National Drought Management Authority
SAMBURU COUNTY
DROUGHT EARLY WARNING BULLETIN FOR APRIL 2022

APRIL 2022 EW PHASE

Drought Status: ALARM

Mipango ya kukabiliana na ukame

Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro-pastoral	Alarm	Worsening
Pastoral (North)	Alarm	Worsening
Pastoral (East)	Alarm	Worsening
County	Alarm	Worsening

Drought Situation & EW Phase Classification
Biophysical Indicators

- Dry weather conditions persisted over many parts of the county in the first dekad of the month however few places received occasional showers for 1 – 3 days either in the second or third dekad of the month of April 2022.

- Further deterioration was noticed in rangeland cover across the county with both livelihood zones remaining in severe vegetation deficit band. However, the intermittent showers will likely support lush grass regeneration. Slight recharge was noticed towards the end of the month although most of them remained dry and boreholes yields is low due high abstraction rates.

Socio Economic Indicators Details

- Cattle and sheep body condition remained very poor to poor while goats and camels ranged between fair to poor. Cattle deaths reported due to starvation. Trekking distances for households and livestock slightly declined further due to shortage of water. Livestock are still in dry grazing areas with over 80 percent of cattle still grazing outside the county.

- Market and farmgate prices for livestock remained below the average. Staple food commodities such as cereals increased. The proportion of sampled children under-five years at risk of malnutrition worsened compared to last month to alarming high level.

Biophysical Indicators		Value	Normal range/Value
VCI 3-month	County	11.73	35-50
	Samburu East	8.55	35-50
	Samburu West	14.55	35-50
	Samburu North	14.95	35-50
Production indicators		**Value**	**Normal ranges**
Livestock Migration Pattern		Out & intra Migration	No Migration
Livestock Body Conditions		Emaciated, thin fore ribs visible	Good Smooth appearance
Milk Production (Litres/Household/day)		Nil	>1.4
Livestock deaths due to drought		Cattle & deaths.	No death
Access Indicators		**Value**	**Normal ranges**
Terms of Trade (TOT)		45.4	>72.12
Milk Consumption (Litres/Household/day)		Nil	>1.2
Return distance (km)	Household	7.2	<4.7
	Livestock	11.8	<11.3
Utilization indicators		**Value**	**Normal ranges**
MUAC (%) Severely Malnourished		1.8	2.1
FCS (%)	Poor	10	0 - 21
	Borderline	58.9	21.5 - 35
	Acceptable	31.1	>35
rCSI	Mean	12.69	56

▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation	▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase	▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept)	▪ Short rains ▪ Planting/weeding

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

1.0 CLIMATIC CONDITIONS

1.1 Rainfall Performance
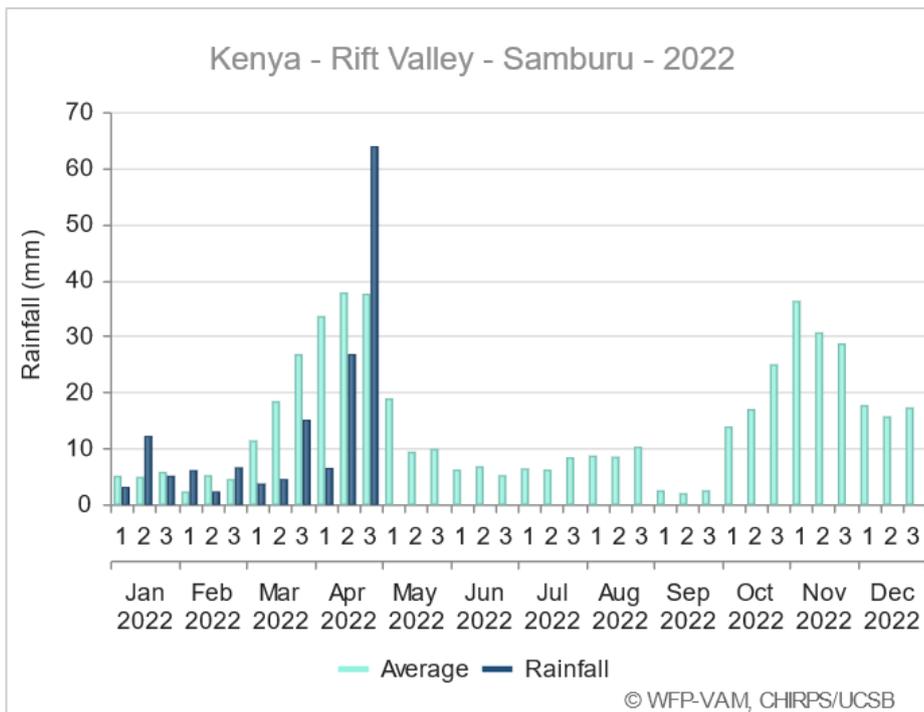
Dry weather conditions persisted over many parts of the county in the first dekad of the month however few places received occasional showers for 1 – 3 days either in the second or third dekad of the month of April 2022. Enhanced precipitation was received between 27th to 29th April 2022. The onset has not yet realized for the county which was projected to occur from the 4th week of March to the 1st week of April 2022. The previous 2021 short rains season was erratic and below average rainfall season.

Figure 1: Dekadal Rainfall Estimates (RFE)

## 1.2 Amount of Rainfall and Spatial Distribution

During the first dekad, satellite data indicated that on average, the county received precipitation which was 81 percent below the long term (20-years average) while in the second dekad, precipitation peaked to around 26.6 mm which was 29 percent below the long term (LTA) average of about 37.6 mm. The rainfall amounts peaked towards the end of the month (third dekad) to around 63.7 mm which was 70 percent above the long term (Figure 1). Kenya meteorology outlook for May 2022 indicates that the Northwestern and Northeastern parts of the country are likely to experience cessation during the third to fourth week of May.

2.0 IMPACTS ON VEGETATION AND WATER
2.1 Vegetation Condition
### 2.1.1 Vegetation Condition Index (3 month-VCI)

- The prolonged dry spell has negatively impacted on rangeland conditions across the county evidenced by negative Normalized Difference Vegetation Index (NDVI) anomalies. The county has experienced four consecutive rainfall season which were below the long-term average. Satellite derived data indicated severe drought across the county signifying depleted rangeland resources. The satellite remote sensed data showed an average county 3-month VCI decreased to 11.73 from 16.45 recorded in last month. Samburu East sub county had the lowest average VCI of about 8.55 and Samburu North and West sub counties had 3- month average VCI of 14.55 and 14.95 respectively which are way below the normal VCI range of 35 – 50.
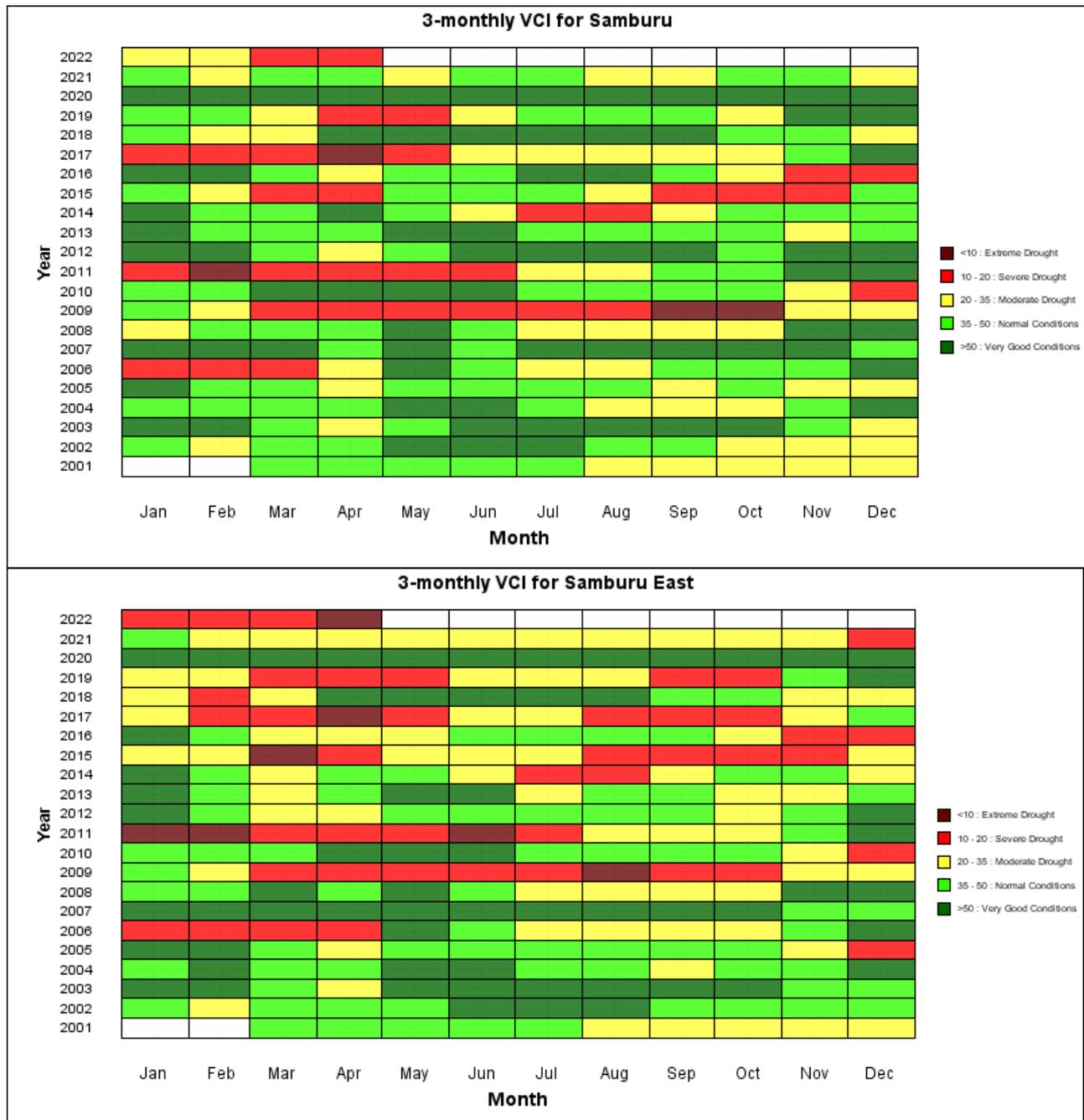
Figure 2: VCI Trends for Samburu County and Samburu East Subcounty
(*Source*: Boku University)

2.1.2 Field Observations (Pasture and Browse Conditions)
Quality and Quantity

Rangeland vegetation cover has remained relatively similar to last month. Pasture condition remained depleted across the county attributed to sunny and dry weather conditions. Bare soils have consequently

Figure 3: Pasture and Browse Condition
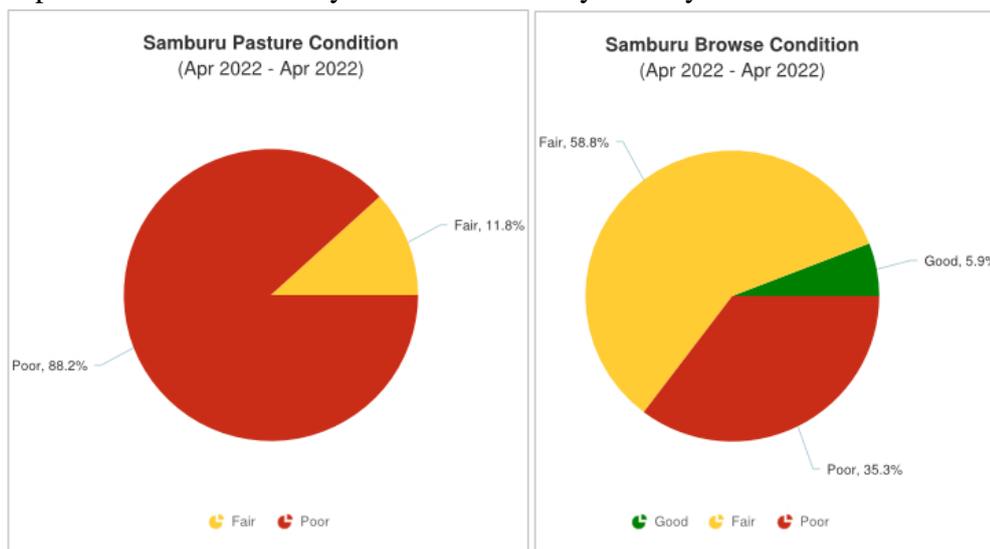
resulted in rapid surface water runoff thus supporting soil erosion. Currently most of the herders are cutting off twigs of deciduous trees and shrubs for feeding livestock and hay bought in urban centres at a price of Ksh 330 – 400 per hay bale.

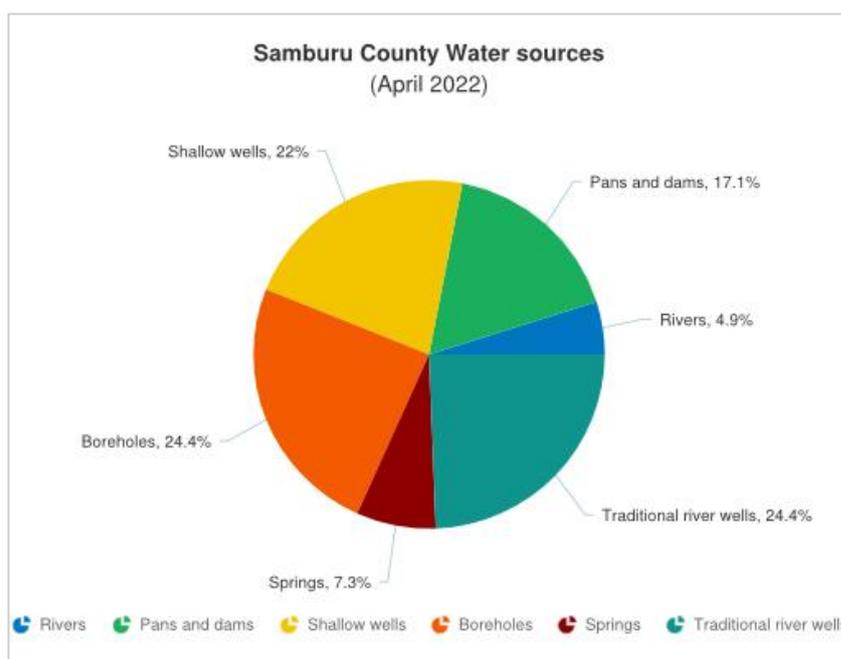According to sampled community key informants, 88.2 percent of the respondents said

that pasture is poor and only 11.8 percent reported that pasture is fair. Browse condition is ranging between poor to fair with 58.8 percent of key informants responding fair browse condition, 35.3 percent poor and 5.9 percent reporting good browse condition. However, the intermittent showers will likely support lush grass regeneration.

2.2. Water Resource
2.2.1 Sources

The three most used water sources across the livelihood zones are wells, boreholes, pans and dams. A slight recharge was noticed in open surface water source following erratic and depressed showers received in marginal pockets during the period under review. This is evidenced by increase in usage of open water sources such as shallow wells, pans and dams. Boreholes usage for the month of April 2022 slightly decreased with 24.4 percent of households relying on them compared to last month whereby 30.3 percent of households relied on boreholes. Around 22 percent of the households relied on shallow wells compared to 18.2 percent in last month and another 17.1 percent of the households fetched water from pan and dams compared to last month where 12.1 percent of households depended on pans and

Figure 4: Frequently Used water Sources

dams (Figure 4). Despite the slight recharge, water consumption at household remained similar to last month at 4 – 12 litres per person per day.

2.2.2 Household Access and Utilization

- The current average walking distance from households to the nearest water points decreased to 7.2 km down from to 10.3 km recorded in the previous month. The decrease was attributed to slight recharge of water sources following the showers received resulting in surface runoff which in turn supported flow in streams thus households scoop the sand along the streams bed for domestic water.

- Despite the decrease, the current average distance of 7.2 km is above the 2019 – 2021 average by 53 percent at the same period of the year (Figure 5).
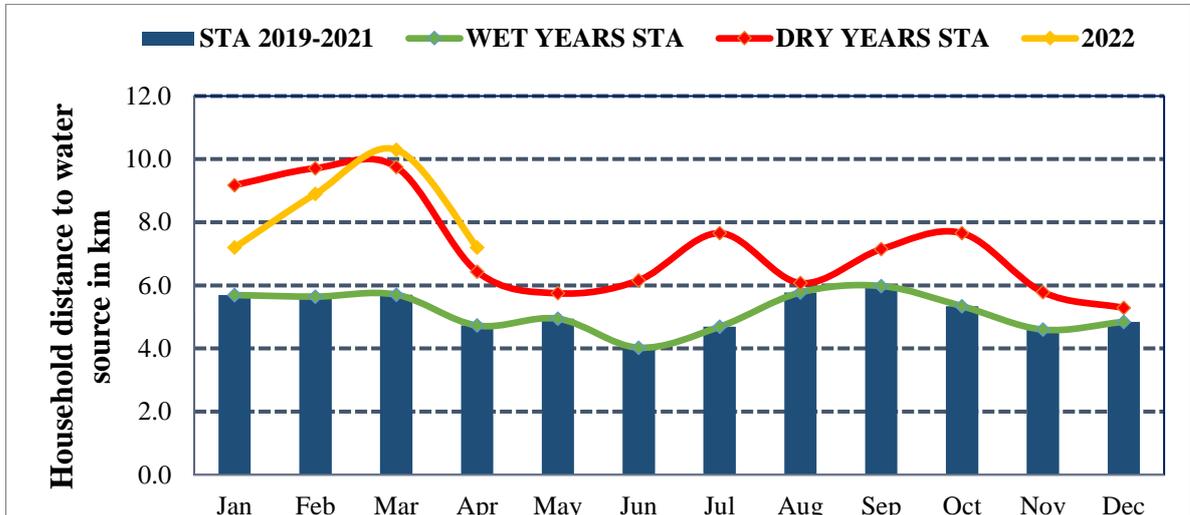

Figure 5: Average Distance Travelled by Households in Search of Water

2.2.3 Livestock Access (Grazing Distances to Water Points)

- The intermittent showers received had relieved livestock in some areas challenges of water shortage however had insignificant impact on pastures. The current grazing distances (watering points to grazing fields) remained high with an average of around 11.8 km which is decrease compared to last month average of 16.7 km. The above normal distances are attributed to depleted forage due to extended drought.
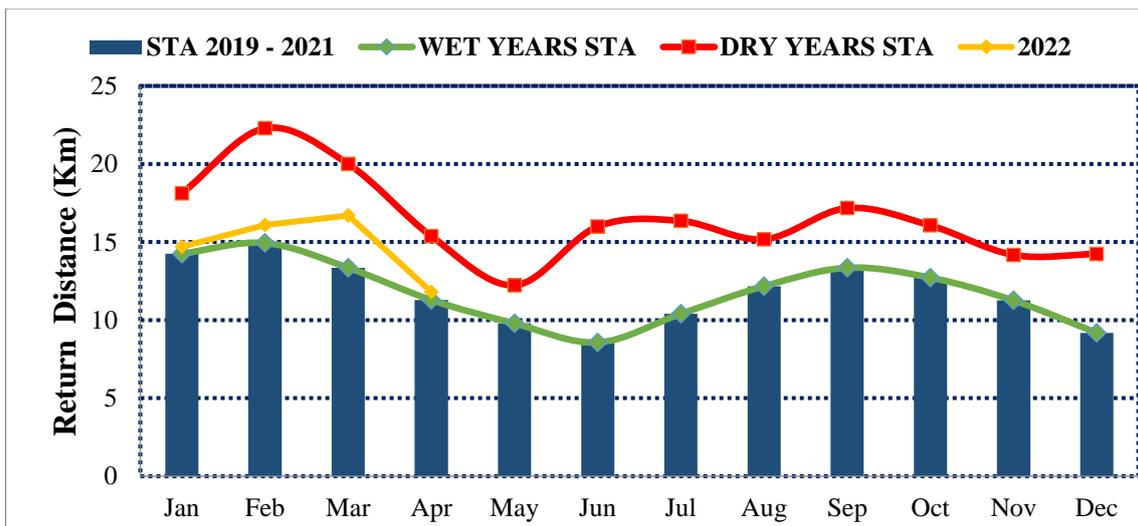

Figure 6: Distance Travelled from Grazing Areas to Water Points

3.0 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- The body condition for grazers (cattle and Sheep) remained poor across the livelihood zones as oppose to fair at the same time. Grazer's body condition ranges between fair and good which is normally supposed to be either fair or good. The livestock body condition for cattle ranges between alert worsening/alarm (thin fore ribs visible) and emaciated, little muscle left and very thin no fat, bones visible) attributed to prolonged dry spell. Body condition for browsers is rated moderate neither fat nor thin.

3.1.2 Livestock Diseases and Deaths

- The stock remaining in the manyattas and those in *foras* are reported to be suffering high deaths due to the severe drought and diseases as livestock have weak body condition which are susceptible to diseases, livestock abortions, and parasite (helminthes). Despite these hardships, livestock are trekking long distances to get water resulting to being watered once or twice in a week. The 2021 short rains assessment indicated that livestock mortality rates are estimated at 10 percent for cattle and five (5) percent for sheep due to adverse effects of drought (SRA 2021 Report). The livestock deaths were observed within the young, lactating livestock and the old age stock.

3.1.3 Milk Production

- Milk production remained nil at the household level with only one household out of the sampled households reporting milk production from camel. Nil milk production is attributed to poor body conditions due to extended dry periods that occasioned mass migration of livestock in search of better rangeland resources. Households are currently using packet milk for making tea and feeding young children which is very expensive for rural households due to eroded purchasing power.
- The current average milk production is below the 2019 – 2021 average by around 100 percent at the same period of the year (Figure 7).
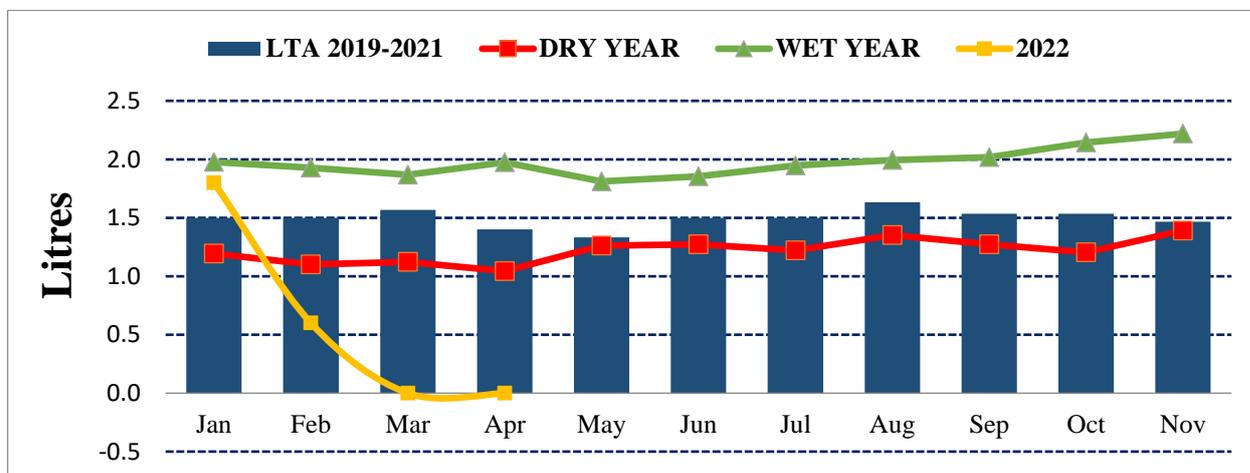

Figure 7: Trends in Milk Production per Household

3.2 Rain Fed Crop Production

3.2.1 Stage and Condition of Food Crops

- Few farmers have started planted beans and dry land maize varieties such as Katumani due to unpredictability of the weather patterns. Most of the farmers have not ploughed their land due to lack of funds.

3.2.2 Harvest of Crop

- No crop harvests were realized in the month of April 2022 within Samburu County.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1   Cattle Prices

- The selling prices for cattle are still on downward trend owing to poor body conditions driven by starvation due to depleted rangeland resources such as pasture, browse and water sources. Larger proportion of cattle have emaciated body condition with muscle wasting.
- The current average price for cattle was 13,130 which is a decrease of about 20 percent from last month average price. The most sold livestock is the weak and mature female cows due to ready market by herders or traders from Narok and Kajiado counties. The emaciated cows are sold at a price ranging between Ksh 5,000 – 10,000 depending on the Cachexia (weakness and wasting of the body).
- Mass out migration of cattle coupled with low demand of cattle has disrupted normal trade volumes and dealt a severe blow to household incomes within all livelihoods associated cattle marketing. The few sampled markets that reported sales of cattle had an average price ranging between Ksh 10,000 – 15,000 per mature cattle.
- In comparison to three years average, the current average cattle price of Ksh 13,130 is 36 percent below the 2019 -2020 average at the same period of the year (Figure 8).
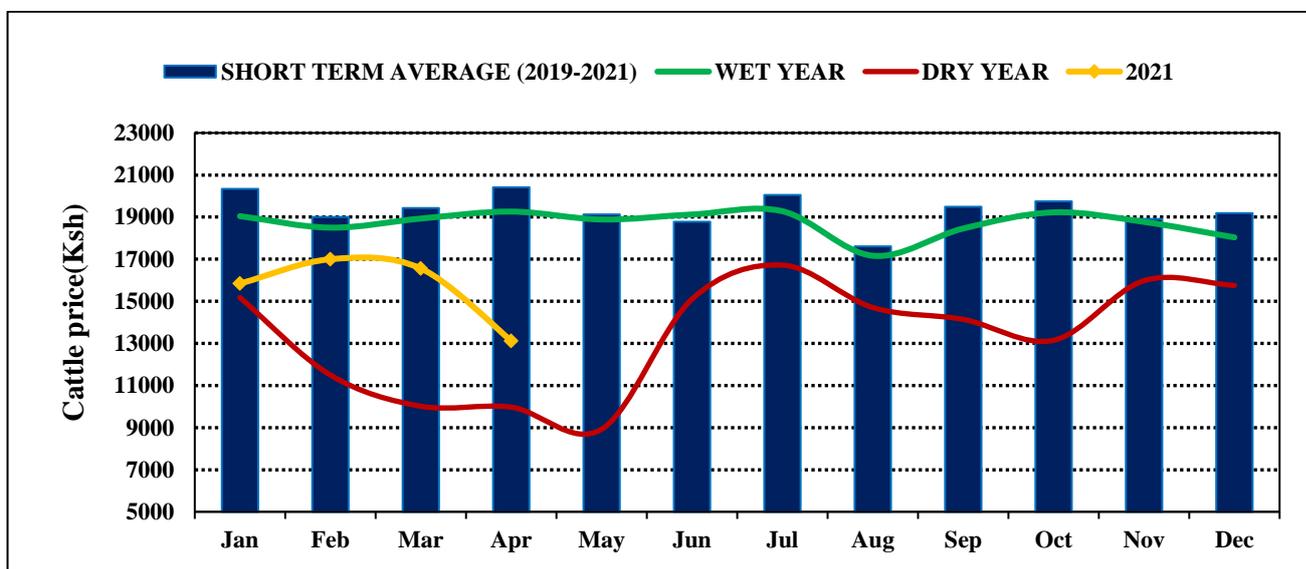

Figure 8: Cattle Selling Price Trends at Market Level

4.1.2   Goat Prices

- All the sampled markets within the sentinel sites reported sales of goats unlike cattle. The body condition of goats has not deteriorated badly as that of cattle thus households are selling goats to meet their household basic needs.
- The current average price for a goat was Ksh 2,710 which is relatively comparable to Ksh 2,750 recorded in last month. Nairimirimo and Longewan markets had better prices ranging between Ksh 3,000 – 3,430 while Illuat had the lowest at Ksh 2,000. Fair body condition of goats coupled with high preference for consumption of goat meat has sustained stable price trend
- The current average price of Ksh 2,710 was below the 2019 – 2021 long term average by 19 percent at this time of the year (Figure 9).
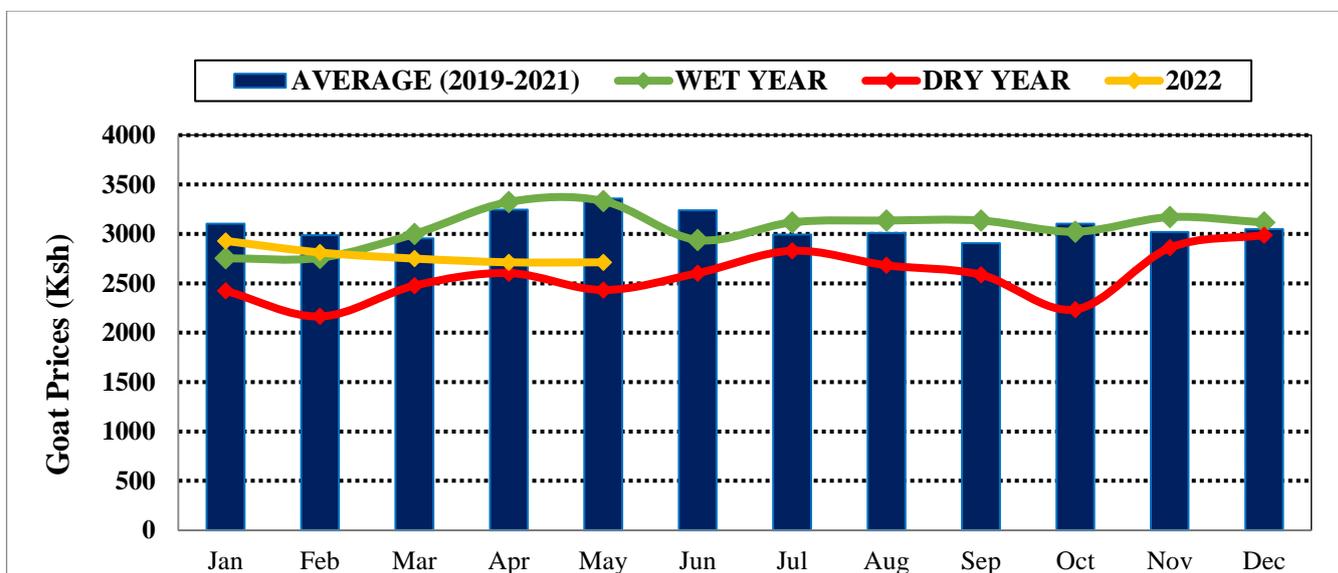
Figure 9: Goats' Selling Price Trends at Market Level

4.1.3 Sheep Prices

- Farmgate and market prices for sheep decreased due to poor body condition driven by prolonged dry spell that resulted in depleted rangeland resources.
- The current average price of sheep continues to decrease settling at Ksh 1930 which is a decrease compared to last month average price of Ksh 2,135. Archers Post market recorded an average price of Ksh 2,250 for a mature and healthy sheep while Illaut and Nairimirimo markets recorded low prices averaging between Ksh 1,400 – 1,500 per sheep.
- Sheep prices are usually high at this time of the year however due to prolonged drought; current average price is below the 2019 – 2021 long term average by 23 percent at the same time of the year (Figure 10).
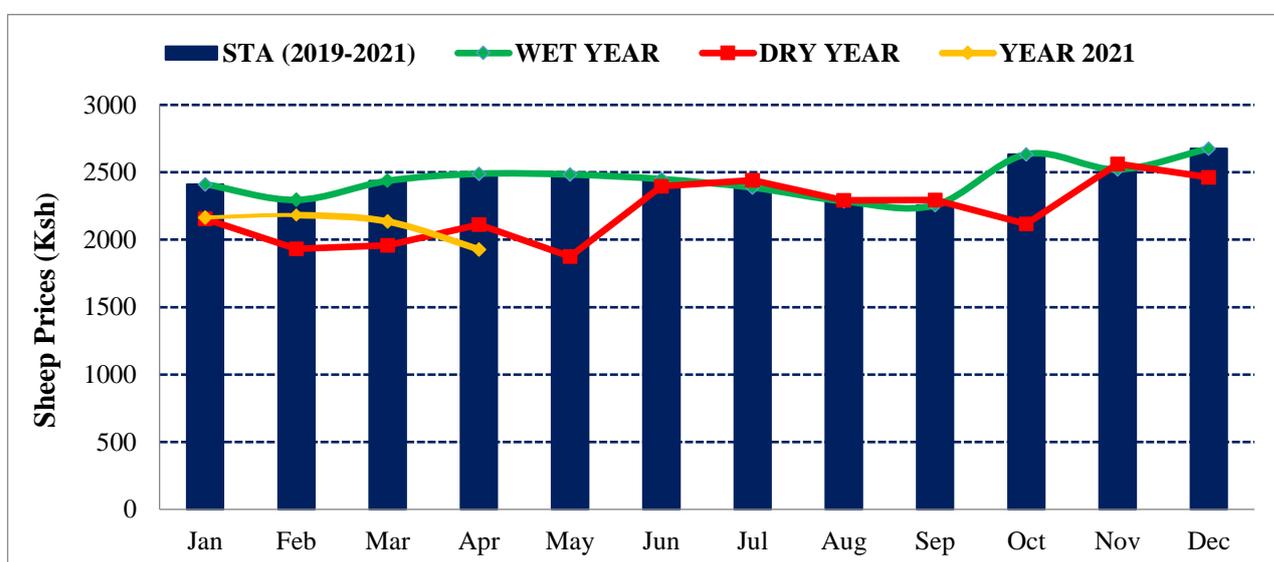

Figure 10: Sheep Selling Price Trends at Market Level

4.2 Crop Prices
4.2.1 *Posho* (Maize)

- The supply of maize in the market has been low since the beginning of the year due to depleted household stocks. The price of maize, which has been steadily rising since last year, is now trading

at a high of between Ksh 50 - 60 for a kilogram (Kg). the increase in maize prices is attributed to scarcity of maize at household as well as at market level. The rising cost of both maize and flour has piled pressure on the cost of living, coming at a time when the prices of other household goods such as sugar and milk have remained high in recent days and livestock prices are very low.

- The increasing maize and maize flour prices have gone up by 25 percent above the 2019 – 2021 average at similar period of the year (Figure 11).
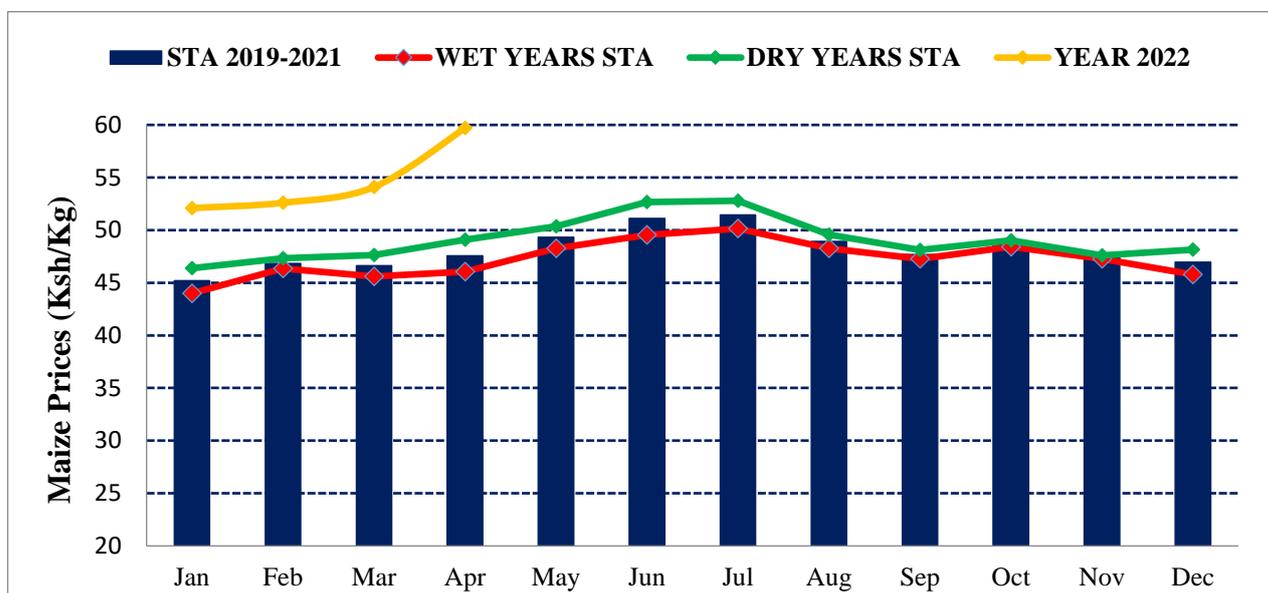

Figure 11: Maize Meal Price Trends

4.3 Terms of Trade (TOT)

- A downward trend continued to be noticed in terms of trade with the current TOT value standing at 45 which means income obtained from sale of one goat can support a household realize 45 kilograms of maize/posho from the market. This is unfavourable to the pastoralist when compared to the long-term average value of 72 at the same time of the year which implies that they will fetch 27 kilograms less of what they normally get at the same time of the year.
- The unfavourable terms of trade are due to increasing cereal prices and low livestock prices due to poor body conditions. In reference to the 2019 – 2021 average, the current TOT average of 45 is 38 percent below the three-year average at similar time of the year (Figure 12).
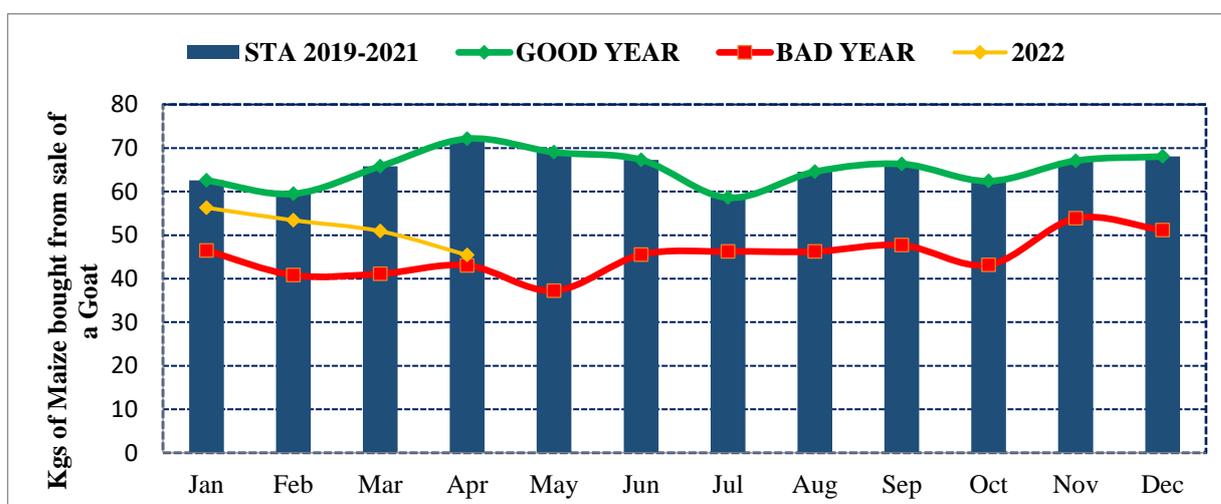

Figure 12: Trends in Terms of Trade (TOT)

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- Households reported no milk consumption at household level and few of them are buying packets milk or powder milk for use to make tea. Communities reported experiencing lots of abortions for sheep and goats and even the born calves, kids and lambs' mortality is high due to no milk to suck as the livestock body conditions is very poor.
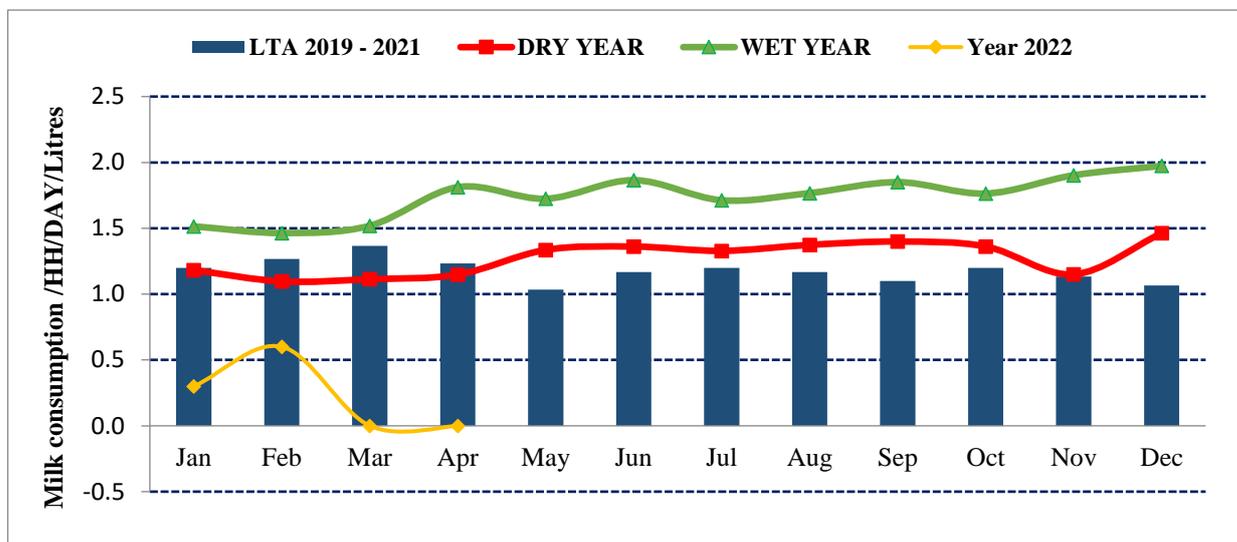

Figure 13: Trends in Milk Consumption per Household

5.2 Food Consumption Score (FCS)

The food intake and dietary patterns at household level varied however large proportion of households in Agro Pastoral and Pastoral livelihood zones had borderline food consumption. A proportion of 60 percent of households in Agro Pastoral and 58.7 percent in Pastoral livelihood zone of the sampled households had borderline food consumption characterized by consumption of staples and vegetables
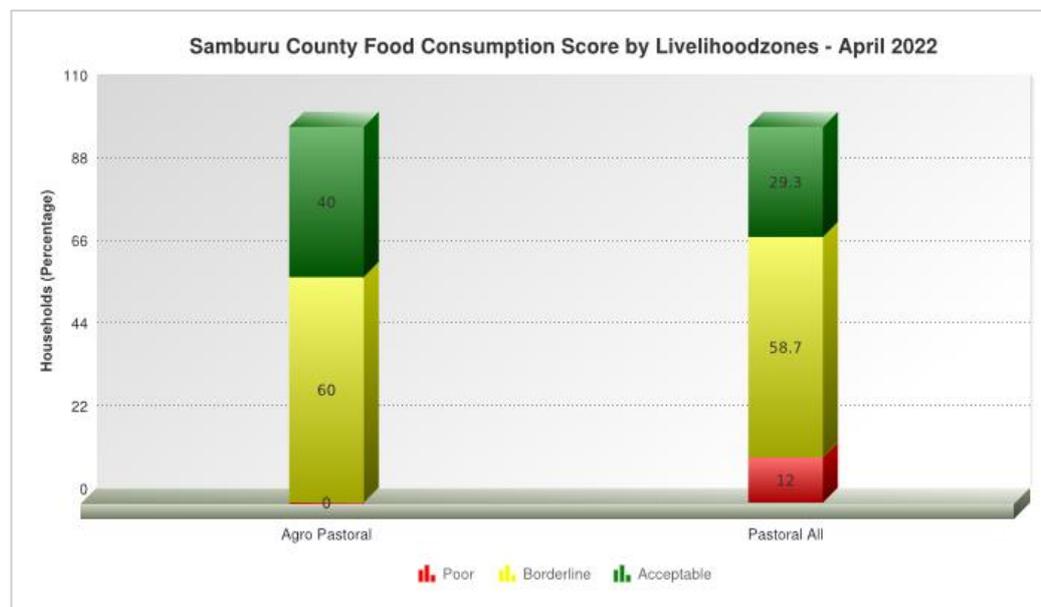

every day, accompanied by oil and pulses a few times a week. About 12 percent of the households in Pastoral livelihood zone had poor food consumption pattern implying consumption of staples and vegetables every day and never or very seldom are consuming protein rich food such as meat

Figure 14: FCS Per Livelihood zone

and dairy. The proportion of households with acceptable food consumption were around 40 percent in Agro Pastoral livelihood zone and 29.3 percent in Pastoral livelihood zone (Figure 14) which suggests consumption of staples and vegetables every day, frequently accompanied by oil and pulses and occasionally meat, fish and dairy.

5.3 Health and Nutrition Status
5.3.1   MID Upper-Arm Circumference (MUAC 125-134 mm)

High rates of malnutrition continued to be recorded across the livelihood zones attributed to inadequate and poor balance diets. The current prevalence of children at risk of malnutrition stands at 35.7 percent for sampled children aged 6 to 59 months. Other factors attributed to high prevalence of malnutrition include poor maternal and child health care practices coupled with inadequate milk availability due to migration of cattle to dry season grazing areas. Areas of Waso, Wamba North, Ndoto and Wamba West continued to recorded high prevalence of children at risk of malnutrition. The number of meals taken by communities has reduced due to high prices of staple food commodities and poor livestock prices. Sampled households reported taking 1 – 2 meals a day which below the normal 2 – 3 meals a day. The total screened children during the period under review are 685 of which 55.3 percent of them were female and 44.7 percent were males.

Figure 15: Nutritional Status (Family MUAC) for Children Under Five
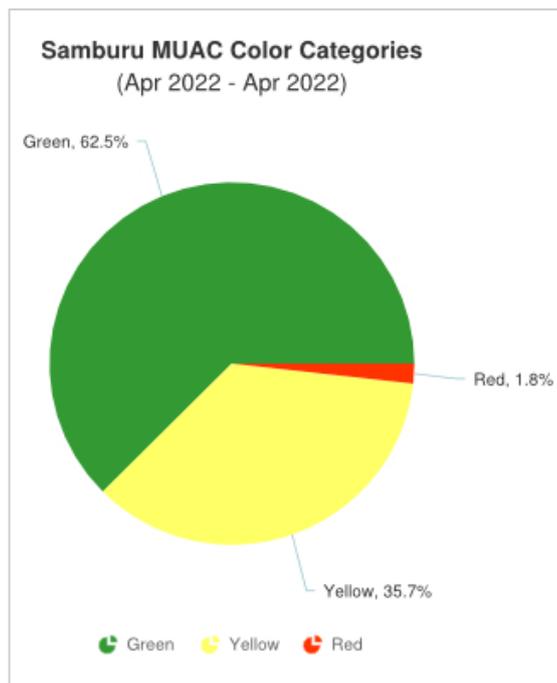
Health

URTI cases surged during the quarter of January to March 2022 attributed to cold and dusty conditions being the causative factors for URTI while poor hygiene coupled with poor access to safe water was pointed out as the main cause of diarrhoea. Other morbidities reported in health facilities include eye problems and some skin conditions among children. Morbidity could also be attributed to the high wasting in the county. The table below shows the total number of people diagnosed with the illness from health facilities across the county.

Table 1: Morbidity for Under-fives and General Population from January – March 2022

DISEASE	UNDER FIVE	GENERAL POPULATION
Upper Respiratory Tract Infections	10401	17875
Diarrhoea	5318	3378
Pneumonia	2303	4644

(SOURCE: KHIS2 - MOH 705 A & B)

5.3   Reduced Coping Strategies Index (rCSI)

The mean reduced coping strategy index (rCSI) was 12.69. The CSI for Agro pastoral was 9.5 and 13.3 for Pastoral livelihood. This is an indication that households in pastoral zone were employing more strategies to cope with drought compared to households in Agro pastoral zone. The most utilized consumption-based strategies include reducing the number of meals eaten per day, reducing the portion size of meals and relying on less preferred and/or less expensive food.
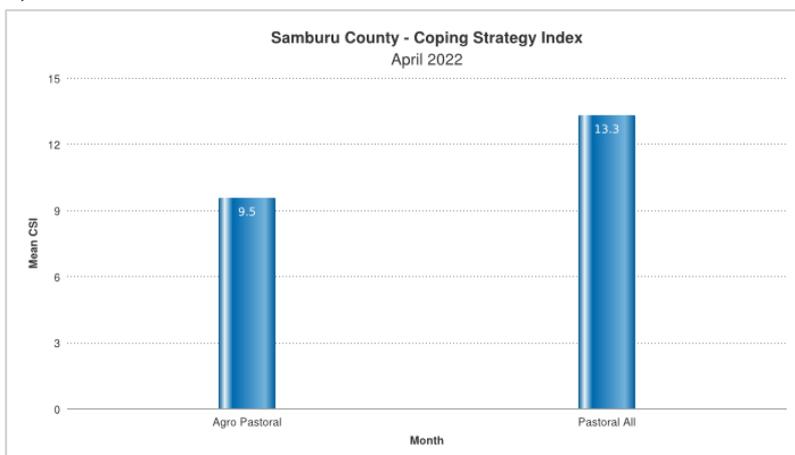
Figure 16: rCSI

6. 0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-Food On-going Interventions

Table 2: Non-food On-going Interventions

SECTOR	INTERVENTION
Water	• Repair of 2 broken down boreholes (Charda borehole and replacing pipes in Lamirok borehole) by Samburu County Government.
Agriculture	• Provision of input subsidy (fertilizers) and distribution of 60 MT of seeds (beans & maize) by county department of Agriculture.
Livestock	• FAO provided 1,736 litres of albendazole for mass deworming of livestock, 210 bottles of 100ml of multivitamins for livestock with 70 bottles allocated to each sub county. • FAO also provided 3,576 bags of ranges of 50 kgs which are in county store ready for distribution after targeting process is concluded.
Health	• Provision of 690 jerricans of 20-litres capacity, 4 boxes of water treatment chemicals (PUR & Chlorine) by UNICEF. • Provision and distribution of commodities for treatment of severe acute malnutrition.
Peace & Security	• Intercounty peace meeting for peace committees from Isiolo, Marsabit, Laikipia and Samburu by Amaiya Tringle Initiative Secretariat

6.2 FOOD AID

- Government of Kenya through the office of County commissioner and Kenya red cross distributed 6,270 bags of rice of 50 kg, 3,505 bags of beans of 50 kg, 402 cartons of beef cans and 1,250 kg of salt.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Incidences of cattle theft were reported in upper side of Loosuk and Poro wards bordering Baringo County resulting in to death of three people and tension is high in the area. Conflicts related to resource based and cattle rustling were experienced along the Isiolo – Samburu border and in areas surrounding Baragoi.

7.2 Migration

- Around 95 percent of livestock especially cattle have migrated (in migration to the dry grazing zones within the higher altitudes of Kirisia, Matthews, Ndoto and Nyiro and out migration to Laikipia, Nyandarua, Nyeri, Nakuru, Isiolo, Meru and other far areas such as Narok and Kajiado counties.

7.3 Food Security Prognosis

- Kenya Meteorology outlook for May 2022 indicates that North-western Region (Turkana, West Pokot, and Samburu): The first half of the month is likely to be characterized by near to slightly above average rainfall. Occasional rainfall is likely to occur during the second half of the month. The expected total rainfall amounts are likely to be near the long-term average for the region.
- The expected precipitation is likely to support slight improvement in rangeland conditions through mid of June 2022.
- Livestock prices are likely to remain below normal in the next two months due to poor body conditions driven by below average forage condition.
- Maize market prices are likely to continue increasing for the 2 – 3 months.

- Low acreage in area planted for maize and beans is likely to result into dismal crop yields in the Agro Pastoral zone.
- Prevalence of children at risk of malnutrition is likely to increase further as adverse drought effects impact negatively on households.
- Resource based conflict is projected to increase aggravated competition of scarcity forage and water resources.

8.0 RECOMMENDATIONS

Table 3: Proposed Interventions per Sector

SECTOR	INTERVENTION
Water	• Support roof water harvesting through purchase and maintenance of roof water harvesting structures.
Livestock	• Enhance livestock disease surveillance and support livestock feeds supplement especially for cattle as the rains have not supported enough grass regeneration for cattle.
Agriculture	• Sensitization and awareness creation importance of planting drought tolerant seed varieties.
Health and Nutrition	• Nutritional surveillance/mass screening in areas with high prevalence of children at risk of malnutrition especially Waso, Wamba North, Ndoto and Wamba West to ascertain root cause of malnutrition for under five. • Sensitization on importance of water treatment to avoid outbreaks of diseases and also proper disposal of carcasses to avoid water contamination.
Education	• Support repair of gutters, provision of water tanks and cleaning of tanks in schools.
Peace and Security	• Support peace initiatives in the hot spots areas where livestock have converged and inter county negotiations.