



**National Drought Management Authority
LAIKIPIA COUNTY
DROUGHT EARLY WARNING BULLETIN FOR MAY 2017**

MAY 2017 EW PHASE: ALERT



LIVELIHOOD ZONE	EW PHASE	TREND
PASTORAL	Alert	Worsening
MMF	Alert	Stable
MF	Alert	Stable
COUNTY	Alert	Stable
Biophysical Indicators	Value	Normal range
% of Average rainfall	71%	80-120%
SPI-3 month (TAMSAT)	-	-1 to 1
VCI (Entire County)	14.13	35-50
State of Water Sources	4	5
Production indicators	Value	Normal range
Livestock Migration Pattern	Not Normal	Normal
Livestock Body Conditions (score) County Wide	1-2	4-5
Milk Production (Lt)	1.5	1.5 to 2
Livestock deaths (Due to drought) from 180 interviewed HHs	22	No death
Crops area planted (%)	NA	% of LTA
Access Indicators	Value	Normal ranges
Terms of Trade (ToT)	47	> 83
Milk Consumption (Lt)	0.72	> 0.6
Return Distance to Water Sources from grazing areas	3	< 5
Return Distance from Grazing areas (Pastoral)	4.5	< 5
Utilisation indicators	Value	Normal ranges
MUAC	6.8	< 18.36
Coping Strategy Index (CSI)	0.9	<1

Drought Situation & EW Phase Classification

Biophysical Indicators
Rainfall: For the month of May, the County has experienced rainfall ranging from light showers to heavy downpour. The showers were fairly distributed in time and space. The received rainfall was 71% of the expected amount for the month. The rainfall distribution was fair in terms of time and space across all livelihood zones.

Vegetation Condition: The Vegetation Condition Index (VCI) is still way below the normal range. According to field observations, the pasture condition in MF zones was ranging from fair to poor while in the Pastoral zones and most of the MMF zones the same was poor largely due to the poor regeneration coupled with overgrazing. The browse condition was largely fair to poor across all livelihood zones. However, the

Socio Economic Indicators (Impact Indicators)
Production Indicators – Livestock migration patterns in the pastoral and some MMF zones were not normal for the time of the year. Milk production per household was within the normal range and had recorded a slight improvement. Livestock deaths due to drought were reported. The body condition of animals was way below the normal range for the period but there is hope of improvement due to the ongoing rains.

Access indicators - The terms of trade were way below the normal range. The return distance from water sources to grazing areas in Pastoral zones was within the normal range.

Utilization indicators – were all still within the normal range.

The EW phase is **Alert** for the whole County.

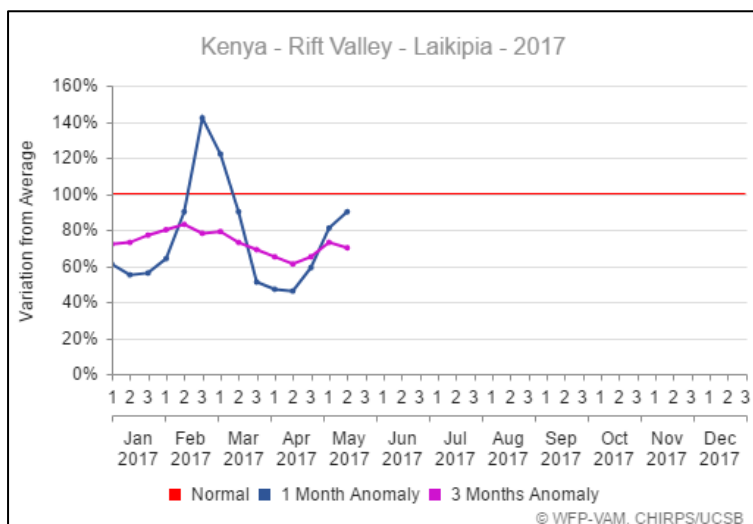
The ongoing rains have had a positive impact on livelihoods. However, the impact has been very slight and if the rains cease as and when projected, the situation will worsen. In view of the situation, it is important to embark on drought preparedness activities across the County.

<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

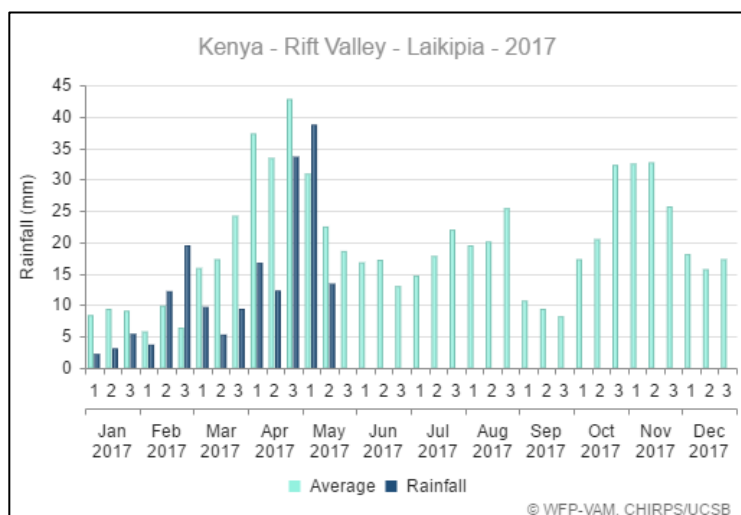
1.1 Rainfall Performance

- For the month of May, the County has experienced rainfall ranging from light showers to heavy downpour. The showers were fairly distributed in time and space.
- The Mixed Farming (MF) zone received 4 days of heavy rainfall whereas the Marginal Mixed Farming (MMF) reported 3 to 4 days of moderate to heavy rains. The Pastoral (all species) zone recorded 10 days of light showers to moderate rainfall.
- The long rains season is expected to cease by the end of May.



- In terms of variation from the long term average, the amount of rain received was approximately 71% of the expected amounts for the month of May, hence slightly below normal. However, this is a slight increase compared to the recorded 50% of the expected amount in April.

1.2 Amount of Rainfall and Spatial Distribution

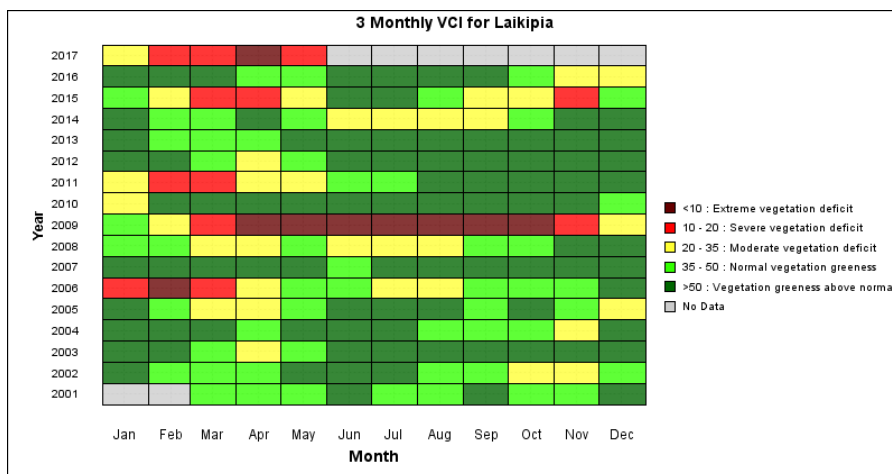


- According to the chart above, there was a slight increase in precipitation levels in the month of May compared to the previous month across all livelihood zones.
- The rainfall distribution was fair in both time and space across the all livelihood zones.

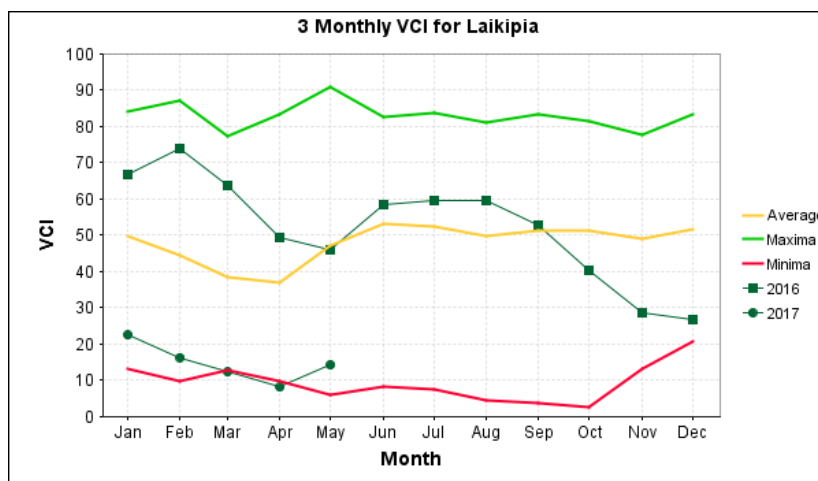
2 IMPACT ON VEGETATION AND WATER

2.1 Vegetation Condition

2.1.1 Vegetation Condition Index (VCI)



- According to the VCI matrix charts above, the vegetation condition has recorded slight improvement over the last one month as opposed to the decline recorded in the previous six months. In May, the county experienced severe vegetation deficit compared to April’s extreme vegetation deficit with areas like Laikipia West (MMF zones only) and North (mainly Pastoral) being the worst hit.



- According to the chart above, the VCI at 14.13 is still way below the normal range (35-50) but has slightly increased compared to April at 5.82. This is largely due to the ongoing rains being recorded across all livelihood zones in the month of May.
- The vegetation condition is on a slightly improving trend due to the ongoing rain season but regeneration is poor largely due to overgrazing and below normal rainfall.

2.1.2 Pasture

- Across the County, the pasture condition is poor to fair but has been improving in both quantity and quality with the moderate to heavy rains that have been experienced in various pockets of the county although in some zones pasture condition is yet to improve due to minimal precipitation and denuded lands due to overgrazing experienced during the dry spell which was accelerated by hot and dry weather conditions in the county especially in the Pastoral zones.
- The pasture condition is fair to poor in the MF zones and still below normal in the Pastoral zones and most parts of MMF zones. In spite of the rains that have been reported in the MF and MMF

zones, the pasture condition has yet to change to better although lush pasture and regeneration have been reported.

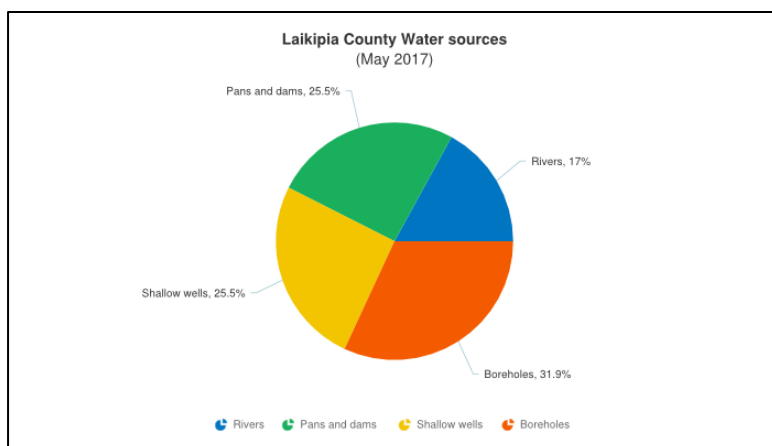
- The pasture condition in the Pastoral zone is in poor condition whereby there is bare ground in most of the areas due to overgrazing (especially in Mukogodo West) and poor regeneration owing to the poor rains received in the area during the short rain season. In addition, pastures in the ranches have been depleted.
- The quantity of pasture available is expected to last less than a month in few areas with some little pastures remaining (mainly in the ranches and MF zones), hastened by overgrazing and the below normal rains that have been experienced.

2.1.3 Browse

- The browse condition in Pastoral zone is fair to poor with minimal change as a result of the minimal precipitation experienced in the zone. In the MF zones, the browse condition is fair whereas that of the MMF zone is fair to poor.
- The browse condition is below normal in all livelihood zones since most of the palatable species had been exhausted especially in the MMF and the Pastoral areas.
- The quantity of browse available is expected to last an average of 1 to 2 months in the MF and MMF zones and 1 month in the Pastoral zone.

2.2 Water Resource

2.2.1 Sources



- During the month of May, the main water sources for domestic and livestock use in the County were boreholes, shallow wells and pans and dams.
- The Pastoral livelihood zone used shallow wells, pans, dams, wells and boreholes as their main water sources. Alternate water sources were hand pumps while in the MMF and MF zone alternate water sources were permanent rivers and traditional wells.
- The current water levels in water sources have increased but not up to normal levels during the period under review owing to the rains experienced in parts of the County and upstream in the forests.
- Challenges in access to water sources were the congestion at the sources by wildlife especially in the Pastoral zones. Also water sources like semi-permanent rivers in most parts of the County are yet to get to normal flows level.

2.2.2 Household Access and Utilization

- The average return distances from households to water sources slightly decreased to 1.9 Km in May, down from 2.3 Km in April. The furthest return distance of 2.5 Km was recorded in Pastoral zones followed by 2 Km in MMF livelihood zones, slightly down from 2.3 Km in the

previous month.

- The lowest distance of 0.2 Km was recorded in the Mixed Farming zone, significantly lower than the previous month at 0.8 Km. The longest average return time taken by households to water points was 2 hours in the Marginal Mixed Farming (MMF) zone.
- In general, there is a slight decrease in distances from households to water sources across all livelihood zones. This is attributed to the prevailing rainfall.

2.2.3 Livestock Access

- The average return distance from water sources to grazing areas has significantly decreased from 4.6 Km in April to the current 3 Km. The longest return distance of 4.5 Km was recorded in the Pastoral zones, down from 7.9 Km in April. MMF zones recorded 2.2 Km, a significant decrease compared to the previous month at 3.1 Km.
- Overall, a significant decrease in distances from water sources to grazing areas has been recorded across the County. This is attributed to the ongoing rains after the full commencement of the long rains season, albeit late. Livestock are now trekking shorter distances to grazing areas compared to the previous month.

2.3 Implication on Food Security

- The ongoing precipitation has led to vegetation regeneration and increased water levels in water sources. This has contributed to slight relief from the previous severe drought conditions especially in all of the Pastoral zone, most of MMF and some MF zones.
- However, the precipitation levels are below the expected range coupled with the late onset of the rain season. This means that if the rains cease early, the food security situation may worsen since there is a high chance of crop failure and poor pasture regeneration.

3 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- During the period under review, the general body condition of cattle was poor across the county but improving. In the Pastoral zone and MMF zones, the cattle body condition was poor. For MF the same was fair to poor.
- The cattle body condition is slightly improving due to recovering pasture and browse quality and quantity coupled with increasing water sources and the resultant decrease in trekking distance. This situation applies across all livelihood zones, with the Pastoral zone being the most affected.
- The body condition of browsers was fair across all livelihood zones.
- On average, livestock body condition trend across the county is that, in all the livelihood zones the body condition of all the livestock classes is on an improving trend with the body condition of lactating cattle being in a poor to fair condition.

3.1.2 Livestock Diseases and Deaths

- No major livestock disease outbreaks were reported during the period under review.
- From the 180 interviewed households, 22 Livestock deaths in both cattle and shoats were reported as having resulted from drought. Cattle and sheep deaths were reported in MMF and Pastoral zones whereas few goat deaths were reported in the Pastoral livelihood zones.

3.1.3 Milk Production

- The sampled households recorded an average milk production of 1.5 litres per household per day, up from 1.3 litres in April. Most of the milk was obtained from cattle.
- The quantity of milk produced in May recorded a slight increase compared to the previous month. This is largely contributed by the significant improvement in water availability and slight improvement in pasture and browse quality and quantity.
- The milk production is within the normal levels (1.5 to 2 litres per household) expected at this time of the year.

3.2 Rain-fed Crop Production

3.2.1 Stage and Condition of Food Crops

- Different crops are at different stages depending on when they were planted and the onset of the rains at various livelihood zones. In most farms in parts of the MMF zones, maize is at knee high, beans and potatoes are at flowering stage and at second moulding respectively.
- The major on-going agricultural farming activity is spraying, weeding and 2nd moulding of potatoes in the MF and MMF zones.

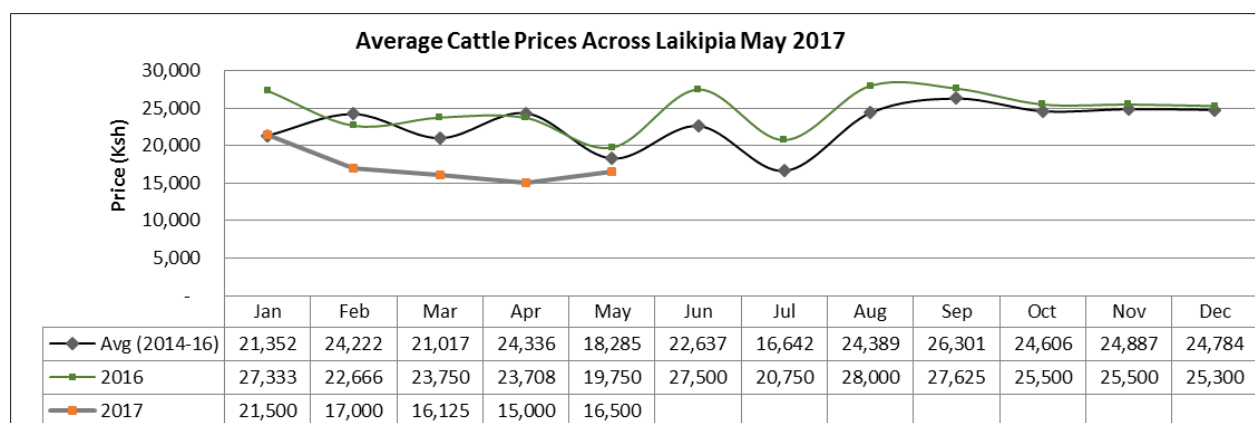
3.3 Implications on Food Security

- The improvement of the body condition of cattle across the county will result in the increase in milk production therefore contributing to improved food security.
- The late onset of the rain season resulted into late crop planting. This is likely to lead to significant crop failure (especially the maize crop) if the rains cease.

4 MARKET PERFORMANCE

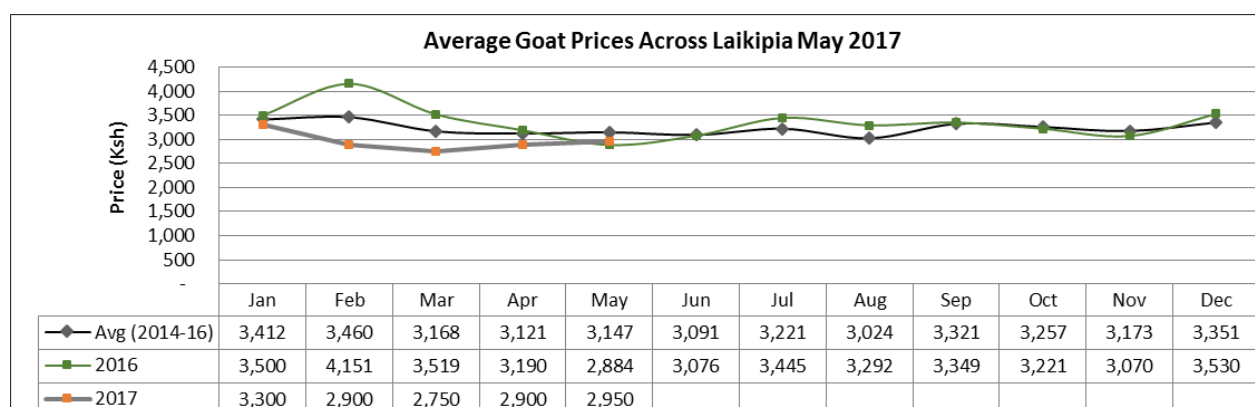
4.1 Livestock Marketing

4.1.1 Cattle Prices



- The average price of cattle across the County at the farm gate recorded a slight increase (10%) compared to the previous month. This is the first cattle price increase in nine months. The slight price increase can be attributed to the slightly improved weather condition as keepers hold their stock in anticipation of improved pasture quality and quantity. Some livestock keepers are also looking to restock after major animal loss. However, there is existing scepticism over whether the rains will be adequate.
- In Laikipia, the lack of direct access to external markets in most areas especially in the Pastoral and MMF zones is negatively affecting the net value accrued from animal sales by livestock keepers. This situation only favours brokers, with the farmer not getting value for their cattle.
- Compared to the long term average, the current price is slightly the expected prices for the month (by 10%).

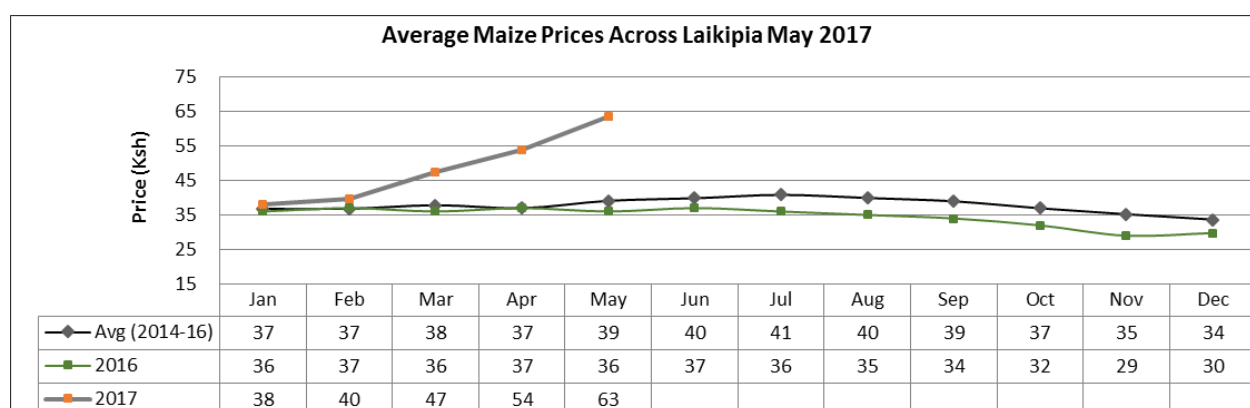
4.1.2 Small Ruminants Prices



- During the month under review, the average price of a goat (at the farm gate) across all livelihoods remained stable at Kshs 2,950, more or less the same compared to the previous month. The price is lower (by 6%) compared to the long term average. The slight improvement in price can be attributed to the slight increase in the quality and quantity of browse thus resulting in improved goat body condition.
- The highest average goat price was recorded in the MF zone followed by the MMF zone.
- The current price is much lower compared to the same time last year and the long term average.

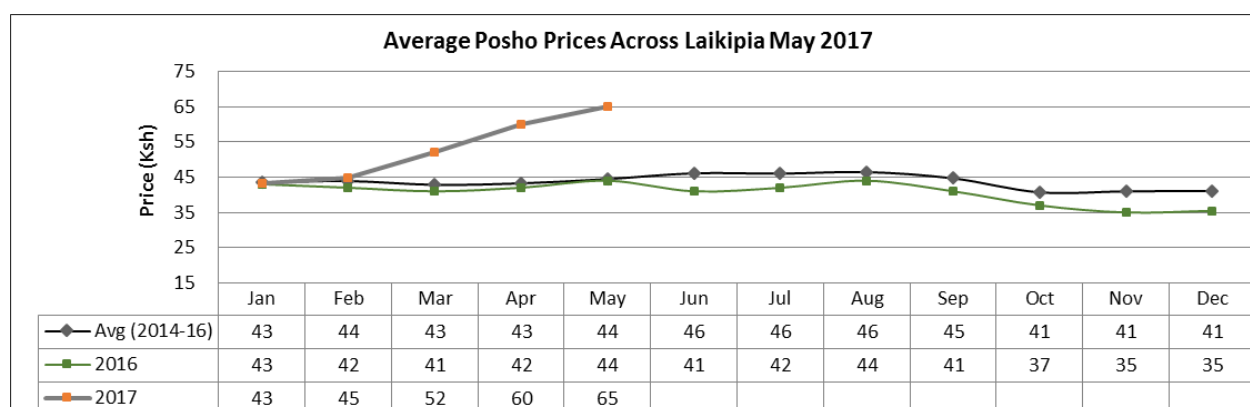
4.2 Crop Prices

4.2.1 Maize (market price)



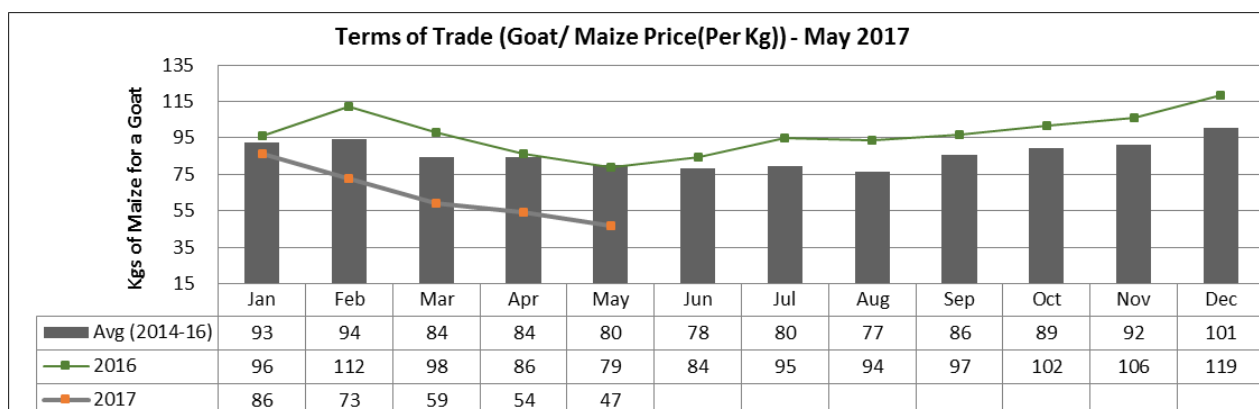
- The average maize prices at the markets recorded a significant increase (by 17%) from Kshs.54 in April to the current Kshs.63. This is attributed to the cease in maize harvest activities across all maize growing zones and also due to decline in available stocks across the country as a result of the drought.
- The highest average market price of maize at Kshs.70 was recorded in the MMF zones, a significant increase compared to April (at Kshs. 62). The lowest average price of Kshs. 48 was recorded in the MF zone.
- Compared to the three year average, the current price is much higher by 61%. Last year (2016) had recorded much improved weather conditions in general but the short rains ceased earlier than normal, leading to the sharp increase in cereal prices. The prolonged drought spell also worsened the situation.

4.2.2 Posho



- The recorded average Posho prices at the markets significantly increased to Kshs. 65, a significant increase (by 8%) compared to April. The increase in price is attributed to the increase in the price of maize across maize growing zones (MF and MMF) as maize stocks decline.
- The current Posho prices are way above the long term averages by 39%.

4.3 Livestock Price Ratio/ Terms of Trade



- The average price of a goat at Kshs 2,950 is able to purchase only 47 Kg of maize, which is a very significant decrease (by 13%) compared to the previous month at 54 Kg. The ToT (Terms of Trade) favours maize farmers/brokers as maize prices have increased whereas at the same time livestock prices have decreased. However, maize farmers may not take advantage of the increase in maize prices because their stocks have been exhausted or have drastically declined.
- When compared to the three year average, the ToT are significantly lower.
- Households were able to sell up to 1.93 goats to purchase a 90 Kg bag of maize, which is high compared to the previous month at 1.68 goats across all livelihood zones in Laikipia County.

4.4 Implication on Food Security

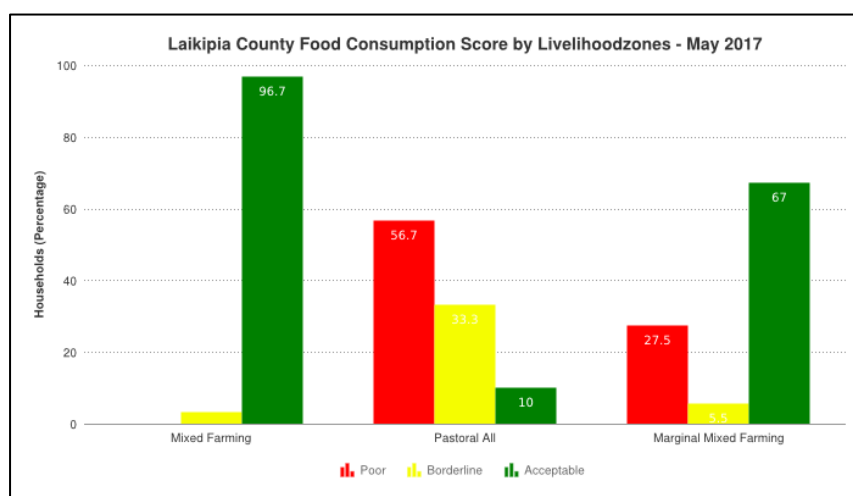
- The still weak and poor body condition of livestock continue to command poor livestock prices and therefore livestock keepers are still unable to get better value for their livestock. However, if the rains continue, the body condition is expected to improve hence farmers will be able to fetch better prices.
- The sharp increase in maize prices may result to the increase in food insecurity. However, the government has intervened through maize imports in order to stabilize prices.
- The terms of trade now favour maize farmers, although the majority may not take advantage of the increased maize price because most of them had already sold-off their stock in the November–December period at throw away prices.

5 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- The sampled households recorded an average milk consumption of 0.72 litres per day and this was mostly milked from cattle. The quantity of milk consumed in May is more or less the same compared to the previous month (at 0.7 litres).
- The milk consumption levels are still within the normal levels (>0.6 litres) expected at this time of the year. The slight increase in milk consumption was recorded in Pastoral and MF zones. The increase in milk consumption is attributed to slight improvement of pasture and a slight decrease in distances to water sources.
- For the MMF and MF zones, the larger percentage of the milk produced (64% and 57% 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.

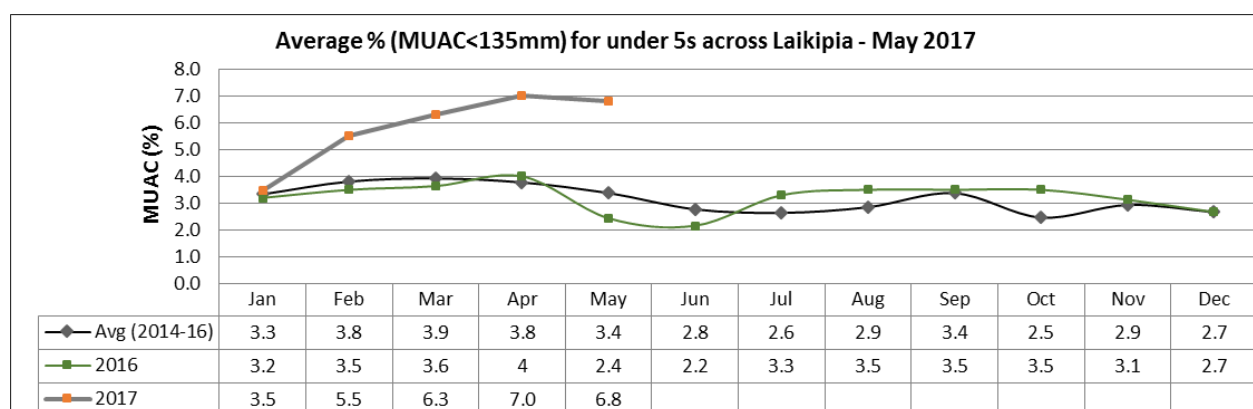
5.2 Food Consumption Score



- According to the chart above, the MF livelihood zone has the highest prevalence of households with an acceptable food score at 96.7%. The MMF zone follows with an acceptable food score of 67% and a poor food score of 27%. The pastoral zone is the least food secure with a poor food score of 56.7% and a borderline food score of 33%.

5.3 Health and Nutrition Status

5.3.1 Nutrition Status



- The percentage of children under five years of age who are both at risk of malnutrition and have malnutrition was recorded as 6.8%, slightly lower than the previous month. The highest number of children both at risk of malnutrition and have malnutrition was recorded in Sosian ward (MMF) at 11.5% and Iingwesi (Pastoral) at 11%.

- The overall percentage of children who are at risk of malnutrition and with malnutrition is much higher compared to the three year average (2014-2016) at 3.4 %.

5.3.2 Health

- There were no major reported cases of disease outbreaks apart from few cases of respiratory tract infections in both adults and children in MF, MMF and Pastoral zones.

5.4 Coping Strategies

- The most common types of the strategies being employed are taking fewer meals, purchasing food on credit and swapping consumption to less preferred or cheaper foods.

5.5 Implication on Food Security

- The improving milk consumption levels across Pastoral and MMF zones will lead to increased dietary diversification and thereafter a positive impact on food security.
- Due to the ongoing precipitation, households in the MF and MMF zones are now able to supplement their diets with leafy vegetables hence increased dietary diversity, leading to improved food security.

6 CURRENT INTERVENTION MEASURES (ACTION)

6.1 Non-Food Interventions

- Provision of fast moving spare parts and servicing of strategic boreholes in the county by water department courtesy of NDMA with the support of the EU under the KRDP ASAL DCF.

6.2 Food Aid

- No food aid distribution was reported during the period under review.

7 EMERGING ISSUES

7.1 Insecurity/ Conflict/ Human Displacement

- Cases of conflict continued to be reported in the Pastoral and MMF livelihood zones between herders and the locals including ranchers. Disarmament exercise in flagged hotspot zone in the county is still ongoing. Casualties, loss of lives and property have been reported as a result of the same.
- Increased cases of human wildlife conflict have been reported across all livelihood zones as wildlife and livestock compete for the available water sources and pasture.

7.2 Migration

- The immigration of livestock in search of pasture has been reported in Olmorani (MMF zone). Also some local herds from around the Pastoral zones were also reported to have migrated to Ngare Ndare, Mukogodo and Mt. Kenya forests.

7.3 Food Security Prognosis

- The ongoing rains have led to relief from the severe drought experienced from February. Water sources have been recharged, the vegetation condition has been positively impacted and crop production is ongoing.
- However, due to the late onset and the below normal level of the rains, there is a huge possibility of crop failure (especially maize) and poor pasture regeneration (which has been worsened by overgrazing). Some areas are already showing signs of rain cessation. There is therefore need to prepare for the worst case scenario at the earliest opportunity.

8 RECOMMENDATIONS

- Enhance drought recovery and preparedness operations. **Action: NDMA, County Government**
- Increase peace building activities and surveillance in conflict prone zones **Action: County Commissioner, County Government, Private Stakeholders**
- Increase disease surveillance especially in high livestock convergence zones and migratory routes. **Action: County Government, NDMA**
- Close monitoring, continued screening and referral of malnutrition cases in the county, sensitization of mothers on diet diversification for the under-fives. **Action: County department of Health.**
- Put in place intervention measures to curb the human wildlife conflicts especially in areas of Withare, Mwenje, Muruku, Endana, Matanya, Olmorani and Survey. **Action: KWS.**
- Rehabilitate broken down boreholes and dams in MMF and Pastoral zones. **Action: County department of Water, NDMA.**

REFERENCE TABLES

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	Metrological 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.