



National Drought Management Authority
LAIKIPIA COUNTY
DROUGHT EARLY WARNING BULLETIN FOR NOVEMBER 2020

NOVEMBER 2020 EW PHASE:



Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall:

Performance: the county received 4 to 10 days of light showers to heavy rains across the livelihood zones. The temporal distribution of the rains was fair whereas the spatial distribution was fair to poor.

Vegetation Condition:

- The Vegetation Condition Index (VCI) was above the normal range for the period, indicating a largely good state of pasture and browse.
- The available pasture and browse can last for one to three months, depending on the area.

Socio Economic Indicators (Impact Indicators)

Production Indicators:

- There were no reported cases of livestock migration into Laikipia County.
- The body condition of animals was above the normal range for the period.

Access indicators:

- The terms of trade were above the normal range
- The return distance from water sources to grazing areas was within normal range.

Utilization indicators:

- Within the normal range.

LIVELIHOOD ZONE	EW PHASE	TREND
PASTORAL	Normal	Stable
MMF	Normal	Stable
MF	Normal	Stable
COUNTY	Normal	Stable
Biophysical Indicators	Value	Normal range
% of Average rainfall	87%	80-120%
VCI (1 month)	66.9	35.0-50.0
State of Water Sources	4-5	4-5
Production indicators	Value	Normal range
Livestock Migration Pattern	No Migration	No Migration
Livestock Body Condition	4-5	4-5
Milk Production (Lt)	-	> 4
Reported livestock deaths (due to drought)	No death	No death
Crops area planted (%)	-	% of LTA
Access Indicators	Value	Normal ranges
Terms of Trade (ToT)	132	117
Milk Consumption (Lt)	2	>1.7
Return Distance (Water Sources to households)	2.8	<3.1
Return Distance (water sources to grazing areas)	4	<4.3
Utilisation indicators	Value	Normal ranges
MUAC (Mid at risk)	-	< 18
Coping Strategy Index (CSI)	-	<1

<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 CLIMATIC CONDITIONS

1.1 Rainfall Performance

- During the month of November, the County received on average 4 to 10 days of rainfall across the Pastoral, Marginal Mixed Farming (MMF) and Mixed Farming (MF) zones, with majority of the days being characterised by light showers to heavy rainfall.
- The MMF zone reported 3 days of moderate rainfall and 4 to 9 days of light to heavy rain with fair to good distribution, the Pastoral livelihood zones recorded 9 days of heavy rains with fair distribution, while the MF zone reported 9 days of heavy rains and 1 day of light rainfall with good distribution.

1.2 Amount of Rainfall and Spatial Distribution

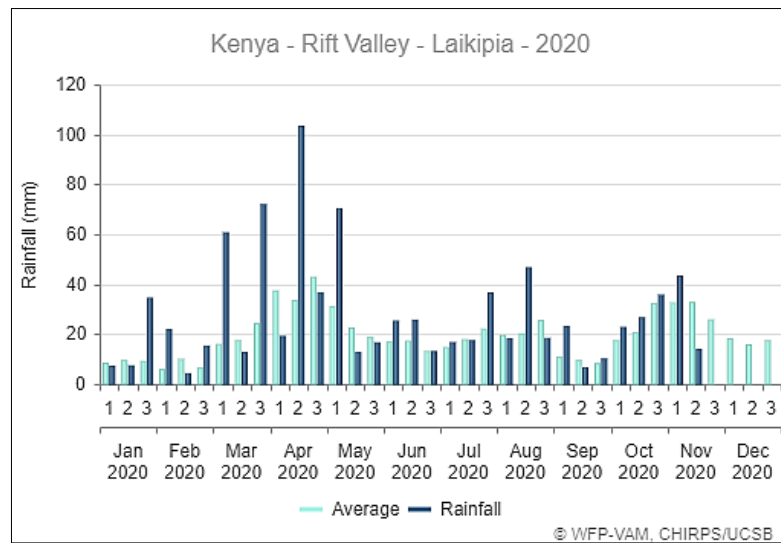


Figure 1: Rainfall (mm) for November 2020

© WFP-VAM, CHIRPS/UCSB
Source – WFP VAM – CHIRPS

- In November, the rains received amounted to 57 mm by the second dekad (1st twenty days of the month), which is 87% of the long-term average of 65 mm by the same time and is within the normal range expected for the period.
- Compared to the previous month by the same time (49 mm), the amount of rainfall received has slightly increased. This is attributed to the ongoing OND rains.
- The temporal distribution of the rains was fair whereas the spatial distribution was fair to poor in some areas.

2 IMPACT ON VEGETATION AND WATER

2.1 Vegetation Condition

2.1.1 Vegetation Condition Index (VCI)

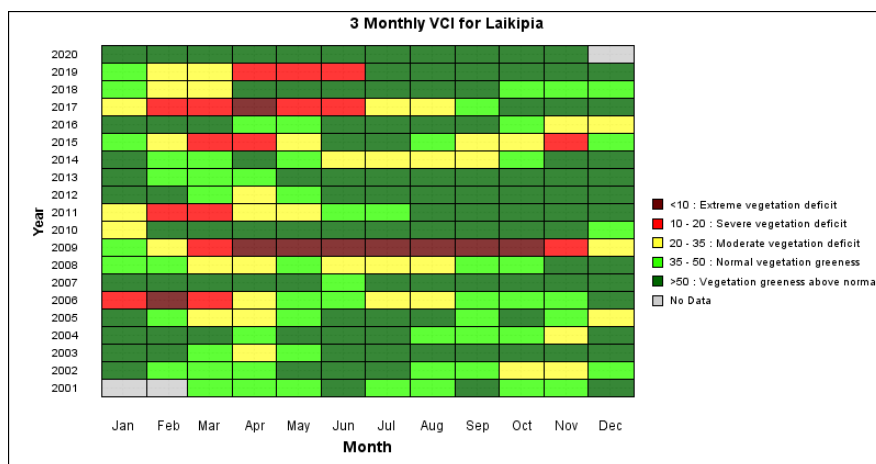


Figure 2: 3 Monthly VCI Matrix November 2020

Source - BOKU

- The VCI matrix above still indicates very good vegetation condition, which has been the case since July 2019. However, from field observations, the vegetation condition in some areas across the Pastoral and MMF zones was fair (especially in Ngobit, Salama, Tigithi and Segera wards), which is largely attributed to low precipitation levels recorded in the zones.
- The actual VCI (3 month) at 66.85 was above the normal range for the month and a significant decrease compared to the previous month (at 80.9).

2.1.2 Pasture

- Key informant interviews indicated that the pasture condition was good (41.7%) and fair (58.3%) as shown in the chart below.

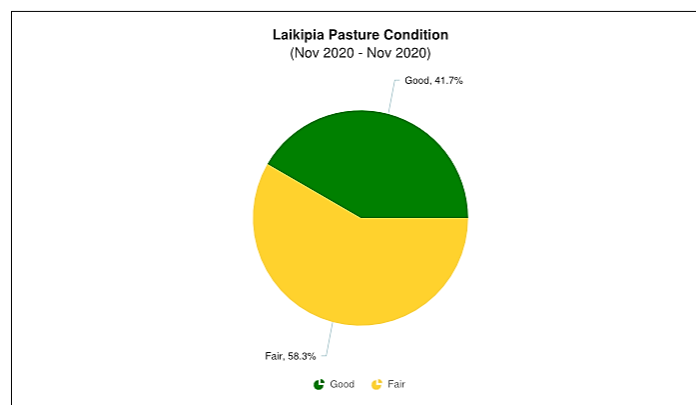


Figure 3: Pasture Condition November 2020

Source - KDEWS

- Compared to the previous month (good (54%) and fair (42%) and poor (4.2%)) and in addition to field observation, the vegetation condition is largely fair and has remained stable in both quantity and quality across all livelihood zones. The current trend is attributed to fairly well distributed rains across the County. The rains are however below the expected levels at this time of the year. The current general situation is above the normal expected at this time of the year.
- There is no major constraint to pasture access.

2.1.3 Browse

- According to the key informants interviewed, the browse condition was good (58.3%) and fair (41.7%) as shown in the chart below.

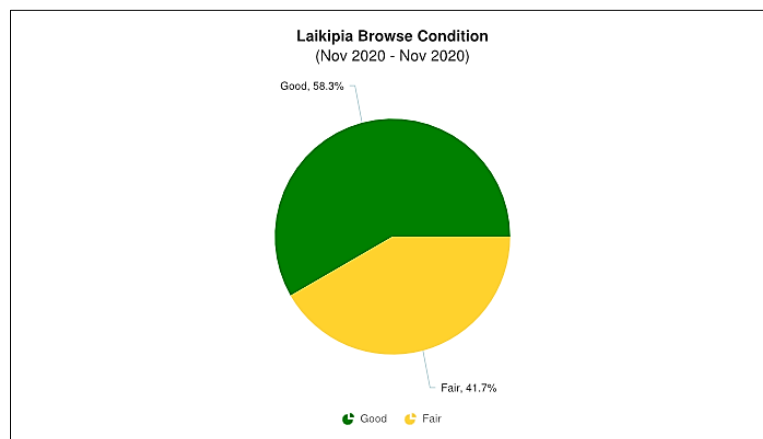


Figure 4: Browse Condition November 2020

Source - KDEWS

- Compared to the previous month: good (75%), fair (20.8%) and poor (4.2%), the browse condition is largely fair in term of quality and quantity and has recorded a slight improvement.
- No major constraint to browse access was reported.

2.2 Water Resource

2.2.1 Sources

- During the month under review, the main water sources for domestic and livestock use in the County were pans and dams (29.6%), boreholes (25.9%), shallow wells (22.2%) and rivers (14.8%). Others were traditional river wells (7.4%).

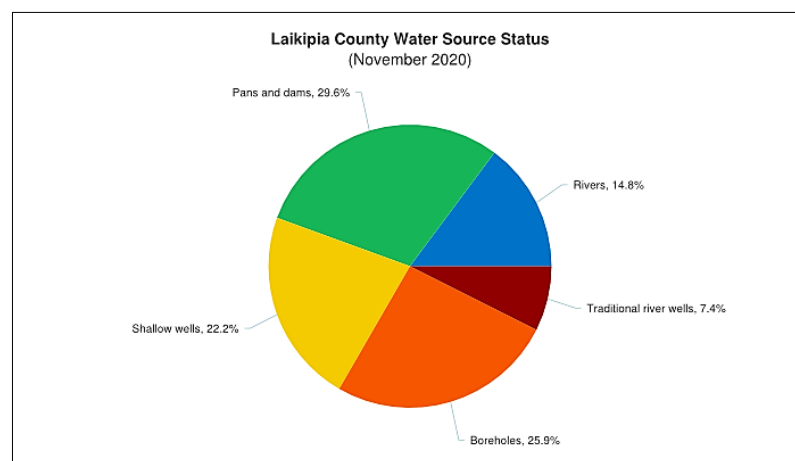


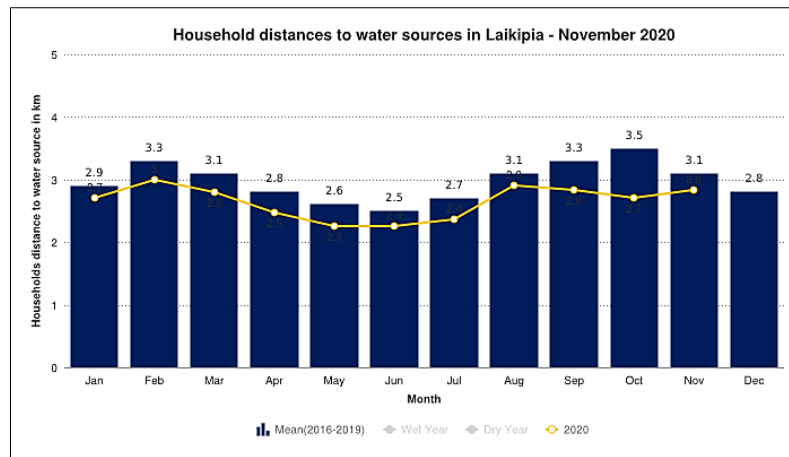
Figure 5: County Water Sources November 2020

Source - KDEWS

- Compared to the previous month: pans and dams (28.3%), boreholes (28.3%), shallow wells (20.8%) and rivers (15.1%). Others were traditional river wells (7.5%). The water quantity is stable and there is a slight shift towards surface water sources, specifically pans and dams and shallow wells, and also a decrease in the use of sub-surface sources, indicating an increase in precipitation levels, which is expected at this time of the year.
- The main water sources are expected to last as follows: - Pastoral (boreholes - permanent, seasonal rivers – 3-4 months, pans and dams – 3-4 months), MMF (borehole – permanent, seasonal rivers – 4 months, pans and dams – 4 months), MF (shallow wells – 5 months, traditional river wells – 4 months, pans and dams – 4 months).

2.2.2 Household Access and Utilization

- The average return distances from households to water sources was 2.8 km in November, a slight increase compared the previous month (at 2.7 Km). This trend can be attributed to the ongoing below normal OND rains. The MMF zone recorded the farthest return distance of 3.5 Km.



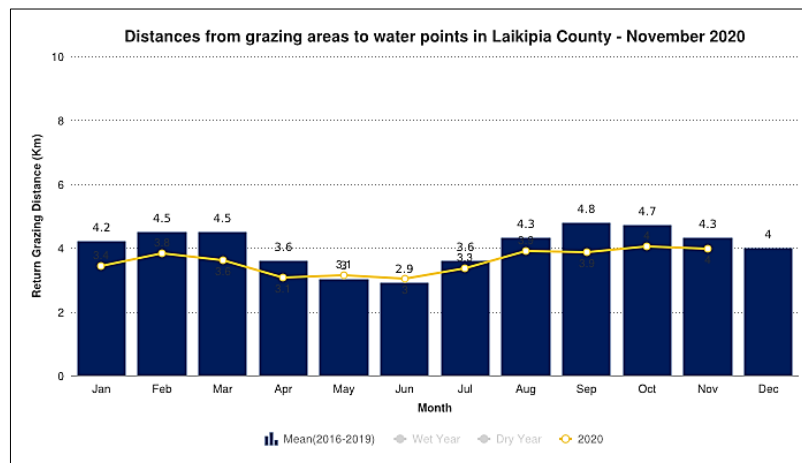
Graph 1: County Water Distances – November 2020

Source – KDEWS

- The current distances are slightly below the long-term average for the period.
- The stable distances are attributed to the previous off-season rains and the ongoing OND rains.
- There was no notable constraint to water access.

2.2.3 Livestock Access

- The average return distance from water sources to grazing areas was 4 km, same as the previous month. The longest return distance of 4.3 km was recorded in the Pastoral zones, slightly less compared to the previous month (4.6 Km).



Graph 2: County Water Distances to Grazing Areas – November 2020

Source - KDEWS

- The current distances were below the long-term average for the month at 4.3 Km.
- The current grazing distance is attributed to the effect previous hot and dry conditions in some zones before the commencement of the OND rains.

3 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- During the month under review, the livestock body condition across the county was classified at level 4 (moderate, neither fat nor thin) to 5 (Normal) but leaning towards 5 (Normal).
- Generally, the livestock body condition was largely good for both grazers and browsers across all livelihood zones. The body condition is above the normal for this time of the year except for some few pockets in the county.
- Compared to last month, the livestock body condition has remained stable. Most grazers range from moderate to normal.
- Compared to same time last year, the body condition of livestock is normal.

3.1.2 Livestock Diseases and Deaths

- No livestock diseases were reported during the period under review.

3.2 Rain-fed Crop Production

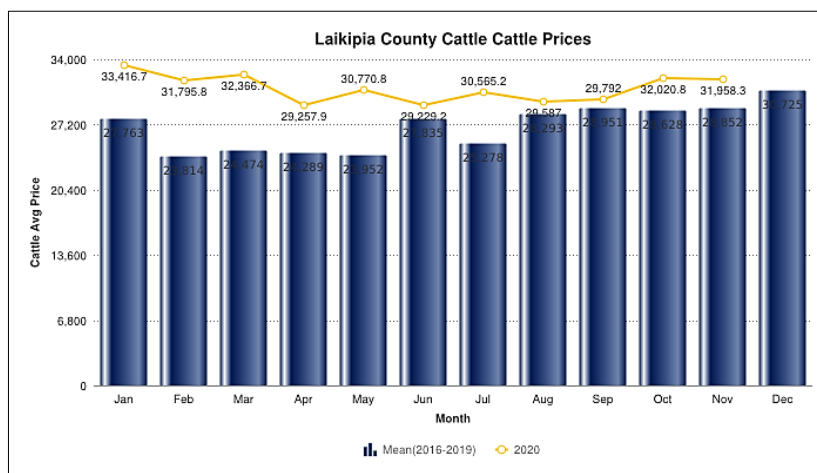
3.2.1 Stage and Condition of Food Crops

- In the MF zone and some MMF zones, maize is mature and is at harvesting stage. In most of the MMF zone, different crops are at different stages of growth depending on when an individual farm was planted. In some areas, maize is at the tussling and piping stages, beans are at the podding and flowering stages whereas potatoes are at the second moulding stage.
- In terms of farm activities, harvesting of wheat and maize is ongoing in parts of MF zone for farmers who had planted during the previous rain season, while in some parts of MMF zone harvesting of maize was on going. In some farms across the MF and MMF, land preparation was ongoing in readiness for planting and in some areas sowing and first and second weeding is underway.
- Casual labour is available but daily wages have increased in some areas of the County. Farm owners are concerned about Covid-19 pandemic forcing most of them to cut down number of casual labourers hired unlike before the pandemic.

4 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices (Market)

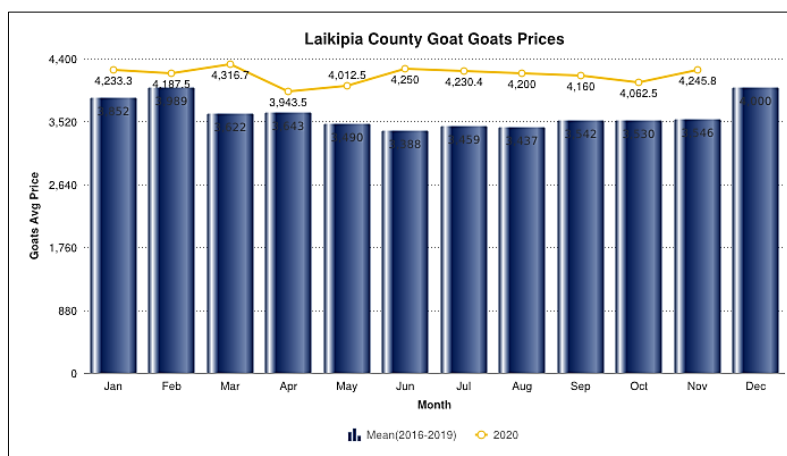


Graph 3: County Cattle Prices – November 2020

Source - KDEWS

- During the month of November, the County recorded an average cattle price of Kshs. 31,958 at the markets, more or less the same compared to the previous month. The current price is attributed to the increase in livestock taken to markets as the region normalises to effects of Covid-19 and the prevailing good body condition. The prices are slightly more than the average expected for the period.
- The MMF zone recorded the highest cattle prices at Kshs. 40,000 (Sirima market).
- Compared to the long-term average, the current price is above what is expected for the month by approx. 11%.

4.1.2 Small Ruminants Prices (Goat)



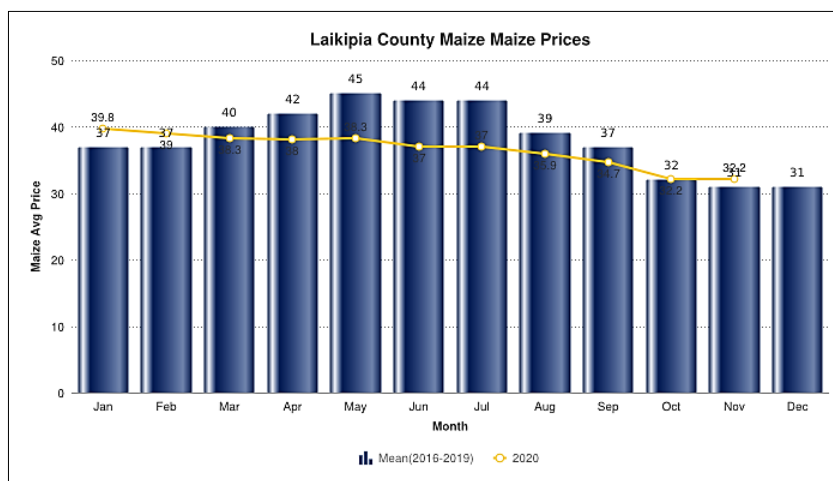
Graph 4: County Goat Prices – November 2020

Source - KDEWS

- During the month under review, the average price of a goat in Laikipia was recorded at Kshs. 4,246; a slight increase (by 5%) compared to the previous month. The above average goat price was attributed to renewed demand as markets normalise to effects of Covid-19. The good prices can also be attributed to the good body condition.
- The highest average goat price was recorded in the MF zone at Kshs. 6,125.
- Compared to the long-term average, the current goat price was higher by 20% hence way above the normal range for the period.

4.2 Crop Prices

4.2.1 Maize (market price)

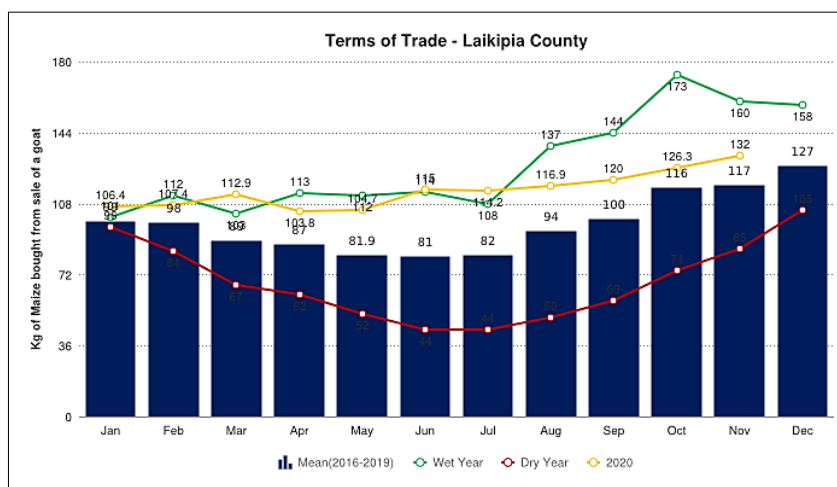


Graph 5: County Maize Prices – November 2020

Source - KDEWS

- The average maize price of Kshs. 32 per Kg was recorded at the markets as shown above, same as the previous month. The prevailing market price was attributed to the stable maize supply both at the markets and at the household level due to ongoing maize harvests in some areas.
- The highest average market price of maize at Kshs.40 per Kg was recorded at Kimanjo market (Pastoral) whereas the lowest at Kshs. 25 was recorded at Olmoran market (MMF).
- Compared to the three-year average, the current price is slightly higher.

4.3 Livestock Price Ratio/Terms of Trade



Graph 6: Terms of Trade (Goat/ Maize) – November 2020

Source - KDEWS

- Conferring to the graph above, the November average price of a goat at Kshs. 4,246 was able to purchase 132 Kg of maize, a considerable increase compared to the previous month (at 126.3 Kg).
- The current trend in the ToT (Terms of Trade) can be attributed to the stable goat prices at the markets. The ToT is still in favour of livestock keepers; they are able to purchase more cereal for the price of a goat compared to the long term average.
- When compared to the three-year average, the ToT is above the normal range (by 13%) for the period.

4.4 Implication on Food Security

- The county has recorded above normal conditions for most of the year as a result of the significant positive effect of the off-season rains on the vegetation (forage and browse), water availability and accessibility, crop and livestock production and food availability. This effect was complemented by the positive effects of the preceding MAM rains. This has resulted in above normal conditions across most of the County except for some areas in Laikipia East Sub County where precipitation has been minimal.
- The livestock productivity is within the expected levels and in some places above normal compared to same time last year. The received rains have contributed positively to indicators such as distance to water sources, forage availability and water availability.
- The ongoing OND rains are expected to foster the above normal conditions across the county. However, according to the Meteorology department projections, and by ongoing rainfall figures, most of the county may receive below normal rains hence the need to monitor key indicators going forward.

5 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Health and Nutrition Status

- There were no reported cases falling under SAM and MAM for the current month.

5.1.1 Health

- The County is still on high alert for COVID-19 and isolation centres are functional.
- There were no reported major human diseases apart from reported cases of URTIs i.e. common cold, flu and fever affecting both adults and children across the sentinel sites during the period under review.

5.2 Consumption based coping strategies

- The most common types of the strategies employed were borrowing and purchasing food on credit and relying on well off relatives.

6 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Non-Food Interventions

- No non-food interventions were reported during the period under review.

6.2 Food Aid

- No Food aid interventions were reported during the period under review.

7 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement/ Pests and Diseases

- Due to the insecurity (clashes occasioned by invaders from Isiolo) reported in Mukogodo West (Tiamamut and Ewaso areas) the previous month, residents are yet to move back to their homes.
- Due to poor roads in most areas of the county, the cost of transportation has increased and vegetable prices have gone down resulting in low returns for farmers in the MF and MMF zones.

7.2 Migration

- The few livestock which had immigrated from neighbouring Isiolo County to Mararoi area - Mukogodo East (Pastoral Zone) are still there and are yet to move back to Isiolo, leading to concern by the resident community.

7.3 Food Security Prognosis

- The county has recorded above normal conditions for most of the year as a result of the significant positive effect of the off-season rains on the vegetation (forage and browse), water availability and accessibility, crop and livestock production and food availability. This effect was complemented by the positive effects of the preceding MAM rains. This has resulted in above normal conditions across most of the County except for some areas in Laikipia East Sub County where precipitation has been minimal.
- The livestock productivity is within the expected levels and in some places above normal compared to same time last year. The received rains have contributed positively to indicators such as distance to water sources, forage availability and water availability.
- The food security outlook for the county is stable because of the good weather conditions experienced during most of the year. The current worst-case scenario is reduced household incomes (due to layoffs) and reduced economic activity occasioned by the Covid-19 pandemic, leading to food insecurity. The ongoing OND rains are expected to foster the above normal conditions across the county. However, according to the Meteorology department projections and by ongoing rainfall measurements, most of the county may receive below normal rains by the end of the season, hence the need to monitor key indicators going forward. Some areas in Laikipia East may also experience reduced food security due to minimal precipitation levels in the past season, resulting in deteriorating vegetation and increased distances to water sources.

8 RECOMMENDATIONS

- Sensitize communities on food preservation, pasture management and water conservation techniques. Action: County Government (Agriculture, Livestock and Water departments).
- Advice communities on sanitation, hygiene and social distancing in order to mitigate the effects of the covid-19 pandemic. Action: County Govt. (Health and Water).
- Sensitize farmers on conservation agriculture and the adoption of drought tolerant/ escaping crops as a way to maximise on crop yield. Action: ASDSP, County Govt.; relevant stakeholders.
- Enhance animal disease surveillance and interventions to curb animal production losses. Action: County Govt. – Livestock.
- Implement projects geared towards enhancing community resilience and building new livelihoods, especially in consideration of the ongoing Covid-19 pandemic i.e. implementing fisheries development program in local pans and dams. Action: County Govt. and relevant stakeholders.
- Implement measures/ interventions geared towards mitigating conflict now and in future. Action: County Government, County Commissioner (Interior), KWS and Other stakeholders

REFERENCES

MMF – Marginal Mixed Farming Zone

MF – Mixed Farming Zone

Pastoral Zone

MAM – March, April and May rains

Table 1: Drought Phase Classification

Normal	Alert	Alarm	Emergency
All environmental Agricultural and pastoral indicators are within the seasonal ranges	Biophysical drought indicators move outside seasonal ranges	Environmental and at least three production indicators are outside long term seasonal ranges	All Environmental, Metrological and Production indicators are outside normal ranges.
Recovery: The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signalled by the environmental indicators returning to seasonal norms; local economies starting to recover			

Table 2: Standardized Precipitation Index (SPI)

Color	SPI Values	Meteorological Drought Category
	> +1.5 or more	Wet Conditions
	0 to +1.5	No drought
	-0.1 to -0.99	Mild drought
	-1 to -1.99	Severe drought
	<-2 and less	Extreme drought

Table 3: Vegetation Condition Index Values (VCI)

Color	VCI values	Agricultural Drought Category
	3-monthly average	
	≥50	Wet
	35 to 50	No agricultural drought
	21 to 34	Moderate agricultural drought
	10 to 20	Severe agricultural drought
	<10	Extreme agricultural drought

Table 4: Livestock Body Condition

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

Definition of Early Warning Phases

The EW phases are defined as follow:

NORMAL: The normal phase occurs when **biophysical drought indicators (VCI and SPI) show no unusual fluctuations** hence remain within the expected ranges for the time of the year in a given livelihood zone, division or county

ALERT: The alert phase is when either the **vegetation condition index or the standard precipitation index (biophysical indicators) show unusual fluctuations below expected seasonal ranges** within the whole county/sub-county or livelihood zones.

ALARM: The alarm phase occurs when both **biophysical and at least three production indicators fluctuate outside expected seasonal ranges** affecting the local economy. The production indicators to be considered are livestock body condition, crop condition, milk production, livestock migration and livestock mortality rate.

If **access indicators** (impact on market, access to food and water) move outside the normal range, the status remains at “alarm” but with a worsening trend. Proposed access indicators include ToT, price of cereals, availability of cereals and legumes, and milk consumption. The trend will be further worsening when also welfare indicators (MUAC and CSI) start moving outside the normal ranges.

EMERGENCY: In the emergency phase, **all indicators are outside of normal ranges**, local production systems have collapsed within the dominant economy. The emergency phase affects asset status and purchasing power to extent that seriously threatens food security. As a result, coping strategy index, malnutrition (MUAC) and livestock mortality rates move above emergency thresholds.

RECOVERY: **Environmental indicators returning to seasonal norms.** The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signalled by the environmental indicators returning to seasonal norms while production indicators are still outside the normal seasonal range but local economies start to recover. The status changes to normal once the bio physical and production indicators are back to normal range.