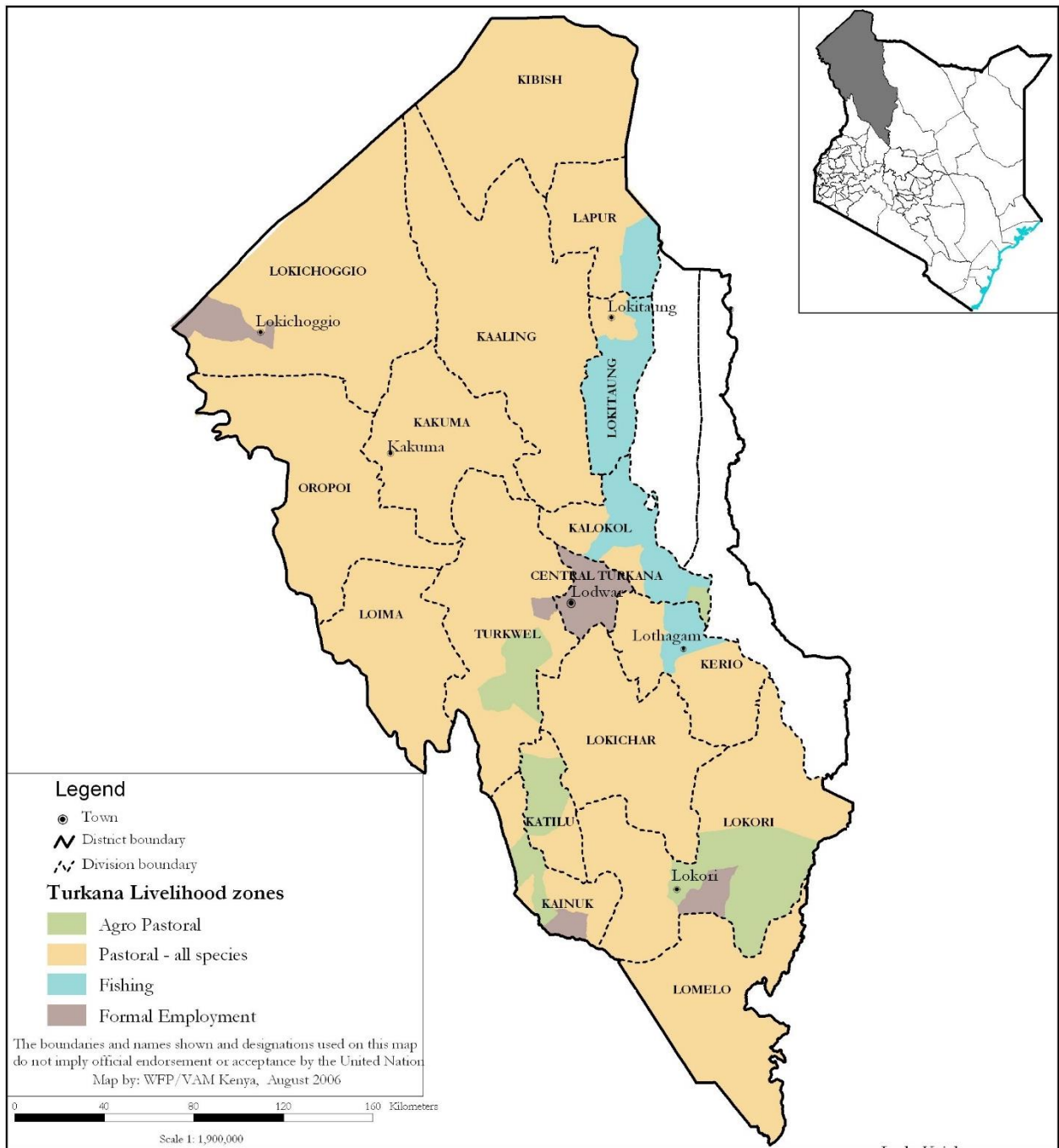


TURKANA COUNTY 2021 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A joint Report by the Kenya Food Security Steering Group (KFSSG)¹ and Turkana County Steering Group

July, 2021

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EXECUTIVE SUMMARY

Food security assessment is a bi-annual assessment conducted by a multi-agency and multi sector representatives from the Kenya Food Security Steering Group; the County Steering Group drawn from all the key government sectors and various non-state actors. In Turkana County, the 2021 long rains food security assessment was conducted from 14th to 22th July, 2021 and covered three main livelihood zones namely: Pastoral, Agro-pastoral and Fisheries Livelihood Zones. The overall aim was to conduct an objective, evidence-based and transparent food security situation analysis following the 2021 long rains season considering the cumulative effects of previous seasons, and to provide recommendations for possible response options. The onset of the long rains was late in the first dekad of May. The rains were poorly distributed both in space and time having only 5 wet days with long dry spell intervals leading to shortened season. The season witnessed less land planted for maize, sorghum and cowpeas compared to the long-term average (LTA) by 86 percent, 45 percent and 99 percent respectively as a result of late onset of seasonal rainfall that put the farmers in a state of indecisiveness. Further, encroachment by *Prosopis* in the rain fed, fertile areas; diversion of river courses and storm water in flood-based farming areas contributed to the decline in acreage. Consequently, the expected yields for the three crops is anticipated to be lower than the LTA. Cereal stocks held by various entities across the County were generally below average except for Rice. The current maize stocks held by farmers were 19 percent of the long-term average, while those held by traders were 94 percent of the long-term average. The current body condition of livestock has remained the same in the Agro-pastoral Livelihood Zone but deteriorated in the Pastoral and Fisheries Livelihood Zones except for camels whose body condition has remained good. Milk production and consumption have reduced compared to the normal. In the Pastoral Livelihood Zone, milk production was reported at 0.5 litres per household per day compared to the normal two litres. In the Agro-pastoral zone, milk production was one litre against the normal three litres while in the Fisheries zone, production was reported at 0.25 litres compared to the normal two litres. Prices have subsequently increased to Ksh. 60 compared to the long-term average of Ksh. 40 per litre across all the Livelihood Zones. Return trekking distances to watering points have increased in the Pastoral zone currently at eight kilometres compared to five kilometres normally while in the Agro-pastoral Livelihood Zones the distances currently average three kilometres compared to two kilometres normally. However, in the Fisheries zones, the distances have remained the same. Water consumption per person per day has reduced compared to normal. The average water consumption per person per day across the Pastoral, Agro-pastoral and Fisheries Livelihood Zones was 10-15 litres, 25-30 litres and 15-20 litres respectively compared to 20 litres, 40 litres and 30 litres normally. The price of a kilogram of maize retailed at Ksh. 69/- which was 13 percent below the long-term average price of Ksh. 79. Goat prices in the month of July were averaging Ksh 2,829 for a medium sized goat compared to the long-term average price of Ksh. 3,032. The prices were however way below 2020 prices by 20 percent. The terms of trade (ToT) are unfavourable compared to 2020 as households can only purchase 43 kilograms of maize from the sale of a medium sized goat compared 51 kilograms in 2020. The proportion of the population with poor, borderline and acceptable food consumption scores 30.9, 31.2 and 37.9 percent respectively. Reduced coping strategy index (rCSI) for the month of July according to NDMA monthly bulletin was 16.6 from 17.5 reported in June. The proportion of households employing crisis and stressed consumption based coping strategies were 31.6 percent and 68 percent respectively. On the other hand, 23.8 percent employed crisis livelihood coping, while 30.5 percent employed stress livelihood coping. The prevalence of Global Acute Malnutrition (GAM) was 20.4 percent in June 2021 registering a slight improvement from 25.6 percent reported in June 2019. Turkana North including Kibish and Turkana South including Turkana East were the most affected reporting prevalence rate of 25.4 percent and 23.4 percent respectively. The overall phase classification for the County is thus Crisis (IPC Phase 3).

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1. INTRODUCTION

1.1. County Background

Turkana County is located in the north-western part of Kenya and borders Marsabit County to the East, Samburu County to the South East, West Pokot County to the South West. The County also borders three countries namely: - Ethiopia to the northeast, Uganda to the west and Sudan to the northwest. The County covers an approximate area of 77,000 square kilometres (Km²) with a population of 926,976 (478,087 males, 448,868 females) people (KNBS, 2019). Administratively, the County is divided into seven (7) sub-counties namely: Turkana East, Turkana West, Turkana South, Turkana North, Turkana Central, Loima and Kibish. The County has four main livelihoods zones namely: Pastoral All Species, Agro-pastoral, Fisheries and Formal employment with population proportions of 60, 20, 12 and eight percent respectively as shown in Figure 1. Main sources of cash income in the Pastoral Livelihood Zone include: Livestock production contributing 91 percent of cash income, petty trade at three percent, hunting and gathering at two percent. In the Agro-pastoral Livelihood Zone, the main sources of income include:

Food crop production contributing 40 percent of cash income, livestock production at 25 percent and firewood collection at 10 percent contribution to cash income. In the Fisheries Livelihood Zone, fishing contributes 54 percent of cash income followed by livestock production at 18 percent and casual waged labour at 10 percent. Additionally, the poverty levels across all

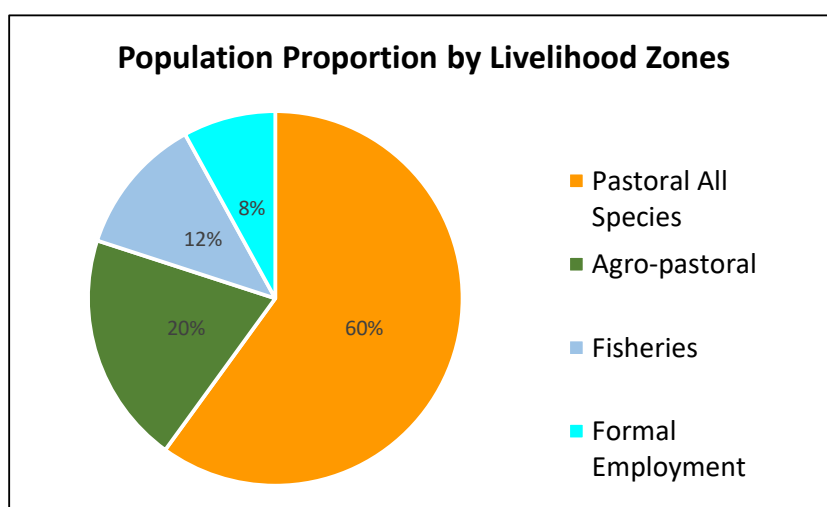


Figure 1: Proportion of Population by Livelihood Zone

the Livelihood Zones remain very high with the proportion of individuals below the poverty line for instance in Turkana north (highest) and Turkana central (lowest) sub counties being 91.7 percent and 77.5 percent of the respective population.

1.2. Objectives of the Assessment

The main objective of the Long Rains Food Security Assessment (LRA) was to conduct an objective, evidence-based and transparent food security situation analysis following the performance of long rains season of 2021 in Turkana County, taking into account the cumulative effect of previous seasons, and to provide recommendations for possible response options based on the situation analysis. Specifically, the assessment was aimed:

- ❖ To ascertain the quantity and quality of the 2021 long rains
- ❖ To assess the impact of the season's performance on food security situation.
- ❖ To assess the impact on livelihoods including crop and livestock production, markets, water, nutritional status and socio-economic conditions.
- ❖ To assess the geographical spread of other hazards, and determine the impact of the shock on livelihoods
- ❖ To take stock of the available response activities addressing food insecurity and malnutrition and to establish required non-food intervention, with particular emphasis on programmes that promote preparedness and build household resilience;

- ❖ To assess potential food needs, including options for appropriate transfer modalities such as food for assets, cash and vouchers, safety nets and general food distribution
- ❖ To obtain adequate and reliable information for projecting food security needs

1.3. Methodology and Approach

The 2021 Long Rains Assessment (LRA) adopted a multi-agency and multi sectoral approach that consisted of representatives from the Kenya Food Security Steering Group (KFSSG); the County Steering Group (CSG) and various non-state actors. The assessment was conducted from 12th to 23rd July, 2021 covering all the 23 Arid and Semi-arid (ASAL) counties of Kenya. In Turkana County, the assessment took place from 14th to 22nd July, 2021. The process began with the initial CSG briefing of the aims and objectives of the assessment followed by sector presentations and later a review of the sector checklists. The technical teams then proceeded to the field for a fact-finding mission upon sampling representative sites based on livelihood zones, with the aim of triangulating the information provided in the checklists with the actual situation on the ground. The process involved an in-depth analysis of primary data collected through Key Informant Interviews (KII), Community Focus Group Discussions (FGDs) comprising both gender, market surveys, and sectoral checklists. During the transect drives, visual inspection techniques were also employed and observations noted. Secondary information was analysed from the National Drought Management Authority (NDMA) drought early warning monthly bulletins, SMART Survey. Data collected was analysed at the Sub-county and Livelihood Zone levels and sectoral County reports prepared. Further analysis was done using the Integrated Food Security Phase Classification (IPC) reference tool. The team later compiled and drafted County report whose preliminary findings were presented to the CSG on 22nd July, 2021 for adoption and ownership as the true reflection of the County food security situation.

2. DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1. Rainfall Performance

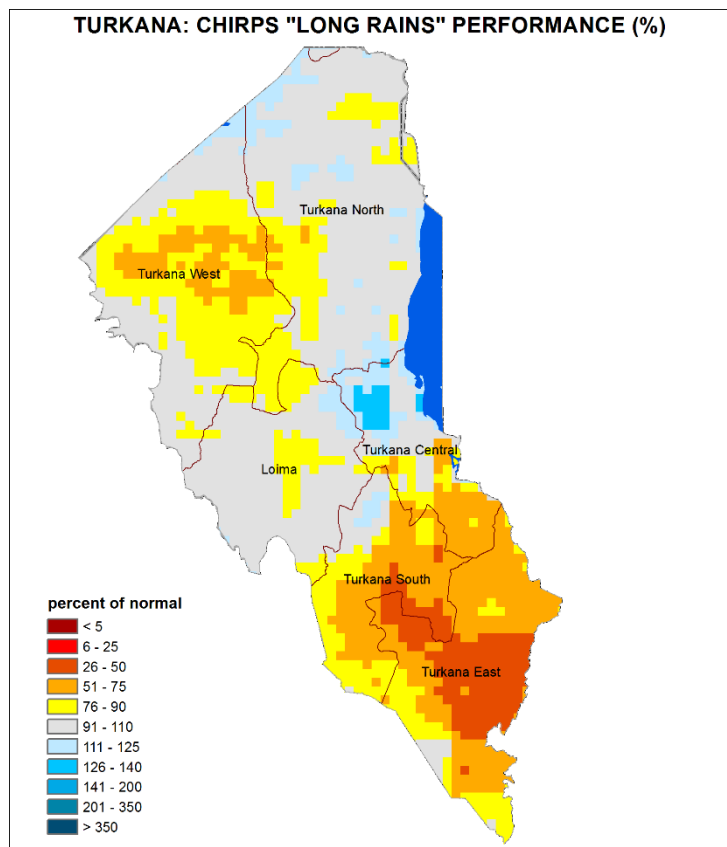


Figure 2: Rainfall Performance as a Percent of Normal

Turkana County has a bimodal rainfall pattern with the long rains in March-April-May, and short rains in October - November - December. Parts of Loima, Turkana West and South also receive some rains during the June - July - August period. The long rains season is the most reliable rainfall season in Turkana County. Approximately 70 percent of the County's annual crop production is dependent on long rains. There was late onset of the long rains across the County which occurred in the first dekad of May compared to the second dekad of March. According to the Lodwar rain gauge station, the rains started in the fourth week of April compared to mid-March. Analysis of March-May 2021 seasonal rainfall depict that Lodwar Meteorological station had total rainfall amount of 203.2 milimetres (mm) against the long-term total of

99.6 mm being 204 percent above the long-term season mean. However, the northern parts of the County including Turkana north, Loima and parts of Turkana central sub-counties received between 91-110 percent of normal rains. Larger parts of Turkana South, Turkana East and pockets in Turkana West sub-counties received rains ranging between 51-90 percent of normal rains. Depressed rainfall of 25-50 percent of normal was received in some pockets of Turkana East Sub-county as shown in Figure 2. The rains were poorly distributed in time with only 2.0 milimetres (mm) of rains received in the whole of March and April. The rains ceased early in the second dekad of May as opposed to the third dekad normally.

2.2. Insecurity/Conflict

Incidents of insecurity that involved cattle rustling, banditry attacks and killings were reported across all the wards in Turkana East during the long rains season. Displacement of households from the volatile areas like Lopii, Lokori, Riyeth, Lotubae, Kaaruko, Kapedo, Lomelo, Lokwomosing, Napeitom among others towards Kodekode, Katiir and Kalapata was witnessed with the affected population estimated to be 3,500 households experiencing significant food gaps owing to the minimal humanitarian assistance. In addition, approximately 13,000 shoats and 250 camels were lost from the affected areas with the road connecting Kapedo to Lokori and Lokori to Lokichar remaining insecure thus affecting delivery of commodities to all the villages along that belt. Cases of insecurity were also reported in select areas in other Sub-counties including Urum, Kibish, Todonyang and Lokipoto. Forage access by livestock in the dry season reserves in Kapedo/Napeitom ward was highly constrained during the first half of the season and that resulted to livestock deaths being witnessed across most sections of Turkana South, East and Central within the plains.

2.3. COVID-19 Pandemic

Majority of households especially in Turkana Central and West Sub-counties continued experiencing the negative impacts of the COVID-19 pandemic following the upsurge of confirmed cases. The 7 O'clock curfew in the major external market in Kitale (Trans Nzoia County) impacted on the flow of goods to the County resulting to a hike in the prices of some commodities like cooking oil. The caseload in the County as at 22nd July, 2021 was 1,557 out of 13,810 cumulative tests conducted with a positivity rate of 8.2 percent. The restriction of communal approach to agricultural activities was reflected in the reduction of land put under cultivation and thus pushing projected production below the normal for the season especially for rain-fed agriculture. Low livestock prices at the market were recorded owing to the minimal participation of external traders whose activities were affected negatively by the COVID-19 restrictions.

2.4. Other Shocks and Hazards

Drought: During the first half of the season the County experienced drought which was a spill over effect of the poor October to December 2020 season. The Pastoral and Fisheries Livelihood Zones were the most affected with the County being classified to be in the 'Alarm phase' and on a worsening trend in March and April. Approximately 60,000 households and over 75 percent of the herd migrated to Uganda and other areas bordering West Pokot, Sudan and Ethiopia in search of forage and water. Along the plains, livestock mortalities attributed to starvation were reported in areas like Kalapata, Kalokol, Lokori/Kochodin, Kaeris, Lakezone, Kerio, Loima, Lokichar, Kanamkemer and Katilia wards. Household food consumption patterns were severely affected owing to the poor terms of trade during that period with majority engaging in negative consumption based coping strategies on a regular basis.

Tree Locust Invasion: The negative impacts of the Tree Locusts were evident across most sites in Turkana South, East, North and West Sub-counties. The Tree Locusts continued decimating large tracks of browse estimated at 7,000 hectares whose recovery especially in Kalapata, Lokichar, Nakalale, Loima, Kaaleng/Kaikor and Letea wards was affected by the below normal rainfall received during the March to May season. Livestock mortalities attributed to the feeding on the faeces were reported across the areas invaded. Further, honey production was highly affected as most flowers were destroyed by the locust and also the chemical used for locust spraying was reported to affect the bee's production. Control measures/activities were nationally coordinated by the Ministry of Agriculture together with Food and Agriculture Organization (FAO) in the County. A coordination team was formed which later mobilized other relevant stakeholders for resource mobilization and response. Several scouts were identified and trained on the reporting/feedback mechanisms. Invading desert locust swarms were manually and aurally sprayed.

Floods: Losses of livestock and crops were reported in Nameyana and Turkwel respectively due to flash floods earlier experienced in the area. According to the information obtained from the area chief during a key informant interview, approximately 380 small shoats (goats and sheep) and about eight cattle were lost due to the floods in Turkwel.

Invasive Plant Species: Turkana County has heavily been invaded by *Prosopis juliflora*. The most affected wards are; Nanam, Songot, Kalobeyei, Lopur, Kakuma, Letea, Lake zone, Kalokol, Kangatoha, Kerio Delta, Turkwel, Katilu, Kaputir, Lobokat, Katilia, Lokori/Kochodin. The invasive plant has become a menace hence most partners implementing Natural Resource Management (NRM) program components are finding it hard to achieve their intended objectives. Mostly, Agro-pastoralists do clear their farms in dry season for ease of planting. Some NGOs assist farmers in bush clearing, establishment of pasture production plots/farms, value addition of its pods to become animal feeds etc.

3. IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1. Availability

Food availability in Turkana is below average owing to below average crop production because of poor rainfall performance and also below average stocks. Delayed onset of the long rains impacted negatively on agricultural activities during the current season that saw less acreage cultivated for the major crops grown during the season. However, traders have tried to bridge the deficit by holding relatively more stocks. Market supply sources for food commodity are both from external source markets like (Moroto in Uganda, Trans Nzoia and West Pokot counties) and from local production especially sorghum, vegetables and fruits.

3.1.1. Crop Production

Crop production in the County is practiced in the Agro-pastoral Livelihood Zone whose population proportion is 20 percent of the County population. Approximately 70 percent of the County annual crop production is dependent on the long rains. The main crops grown during long rain season are Maize, Sorghum and Cowpeas. Green grams are also picking up very fast. It is approximated that 60 percent of the long rains production is consumed while 40 percent is meant for income generation. According to the Kenya Integrated Household Budget Survey (KIHBS, 2018), only seven percent of the food consumed in the County is produced locally while 63 percent is purchased. The survey further revealed that 30 percent of the food consumed come from gifts and relief.

Rain-fed Production

Table 1: Rain-fed crop production

Crop	Area planted during 2021 long rains season (Ha)	Long-term Average area planted during the long rains season (Ha)	2021 long rains season production (90 kg bags) Projected	Long-term Average production during the long rains season (90 kg bags)
Maize	282	1,980	833	41,976
Sorghum	3,400	6,237	6,036	67,796
Cowpeas (Leafy)	7	77	11	662

The season witnessed less land planted for maize, sorghum and cowpeas compared to the long-term average (LTA) by 86 percent, 45 percent and 99 percent respectively as shown in Table 1. The decline was a result of late onset of seasonal rainfall that put the farmers in a state of indecisiveness. Further, encroachment by the *Prosopis juliflora*, an invasive plant species in the rain fed, fertile areas and diversion of river courses and storm water in flood-based farming areas also contributed to the decline in acreage. Consequently, the expected yields for the three crops is anticipated to be lower than the LTA following the reduction in acreage planted due to poor rainfall performance particularly delayed onset and poor spatial and temporal distribution which resulted in wilting of some crops. Crop failure was witnessed in over 90 percent of maize farms and 60-80 percent of sorghum farms.

Irrigated Crop Production

From Table 2, the area planted for maize under irrigation in the season was lower than the long-term average by 34 percent. The decrease was due to low water levels in the river resulting from delayed rainfall that reduced the probability of maize survival. There was also fear of re-invasion by desert locust that could affect maize more than sorghum. However, area planted under sorghum was higher compared to the LTA due to a higher chance of sorghum survival with little moisture and also availability of seeds amongst the farmers. In addition, there was

also partner support (WFP, FAO, IRC, WHH) on fuel for mechanized land preparation. For cowpeas, the low area under production was largely attributed to lack of seeds

Table 2: Irrigated crop production

Crop	Area planted during 2021 long rains season (Ha)	Long-term Average area planted during the long rains season (Ha)	2021 long rains season production (90 kg bags) Projected	Long-term Average production during the long rains season (90 kg bags)
Maize	1,894	2,879	32,198	56,949
Sorghum	4,289	4,148	44,433	42,973
Cowpeas (Leafy)	20	59	210	590

The projected maize yield from the irrigation scheme is expected to be lower than the long-term average due to low water levels in the irrigation schemes and prevalence of Fall Army Worm and Stalk borers. On the other hand, projected sorghum yield will be higher than the long-term average by three percent due to increased acreage under crop and ability of sorghum to thrive with little soil moisture conditions. Cowpeas production is projected to be lower due to reduced acreage as a result of lack of seed.

3.1.2. Cereals Stock

Cereal stocks held by various entities across the County were generally below average except for rice as shown in Table 3. The current maize stocks held by farmers were 19 percent of the long-term average, while those held by traders were 94 percent of the long-term average. The variation in maize stocks at the farmers' level was due to crop failure estimated at 90 percent due to drought. The few households with maize stocks in the Pastoral and Fisheries Livelihood Zones are mainly purchases from the markets while in the Agro-pastoral zones were from current production from few irrigation schemes. The available stocks are expected to last for 1-2 weeks compared to the normal 1–2 months in rain fed areas and 2-3 months in the irrigated areas. Sorghum stocks are projected to be higher once farmers begin harvesting. Stocks by traders are mostly obtained from outside the County (West Pokot, Trans- Nzoia, Uasin Gishu and Moroto in Uganda). Traders have relatively higher stocks to bridge the deficit since farmers had low production as indicated in Table 3.

Table 3: Commodity Stocks in the County

Agency	Maize		Rice		Sorghum	
	Current	LTA	Current	LTA	Current	LTA
Farmers	1,820	9,517	N/A	N/A	2,263	2,860
Traders	20,356	21,723	2,240	1,830	890	11,500
Millers	-	2,658	N/A	N/A	0	1,100
NCPB	-	5,000	N/A	N/A	N/A	N/A
Total	22,176	38,898	2,240	1,830	3,153	15,460

3.1.3. Livestock Production

Livestock production is the main source of livelihood in Turkana County and mainly practiced by the Pastoralists and Agro-pastoralists jointly accounting for 80 percent of the total population. The main livestock species kept in the County in order of population include: Goats, Sheep, Camels, Donkeys and Cattle along the borders. The livestock are kept not only for milk which is produced during wet season both for sale and for domestic use, but also for

meat and dowry payments. Livestock production contributes 91, 25 and 18 percent to cash income in the Pastoral, Agro-pastoral and Fisheries Livelihood Zones respectively.

Pasture and Browse Condition

Forage condition has deteriorated especially in the Pastoral and Agro-pastoral Livelihood Zones as shown in Table 4. Variations in forage condition currently being experienced in the County, is majorly due to inadequate and partial rainfall received towards the end of June, 2021. This has been accelerated by adverse effects of climate change experienced worldwide coupled with Desert Locust infestation. The available pastures are estimated to last for 1-2months compared to the normal 3-4 months while browse is expected to last 2-3 months compared to the normal 4 months. Hot spot areas reporting poor forage condition include: Kalapata, Lokichar, Katilia, Kerio Delta, Kangatotha, Kalokol, Lakezone, Kaeris, Turkwel, Loima, Township, Kanamkemer wards. Access to available forage is limited by insecurity/conflicts in the border areas, as well as COVID-19 restriction measures on movement. The trend is expected to vary from one zone to the other depending on the geographical position of the area which normally influences rainfall pattern.

Table 4: Pasture and Browse Condition

Livelihood Zone	Pasture				Browse			
	Condition		How long to last (Months)		Condition		How long to last (Months)	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	Poor	Fair	1	3	Fair	Good	2	4
Agro-pastoral	Fair to good	Good	2	4	Good	Good	3	4-5
Fisheries	Poor	Fair	1	3	Poor	Fair	2	4

Pasture Conservation

Production of hay is mostly done on pilot plots to analyze its adaptability to climatic change and the erratic rainfall, soil structure plus its PH value before commercial production can commence.

Table 5: Status of Hay Production in the County

Sub County	No. of Hay Stores	Storage Capacity (Total number of bales)	No. of Bales currently being held	Average Weight per bale (in Kgs)	Average price per bale (Kshs.)	Comments – E.g percentage held by farmers and other Institutions
T/South	1	10,000	0	20	250	0.5% by farmer in groups
T/Central	1	40,000	0	20	300	Less than 0.1%
Loima	1	10,000	2,000	20	200	More than 5% farmer group.
T/West	1	20,000	4,000	20	250	Less than 5% by groups and individual

There are few Pastoral Field School (PFS) groups known that are commercially engaging in pasture seeds/hay production in the County. Peace Winds Japan and *APaD* recently purchased pasture seeds & hay bales from them to assist other vulnerable Pastoral groups within the County. The influence was minimal due to the current climatic changes. Table 5 gives a summary of hay production in the County.

Livestock Productivity

Livestock Body Condition

The current body condition of livestock has remained the same in the Agro-pastoral Livelihood Zone but deteriorated in the Pastoral and Fisheries Livelihood Zone except for camels whose body condition has remained the same as shown in Table 6. The deterioration of the body condition is associated with the poor forage reported in the said Livelihood Zones and longer trekking distances to water sources especially in the Pastoral Livelihood Zones. Birth rates are normal though there were some reported cases of abortions. More kidding/lambing expected within the next three months.

Table 6: Livestock Body Condition

Livelihood Zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	Fair	Good	Fair	Good	Good	Good	Good	Good
Agro-pastoral	Good	Good	Good	Good	Good	Good	Good	Good
Fisheries	Poor	Fair	Poor	Fair	Fair	Good	Good	Good

Tropical Livestock Units (TLUs)

TLUs was below normal across all the Livelihood Zones. Over time, there has been a decline in the TLUs across the three zones due to deaths associated with drought, floods, rampant animal disease occurrences and /still births/abortion. Table 7 summarizes the livestock holding for the poor and medium income households.

Table 7: Tropical Livestock Units

Livelihood Zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Pastoral	5	8	8	10
Agro-pastoral	4	6	8	10
Fisheries	3	4	6	8

Milk Production, Consumption and Price.

Milk production and consumption have reduced compared to the normal as shown in Table 8. The variation is due to poor pasture/browse conditions, drying water sources and increased trekking distances either to the grazing fields or watering points. COVID-19 pandemic also restricted the usually free livestock migration/movements in search for greener pastures and water hence instantly reducing milk productivity. Conversely, the prices have gone up and retails at Ksh. 60 per litre against the normal Ksh. 40 per litre. It is anticipated that milk production and consumption will further decline in the next three months should the short rains delay.

Table 8: Milk Production, Consumption and Pricing

Livelihood Zone	Milk Production per HH (ltrs)		Milk consumption per HH (ltrs)		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral	0.5	2	0.5	2	60	40
Agro-pastoral	1	3	1	3	60	40
Fisheries	0.25	2	0.25	2	60	40

Migration

The major livestock migrations currently seen are those *kraals* (A group of households) moving towards the international borders of Uganda, South Sudan and Ethiopia. The other evidenced local migrations include those kraals moving from lake zone towards Turkana East border with Samburu & Baringo counties. The current migration is not normal. Normally, this is a dry season whereby Pastoralists move with their livestock in search of greener pastures and water. However, the frequency of the current migration is so intense and this is assumed to be accelerated by the climatic changes. If rainfall delays within 3-6 months, there will be more migrations than expected hence possibility of increased resource-based conflicts. Considerable proportions of livestock, cattle (80%), sheep (60%) & goats (40%) have migrated. Some of the current migration route(s) are: Lobei/Kotaruk-Lorengikipi-Lokiriama-Uganda; Lomil-Loima hills-Urum-Uganda; Kaeris-Nakalale-Lochor angierengo, Lokipoto-Uganda; Lokangae-Oropoi-Nawoutos-Uganda; Lorumor-Kaitede-Natapar-South Sudan; and Lorionotom-Natodomeri-Kibish-Nakuwa.

Livestock Diseases and Mortalities

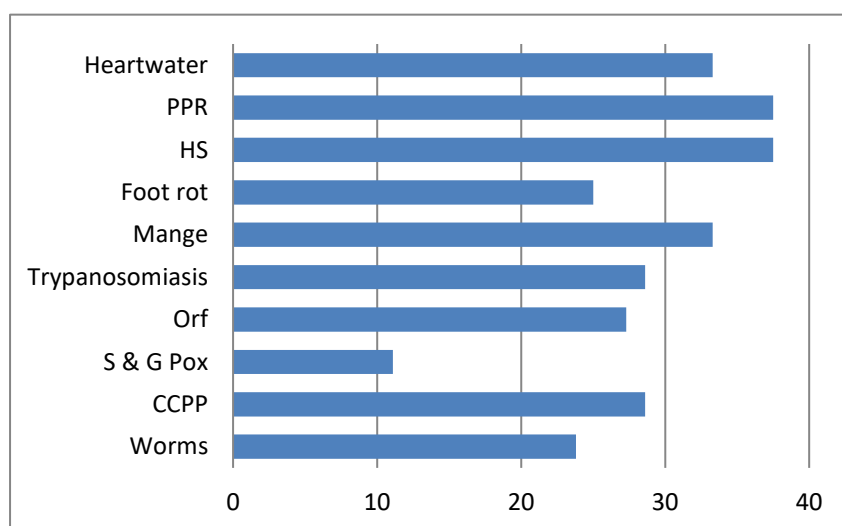


Figure 3: Case Fatality rate during the month of July 2021

The livestock diseases reported include: Contagious Caprine Pleural Pneumonia (CCPP), Mange, Goat and Sheep Pox, Trypanosomiasis, Heart Water, ORF, Haemorrhagic Septicemia (HS), Pestes Des Petit Ruminants (PPR), Foot rot and worms. Outbreak of Sheep and Goat disease was reported in the pockets of Kangathosa, Lorengippi and Namurpus. In the month

of July, data collected from the E-Surveillance showed the prevalence of the diseases relatively lower than that of June because of responses carried out at Loima, Turkana South, Turkana North and Turkana Central Sub-counties. High mortality rates were reported for PPR at 3.3 percent followed by HS at 3.29 percent. On the other hand, Sheep and Goat pox recorded the lowest mortality rate of 0.91 percent. The e-Surveillance data also show that case fatality rate was high for PPR and HS at 37.5percent and lowest for Goat and Sheep pox at 11.1 percent as shown in Figure 3. COVID-19 control measures affected control of livestock diseases. However, the County Government has initiated supportive treatment and planned ring vaccination.

Water for Livestock

The main water sources for livestock includes boreholes, rivers, water pans, natural springs, shallow wells and Lake Turkana which are the normal sources at this time of the year. Return trekking distances to watering points have increased in the Pastoral and Agro-pastoral Livelihood Zones.

Table 9: Water for livestock in Turkana County

Livelihood Zone	Sources		Return distances (km)		Expected duration to last (months)	
	Current	Normal	Current	Normal	Current	Normal
Pastoral	Boreholes, Rivers, Water pans, Springs	Boreholes, Water pans, Springs	8	5	<1 month	3 months
Agro-pastoral	Boreholes, Rivers	Boreholes, Rivers	3	2	3 months	5 months
Fisheries	Lake	Lake	1	1	Permanent	Permanent

However, in the Fisheries zones, the distances have remained the same as shown in Table 9. The variations witnessed in the Pastoral and Agro-pastoral zones could be attributed to inadequate and sporadic rainfall received that is not sufficient to trigger the water recharge as usual. Consequently, watering frequency for livestock has reduced for all the livestock species across the Pastoral and Agro-pastoral Livelihood Zone as shown in Table 10. In the Fisheries Livelihood Zone, the watering frequency has remained the same. Variations in the frequency for the Pastoral and Agro-pastoral zones is dependent on the trekking distance covered to grazing fields as well as the distance covered to the water sources.

Table 10: Watering Frequency (No. of Days per Week)

Livelihood Zone	Cattle		Camels		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	2	4	1	2	4	7	4	7
Agro-pastoral	5	7	5	7	7	7	7	7
Fisheries	7	7	7	7	7	7	7	7

3.1.4. Impact on availability

The performance of the long rains' season as characterized by late onset of rains and poor temporal distribution has impacted negatively on crop production. This was further compounded by the infestation of Fall Army Worm and stalkborers. The markets are however, well provisioned with basic food commodities sourced both externally (Moroto in Uganda, Kitale and West Pokot Counties) and also locally especially sorghum, vegetables and fruits. However, prices of essential commodities such as cooking oil have sharply sky-rocketed making the commodity too expensive for the majority. Deteriorating livestock body condition has reduced the livestock productivity in terms of milk production.

3.2. Access

3.2.1. Markets Operations

The main markets include Kakuma, Bisil, Lodwar, Kerio, Kalemung'orok Lorughum, Lokori, Lokichar, Kainuk, Katilu, Makutano, Lokitaung, Kalokol, Kaikor, Lokichogio and Turkwell. These markets serve as both food commodities and livestock markets. There were no major market disruptions reported during the period hence market operations remained largely normal across all the Livelihood Zones albeit reduced volumes of livestock traded. However, in Kakuma livestock market, management conflict affected the operations of the market but was not closed.

Market Supplies and Traded Volumes

The markets were well provisioned with both food commodities and livestock. For cereals, traders have tried to bridge the deficit arising from low production by holding relatively more stocks. Market supply sources for food commodity are both from external (Moroto in Uganda, Kitale and West Pokot Counties) and also local production especially sorghum, vegetables and fruits. The COVID 19 related restrictions have led to reduced traded volumes of livestock in the markets as external traders are still restricted in movement. As a result, household income was negatively affected and therefore, the purchasing power. Conversely, prices of essential commodities such as cooking oil have sharply sky-rocketed making the commodity too expensive for the majority. About 80 percent of the households rely on markets for purchase of food commodities. According to the Kenya Integrated Household Budget Survey (KIHBS, 2018), 63 percent of the food consumed in the County is purchased from the market.

Market Prices

Maize Price

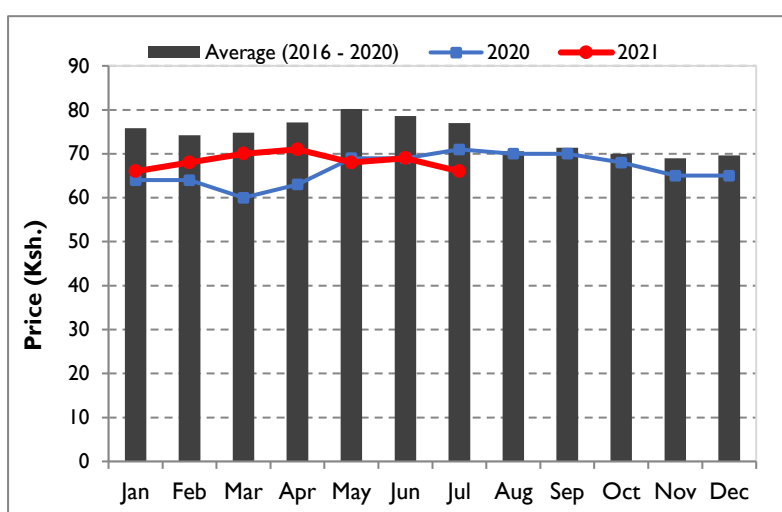


Figure 4: Average Maize Price in the County

According to NDMA sentinel site data, maize prices for the month of July have dropped marginally compared to the previous month and currently retails at an average price of Ksh. 66 per kilogram compared to Ksh 69 in June. The current price is also lower than those reported during similar period last year by seven percent as well as the long-term average by 14.3 percent as shown in Figure 4. The observed trend in July 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 drop in prices. 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 coming from across the border. There were price variations across the Livelihood Zones reported in the month of July. The highest price of Ksh. 70 was recorded along the Pastoral Livelihood Zone while the Fisheries and Agro-pastoral Livelihood Zones posted an average price of Ksh. 64 and Ksh. 57 respectively 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.

Goat Prices

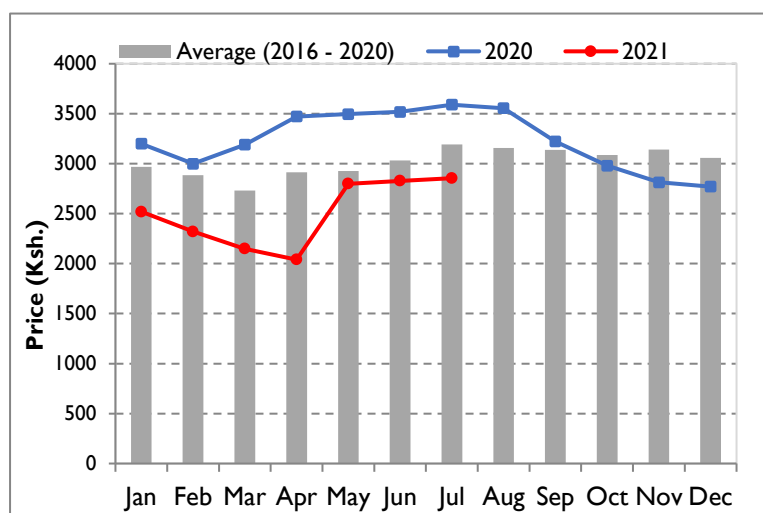


Figure 5: Average Goat Price in the County

prices between the month of April and May due to improved goat body condition occasioned by availability of palatable browse (good quality) across all the Livelihood Zones. Price variations were noted with Pastoral Livelihood Zone reporting the highest average goat prices of Ksh. 2,970 while in the Agro-pastoral and Fisheries Livelihood Zones, the prices averaged at Ksh. 2,808 and Ksh. 2,538 respectively.

3.2.2. Terms of Trade

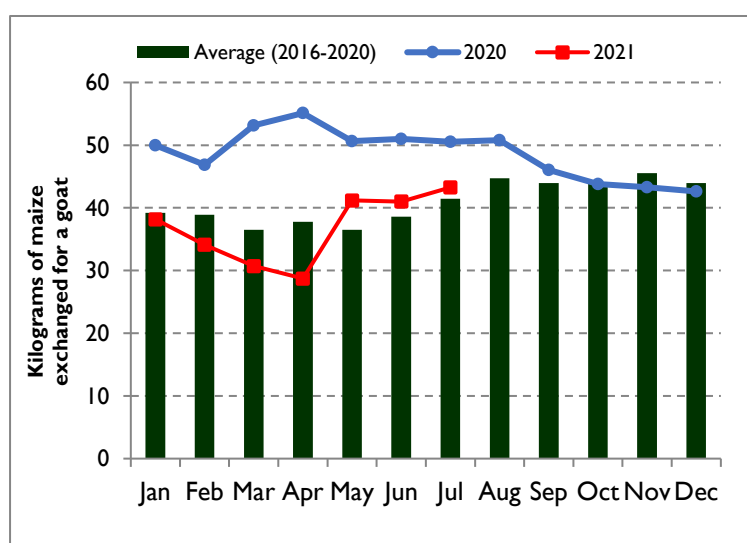


Figure 6: Comparative Terms of Trade in the County

result of the falling livestock prices occasioned by the declining body condition. A sharp improvement in ToT is witnessed from the month of April and remained stable up to June following improvement in the body condition as forage regenerated following the long rains which were received in May.

3.2.3. Income Sources

The main income sources at household level are mainly livestock production, food crop production and fishing among others as shown in table 11 below.

Goat prices in the month of July were averaging Ksh 2,855 for a medium sized goat which remained more or less the same compared to the month of June when the average price was Ksh. 2,829. However, compared to the long-term average, the current prices are 11 percent lower as shown in Figure 5. There was a notable drop in goat prices by 20.5 percent compared to those reported in similar period in 2020 when the average price was Ksh. 3,590. The trend however, showed a sharp increase in goat

The current terms of trade (ToT) is unfavourable compared to those recorded in 2020 as households can only purchase 43 kilograms of maize from the sale of a medium sized goat compared 51 kilograms in 2020 as shown in Figure 6. Households thus have low purchasing power in relation to same period last year. This has limited their access to basic food commodities and other non-food essentials. The current ToT is however slightly above the long-term average by five percent. The trend shows a worsening terms of trade from January to April as a

Table 11: Main Sources of Cash Income

Sources of Income	Contribution to Cash Income per Livelihood Zone (%)		
	Pastoral LZ	Agro-pastoral LZ	Fisheries LZ
Livestock Production	91	25	18
Food Crop Production	1	40	2
Fishing (Marine or inland)	-	1	54
Firewood Collection/Charcoal Burning	1	10	2
Small Business	1	6	2
Casual Waged Labour	-	3	10
Formal Waged Labour	-	5	8
Petty Trading	3	3	2

3.2.4. Water Access and Availability

Major Water Sources

The major sources of water in the County are; boreholes, shallow wells and traditional river wells (Figure 7). Other sources include: Rivers (Kerio and Turkwel), lakes, pans and dams. Lake Turkana is also a water source but the communities' access water through hand dug wells near the lake referred to as 'Ankare in Turkana'. Over 60 percent of the residence were accessing safe water. The recharge level for boreholes, shallow wells and water pans across the Livelihood Zones was estimated at 80 percent, 70 percent and 72 percent respectively. The boreholes are reliable sources and can last throughout the year, but shallow wells are estimated to last 6 months and water pans to last 4 months. According to the SMART survey done in the County in the month of June, main sources of drinking water were

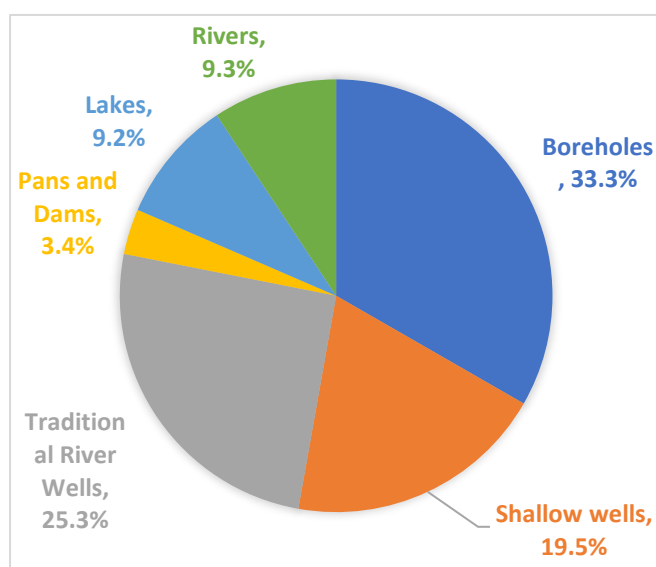


Figure 7: Main Sources of Water

pipied water system, hand dug wells, boreholes, surface water sources (including rivers, lakes, ponds, streams and canals) and water kiosks. Significant improvement in access to safe water sources were noted in in Turkana North and Turkana West sub-counties by 14.8 percent and 30.6 percent respectively. On the other hand, deterioration was noted in Turkana Central and South by 24.8 percent and two percent respectively. Table 12 gives the status of water sources in the County.

Table 12: Status of the Current Water Sources Compared to Normal

Ward/ Livelihood Zone	Water Source (Three (3) major sources)	No. of Normal Operational	No. of Current Operational Sources	What are the Reason(s) behind the Non-operational Water Sources?
Pastoral	Boreholes	468	393	<ul style="list-style-type: none"> • Frequent breakdowns due to overuse • Silted up/backfilled shallow wells • Evaporation and percolation on water pans • Lack of spare parts for Duba pumps, wind mills and Blue Pumps • Untimely supply of spare parts
	Shallows	29	27	
	Water Pans	111	89	
Fisheries	Boreholes	53	40	
	Water pans	7	6	
Agro-pastoral	Boreholes	224	183	
	Shallow wells	108	89	
	Water Pans	25	16	
Urban	Boreholes	29	17	
	Shallow wells	8	6	
	Water Pans	2	2	

Distance to Water Sources

Generally, there was stability in return trekking distances to water points for domestic use compared to the month of May averaging seven kilometres. However, compared to normal, the distances were notably longer as shown in Table 13. Minimal variations were noted with the Fisheries Livelihood Zone reporting the longest distance at an average of 7.2 kilometres followed by the Agro-pastoral Livelihood Zone at an average of 7.0 kilometres and lastly Pastoral Livelihood Zone at an average return distance of 6.2 kilometres.

Waiting time at the Source

Waiting time at the source has remained the same in the Agro-pastoral Livelihood Zone at 20 minutes while in the Pastoral and Fisheries zones, the time has increased to 45 minutes and 30 minutes respectively against the normal waiting time of 20 minutes and 15 minutes in the said zones (Table 13). Majority of households reported waiting time of less than 30 minutes across all the sub-counties. Turkana West Sub-county however, had the highest proportion of households waiting for more than one hour at 55.4 percent (SMART Survey, 2021).

Cost of Water

The cost of water at source remained the same across most urban centres such as Lodwar, Kakuma, Lokichoggio, Lokichar and Kalokol at Ksh. 5 per 20 litre jerrican and across all Livelihood Zones. For the population relying on water vendors, the cost varied per distance from the fetching point but generally ranging between Ksh. 20-30 per 20 litre jerry can. High prices by vendors were reported in Longech in Turkana Central at Ksh. 80 per 20 litre Jerry can. In a number of sites visited, there was noted to be water management committees and communities would pay about Ksh. 50 monthly as a service/maintenance fees.

Water Consumption

Water consumption per person per day has reduced compared to normal. The average water consumption per person per day across the Pastoral, Agro-pastoral and Fisheries Livelihood Zones was 10-15 litres, 25-30 litres and 15-20 litres respectively compared to 20 litres, 40 litres and 30 litres normally as shown in Table 12. According to the SMART survey results, majority of households (67%) consume less than the World Health Organization (WHO) recommended amount of water per person per day of 15 litres. Turkana Central including Loima registered the highest proportion at 83.7 percent of the people consuming less than 15 litres per day.

Table 13: Distances to Water Sources, Cost and Consumption

Livelihood Zone	Return Distance to water for domestic use (Kms)		Cost of water at source (Ksh per 20 litres)		Waiting time at water source (minutes)		Average Consumption (litres/person/day)	
	Normal	Current	Normal	Current	Normal	Current	Normal	Current
Pastoral	6	6.2	5	5	20	45	20	10-15
Agro-pastoral	5	7.0	5	5	10	20	40	25-30
Fisheries	4	7.2	5	5	15	30	30	15-20

3.2.5. Food Consumption

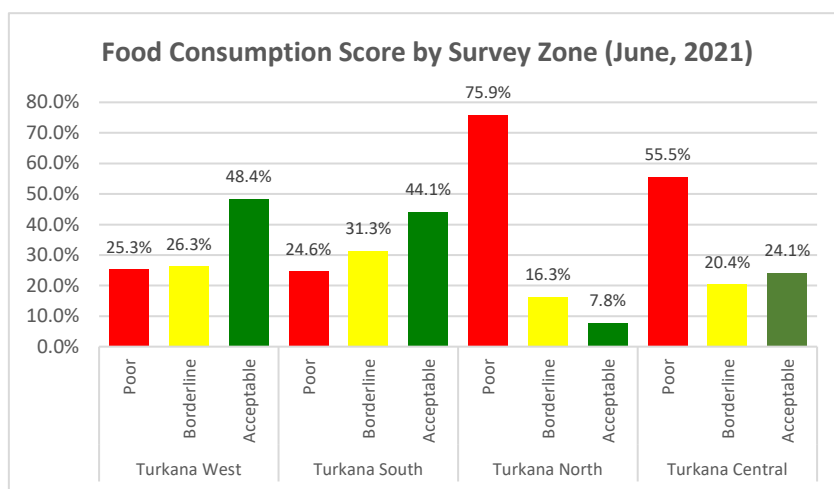


Figure 9: Food Consumption Score by Sub-county

households with acceptable food consumption score at 48.4 percent while Turkana north had the least proportion at 7.8 percent as shown in Figure 9. According to NDMA sentinel site data

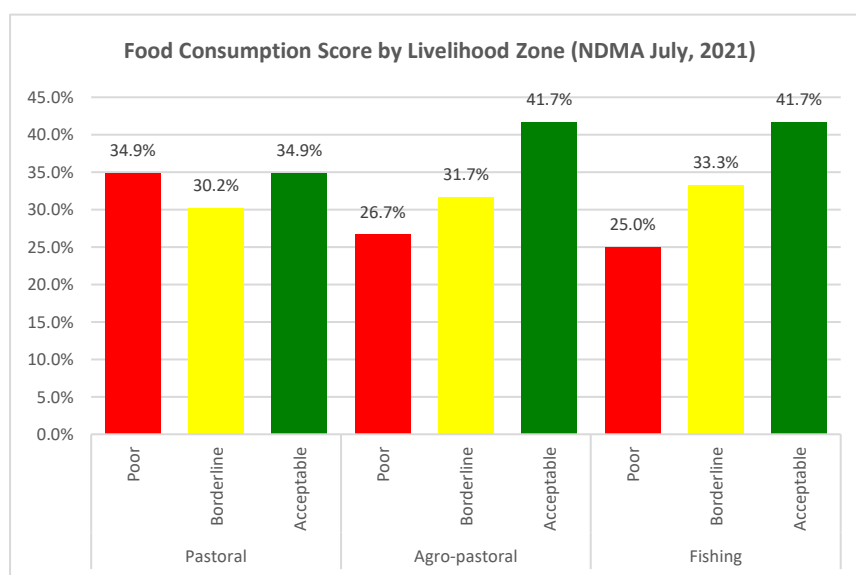


Figure 8: Food Consumption Score by Livelihood Zone

for July, the proportion of the population with poor, borderline and acceptable food consumption scores was 30.9, 31.2 and 37.9 percent respectively. There were variations reported across the Livelihood Zones with majority of the households with poor food consumption score found in the Pastoral Livelihood Zone at 34.9 percent. On the other hand, Agro-pastoral and Fisheries Livelihood Zones had the highest proportion of the population with acceptable food consumption score at 41.7 percent as shown in Figure 8. The

According to the SMART survey conducted in June 2021, Turkana North including Kibish had majority of the households with poor food consumption score at 75.9 percent while Turkana south including East had the least proportion of the households with poor food consumption score at 24.6 percent. On the other hand, the survey revealed that Turkana West had the highest proportion of households with acceptable food consumption score at 48.4 percent while Turkana north had the least proportion at 7.8 percent as shown in Figure 9. According to NDMA sentinel site data for July, the proportion of the population with poor, borderline and acceptable food consumption scores was 30.9, 31.2 and 37.9 percent respectively. There were variations reported across the Livelihood Zones with majority of the households with poor food consumption score found in the Pastoral Livelihood Zone at 34.9 percent. On the other hand, Agro-pastoral and Fisheries Livelihood Zones had the highest proportion of the population with acceptable food consumption score at 41.7 percent as shown in Figure 8. The

proportion of the population with poor food consumption score in the Agro-pastoral and Fisheries Livelihood Zones were 26.7 percent and 25 percent respectively.

3.2.6. Coping Strategy

Reduced coping strategy index (rCSI) for the month of July according to NDMA monthly bulletin declined to 16.6 from 17.5 reported in June. Therefore, households applied less severe consumption based coping strategies in July compared to the previous month across the three Livelihood Zones. Variations across Livelihood Zones were reported with the Pastoral Livelihood Zone having rCSI of 18.5, Agro-pastoral Livelihood Zone having rCSI of 13.8 while Fisheries Livelihood Zone had rCSI of 14.9. Thus, majority of households that were highly constrained in accessing food or money to buy food were from the Pastoral Livelihood Zone. The proportion of households employing crisis and stressed consumption based coping strategies were 31.6 percent and 68 percent respectively. On the other hand, 23.8 percent employed crisis livelihood coping, while 30.5 percent employed stress livelihood coping. Among the prevalent consumption based coping strategies that were being employed by most households along 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. According to the SMART survey, reliance on less preferred and less expensive foods was the most frequently employed strategy accounting for about 3 days in a recall period of seven days (2.9/7) followed by reducing the number of meals (2.7/7), limiting portion sizes (2.2/7), restricting consumption of foods by adults for young children to eat (2.1/7) and lastly borrowing food (1.9/7).

3.3. Utilization

3.3.1. Morbidity and Mortality Patterns

Acute Respiratory Tract Infections (URTIs), Malaria and Diarrhoea remained the predominant causes of morbidity for both children below five years and general population across the County. URTIs continued to record the highest cases compared to Malaria and Diarrhoea (Figure 10). The month of May 2021 recorded an upsurge for Upper respiratory tract infections (URTIs) in both children and general population while diarrhoea among children was high during the same month. There was a notable increase in malaria cases for both cohorts in May and June 2021 compared to earlier months. This could be attributed to high mosquito population that remained high for the last two months leading to high reported malaria cases. For both the under-fives and general population, malaria cases indicated an upward trend between May and June 2021 compared to the same period in 2020. Apart from Loima Sub-county that received mosquito nets in April 2021, the rest of the County have not received nets in the recent past. Diarrhoea cases were higher for both under-fives and the general population in 2021 compared to the same period last year. This could be attributed to poor hygiene practices coupled with high levels of open defecation in the County.

No disease outbreak reported during the period under review. However, isolated cases of Leishmaniasis (Kalazaar) were reported in Nadoto among children and adults. In addition, other conditions reported include pneumonia in Riokomor, Lokitaung and Lokwii among other areas attributed to the current cold season. It is important to note that outreach clinics are not operational to date due to funds thereby affecting access to healthcare services.

The average distance to travel to the nearest health facility has improved from 50 kilometres (km) in 2013 to less than 30 km in 2020. The County estimates that about 82 percent of the population seek healthcare services from public health facilities with another 10 percent benefitting from mobile clinics. There was no current data on Crude Mortality rate (CMR). However, no unusual deaths were reported during the analysis period

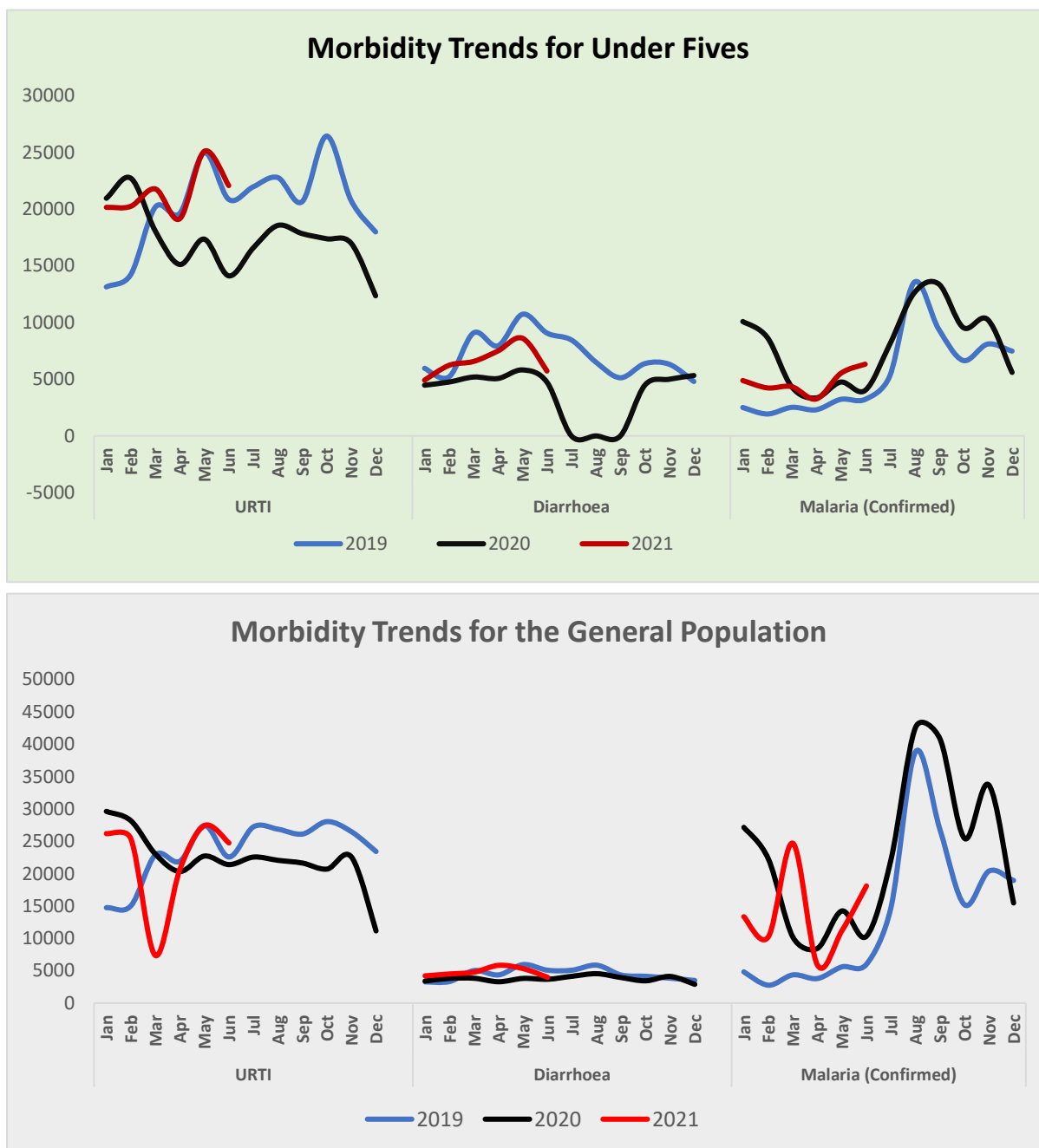


Figure 10: Morbidity Trends for the Under Fives and the General Population

Immunization and Vitamin A supplementation

From the survey reports, Fully Immunized Child (FIC), OPV1, OPV3 and measles coverage remained higher than the national target of 80 percent as shown in Table 14. Generally, there was a higher coverage in 2021 compared to 2019. Fully immunized Child (FIC) improved from 89.6 percent in 2019 to 93.9 in 2021. However, lack of documents to verify access to healthcare is an important consideration for Turkana Central, North and West Zones (SMART survey, June 2021). Significant improvement in Measles vaccination coverage noted, especially at 18 months. Documentation by card also showed positive progress but more effort is required in Turkana South to boost coverage

Table 14: Immunization

Year	Percentage of fully immunized children in the County Source DHIS MOH 710 Vaccines and Immunizations	Percentage of children immunized against the mentioned diseases in the County Source: (Nutrition survey if available)
Jan – June 2019	89.6%	1) OPV 1 95.8% 2) OPV 3 91.8% 3) Measles 89.6%
Jan – June 2020	70.0%	1) OPV 1 82% 2) OPV 3 74% 3) Measles 67%
Jan - June 2021	93.9%	1) OPV 1 97.9% 2) OPV 3 96.8% 3) Measles 93.9%

Vitamin A supplementation (VAS) coverage in both cohorts 6-11 and 12-59 months dropped in 2021 compared to 2019. This could be attributed to reduced access to children resulting from closure of outreach clinics because of COVID-19 and unavailability of funds for the outreaches. In addition, the health seeking behaviour was negatively affected due to the fear of contracting COVID-19 from health facilities.

3.3.2. Nutrition Status and Dietary Diversity

The prevalence of Global Acute Malnutrition (GAM) was 20.4 percent in June 2021 registering a slight improvement from 25.6 percent reported in June 2019 as shown in Figure 11 (SMART survey, June 2021).

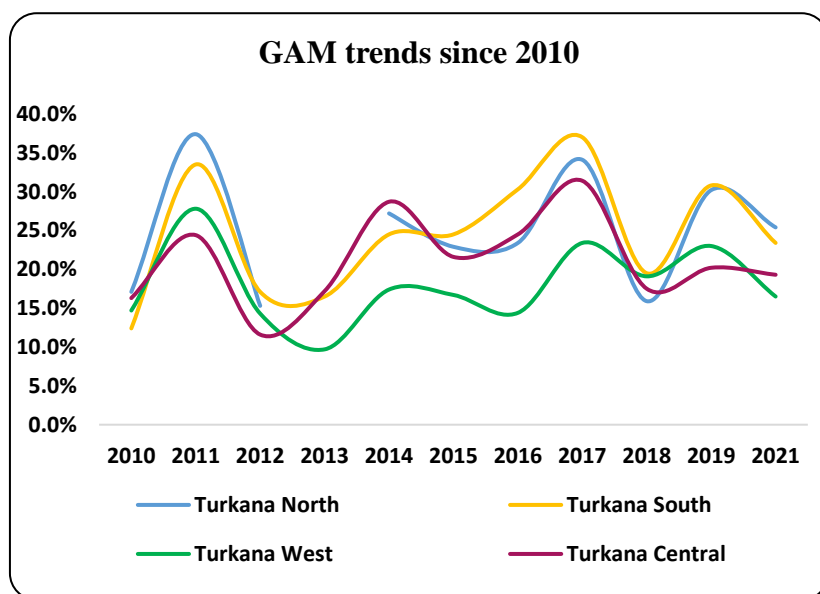


Figure 11: Trends in Global Acute Malnutrition since 2010

However, the Global Acute Malnutrition (GAM) levels remained in critical phase (15-30%). Turkana North and Turkana South survey zones were the most affected reporting prevalence rate of 25.4 percent and 23.4 percent respectively. Turkana central reported 19.3 percent while Turkana West reported the least prevalence rate albeit higher than 15 percent threshold at 16.5 percent. The persistently poor nutrition status is consistent with

poor food security indicator status including household dietary diversity Score (HDDS), Food consumption Score (FCS) coupled with high disease burden as well as poor hygiene and sanitation practices. In addition, childcare and infant feeding practices remain the major drivers of malnutrition in the County. The respondents were aware of the importance of early initiation and exclusive breastfeeding for the first six months in all the areas visited. The average duration of continued breastfeeding was 24 months.

The number of meals consumed across the Livelihood Zones was (1-2) meals per day which is normal for this time of the year. Children were fed 3-4 times a day with porridge from maize flour being predominant. The families spared a portion of breakfast for children to use during the day as they join in the modified family meals during supper. The main diet consisted of maize and beans. Majority of participants did not mention vegetables and fruits as part of meal. Food security indicators have worsened in 2021 compared to 2019 especially among adults with majority of the households (86.7 percent) consuming less than 5 food groups. This could be attributed to worsened socio-economic indicators as result of COVID 19 and increased food prices. Reduced number of meals and quantity was the commonest coping strategy reported. School feeding programs was reported to be a key source of meal for school going pupils contributing to their health and nutrition wellbeing.

3.3.3. Health and Nutrition Sector in COVID-19 Context

At the onset of COVID-19 pandemic, there was disruption of service where mobile clinics/outreaches were suspended in the entire County and some health facilities set as isolation centres. However, there is a gradual resumption to normalcy in most of the static services delivery points. Currently, the mobile clinics/outreaches held monthly have partially resumed in the northern part of the County and four sites in Turkana Central. Essential nutrition supplies were largely unaffected during the pandemic. However, there was pipeline break of Severe Acute Malnutrition (SAM) commodities (F-100 and RUTF) in the first few months of COVID-19 pandemic in 2020 but later this was resolved. Currently, all commodities are in stock and enough to last the next three months.

3.3.4. Public Interventions, Risk Communication and Community Level Actions

The following interventions were put in place by the County while some are still ongoing: Sensitization of health workers and Community Health volunteers (CHVs) on the role of health and nutrition interventions including hand-washing and appropriate diets in the fight against COVID -19 pandemic; Use of family MUAC in early detection and monitoring of acute malnutrition at family level; Use of CHVs to boost the coverage of micronutrient supplementation including Vitamin A and Iron-folic acid; Distribution of Personal Protective Equipment (PPEs) – masks and gloves to CHVs; and programme monitoring of malnutrition caseloads through Integrated Management of Acute Malnutrition (IMAM) Surge.

3.3.5. Coordination and Leadership in COVID-19 Pandemic Preparedness and Response

The County has very vibrant coordination forums including County Steering Group (CSG), County Health Stakeholders Forum, and County Nutrition Technical Forum (CNTF). Additionally, there are forums in their formative stages including Sub County Nutrition Technical Forums (SCNTF) and Multi-sectoral platform chaired by CEC Agriculture.

3.3.6. Sanitation and Hygiene

Open defecation is still predominant across the County at 78.2 percent compared to 75 percent recorded in 2019. This was evident in the areas visited with a few households owning and/or sharing pit latrines. Latrine coverage remained low in the County at 20.3 percent. The low latrine coverage is related to behaviour change as well as the nature of the soil leading to both high cost and destruction during rains. Generally, handwashing practices have improved compared to previous years attributable to increased awareness on COVID 19 control measures. Water treatment practices are still low across the Livelihood Zones and sub-counties. According to SMART Survey (2021), 90.3 percent of the households in the County do not treat water (Turkana Central 95.6%; Turkana North 96.7%; Turkana South 92.3%; and Turkana West 73.7%). Kaeris community reported lack of water supply to households contributing to

poor WASH practices. In Lokwii and Loperot households are using unprotected hand dug well water for household consumption. For the few households that treat water, boiling and use of chemicals are the most commonly used methods for water treatment.

3.4. Trends of Key Food Security Indicators

Table 15 shows trends of food security indicators from the short rains' assessment in February 2021 to the long rains' assessment in July 2021.

Table 15: Food Security Trends in Turkana County

Indicator	Short Rains Assessment, Feb 2021	Long Rains Assessment, July 2021
% of maize stocks held by households (Agro-pastoral)	21% of the LTA	19% of the LTA
Livestock body condition	Pastoral: Fair for all species Agro-pastoral: Fair for all species Fisheries: Fair for all species	Pastoral: Fair to Good Agro-pastoral: Good for all species Fisheries: Poor to Fair for all species except camels (good)
Water consumption (litres per person per day)	Pastoral: 10 Litres Agro-pastoral: 15 litres Fisheries: 10 litres	Pastoral: 10-15 Litres Agro-pastoral: 25-30 litres Fisheries: 15-20 litres
Price of maize (per kg)	66	66
Distance to grazing (km)	Pastoral: 5-8 kilometres Agro-pastoral: 3-5 kilometres Fisheries: 4-6 kilometres	Pastoral: 8 kilometres Agro-pastoral: 3 kilometres Fisheries: 1 kilometres
Terms of trade (Pastoral zone)	38 kg	43 kg
Coping strategy index	rCSI: 16.6	rCSI: 16.6
Food Consumption Score	Overall FCS: 28 Pastoral Poor: 13.3% Borderline: 51.1% Acceptable: 35.6% Agro-pastoral Poor: 11.7% Borderline: 53.3% Acceptable: 35.0% Fisheries Poor: 30.0% Borderline: 66.7% Acceptable: 3.3%	Overall FCS: 30.9 Pastoral Poor: 34.9% Borderline: 30.2% Acceptable: 34.9% Agro-pastoral Poor: 26.7% Borderline: 31.7% Acceptable: 41.7% Fisheries Poor: 25.0% Borderline: 33.3% Acceptable: 41.7%

3.5. Education

Table 16: Access (Enrolment)

Enrolment	Term II 2021 (Jan)			Term III 2021 (May)			Comments on Variation
	Boys	Girls	Total	Boys	Girls	Total	
ECD	39,590	31,192	70,782	49,270	38,119	87,389	Availability of food
Primary	84,124	78,118	162,238	78,981	63,296	142,277	Exit of Grade 4 and Class 8
Secondary	10,561	7,471	18,032	8,640	6,524	15,164	Exit of Form 4's

There was a decline in enrolment between Term II in January and Term III in May across primary and secondary levels due to the exit of grade four, class eight and form four after completing their academic years. On the other hand, ECDE enrolment was generally high in Term III compared to the numbers recorded in Term II as shown in Table 16. The high enrolment at ECDE centres was mainly attributed to the availability of school meals programme. Across all levels of learning, the number of boys were higher than the number of girls.

Dropout Rate

The drop out cases reported in primary and secondary levels were attributed to factors such as insecurity especially in the areas which experienced frequent raids e.g. Turkana East; migration in search of pasture and water due to nomadism; transfers outside the County; the fear associated with the COVID-19 pandemic which scared away parents from taking their children to school. Further, Boda Boda business attracted some of the learners who opted to drop out of schools. Pregnancies, truancy, marriages and culture also contributed to the drop out cases amongst the learners. Table 17 summarises the numbers and the reasons behind the drop out cases.

Table 17: Retention (Drop out)

Drop out	Term 11 2021			Reasons for the Drop Out
	No of Boys	No of Girls	Total	
ECDE	1,190	1,650	2,860	<ul style="list-style-type: none"> Nomadism, Effect of COVID-19 Long distance to school Insecurity
Primary	1,749	1,329	3,030	<ul style="list-style-type: none"> Boda boda business Marriages/Pregnancies Overgrown children run away from school Child labour Effect of COVID-19 Pastoralism Herding Truancy Culture
Secondary	58	65	143	<ul style="list-style-type: none"> Peer influence, Boda Boda business Disappeared from school, Lack of school fees and

				<ul style="list-style-type: none"> • Effect of COVID-19 • Pregnancies /Marriages
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School Meals Programme (SMP)

The only type of feeding program implemented in the County was the RSMP provided by the government to all 431 public primary schools benefiting a total of 168,974 pupils (87,949 Boys and 81,025 Girls) as shown in Table 18. In the ECDE centres a total of 87,389 learners (49,270 boys and 38,119 girls) benefit from the school meals programme. The school meal program was timely provided to all the public ECDE and primary schools. This had an impact to the enrolment at the ECDE which went up. The meals further enhanced attendance/retention at the primary and ECDE levels an indication that participation of the learners at the schools depend more on the steady or regular availability of SMP. Besides the provision of the SMP there were challenges recorded. There was delay of funds to facilitate transport of food to the schools especially for public primary schools. Another challenge experienced relate to the vastness of the area coupled with poor road network. Further, there is inadequate food storage in the County while the few stores available are poorly equipped.

Table 18: School Meals Programme

Sub-county	RSMP			Totals
	No. of Schools	Boys	Girls	
Turkana Central	87	19,488	18,284	37,772
Turkana West	63	16,128	12,932	29,060
Turkana South	112	27,310	27,221	54,531
Turkana North	43	5,272	5,101	10,373
Turkana East	43	8,980	8,080	17,060
Loima	70	8,516	7,840	16,356
Kibish	13	2,255	1,567	3,822
TOTAL	431	87,949	81,025	168,974

Effect of Long Rains on schools.

The long rains had no much effect as compared to the short rains. However, some infrastructure had been destroyed in Turkana central, East, West and Loima sub-counties. School roofs were blown off and solar panels, walls destroyed and even some schools were submerged at Ngimuriae and Longech primary schools where the level of water in the lake had gone up unprecedentedly. ECDE centres like Apokorit and Ekwar were also reported to be affected and children moved to Nanyangakipi school five kilometres away thereby increasing enrolment in the host school and also over-straining the school's facilities. There were no cases of IDPS reported in schools during the period under review.

Inter-Sector Links

The COVID-19, impacted on enrolment and participation in schools as some parents held their children at home due to the fear of contracting the virus. In the WASH sector, almost 278 primary schools, 394 ECDE centres and 28 secondary schools had inadequate functional latrines. Subsequently the number of schools with no hand washing facilities were 122 primary schools, 391 ECDE centres and one Secondary school whereas schools with no access to safe drinking water were 282 primary schools, 390 ECD centres and 20 Secondary schools. There was a request to the government and partners to improve on sanitation in all public institutions at all levels hand washing facilities to be provided to schools to meet the COVID-19 protocols

and hygiene and sanitation standards. Water as an essential aspect to be provided in all schools to aid other programs like tree planting and kitchen garden to help in nutritional value in meals.

On hygiene, there was no provision of sanitary packs to girls during the school closure but was later provided by the government. Girl child network organization and Education Development Trust also provided these packs to girls in the areas of their operation in the County especially in Loima, Turkana South and East sub-counties.

On livestock sector, migration in some places impacted on children access to education especially in Turkana East and North sub-counties where parents moved with their children in search of pasture and secure areas. This greatly affected the participation and retention of children in schools.

4. FOOD SECURITY PROGNOSIS

4.1. Assumptions

The following assumptions have been made for Northern and Northwestern Pastoral Livelihood Zones.

- Based on the North American Multi-Model Ensemble (NMME) and World Meteorology Organization (WMO) forecasts, the October-December 2021 short rains season is most likely to be below-average
- The forecast below-average October to December short rains are expected to provide only short-lived improvements in rangeland resources followed by a rapid degradation driven by overgrazing and above-average temperatures through January
- Below-average rainfall and dry conditions have mitigated locust breeding and slowed down hatching. A few small residual infestations may remain in parts of northern Kenya.
- Due to the June-July-August rainfall season experienced in Turkana West, South and Loima sub-counties, regeneration of forage and water resources is expected in those areas thereby improving rangeland resources.
- According to the Food Security and Nutrition Working Group (FSNWG), livestock prices will likely remain stable and below-to-near the five-year average compared to 2020 as below-average rainfall is expected to result in declining rangeland and livestock body conditions.
- COVID-19 related restrictions are likely to remain in place impacting household income and food access significantly.
- Humanitarian assistance is expected to continue across the country as vulnerable and food-insecure households are supported by various agencies. The Hunger Safety Net Programme (HSNP) is expected to provide cash transfers equivalent to 33 percent of daily kilocalorie needs to 39,918 households in the County.

4.2. Food Security Outlook for August to October 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. In Turkana West, South and Loima sub-counties forage quality and quantity is anticipated to remain within a desirable level over the next one and a half months (August until mid-September) as a result of the forecasted off-season rainfall during the June-July-August season thus stabilizing production indicators. However, for the rest of the County, accelerated deterioration of rangeland resources will drive an early start of the lean season and increase livestock migration to dry-season

grazing areas resulting in conflicts. As trekking distances increase, livestock body conditions and productivity are expected to decline. Livestock prices are likely to remain below average following the decline in productivity reducing households' income thus increasing their dependence on income from casual labor, charcoal and firewood sales, and petty trade. Livestock disease outbreaks are likely to increase as livestock congregates in common dry season grazing and watering areas. Due to below-average milk production and consumption, acute malnutrition prevalence is expected to remain Critical (GAM WHZ 15-29.9). Food consumption pattern will worsen with majority of households expected to have poor food consumption score. Households are likely to intensify consumption and livelihood-based coping strategies, with at least one in five households applying coping strategies indicative of Crisis (IPC Phase 3) or worse in the County.

4.3. Food Security Outlook for November 2021 to January 2022

From late October, the below-average October to December short rains will bring about short-lived improvements to the rangeland resources, improving livestock productivity. Food access is also likely to improve, as supplies from the high and medium potential agricultural areas will begin to enter the market driving food prices down and improving the goat-to-maize terms of trade. As the scenario period nears its end, remaining livestock at the households will migrate, significantly reducing household access to income from livestock and milk sales. Based on historical trends, it is likely that acute malnutrition levels will seasonally fluctuate but remain Critical (GAM WHZ 15-29.9 percent) across both Livelihood Zones. Overall, area-level Crisis (IPC Phase 3) outcomes are expected to persist in the County through the scenario period.

5. CONCLUSIONS AND INTERVENTIONS

5.1. Conclusion

5.1.1. Phase Classification

The food security phase classification for Turkana has remained in Crisis (IPC Phase 3) since the short rains' assessment conducted in February, 2021. However, the food security outcome indicators have worsened compared to the previous season.

5.1.2. Summary of Findings

Food consumption score has deteriorated across all the Livelihood Zones in the County with majority of the households moving from borderline food consumption category to poor food consumption category. In the Pastoral Livelihood Zone, proportion of households with poor food consumption score has increased to 34.9 percent from 13.3 percent in the previous assessment in February while those in the borderline food consumption score have declined from 51.1 percent in the February to 30.2 percent. The reduced coping strategy index (rCSI) remained 16.6 with the proportion of the population employing coping and stressed coping strategies being 31.6 percent and 68 percent respectively. The prevalence of Global Acute Malnutrition (GAM) was 20.4 percent in June 2021 registering a slight improvement from 25.6 percent reported in June 2019. Proportion of under-fives classified as being moderately or severely malnourished was six percent a slight deterioration from 5.9 percent reported in January 2021.

5.1.3. Sub-county Ranking

Table 19: Ranking of Sub-county in order of Food insecurity Severity

Sub-county	Sub-county Ranking (1=Most food insecure, 7=Least food insecure)	Current main food security threats
Turkana North	1	<ul style="list-style-type: none"> • Nomadism, • High food prices, • Poor market access for supplies • Insecurity, • Destruction of browse by tree locust, • Livestock diseases, • Dried surface water sources due to siltation, • High GAM rates (25.4%) • Poor food security outcome indicators
Kibish	2	<ul style="list-style-type: none"> • Insecurity, • Poor market access for supplies • Longer distances to health facilities • Low concentration of water points, • High GAM rates (25.4%), • Poor food security outcome indicators
Turkana East	3	<ul style="list-style-type: none"> • Cattle rustling, banditry, • Destruction of forage by tree locust, • High GAM rates (23.4%) • Human displacement
Turkana Central	4	<ul style="list-style-type: none"> • Poor rain fall performance, • Breakdown boreholes, • Poor food security outcome indicators • High GAM rates (19.3%)
Turkana West	5	<ul style="list-style-type: none"> • Crop failure, • Invasion of prosopis into farm lands, • Insecurity along the borderlines • Cattle raids (Lokichogio, Letea, Nanam, Songot and Oropoi) • GAM rates of 16.5%
Turkana South	6	<ul style="list-style-type: none"> • Destruction of browse by tree locust, • Poor rainfall performance, • High GAM rates (23.4%)
Loima	7	<ul style="list-style-type: none"> • Insecurity, • Supplies' cut off from across the border in Uganda, • Floods along the riverine, • GAM rates of 16.5%

5.2. Ongoing Interventions

5.2.1. Food Interventions

In the month of March and April, Turkana County Government (TCG) with support from World Food Programme (WFP) distributed relief food to the affected population in Turkana East and Kibish Sub-counties. In the May, distribution of relief food by the National

Government and Turkana County Government (TCG) went on across all the Sub counties during the period under review.

5.2.2. Non-Food Interventions

Sub-county	Intervention/ activity (Please be as detailed as possible.)	Specific Location	No beneficiaries	Implementers (Please list all partners.)	Please detail any impacts (positive and negative) of each intervention.	Costs (Million)	Time Frame
Agriculture							
All	Promotion of groundnut production in Turkana County	All	1,500/20,000	FAO/TCG	Increased productivity and profitability		
ALL	Mechanized Land preparation	All	7,200	TCG /WFP/IRC	Increased land under production	1.5/3.5	
All	Provision of assorted Certified seeds	All	7,500/75,000	TCG, FAO, WHH, IRC, C/FK	Increased crop yield per unit area	6	July - August
All	Determination of adaptability and suitability of soya beans, sunflower, Rape seed and pigeon pea in the County	Katilu, Lokori/ Kochodin, Lobei/Kotaruk, Kakuma, Turkwel	75,000	FAO, Egerton university/TCG	Crop diversification		July - December
All	Development of groundnut strategy	All	20,000	TCG FAO	production & Marketing roadmap		February 2021
T/N	Drip Irrigation infrastructure development	Lorenglu p, Lokiriet, Kachoda		TCG	Increased crop productivity		2020/21 financial year
T/S & Loima	Promotion of climate smart adaptation and mitigation strategies	Katilu, Turkwel		TCG DRSLP	Community resilience to climate change		April – December 2021

Sub-county	Intervention/ activity (Please be as detailed as possible.)	Specific Location	No beneficia ries	Impleme nts (Please list all partners.)	Please detail any impacts (positive and negative) of each intervention.	Costs (Million)	Time Frame
All	Agro- processing	All	130 SSP	TCG/WFP	Value addition and increased incomes		January – December 2021
All	Post-harvest management and storage	All	14,000	TCG/WFP	Reduced crop losses.		Jan – Dec 2021
All	Agribusiness & Agricultural market linkages	All	14,640	TCG/ WFP/FAO	Link farmers to input providers and markets		May 201- Dec 2019
All	Pest and disease surveillance and control	All	10,000	TCG, ELRP,PWJ	Reduced crop losses		Continuous
All	Agricultural Extension & Technical backstopping of communities	Lokori, Katilu, Kotaruk, Turkwel, Kalobey ei	75,000	TCG/Partne rs	Improved agricultural production	0	Continuous

Health & Nutrition

All	Vitamin A Supplementat ion	All operatio nal facilities		TCG/- DoHS PARTNER S			
All	Zinc Supplementat ion	All operatio nal facilities		DoHS- TCG/PART NERS			
All	Management of Acute Malnutrition (IMAM)	All facilities impleme nting IMAM		DoHS- TCG/PART NERS		30 Million	
All	IYCN Interventions (EBF and Timely Intro of complementar y Foods)	All operatio nal facilities		DoHS- TCG/PART NERS			

Sub-county	Intervention/ activity (Please be as detailed as possible.)	Specific Location	No beneficia ries	Impleme rs (Please list all partners.)	Please detail any impacts (positive and negative) of each intervention.	Costs (Million)	Time Frame
All	Iron Folate Supplementat ion among Pregnant Women	All operatio nal facilities		DoHS- TCG/PART NERS			
All	Deworming	All operatio nal facilities		DoHS- TCG/PART NERS			
Water							
All	Repair and maintenance of broken down water points	All Wards	30,000	TCG		10 Million	3 mon ths
Turkana Esat, Turkana West	Water trucking		80,000	TCG		12.7 Million	Continuous
All	Rehabilitation /Upgrading of various water kiosks and other water projects	All Wards	24,000	GIZ, Oxfam and WSTF		101 million	Continuous
Kakuma	Upgrading of Nakwangat and Natiir boreholes to hybrid and 1km pipeline extensions		20,000	TCG		6 Million	Continuous
Turkana West	Desalination of various Boreholes	Letea,	13,000	TCG		12 million	Continuous
All	Construction of water pans and other water projects		100,000	NWHA, TCG, WSTF, AMREF, Word Vison		154 million	Continuous
All	Drilling and equipping of boreholes and	Letea, Turkana, west,	99,800	TCG, NRC, WSTF, UNICEF		41 million	Continuous

Sub-county	Intervention/ activity (Please be as detailed as possible.)	Specific Location	№ beneficiaries	Implementers (Please list all partners.)	Please detail any impacts (positive and negative) of each intervention.	Costs (Million)	Time Frame
	pipeline extension	Loima, Tr					
	Upgrading to solar of 2No. BHs and construction of 2No. 50m ³ steel tanks in Kalobeyei centre and 2No. water kiosk	Kalobeyei	6000	WSTF, AAHI		15 million	9 months
Katioko and Kakong'u primary borehole.	Upgrading of high yielding boreholes and construction of water kiosks		1500	TCG		7 million	Continuous
Loima and Turkana Central Sub County	Drilling and Equipping of 38 Boreholes and Construction of 5 Sand dams; at least 10 new water points per ward		70,000	UNICEF, TCG		700 million	2 years
Turkana South	Test pumping, water quality analysis and installation of drilled capped boreholes	Kalomwae, Kainuk, Nalamaru, Kekorisogol and Naaguro	35,000	TCG		10.4	
Education							
Kibish, Turkana Central	Increase in supply of School meals	All Schools	39,281	MOE, partners	Retention and transition in schools		
Turkana Central	Supply of masks	All Schools		MOE, MOH partners	Covid-19 containment measures against		

Sub-county	Intervention/ activity (Please be as detailed as possible.)	Specific Location	No beneficia ries	Impleme nters (Please list all partners.)	Please detail any impacts (positive and negative) of each intervention.	Costs (Million)	Time Frame
					the spread of the virus		
Turkana Central, Turkana South	Provision of sanitary towel	All Schools		MOE,MOH partners	Retention and transition in schools		
Kibish	Improvement of WASH in schools	All Schools	51,628	MOE,MOH partners	Meet the hygiene and sanitation standards		3 years
Kibish, Tukana South	Increased physical facilities	All Schools		MOE,MOH partners	Improve learning environment		
Turkana South	Distribution of school food commodities.	All Schools		MOE,MOH partners	Retention and transition in schools		

5.3. Recommended Interventions

5.3.1. Food Interventions

Following the assessment of the long rains on the impact on various sectors, the team recommended cash transfers as a modality for delivering assistance to the most food insecure population as shown in Table 20.

Table 20: Population in need of Food Assistance

S/No.	Sub-county	Population in need (% range min – max)	Proposed Mode of Intervention
1.	Turkana North	25 - 30	Cash Transfer
2.	Kibish	25 - 30	Cash Transfer
3.	Turkana East	20 - 25	Cash Transfer
4.	Turkana Central	20 - 25	Cash Transfer
5.	Turkana West	15 - 20	Cash Transfer
6.	Turkana South	10 - 15	Cash Transfer
7.	Loima	10 - 15	Cash Transfer

5.3.2. Non-Food Interventions

Intervention	Objective	Specific Location	Cost (Ksh.)	No. of beneficia ries	Implemen tation Timeframe	Proposed Stakeholder s
Agriculture						
Promotion of climate SMART innovation technologies	Increased crop productivity	All Wards	20 Millio n	12,500 Farmers		County Government of Turkana

Intervention	Objective	Specific Location	Cost (Ksh.)	No. of beneficiaries	Implementation Timeframe	Proposed Stakeholders
Promotion of water and soil conservation technologies	Increased crop productivity	All sub-counties	40 Million	15,000 Farmers		County Government of Turkana
Water						
Installation of Kerio-Nang'olekuruk reticulation with 2.5k		Kerio	5 million	3500	6 months	TCG
Drilling of extra Borehole for Kerio centre water supply		Kerio	6 million	4000	9 months	TCG
Installation of fast moving spare parts for hand pumps, solar pumps and gensets repair		All wards (21 water points)	6 million	19,621	3 months	TCG, NGOs
Drilling and equipping of surveyed boreholes.		Kaloporor, Nadome, Lochwaakwan, Kakalel, Nawepeto, Nariamao, Nabeye, Kainuk, Lokapel, Kakali and Ang'arabat.		25,000	2020/2021	TCG and Partners
Drilling of boreholes to boost water supply access and storage		Naurenregae and Komotogae, Ngachinialotiang and Nasinyono, Ngachinialotiang and Nasinyono	40 Million	28000	12 months	TCG, NGOs, National Govt
Construction of 50,000m ³ Earth pans for livestock water access		Kongomo, Kalopusuk,	102 million	10,000	8 months	TCG, NGOs, National Govt
Construction of Subsurface dam at Kadokorinyang		Kadokorinyang	19.5 million	12,000	1 year	TCG/Kenya rapid
Upgrading of hand pumps to solar pumping units			70 million	67,000	3 years	TCG/GoK/NGO
Nutrition and Health						
Mass screening		Entire County				TCG/Partners
Rapid assessment		In the hotspots				TCG/PARTNERS

Intervention	Objective	Specific Location	Cost (Ksh.)	No. of beneficiaries	Implementation Timeframe	Proposed Stakeholders
Integrated outreaches		Entire County				TCG/Partners
Mother-led MUAC (MLM)/ Family-led MUAC (FLM) roll out		Entire County				TCG/PARTNERS
Education						
Improvement of physical facilities	To improve learning environment	Kibish, Turkana West (Kakuma ward)		51 schools (10,775 learners)	3 years	MOE, TCG partners
Provision of water to schools and improvement of WASH facilities	To improve the Sanitation and Hygiene standards	Turkana central (Kerio ward), Loima, Turkana North, Turkana East	27 Million	126 schools (29,709 learners)	1-2 years	MoE, TCG, Partners
Provision of desks, construction of latrines and classrooms	To improve learning environment	Loima, Turkana East	30 Million	118 Schools	3 years	World Vision, UNICEF
Water, peace building, infrastructure, boarding facilities		Loima, Turkana East (Kapedo/ Napeitom)	20 Million	120 schools	3 years	Girl child network, MoE, Tupado, Catholic mission
Regular and timely disbursement of SMP		Turkana South		113 primary, 158 ECDEs and 11 secondary schools	Immediately	MOE -NGOs -Well-wishers