



A Vision 2030 Flagship Project



National Drought Management Authority SAMBURU COUNTY

DROUGHT EARLY WARNING BULLETIN FOR MARCH 2021

MARCH 2021 EW PHASE

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

- The county experienced predominantly sunny and dry weather conditions with occasional showers in few places.
- Vegetation condition index for the county remained relatively similar to that of last month.
- Majority of surface water sources have dried up and underground water sources yields declined due to groundwater depletion.

Socio Economic Indicators Details

- Livestock body conditions deteriorating faster and currently ranging between borderline to thin body. Both livestock and households trekking distances increased. Over 80 percent of livestock are currently dry grazing season areas. Livestock prices for all species were stable compared to last month and 2018 - 2020 average
- Milk production at household level was stable. Livestock selling prices were comparable to last month average prices.
- Market and farmgate prices for maize continued to be stable supporting favourable household terms of trade.
- Based on family Mid Upper Arm Circumference (MUAC), the proportion of children under five severe acute malnourished (SAM) was 0.5 percent and moderate acute (MAM) malnourished at 23.9 percent.

Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro-pastoral	Normal	Worsening
Pastoral (North)	Normal	Improving
Pastoral (East)	Alert	Worsening
County	Alert	Worsening

Biophysical Indicators	Value	Normal range/Value	
VCI-3month (County)	36.34	35-50	
VCI-3month (Samburu east)	27.87	35-50	
Production indicators	Value	Normal ranges	
Livestock Migration Pattern	Intra & inter Migration	No Migration	
Livestock Body Conditions	Borderline to thin body	Good Smooth appearance	
Milk Production (Litres/Household/day)	1.6	>1.7	
Livestock deaths due to drought	No death	No death	
Access Indicators	Value	Normal ranges	
Terms of Trade (TOT)	62.8	>63.17	
Milk Consumption (Litres/Household/day)	1.4	>1.22	
Return distance (km)	Household	9.2	<5.4
	Livestock	16.5	<12.03
Utilization indicators	Value	Normal ranges	
MUAC (%) Severely Malnourished	0.5	2.1	
FCS (%)	Poor	3.1	0 - 21
	Borderline	36.4	21.5 - 35
	Acceptable	60.5	>35

<ul style="list-style-type: none"> ▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation 	<ul style="list-style-type: none"> ▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase 	<ul style="list-style-type: none"> ▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept) 	<ul style="list-style-type: none"> ▪ Short rains ▪ Planting/weeding 								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

1.0 CLIMATIC CONDITIONS

1.1 Rainfall Performance

Sporadic and depressed precipitation was experienced over few areas in the county however sunny

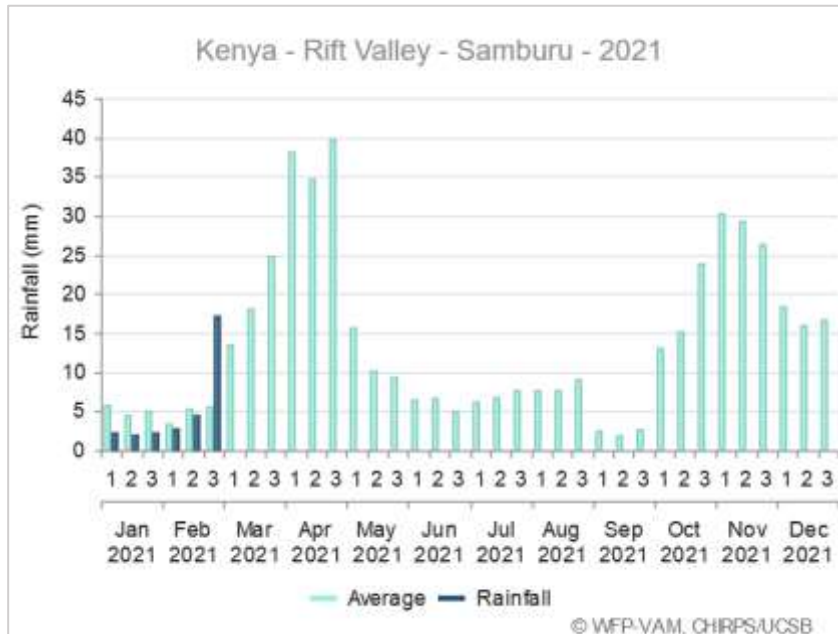


Figure 1: Dekadal Rainfall Estimate Trends

first dekad recorded precipitation which was 49 percent below the long-term average. In the second dekad, the amount of precipitation received was 54 percent below the dekadal long term average for the last 20 years according to Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) (Figure 1). The distribution of the showers received were poor in terms of time and uneven in terms of space across the livelihood zones.

1.3 Other Shocks and Hazards

1.3.1 Locust Invasion

- Swarms of desert locust were reported in few places however the number declined to ongoing control operations. According to community focus group discussions and field observation, the impact of desert locust was minimal on the rangeland vegetation.
- FAO locust situation update dated 25th March 2021 predicts decline in number of swarms of desert locust due to ongoing control operations coupled with dry weather conditions in the northern Kenya.

intervals prevailed in several areas of the county. The expected 2021 long rains onset is yet to occur and is normally expected to start in the second or third dekad of March.

The erratic showers were intermittent and received in few places for about 1 – 2 days. with amounts ranging between 2 – 10 mm towards the third dekad. Kenya meteorology forecast suggest increase in both day-time (maximum) and night-time (minimum) temperatures during the month under review.

1.2 Amount of Rainfall and Spatial Distribution

Satellite derived-data indicated that

2.0 IMPACTS ON VEGETATION AND WATER

2.1 Vegetation Condition

2.1.1 Vegetation Condition Index (3 month-VCI)

- The county predominantly continued to experience sunny and dry weather conditions driving further depletion in soil moisture content. High evapotranspiration leading to low soil moisture content thus occasioning vegetation degradation in several areas across the livelihood zones. Marginal pockets of Baragoi received precipitation that slightly rejuvenated the browse although on a small coverage. Several parts of Samburu East have been degraded and heavily affected by alien plants especially *Acacia Reficiens (Lchurai)*.
- According to remotely sensed satellite data, Samburu East sub county VCI value of 27.87 depicts moderate vegetation deficit. This implies rapid depletion of pasture and browse biomass in the grazing fields.

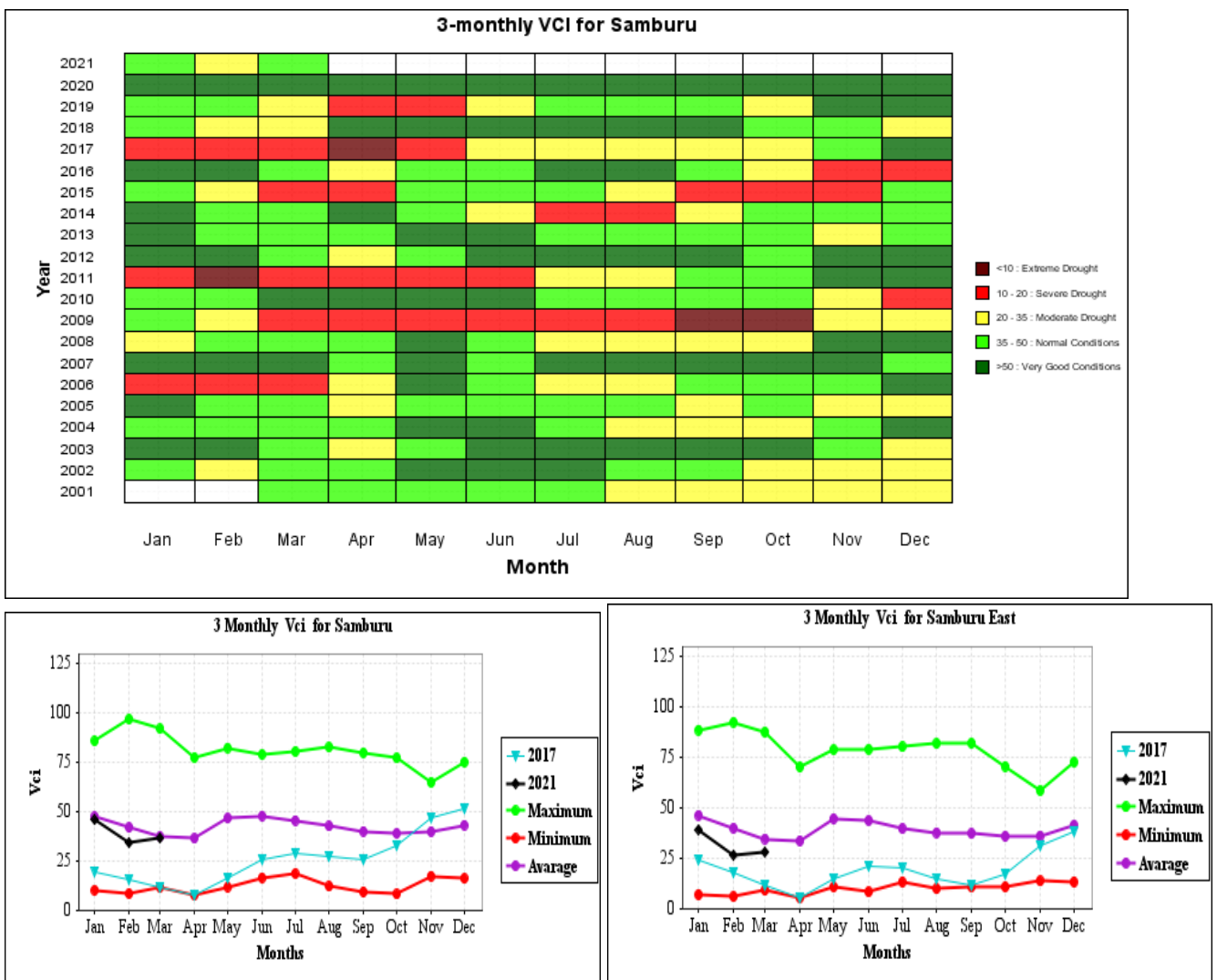


Figure 2: VCI Trends for Samburu County and Samburu East Subcounty
(Source: Boku University)

2.1.2 Forecast for Vegetation Condition (3 month-VCI)

According to Sussex satellite derived, the vegetation outlook is projected to remain in alert band for Samburu east sub county till end of April. Samburu west and north outlook predicts stable vegetation condition with VCI values of 41.7 and 42 respectively. The 3-month VCI outlook for Samburu east is likely to be 28.8 which is below the normal ranges of 35 – 50. The decline indicates likelihood of low soil moisture content thus likelihood of low quality and quantity of forage. The projected deterioration is attributed to rising temperatures coupled with south-easterly winds exacerbating transpiration.

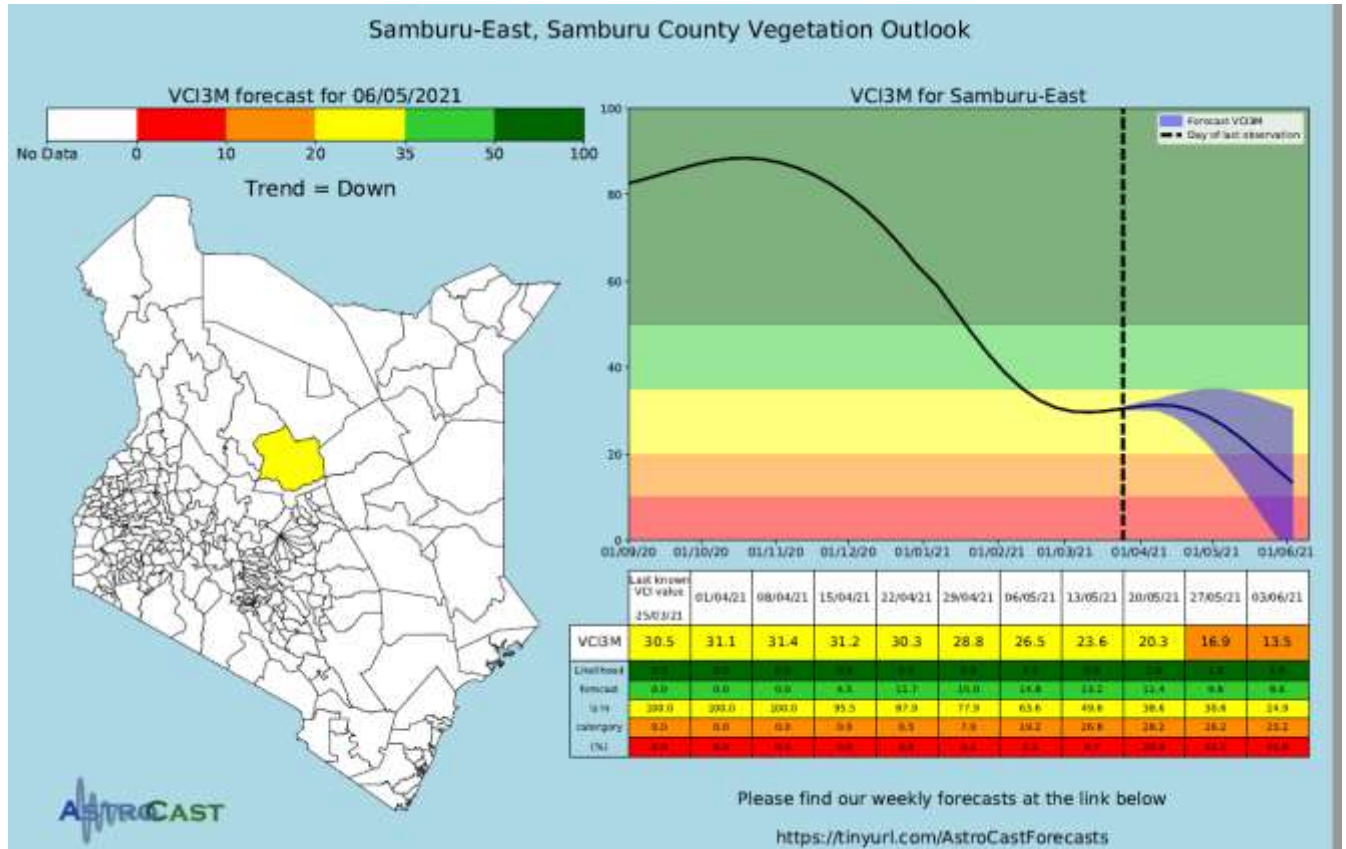
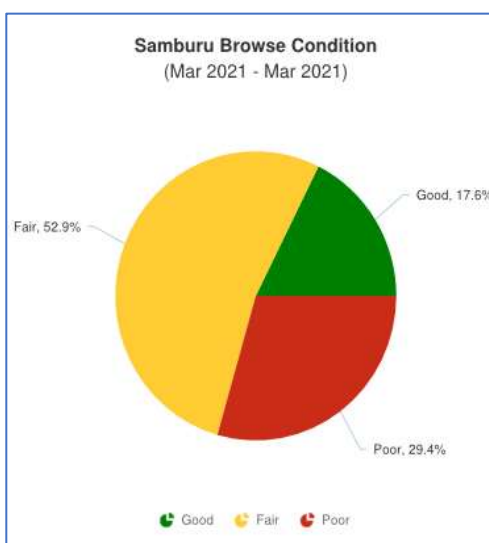
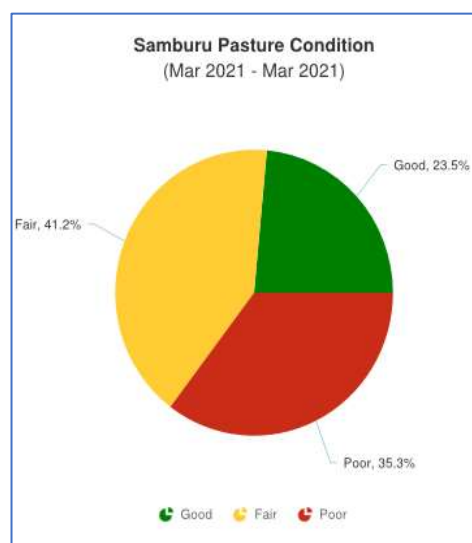


Figure 3: VCI Forecast Outlook for Samburu East Sub-county

2.1.2 Field Observations (Pasture and Browse Conditions)

Quality and Quantity

Further forage deterioration continued to be observed even in the dry season grazing areas as the dry spell continues.



Livestock have converged in dry season grazing fields competing for available pastures thus overgrazing consequently occasioning land degradation.

The quality and energy level of available standing hay in conflict prone areas has deteriorated due to prolonged sunny and dry weather conditions. Community key informant reports indicated rapid deterioration in both

Figure 4: Pasture and Browse Condition

quantity and quality of forage across the livelihood zones. Larger proportion of interviewed key informants about 41.2 percent and 52.9 percent responded pasture and forage was fair respectively and 35.3 percent and 29.4 percent replied that pasture and browse was poor respectively (Figure 4).

2.2. Water Resource

2.2.1 Sources

Majority of the households reported usage of multiple water sources which include wells, boreholes, pans and dams to meet their daily water needs. Over 38.8 percent of the households used hand dung and traditional river wells. Borehole's usage remained at 16.1 percent which is comparable to 15.6 percent usage for February 2021. Proportion of households depending on pans and dams reduced to 16.1 percent from 21.9 percent reported in last month.

Women and girls play key role in supply water to the households and spend considerable time in search of water for domestic use. During the month under review several boreholes which include Parkati, Tangar, Lolmolog and were repaired to ease the pressure for need of water for domestic and livestock use. The county department of water has reported the following boreholes as currently non-function:

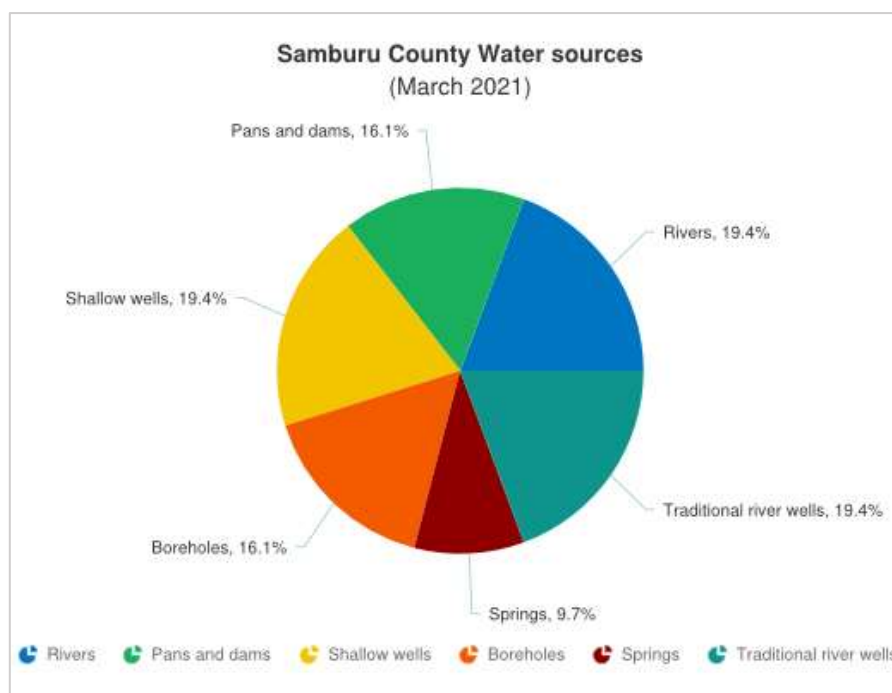


Figure 5: Frequently used Water Sources

Nkoteiya

Table 1: Non-Functional Boreholes in the County

Borehole	
• Lpartuk	• Kaoo
• Loijok	• Lesua
• Lchingei	• Lorok Onyekie
• Lemolog (Seren)	• Lorukoti
• Angata Lerai	• Nkutuk Elmuget
• Ngilai (Elbarta)	• Loibor Ngare
• Louwa	• Archers Post

Majority of households reported using 40 – 60 litres per household which translate to consumption of about 8 – 12 litres per person per day. In some pastoral pockets of Ndoto, Wamba North, Wamba West and Nachola reported lowest water consumption of about 2 – 4 litres per person per day attributed to long distances to water points. The cost of water in pastoral livelihood zone was Ksh 5-10 per 20 litre jerrican while in Agro pastoral was Ksh 2-5 per 20 litre jerrican which is normal. In urban centres of Maralal, Wamba, Kisima and Archers, vendors are supplying water at a cost of Ksh 10 – 20 per 20 litres jerrican inclusive of vendors transportation cost while in Baragoi, a 20 litre jerrican is going for up to Ksh 40.

2.2.2 Household Access and Utilization

- Below average 2020 short rains resulted in limited water availability due to early drying up of surface water sources have led to increase in trekking distances and reduction in the amount of

water that is used for hygiene in the household. The current average return household trekking distance increased by 22 percent to 9.2 km from 7.1 km recorded during the month of February 2021.

- High trekking distances of about 16 – 18 km were reported in areas of Wamba West and Wamba North in search of water for domestic use.
- The return current household return average distance of 9.2 km was 70 percent above the 2018 – 2020 average at this period of the year (Figure 6).

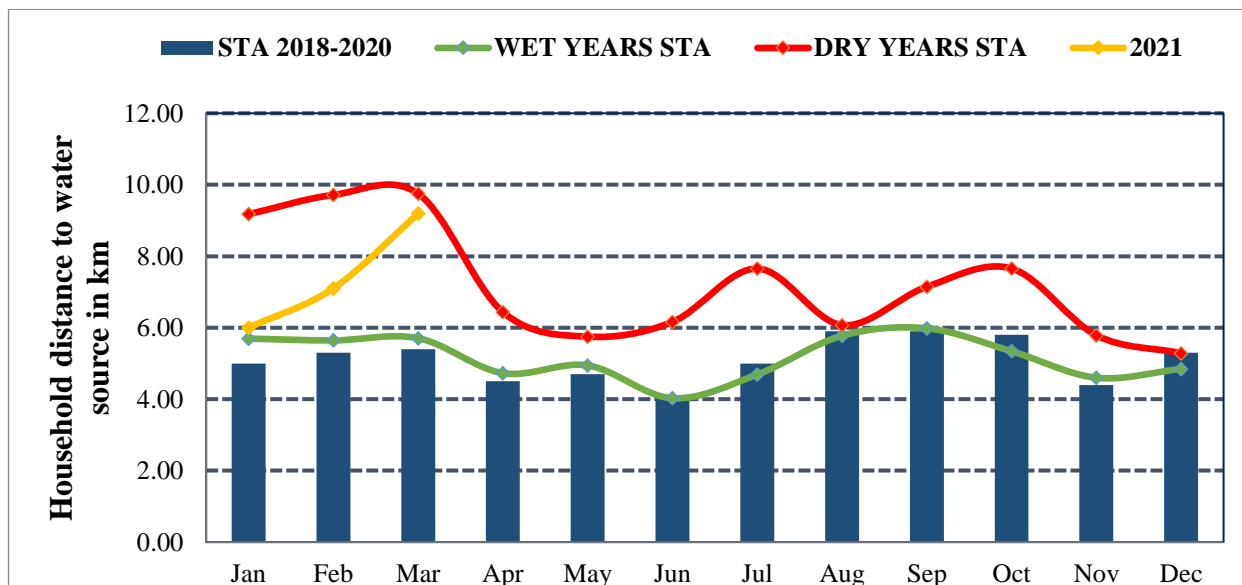


Figure 6: Average Distance Travelled by Households in Search of Water

2.2.3 Livestock Access (Grazing Distances to Water Points)

- Livestock trekking distance increased further attributed to ongoing dry spell resulting in drying up of water sources and depletion of forage. The current average trekked distance was 16.5 km which was 42 percent increase from last month average distance of 11.6 km.
- Pastoral areas of Wamba West and Nachola wards recorded longest return distances averaging at about 20 – 25 km with exception of areas of Wamba North reporting return distances of over 30 km in search of water and forage. This is attributed to drying of Nairimirimo water pan and drying up of borehole yields due to low underground water levels.
- Owing to prolonged dry spell, the current return average grazing distance of 16.5 km was 34 percent above the 2018 – 2020 average at the same time of the year (Figure 7).

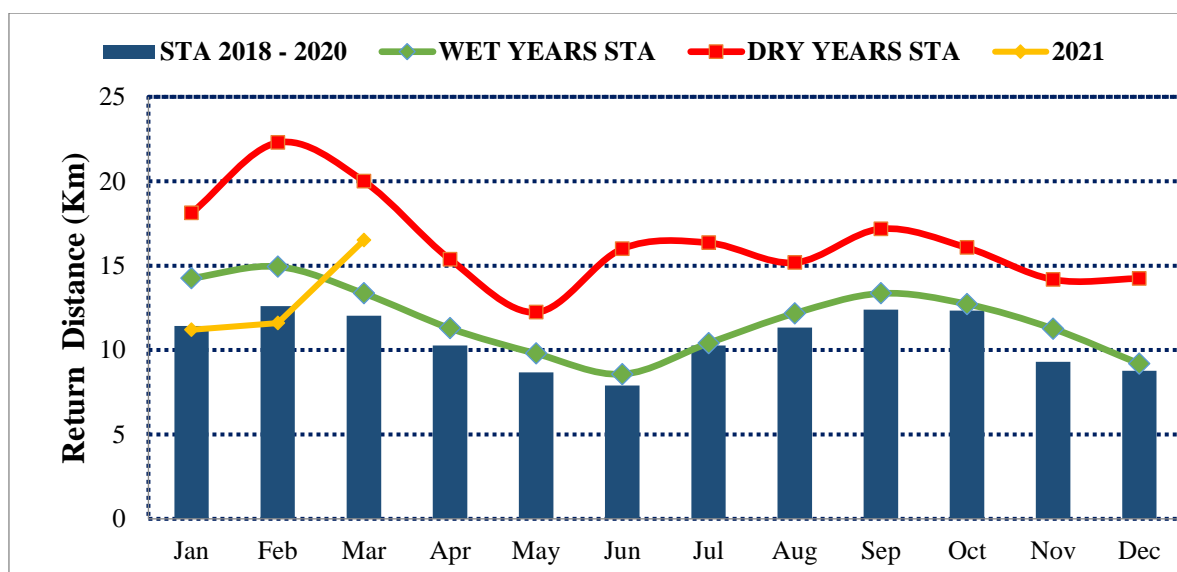


Figure 7: Distance Travelled from Grazing Areas to Water Points

3.0 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- The witnessed long distances from grazing fields to water points resulted in livestock body energy loss consequently livestock body stress. Field observations and community interviews indicated fast deterioration in livestock body condition especially for cattle. The rapid deterioration is due to scarcity of forage and water thus subjecting livestock to walking for long hours.
- Cattle body condition is ranging between borderline (3 to 5 ribs visible) to thin body condition (slight muscle atrophy). Body condition for browser especially goats and camels are ranging between Moderate, good overall appearance to thin body condition due to availability of acacia pods which is more nutritious.
- The body condition is projected to decline till onset of 2021 long rains owing to depletion of available pastures and water resources in dry grazing areas diminish due to influx of livestock in search of forage as the dry spell persist.

3.1.2 Livestock Diseases and Deaths

- No major disease outbreak reported in the county. However, field reports highlighted cases of endemic diseases such as contagious caprine pleuropneumonia (CCPP), Enterotoxaemia, Sheep and goat Pox were reported across the livelihood zones. No unusual occurrence of livestock mortalities reported across the livelihood zones.

3.1.3 Milk Production

- Household milk production for the month of March remained equivalent to last month with an average of 1.6 litres per household per day. Out of the sampled household production, 45 percent was from goat, 38 percent from cattle and 17 percent from camel. The low household production can be attributed to cattle migrations to dry season grazing areas coupled with decline in livestock body condition.

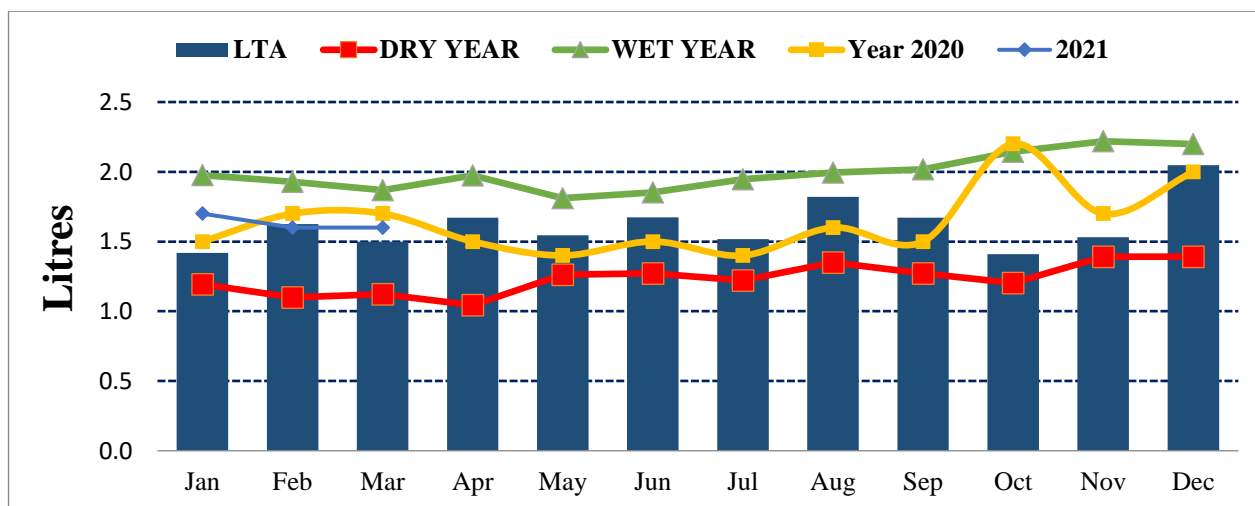


Figure 8: Trends in Milk Production per Household

3.2 Rain Fed Crop Production

3.2.1 Stage and Condition of Food Crops

- Farmers in Agro pastoral areas are undertaking land ploughing in preparation for planting during the 2021 March to May long rains season.

3.2.2 Harvest of Crop

- The month of March is usually a land preparation month for rainfed crops thus no usual harvest during this time.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- All major markets within the county are operational although low volumes of cattle have been noticed in some markets due to migrations of cattle dry season grazing areas. The current average price of Ksh 18,285 was stable compared to last month average price of Ksh 17,670.
- Cattle average prices have remained slightly below the long term from February 2021 attributed deteriorating cattle body conditions owing to depletion of forage and water resources. In addition, cattle are walking long distances in search of forage and water thus weakening body conditions.
- Markets of Lpus and Lolkuniani both in pastoral livelihood zone recorded good prices ranging between Ksh 21,000 – 22,330 per medium size cattle. Low average prices were reported in Baragoi, Lekuru and Archers Post at around Ksh 15,000.
- The recorded average price of Ksh 18,285 in the month of March 2021 was seven percent lower than the 2018-2020 average at the same time of the year (Figure 9).

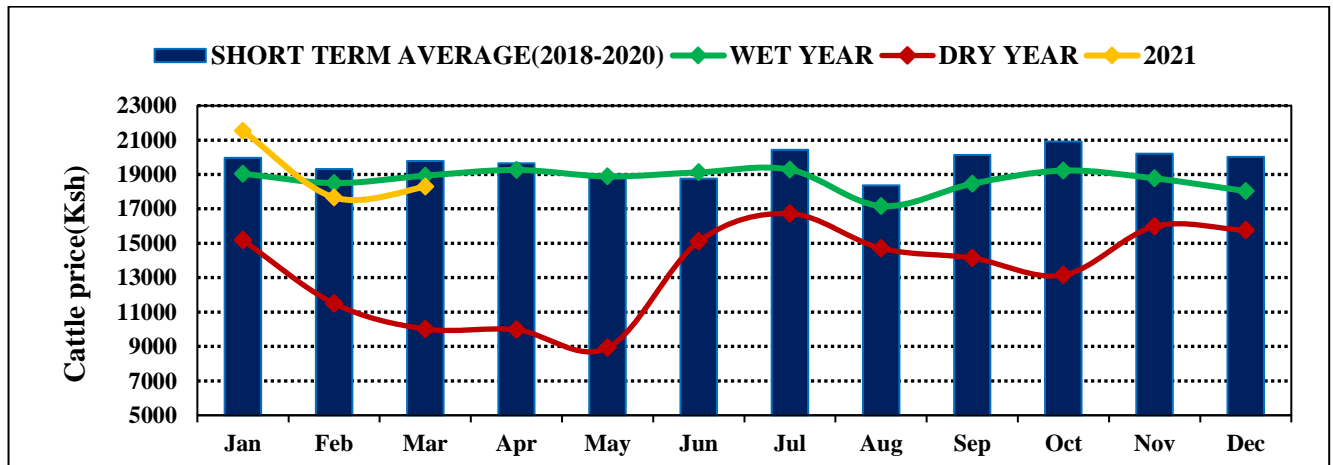


Figure 9: Cattle Selling Price Trends at Market Level

4.1.2 Goat Prices

- Market selling prices for goats remained relatively comparable to last month prices. The current average price was Ksh 2,990 for a medium sized goat compared to Ksh 2,920 recorded in last month. High prices were noted in Lolkuniani market averaging at Ksh 4,330 and lowest at Illaut market at Ksh 2,000.
- With reference to 2018 – 2020 average at similar period of the year, the March 2021 average price of Ksh 2,990 was stable and within the long-term average (Figure 10).

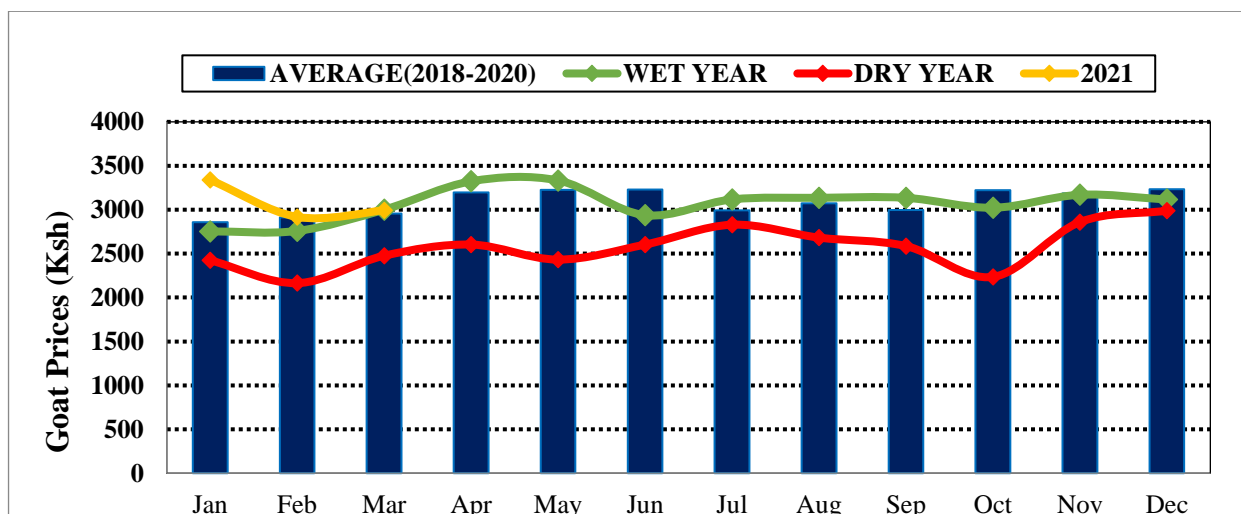


Figure 10: Goats' Selling Price Trends at market Level

4.1.3 Sheep Prices

- Market and farmgate prices for sheep remained stable like goat average price when compared to last month average prices. The current average price was Ksh 2,500 compared to last month price of Ksh 2,490. The trend is attributed to fair body condition although the prices are likely to decrease in the next one month if long rains onset delays.
- Lekuru and Archers Post markets reported an average price for a sheep ranging between Ksh 2,800 – 3,000 whereas markets of Illaut and Baragoi recorded low prices averaging between Ksh 1,800 – 2,000 for a medium sized sheep.
- The month of March average sheep price of Ksh 2,500 was equivalent to the 2018-2020 average at this period of the year (Figure 11).

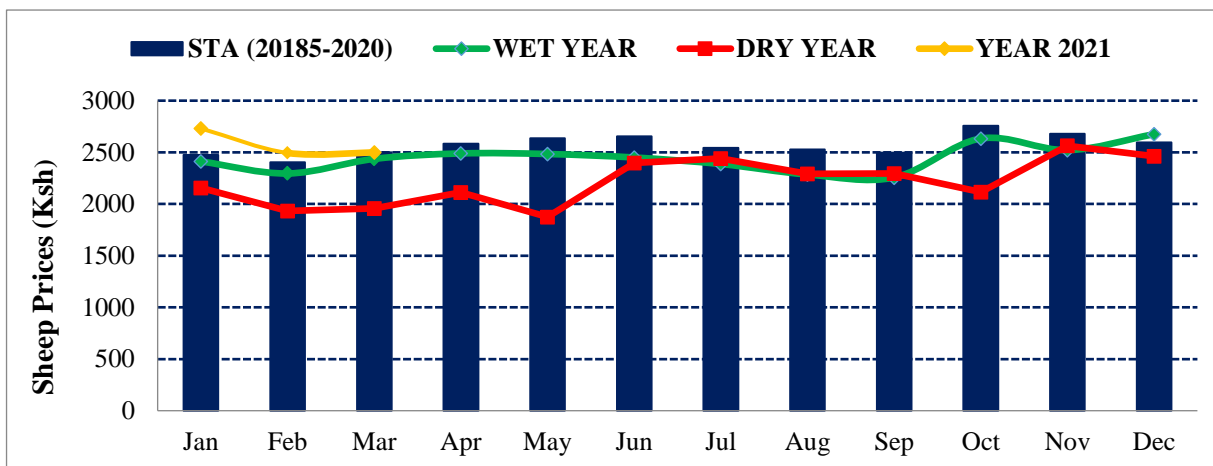


Figure 11: Sheep Selling Price Trends at Market Level

4.2 Crop Prices

4.2.1 Posho (Maize)

- The market selling price for maize has maintained a stable trend for the last three months and relatively equivalence to the wet and dry years average. The current average retail price for a kilogram of maize was Ksh 47.60 which comparable to last month price of 46.70 per kilogram.
- The stable trend can be attributed to availability of cereals in the markets driven by local harvests from the long rains harvest coupled with imports by traders from Meru, Nakuru and Uasin Gishu counties. Majority of markets reported an average price of Ksh 40 – 50 per kilogram except in hard-to-reach areas whereby a kilogram maize retail at around Ksh 60 – 65.
- The average recorded retail price of Ksh 46.70 for a kilogram of maize during the month under review was relatively similar to the 2018 -2020 average price of Ksh 46.80 at the same period of the year (Figure 12).

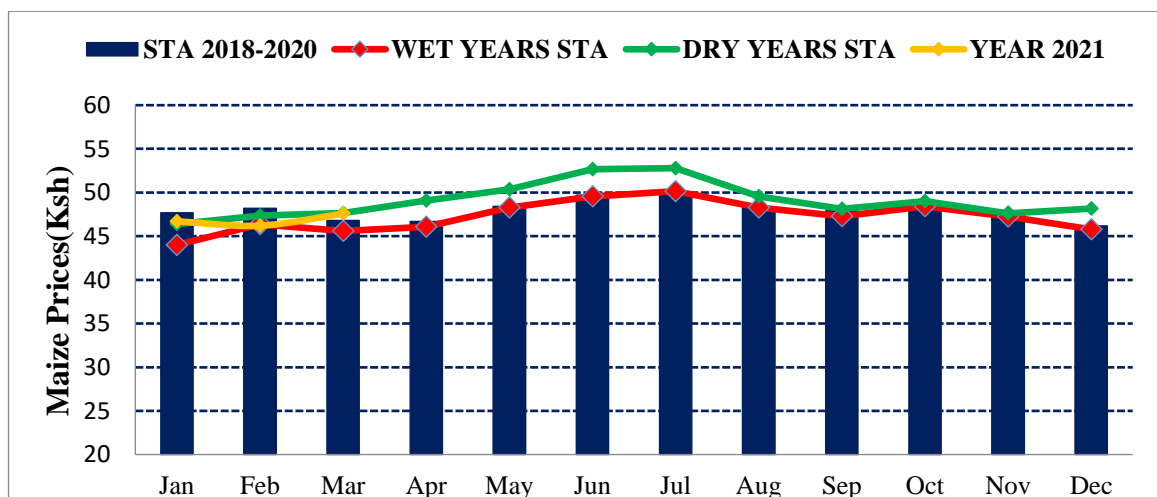


Figure 12: Maize Meal Price Trends

4.3 Terms of Trade (TOT)

- The household’s average terms of trade for the month of March 2021 remained relatively similar to the average recorded in last month. The current average goat to maize ratio was 62.8 implying income from a mature goat can be used to purchase 62.8 kilogram of maize.
- High purchasing power was noted in Agro Pastoral livelihood zone with households exchanging one goat income with 80.4 kilograms of maize. Households in Pastoral livelihood zone were able to obtain 74.4 kilograms of cereals by selling one mature goat.
- Household purchasing power was favourable due to good livestock prices couple with stable maize prices. The current average price was within the 2018 – 2020 long term average at this time of the year (Figure 13).

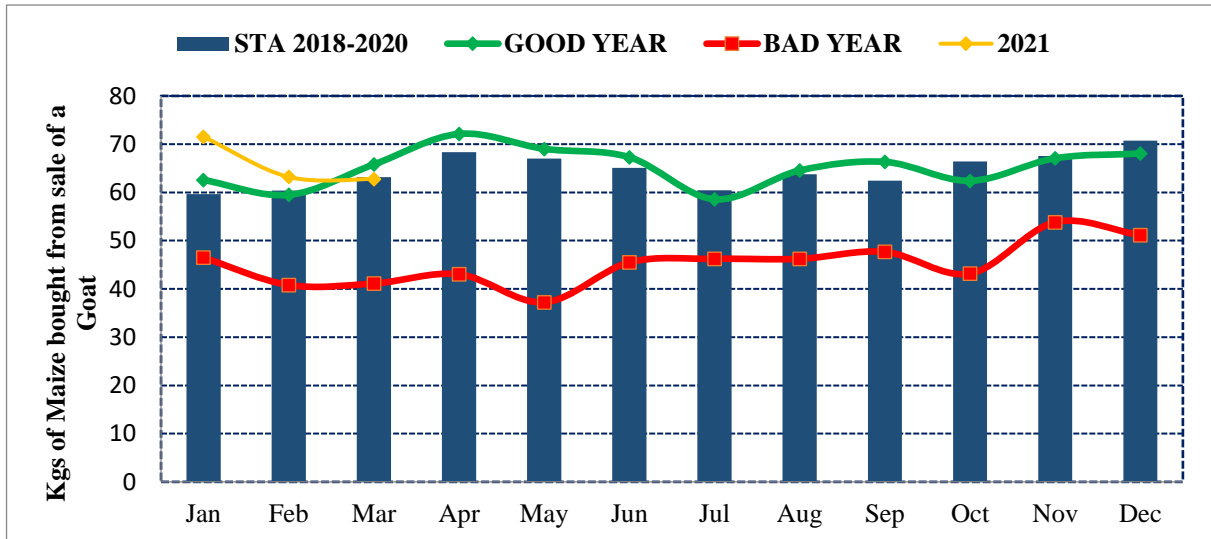


Figure 13: Trends in Terms of Trade (TOT)

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- The amount of milk produced at household level were largely consumed by children under-five of age. The sampled households reported average consumption of milk at approximately 1.4 litres per household per day.
- Households who own camel and few in Agro pastoral livelihood zone with improved breed of cattle sold little amount of milk at around Ksh 60 per litre and Ksh 90 – 100 per litre for camel milk. With reference to 2018 – 2020 average, the consumption of milk in the month of March 2021 at household level was 15 percent above the long-term average at similar period of the year (Figure 14).

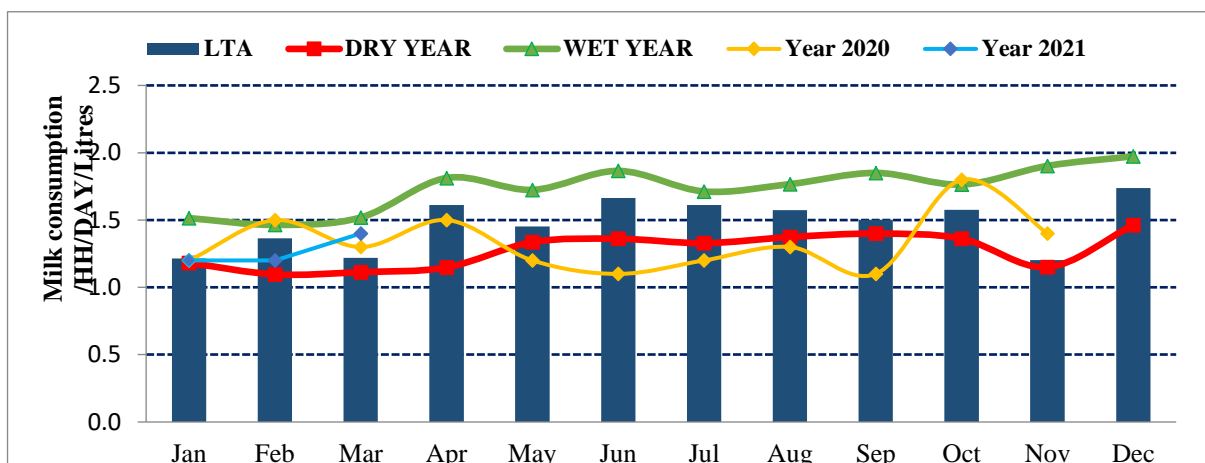


Figure 14: Trends in Milk Consumption per Household

5.2 Food Consumption Score (FCS)

- Food intake patterns remained stable due to relatively diverse food groups access both at market and household level. Greater proportion of households of about 60 percent had acceptable food consumptions implying consumption of staples and vegetables every day, frequently accompanied by oil and pulses and occasionally meat, fish and dairy.
- In Pastoral livelihood zone, 3.8 percent of households were in poor food consumption band indicating consumption of staples and vegetables only daily in a week. Approximately 35.6 percent and 40 percent of the households in Pastoral and Agro pastoral livelihood zone respectively reported borderline food consumption (Figure 15). This suggests consumption of staples and vegetables every day, accompanied by oil and pulses a few times a week.

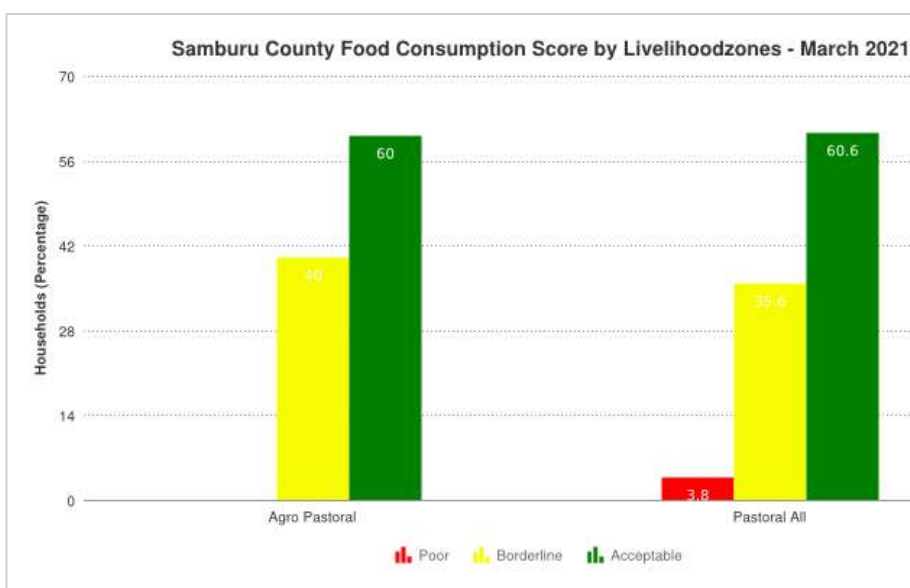


Figure 15: FCS Per Livelihood zone

5.3 Health and Nutrition Status

5.3.1 MID Upper-Arm Circumference (MUAC 125-134 mm)

- The prevalence of malnutrition was relatively stable with severely acute malnourished children aged 6 – 59 month stands at 0.5 percent. Countywide, it is estimated that moderately acute rates of children under five worsened to 23.9 percent from 15 percent reported in the previous month.
- High proportion of moderately acute malnourished children aged 6 – 59 months were noticed in Waso, Wamba North and Ndoto wards. The high prevalence of malnutrition can be attributed to poor maternal and child health care practices. In addition, inadequate milk production owing to migration of cattle to dry season grazing areas has also contributed to high rates of malnutrition for children under five of age.

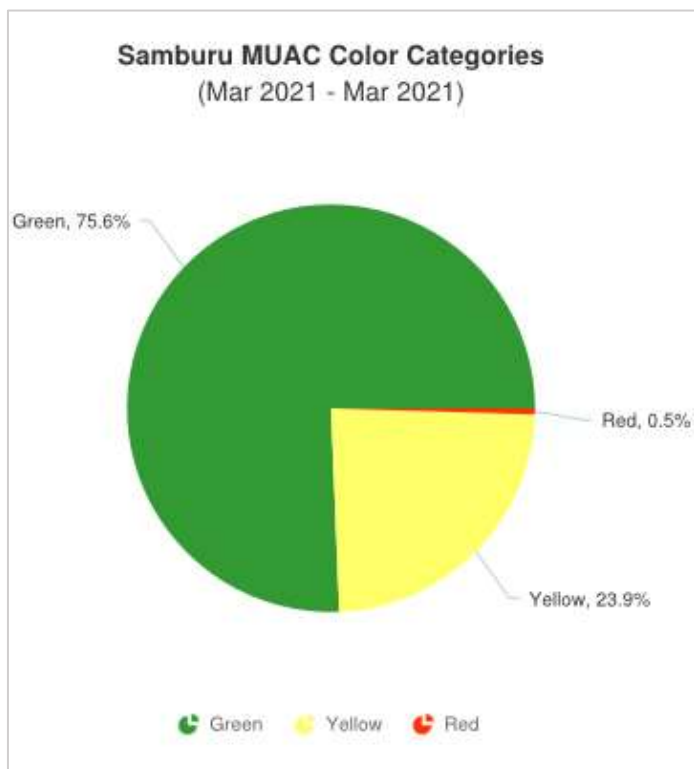


Figure 16: Nutritional Status (Family MUAC) for Children Under Five

5.3.2 Health

- According to field reports, a number of sampled children at household level were reported to have suffered illness characterized by fever with chills like malaria, fever with breathing difficulties and diarrhoea.
- Health facility data in county health information system (KHIS) indicated both general and under-fives were more frequently diagnosed with various diseases as shown in the table below.

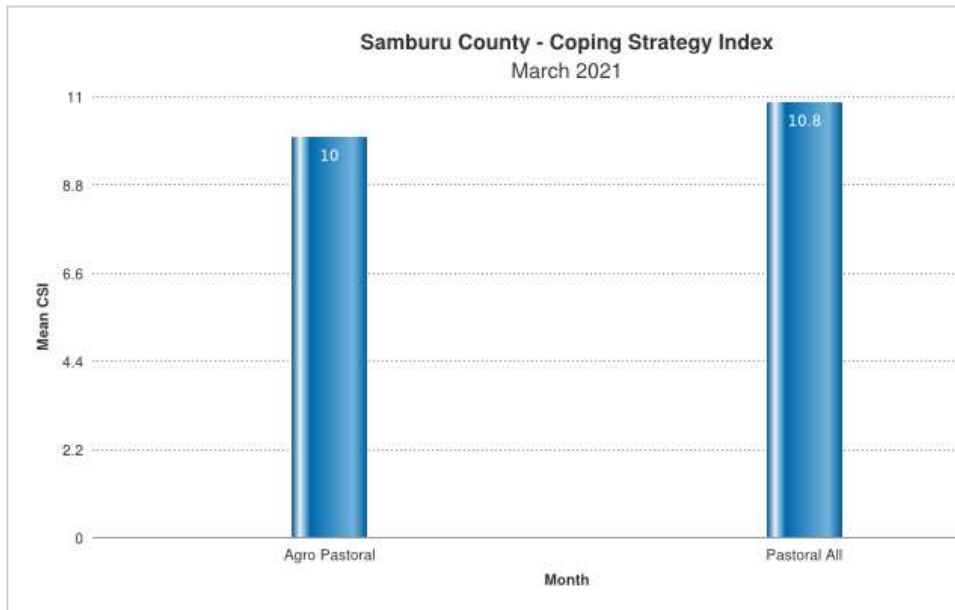
Table 2: Morbidity for Under-fives and General Population for January - February 2021

Disease	Under five	General Population
Diarrhoea	2709	1997
Pneumonia	1996	3483
Upper Respiratory Tract Infection	10753	16690
Eye Infections	1073	1604
Confirmed Malaria	306	784

(Source: KHIS2)

5.4 Reduced Coping Strategies Index (rCSI)

- The food consumption based mean coping index for the month of March 2021 on average was 10.69



which is relatively comparable to last month mean index of 10.34 (Figure 17).

The livelihood zones average coping index was stable across the two livelihood zones with households frequently relied on less preferred and/or less expensive food and reduced the portion of meals taken in a day and borrow from the neighbours as coping

Figure 17: rCSI mechanisms.

6.0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-Food On-going Interventions

Table 3: Non-food On-going Interventions

SECTOR	INTERVENTION	IMPLEMENTERS
Livestock	<ul style="list-style-type: none"> Vaccination of sheep and goat against PPR and CCPP in Samburu North and East sub counties. Participatory livestock disease surveillance. 	County Department of Veterinary and RPLRP
Water	<ul style="list-style-type: none"> Rapid response team undertaking service, maintenance and repair of boreholes (Parkati, Tangar, Lolmolog and Nkoteiya boreholes repaired). Water trucking in institutions 	County Government and Partners
Agriculture	<ul style="list-style-type: none"> Ploughing and planting in Lulu irrigation farm Ongoing construction of Kurungu livestock sale yard 	DRSLP
Health	<ul style="list-style-type: none"> Community led total sanitation (CLTS) 	MOH

6.2 FOOD AID

- There was no humanitarian relief food aid distributed during the period under review.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Occurrence of cattle raiding was reported in Suiyan in Samburu north sub county occasioning injuries to three persons and loss of livelihood. Also, incidences of road banditry were reported along the Maralal – Baragoi road. The recurring conflicts coupled with road banditry in Samburu north sub county have caused many deaths and escalated tension among warring communities consequently created significant economic threat in the area.

7.2 Migration

- Key informant data indicate that over 80 percent of livestock especially cattle are currently in dry season grazing areas. Majority of cattle from Samburu central are in Kirisia forest and other in Kirimon plains.
- Cattle from Samburu east are currently grazing in Koom, Mbukoi, Mathew ranges and Loijuk hills. Livestock from Samburu North have converged in Uaso Rongai, Suguta valley, Marti, Ndoto and Nyiro hills.

7.3 Food Security Prognosis

- The month of April marks the peak month of the long rains season and the outlook indicates the county is likely to receive near average to above average rainfall as the Kenya Meteorology monthly forecast.
- Improvement in rangeland resources especially forage and water are likely to occur during the March to May 2021 long rains season.
- Majority of livestock are likely to return to wet season grazing areas towards beginning of May 2021.
- Livestock and staple food market prices are likely to remain relatively stable through end of April 2021.
- FAO locust situation update dated 25th March 2021 predicts decline in number of swarms of desert locust due to ongoing control operations coupled with dry weather conditions in the northern Kenya.

RECOMMENDATIONS

Table 4: Proposed Interventions per Sector

SECTOR	INTERVENTION	Areas
Water	<ul style="list-style-type: none"> • Desilting of dried-up water pans • Fixing and repair of gutter, downpipes and cleaning of storage tanks in institutions for roof runoff water harvesting 	<ul style="list-style-type: none"> • County wide
Agriculture	<ul style="list-style-type: none"> • Provision of certified seeds to farmers • Sensitization on early planting and proper crops spacing during planting 	<ul style="list-style-type: none"> • Samburu central
Livestock	<ul style="list-style-type: none"> • Upscaling livestock participatory disease surveillance system 	<ul style="list-style-type: none"> • County wide
Health and Nutrition	<ul style="list-style-type: none"> • Raising awareness on benefits of the ongoing COVID-19 Vaccination and strict adherence to MOH COVID protocols 	<ul style="list-style-type: none"> • Health Facilities
Peace and Security	<ul style="list-style-type: none"> • Support herder's peace initiatives in the dry season grazing areas. 	<ul style="list-style-type: none"> • Samburu north