



A Vision 2030 Flagship Project



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

OCTOBER EWS PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- The month of October was characterised by hot and dry weather condition across the livelihood zone.
- The quality and quantity of pasture and browse remained poor across the livelihood zones.
- Majority of open water sources are dry. Water rationing by the water projects has intensified, households are receiving water once in a fortnight.

Socio Economic Indicators (Impact Indicators)

- The month's milk production was lower by 44 percent compared to the LTA of 4.8 litres.
- Return distances to water sources for households and livestock use was above the LTA by three folds and one-fold respectively.
- Prices of food commodities continue to skyrocket occasioned by four consecutive seasonal crop failure. Livestock prices remained seasonally below the average.
- Percent of children at risk of malnutrition was 2.3 percent, 53 percent higher compared to the long-term average.
- Household employed consumption based coping mechanisms more frequently during the month under review compared to last month.

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 (%)	66	90-110% of LTA
VCI	42.17	>35
Forage condition	Poor	Fair
Production indicators	Value	Normal
Livestock Body Condition	Poor	Good
Milk Production	2.5 Lts	4.8 litres
Access Indicators	Value	Normal
Terms of Trade (ToT)	27	114
Milk Consumption	1 Litre	1 litre
Return distance to water sources for household use	4.1Km	1 Km
Return distance to water sources from grazing field.	5.3 Km	1.8 Km
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	2.3	1.5

<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 								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

□ The October-November-December (OND) seasonal rains are yet start in Nyeri County.

□ The month of October was characterized by hot and dry conditions across the livelihood zone.

□ There was insignificant precipitation of 49.12mm during the month under review.

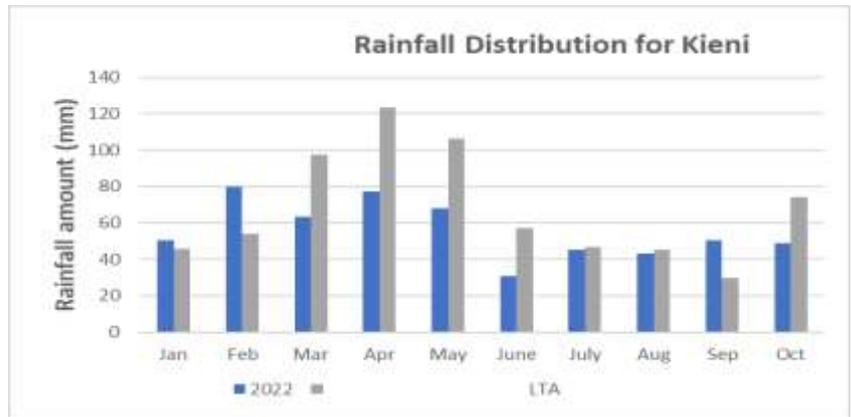


Figure 1: Rainfall distribution for Kieni

□ Recorded amount was below the Long terms average by 66 percent as shown in figure 1 above.

□ From figure 1(b) the normalised vegetation condition deteriorated compared the previous month and was below the LTA average. The worst affected area was Thegu River ward with NDVI value of 0.36 indicative of moderate vegetation deficiency.

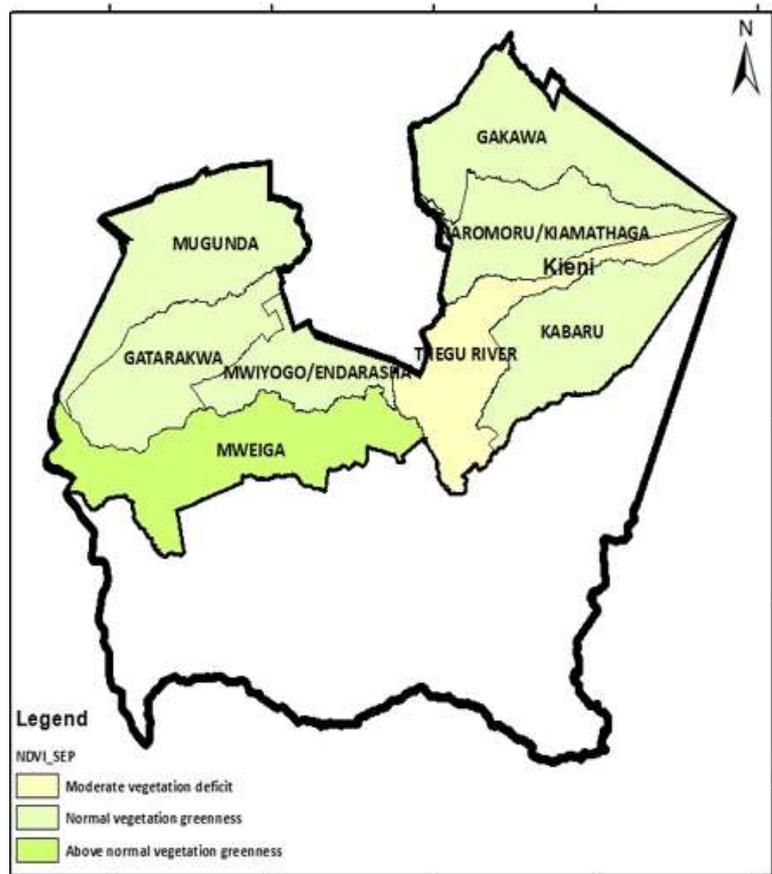


Figure 1(b): NDVI for Nyeri (Kieni)

1.2 TEMPERATURES

1.2.1 LAND SURFACE TEMPERATURES (LST)

- The daytime temperature was 28.73 degrees Celsius from 27.44 degrees Celsius recorded the previous month.
- The current temperature is seven percent higher than the long-term average (LTA) of 26.84 degrees Celsius as shown in figure 2.

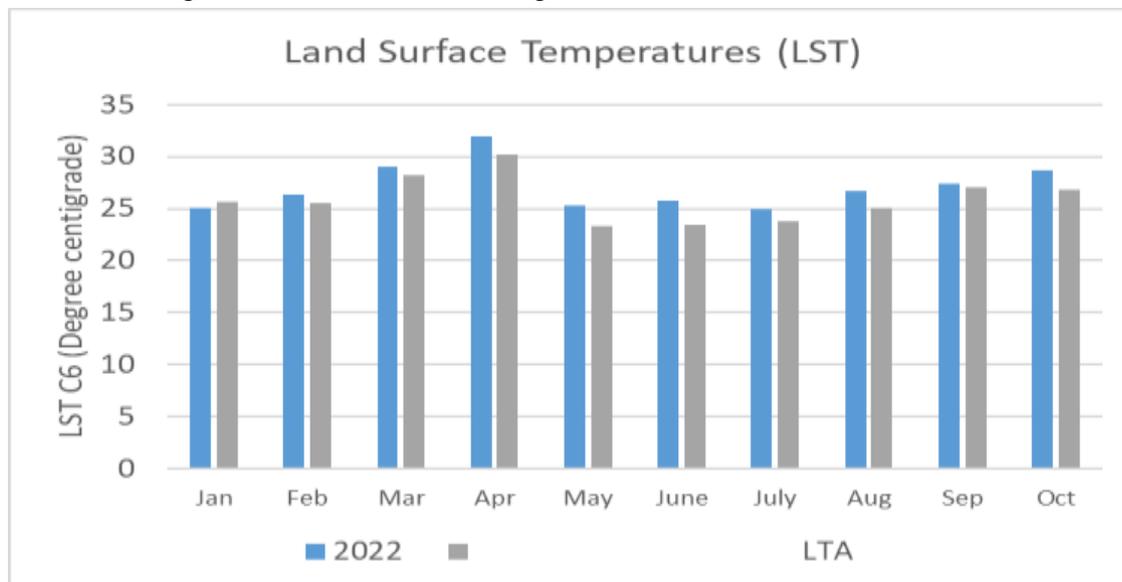


Figure 2: Land Surface Temperatures

2.0 IMPACT ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

□ VEGETATION CONDITION INDEX(VCI)

- The vegetation condition is highly depleted across the livelihood zones attributed to the harsh weather conditions that have been experienced since June 2022, coupled with frequent frost attacks. Areas that are worst hit are: Rurii, Lamuria, Karemeno and Nairutia in Mugunda ward, Muthini, Labura, Mitero, Kinyaiti, Mwoyogo and Honi in Mwiyo/Endarasha ward, Aguthi in Narumoru/Kiamathaga ward and Thegu river ward.
- From figure 3(b) below, the 3-month vegetation condition index was below the LTA, the index recorded in the same month in 2017 and the historical maximum.



Figure 3 (a): 3 monthly VCI for Kieni

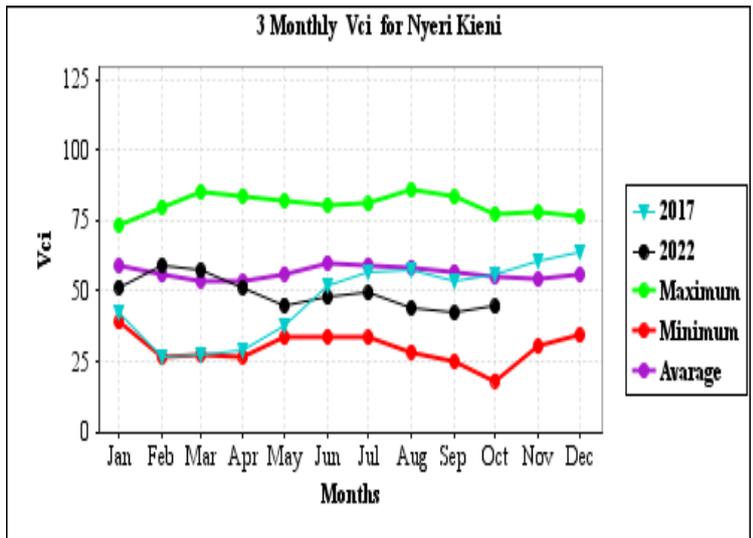


Figure 3 (b): 3 monthly VCI for Kieni

- From figure 3 (C), Thegu River ward is the worst affected ward with a VCI value of 25.48, indicative of moderate vegetation greenness. Mugunda, Gakawa, Kabaru and Mwiyo/Endarasha wards recorded normal vegetation condition. However, if the harsh weather condition persist the vegetation condition is likely to decline to the moderate vegetation greenness band.

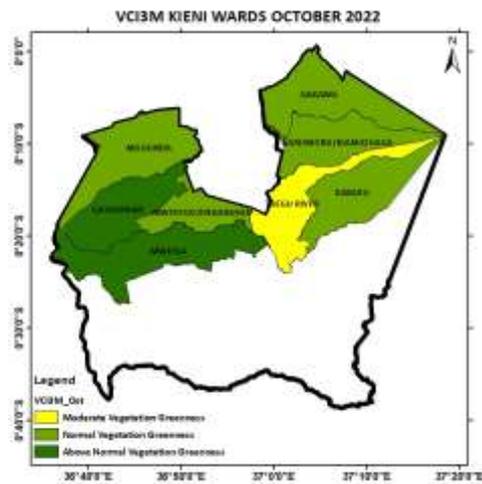


Figure 3(c): Kieni 3M VCI for Wards

2.1.2 Pasture

- Pasture conditions is highly depleted across the livelihood zones. The situation is below normal compared to the same period last year. Most of the grazing fields are bare forcing farmers to feed their livestock on sisal and cactus. Farmers with resources are buying hay from traders at a cost of Ksh 600 per bail. The current price is above average by 140 percent, attributed to the high cost of transportation since traders are sourcing for hay from Narok County.

- If the current weather condition persists the situation is likely to deteriorate further. The most affected areas are: Rurii, Lamiria, Karemeno and Nairutia in Mugunda ward, Muthini, Labura, Mitero, Kinyaiti, Mwoyogo and Honi in Mwiwongo/Endarasha ward, Aguthi in Narumoru/Kiamathaga ward and Thegu river.
- All the households interviewed during our monthly drought monitoring exercise reported that the condition of pasture was poor as shown in figure 4(a) and 4(b) below

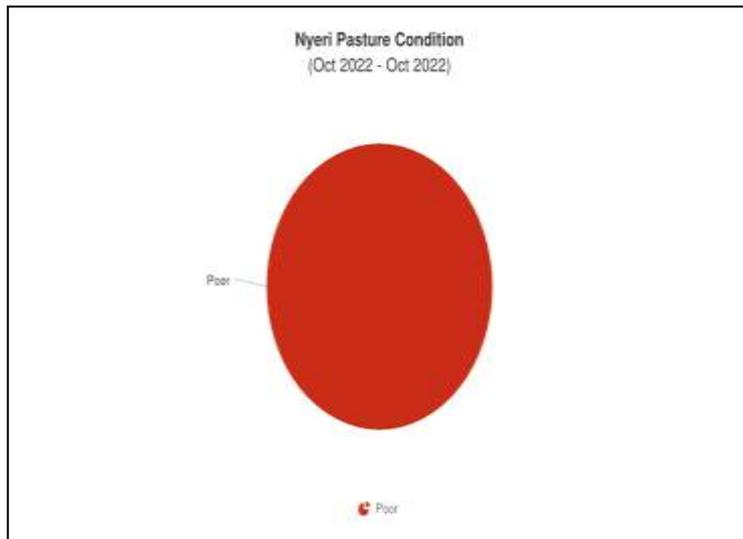


Figure 4(a): Nyeri (Kieni) Pasture condition

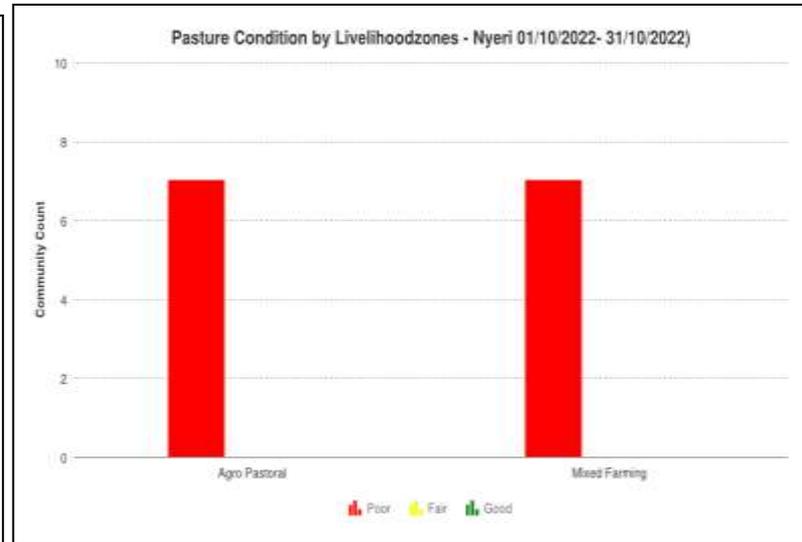


Figure 4(b): Pasture condition by livelihood zone

Browse

- During the month of October, 86 percent of sampled households recorded poor browse condition while 14 percent reported fair browse condition. Browse condition is likely to deteriorate further given that the OND seasonal are yet to begin.
- The condition was below normal compared to the same period at this time of the year last year.

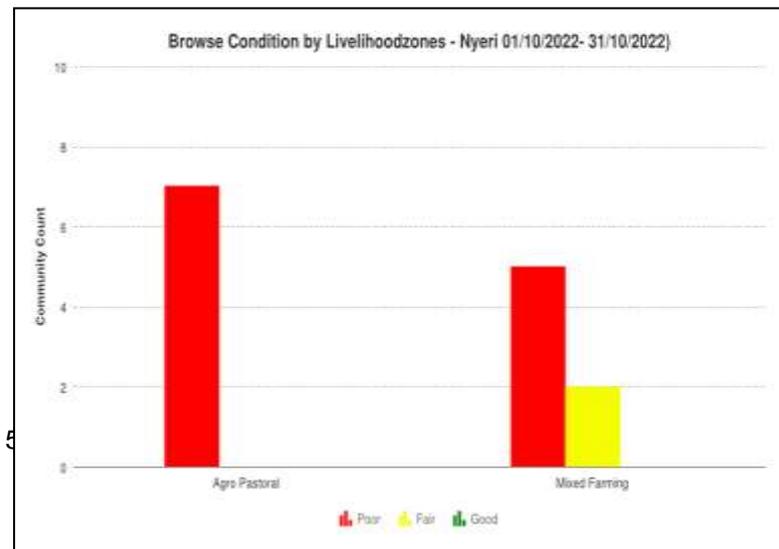
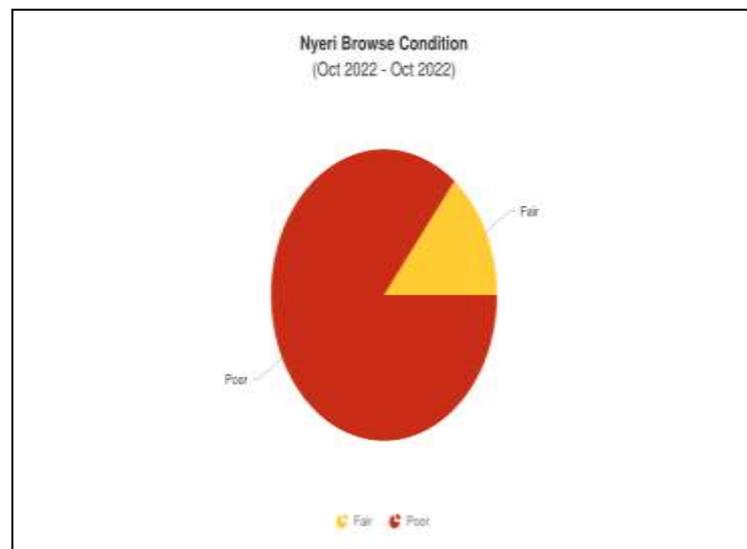


Figure 5 (a,b) :presentation of browse condition for Nyeri (Kieni) County

2.0 WATER RESOURCES

2.2.1 Sources

- The major water sources for both human and livestock consumption in the month of October were Rivers at 59 percent, boreholes at 38 percent and pans, dams at 14 percent as shown in figure 6. During the month under review access to water deteriorated compared to the previous month.

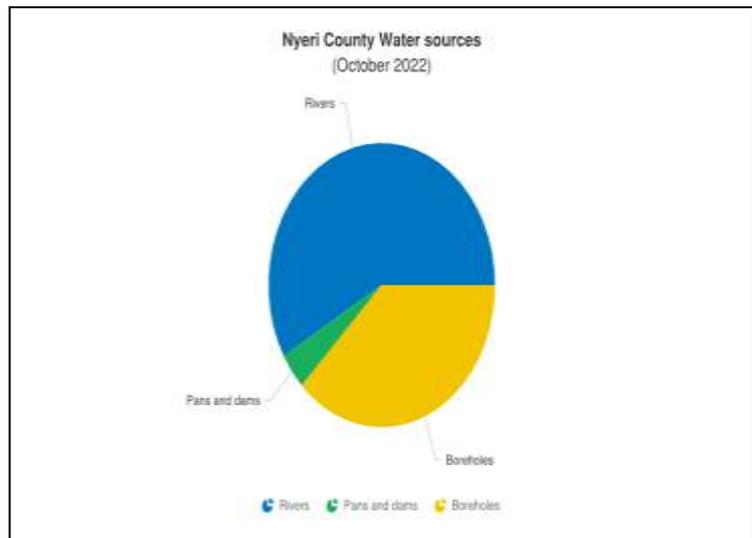


Figure 6: Shows main water sources for Kieni

- As a result, of the prolonged drought, majority of the open water sources have dried up and water rationing by the various water projects has intensified with households receiving water twice in two weeks. To cushion households and public school due to the dire situation in the County Tana Water Development Agency has started water trucking in Kieni East, Kieni West and Mathira Sub counties.

2.2.2 Household access and Utilization

- In the month of October, the average trekking distance from the homestead to water sources increase from 3.7 Km in September to 4.1 Km registering 10 percent increase.
- This is due to drying up of water sources near the homestead and intensive rationing of piped water by the various water projects has intensified.

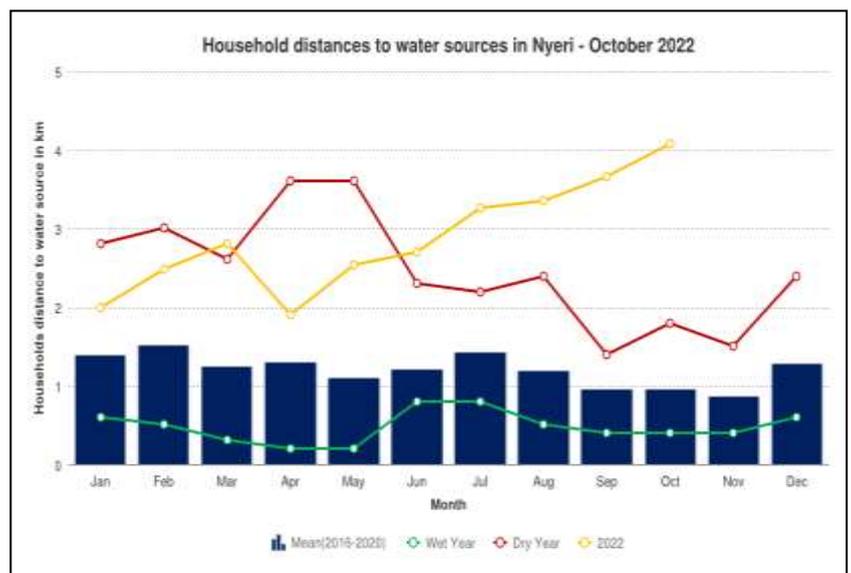


Figure 7: presentation of average household distances

Households in Marginal Mixed Farming livelihood zone trekked an average of 5.5 km compared to 2.5 km in Mixed Farming livelihood zones

- In comparison to the registered distances during the wet and the dry years at such a time of the year, the current household distance was longer by 90 percent and 67 percent respectively.
- The recorded distances during the month under review was higher by 310 percent compared to the Long- Term average (LTA) of 1 Km as shown in figure 7.
- The daily water consumption of each household was 30 litres to 40 litres per person per day in the Mixed Farming livelihood zone and Marginal Mixed Farming livelihood zones respectively which is below the normal range of 50 to 60 litres per person per day across the livelihood zones.

2.2.2 Livestock access

- During the month under review average livestock trekking distance increased by 13 percent from 4.6 Km in September to 5.3 Km to October. The increase in distances is as a result of drying up of water sources near the grazing fields.
- In Marginal Mixed Farming livelihood zones livestock trekked an average distance of 3.6 km compared to 1.7 km in Mixed Farming livelihood zone

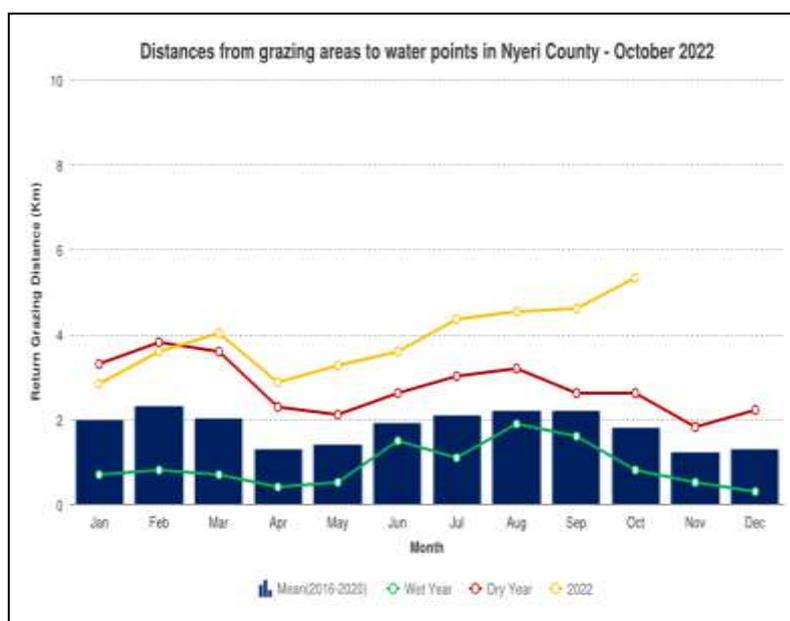


Figure 8: presentation of average grazing distances to water

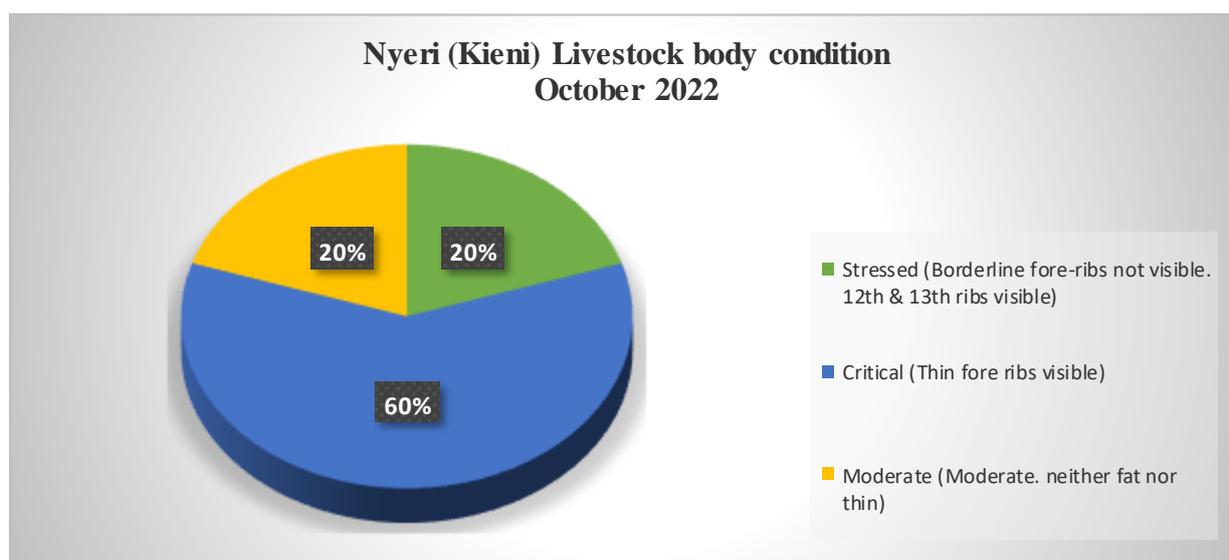
- The current household distance was longer by 187 percent and 77 percent compared to the same time during the wet year and dry year respectively.
- The average trekking distances were higher by 194 percent compared LTA of 1.8 Km as shown in figure 8.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition deteriorated this month compared to the previous as the proportion of households that reported livestock with critical body condition (thin fore ribs visible) increased to 60 percent while those at stressed (borderline fore-ribs not visible. 12th & 13th ribs visible) and moderate phase (Moderate, neither fat nor thin) was at 20 percent.
- The deterioration could have been occasioned by the increased distances from grazing areas to water sources and poor pasture condition.



Level	Classification	Characteristics (this describes majority of the herd and not individual isolated stock)
1	Normal	Very Fat Tail buried and in fat
		Fat, Blocky. Bone over back not visible
		Very Good Smooth with fat over back and tail head
		Good smooth appearance
2	Moderate	Moderate. neither fat nor thin
3	Stressed	Borderline fore-ribs not visible. 12th & 13th ribs visible
4	Critical	Thin fore ribs visible
5	Emaciated	Very thin no fat, bones visible

3.1.2 Livestock diseases

- Screening against the Contagious Bovine Pleuro Pneumonia(CBPP) is ongoing in Gakawa and Narumoru Kiamathaga wards.

3.1.3 Milk Production

- During the month under review milk production per household per day decreased to 2.5 litres from 2.7 litres in September.
- Milk Production was also lower by 53 percent and 42 percent compared to the same month during the wet and the dry month
- The decrease in production is as a result of poor pasture and increased distances in search of water and pastures.

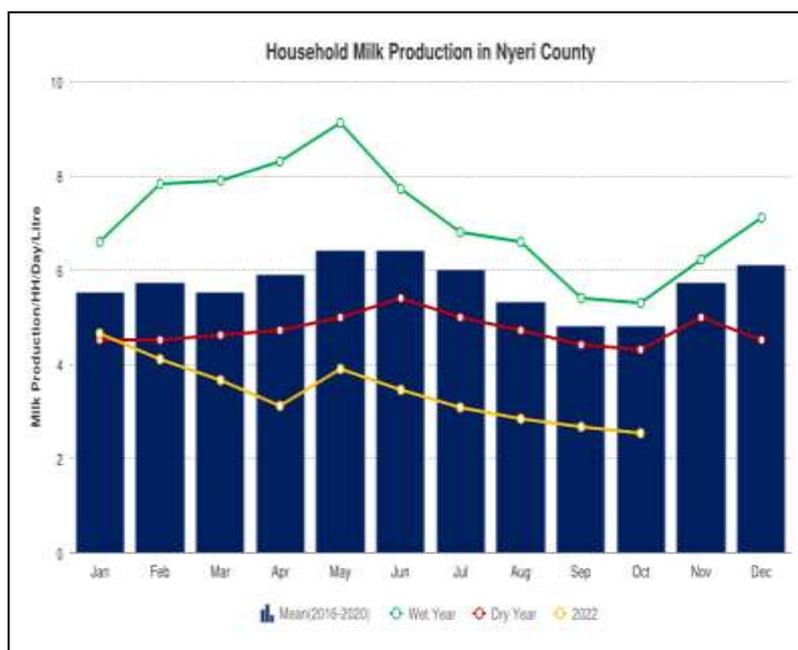


Figure 9: Presentation of average milk production in Nyeri (Kieni)

- The current milk production is 48 percent lower than the long-term average of 4.8 litres as shown in figure 9.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and condition of food crops

- Land preparation and planting is ongoing in anticipation of the OND seasonal rains. Acreage put under crop production has reduced significantly due to the high cost farm inputs, previous four consecutive crop failures and the delayed onset of the OND rains.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Price

- The average market price for cattle decreased to Ksh.18,750 in October from Ksh.19,323 recorded the previous month.
- A mature four-year-old bull retailed at Kshs 21,500 in Mixed Farming Livelihood zones compared to 18,000 in the Marginal Mixed Livelihood Zone.
- The decrease in cattle price could be attributed to the prolonged drought that has led to the depletion of forage and water resources.
- The current market price of cattle is 34 percent lower than the Short-Term Average (STA) of Ksh 28,558 as shown in figure 10.

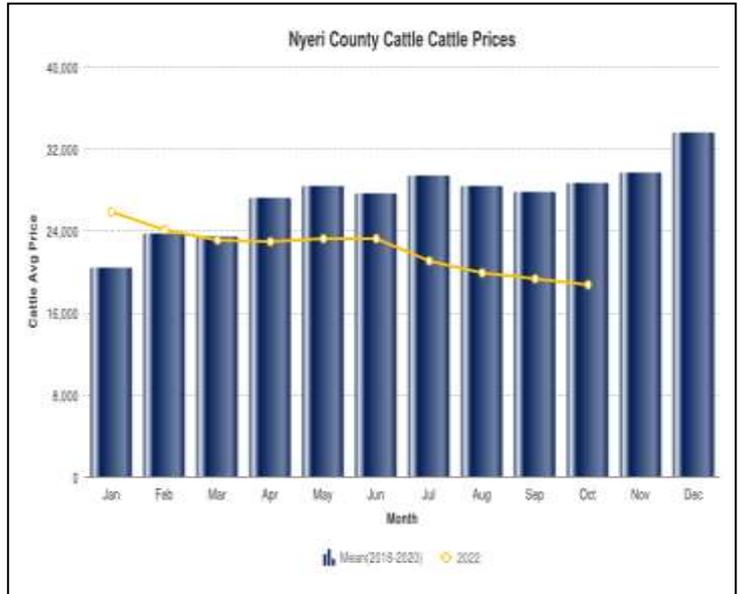


Figure 10: Outline average price trends for cattle

4.1.2 Sheep prices

- The price of a 2-year-old medium sized sheep was sold at Ksh 2,471 in October compared to Ksh 2,515 of previous month.
- Sheep prices were higher in the Mixed Farming livelihood Zone at Ksh 3,500 compared to Ksh 2,300 in Marginal Mixed Livelihood Zone.
- The average price of a sheep is 44 percent lower than the STA of Ksh

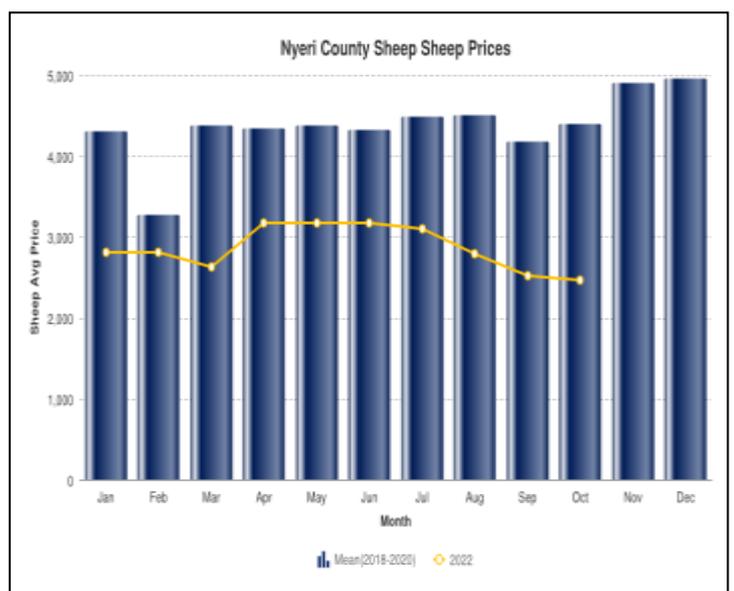


Figure 11: Outline average price trends for sheep

4,389 as shown in figure 11.

4.2 CROP PRICES

4.2.1 Maize

- During the month under analysis, one Kilogram of maize retailed at an average price of Ksh 90 an increase from Ksh 84 the previous month. The increase in price was attributed to low local availability following successive below-average harvests, high demand and high cost of transportation.
- Maize retailed for Kshs 80 in Mixed farming livelihood zone while in Marginal Mixed Farming it retailed for Kshs 100. The noted variation in average price across the different markets is due to market forces of demand and supply and variation in transportation costs.
- Traders were sourcing for stocks from Meru county, Nyahururu county and Tanzania.
- The current maize price was higher by 114 percent compared to the STA of Ksh 42. It is expected that the maize price will remain high until the next harvest in February 2022.

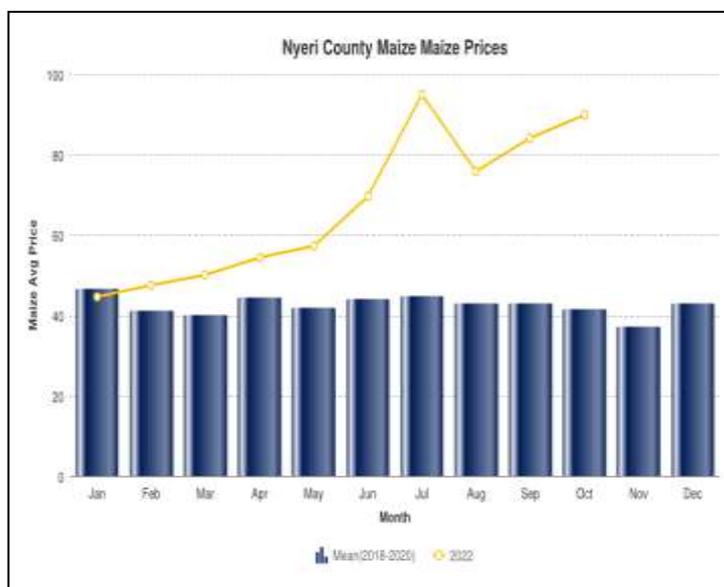


Figure 12: Outlines average price trends for Maize

4.2.2 Beans

- During the month of October market price of beans per kilogram remained high at Ksh.161 compared to Ksh.140 in previous month.
- The increase in prices was mainly attributed to lack of stocks at

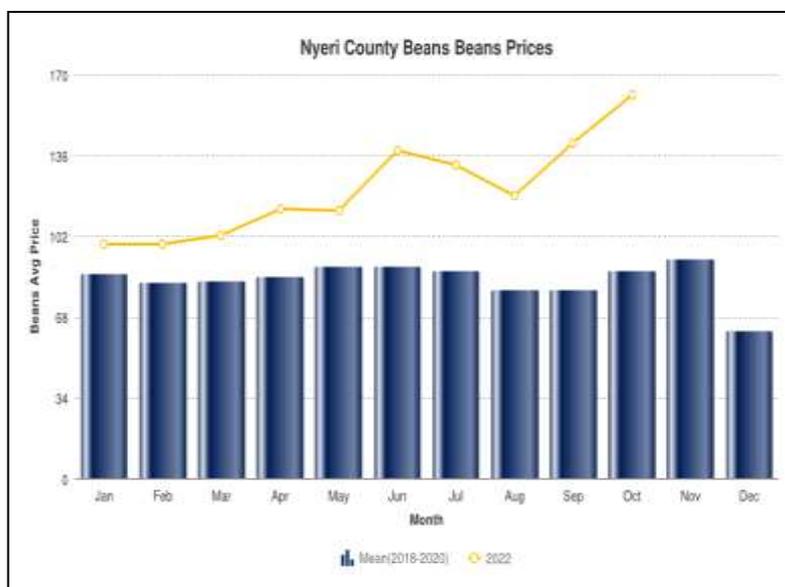


Figure 13: Outlines average price trends for Beans

household level and overreliance of markets for supply

- Beans prices were higher in Mixed Farming livelihood zone at Ksh.180 compared to Ksh.140 in Marginal Mixed Farming livelihood zone.
- The average bean price was 85 percent higher than the three-year average of Ksh 87 for October.

4.2.3 Livestock Price Ratio/Terms of Trade

- Declining livestock body conditions and high maize prices continue to reduce household purchasing power.
- During the month under review farmers would purchase 27 Kg of maize from the sale of sheep registering 10 percent decline compared to 30 Kg last month.
- Household terms of trade has been unfavourable and below the three-year average since the beginning

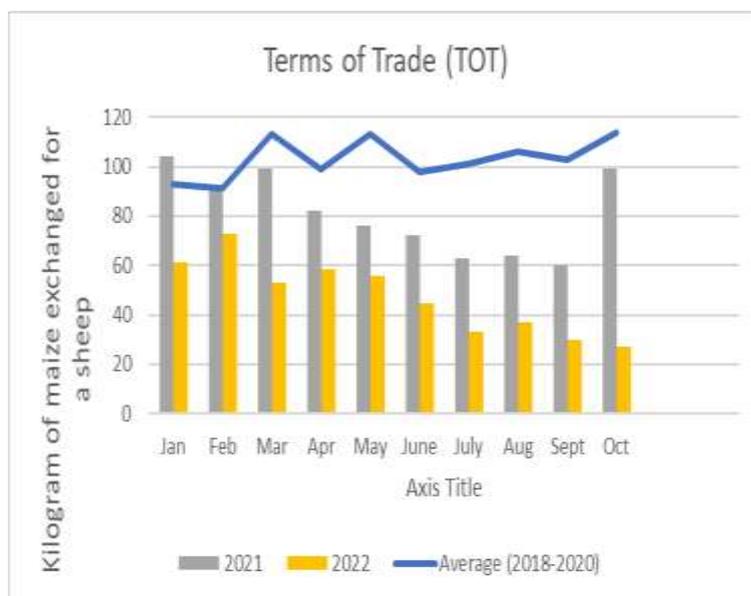


Figure 14: Outlines terms of trade in Kieni
of the year with current average ratio being below the STA by 76 percent.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- The daily milk consumption per household per day remained at 1 litre similar to the previous month. This is as a result of poor milk production across all livelihood zones.
- Marginal Mixed Farming livelihood zones consumed more milk at 1.4 litres a day compared to 0.4 litres in Mixed Farming Livelihood zones.
- The current milk consumption is similar to long-term average of

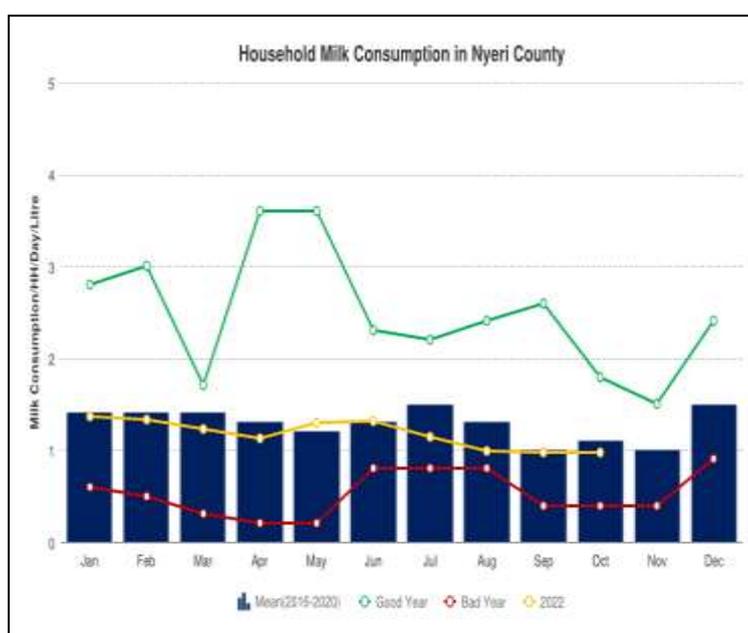


Figure 15: Outlines milk consumption for the county

1 litre as shown in figure 15 .

5.2 FOOD CONSUMPTION SCORE

- During the month under analysis the proportion of households with poor, borderline and acceptable food consumption score in the sampled population was 6, 88 percent and 6 percent respectively, compared to the previous month where 17 percent had poor, 72 percent had borderline and 11 percent had acceptable food consumption score respectively as shown in figure 16.

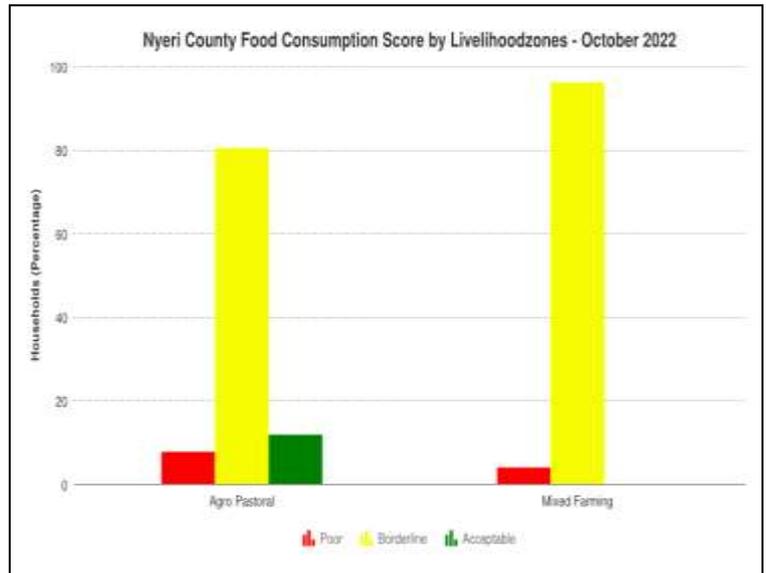


Figure 16: Presentation of food consumption score by livelihood zones

- The poor food consumption patterns were due to escalating food prices, lack or inadequate food stock at the household level, unavailability of casual labour and loss of income.
- The meal frequency for both under-fives and the general population was one meal per day compared with the required 3 – 4 meals per day, which is normal. Poor households in the community were going for up to three days without a meal and are depending on relief food from the government and other well-wishers.
- Marginal Mixed Farming livelihood zone had the highest number of households with poor consumption score at eight percent while in the Mixed Farming livelihood zone four percent of households had poor consumption score meaning that these households are not consuming staples and vegetables every day and never or very seldom are consuming protein rich food such as meat and dairy.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The trend in Mid-Upper Arm Circumference (MUAC) measurements for October indicates an increase in the proportion of children below five years at risk of malnutrition.
- The number of children under five years who were at risk of malnutrition (MUAC>135mm) increased to 2.3 percent compared to two percent in the previous month. Attributed 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.
- The number of children at risk was higher compared to Long Term Average of 1.5 by 53 percent as shown in figure 17

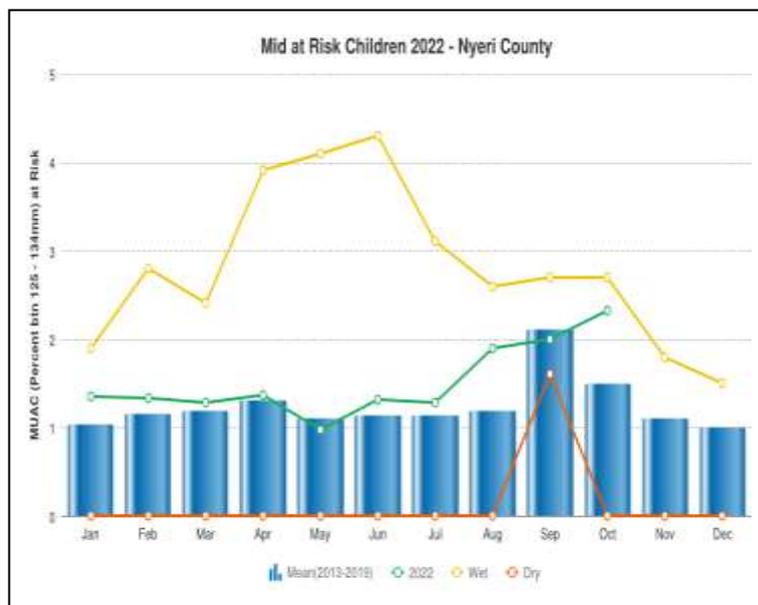


Figure 17: Presentation of nutrition status of children below five years

5.4 COPING STRATEGIES

5.4.1 Reduced Coping Strategy Index (rCSI)

- The reduced coping strategy index (rCSI) increased from 11.85 in September to 13.89 in October an indicator that households continued to employ consumption based coping mechanisms more frequently during the month under review compared to the previous month.
- This was mainly due to nil or inadequate food stocks at the

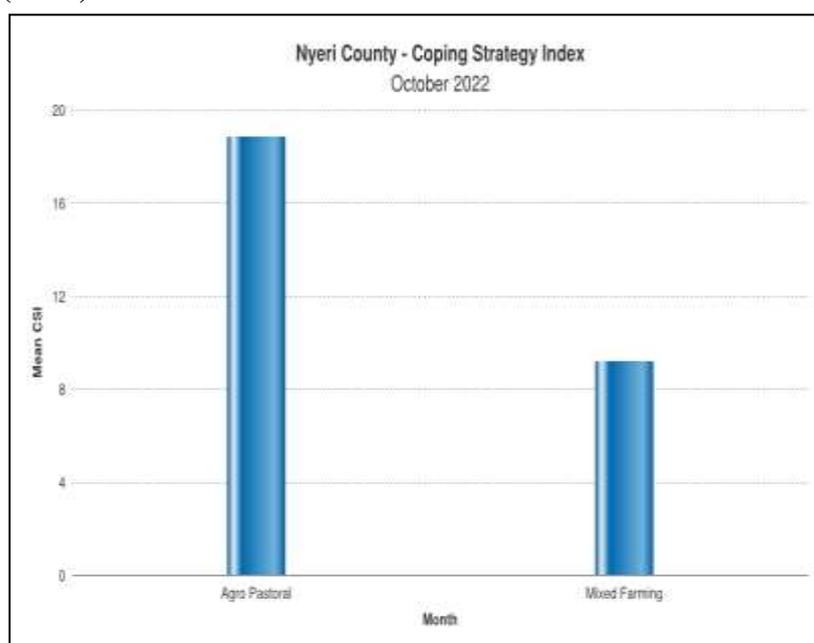


Figure 18: Presentation of the CSI for Kieni by livelihood

household level and reduced incomes from casual labour.

- Households in Marginal Mixed Farming livelihood zones registered a higher index of 19 compared to those in the Mixed Farming Livelihood zones who recorded an index of 9. 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.
- The most common coping mechanisms employed by households include: Selling livestock at low prices, skipping meals, reducing the portion of meals, begging for food, consuming low quality foods and charcoal burning

6.2 Food Security Prognosis

- Forecast from Kenya meteorological department (KMD) depicts that the performance of the October-November-December (OND) short rain season will be below normal.
- Following the below average performance of the rains the food security situation is likely to deteriorate further.
- Forage and water resources are expected to remain below normal, although slight improvements are expected between November and December 2022, as a result of the OND rains. Consequently, the livestock productivity and prices are likely to improve slightly in December though the gains will be for a short time.
- Poor production of food in the county as well as other parts of the country has led to low stocks being held by traders and thus higher than normal price of cereals. This has affected accessibility by a significant proportion of households across the livelihood zones. The scenario is expected to worsen the coming months.
- Food prices are likely to remain a typically high since households are not holding any stocks and are relying on markets for supply. The next harvest is expected in February next year.
- Due to a decline in the TOT, lack of income from agricultural casual labour coupled with the high food prices the households' purchasing power is likely to erode further.
- Prevalence of children at risk of malnutrition is likely to increase further as adverse drought effects impact negatively on households.

ANNEX

RECOMMENDED INTERVENTIONS

LIVESTOCK						
No	Intervention		Supporting agency	Cost	Available	Gap
1.	Carryout livestock vaccination against CBPP	10,000 livestock	CGN NDMA World Vision	1M	0	1M
2.	Provision of supplementary feeds assorted (UMMB Blocks and Drought Pellets)	30,000 livestock	CGN NDMA World Vision	11M	0	11M
3.	Livestock offtake	5,000 livestock	CGN NDMA	76M	0	76M
4.	Livestock disease surveillance and deworming	All wards	CGN NDMA World Vision	5M	0	5M
AGRICULTURE						
1.	Relief cash transfer to vulnerable households.	200,000 persons (Nyeri County)	Ministry of Interior CGN NDMA WFP	194M	0	194M
2.	Provision of certified seeds	All farmers	National Government CGN WFP	50M	0	50M
HEALTH AND NUTRITION						
1.	Nutrition screening and outreaches, referral for children under five.	1,000 Households affected	CGN NDMA World Vision Caritus Redcross	361,000	0	361,000
2.	Distribution of supplementary feeds.	150 children	CGN NDMA World Vision Caritus	200,000	0	200,000

			Redcross			
3.	Conduct nutrition survey	Mwiyogo/Endarasha Mugunda Thegu river	CGN NDMA World Vision Caritus Redcross	5M	0	5M
EDUCATION						
1.	Cash transfer for purchase of food commodities	55 schools	CGN NDMA World Vision Caritus Redcross WFP	60M	0	60M
2.	Water trucking to schools	55 schools	CGN NDMA World Vision Caritus Redcross WFP	10M	0	10M
WATER						
1.	Upscale water trucking	10,000 households	CGN NDMA World Vision Caritus Redcross WFP TWWDA	50M	0	50M
2.	Capacity building on water conservation, storage and use	All wards	CGN NDMA World Vision Caritus Redcross WFP	1M	0	1M
3.	Distiling of Dams. Thungari, Kamburiani, Msafiri, Mirera and Acacia (Mureru).	7,000HH	CGN NDMA World Vision Caritus Redcross WFP TWWDA	100M	0	100M
4.	Rehabilitation of dormant boreholes. Mathina and Ebenezer	3,500HH	CGN NDMA World Vision Caritus Redcross WFP TWWDA	2M	0	2M

5.	Solarization of Kabati and Karaguriro boreholes in Kieni West	400HH	CGN NDMA World Vision Caritus Redcross WFP TWWDA	12M	0	12M
6.	Rehabilitation of Kiguru, Mweiga General and Mahiga Dam	800HH	CGN NDMA World Vision Caritus Redcross WFP TWWDA	21M	0	21M

FOOD AID

- Distribution of 600 bags of rice and 520 bags of beans to the vulnerable persons in kieni East and Kieni West Sub counties by the National Government.

NON-FOOD INTERVENTIONS

WATER SECTOR				
NO	INTERVENTION	WARD	IMPLEMENTERS	COST
1.	Solarization and pipeline distribution of Gatuanyaga borehole for livelihood diversification by NDMA, which is 90 per cent, complete	Gakawa	NDMA	6.5M
2.	Equipping of Gitwe and Kaaga boreholes (installation of Pumps and solars)	Naromoru/ Kiamathaga ward Gakawa	CGN	5.5M
3.	Provision of pipes and accessories for Guraga, burguret and Lusoi/Warazo dams	Gakawa Thegu	CGN	40M

4.	Equipping of Kids alive borehole	Naromoru/Kiamathaga	UTaNRMP	20M
5.	Drilling and equipping of Rongai village borehole	Naromoru/Kiamathaga	SIVAP	5M
6.	Water trucking to residents and institution in Kieni East and Kieni West	Thegu Gakawa	TWWDA	2M
7.	Provision of dam liner for Kairi water project	Kabaru	UTaNRMP	6.5M
8.	Construction of 880 water pans at the household level	Naromoru/Kiamathaga	SIVAP	100M
AGRICULTURE				
1.	Provision of certified fertilizer	Nyeri County	National Government	