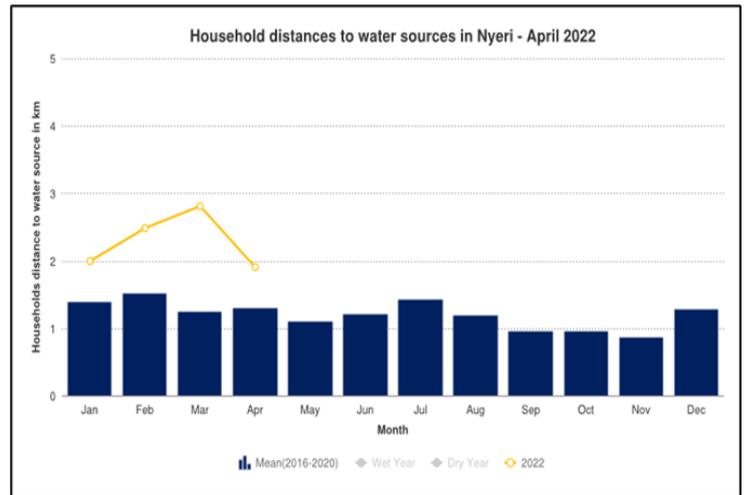


Figure 6: presentation of average household

### 2.2.2 Livestock access

□ Access to water for livestock use improved during the month under review compared to the previous month. In April, livestock trekked for an average return distance of 2.8 Km down from 4 Km in March , a 43 percent decrease.

□ Registered distances were lower by 115 percent compared LTA of 1.3 Km as shown in figure 7.

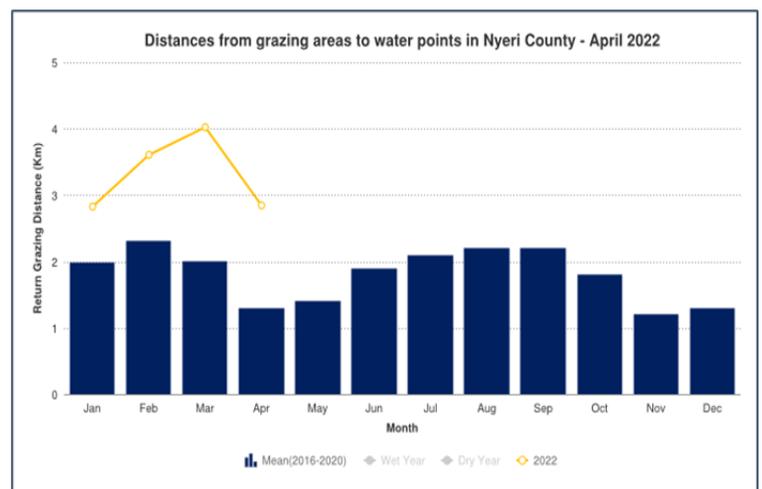


Figure 7: presentation of average grazing distances to

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- The body condition for cattle ranges from poor to fair across the livelihood zones, and attributed poor pasture regeneration following the poor performance of the MAM rains.
- Small stocks were of fair body conditions though exhibiting signs of worm infestation particularly in the lower zones.

##### 3.1.2 Livestock diseases

- There were incidences of livestock deaths amongst immigrant herds of approximately five percent whose likely cause would be extreme weather conditions along the mountains, misdiagnosis and or poor body conditions due to inadequate feeds. In addition, cases of Lumpy Skin Disease (LSD) and foot and mouth (FMD) were on the rise.

##### 3.1.3 Milk Production

- The average household milk production reduced by 14 percent from 3.6 litres in March to 3.1 litres in April. Factors leading to ongoing drop in production include poor pasture quality and quantity, poor body conditions and high cost of feed supplements.
- The month's production was lower by 47 percent compared to the LTA of 5.9 litres as shown in figure 9.

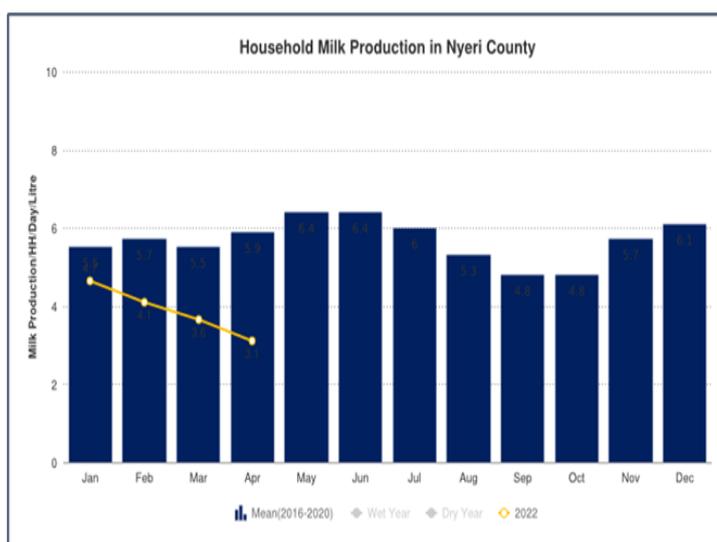


Figure 9: Presentation of average milk production in Nyeri (Kieni)

### 3.2 RAIN-FED CROP PRODUCTION

#### 3.2.1 Stage and condition of food crops

- Apart from pockets along the highlands of Kabarú, Narumoru-Kiamathaga and Enderasha where little production is ongoing, the rest of Kieni have registered season failure occasioned by poor MAM season performance. Parcels earlier put under crop production are either abandoned or opened up to animals for grazing as the season prospects dimmed with drying up of cultivated crops across board. According to the department of agriculture, the MAM season has failed in the county and thus classified as such a fourth season failure in row.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Price

- Cattle prices have been on a downward trend due to deteriorating livestock body condition.
- The price of a mature four-year-old bull, retailed at Ksh 22,928 in April, down from Ksh 23,041 in March.
- Reported prices was also less by 15 percent, to the 2018-2020 short-term average of Ksh 27,118, as indicated in figure 10.

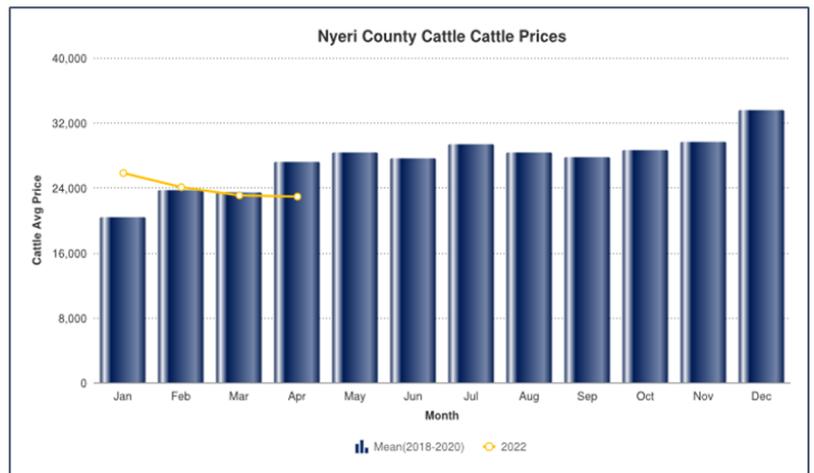


Figure 10: Outline average price trends for cattle

#### 4.1.2 Sheep prices

- A mature two-year-old sheep retailed for 3,178 in April from Ksh 2,625 in March. Sheep prices were higher in the Mixed Farming Livelihoods Zones compared to the Marginal Mixed Farming Livelihood zones.
- Reported prices were below the 2018-2020 short-term average of Ksh 4,333 by 27 percent.

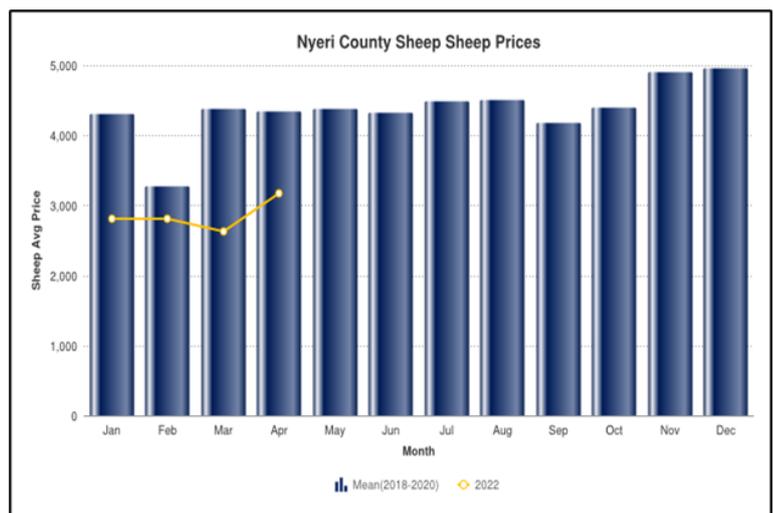
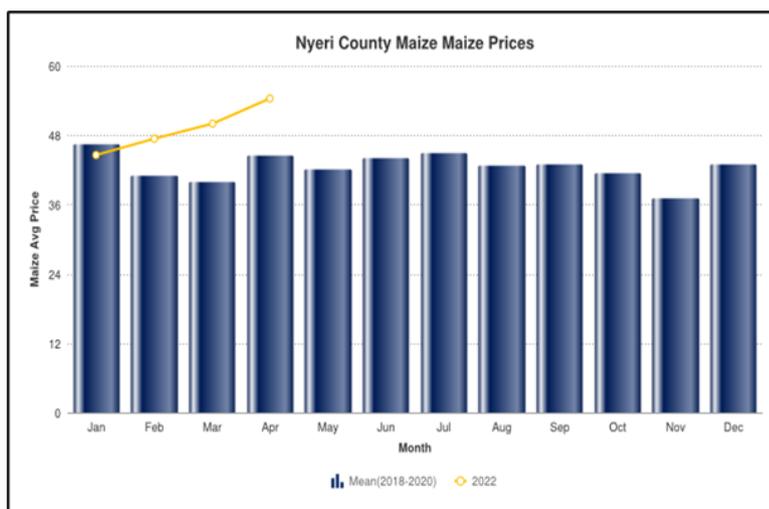


Figure 11: Outline average price trends for sheep

## 4.2 CROP PRICES

### 4.2.1 Maize

□ Kieni population is at present dependent on markets for food supplies following four consecutive season failures in terms of food production. As a result, commodity prices are on the rise with a kilogram of maize retailing for Ksh 54.3 in April, eight percent more from Ksh 50 the previous month.



□ The month's price was higher by 22 percent to the STA of Ksh 44.5. Currently traders are sourcing for the commodity from neighbouring counties.

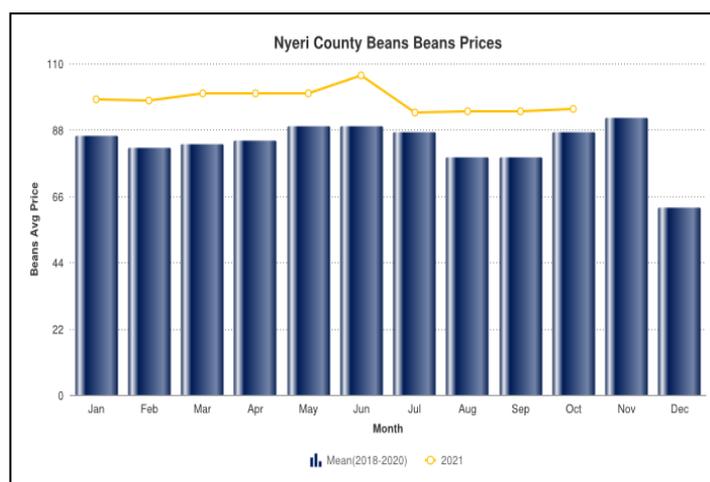
**Figure 12: Outlines average price trends for Maize**

### 4.2.2 Beans

□ A kilo of beans retailed for Ksh 113.6 in April up from 102.5 in March.

During the month under review, beans prices were above the STA of Ksh 84.5 by 34 percent, attributed to overreliance on market.

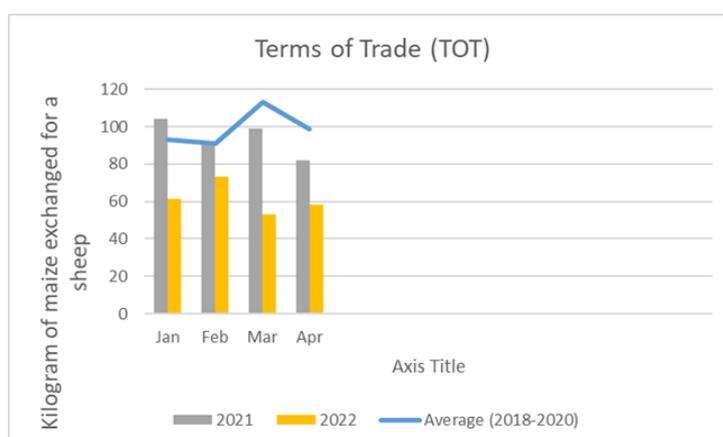
Currently, local traders are sourcing for beans stocks from as far as Busia County.



**Figure 13: Outlines average price trends for Beans**

### 4.2.3 Livestock Price Ratio/Terms of Trade

□ Terms of trade ratio have been low since December compared to 2018-2020 short-term averages. Low TOT to normal is attributable to slow recovery of both commodity and livestock markets occasioned by the region's macro environmental performances and patterns.



**Figure 14: Outlines terms of trade in Kieni**

- In the month of April, a mature sheep was equivalent to 58 kilograms of maize up from 53 kilograms reported the previous month.
- The month's TOT was lower by 44 percent compared to the 2018-2020 short term average of 99 Kgs as outlined in figure 14.

## FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- Milk consumption dropped from 1.2 litres in March to 1.1 litres in April.
- Households in Marginal Mixed Farming livelihood zones consumed more milk at 0.7 litres a day compared to 0.4 litres in Mixed Farming Livelihood zones.
- Compared to the 2018-2020 Short term average for April at 1.3 litres, the month's consumption was within acceptable threshold as shown in figure 15.

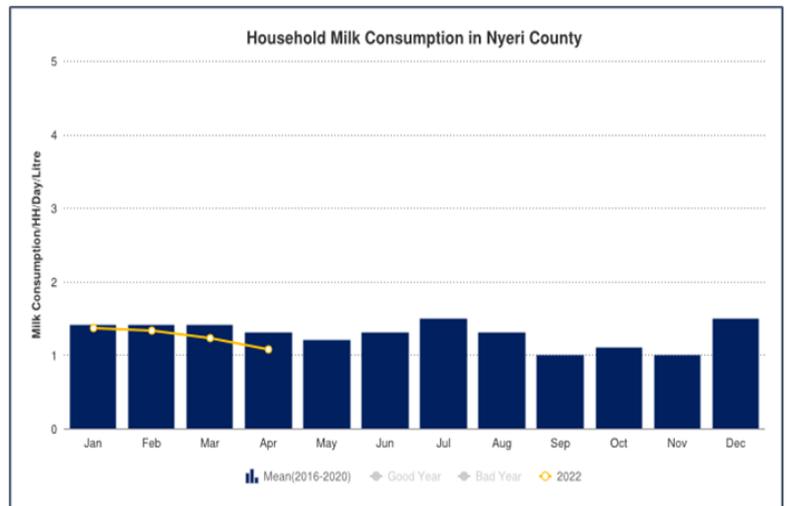


Figure 15: Outlines milk consumption for the county

### 5.2 FOOD CONSUMPTION SCORE

- The food consumption score in the month of April was almost similar to the previous month.
- Proportion of households with borderline and acceptable, food consumption score in the sampled population was 80 percent and 31 percent respectively, compared to the previous month whereby 24 percent and 80 percent of the households had acceptable and borderline food consumption scores as shown in figure 16.

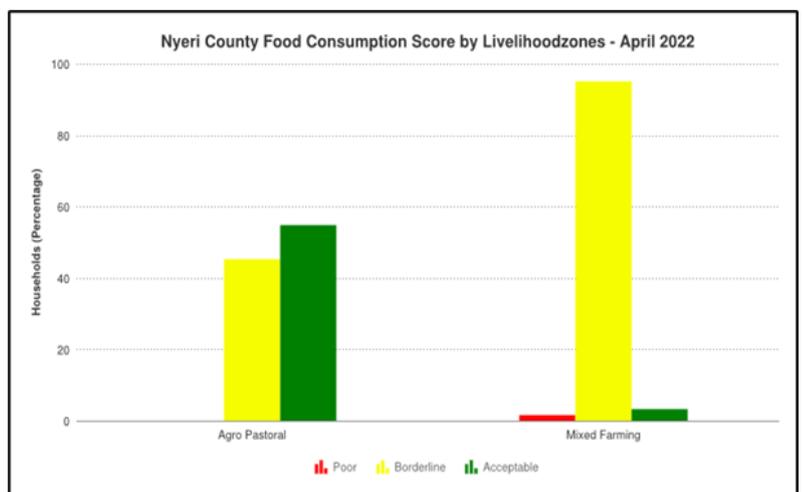
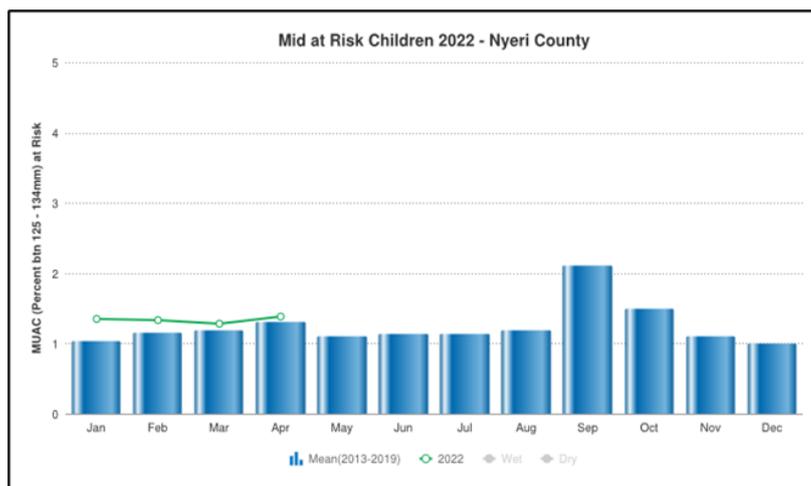


Figure 16: Presentation of food consumption score by livelihood zones

### 5.3 HEALTH AND NUTRITION STATUS

#### 5.3.1 Nutrition Status

- Children at risk of malnutrition has been on the rise attributable to diminishing household food stocks coupled with instances of poor dietary diversity.
- The percentage of children at risk of malnutrition in the month of April rose to 1.4 percent from 1.3 percent last month.
- The number at risk was higher compared LTA by 8 percent as shown in figure 17.

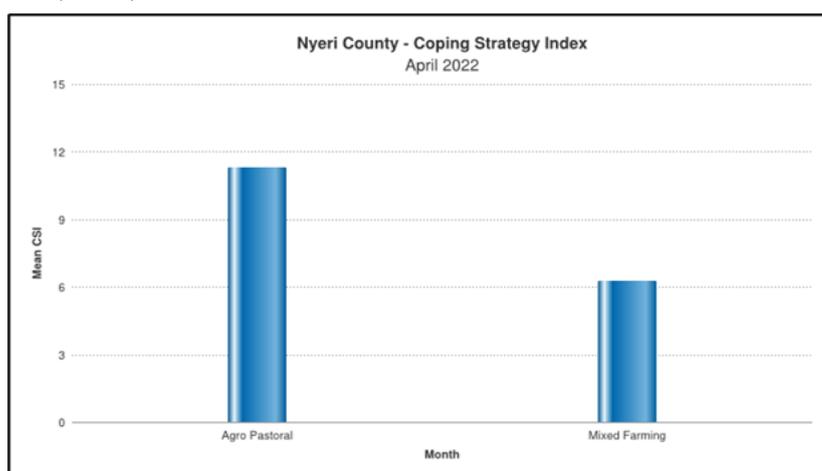


**Figure 17: Presentation of nutrition status of children below five years**

### 5.4 COPING STRATEGIES

#### 5.4.1 Reduced Coping Strategy Index (rCSI)

- The average coping strategy index is at 8.70 in April an indicator that households continued to employ consumption based coping mechanisms more frequently during the month under review.
- This was largely due to nil or inadequate food stocks at the household level, reduced incomes from casual engagements or unavailability thereof as well as loss of income sources.



**Figure 18: Presentation of the CSI for Kieni by livelihood zones**

- Households in Marginal Mixed Farming livelihood zones registered a higher index of 11.3 compared to those in the Mixed Farming Livelihood zones who recorded an index of 6.8. Higher rCSI recorded in the Marginal Mixed Farming livelihood could be attributed to low purchasing power occasioned to reduced livelihood diversity as compared to the latter.

## **6.0 CURRENT INTERVENTION MEASURES (ACTION)**

### **6.1 NON-FOOD INTERVENTIONS**

- Solarization and pipeline distribution of Gatwanyaga borehole for livelihood diversification by NDMA, which is 90 per cent, complete.
- The Nyeri County benefited with 1000 assorted subsidized fertilizers from National Government.
- Drilling of borehole in Naromoru/ Kiamathaga ward in Kieni East Sub County by CGN.
- 1 No. marketing shade in Naromoru/ Kiamathaga ward in Kieni East Sub County by SIVAP.
- 650 water-harvesting ponds have been constructed and completed at household level in Gakawa and Naromoru/ Kiamathaga wards in Kieni East Sub County by SIVAP.

### **6.2 FOOD AID**

- There were no on-going food interventions during the month under review.

## **7.0 EMERGING ISSUES**

### **7.1 Migration**

- The Kieni are still host to over 5,000 and 1500 heads of immigrant cattle and shoats respectively. Of notable, some pastoralists and their herds are leaving Kieni willingly due to the climate variations while others get forced out by the locals as resource-based conflicts escalates.

## **8. RECOMMENDATIONS**

- Provision of supplementary feeds for over 50,000 vulnerable livestock (CGN).
- Support the District peace committees in conflicts management arising from resource-based competition over water and pastures in hot spots areas of Gatarakwa, Gakawa Naromoru/ Kiamathaga and Mugunda
- Livestock disease surveillance and deworming (CGN).
- Capacity building on modern water harvesting methods and storage (CGN).
- Provision of subsidized fertilizer and other farm inputs (CGN.).
- Review of the county contingency and response plans.
- Rolling out and sensitization on NDEF.
- Sourcing and developing community preparedness proposals.