



A Vision 2030 Flagship Project



National Drought Management Authority

TURKANA COUNTY

DROUGHT EARLY WARNING BULLETIN FOR JUNE 2021

JUNE EW PHASE

Drought Status: **NORMAL**



Shughuli za kawaida

Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	PHASE	TREND
PASTORAL-ALL SPECIES	ALERT	STABLE
AGRO-PASTORAL	NORMAL	STABLE
FISHERIES	NORMAL	WORSENING
COUNTY	NORMAL	STABLE

Biophysical Indicators	Value	Normal Range
Rainfall (% of Normal)	142	90-110
VCI-3 month (County)	59	>35
VCI-3 month (T. East)	46	>35
Forage Condition	Fair	Good
State of Water Sources	4-5	5-6

Production Indicators	Value	Normal Range
Livestock Migration Pattern	Normal	Normal
Livestock Body Condition	Fair	Good
Milk Production	1.5Litres	> 2.4 Litres
Livestock deaths (attributed to drought)	No Deaths	No Deaths

Access Indicators	Value	Normal Range
Terms of Trade (ToT)	41.9	>35.7
Milk Consumption	1.5Litres	>2.0 Litres
Return distance to water sources (Household)	7 km	< 5.9 km
Cost of Water (KSh/20L)	KSh.5	<=KSh. 5

Utilization Indicators	Value	Normal Range
Nutrition Status, (% with MUAC: <=124mm)	Yellow:6.0	<6.1
Food Consumption Score Proportions (%)	29 Poor: 30 Borderline: 31.1	>35 Poor< 36.3 Borderline: <38.7
Reduced Coping Strategy Index (rCSI)	17.5	<17.7

Drought Situation & EW Phase Classification

Biophysical Indicators

- The County did not experience rainfall during the period under review, however, cumulative rainfall for the period January to June 2021 accounted for 142 percent of the rainfall normally received over that span of time.
- Stability in the vegetation condition in relation to previous month was observed with the recorded VCI-3month value of 59 depicting normal vegetation greenness.
- Most open water sources were at 25-50 percent capacity following the recharge that took place in May.

Socio Economic Indicators (Impact Indicators)

- Livestock body condition for all species was generally fair and the return trekking distance to water source remained unchanged from the previous month although slightly outside the normal range for the period under review.
- Milk production improved slightly with the amount consumed also increasing gradually in June.
- No variation in the terms of trade was observed and thus it remained relatively higher than the long-term average. Neither was there significant migration taking place nor deaths attributed to starvation/ dehydration reported.
- Despite the food consumption pattern remaining outside the acceptable standards, proportion of children under five years categorized as either being 'moderately' or 'severely' malnourished was stable relative to the previous month with households applying less severe consumption based coping strategies across the three livelihood zones.

<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 	<ul style="list-style-type: none"> Short rains Planting/weeding High Calving Rate Milk Yields Increase
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Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
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1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- All sections of the County did not experience rainfall during the month under review with dry and hot weather conditions prevailing across the three livelihood zones.

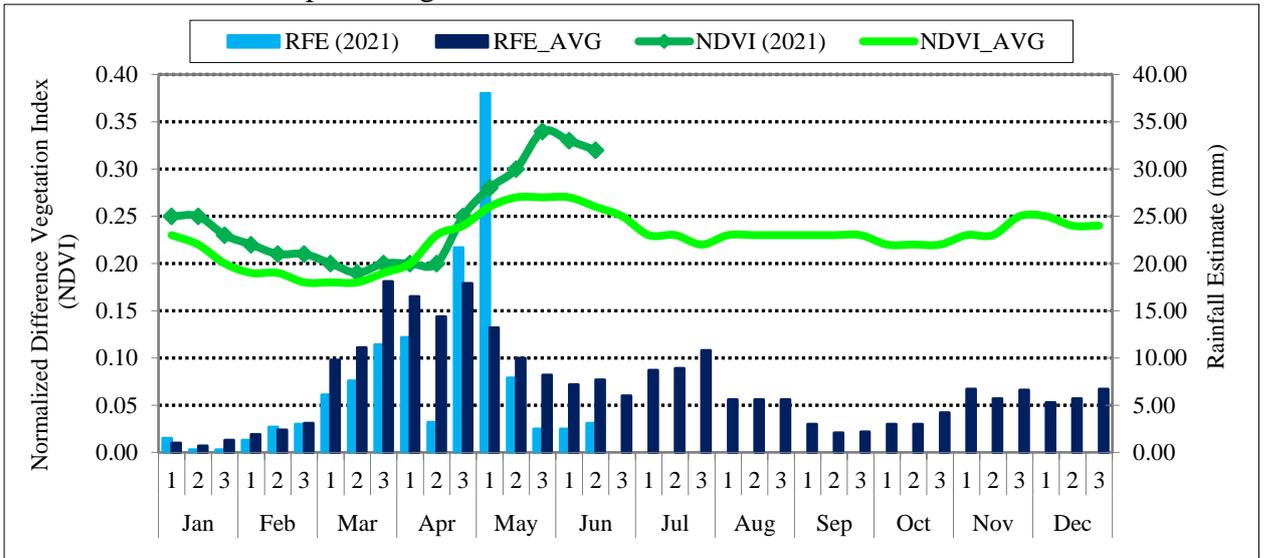


Figure 1: Dekadal Rainfall (mm) and NDVI Values Compared to the Long-Term Average
 Source: VAM-World Food Programme-CHIRPS/MODIS

- Consequently, a deteriorating trend in the condition of vegetation in some parts of the County was witnessed as supported by the Normalized Vegetation Condition Index (NDVI) (Figure 1).

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- Cumulative rainfall since the start of the year up to the end of the month under review accounted for 142 percent of the rainfall received normally for that period (Figure 2).

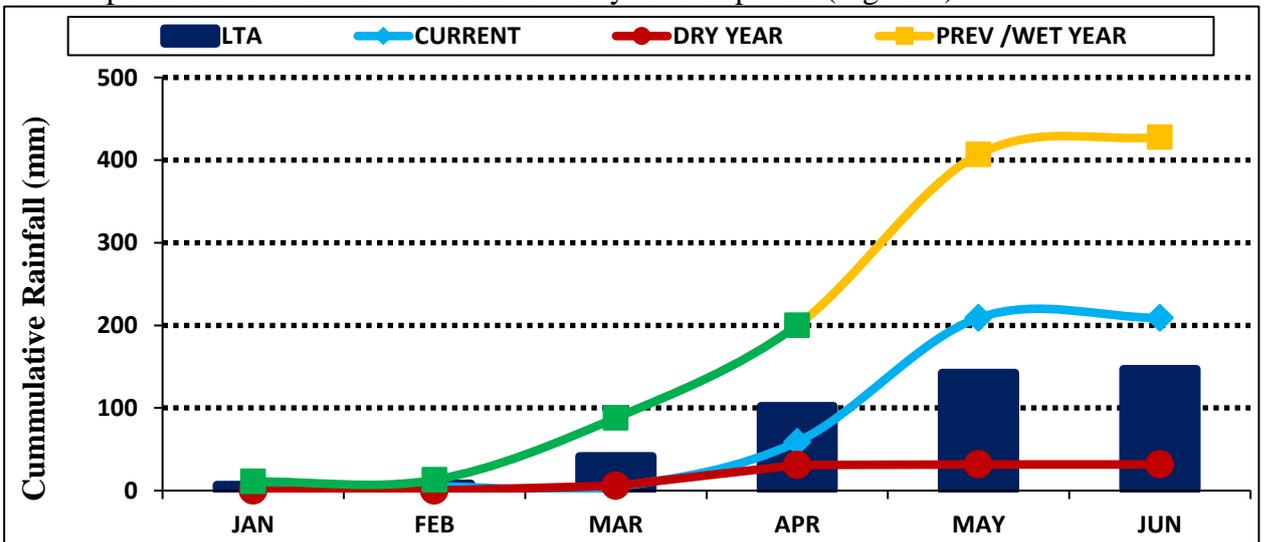


Figure 2: Six-Month Cumulative Rainfall Trend (January to June 2021)
 Kenya Meteorological Department (KMD)

- Total rainfall recorded for the period commencing January to June 2020 was significantly higher than the one recorded for the same time span during the current year by 104 percent.
- Based on the last 14 years, the lowest cumulative rainfall amount was recorded during the period between January to June 2014 and thus considered the driest.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- Stabilization in the condition of vegetation with respect to the preceding month was noted with most sites depicting relatively normal vegetation greenness as for instance supported by the VCI-3month value of 59 for the County and 46 for Turkana East (Figure 3).

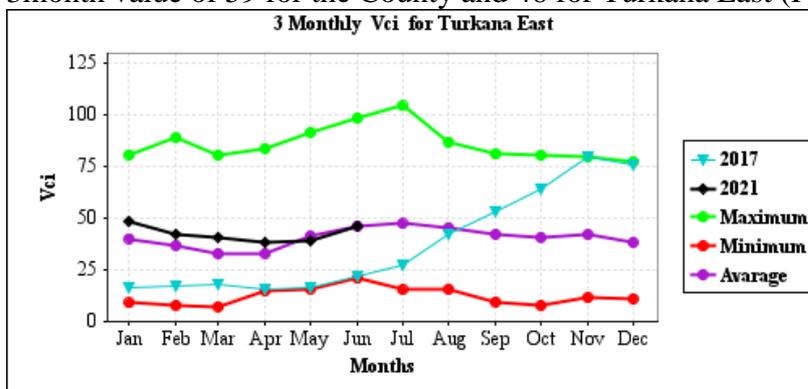


Figure 3: Trends in Vegetation Condition-Turkana East

Above normal vegetation greenness was witnessed in most parts of the County including Turkana West and some parts of Turkana South but could mainly be attributed to proliferation of *Prosopis Juliflora* following the rainfall received during the month of May.

Recovery of vegetation was generally poor in Turkana East and North as a consequence of

the early cessation of the long rains coupled with average rainfall amounts recorded in those areas.

- In addition, some parts of Turkana Central like Kerio and the Pastoral sites of Loima Sub County exhibited vegetation whose canopy was thin with the prevailing near to average land surface temperatures (LST) curtailing further improvement as witnessed previously.

2.1.2 Field/Ground Observations: Pasture and Browse

- Pasture condition across the Pastoral and Agro-pastoral areas was generally fair while that of browse was good as observed during the transect drive and based on community interaction through key informants across all the sentinel sites (Figure 4).
- However, the observed forage level across all the livelihood zones was below the level normally witnessed at such a time of the year.
- The observed state of forage during the period under review could be attributed to the enhanced rainfall received during the first and second dekad of May that resulted to massive regeneration during the subsequent dekads.
- Some of the notable deterrents to forage access during the subject month under analysis included; high prevalence of notifiable diseases in some areas normally with adequate pasture/browse reserves and insecurity in some perennial conflict hotspots in Turkana East and Kibish such as Kapedo, Lokori/Kochodin and Kibish wards.
- Comparatively, the quality and quantity of forage in the Pastoral and Agro-pastoral livelihood zones was better to the one in the Fisheries livelihood zone during the month under review.

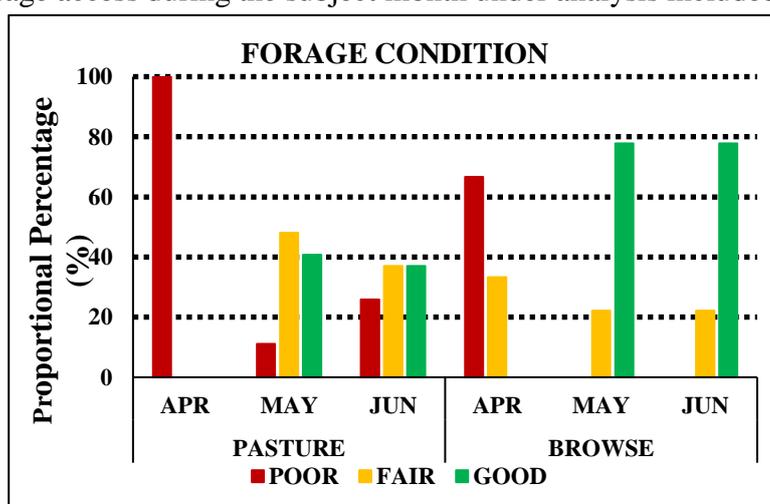


Figure 4: Pasture and Browse Condition in Turkana County

2.2 WATER RESOURCE

2.2.1 Sources

- The major sources of water during the period under review included: boreholes, traditional river wells and shallow wells (Figure 5).
- Reduced human and livestock concentration was witnessed around solarized strategic boreholes due to existence of multiple water sources in close proximity to households.

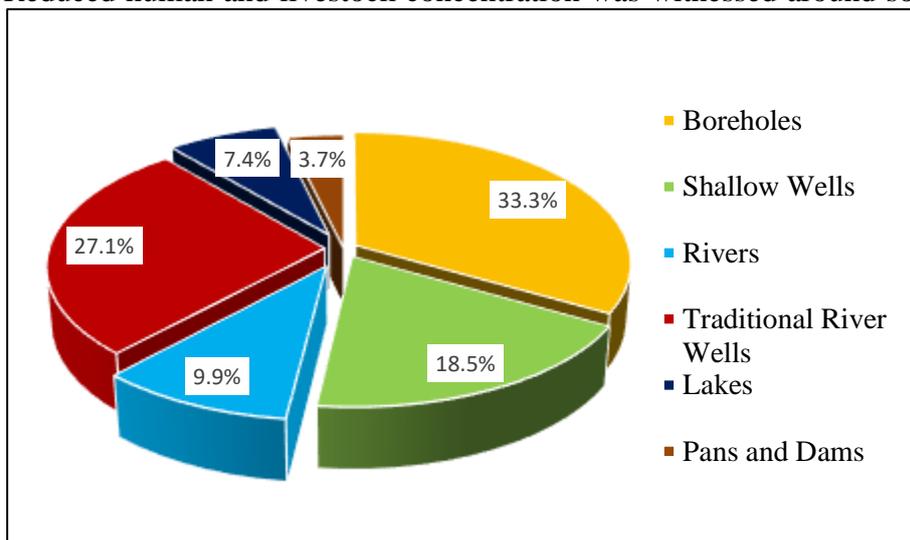


Figure 5: Sources of Water in Turkana County-June 2021

Generally, the recharge level during the MAM season was below 50 percent and therefore majority of the open water sources visited during the transect drive were at 25 percent capacity across the three livelihood zones.

The depth of most traditional river wells was 2-3 metres as opposed to one metre normally while the operational capacity of the boreholes was at 75 percent and therefore there was no notable variation from the previous month.

- The water situation during the month under review was thus relatively stable with respect to the previous month and almost at par with normal situation at such a time of the year.

2.2.2 Household access and Utilization

- Stability in the household return trekking distance to water source was observed and just like in the previous month of May, it averaged 7 km across the three livelihood zones (Figure 6).

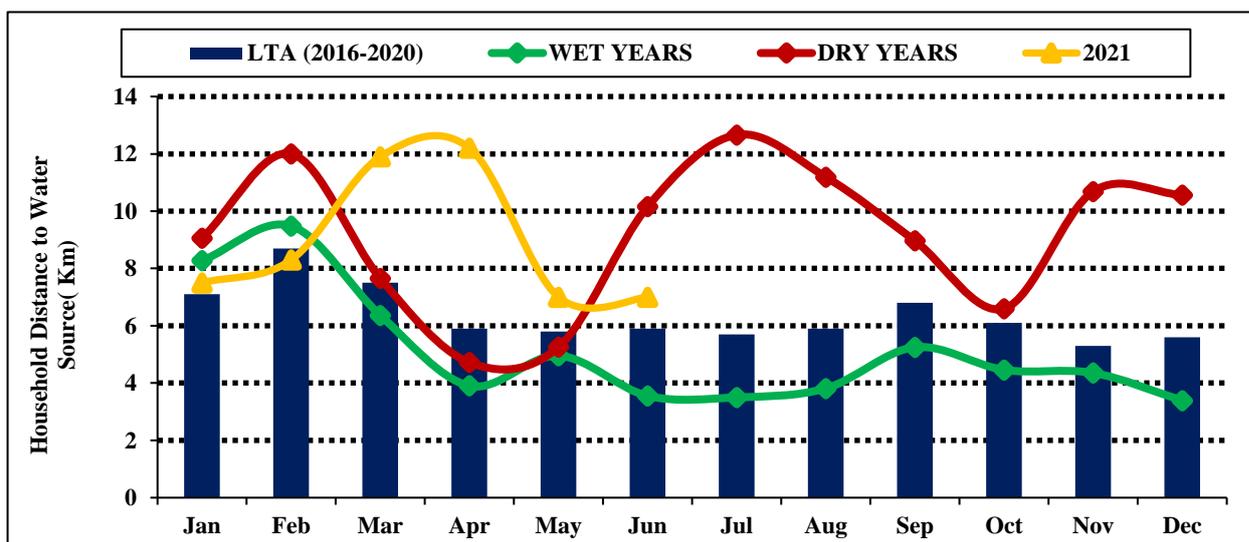


Figure 6: Household Trekking Distance to Water Source

- Notable though, the recorded trekking distance in June was higher than the long-term average distance by 16 percent and the one reported for the same period during the wet years by 50 percent.
- The Agro-pastoral livelihood zone reported the longest distance followed by the Pastoral livelihood zone with the Fisheries livelihood zone returning the least distance during the month of June.

- Across the Agro-pastoral, Fisheries and Pastoral livelihood zones, the waiting time remained unchanged from the month of May and thus households spent 20 minutes, 30 minutes and 45 minutes accordingly at the water source.
- The average water consumption per person per day across the Pastoral, Fisheries and Agro-pastoral livelihood zones was 10-15 litres, 15-20 litres and 25-30 litres respectively compared to 20 litres, 30 litres and 40 litres normally.
- Across most urban centres such as Lodwar, Kakuma, Lokichoggio, Lokichar and Kalokol, households accessed a 20-litre jerry can from water kiosks at an average cost of five shillings. The motor bike riders were charging an average cost of KSh. 20-30 depending on the distance covered. The reported cost of water was within the normal range for the month under analysis.

2.2.3 Livestock access

- The return trekking distance to water source from grazing areas also remained unchanged relative to the previous month and thus across the three livelihood zones, livestock trekked for 10.5km to access water in June (Figure 7).
- Noteworthy, the recorded trekking distance was not only higher than the long-term average distance by 25 percent but also the one reported for a similar period during the wet years by 48 percent.

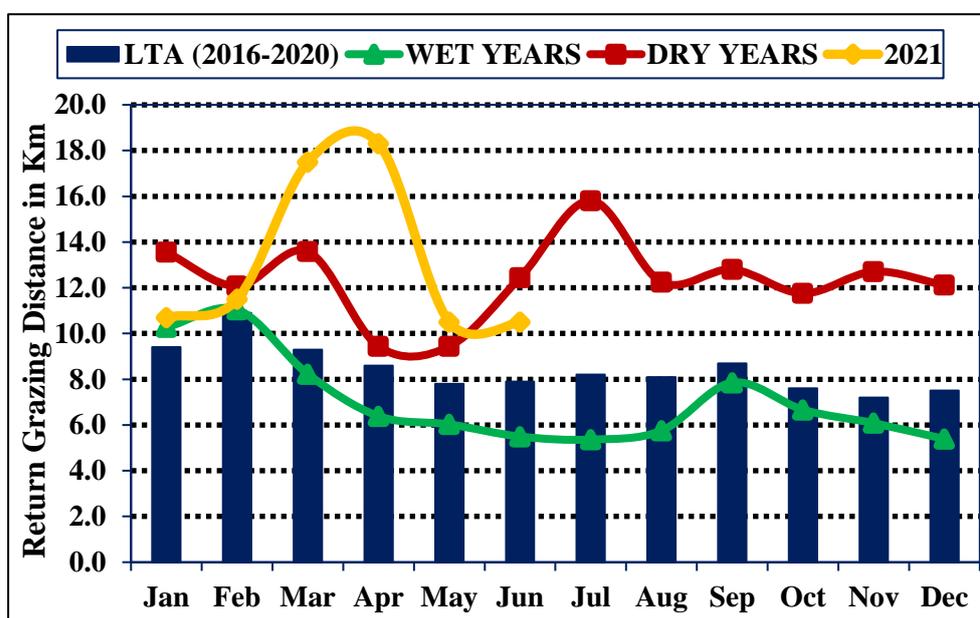


Figure 7: Return Distance to Water Source from Grazing Areas

The longest trekking distance was recorded along the Fisheries livelihood zone followed by the Pastoral livelihood zone with the Agro-pastoral zone returning the least distance during the aforementioned period of analysis.

- Stabilization in the trekking distance to water sources could be ascribed to availability of forage and water across most sites following the above normal rainfall received in May. Traditional water wells across most seasonal rivers were a major source of water for pastoralists who had migrated to sites that did not have established water structures previously and thus there was no need of moving back and forth.
- The watering frequency for livestock remained relatively stable with respect to the month of May across the three livelihood zones. Consequently, shoats accessed water 5-6 times per week while cattle and camel accessed water 4-5 times per week.
- Further, the observed trend could be attributed to other additional factors like average LST that meant less evaporation, improved operational capacity of boreholes driven by the rise in water table and minimal incidents of insecurity in the perennial conflict water points in some parts of Turkana West and North.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Livestock body condition was fair across all the sites in the County with isolated cases of shoats in the Agro-pastoral livelihood zone that exhibited a good body condition. The borderline fore ribs in cattle along the Agro-pastoral and Pastoral livelihood zones were not visible while the shoats were neither fat nor thin. Camels across all the livelihood zones exhibited a relatively smooth appearance.
- During the month of July, livestock body condition is expected to remain stable but deteriorate towards the end of the month as forage level starts dwindling resulting to elongated trekking distances even in search of water. The body condition of livestock in June was generally out of the seasonal norm.

3.1.2 Livestock Diseases and Mortalities

- The most commonly reported incidents included: Pest Petis Ruminantes (PPR), Haemorrhagic septicaemia (HS), Contagious Bovine Pleuropneumonia (CBPP) and Diarrhoea across the three livelihood zones but cases of mortality were relatively low.

3.1.3 Milk Production

- During the period under review, a negligible proportion of households reported on own milk production with the quantity however improving with respect to the previous month (Figure 8).

- Not only was the reported production level during the period under review lower than the long-term average by 37.5 percent but also the amount reported for the same month during the wet years by a whopping 48 percent.

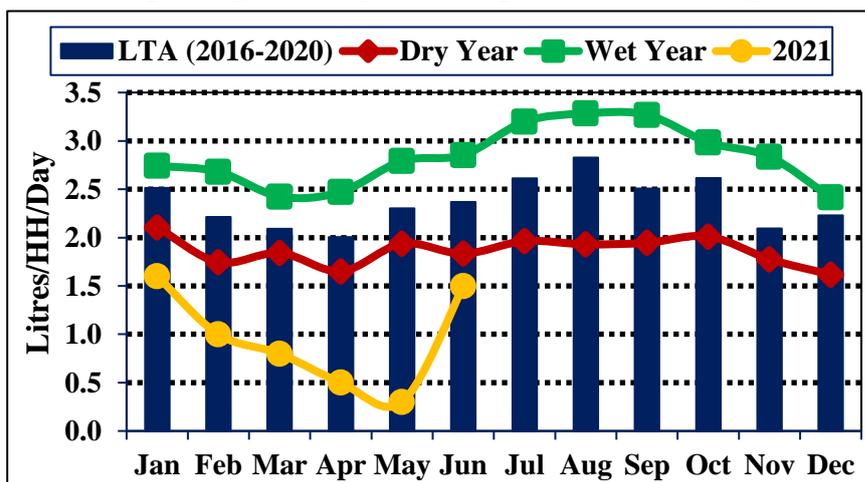


Figure 8: Milk Production Trends in Turkana County

- There were no milk sales reported across the markets in all livelihood zones and that was due to preference being given to young ones to drink.
- The slight improvement in the milk level could be ascribed to the slow but steady recovery from the effects of drought coupled with the moderate calving witnessed.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- Maize and Sorghum planted along the Agro-pastoral livelihood zone was above knee height, in some areas it had started flowering.
- Some farmers especially those who planted late were engaged in intensive weeding with the dry conditions being witnessed across the month under review presenting a significant challenge to the growth of crops and therefore a high risk of crop failure.
- Production of horticultural crops like water melon, tomatoes, vegetables and mangoes was on going across some sites in Turkwel, Katilu, Kaputir and Kanamkemer wards.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- During the month under review, a 4-year old medium sized bull was trading at KSh. 12,850 across all the livelihood zones and thus the price remained unchanged from the one reported in May (Figure 9).
- Unchanged and fairly shorter trekking distance in search of pasture and water was the major factor influencing the observed trend during the month of June.

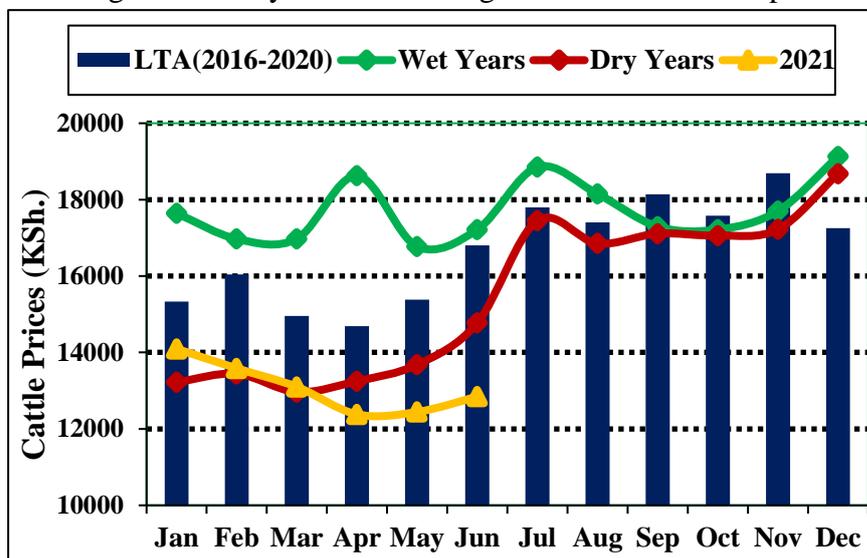


Figure 9: Cattle Price Trend in Turkana County- January to June 2021

The Pastoral livelihood zone reported the highest price of KSh. 13,570 while the Agro-pastoral livelihood zone recorded the least price of KSh. 11,050.

The prevailing price was lower than the long-term average and the price reported for the same month during the wet years by 23 percent and 25 percent respectively.

The Pastoral livelihood zone reported the highest price of KSh. 13,570 while the Agro-pastoral livelihood zone recorded the least price of KSh. 11,050. The prevailing price was lower than the long-term average and the price reported for the same month during the wet years by 23 percent and 25 percent respectively.

4.1.2 Small Ruminants Prices (Goat price)

- Stability was observed in the price of a medium sized goat of 2 years that traded at KSh. 2,830 during the month under review across the three livelihood zones (Figure 10).

- A stable goat body condition occasioned by availability of browse in all the sites coupled with the relatively shorter trekking distance to water sources were the major factors influencing the observed trend.

- The Pastoral, Agro-pastoral and Fisheries livelihood zones reported an average price of KSh. 2,863, KSh. 2,858 and KSh.2,717 respectively.

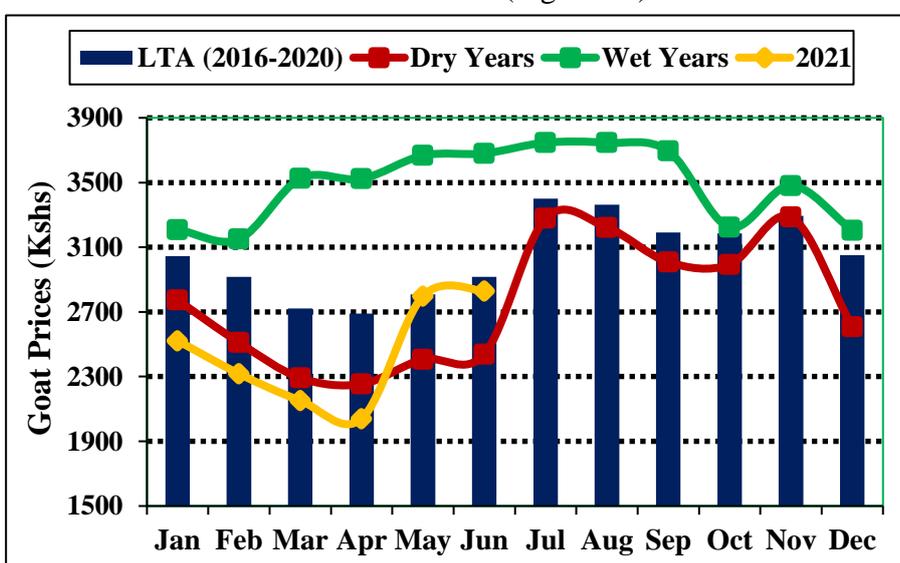


Figure 10: Goat Price Trend in Turkana County- January to June 2021

- The prevailing goat price was at par with the long-term average price but lower than the price reported for the same month during the wet years by 23 percent.

- Across the month of July, the trading price of goat is expected to remain stable but decline towards the end of the month as the body condition of goat starts deteriorating.

4.1.3 Camel Prices

- The trading price of a 4-year old camel remained unchanged from the previous month of May and thus averaged KSh. 23,050 across the Agro-pastoral and Pastoral livelihood zones (Figure 11).

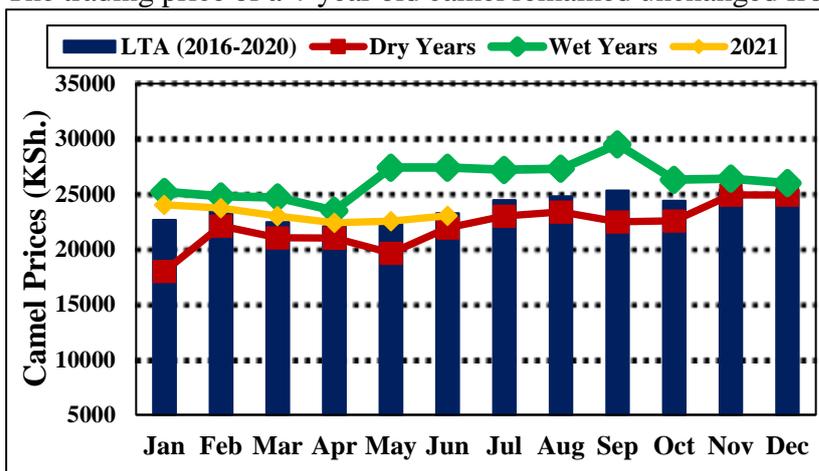


Figure 11: Camel Price Trend in Turkana County-January to June 2021

The Pastoral and Agro-pastoral livelihood reported an average price of KSh. 23,070 and KSh. 23,000 accordingly during the period under review.

- The reported price during the month of June was at par with the long-term average price but lower than the one recorded for a similar period during the wet years by 16 percent.

4.2 CROP PRICES

4.2.1 Maize

- The price of maize remained unchanged from the previous month with a kilogram trading at KSh. 69 across all the livelihood zones during the period under review (Figure 12).

- The reported price of maize was at par with the long-term average but notably lower than the one reported for the same period during the wet years by eight percent.

- There was a higher preference for supplies from the external markets in Trans Nzoia and Kapenguria whose price was relatively higher to the imports from Uganda due to the perceived low quality.

- The highest price of KSh. 73 was recorded along the

Pastoral livelihood zone while the Fisheries and Agro-pastoral livelihood zones posted an average price of KSh. 69 and KSh. 62 accordingly during the period under analysis.

- Noteworthy, some markets along the peripheries and some areas in the plains like Kaeris continued reporting remarkably high prices attributed to market dominance by select few traders, poor market and road infrastructure, COVID-19 effect on transportation cost and insecurity.

- The observed trend in June could be attributed to maize availability in some households albeit in meagre quantities advanced by the relief distribution exercise that was conducted previously in response to drought and COVID-19. Availability of other substitutes like Sorghum also contributed towards the observed price stabilization.

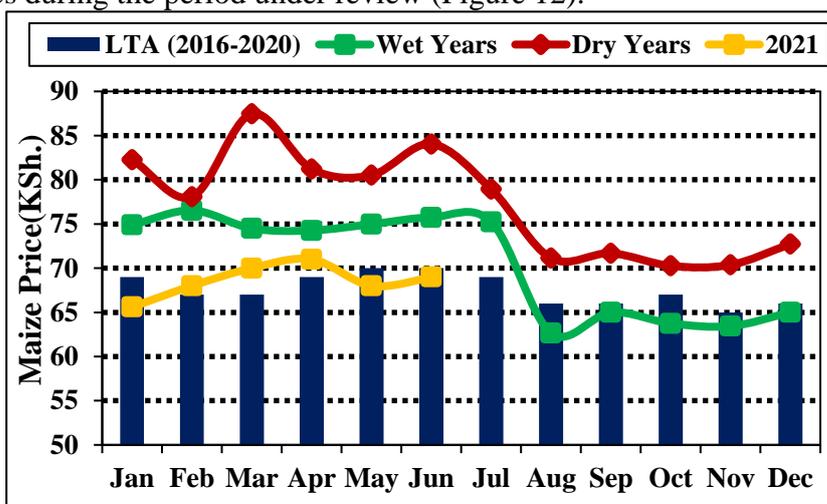


Figure 12: Maize Price Trend in Turkana County-January to June 2021

4.2.2 Beans

- A kilogram of beans was retailing at KSh. 120 during the month under review and therefore, it remained stable relative to the previous month across all the livelihood zones (Figure 13).
- Stabilization in the price of beans could be attributed to availability of beans across most markets supplemented with other substitute pulses like cowpeas produced internally.

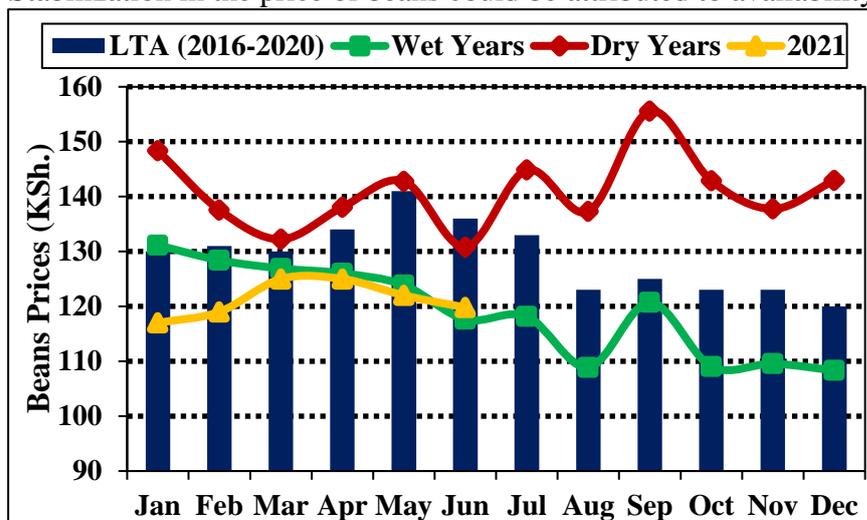


Figure 13: Beans Price Trend in Turkana County-January to June 2021

supplemented with other substitute pulses like cowpeas produced internally.

The highest price of KSh. 125 was reported along the Fisheries livelihood zone with the Agro-pastoral and Pastoral livelihood zones presenting an average price of KSh. 120 and 111 in that sequence.

The reported price in June was at par with the one reported for the same period during the wet years but

lower than the long-term average by 12 percent.

4.3 LIVESTOCK: CEREAL PRICE RATIO/TERMS OF TRADE (ToT)

- The terms of trade remained unchanged from the previous month with proceeds from the most commonly traded goat of 2yrs enabling pastoral households to acquire 41 kilograms of maize in June just like in May (Figure 14).
- Therefore, there were no additional benefits accrued to their assets in June.
- Comparatively, the reported terms of trade was higher than the long-term average ToT by 15 percent but lower than the one posted for a similar period during the wet years by 16 percent.

Household purchasing power thus remained similar to the previous month with no major shift in dietary diversity being expected implying the risk of malnutrition cases increasing remained moderate to high more so across July.

The observed stability could be attributed to the fact that the price of maize and goat remained the same as the previous month with no major external factor influencing it either way.

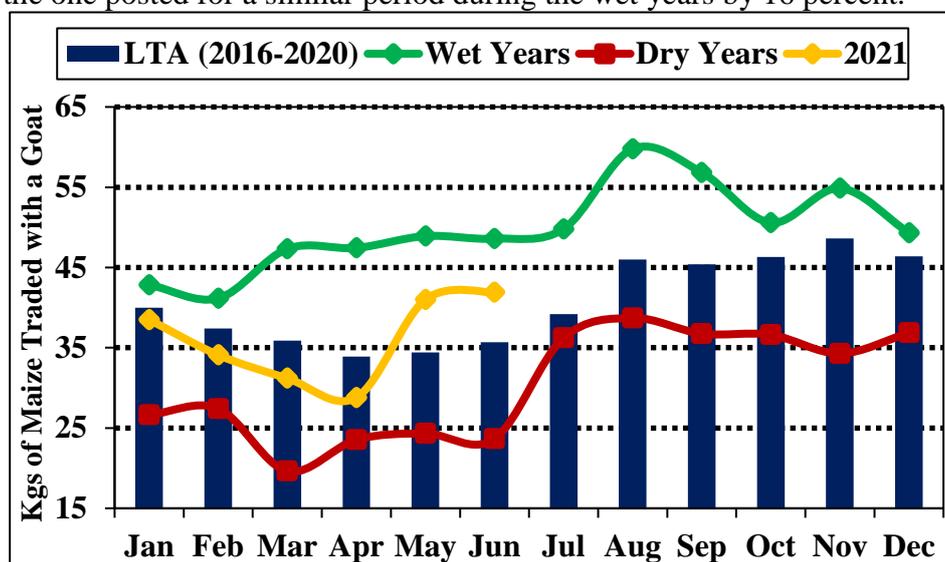


Figure 14: Terms of Trade Trend in Turkana County-January to June 2021

- Across July, the terms of trade is projected to assume a downward trend with the anticipated deterioration in the body condition of goat as the browse level starts dwindling across most areas driven by the average land surface temperatures.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

- A negligible proportion of households reported to have consumed milk during the period under review with the average consumption being 1.5 litres per day per household (Figure 15).

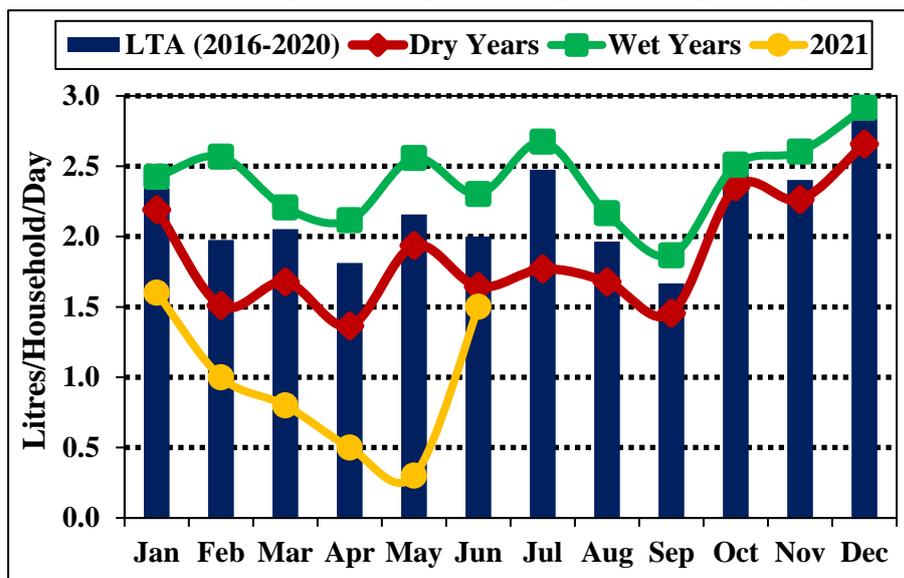


Figure 15: Milk Consumption Trends in Turkana County

The improved consumption level during the subject period under analysis could be ascribed to the improved production level resulting from the moderate calving witnessed coupled with the increase in herd size following the return of some livestock from the dry season grazing areas. However, the consumption level is anticipated to decline across July as the rangeland conditions

start deteriorating more so in the Pastoral and Fisheries livelihood zones.

- Notable though, despite the slight improvement, the reported consumption level was not only lower than the long-term average by 25 percent but also the level recorded for a similar period during the wet years by 34 percent.

5.2 FOOD CONSUMPTION SCORE (FCS)

- Proportion of the households categorized in June as having a poor, borderline and acceptable food consumption score constituted 30 percent, 31.1 percent and 38.9 percent across the Pastoral, Fisheries and Agro-pastoral livelihood zones (Figure 16).

- The food consumption patterns during the period under review did not vary significantly from those observed in May as supported by the unchanged food consumption score of 29.

- Therefore, majority of the households across the three livelihood zones were consuming staples and vegetables every day, accompanied by oil and pulses a few times in a week during the month under analysis.

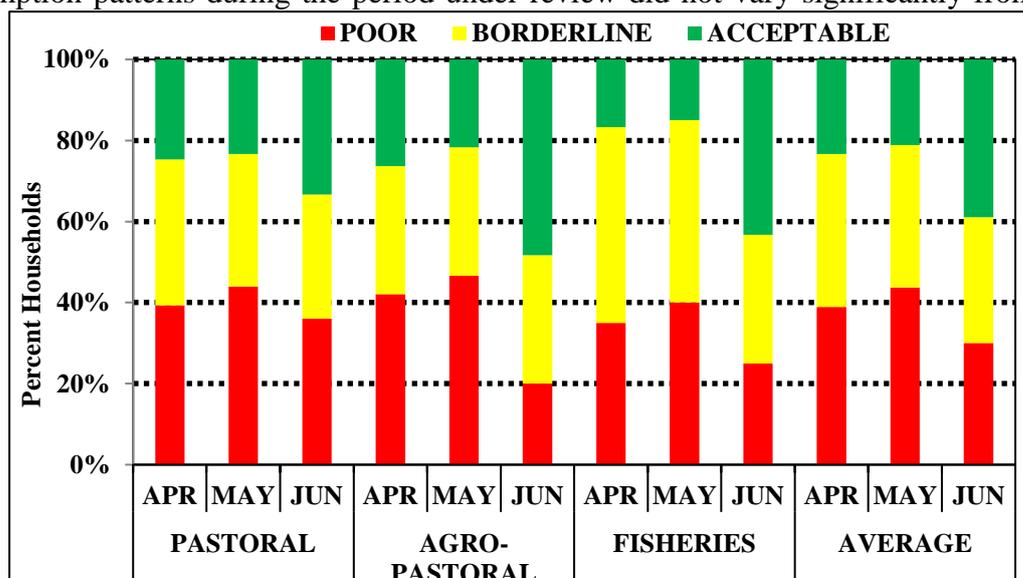


Figure 16: Food Consumption Trends in Turkana County

- Comparatively, the Pastoral livelihood zone presented the highest proportion of households classified as having a poor food consumption score in June.

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- From the sampled 874 children aged five years and below whose Mid Upper Arm Circumference (colour MUAC) measurements was taken in June across the three livelihood zones, 55 percent constituted males while 45 percent were females.
- During the month under review, proportion of under-fives classified as being moderately or severely malnourished was six percent and thus remained unchanged from the one reported in May (Figure 17).

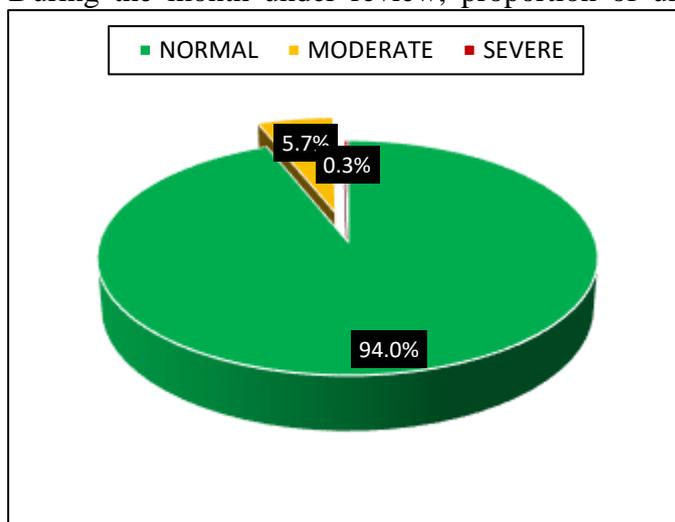


Figure 17: Malnutrition Trends in the County; n=874

and thus remained unchanged from the one reported in May (Figure 17).

The aforementioned proportion of under-fives for the moderately malnourished category was lower than the long-term average proportion by 1.2 percent and the one reported for a similar period during the wet years by 3.3 percent.

Stable terms of trade implying a relatively unchanged purchasing power coupled with milk availability for consumption were some of the drivers of the observed trend.

Continued service delivery targeting malnutrition hotspots also played a critical role in mitigating the situation.

5.4 COPING STRATEGY

5.4.1 Reduced Coping Strategy Index (rCSI)

- The coping strategy index adjusted downwards from 19.4 reported in May to 17.5 during the subject month under analysis (Figure 18).
- Therefore, households applied less severe consumption based coping strategies (CBCS) in June compared to the previous month across the three livelihood zones.

- Notably though, majority of households that were highly constrained in accessing food or money to buy food could be traced to the Pastoral livelihood zone (Figure 18) during that period.

- Among the prevalent coping strategies that were being employed by most households along

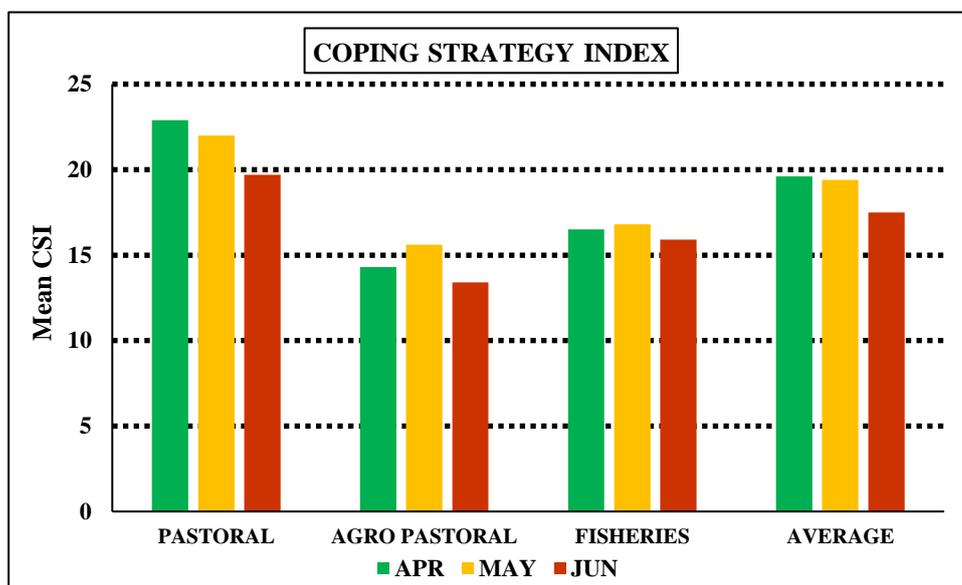


Figure 18: Trends in Coping Strategies in Turkana County-April to June 2021

the Pastoral, Fisheries and Agro-pastoral livelihood zones included: reduced number of meals taken in a day and reliance on less preferred/less expensive food.

6.0 CURRENT INTERVENTION MEASURES (ACTION)

6.1 FOOD

- There was no relief food distribution conducted during the month under review.

6.2 NON-FOOD

Table 2: Non-Food Interventions

Intervention	Sub County/ Ward/Location	No. of Beneficiaries	Implementer(s)
Restocking of households with goats	Katilu	100HHs	Drought Resilience and Sustainable Livelihoods Programme (DRSLP)

7.0 EMERGING ISSUES

7.1 INSECURITY

7.1.1 Conflict/Human Displacement

- Cases of insecurity were reported in some parts of Turkana East including Lopii and Lokwomosing during the period under analysis.

7.2 MIGRATION

- Movement taking place during the month of June was internal with herders migrating to areas with adequate forage especially in Turkana South, West and Loima. The proportion of livestock migrating internally was approximately 25 percent.

7.3 FOOD SECURITY PROGNOSIS

7.3.1 Food Security Outlook for July 2021

- Agricultural production is projected to be below average owing to the late onset of the long rains that impacted negatively on agricultural activities during the season and therefore the likelihood of commodity prices increasing owing to depleted stocks internally shall be high.
- Forage quality and quantity is anticipated to remain within a desirable level over the next one month as a result of the forecasted off-season rainfall during the JJA season and therefore, stability in production indicators (body condition of livestock and milk production) will be the most likely outcome over that period before they start declining beginning August.
- No significant shift in the purchasing power is anticipated as a consequence of the terms of trade most likely stabilizing across the first half of July with pastoral households fairly well positioned in terms of meeting basic food requirements in the short term albeit with difficulty.
- During that period, the level of malnutrition is projected to remain stable and within the normal range albeit for a short period with the emerging food gaps towards the end of the forecast period likely to tilt the trend upwards.
- Generally, some Pastoral households will most likely be experiencing ‘crisis’ food security outcomes across that period with majority being ‘stressed’.

8.0 RECOMMENDED INTERVENTIONS

- **Agriculture:** Minimize losses associated with poor storage through sensitizing farmers along the Agro Pastoral zone on elementary post-harvest handling techniques such as use of hermetic bags.
- **Veterinary:** Improve animal health by conducting mass vaccination in cross border sites where incidents of PPR and CBPP have been reported while up scaling disease surveillance efforts to cover other areas within the county that are disease prone.
- **Health and Nutrition:** Provision of health education to communities on water quality management while expanding the reach of health and nutrition interventions to cover sites that have reported high malnutrition levels.

- **Water:** Enhance water availability for humans and livestock during scarcities through drilling, excavating and equipping climate proofed strategic/contingency boreholes and water pans.
- **Livestock:** Intensify efforts towards strategic hay reserves stock piling so as to promote availability of livestock feeds for utilization during periods of stress.
- **Food and Safety Net:** Provision of relief food/cash to the vulnerable households currently classified as experiencing 'crisis' and 'emergency' food security outcomes.