



National Drought Management Authority
LAIKIPIA COUNTY
DROUGHT EARLY WARNING BULLETIN FOR APRIL 2021

APRIL 2021 EW PHASE: ALERT

Drought Status: ALERT



Maandalizi ya mapema

Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall:

Performance: the County received on average 2 to 6 days of rainfall across the Pastoral, Marginal Mixed Farming (MMF) and Mixed Farming (MF) zones, with majority of the days being characterised by moderate rainfall to light showers. The temporal distribution of the rains was poor whereas the spatial distribution was fair to poor.

Vegetation Condition:

- The Vegetation Condition Index (VCI) was within the normal range for the period, indicating a largely fair state of pasture and browse, but declining in some areas.
- The available pasture and browse can last for one to two months, depending on the area.

Socio Economic Indicators (Impact Indicators)

Production Indicators:

- There were few reported cases of livestock migration within Laikipia County.
- The body condition of animals was below 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 above the normal range.

Utilization indicators:

- Within the normal range.

LIVELIHOOD ZONE	EW PHASE	TREND
PASTORAL	Alert	Declining
MMF	Alert	Declining
MF	Normal	Stable
COUNTY	Alert	Stable
Biophysical Indicators	Value	Normal range
% of Average rainfall	57%	80-120%
VCI (1 month)	38.69	35.0-50.0
State of Water Sources	4	4-5
Production indicators	Value	Normal range
Livestock Migration Pattern	Migration	No Migration
Livestock Body Condition	3-4	4-5
Milk Production (Lt)	3.7	> 5
Reported livestock deaths (due to drought)	No death	No death
Crops area planted (%)	-	% of LTA
Access Indicators	Value	Normal ranges
Terms of Trade (ToT)	128	>87
Milk Consumption (Lt)	1.4	>1.9
Return Distance (Water Sources to households)	3.7	<2.8
Return Distance (water sources to grazing areas)	5	<3.6
Utilisation indicators	Value	Normal ranges
MUAC (Mid at risk)	0.2%	< 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 Onset

- Laikipia experienced a low key onset of the MAM (March-April-May) rains on the third week of March, with a pause (no rainfall) in the fourth week across most areas.
- The timeliness of the rain's onset was normal, as it is usually expected to commence by the third week of March.

1.2 Rainfall Performance

- During the month of April, the County received on average 2 to 6 days of rainfall across the Pastoral, Marginal Mixed Farming (MMF) and Mixed Farming (MF) zones, with majority of the days being characterised by moderate rainfall to light showers.
- The MMF zone reported 2 days of Moderate rainfall and 2 days of light showers with fair to poor distribution. The Pastoral livelihood zones recorded 1 day of heavy rainfall and 5 days of light showers with poor distribution while the MF zone reported 4 to 6 days of moderate to light rains with fair distribution.

1.3 Amount of Rainfall and Spatial Distribution

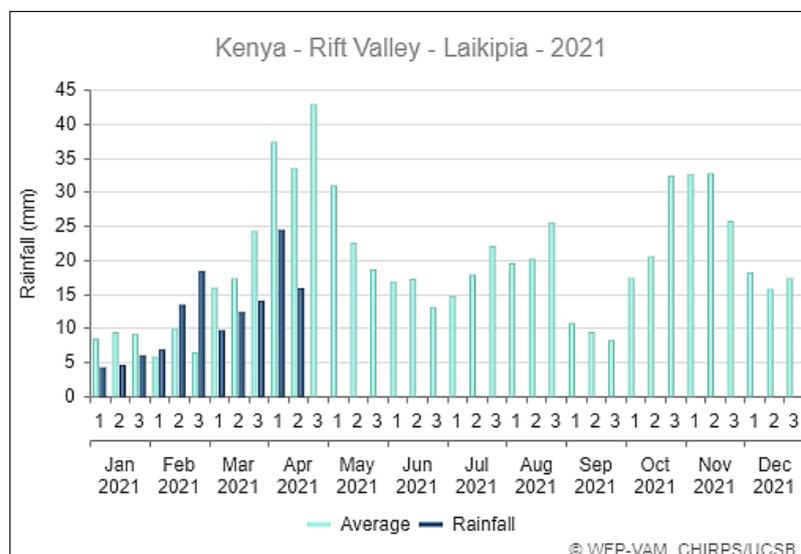


Figure 1: Rainfall (mm) for April 2021

Source – WFP VAM – CHIRPS

- For the month of April, the rains received amounted to 40 mm by the second Dekad (first 20 days), which is 57% of the long-term average of 70.5 mm by the same time and is way below the normal range expected for the period.
- Compared to the previous month by the same time (21.8 mm), the amount of rainfall received has increased.
- The temporal distribution of the rains was poor whereas the spatial distribution was fair to poor across the County.
- The performance of the MAM rains as at now is way below normal of the expected amount.

2 IMPACT ON VEGETATION AND WATER

2.1 Vegetation Condition

2.1.1 Vegetation Condition Index (VCI)

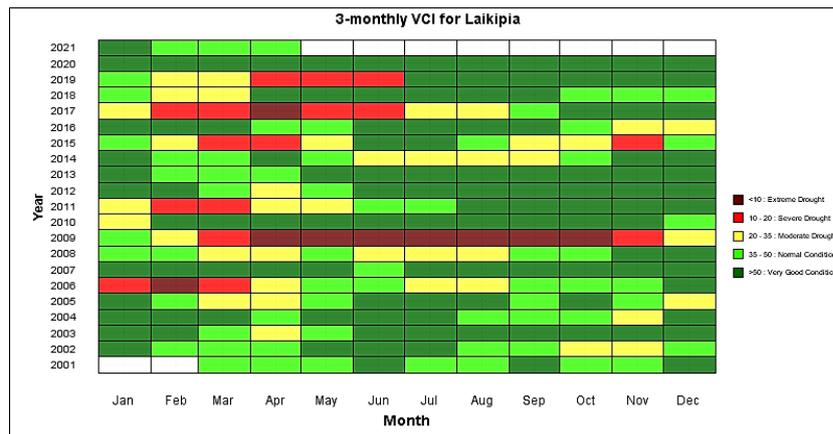


Figure 2: 3 Monthly VCI Matrix April 2021

Source - BOKU

- The VCI matrix above indicates a normal vegetation condition, same as the previous month. However, from field observations, the vegetation condition across some Pastoral zones and some MMF zones has declined and was fair to poor (especially in Mukogodo East, Mukogodo West, Sosian, Olmoran, Rumuruti, Segera, Tigithi, Ngobit Salama, wards), which is largely attributed to low precipitation levels and long sunny spells recorded in the zones.
- The actual VCI (3 month) at 38.69 was within the normal range for the month but recorded a slight decline compared to the previous month (at 38.8).
- Laikipia North Sub County recorded the lowest VCI at 36.5 (moderate), slightly down from 39.39 (moderate) the previous month. It is the only Sub County to record a decrease as Laikipia East and West recorded increase.

2.1.2 Pasture

- Key informant interviews indicated that the pasture condition was good (4.3%), fair (39.1%) and poor (56.5%) as shown in the chart below.

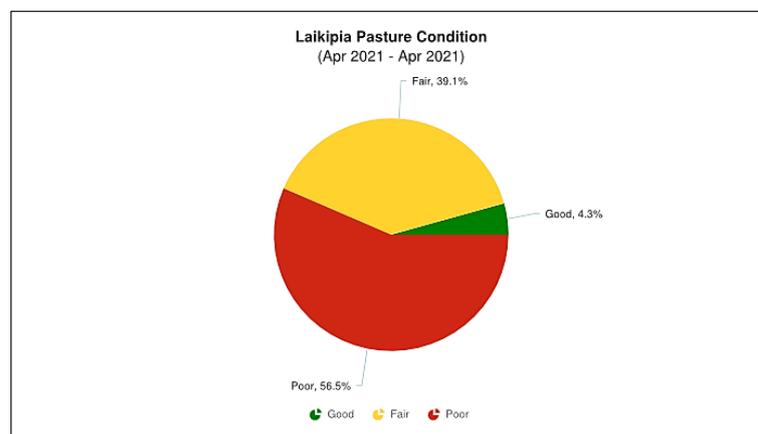


Figure 3: Pasture Condition April 2021

Source - KDEWS

- Compared to the previous month (good (4.2%), fair (37.5%) and poor (58.3%)) and in addition to field observation, the vegetation condition is largely poor and has deteriorated in both quantity and quality across most of the Pastoral zones and some MMF zones. The current trend is attributed to hot and dry conditions prevailing across the County coupled by the effect of low precipitation (way below normal MAM rains).
- The current general situation is not normal for 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 (21.7%), fair (43.5%) and poor (34.8%) as shown in the chart below.

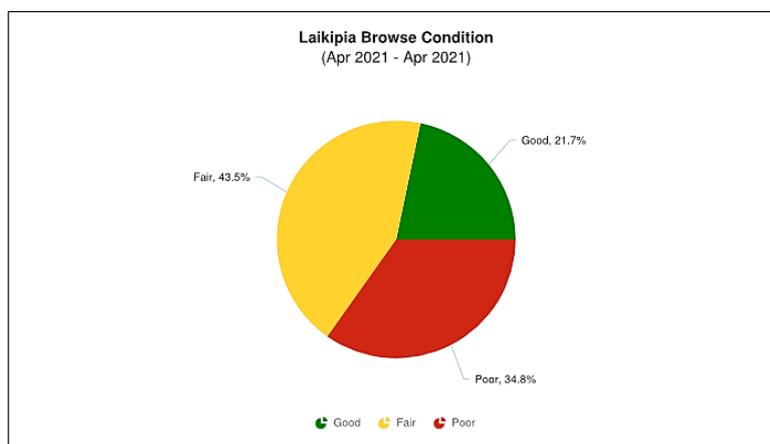


Figure 4: Browse Condition April 2021

Source - KDEWS

- Compared to the previous month: (12.5%), fair (45.8%) and poor (41.7%), the browse condition is largely fair and has slightly improved in terms of quantity but not quality.
- No major constraint to browse access was reported.

2.2 Water Resource

2.2.1 Sources

- The main water sources for the month under review for both domestic and livestock use in the County were pans and dams (16.3%), boreholes (32.7%), shallow wells (26.5%) and rivers (16.3%). Others were traditional river wells (8.2%), as shown in the chart below.

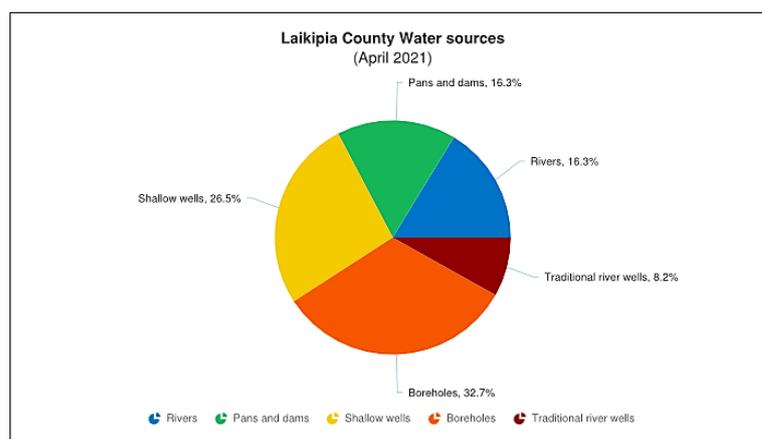


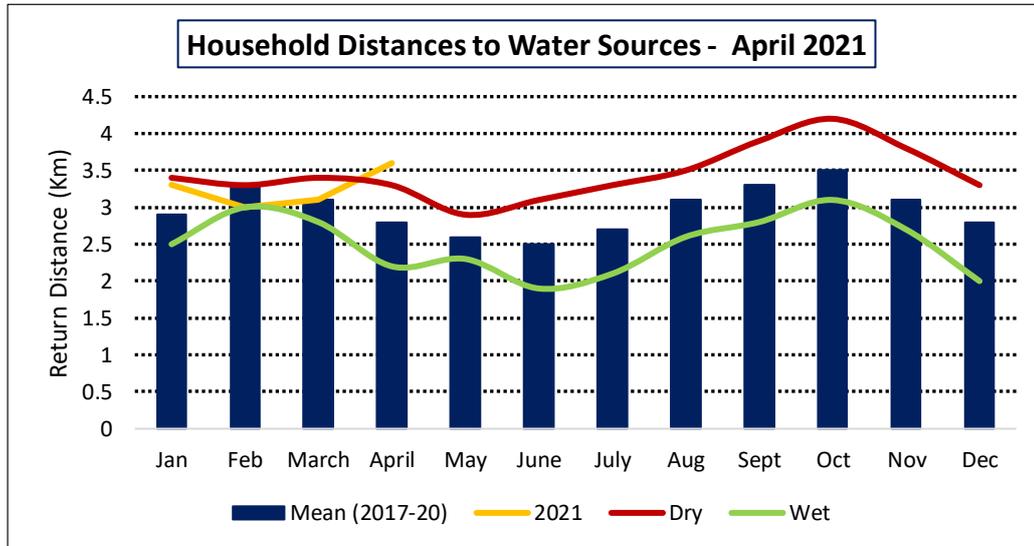
Figure 5: County Water Sources April 2021

Source - KDEWS

- Compared to the previous month: pans and dams (32.1%), boreholes (28.3%), shallow wells (18.9%), rivers (13.2%) and traditional river wells (7.5%), the water quantity is stable and there is a significant shift towards sub surface water sources, specifically boreholes, and a decrease in the use of surface sources, indicating low precipitation levels, which is attributed to the hot and dry weather conditions and below normal MAM rains.
- The main water sources are expected to last as follows: - Pastoral (boreholes - permanent, seasonal rivers – 2 months, pans and dams – 1 month or less), MMF (borehole – permanent, seasonal rivers – 2 months, pans and dams – 1 month), MF (shallow wells – 3 months, traditional river wells – 3 months, pans and dams – 3 months).

2.2.2 Household Access and Utilization

- The average return distances from households to water sources was 3.6 Km in April, a significant increase compared the previous month (at 3.1 Km). This trend can be attributed to the prevailing hot conditions and below normal MAM rains. The Pastoral zone recorded the farthest return distance of 4.2 Km.



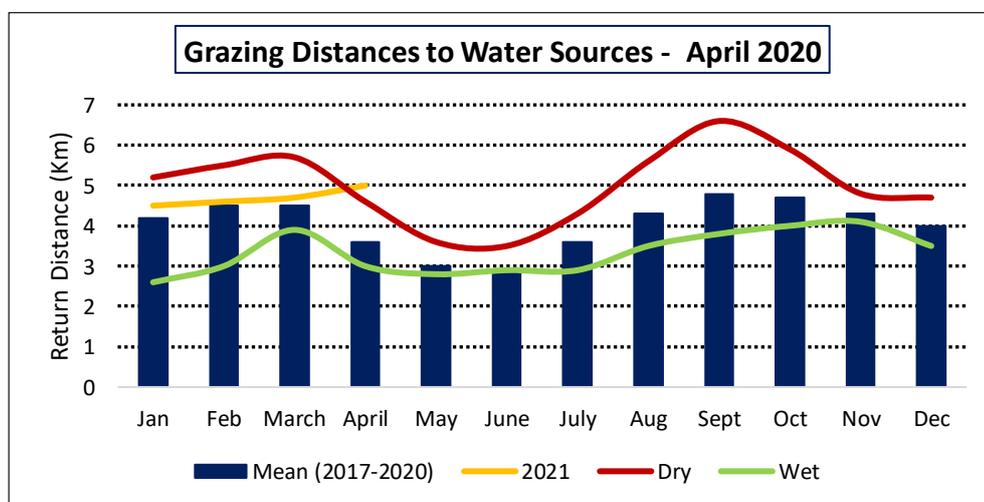
Graph 1: County Water Distances – April 2021

Source – KDEWS

- The current distances are way above the long-term average for the period.
- The current trend is attributed to the low precipitations as a result of the prevailing hot and dry conditions and below normal MAM rains.
- There was no notable constraint to water access at water access points.

2.2.3 Livestock Access

- The average return distance from water sources to grazing areas was 5 km, a slight increase compared to the previous month (4.7 km). The longest return distance of 6.3 km was recorded in the Pastoral zones, up from 5.7 Km the previous month.



Graph 2: County Water Distances to Grazing Areas – April 2021

Source – KDEWS

- The current distances were way above the long-term average for the month at 3.6 Km.
- The increase in grazing distance is attributed to the deteriorating vegetation condition and depletion of water sources across the County.

3 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

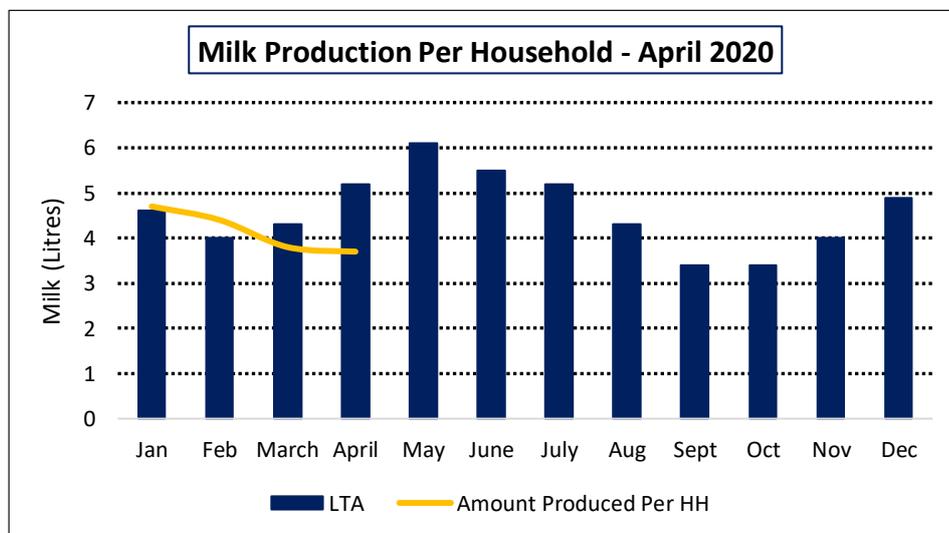
- During the month under review, the livestock body condition across the county was classified at level 4 (moderate, neither fat nor thin) to 3 (Borderline fore-ribs not visible. 12th & 13th ribs visible).
- Generally, the livestock body condition was fair for grazers and showing signs of stress (especially for some Pastoral and MMF zones) and fair for browsers across all livelihood zones.
- Compared to last month, the livestock body condition has slightly declined.
- Compared to same time last year, the body condition of livestock is below normal.

3.1.2 Livestock Diseases and Deaths

- Cases of CCPP have been reported in Sosian ward (on the border of baringo and Laikipia), leading to the death of a reported 85 shoats.

3.2 Milk Production

- The sampled households recorded an average milk production of 3.7 litres per household per day, a slight decrease compared to the previous month at 3.8 litres. The largest share of the decrease was recorded in the Pastoral zones. This milk was largely obtained from cattle.



Graph 3: Milk Production per Household – April 2021

Source – KDEWS

- The milk production is way below the average levels (> 5.2 litres per household) expected at this time of the year.

3.3 Rain-fed Crop Production

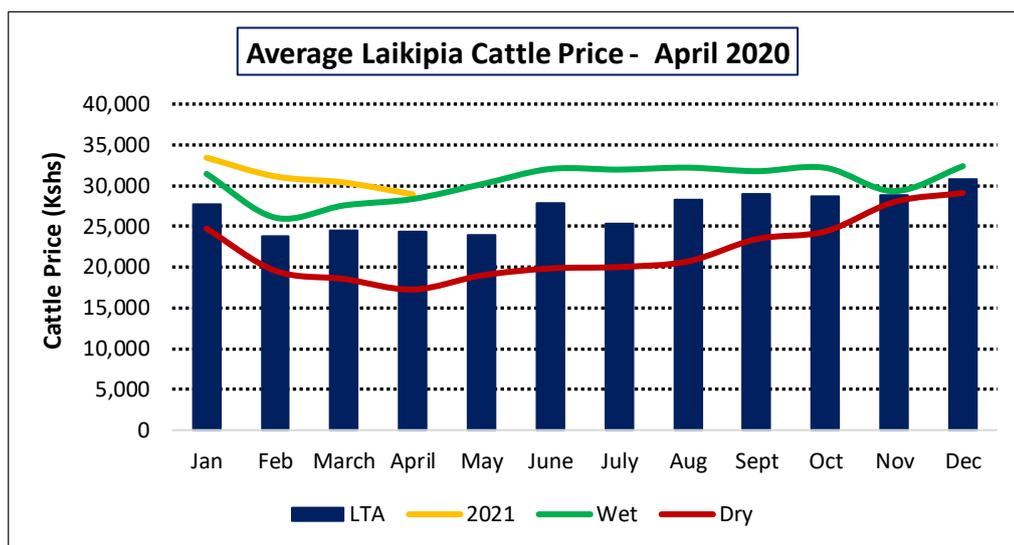
3.3.1 Stage and Condition of Food Crops

- In the MF zone and some MMF zones, Maize and beans planting is ongoing while in other farms clearing and tilling was taking place. In areas where planting was done early (in the MMF and MF zones) fair to poor crops germination was observed as a result of moisture stress.
- Casual labour is available but daily wages have increased in some areas across the County.

4 MARKET PERFORMANCE

4.1 Livestock Marketing

4.1.1 Cattle Prices (Market)

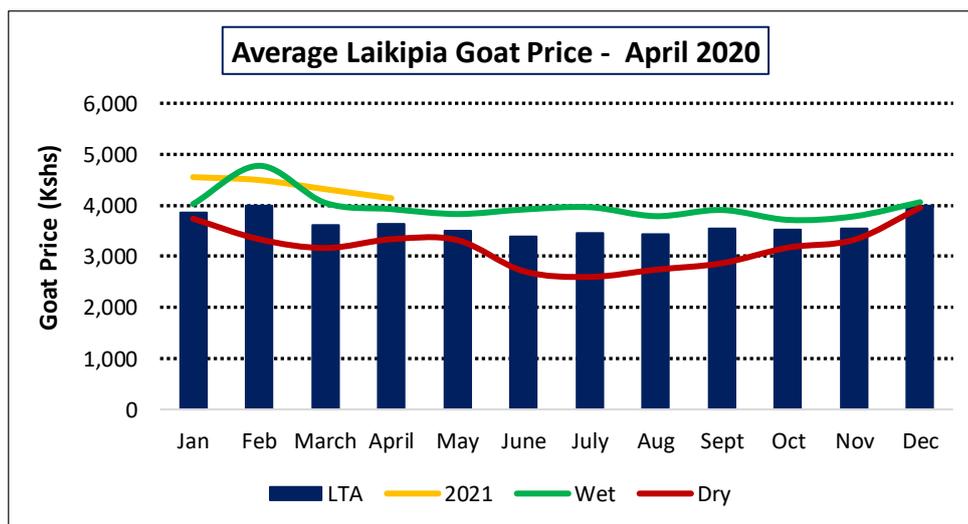


Graph 4: County Cattle Prices – April 2021

Source - KDEWS

- The County recorded an average cattle price of Kshs. 28,925 at the markets in April, 4.8% lower compared to the previous month at Kshs. 30,375. The current price decrease was attributed to increased supply at the markets. 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. 19%.

4.1.2 Small Ruminants Prices (Goat)



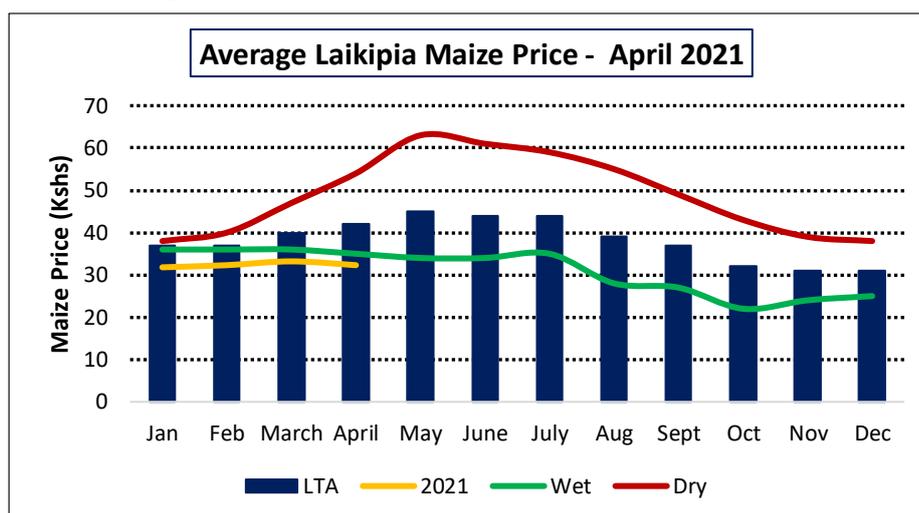
Graph 5: County Goat Prices – April 2021

Source - KDEWS

- During the month under review, the average price of a goat in Laikipia was recorded at Kshs. 4,138; a slight decrease (by 4%) compared to the previous month at Kshs. 4,316. The above average goat price was attributed to renewed demand as markets stabilised but is reducing as a result of increase at the markets and slightly deteriorating body condition.
- The highest average goat price was recorded in the MF zone at Kshs. 6,700.
- Compared to the long-term average, the current goat price was higher by 13.5% hence above the normal range for the period.

4.2 Crop Prices

4.2.1 Maize (market price)

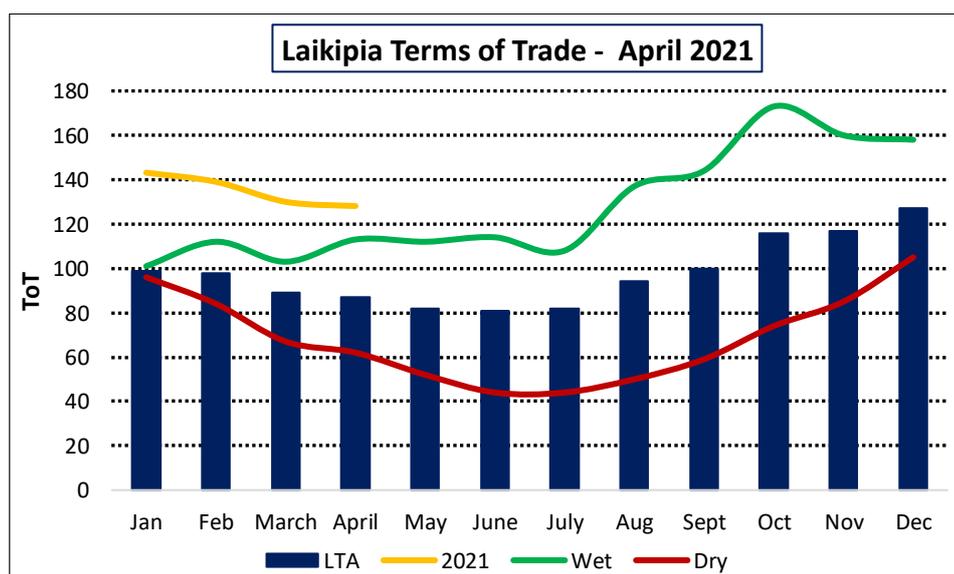


Graph 6: County Maize Prices – April 2021

Source - KDEWS

- The average maize price of Kshs. 32.3 per Kg was recorded at the markets as shown above, more or less same as the previous month at Kshs. 33.2. The prevailing market price was attributed to the stable maize supply both at the markets and at the household level due to recent maize harvests in some areas.
- The highest average market price of maize at Kshs.40 per Kg was recorded at Kimanjo (Pastoral) whereas the lowest at Kshs. 25 was recorded at Kinamba market (MF).
- Compared to the three-year average, the current price is slightly lower (by approx. 23%).

4.3 Livestock Price Ratio/Terms of Trade



Graph 7: Terms of Trade (Goat/ Maize) – April 2021

Source - KDEWS

- As per the graph above, the April average price of a goat at Kshs. 4,138 was able to purchase 128 Kg of maize, a slight decrease compared to the previous month (at 130 Kg).
- The current trend in the ToT (Terms of Trade) can be attributed to the stable price of maize price and a slight decrease of goat price 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 way above the normal range (by 47%) for the period.

4.4 Implication on Food Security

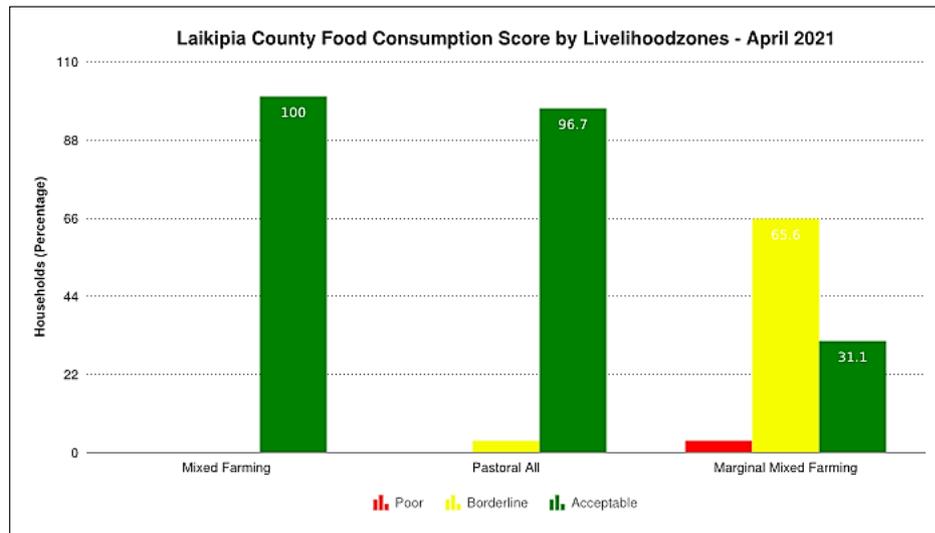
- The effect of the above normal conditions recorded for most of the year 2020 coupled with the positive effect of the off-season rains (July-Sept 2020, Feb 2021) was still observable on the vegetation (forage and browse), water availability and accessibility, crop and livestock production and food availability in April. The onset of the MAM rains was expected to foster the positive outlook. However, the low key onset coupled with the below normal rains recorded so far and the prevailing hot and dry weather conditions has seen a fast decline of the vegetation and the increase in distance to grazing areas and water sources. The germination of already planted crops has also been compromised.
- Areas indicating effects of low precipitation levels are mostly in Laikipia East and North Sub Counties.
- The livestock productivity is declining compared to the expected levels for the period.

5 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- During the month under review, the sampled households recorded an average milk consumption of 1.4 litre per day, slightly less than the previous month (1.6), with most of the milk coming from cattle.
- The milk consumption level is below the normal (>1.9 litres) expected at this time of the year.
- For the MMF and MF zones, the larger percentage of the milk produced (69% and 72% respectively) was sold as households sought to raise income for other household needs whereas for Pastoral zones, 99% of the milk produced was used to supplement the diet.

5.2 Food Consumption Score



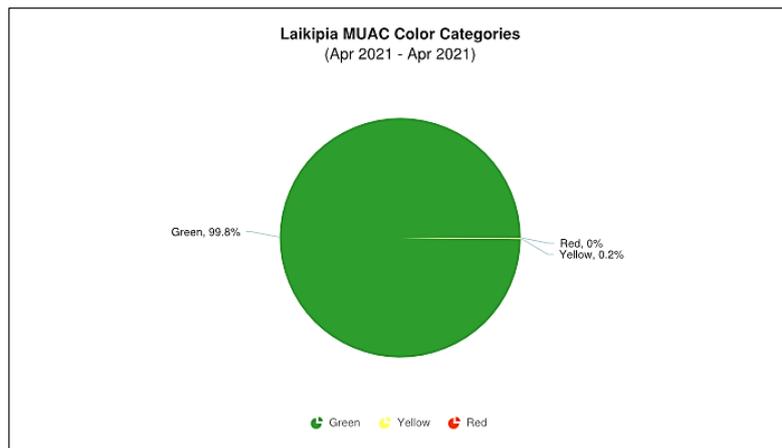
Graph 8: Food Consumption Score for April 2021

Source - KDEWS

- The graph above indicates that 100% of the sampled households in the Mixed Farming livelihood zone continued to maintain an acceptable food score. The Pastoral zone followed with an acceptable food score of 96.7% (91.7% the previous month) and a borderline food score of 3.3% (8.3% the previous month) hence indicating a slightly improved dietary diversity.
- 31.1% of the households in the Marginal Mixed Farming (MMF) zone had an acceptable score, 65.6% had a borderline score and 3.3% poor food score. This is a slight reduction compared to last month's 36.7% acceptable, 58.9% borderline and 4.4% poor, indicating a few areas in the MMF zone with increased borderline and poor dietary diversity.
- However, the household dietary diversity remained relatively stable across livelihood zones.

5.3 Health and Nutrition Status

5.3.1 Nutrition Status



Graph 9: Percentage of Children at Risk of Malnutrition for April 2021

Source - KDEWS

- The percentage of children under-five years of age who are at risk of malnutrition is 0.2%, a slight decrease compared to the previous month at 1%. The prevailing low percentage can be attributed to the stable food availability and dietary diversity across the county.
- There were no reported cases falling under SAM and MAM for the current month.

5.3.2 Health

- The County is still on 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.

5.4 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

- Rehabilitation of Loiragai dam in Ilgvesi Sentinel site in pastoral zone of (Mukogodo East Ward) is ongoing courtesy of World Vision Kenya 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

- Insecurity cases were reported at Kamwenje, and Robere areas (MF Zone) in Githiga Ward along the Laikipia Ranching (LNC) borders.

7.2 Migration

- Cases of intra migration of livestock were reported at Private Ranches (Pastoral zone) in Mukogodo East and West Wards. Immigration of livestock from neighbouring Isiolo County to Iingwesi in Mukogodo East Ward (Pastoral zone) in search of pasture were reported.

7.3 Food Security Prognosis

- The effect of the above normal conditions recorded for most of the year 2020 coupled with the positive effect of the off-season rains (July-Sept 2020, Feb 2021) was still observable on the vegetation (forage and browse), water availability and accessibility, crop and livestock production and food availability in April. The onset of the MAM rains was expected to foster the positive outlook. However, the low key onset coupled with the below normal rains recorded so far and the prevailing hot and dry weather conditions has seen a fast decline of the vegetation and the increase in distance to grazing areas and water sources. The germination of already planted crops has also been compromised.
- Areas indicating effects of low precipitation levels are mostly in Laikipia East and North Sub Counties. The livestock productivity is declining compared to the expected levels for the period.
- The food security outlook for the county remains stable because of the good weather conditions experienced during most of the year 2020, whose spill over effects are still being felt in 2021. However, the effect of the below normal OND rains and the underperformance of the ongoing MAM rains coupled with the reduced economic activity occasioned by the effects of the Covid-19 pandemic is threatening food security in the near future.

8 RECOMMENDATIONS

- Conduct a rapid assessment to determine the extent of deterioration of forage and water resources in affected areas. Action; CSG, NDMA
- Provide adequate and relevant advisories to crop farmers in consideration of the commencing rainfall season. Action: County Govt – Agric, MET Dept, ASDSP, relevant stakeholders
- 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 along the stock migratory routes as migration cases increase. Action: County Govt. – Livestock
- Implement projects geared towards enhancing community resilience and building new livelihoods, especially in consideration of the ongoing Covid-19 pandemic. 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
- 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).

REFERENCES

MMF – Marginal Mixed Farming Zone

MF – Mixed Farming Zone

Pastoral Zone

MAM – March, April and May rains

OND – October, November and December 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 follows:

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.