



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

**SEPTEMBER EWS PHASE**



**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Dry and windy weather conditions prevailed in Kieni in the month of September. Warmer than normal day time temperatures of 27.49 were recorded.
- Consequence, vegetation condition deteriorated further in the month under review.
- The water situation is also grim with over 90 percent of pans and dams having dried up. In addition, water rationing by the various water projects has intensified, households are receiving piped water once a fortnight.

**Socio Economic Indicators (Impact Indicators)**

- Livestock body conditions across the livelihood zones was poor.
- Milk production was below the Long-Term Average (LTA) by 19 percent while consumption was within the threshold.
- Average distances to water sources for household use was above the LTA by two folds.
- Return distance to water source from the grazing field was above the LTA by 81 percent.
- Terms of trade ratio was below the LTA by 41 percent.
- The current rate of children at risk of malnutrition was above the LTA by 24 percent.

**Early Warning (EW) Phase Classification**

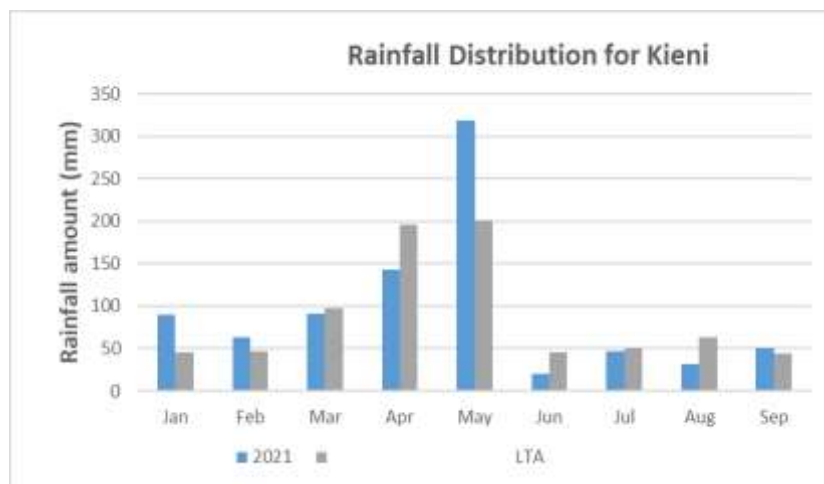
Livelihood Zone	Phase	Trend
Mixed Farming	Alert	Deteriorating
Marginal Mixed Farming	Alert	Deteriorating
County	Alert	Deteriorating
Biophysical Indicators	Value	Normal Range/Value
Rainfall (%)	50.88	90-110% of LTA
VCI	52.33	>35
VCI forecast for September	50.9	>35
Forage condition	Poor	Fair
Production indicators	Value	Normal
Livestock Body Condition	Poor	Fair
Milk Production	3.9 litres	4.8 litres
Access Indicators	Value	Normal
Terms of Trade (ToT)	60	103
Milk Consumption	1.5 litres	1.4 litres
Return distance to water sources for household use	3 Km	1 Km
Return distance to water sources from grazing field.	4 Km	2.2 Km
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	2.6	2.1

<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

- In the month of September, dry, windy and hot weather conditions dominated Kieni, with an exception of some pockets in the marginal mixed farming livelihood zones that received offseason showers.
- Amounts received was 50.88mm which was slightly above the LTA of 44mm. Temporal distribution was also poor since the rains were received for two days only.



- The rains did not have much impact on crop and livestock production.
- Occasional frostbites were common in both mixed farming livelihood zone and Marginal Mixed Farming Livelihood zones, further affecting the vegetation condition.

## 1.2 TEMPERATURES

### 1.2.1 LAND SURFACE TEMPERATURES (LST)

- The daytime temperatures for the month of September were warmer at 27.49 degree Celsius as compared to long-term average temperatures of 27.07 degree Celsius.
- Observed temperature rise was a build-up from 25.25 degrees Celsius in the month of August.

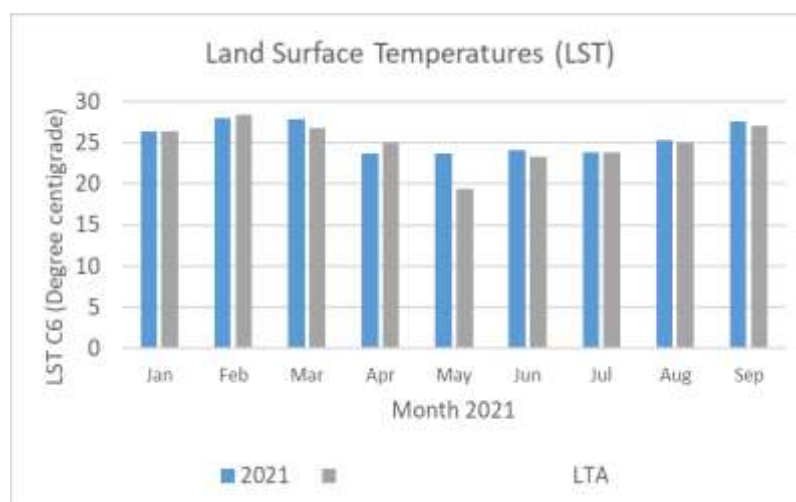


Figure 2: land surface temperatures for Kieni

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 VEGETATION CONDITION INDEX(VCI)

- Vegetation condition deteriorated during the month of September compared to the previous month. Despite the VCI-3-month value for Kieni being 52.33, the visible greenness is mostly of an unpalatable species and a canopy of trees found in Mt Kenya and Aberdare ranges.
- Significant depletion of the vegetation condition was reported across all the wards with Thegu river ward, Naromoru/Kiamathaga ward, Gakawa ward, Mwiyongo/Endarasha ward and Gatarakwa ward being worst hit. Some of the factors that were driving the observed negative trend in vegetation condition during the month of September included absence of off-season rainfall across most sites compounded by the considerably high land surface temperature (LSTs).

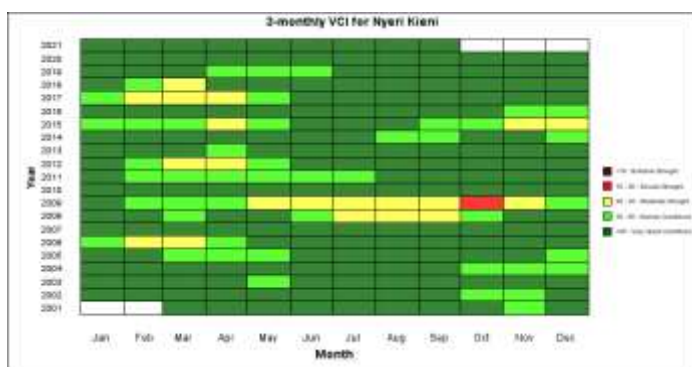


Figure3 (a): 3 monthly VCI for Kieni

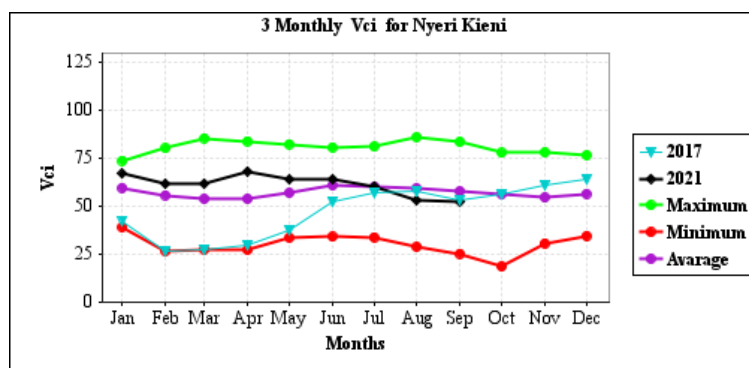


Figure3 (b): 3 monthly VCI for Kieni

#### Pasture

- Pasture condition deteriorated during the month of September compared to the previous month.
- Deterioration was because of prevailing hot and windy conditions and further worsened by frequent frost attacks.
- Pasture condition was poor across the livelihood zone as shown in figure 4(a). Available pastures can only sustain the region for less than a month in both livelihood zones.
- Given that the OND rainy season might equally delay as indicated by relevant authorities, then the ongoing conditions are likely to deteriorate further.

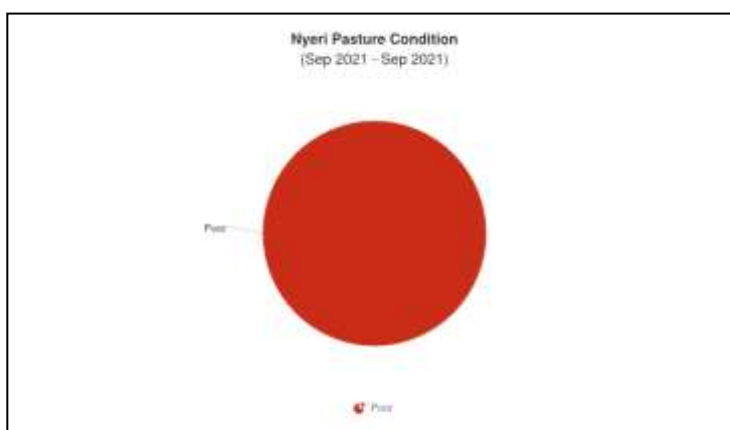


Figure4 (a): presentation of browse condition for Nyeri (Kieni) County

### 2.1.2 Browse

- Similarly, browse condition also deteriorated in the month of September compared to the previous month.
- In addition, 83.3 percent of available browse was of poor quality while 16.7 percent was fair as indicated in figure 4(b).
- Available browse can only last for a month in both livelihood zones.

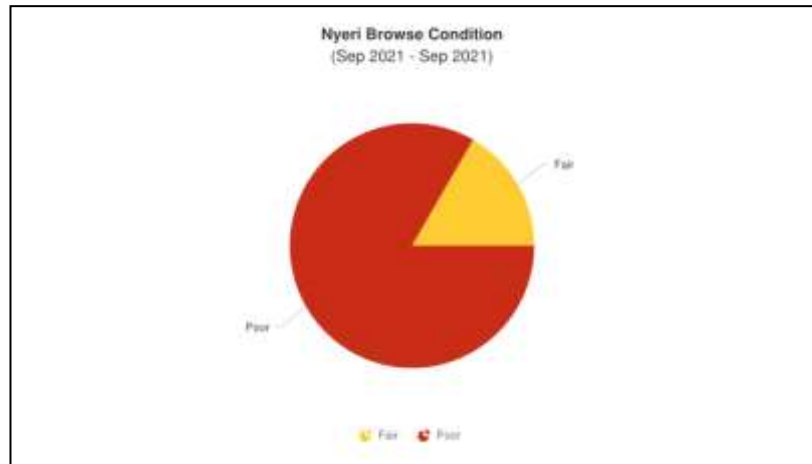


Figure 4 (b): presentation of browse condition for Nyeri (Kieni) County

## 2.2 WATER RESOURCE

### Sources

- Access to water deteriorated during the month under review compared to the previous months. The major sources of water during the month of September across the livelihood zone included: rivers, boreholes and springs. Rivers remained the most preferred water sources attributed to the various water projects that were providing piped water to the households. However, due to the below normal levels in the rivers, water rationing has been intensified and households were receiving water once in a fortnight.
- Noteworthy, there was a drop in the no of households utilizing pans and dams by 33 percent, since over 90 percent have dried up.

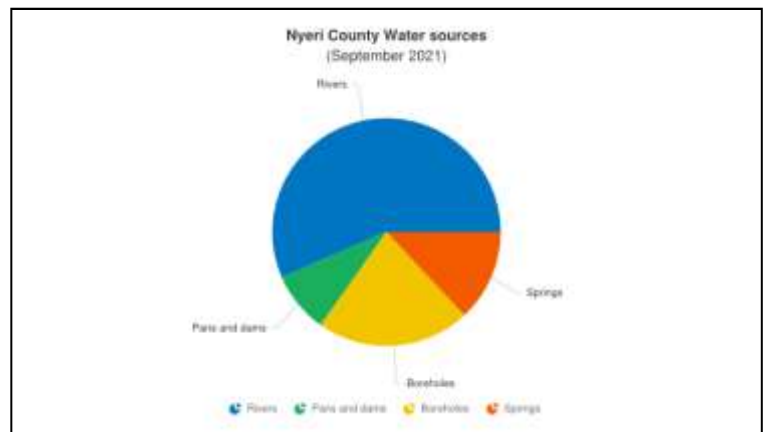


Figure 5: Shows main water sources for Kieni

### 2.2.1 Household access and Utilization

Distances from the household to water sources increased by 30 percent from 2.3 Km in August to three Km in September.

- The increase is attributed to the fact that majority of the open water sources near the homestead have dried up and rationing of piped water by the various water projects has intensified.
- The current distance is

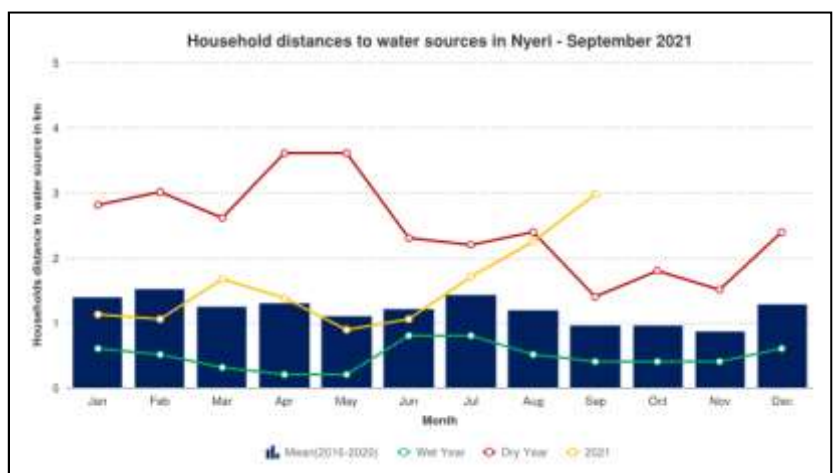


Figure 6: presentation of average household distances to water

above the 2016-2020 long term average of one Km by two folds as shown in figure 6.

### 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 four Km in September compared to 3.1 Km in August, registering 29 percent drop.
- Registered distances were above the 2016-2020 long term average of 2.2 Km by 81 percent as shown in figure 7.

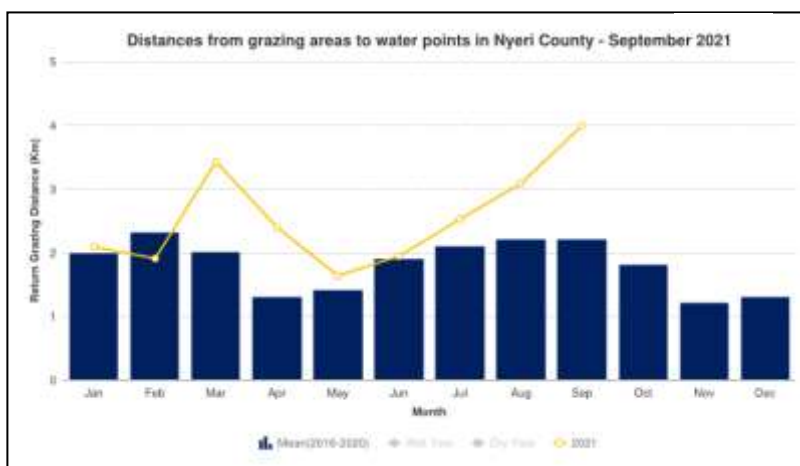


Figure 7: presentation of average grazing distances to water

## 3.0 PRODUCTION INDICATORS

### 3.1 LIVESTOCK PRODUCTION

#### 3.1.1 Livestock Body Condition

- Livestock body condition deteriorated during the month of September compared to the previous month, attributed to poor pastures and increased distances to watering points.
- The body condition for all the three livestock species (Cattle, Sheep and Goats) is poor in both the Mixed Farming livelihood zone and Marginal Mixed Farming livelihood zones. It is likely that body condition will further deteriorate as pasture and browse continue diminishing.

#### 3.1.2 Livestock diseases

- There were confirmed cases of Foot and Mouth (FMD) in Gakawa ward in Kieni East Sub County.

#### 3.1.3 Milk Production

- The average household milk production stood at 3.9 litres, which was similar to the previous month.
- The month's production was lower by 19 percent compared to the 2016-2020 long-term average of 4.8 litres.

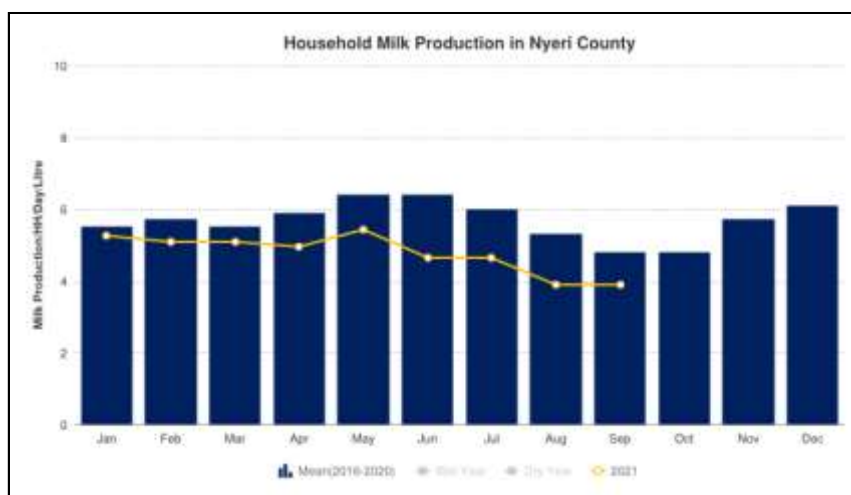


Figure 9: Presentation of average milk production in Nyeri (Kieni)

## 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 since May 2021.
- The price of a mature four-year-old bull, retailed at Ksh 22,833 in September, from Ksh 23,400 in August.
- The month's price was lower by 17 percent, compared to the 2018-2020 short-term average of Ksh 27,751, as indicated in figure 10.

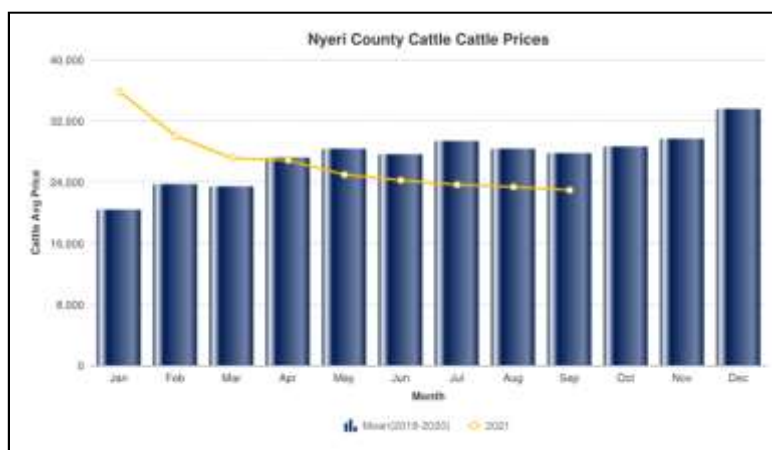


Figure 10: Outline average price trends for cattle

#### 4.1.2 Sheep prices

- The price of a two-year-old medium size sheep dropped by six percent, to retail at Ksh 2,775 in September from Ksh 2,955 in August.
- The month's price was lower by 33 percent compared to the 2018-2020 short term averages of Ksh 4,167 as shown in figure 11.

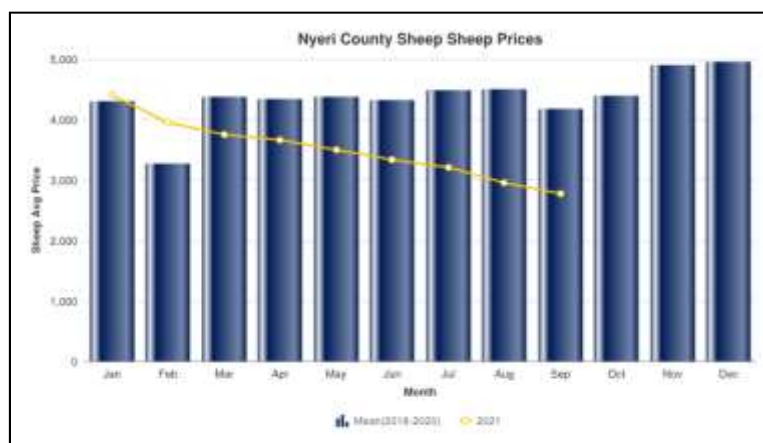


Figure 11: Outline average price trends for sheep

## 4.2 CROP PRICES

### 4.2.1 Maize

- Traders are currently sourcing for stocks from Busia, Uasin Gishu and Meru counties. Stock held by traders were above normal leading to a drop in maize prices as supply was higher than demand. However, the month's prices were still above the 2018-2020 short-term

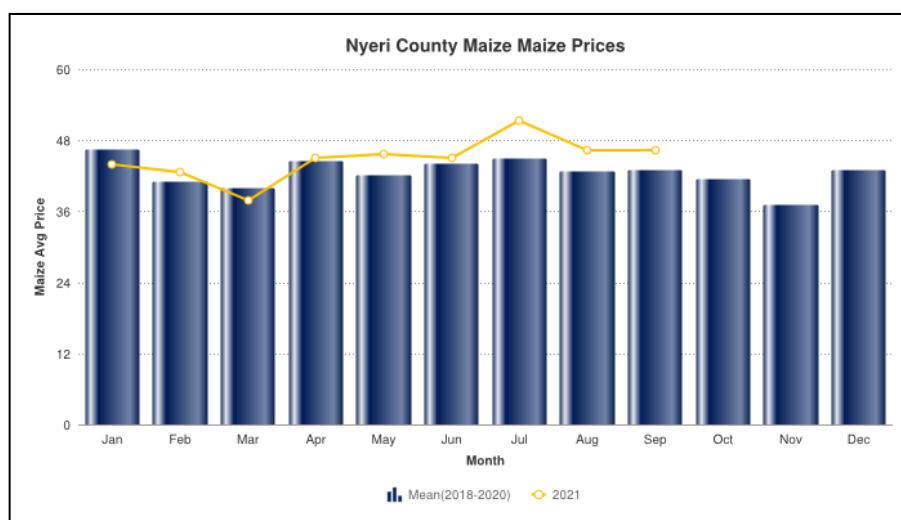


Figure 12: Outlines average price trends for Maize



averages of Ksh 43, by seven percent.

- A kilo of maize retailed for Ksh 46 in September similar to the previous month.

#### 4.2.2 Beans

- In addition, beans prices were above the 2018-2020 short term average of Ksh 79 by 19 percent, attributed to overreliance on markets for supplies, as households' stocks were exhausted.
- A kilo of beans retailed for Ksh 94 in September similar to the previous month.

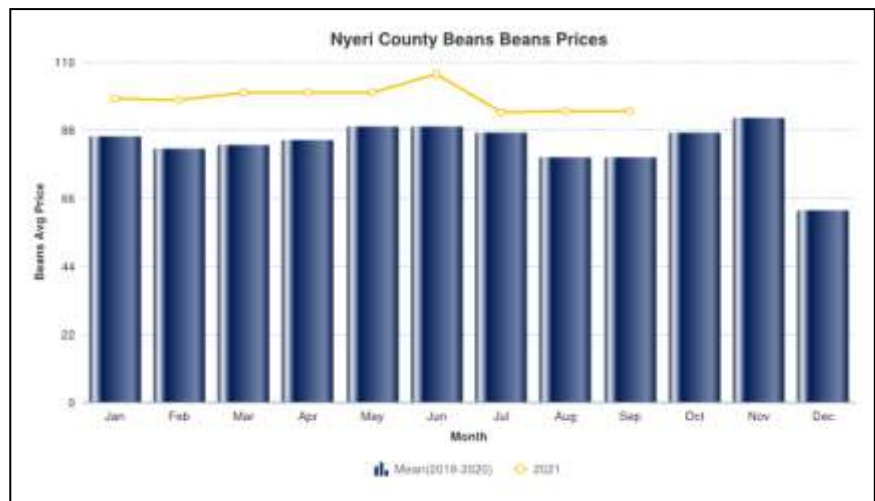


Figure 13: Outlines average price trends for Beans

#### 4.2.3 Livestock Price Ratio/Terms of Trade

- Terms of trade ratio deteriorated during the month of September compared to the month of August, attributed to a decline in livestock prices even as food prices remained stable.
- A mature sheep was equivalent to 60 kilograms of maize from 64 the previous month.
- The month's TOT was lower by 41 percent compared to the 2018-2020 short term average of 103 Kgs as outlined in figure 14.

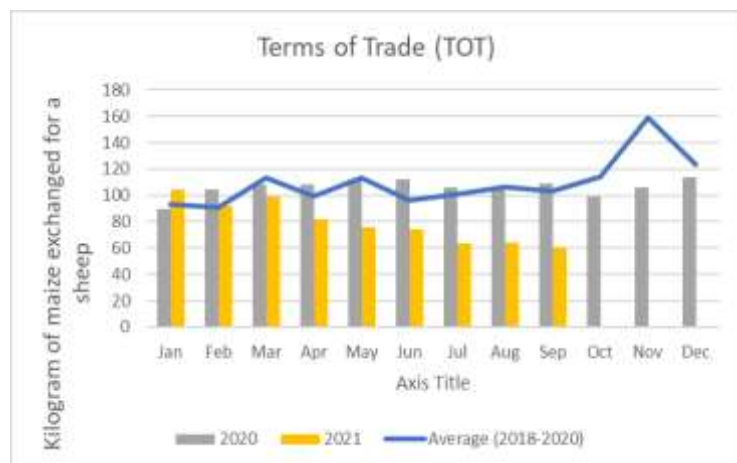


Figure 14: Outlines terms of trade in Kieni

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

- Milk consumption has been stable since January 2021. Consumption stood at 1.5 litres in August that is quite comparable to 1.4 litres in July.
- 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.

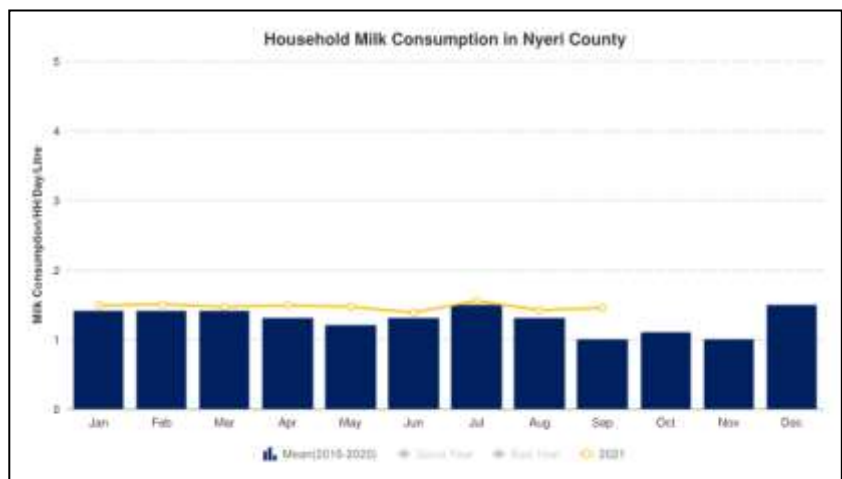
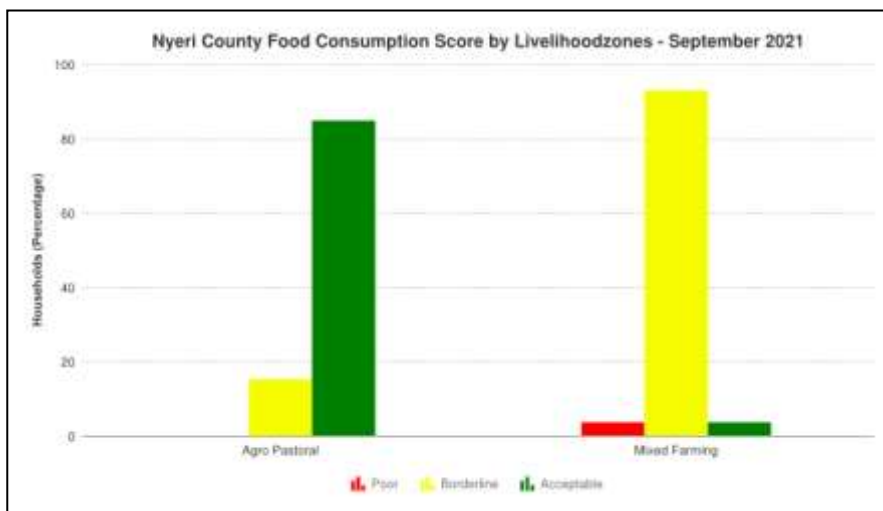


Figure 15: Outlines milk consumption for the county

- Compared to the 2016-2020 long term average of 1.4 litres, the month’s consumption was within the threshold as shown in figure 15.

## 5.2 FOOD CONSUMPTION SCORE

- The food consumption score deteriorated during the month of September compared to the previous month, attributed to lack of food stocks at the households’ level and poor dietary diversity. Households are relying on markets for supplies. Prices of main food stocks are currently above the LTA.



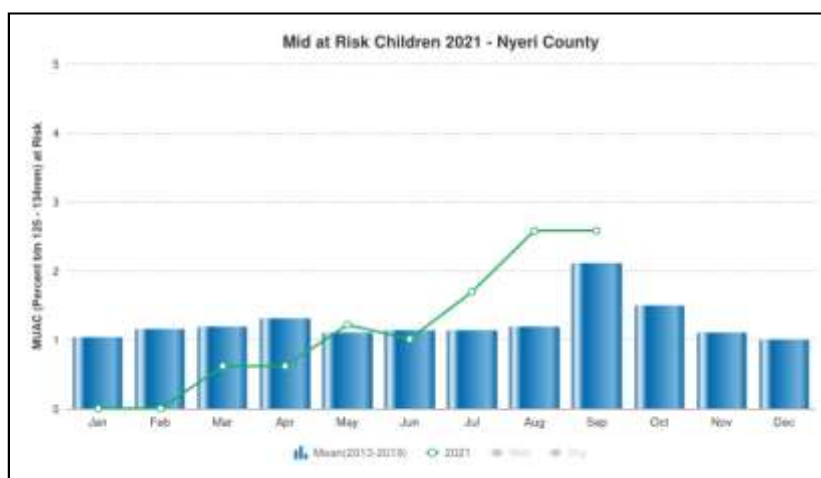
**Figure 16: Presentation of food consumption score by livelihood zones**

- Proportion of households with acceptable, borderline and poor food consumption score in the sampled population was 42 percent, 56 percent and two percent while 44 percent, 51 percent and five had acceptable, borderline and poor food consumption score in August as shown in figure 16.
- The marginal mixed farming livelihood zones fared better, since 85 percent of the households had acceptable food consumption score compared to 3.4 percent in mixed farming livelihood zones. 3.4 percent of the households in mixed farming livelihood zones had poor food consumption score.

## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The percent of children at risk of malnutrition has been on the rise since March and attributable to diminishing household stocks, drop in milk production and Poor dietary diversity.
- The percentage of children at risk of malnutrition in the month of September was 2.6 percent similar to the previous month.
- Compared to the same time in 2020, reported cases were high.
- The current rate of children at risk of malnutrition was above the 2013-2019 LTA of 2.1 by 24 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 seven percent in August to 8.18 in September, an indication that households were employing coping mechanisms more often during the month of September compared to the previous month, largely due to lack of food stock at the household and lack of

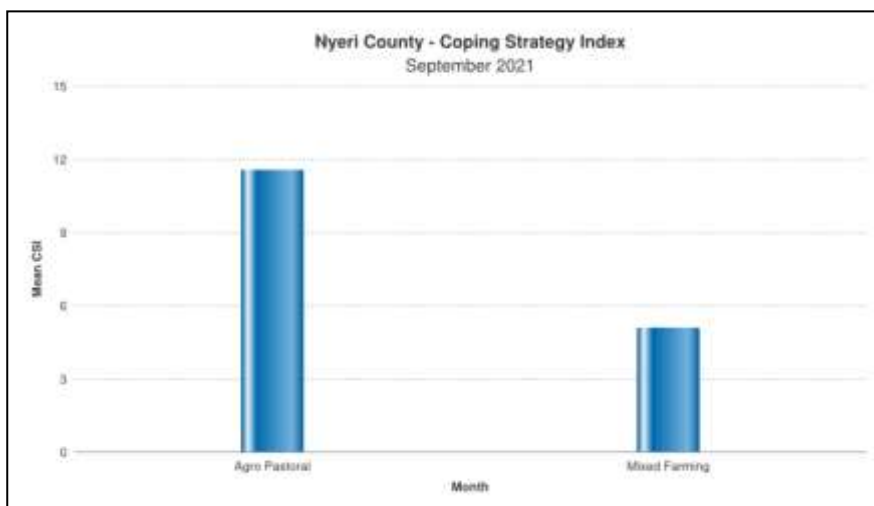


Figure 18: Presentation of the CSI for Kieni by livelihood zones

- money to buy food due to the low purchasing power at the household.
- Higher rCSI values were evident in Marginal Mixed Livelihood zones of 11.6 as compared to rCSI value of five in Mixed Farming Livelihood zones.
- The month's rCSI was higher compared to 4.79 recorded in the same month last year.
- 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.

## 6.0 CURRENT INTERVENTION MEASURES (ACTION)

### 6.1 NON-FOOD INTERVENTIONS

- Solarization and pipeline distribution of Gatuanyaga 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 Migration

In migration of livestock from the neighbouring Laikipia County into Kieni continued in the month under review. Approximately 1,000 heads of cattle moved into Kieni during the month of September. This was an addition to approximately 4,500 heads of immigrant herds that have migrated since February and are grazing around Githima, Kahurura forest and Lamuria.

## 7.2 FOOD SECURITY PROGNOSIS

### 7.2.1 Food Security Outlook for August to October 2021

- According to the Kenya Meteorological department forecast, Nyeri County will experience depressed rains during the October-November-December (OND) season and a high likelihood of poor distribution in time and space.
- According to Forpac forecast, the soil moisture for Kieni is likely to be below normal during the OND season. This is due to the projected below normal performance of the OND rains as shown in figure 19.
- As per the Astrocast forecast, the vegetation condition for Kieni will deteriorate further in October and November as shown in figure 20.

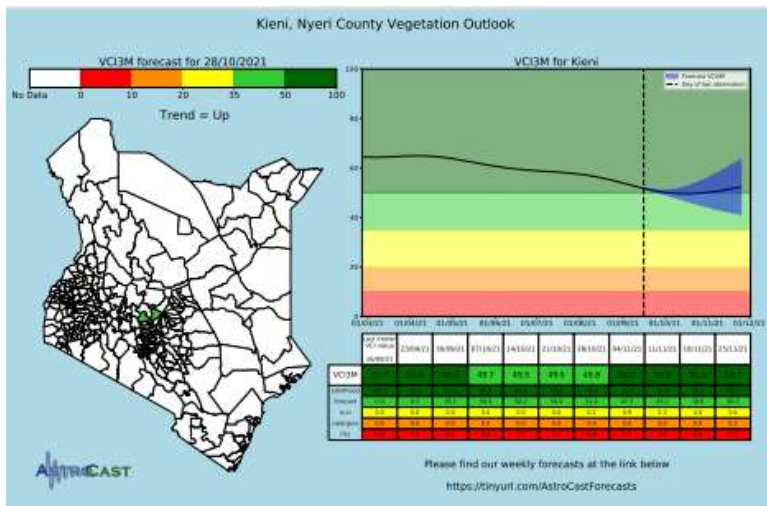
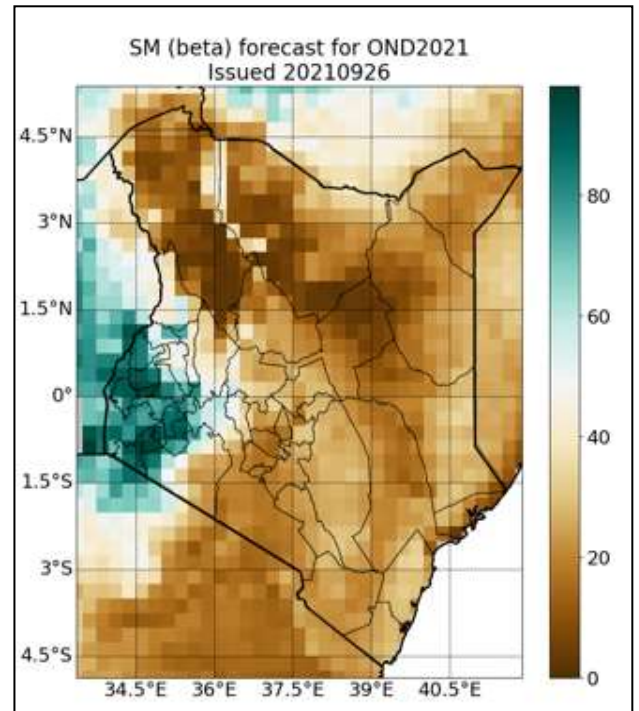


Figure 20: 3M VCI forecast

## 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 modern water harvesting methods and storage. (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).