



**National Drought Management Authority  
NYERI (KIENI) COUNTY  
DROUGHT EARLY WARNING BULLETIN FOR JUNE 2021**

**JUNE EWS PHASE**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- During the month of June, Kieni was characterised by hot, dry and windy weather condition, with an exception of areas bordering Aberdare ranges and Mount Kenya that received light showers.
- The day time temperature was 24.04 degrees Celsius in June from 23.6 degrees Celsius the previous month.
- Access to water for domestic and livestock deteriorated during the month under review compared to the previous month.

**Socio Economic Indicators (Impact Indicators)**

- Livestock body condition ranged from moderate to stressed.
- Milk production was below the Long-Term Average (LTA) by 15 percent while consumption was above the LTA by eight percent.
- Average distances to water sources for household use was below the LTA by eight percent.
- Return distance to water source from the grazing field was at par with the long-term average.
- Terms of trade ratio was below the LTA by 23 percent.
- The current rate of children at risk of malnutrition was below the LTA by nine percent.

**Early Warning (EW) Phase Classification**

| Livelihood Zone                                      | Phase              | Trend              |
|--|--------------------|--------------------|
| Mixed Farming  | Normal             | Deteriorating      |
| Marginal Mixed Farming                               | Normal             | Deteriorating      |
| County   | Normal             | Deteriorating      |
| Biophysical Indicators                               | Value              | Normal Range/Value |
| Rainfall (%)   | 46                 | 90-110% of LTA     |
| VCI  | 63.9               | >35                |
| Forage condition                                     | Fair-poor          | Good               |
| Production indicators                                | Value              | Normal             |
| Livestock Body Condition                             | Moderate -stressed | Moderate           |
| Milk Production                                      | 5.4 litres         | 6.4 litres         |
| Access Indicators                                    | Value              | Normal             |
| Terms of Trade (ToT)                                 | 74                 | 96                 |
| Milk Consumption                                     | 1.4 litres         | 1.3 litres         |
| Return distance to water sources for household use   | 1.1 Km             | 1.2 Km             |
| Return distance to water sources from grazing field. | 1.9 Km             | 1.9 Km             |
| Utilization indicators                               | Value              | Normal             |
| Nutrition Status, MUAC (% at risk of malnutrition)   | 1.0                | 1.1                |
|  |                    |                    |

|  |   |   |   |     |     |     |     |      |     |     |     |
|--|---|---|---|-----|-----|-----|-----|------|-----|-----|-----|
| <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

- During the month of June, Kieni was characterised by hot, dry and windy weather condition, with an exception of the areas bordering Aberdare ranges and Mount Kenya that received light showers for two days.
- The high attitude areas received 46 percent of the normal rains as shown in figure 1.
- Both the mixed and marginal mixed livelihood zones were severely affected by frequent frost attacks, leading to a deterioration of the vegetation condition.

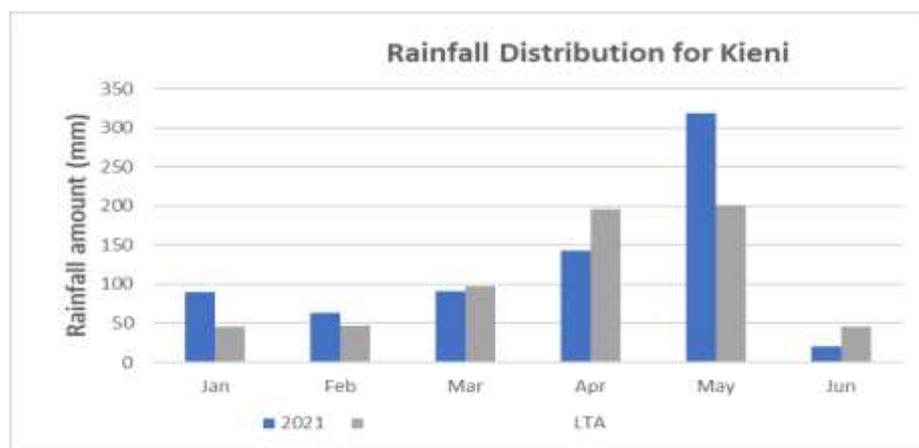


Figure 1: Presentation of the rainfall performance for June

## 1.2 TEMPERATURES

### 1.2.1 LAND SURFACE TEMPERATURES (LST)

- The day time temperature was 24.04 degrees Celsius in June from 23.6 degrees Celsius the previous month. The recorded temperatures are above the LTA of 23.3.

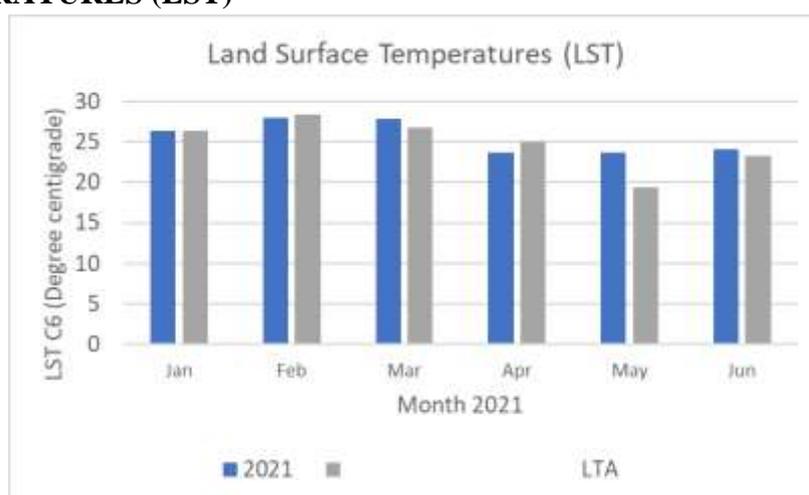


Figure 2: land surface temperatures for Kieni

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 VEGETATION CONDITION INDEX(VCI)

- The vegetation condition for Kieni deteriorated during the month of June compared to the previous month as shown in figure 3(a) below. The month's VCI stood at 63.9, indicative of above normal vegetation condition.
- However, the above normal conditions collected by the satellite imagery could be attributed to the canopy of trees found in Mt Kenya and Aberdare ranges and crops that in the farms.

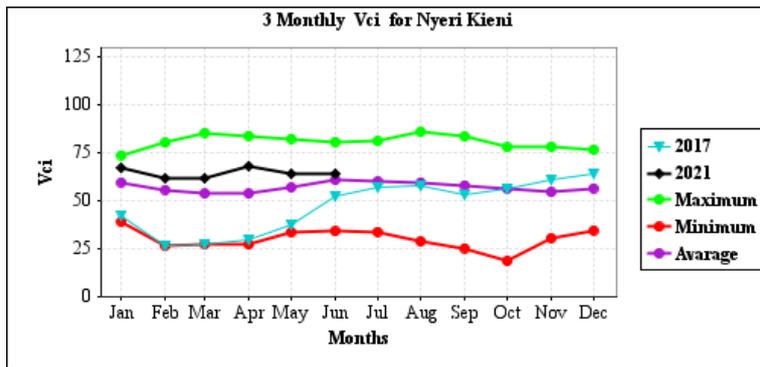


Figure 3 (a) 3 monthly VCI for Kieni

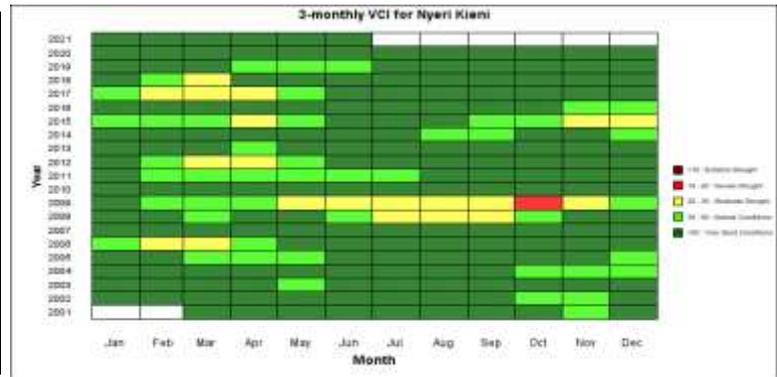


Figure 3(b): 3 monthly VCI for Kieni

### Pasture

- Pasture condition deteriorated during the month of June compared to the previous month.
- Deterioration, was as a result of poor performance of the MAM rains coupled with frequent frost attacks and high temperatures experienced during the day.
- 61.5 of the pasture was fair while 38.5 percent was poor as indicated in figure 4(a).
- Available pastures are expected to last for the next two months.
- Given that the next rainy season is expected in October, the pasture condition is expected to deteriorate further.

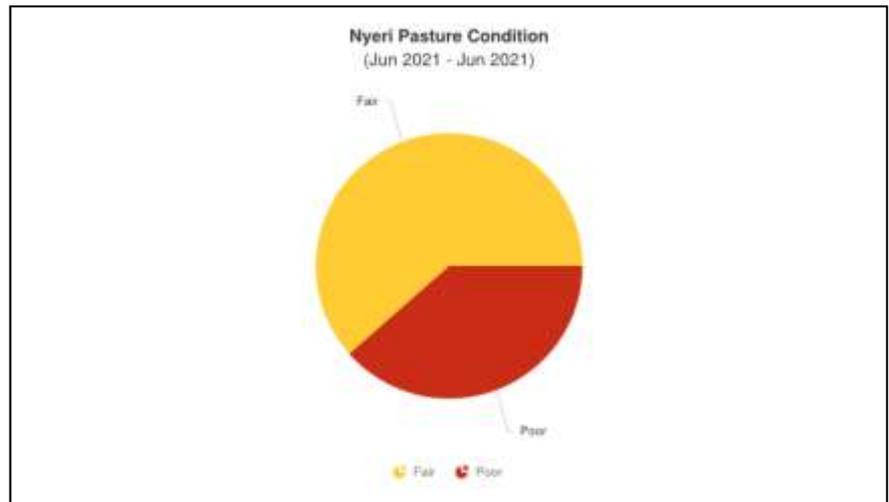


Figure 4 (a) presentation of pasture condition for Nyeri (Kieni) County

### 2.1.2 Browse

- Browse condition also deteriorated in the month of June compared to the previous month, attributed to poor performance of the MAM rain coupled with frequent frost bites.
- The situation was fair across the livelihood zones as indicated in figure 4(b).
- Available browse is forecasted to last for a period of three month as

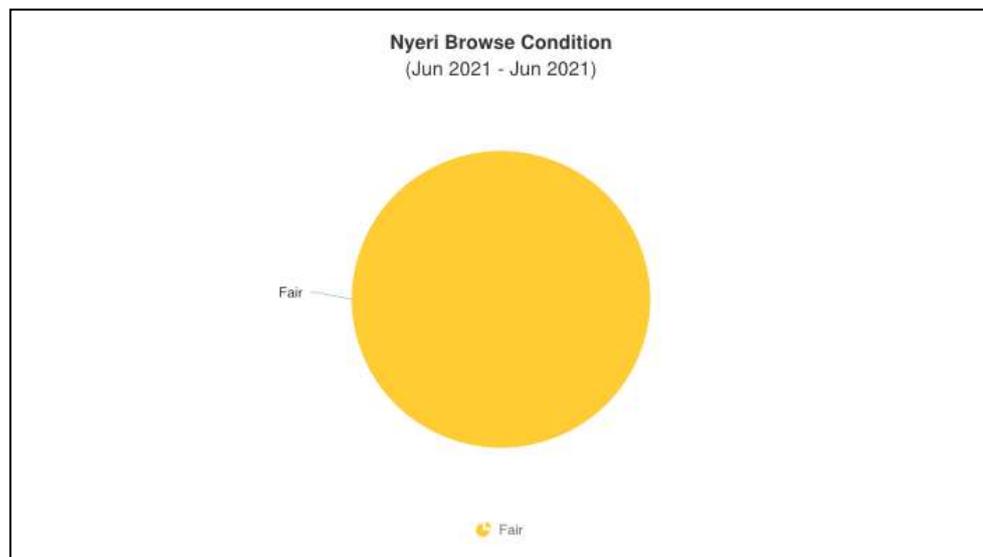


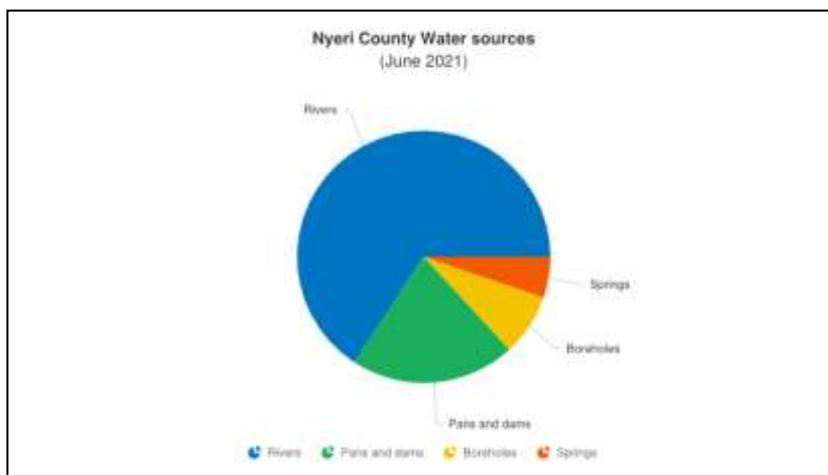
Figure4 (b): presentation of browse condition for Nyeri (Kieni) County

opposed to six months normally.

## 2.2 WATER RESOURCE

### Sources

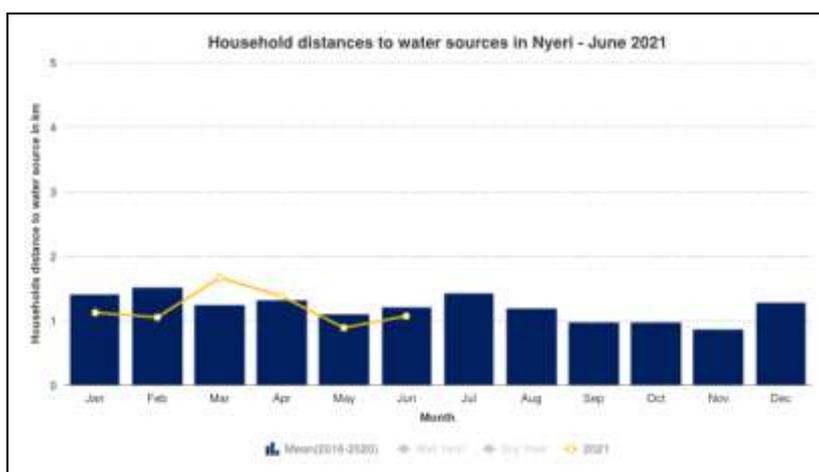
- Rivers remained the main source of water in Kieni at 65.8 percent, followed by pans/dams at 21.1 percent, boreholes at 7.9 percent and springs at 5.3 percent.
- Access to water has deteriorated during the month under review compared to the previous month.
- Due to the poor performance of the MAM rains, most open water sources did not impound enough water and are currently dry. Rivers are flowing at below normal levels.
- Majority of the households are relying on rivers and piped water system for supply. Water rationing has been initiated by the various water projects, with households receiving water twice every fortnight.



**Figure 5: Shows main water sources for Kieni**

### 2.2.1 Household access and Utilization

- Distances from the household to water sources increased by 22 percent from 0.9 Km in May to 1.4 Km in June.
- The increase is attributed to the fact that majority of the open water sources near the homestead have dried up and rationing of the piped water by the various water projects has intensified.
- The current distance is above the 2016-2020 long term average of 1.2 Km by 17 percent as shown in figure 6.



**Figure 6: presentation of average household distances to water**

### 2.2.2 Livestock access

- Access to water for livestock use also deteriorated during the month under review compared to the previous month. Livestock are trekking an average distance of 1.9 Km in June compared to 1.6 Km in May, registering 19 percent drop.
- Registered distances were within the threshold compared to the 2016-2020 long term average of 1.9 Km as shown in figure 7.

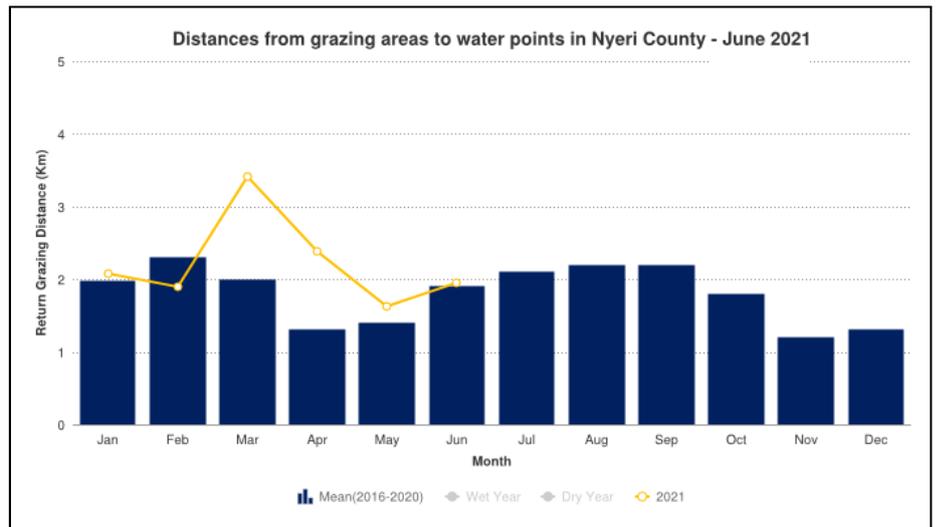


Figure 7: presentation of average grazing distances to water

## 3.0 PRODUCTION INDICATORS

### 3.1 LIVESTOCK PRODUCTION

#### 3.1.1 Livestock Body Condition

- Livestock body condition deteriorated during the month of June compared to the previous month, attributed to poor pastures and reduced distances to water.
- Body condition for cattle ranged from moderate to stressed.
- Condition for shoat was fair.

#### 3.1.2 Livestock diseases

- There was no livestock disease outbreak reported during the month under review.

#### 3.1.3 Milk Production

- The average household milk production dropped by 17 percent from 5.4 litres in May to 4.6 litres in June.
- Drop in production is due to poor pasture conditions and increased trekking distances to water sources.
- The month's production was lower by 28 percent compared to the 2016-2020 long term of 6.4 litres as shown in figure 9.

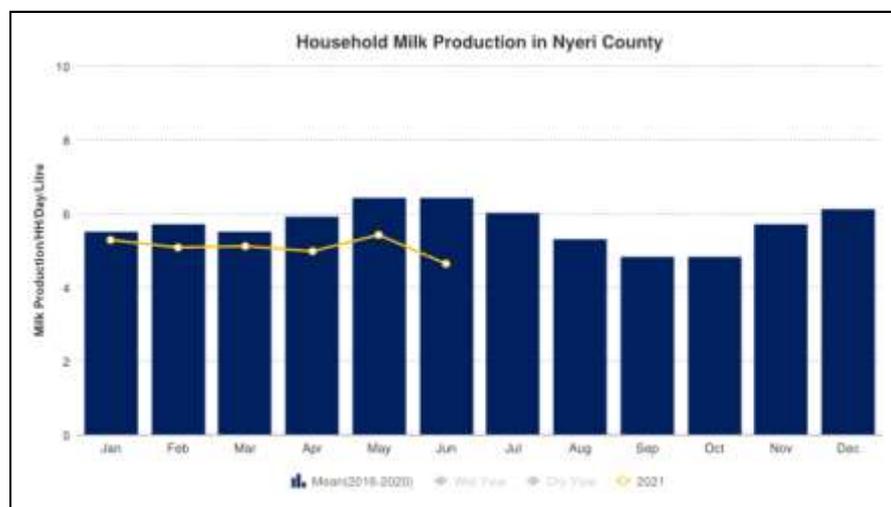


Figure 9: Presentation of average milk production in Nyeri (Kieni)

### 3.2 RAIN-FED CROP PRODUCTION

#### 3.2.1 Stage and Condition of food Crops

- Crops at the farms were showing signs of water stress. Maize was at knee to above knee high. Harvesting of beans was ongoing.
- Farmers are likely to experience a total crop failure for maize since the rains ceased at the critical time of crop development.

### 4.0 MARKET PERFORMANCE

#### 4.1 LIVESTOCK MARKETING

##### 4.1.1 Cattle Price

- Due to deteriorating livestock body condition livestock prices were on a downward trend.
- The price of a mature four-year-old bull declined further by three percent to retail at Ksh 24,154 in June, from Ksh 25,000 in May.
- The month's price was lower by 12 percent compared to the 2018-2020 short-term average of Ksh 27,557, as indicated in figure 10.

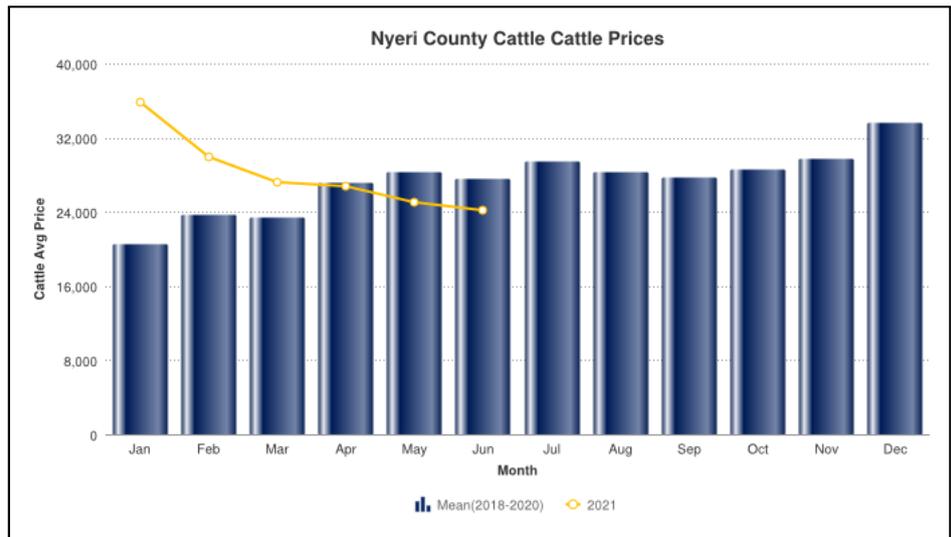


Figure 10: Outline average price trends for cattle

##### 4.1.2 Sheep prices

- The price of a two-year-old medium size sheep dropped by five percent, to retail at Ksh 3,308 in June from Ksh 3,500 in May.
- The month's price was lower by 23 percent compared to the 2018-2020 short term averages of Ksh 4,318 as shown in figure 11.

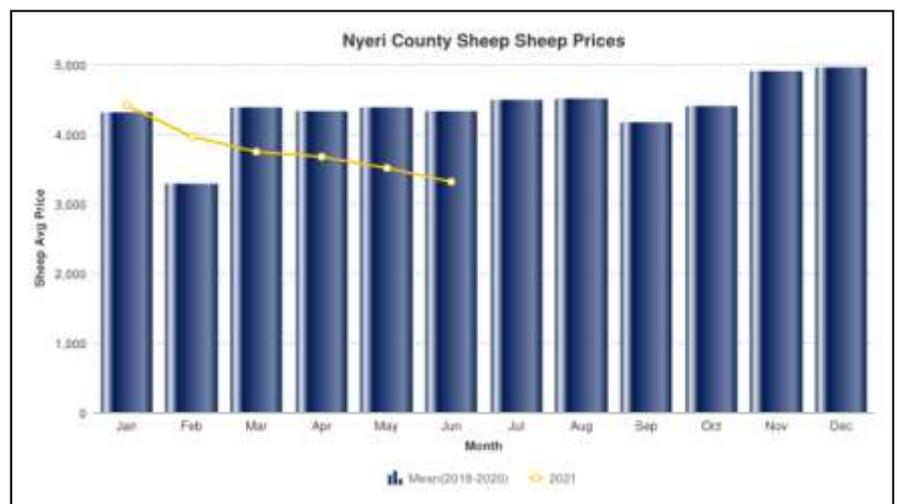


Figure 11: Outline average price trends for sheep

## 4.2 CROP PRICES

### 4.2.1 Maize

- Imports from Laikipia and Uasin Gishu, counties have aided in stabilizing maize prices since April.
- A kilo of maize retailed for Ksh 46 in June which was almost same compared to Ksh 45 the previous month.
- The month's prices were within the threshold compared to the 2018-2020 short term average of Ksh 44.

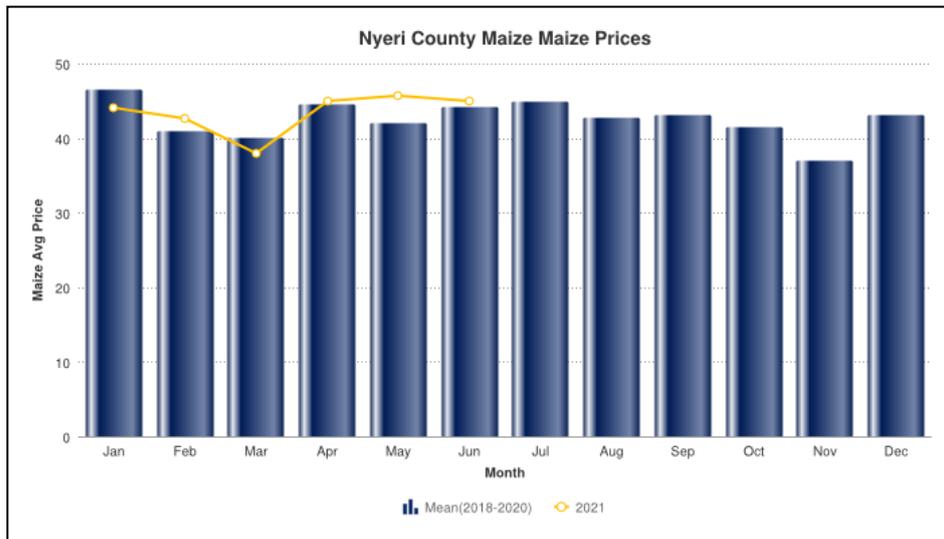


Figure 12: Outlines average price trends for Maize

### 4.2.2 Beans

- Beans prices increased by six percent to retail for Ksh 106 in June from Ksh 100 the previous month.
- The increase in prices could be attributed to the fact that majority of the households are solely relying on markets for supply.
- The month's price was above the 2018-2020 short term average of Ksh 89 by 19 percent.

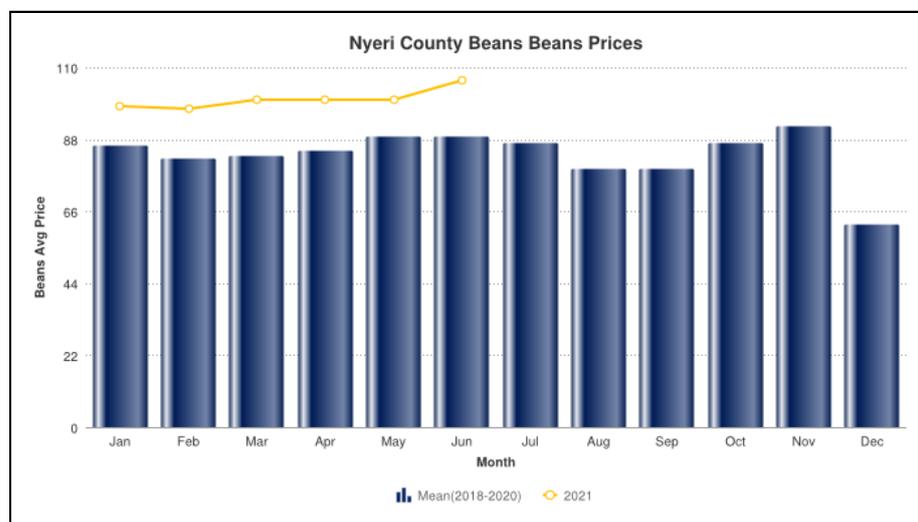


Figure 13: Outlines average price trends for Beans

### 4.2.3 Livestock Price Ratio/Terms of Trade

- Terms of trade ratio deteriorated during the month of June compared to the previous month.
- A mature sheep was equivalent to 74 kilograms of maize accounting for three percent drop from last month of 76 kilograms.
- The month's TOT was lower by 22 percent compared to the 2018-2020 short term average of 96 kgs as outlined in figure 14.

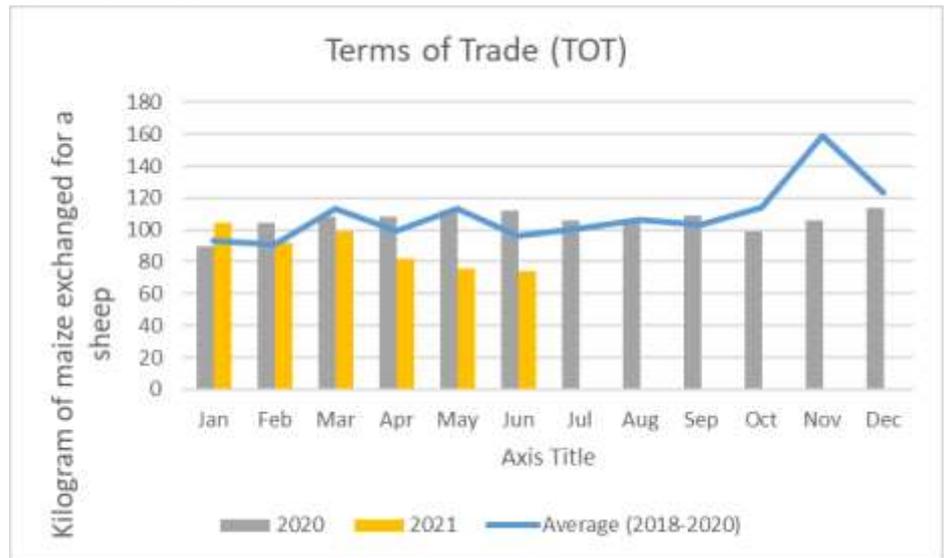


Figure 14: Outlines terms of trade in Kieni

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- Milk consumption has been stable since January 2021. Consumption stood at 1.4 litres in June which was quite comparable to 1.5 litres in May.
- Households in marginal mixed farming livelihood zones consumed more milk at 0.9 litres per day compared to 0.6 litres in mixed farming livelihood zones.
- Compared to the 2016-2020 long term average of 1.3 litres, the month's consumption was within the threshold as shown in figure 15.

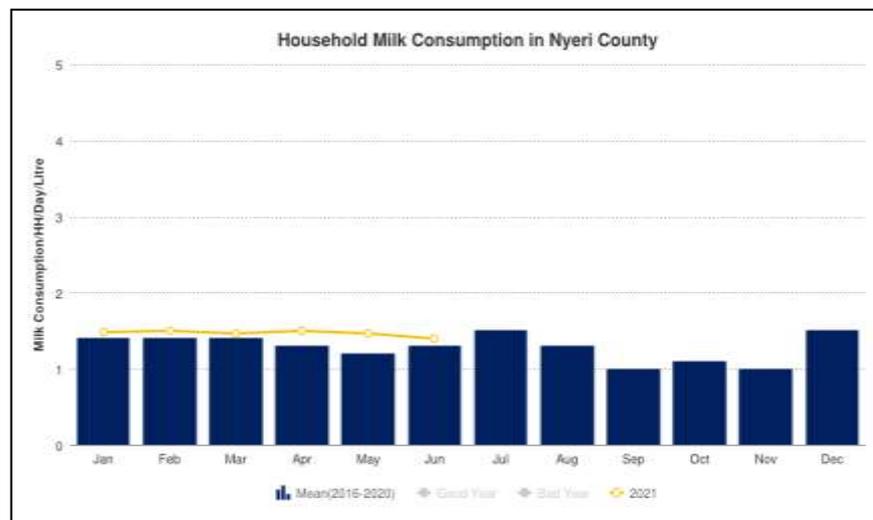
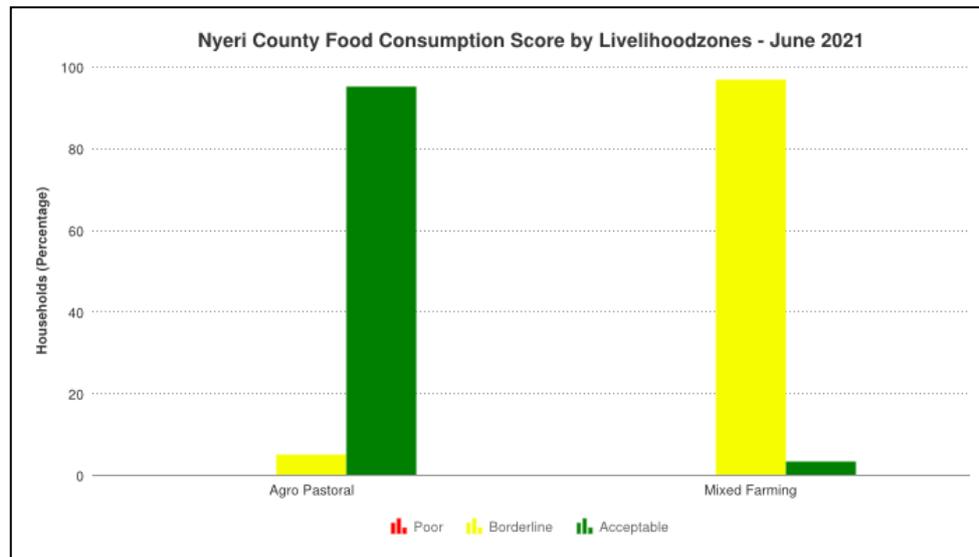


Figure 15: Outlines milk consumption for the county

## 5.2 FOOD CONSUMPTION SCORE

- The food consumption score remained stable during the month under review compared to the previous month.
- Proportion of households with acceptable and borderline food consumption score in the sampled population was 50 percent each compared to the previous month where 51, 48 and one percent of the households had acceptable, borderline and poor food consumption score respectively as shown in figure 16.



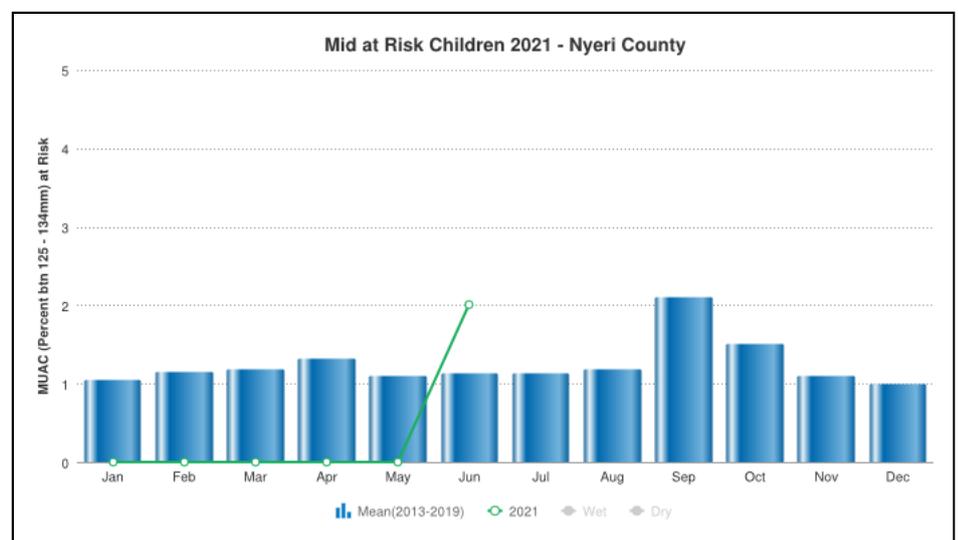
**Figure 16: Presentation of food consumption score by livelihood zones**

- The marginal mixed farming livelihood zones fared better, since 95 percent of the households had acceptable food consumption score compared to five percent in mixed farming livelihood zones.

## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The proportion of children aged between 6-59 months who were at risk of malnutrition in the sampled population stood at one percent.
- The current rate of children at risk of malnutrition was below the 2013-2019 LTA of 1.1 by nine 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 increased from 5.44 in May to 5.91 in June, an indication that households were coping more frequently during the month of June compared to the previous month, attributed to lack of food stock at the household and lack of money to buy food due to the low purchasing power at the household.
- The month's CSI was higher compared to 4.35 recorded in the same month last year.
- Households in marginal mixed farming livelihood zones registered a higher index of 7.3 compared to those in the mixed farming livelihood zones who recorded an index of 4.5.
- The main coping strategies applied by vulnerable households were reliance on less preferred food, restricting adult consumption for children to eat and reducing daily meals intake.

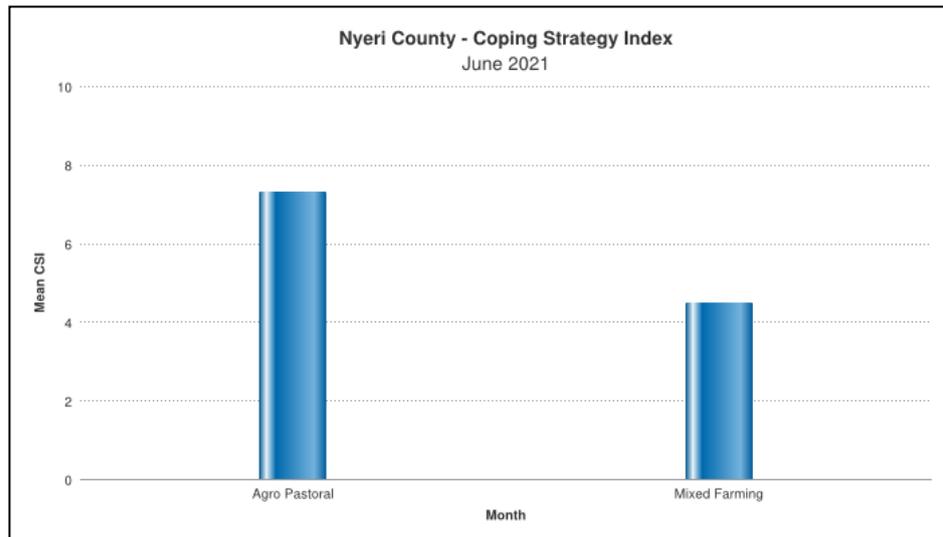


Figure 18: Presentation of the CSI for Kieni by livelihood zones

## 6.0 CURRENT INTERVENTION MEASURES (ACTION)

### 6.1 NON-FOOD INTERVENTIONS

- Solarization and pipeline distribution of Gatwanyaga borehole for livelihood diversification by NDMA.
- Drilling of borehole in Naromoru/ Kiamathaga ward in Kieni East Sub County by CGN.
- Construction of marketing shade in Naromoru/ Kiamathaga ward in Kieni East Sub County by CGN.
- Construction of water ponds in Gakawa and Naromoru/ Kiamathaga wards in Kieni East Sub County by CGN.

### 6.2 FOOD AID

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

## 7.0 EMERGING ISSUES

### 7.1 FOOD SECURITY PROGNOSIS

#### 7.3.1 Food Security Outlook for July to September 2021

- Figure 19 indicates that the forecasted soil moisture for Kieni is likely to deteriorate. This may be due to high land surface temperature and lack of rainfall in the months of July to September.
- In the next three months, the food security situation for Kieni will deteriorate further in both livelihood zones since farmers are expected to experience a total crop failure for maize, given that the rains ceased at the critical stage of crop development.
- Food prices will increase further since majority of the households have exhausted their stocks, and are relying on markets for supply.

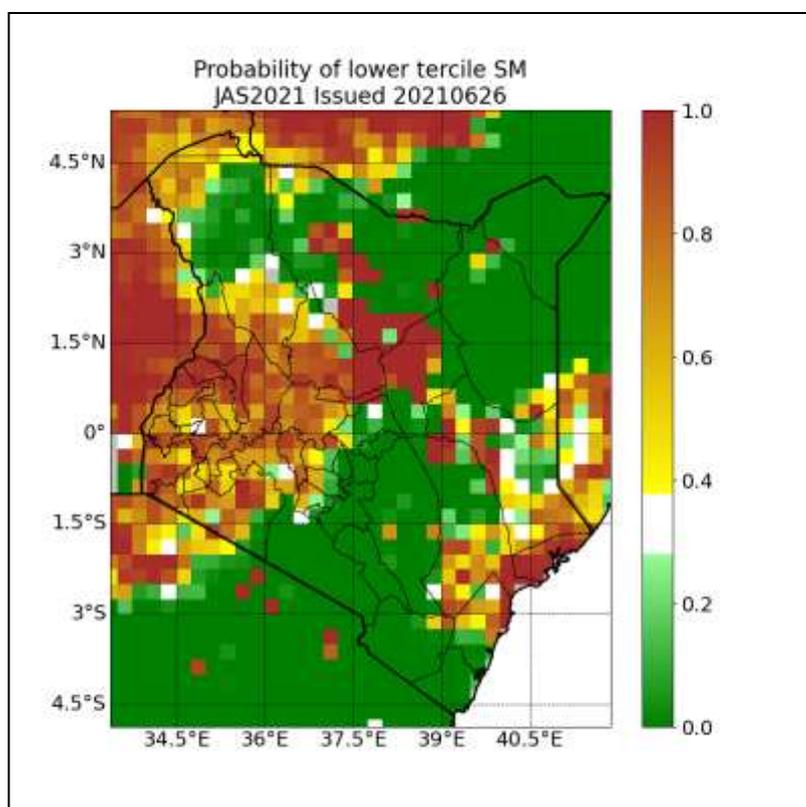


Figure 19: Probability of lower tercile moisture

- Forage and water sources are expected to decline further while distances to water sources for domestic and livestock use are expected to increase. Consequently, livestock body condition will deteriorate, leading to a decrease in milk production and a further drop in livestock prices. Subsequently, malnutrition rates for under-fives are likely to increase.

## 8. RECOMMENDATIONS

- Sensitize farmers on soil fertility management. (CGN).
- Provision of relief food to vulnerable households. (NDMA).
- Livestock disease surveillance and deworming (CGN).
- Sensitize farmers on modern fodder harvesting and storage (CGN).
- Capacity building on post-harvest management. (NDMA/CGN)
- Review of county drought contingency plans. (NDMA).
- Promote retention in schools through initiation of the food for fees programme. (CGN).
- Conduct integrated health outreaches in malnutrition hotspots that offer essential nutrition supplements while distributing water treatment chemicals. (CGN).
- Distribution of supplementary feeds for livestock (CGN).