

National Drought Management Authority

MERU COUNTY

DROUGHT EARLY WARNING BULLETIN FOR JUNE 2018



A Vision 2030 Flagship Project



JUNE EW PHASE



Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming	Normal	Improving
Agro-pastoral	Normal	Improving
Rain-fed Cropping	Normal	Improving
Meru County (Meru North)	Normal	Improving
Biophysical Indicators	Value	Normal Range
VCI-3Month (County)	65.85	>35
Production indicators	Value	Normal
Crop Condition (Maize/legumes)	Harvesting of legumes ongoing while maize is mature to drying	Harvesting of legumes ongoing while maize is mature to drying
Livestock Body Condition	Good	Good
Milk Production	1.9	1 - 2 Litres
Livestock Migration Pattern	No Migrations	No Migrations
Access Indicators	Value	Normal
Terms of Trade (Goat/cereal price ratio)	174 kg	152 kg
Return distance to water sources	6.6 km	<7 km
Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	13.8	<20
Coping Strategy Index (CSI)	7.2	21.4

Drought Situation & EW Phase Classification

Biophysical Indicators

- June was largely dry with light showers around the Nyambene ranges.
- Natural vegetation conditions were good across all livelihood zones. Forage resources were still above average especially in the agro-pastoral livelihood zone

Socio Economic Indicators (Impact Indicators)

Production indicators

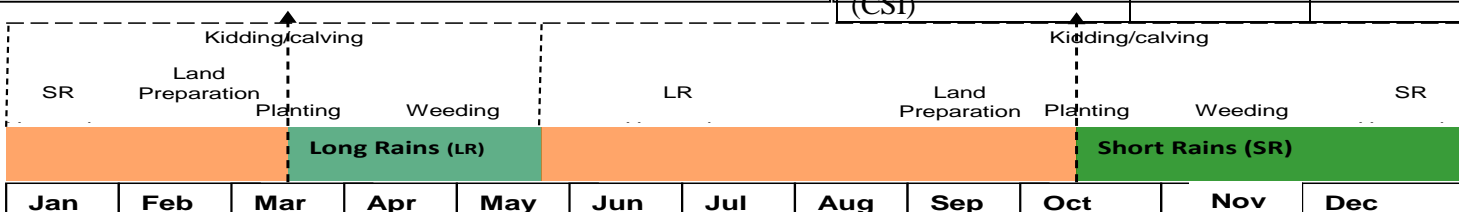
- Livestock body conditions are good in all species and across all livelihood zones.
- Harvesting of pulses mainly beans, green grams, cowpeas, and dolichos in on-going across all livelihood zones. Maize crop is at physiological maturity to drying in all areas.

Access indicators

- Rivers, boreholes, pans and dams were major sources of water to both households and livestock. Return distances have however increased due to reduced volumes in open sources and drying up of natural natural ponds especially in the agro-pastoral livelihood zone.
- Food prices have decreased considerably while livestock prices have appreciated. As a result, the terms of trade during the month have improved significantly.

Utilization Indicators

- Nutrition status of children under the age of five years has improved significantly this month compared to that of May



1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The month of June was largely dry across all livelihood zone with the exception of light showers around the Nyambene ranges and areas bordering the lower Imenti forest. This is typical for this time of the year.

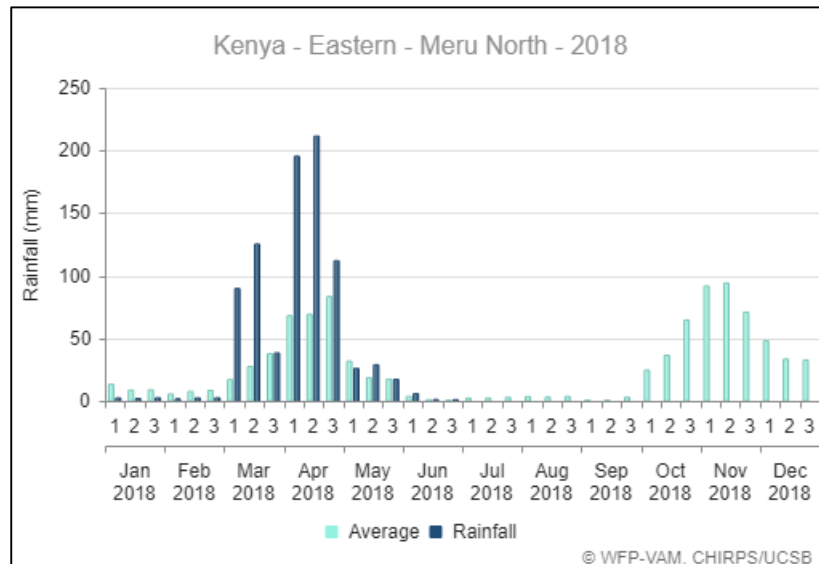


Figure 1a: Meru North: Rainfall totals for June 2018

2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI – 3 month)

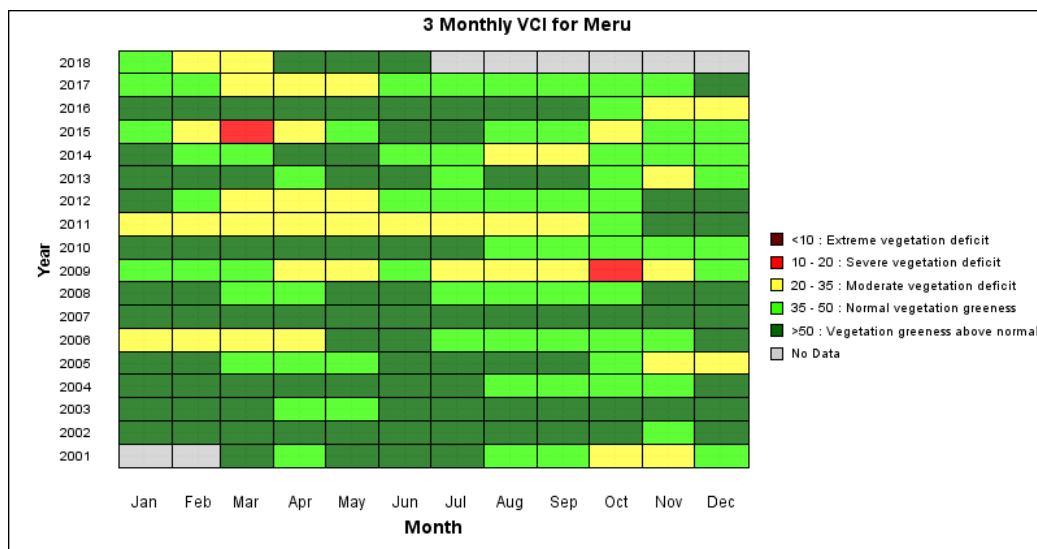


Figure 2: VCI matrix for Meru County, 2001 – 2018

- Natural vegetation remained good as last month, a cumulative effect of the good rains received throughout the season. VCI (3-month) improved further to 65.85 from 54.23 in May.

2.1.2 Pasture

- Above normal March to May rains have led to good pasture regeneration over the period. Currently, pastures are of good conditions across all livelihood zones, a normal situation for this time of the year.
- Current pasture quantity is expected to last through to September.

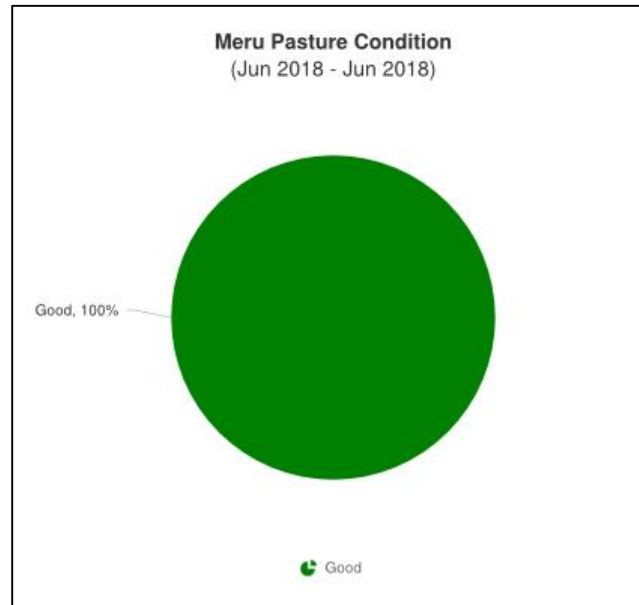


Figure 3: Pasture conditions

1.3 Browse

- Browse continued to be good across all livelihood zones which is normal for this time of the year. As such, the current browse quantity is expected to last until September.

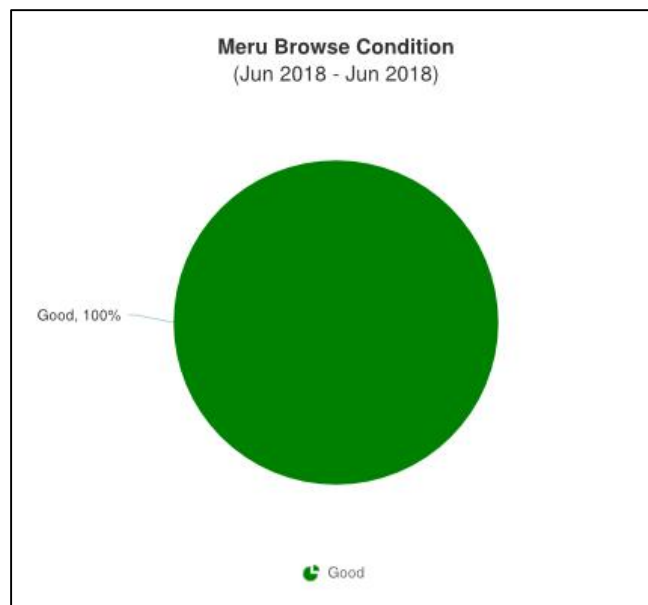


Figure 4: Browse conditions

2.2 WATER RESOURCE

2.2.1 Sources

- Important water resources available in June for both livestock and domestic use were rivers, boreholes, dams, and to a lesser extent, community-based piped water projects. Current

sources, which were also major sources during the last three months, are normal for this time of the year. However, the dry spell that prevailed for the better part of the June has led to a decline in volumes of open water sources especially dams and seasonal rivers flowing into the agro-pastoral livelihood zone in addition to drying of natural ponds and other natural water collection points.

- Comparatively, rivers were the major sources across all livelihood zones and accounted for the highest number of households that relied on the source despite the fact that the proportion of users declined to 56.3 percent from 69.2 percent in May.
- Boreholes and dams were important sources, especially in the agro-pastoral livelihood zone. Community-based piped water projects and roof catchments were notable sources in the rain-fed cropping livelihood zone on the windward side of the Nyambene ranges. Water vendors were also significant sources in the extreme ends of the agro-pastoral livelihood zone around Kachiuru and Isilie areas.
- The application of any form of water treatment practice remained generally low. From a sample of 119 households, only 22 percent treated water. Boiling and filtration were the most common treatment methods employed.
- There were no changes in the cost of water. A 20-liter jerry can cost Kshs 5 at source (borehole) and Kshs 20 upon delivery.

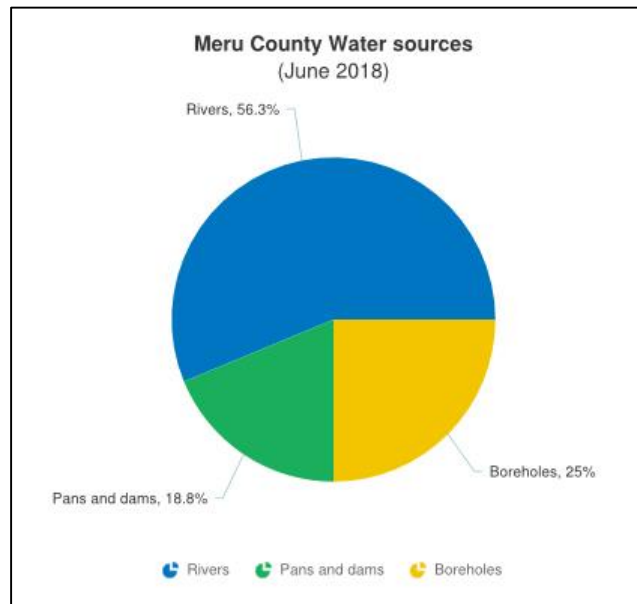


Figure 5: Major water sources

2.2.2 Household access and Utilization

- The average return distances to watering points for households increased marginally to 6.6 km compared to 5 km in May. This increase follows the reduced sources near homesteads coupled with occasional breakdowns of boreholes and water intakes.
- Nonetheless, current distances are below the long-term average for the month.

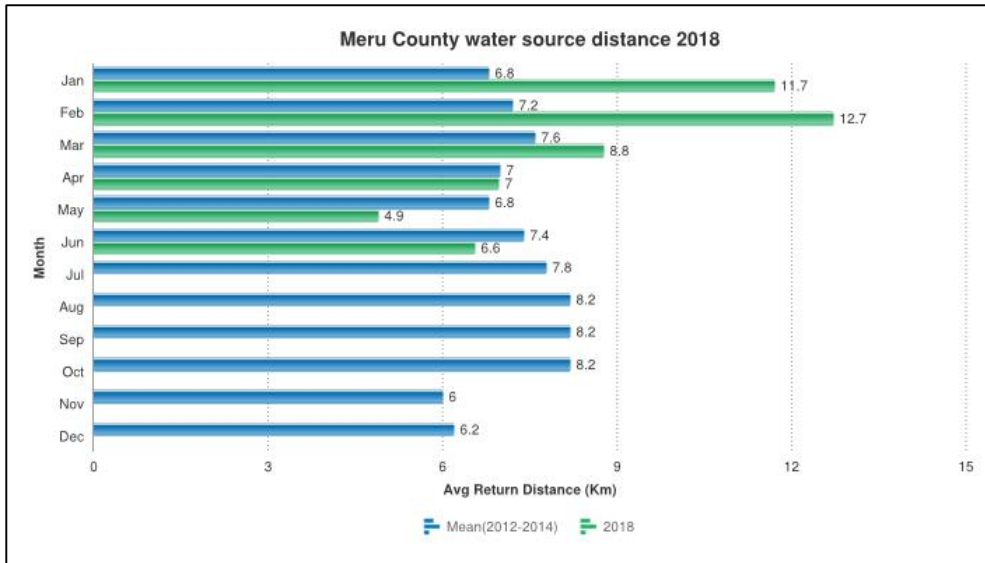


Figure 6: Household return distances to water sources.

2.2.3 Livestock access

- Distances to watering points for livestock from the current normal grazing areas increased to an average of 9.1 km compared to 7.6 km in the month of May. Present distances are 8.3 percent longer than the long-term average for the month.
- Comparatively, livestock covered longer distances in the agro-pastoral livelihood zone as water sources had reduced to boreholes and dams which are far apart. The rain-fed cropping and mixed farming livelihood zones recorded least distances as water sources remained largely the same as the last three months; permanent rivers, community-based water projects, and roof catchments.
- Distances are expected to remain high during this typical dry period through to September.

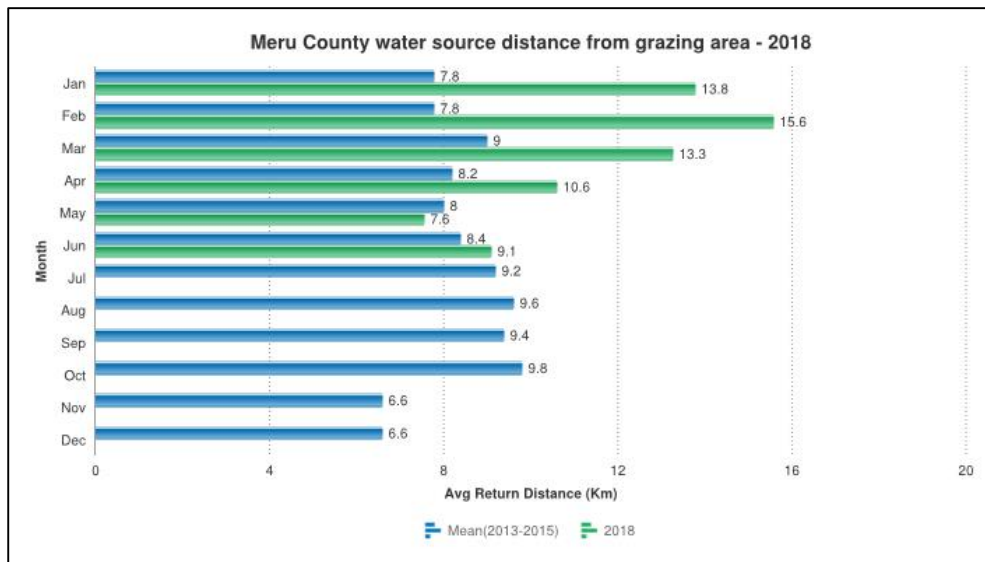


Figure 7: Livestock return watering distances from grazing areas

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Significant forage regeneration through the March to May rainfall period, better availability, and access to good pastures and browse has maintained good livestock body conditions across all species in all livelihood zones. This is normal for this time of the year.
- Given the sufficient forage quantities available, body conditions are expected to remain largely good through to August.

3.1.2 Livestock Diseases

- The Rift Valley Fever disease alert issued by the Veterinary Department of Meru County last month following an outbreak in Marsabit and Wajir counties is still in force. An alert has also been raised in Isiolo county over the same.
- Suspected cases of Foot and Mouth Disease were reported in Nkiluthu area of Tigania West Sub-county.

3.1.3 Milk Production

- There have been no significant changes in milk production over the last three months although production has been above average. Production in the month of June averaged at 1.9 liters similar to that May.
- Production is expected to remain above average in the coming months.

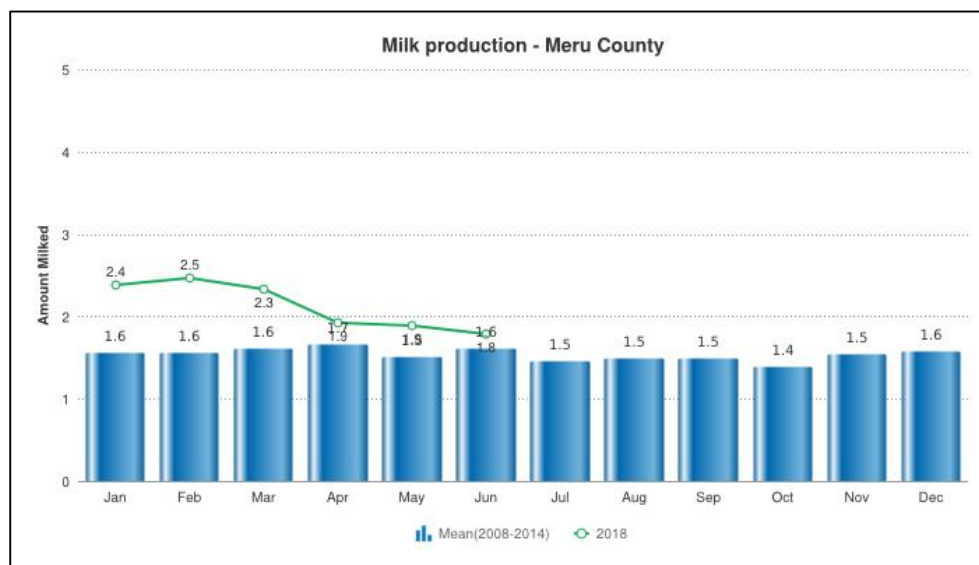


Figure 8: Milk production per household per day.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of Food Crops

- Rains received during March to May period generally led to good crops performance across all livelihood zones with the exception of the few pockets of poorly drained soils and on sloppy areas. In these pockets, the performance of pulses, especially beans and green grams, was poor.
- Currently, harvesting of pulses, mainly beans, green grams, cowpeas, and dolichos is going on across all livelihood zones. A normal to slightly above normal harvest is expected at the end of the harvesting period. Pigeon peas are at mature stages to pod filling.

- Maize crop is of good conditions across all livelihood zones and at physiological maturity to drying. The Fall Armyworm (FAW) infestation reported across all livelihood zones during the growing period has only led to minor losses than previously expected. As such, a normal to near normal harvest is expected towards the end of August.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- The average price of a three-year-old bull, increased by 8 percent to Kshs 19,590. This increase resulted from the prevailing good body conditions and reluctance by herders to dispose of their stock in order to improve herd numbers and fetch better prices later. Prices during the month are 12 percent above the three-year average.
- The highest prices were recorded in the agro-pastoral livelihood zone with Ngundune and Kianjai markets reporting the highest prices of Kshs 28,000. However, Mutuati and Kangeta markets in the same zone recorded lowest prices. The number of animals available for sale in these two markets has dwindled following the RVF alert raised in neighboring Isiolo county which is a major supplier.
- Overall, prices are expected to remain relatively high through to September.

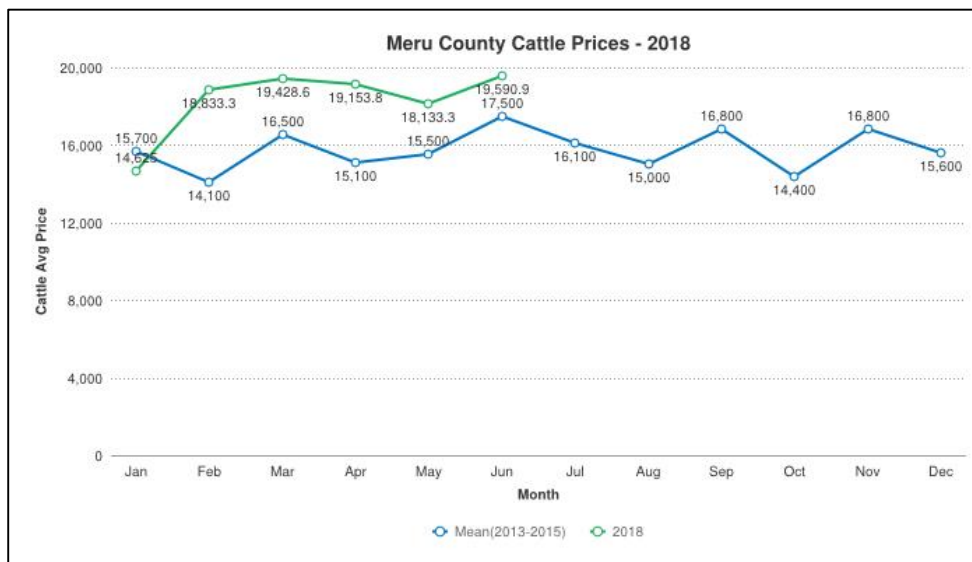


Figure 9: Average cattle market prices.

4.1.2 Goat Prices

- Goat prices registered a 28 percent increase from Kshs 3,625 in May to Kshs 4,642 in June. Current prices are 9 percent higher than the three-year average for the month. This price increase results from current good body conditions and the probability of good forage over the next three months. Livestock keepers are also hesitant to dispose of their stock in order to increase herd size.
- Prices were highest in the agro-pastoral livelihood zone with Mutuati market recording highest prices of Kshs 7,667.

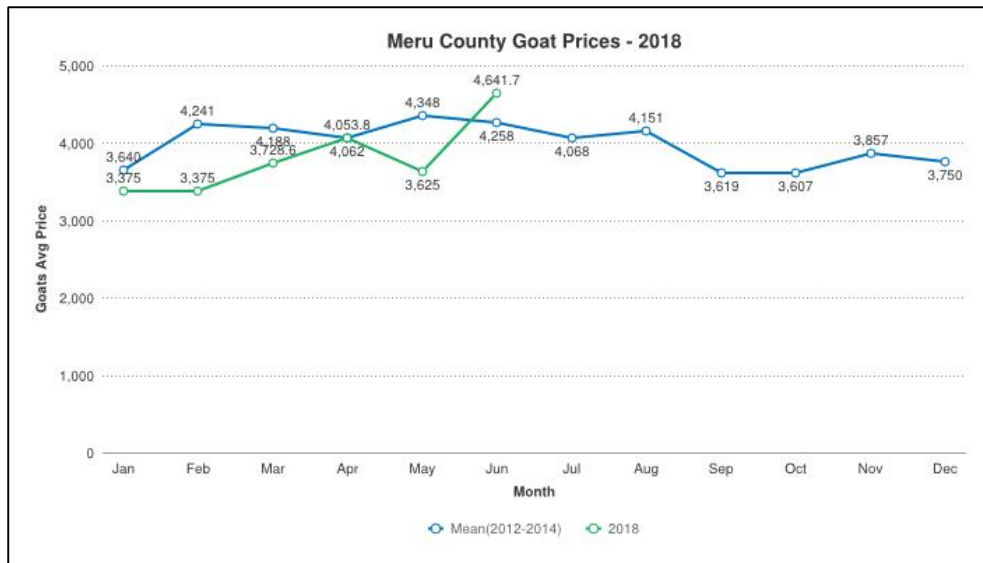


Figure 10: Average goat market prices.

4.2 CROP PRICES

4.2.1 Maize

- The average price of a kilogram of maize grain declined by 8 percent to settle at Kshs 27 from Kshs 29 in May. Current prices were also 16 percent below the three-year average for the month.
- Prices have been on a decreasing trend since March due to increased imports in March through to May and a reduced market demand due to the prospects of a good harvest in late July and August.
- Prices are likely to decline further once harvesting commences and traders dispose of their old stocks.

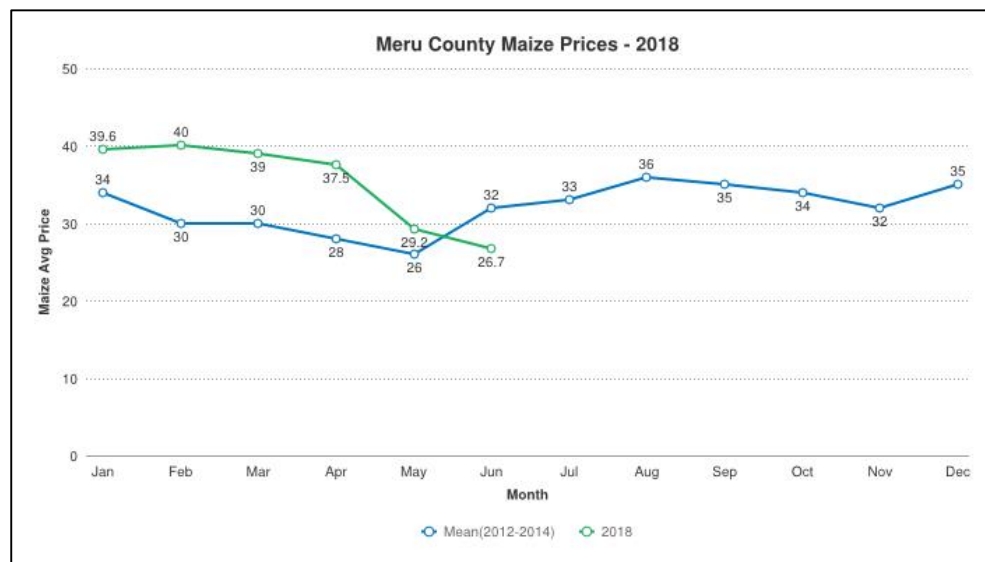


Figure 11: Average maize market prices.

4.2.3 Beans

- The price of a kilogram of beans declined by 13 percent to average at Kshs 47 compared to Kshs 54 in May. Current prices are 32 percent below the three-year average for the month.
- This decrease results from the ongoing bean harvest across all livelihood zones. Prices are expected to decrease further towards the end of the harvesting period in mid-July.

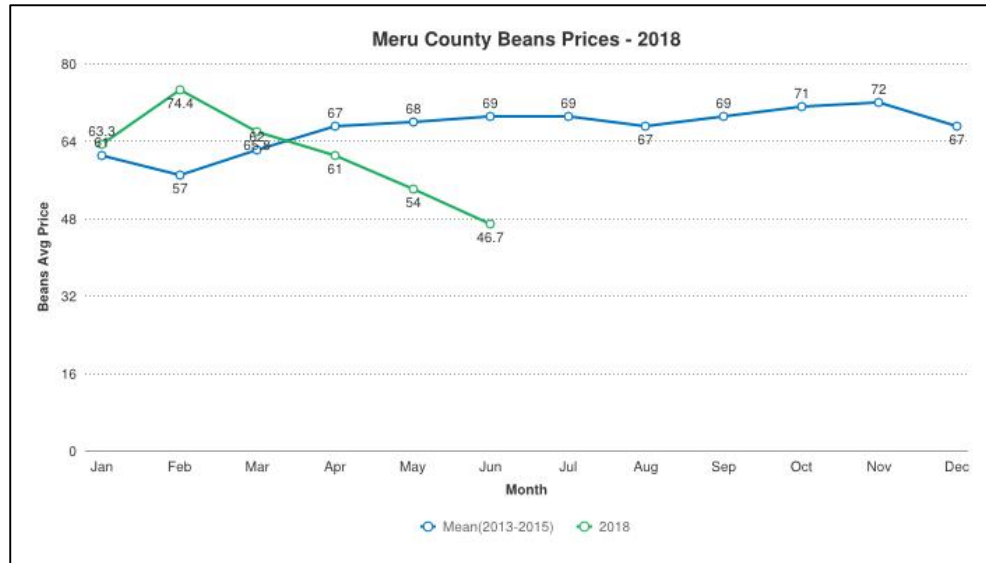


Figure 12: Average bean market prices

4.3 Terms of Trade (Goat/cereal price ratio)

- Terms of trade improved further this month compared to May. Proceeds from the sale of a mature goat could purchase 174 kgs of maize grain compared to 124 kgs last month.
- This improvement results from a sharp increase in goat prices and a drop in maize prices. With livestock prices expected to remain high and those of cereals to remain low, terms of trade are expected to remain favorable over the next two months.

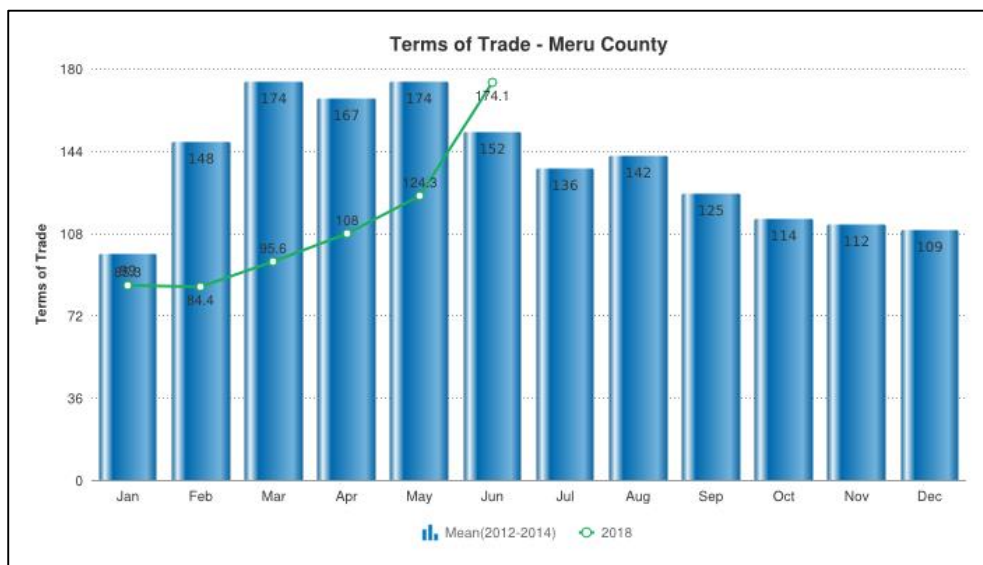


Figure 13: Terms of trade

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 FOOD CONSUMPTION SCORE

- Food consumption has generally improved following the ongoing harvest of pulses and the low cost of cereals. The proportion of households with poor food consumption score declined to 5 percent from 6.7 percent of a similar sample in May. These households were mainly in the agro-pastoral livelihood zone. Households with borderline food consumption scores reduced to 32 percent compared to 50.8 percent last month. 63 percent of sampled households had acceptable food consumption scores compared 42.5 percent in May.

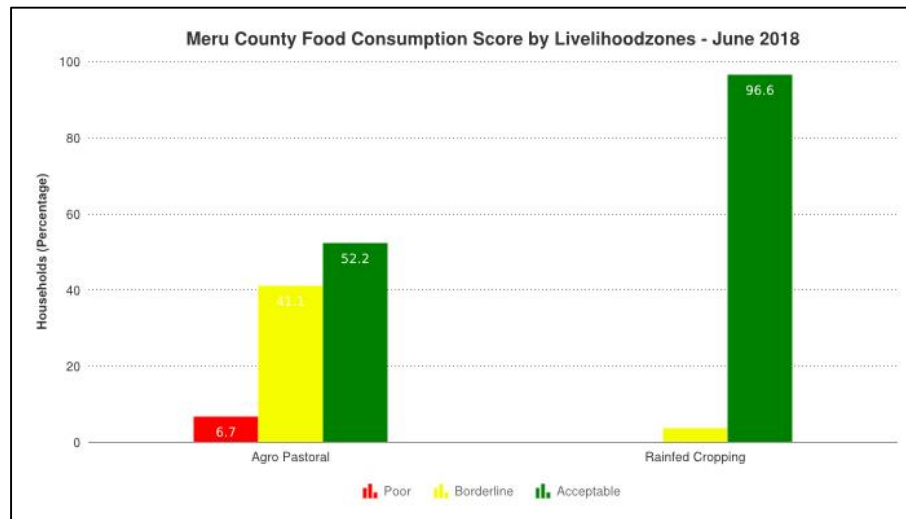


Figure 14: Food consumption scores per livelihood zone

5.2 HEALTH AND NUTRITION STATUS

5.2.1 Nutrition Status

- Nutrition status of children under the age of five years has improved this month compared to the month of May. Those at risk of malnutrition (MUAC<135mm) reduced to 13.8 percent from 17 percent recorded in May. Comparatively, the majority of children at risk were in the agro-pastoral livelihood zone.

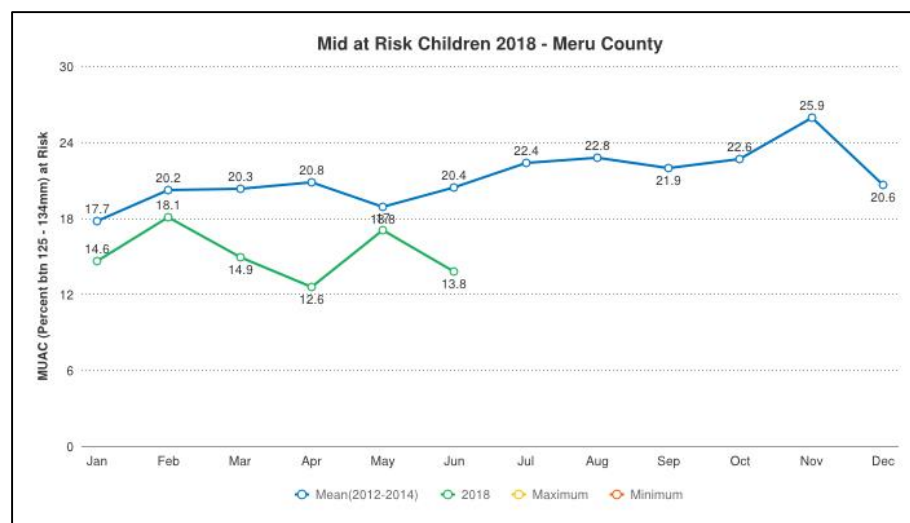


Figure 15: Percentage of children at risk of malnutrition

5.2.2 Health

- An increase in cases of malaria and upper respiratory tract infections have been reported across all livelihood zones.

CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

- There have been no non-food interventions reported during the month.

6.2 FOOD AID

- There has been no food aid intervention reported this month.

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- There have been no incidences of livestock theft during the month. However, tensions are still high in the grazing area of the agro-pastoral livelihood zone.

7.2 Food Security Prognosis

- Record rains received from March through to May led to the good regeneration of forage, and currently, pastures and browse are still in good conditions and are expected to last through to late August. Livestock body conditions are expected to also remain good across all livelihood zones especially if there will be no notifiable diseases such as RVF outbreak. Despite good recharge of water resources during the same period, the dry spell witnessed this month has reduced volumes of water in seasonal rivers and natural ponds in the agro-pastoral livelihood zone. Current water sources for both livestock and households are expected to remain unchanged over the next two months although return distances are expected to increase. On-going harvesting of pulses and a near-average maize harvest expected in July and August will replenish household food stocks thereby improving food availability. Prices of cereals and legumes are likely to decline further while those of livestock are expected to remain above average. A combination of these will likely improve terms of trade and overall food access over the next two months. Food consumption is likely to improve beginning July and this is likely to lower malnutrition levels in children under the age of five years.

8. RECOMMENDATIONS

- There is a need for the Department of Agriculture to sensitize farmers on proper post-harvest management techniques to avoid crop losses.
- With an RVF alert raised in neighboring Isiolo County, there is a need for an integrated disease surveillance by the Department of Livestock and Veterinary and the Department of Public Health and Sanitation. Joint monitoring of livestock trade routes and markets in addition to sensitization barazas to herders, all meat handlers, and the general public on proper control measures is also necessary.

REFERENCE TABLES

Table 1: Drought Phase Classification

Normal	Alert	Alarm	Emergency
All environmental Agricultural and pastoral indicators are within the seasonal ranges	Meteorological drought indicators move outside seasonal ranges	Environmental and at least two 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 signaled 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 the majority of the herd and not individual isolated Stock)
1	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
2	Moderate	Moderate. neither fat nor thin
3	Stressed	Borderline fore-ribs not visible. 12th & 13th ribs visible
4	Critical	Thin fore ribs visible
5	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 the 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, the 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 the 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 signaled 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 biophysical and production indicators are back to normal range.