

National Drought Management Authority

MERU COUNTY

DROUGHT EARLY WARNING BULLETIN FOR NOVEMBER 2017



A Vision 2030 Flagship Project



NOVEMBER EW PHASE



Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend	
Mixed Farming	Normal	Improving	
Agro-pastoral	Normal	Improving	
Rain-fed Cropping	Normal	Improving	
County	Normal	Improving	
Biophysical Indicators	Observed Value	Normal Range/LTA	
SPI-3Month (TAMSAT)	0.72	-1.0 to 1.0	
VCI-3Month (County)	47.68	>35	
Igembe Central	40.69	>35	
Tigania East	45.06	>35	
Tigania West	40.43	>35	
Production indicators	Value	Normal	
Crop Condition (Maize/legumes)	Maize: vegetative and Knee high	Maize: vegetative and Knee high	
	Beans: flowering/podding	Beans: flowering/podding	
Livestock Body Condition	Mainly fair	Fair to Good	
Milk Production	7	10 - 22 Litres	
Livestock Migration Pattern	No Migration	No Migrations	
Access Indicators	Value	Normal	
Terms of Trade (Goat/cereal price ratio)	70 kg	114 kg	
Return distance to water sources	Households	8 km	<4 km
	Livestock	10 km	<11 km
Cost of water at source (20 litres)	Ksh. 5	<5Kshs	
Utilization indicators	Value	Normal	
Nutrition Status, MUAC (% at risk of malnutrition)	24.3	<20	
Coping Strategy Index (CSI)	28	21.4	

Drought Situation & EW Phase Classification

Biophysical Indicators

- Above normal rains were received during the first dekad leading to flooding of several farms and displacement of several households. Amounts reduced to below normal during the second and third dekads.
- Vegetation conditions improved notably as the vegetation condition index increased to 47.68 compared to 41.42 last month
- Pasture and browse improvements noted across the grazing areas in the Agro-pastoral livelihood zone

Socio Economic Indicators (Impact Indicators)

Production indicators

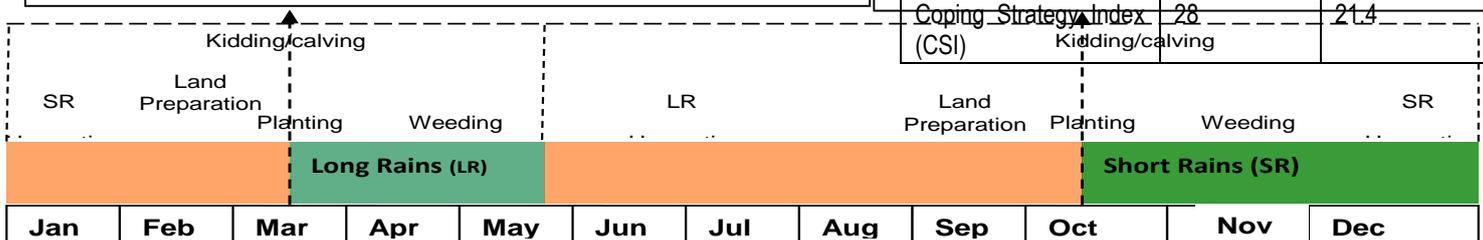
- Majority of livestock are of fair body conditions and are currently grazing in the normal/wet season grazing area in the Northern Grazing Area. Cases of cattle rustling reported in lower areas of Igembe North, Igembe Central, and Tigania East Sub-counties.
- First and second weeding, spraying for pest control, and application of top dress fertilizers were the major farm activities. Fall armyworm infestation reported in 30 percent of the cultivated area. Approximately 8 percent of maize yield may be lost if action is not taken immediately

Access indicators

- Trekking distances to watering points for households reduced to 8 km from 11 km last month while that of livestock reduced to 10 km from 18 km last month

Utilization Indicators

- 24.3 percent of sampled children were at risk of malnutrition compared to 25.6 last month



1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- A general poor rainfall performance was noted during the month across all livelihood zones. Above normal amounts were received during the first dekad that led to flooding in farms in Kianjai, Muthara, Karama, and Akithi wards. Amounts received in the subsequent dekads were below average with the third dekad receiving the least amounts. This abnormal trend was noted across all livelihood zones.

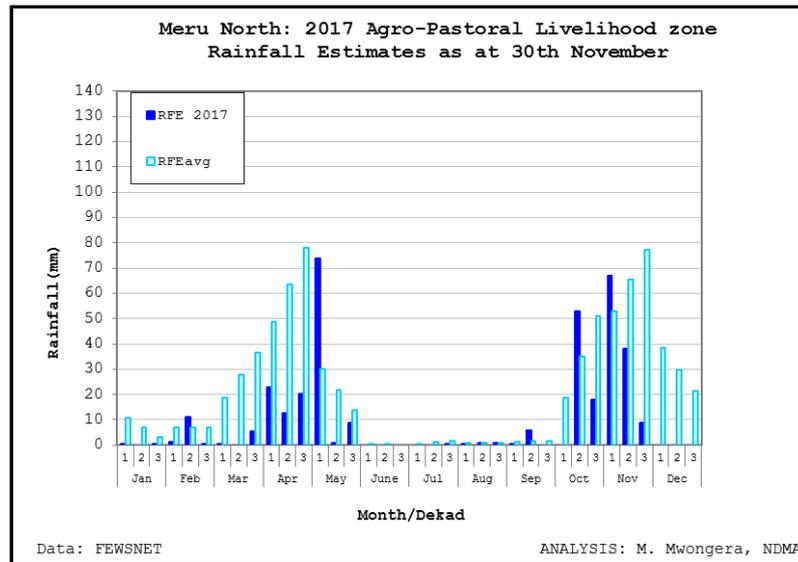


Figure 1a: MERU North: Rainfall totals received in the Agro-pastoral livelihood zone

2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- Continued rainfall across all livelihood zones led to significant improvements in vegetation conditions as indicated in the Vegetation condition matrices below:

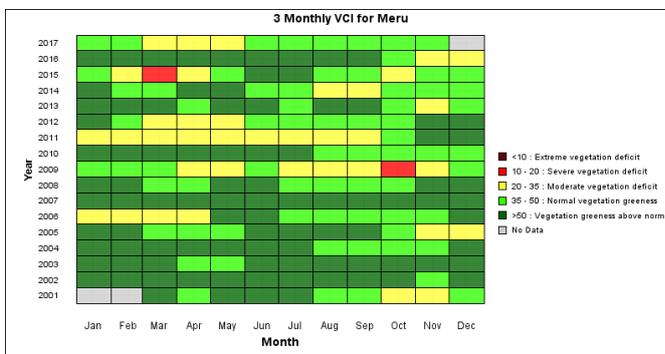


Figure 2a: VCI matrix for Meru County, 2001 – 2017

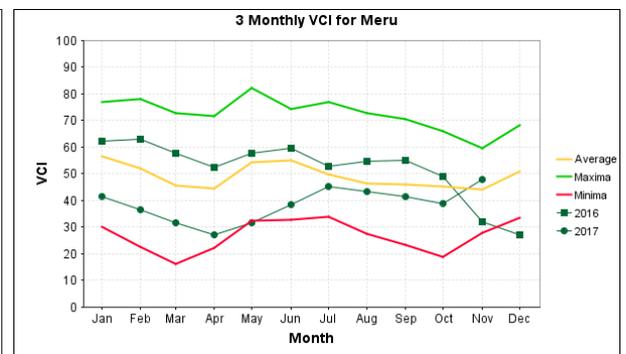


Figure 2b: VCI graph for Meru County, November 2017

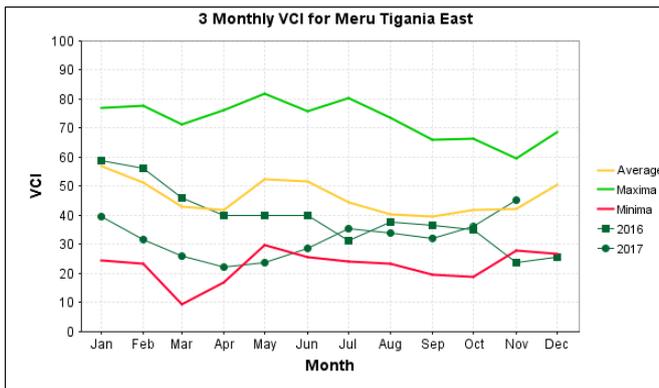


Figure 3a: VCI graph for Tigania East as at November 2017

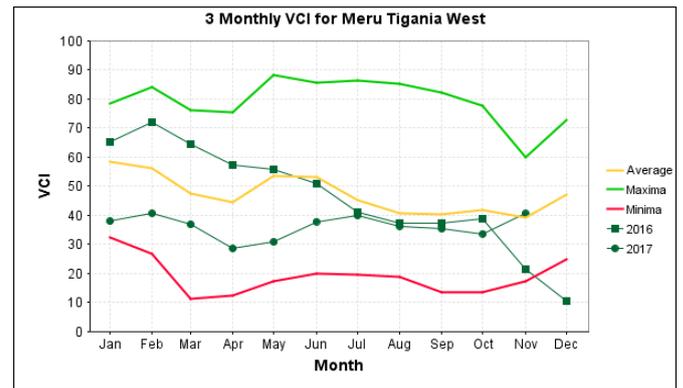


Figure 3b: VCI graph for Tigania West as at November 2017

2.1.2 Pasture

- A general improvement in pasture conditions was noted this month across all livelihood zones. There were however, a few pockets in the lower areas of Amwathi, Kangeta, Akithi, Muthara and Karama wards where pastures had not fully recovered. Pastures in these areas had been exhausted during the dry season.
- Of the sampled communities, 66 percent reported pastures being of fair conditions and with an improving trend while 8 percent reported pastures being of good conditions. 25 percent of the respondents reported pastures being of poor conditions.
- Overall, noted pasture improvements are normal at this time of the year.

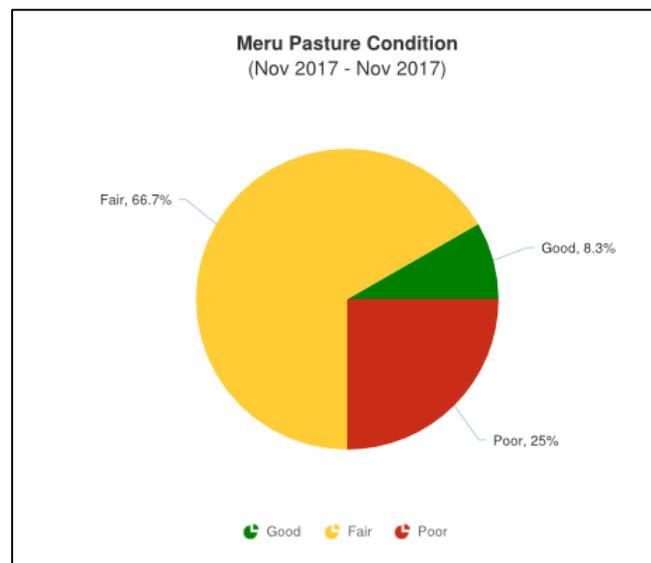


Figure 4: Meru County Pasture conditions. November, 2017

2.1.3 Browse

- Marked improvements in browse conditions were noted this month especially in the grazing areas of the Agro-pastoral livelihood zone. Of the interviewed communities, 75 percent of them reported browse being of fair conditions and likely to improve further with the ongoing rains. 25 percent of the reported browse being of good conditions especially in the Rain-fed cropping livelihood zone.
- Current conditions and the noted improving trend are normal for this time of the year.

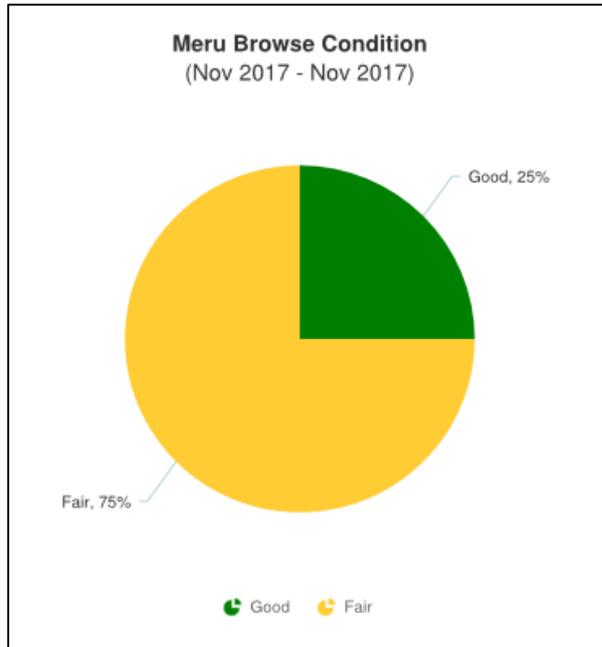


Figure 5: Meru County Browse conditions, November 2017

2.2 WATER RESOURCE

2.2.1 Sources

- Majority of surface water sources particularly rivers (both permanent and seasonal), pans, dams, swamps, and other natural water collection points recharged sufficiently this month following the good rains that have been received cumulatively. As a result, rivers, pans, and dams were major water sources for both livestock and household consumption during the month unlike last month. Other important sources noted during the month were boreholes, roof catchemnts, and piped water from community based water projects. Reliance on water vendors decreased notably especially in the Agro-pastoral livelihood zone.
- Overall, water situation has improved this month compared to last month.

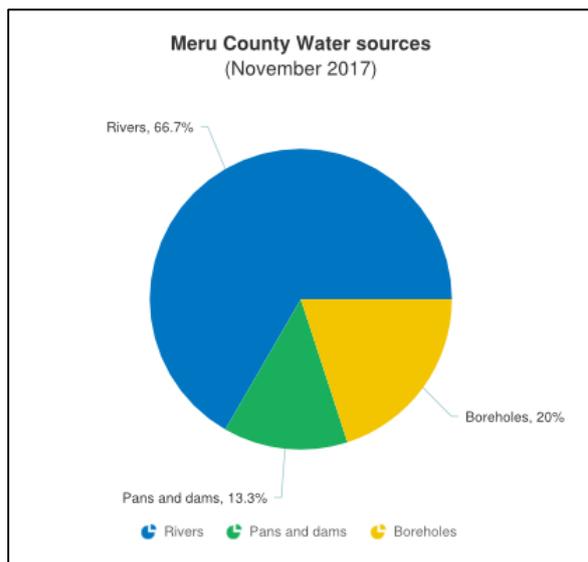


Figure 6: Meru County major water sources, November 2017

2.2.2 Household access and Utilization

- An increase in the numbers of water sources available this month led to reduced trekking distances for households to an average of 8 km compared to 11 km the previous month. Despite the decrease, current distances are 5 km longer than the long term average for the month.
- Comparatively, Mixed farming and the Rain-fed cropping livelihood zones recorded least distances while the Agro-pastoral livelihood zone reported longest distances.
- Trekking distances are expected to decline further in the month of December.

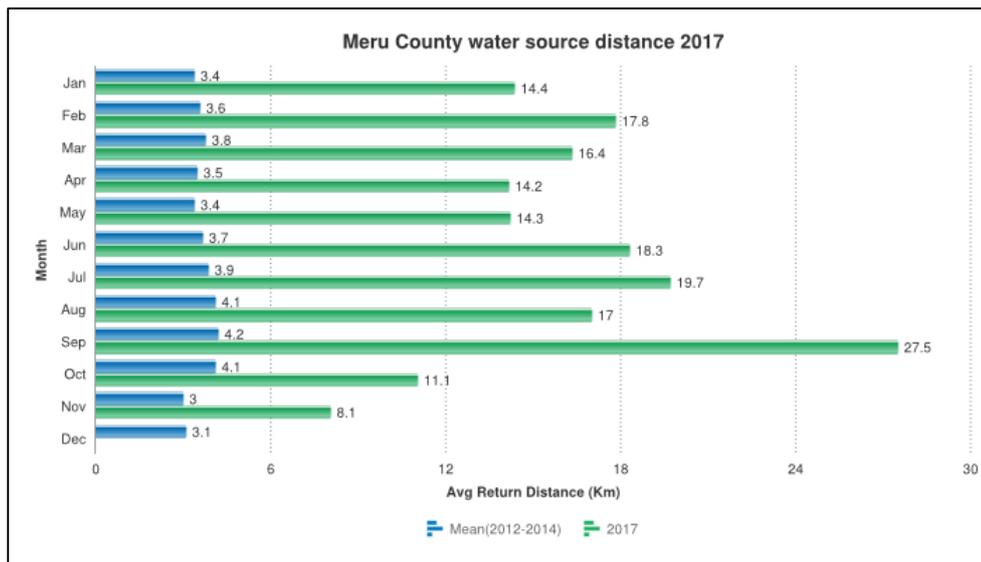


Figure 7: Meru County Household distances to water sources. November, 2017

2.2.3 Livestock access

- Enhanced availability of water in the grazing areas led to significant reduction in trekking distances to watering points for livestock. Distances averaged at 10 km this month compared to 18 km the previous month. Marked rejuvenation of pastures in the wet/normal season grazing areas that are relatively close to watering points also contributed to the decline.
- Nonetheless, current distances are still above the long term average and this could be as a result of sustained cattle rustling the grazing areas.

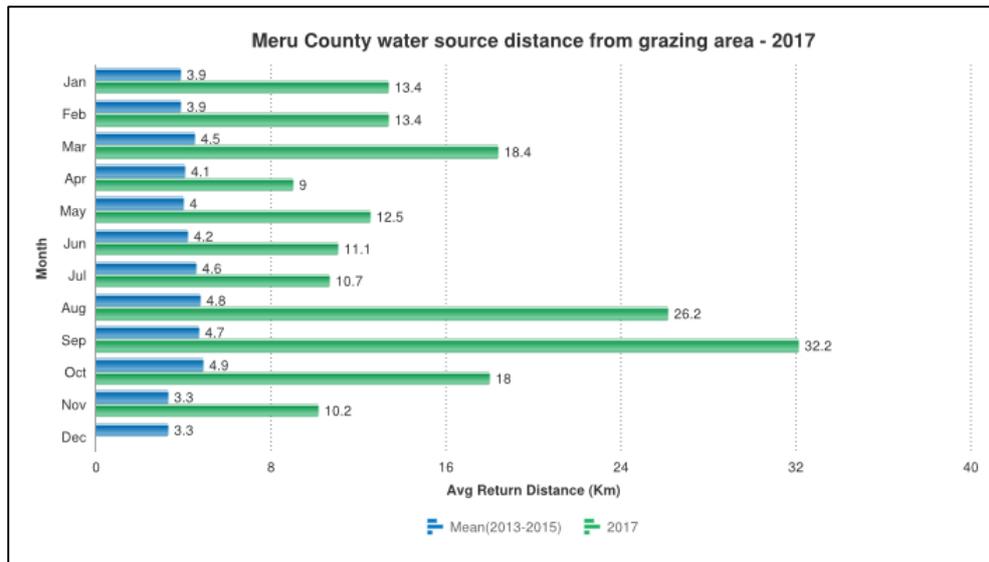


Figure 8: Meru County Livestock watering distances from grazing areas, November 2017

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- Notable improvements in livestock body conditions were noted this month with majority especially in the Agro-pastoral livelihood zone being of fair conditions compared to poor the previous month.
- The rate of improvement is however low given that current pastures being highly succulent and with little dry matter making them unpalatable. In addition, high incidences of intestinal worms and water borne disease that a common during the rainy periods are likely to also slow down rates of recovery.

3.1.2 Livestock Diseases

- Suspected cases of Lumpy skin disease, Contagious Bovine Pleuro-pneumonia and Contagious Caprine Pleuro-pneumonia were reported in Kangeta ward of Igembe Central Sub-county.

3.1.3 Milk Production

- Milk production remained low this month as livestock are yet to recover their body conditions as the highly succulent pastures are not yet palatable. An average of 7 litres were produced this month similar to last month. Nonetheless, current production is higher than the long term average for the month.
- Milk production is expected to increase as from next month.

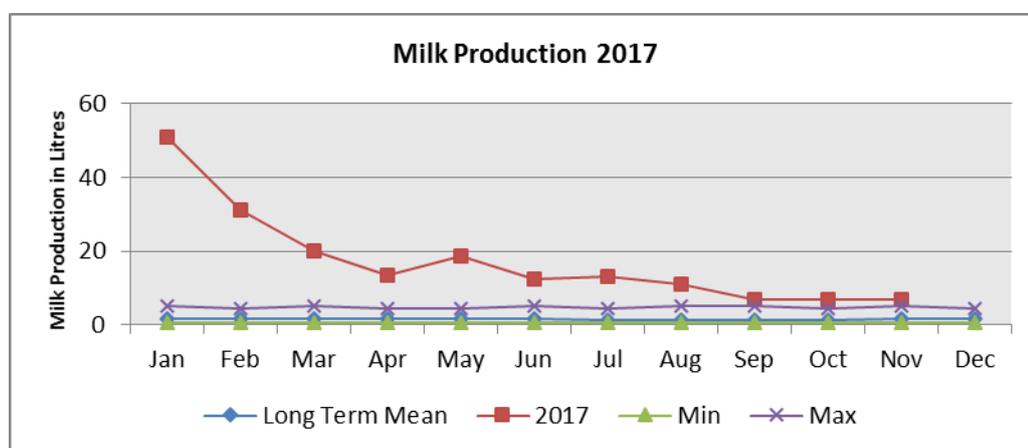


Figure 9: Meru County Milk production, November 2017.

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- First and second weeding, spraying for pest control, and application of top dress fertilizers were the major farm activities during the period. Among the major pests being controlled include maize stalk borer and fall army worm. The latter, which mainly attacks crops of the grass family, was noted in 30 percent of the cultivated area and is likely to lead to an eight percent drop in expected yields of maize, sorghum, and millet.

- Replanting is currently ongoing in farms around Mbututia and Ngundune in Kianjai ward, several farms in Akithi ward (Tigania West sub-county) and several farms in Muthara ward that were flooded at the beginning of the month.
- For the rest of the County, maize crop, currently at vegetative stage, is mostly of good health across most areas and knee high in all the livelihood zones. Sorghum, Millet (both pearl and finger millet) are also at vegetative stages. Beans and cowpeas are at vegetative to flowering stages with pod formation in the early planted crop. Others such as green grams, dolichos, and pigeon peas are at vegetative stages and of good health.
- With the exception of the fall army worm outbreak, current crop conditions are normal for this time of the year.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

- Cattle prices depreciated by 14.9 percent to an average of Kshs 11,766 this month compared to Kshs 13,800 last month. Equally, current prices were 29.9 percent lower than the 3 year average for the month. Current prices are reflective of poor body conditions as there have been no market disruptions of any kind noted during the month.
- Prices are expected to increase in the month of December onwards as body conditions are expected to have improved markedly.

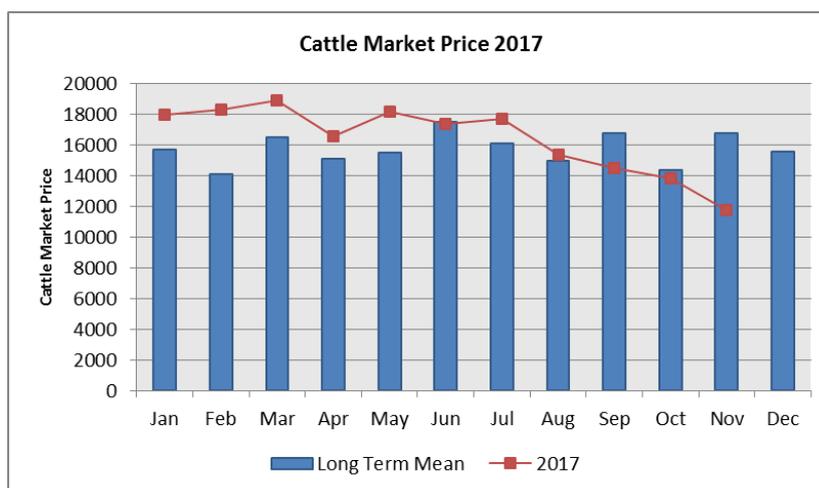


Figure 10: Meru County average cattle market prices, November 2017.

4.1.2 Goat Prices

- The average price of a mature goat appreciated by 7.6 percent this month to Kshs 3,120 compared to Kshs 2,900 last month although current price is 19.1 percent lower than the three year average price for the month.
- A demand for goats in the markets against a constricted supply by herders is likely to prevail over the coming three months thereby pushing prices further upwards as has been the case since October. The noted trend is normal for this time of the year.



Figure 11: Meru County average goat market prices, November 2017.

4.2 CROP PRICES

4.2.1 Maize

- Increased offloading of previously held stocks by traders led to an 8.2 percent decline in prices to an average of Kshs 45 per kilogram from Kshs 49 the previous month. Current prices were 40.6 percent higher than the three year average for the month.
- Prices are expected to still remain above average until the next harvest towards the end of February 2018.

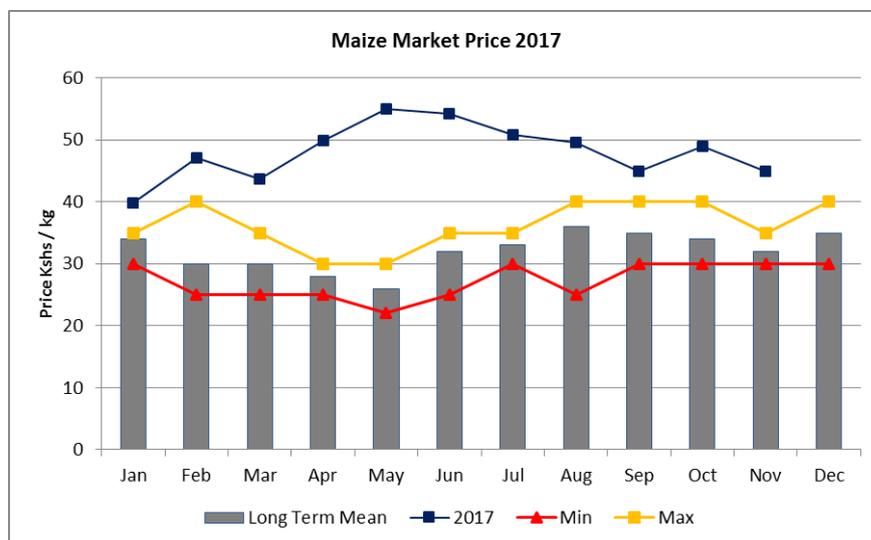


Figure 12: Meru County average maize market prices. November, 2017

4.2.3 Beans

- Average price of a kilogram of beans declined by 3.1 percent this month to retail at Kshs 93 from Kshs 96 last month. This decline noted over the last two months has been triggered by an increased offloading of stocks from previous harvests by traders as they clear room the next harvest crop.
- Despite the decrease, current prices are 29.2 percent higher than the three year average price for the month.
- Price decreases are expected as the expected harvest month draws near.

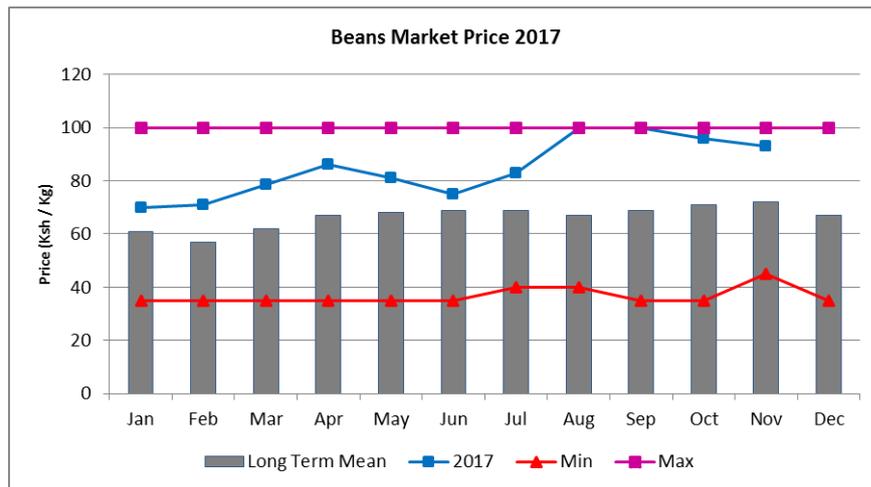


Figure 13: Meru County average bean market prices. November, 2017

4.3 Terms of Trade (Goat/cereal price ratio)

- Increased goat prices coupled with reduced maize prices improved terms of trade this month compared to last month. The sale of a mature goat was enough to purchase 70 kilograms of maize compared to 60 kilograms the previous month. Current terms of trade are still below the three year average for the month but are expected to maintain an upward trend of over the coming three months.
- Agro-pastoral recorded poorest terms of trade with Igembe Central Sub-county reporting an average of 41 kilograms of maize from the sale of a mature goat. Rain-fed cropping scored highest with Tigania East Sub-county reporting a total of 112 kilograms of maize from the sale of a mature goat.

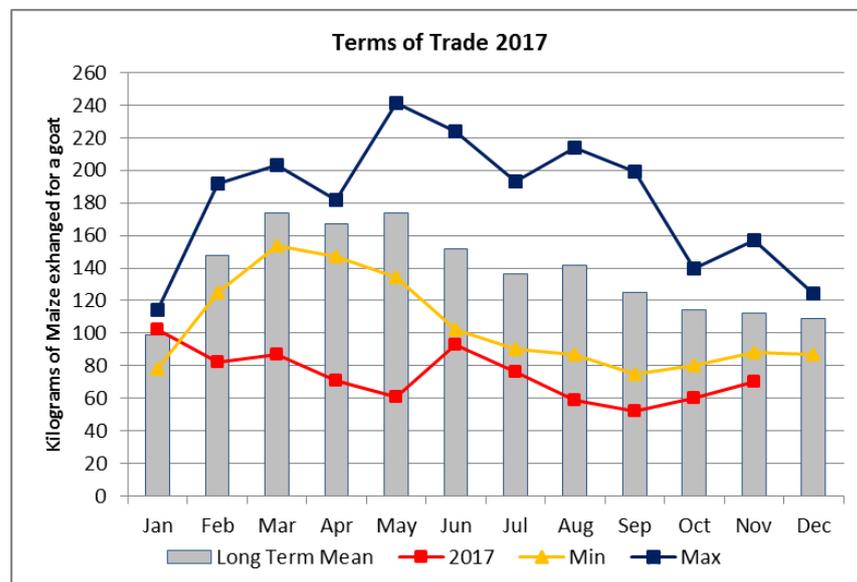


Figure 14: Meru County terms of trade. November, 2017

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 FOOD CONSUMPTION SCORE

- A general improvement in food consumption behaviours was noted this month compared to last month. The numbers of households that transited to borderline and acceptable food consumption scores from poor consumption category increased compared to last month. Overall, only 35.6 percent of interviewed households scored poorly compared to 65.09 percent the previous month while those at borderline and acceptable food consumption categories increased to 31.7 percent and 32.7 percent respectively from 6.98 percent and 26 percent last month respectively.
- Despite the improvements, Igembe North and Igembe Central scored poorly.

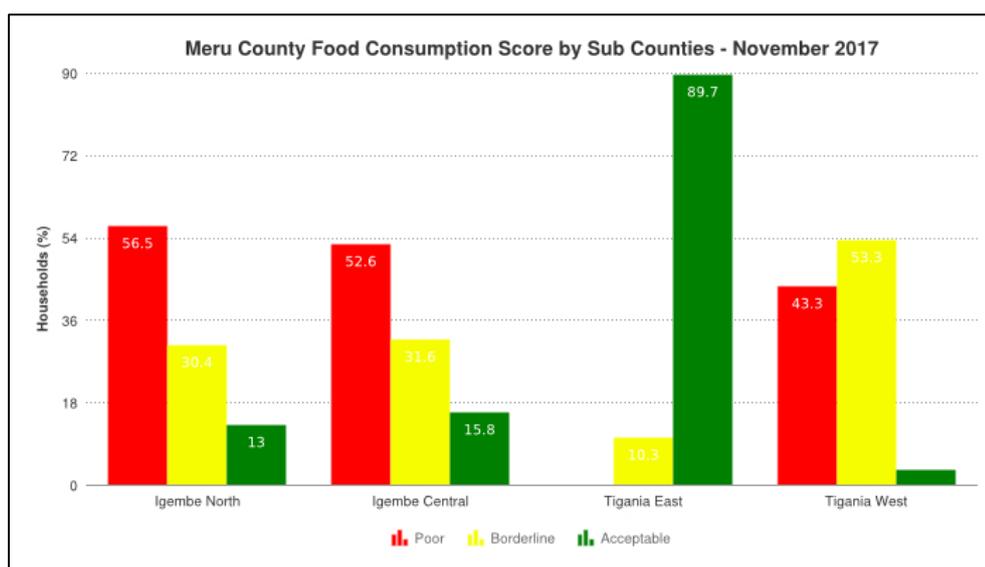


Figure 15: Meru County food consumption, November, 2017

5.2 HEALTH AND NUTRITION STATUS

5.2.1 Nutrition Status

- Nutrition status of children under the age of five years remained relatively unchanged this month compared to last month. From a sample of 415 children, 24.3 percent of them were at risk of malnutrition (MUAC<135mm) compared to 25.6 percent last month. Of those at risk however, none of them was moderately (MUAC 115 - 124mm) or severely malnourished (MUAC<115mm)
- Malnutrition levels in the County are worrying and a nutrition survey needs to be carried out to establish the root causes of these trends.

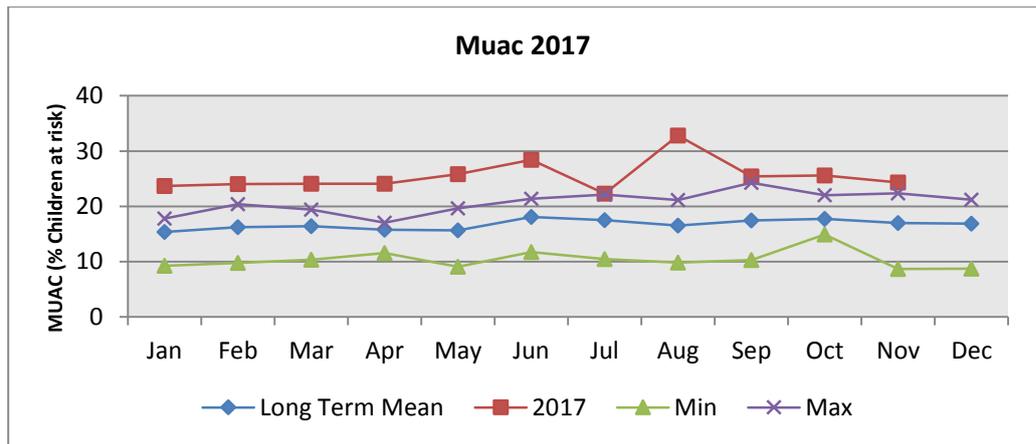


Figure 16: Meru County MUAC status, November, 2017

5.2.2 Health

- There were no major diseases among the sampled children this month.

CURRENT INTERVENTION MEASURES (ACTION)

6.1 NON-FOOD INTERVENTIONS

- Preparations for the official launch of the Meru Friends SACCO food processing plant are currently ongoing including final training of factory workers and management officials. Launch is scheduled for the month of December.

6.2 FOOD AID

- No food aid distribution was reported during the month.

7. EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- While no human deaths have been reported so far, incidences of cattle rustling and banditry were reported in the lower areas of Igembe North, Igembe Central and Tigania East Sub-counties.
- Flooding of farms around Mbututia and Ngundune in Kianjai ward, several farms in Akithi ward (Tigania West sub-county) and several farms in Muthara ward was reported during the first dekad of the month. Several households were displaced in Kianjai, and Ngundune markets
- Resident livestock have migrated back to the normal/wet season grazing areas within the Northern Grazing Area in the Agro-pastoral livelihood zone

8. RECOMMENDATIONS

- Peace meetings should be held along the Meru – Isiolo border to resolve the prolonged banditry and cattle rustling among the communities living there. Such meetings should be inter-County with all peace related stakeholders in both counties and communities involved.
- Malnutrition among children under the age of five years especially in the Agro-pastoral livelihood zone also requires collaborative efforts between the County Government of Meru, NGOs, and all health sector stakeholders operating in the region together to identify root causes and develop sustainable solutions to the problem.
- Cost of buying chemicals to fight the fall armyworm infestation are quite expensive for an individual household. There is need for the County Government of Meru to intervene through subsidized chemicals.

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 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)
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 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.