

# National Drought Management Authority

## MERU COUNTY

### DROUGHT EARLY WARNING BULLETIN FOR FEBRUARY 2017



A Vision 2030 Flagship Project



#### FEBRUARY EW PHASE



#### Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend	
Mixed Farming	Normal	Improving	
Agro-pastoral	Alert	Worsening	
Rain-fed Cropping	Alert	Deteriorating	
County	Alert	Worsening	
Biophysical Indicators	Observed Value/Range	Normal Range/LTA	
SPI-3Month (TAMSAT)	-0.58	-1.0 to 1.0	
VCI-3Month (County)	36.34	>35	
Igembe Central	35.44	>35	
Igembe North	35.51	>35	
Igembe South	38.52	>35	
North Imenti	35.85	>35	
Tigania East	31.58	>35	
Tigania West	40.55	>35	
Production indicators	Value	Normal	
Crop Condition(Maize)	Poor/harvesting	Good/harvesting	
Livestock Body Condition	Fair to poor	Normal	
Milk Production	31	10 - 22 Litres	
Livestock Migration Pattern	Internal migrations	Internal migrations	
Livestock deaths (from drought)	No death	No death	
Access Indicators	Value	Normal	
Terms of Trade (ToT)	27 kg maize/monthly wage	99 kg of maize/monthly wage	
Return distance to water sources	Households	18 km	<6 km
	Livestock	13 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	<20	
Coping Strategy Index (CSI)	20.8	21.4	

#### Drought Situation & EW Phase Classification

##### Biophysical Indicators

- Off season rains received during the second dekad of February in the Rain-fed and Mixed Farming livelihood zones. Agro-pastoral livelihood zone remained largely dry
- Vegetation conditions declined further this month across all livelihood zones with Vegetation condition Index recorded at 36.34
- Pasture and browse conditions ranged from poor to fair in the Agro-pastoral livelihood zone to fair in all the others.

##### Socio Economic Indicators (Impact Indicators)

##### Production indicators

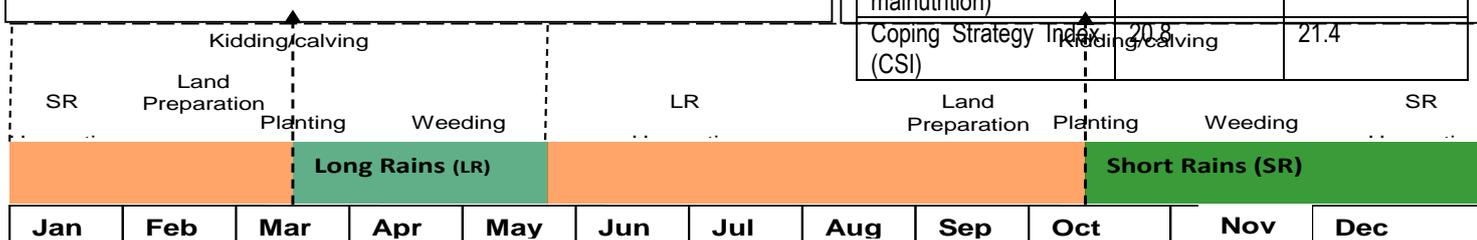
- Livestock body conditions were largely fair in the Agro-pastoral livelihood zone and fair to good in the Mixed Farming and Rain-fed cropping livelihoods
- Harvesting of maize crop carried out this month in parts of the Agro-pastoral and Rain-fed cropping zones while the crop is at cob filling stage in the Mixed Farming zone. Poor harvests are expected.
- Land preparation for the March-April season commenced towards the end of the month.

##### Access indicators

- Return watering distances for households was 18km this month from 14 km last month. Livestock covered 13 km similar to the previous month.

##### Utilization Indicators

- 24 percent of sampled children were at risk of malnutrition similar to last month.



# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- Rainfall was received during the second dekad of the month especially in the Rain-fed and Mixed farming livelihood zones with the amounts received being slightly higher than the long term average for the dekad. The Agro-pastoral livelihood zone remained largely dry throughout the month.

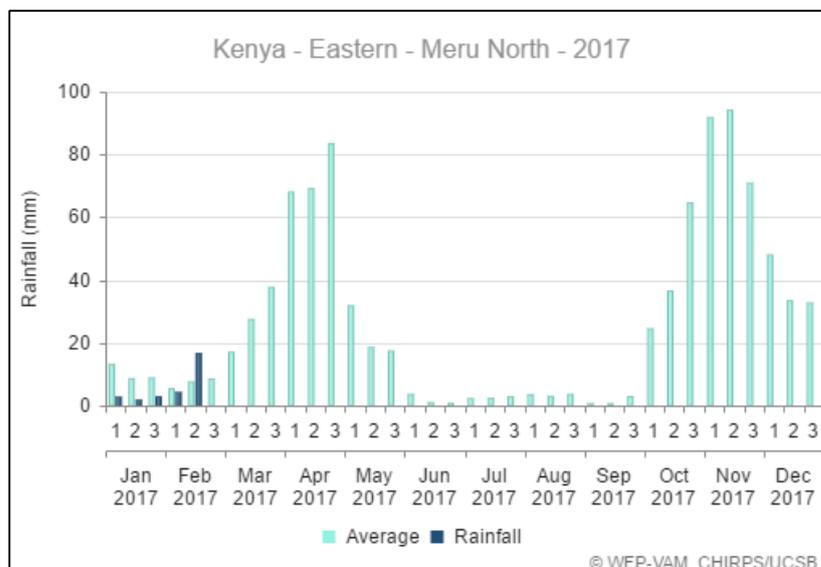


Figure 1: Rainfall Performance for Meru North in the month of February 2017. (Source: WFP-VAM)

# 2. IMPACTS ON VEGETATION AND WATER

## 2.1 VEGETATION CONDITION

### 2.1.1 Vegetation Condition Index (VCI)

- There were no improvements in vegetation conditions this month compared to last month. Significant declines were noted in Tigania East Sub-County as indicated in the vegetation condition matrices below:

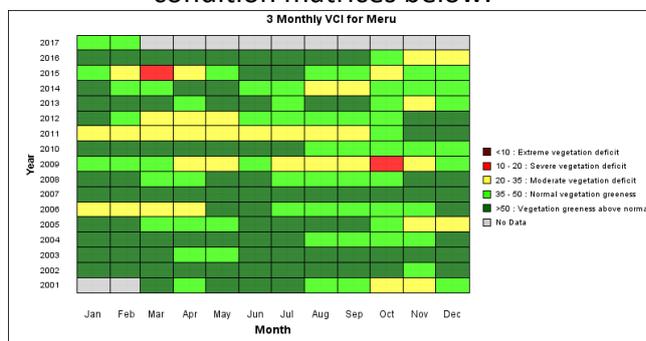


Figure 2a: VCI matrix for Meru County, 2001 – 2017

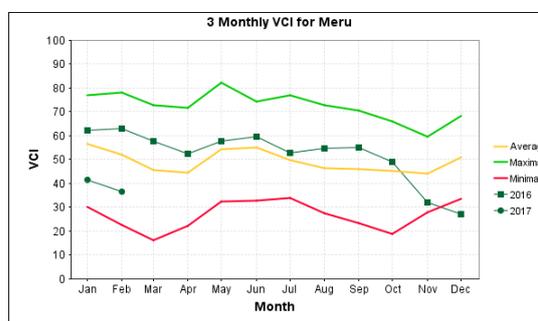


Figure 2b: VCI graph for Meru County, January 2017

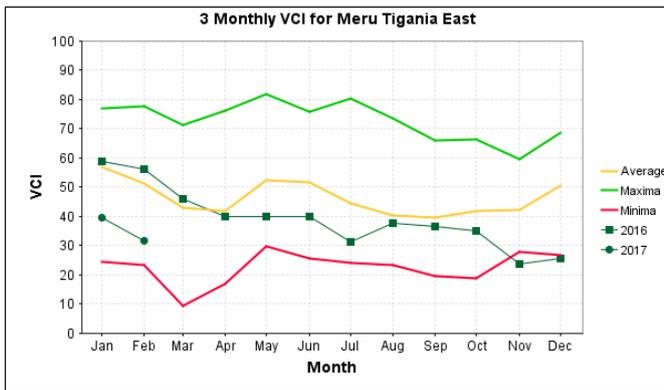


Figure 3a: VCI graph for Tigania East

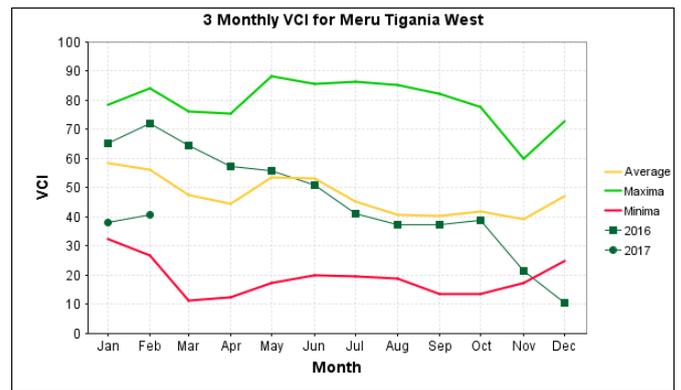


Figure 3b: VCI graph for Tigania West

### 2.1.2 Pasture

- Pasture condition declined further this month with 50 percent of respondents indicating pastures being of poor conditions mainly in the Agro-pastoral livelihood zone compared to 8 percent the previous month.
- Fair pasture conditions were reported in the rest of the County.
- Current conditions are not normal for this time of the year and are expected to worsen further next month.

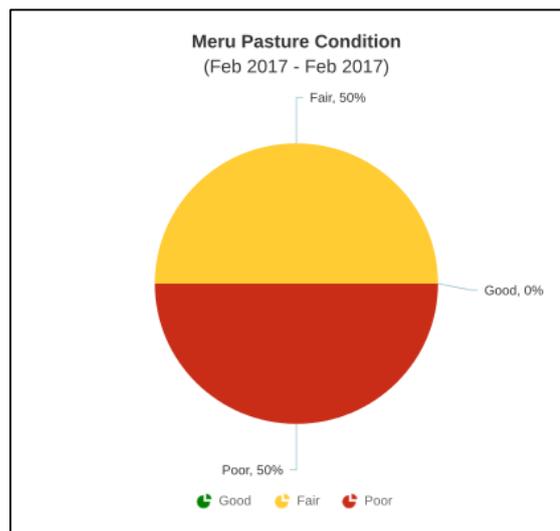


Figure 4: Meru County Pasture conditions. February, 2017

### 2.1.3 Browse

- Browse conditions largely ranged from fair to poor across the county. 50 percent of interviewed communities indicated browse being of fair conditions while 41 percent indicated browse being of poor
- Current situation is not normal for this time of the year and is expected to deteriorate further next month.

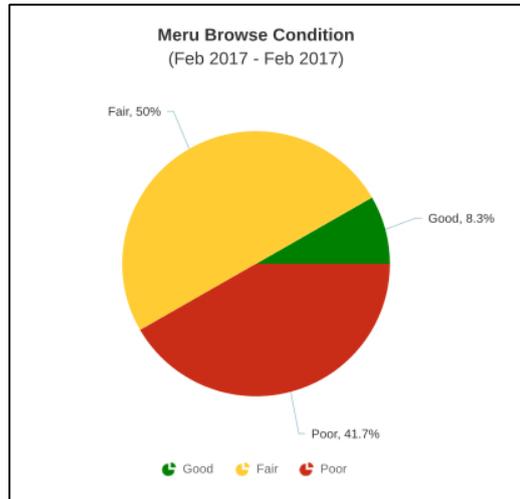


Figure 5: Meru County Browse conditions, February 2017

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- Rivers, boreholes, and piped water systems were the major water sources for both livestock and domestic use during the month similar to last month.
- A slight increase in the reliance on boreholes was noted especially in the Agro-pastoral livelihood zone.
- Water vendors were also significant sources especially to households in the Agro-pastoral livelihood zone.
- Current water situation is much poorer than the previous month and is expected to deteriorate further the coming month.

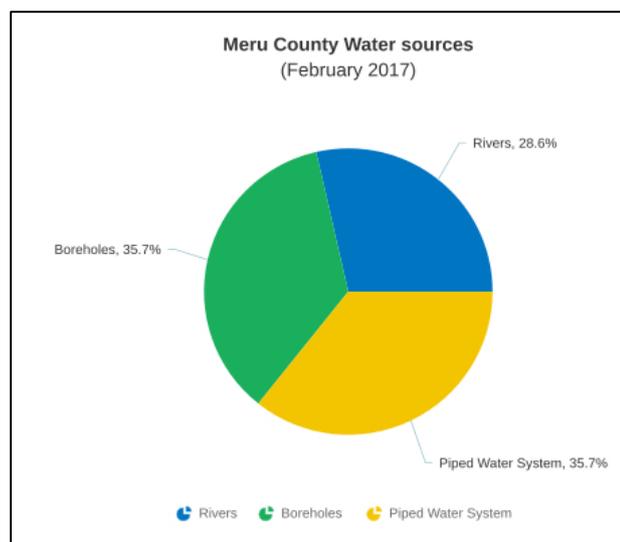


Figure 6: Meru County sources of water. February 2017

### 2.2.2 Household access and Utilization

- Further increases in trekking distances to watering points by households was noted this month. Distances averaged at 17.8 km compared to 14 km the previous month. This is an

indicative of diminishing sources closer to homestead and a possible increase in waiting time at the available sources.

- Further increases in distances are expected next month.

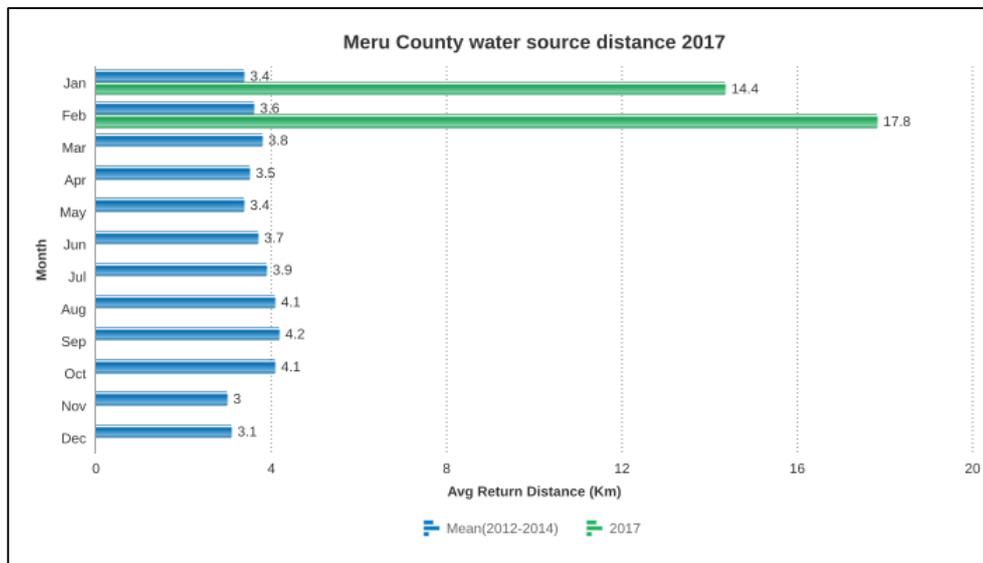


Figure 7: Meru County Household distances to water sources. February, 2017

### 2.2.3 Livestock access

- Distances to watering points from grazing areas remained high similar to last month at an average of 13 km. Boreholes were the major sources of water for livestock and given their limited numbers and massive distances between them, overall watering distances for livestock remained high.
- Current distances are not normal and are likely to remain high next month

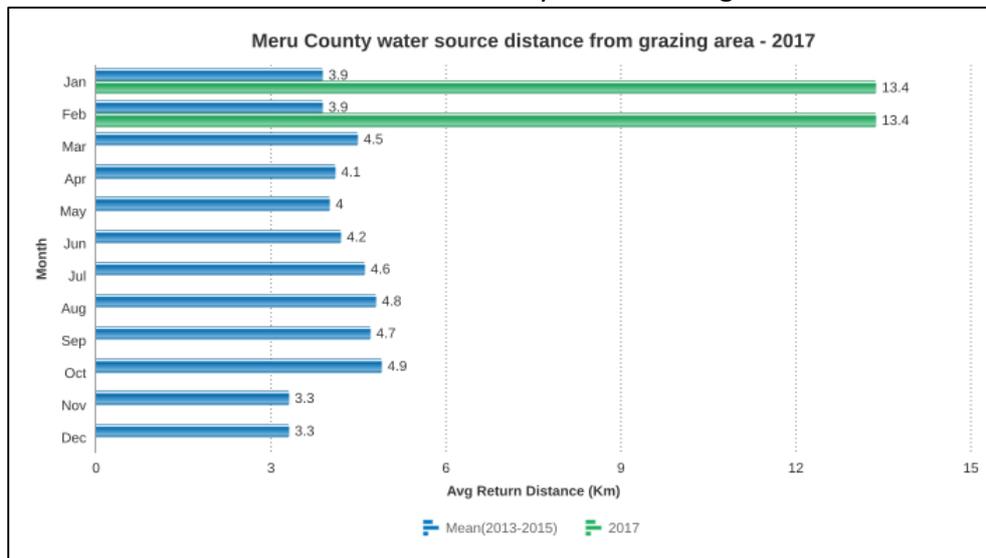


Figure 8: Meru County Livestock watering distances from grazing areas. February, 2017

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- Overall body conditions were mainly fair especially in the Agro-pastoral livelihood zone and good in the Mixed Farming livelihood where a bit of zero grazing is mainly employed.
- Poor pastures, long watering distances, and reduced watering frequency in the Agro-pastoral livelihood zone contributed notably to the current body conditions. Further declines are expected next month in this zone.

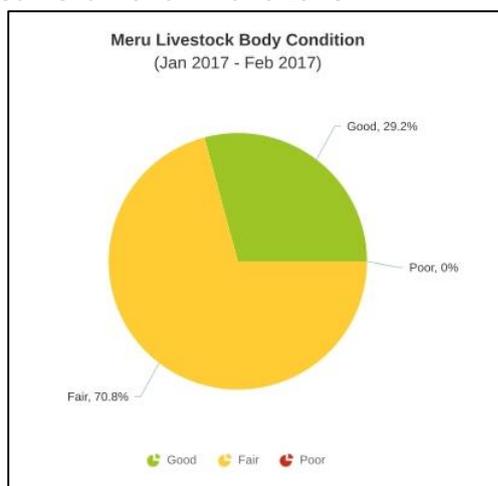


Figure 9: Meru County livestock body conditions. February 2017

##### 3.1.2 Livestock Diseases

- There were no livestock diseases reported during the month.

##### 3.1.3 Milk Production

- Milk production declined to an average of 31 litres compared to 50 litres the previous month.
- This decline resulted mainly from the declining body conditions witnessed across the county. Production is likely to decline further next month.

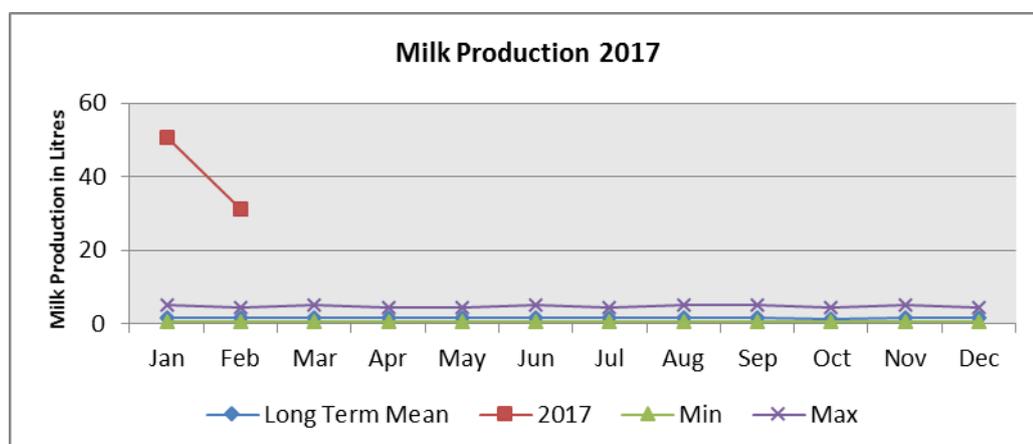


Figure 10: Meru County Milk production. February 2017

## **3.2 RAIN-FED CROP PRODUCTION**

### **3.2.1 Stage and Condition of food Crops**

- Mature harvesting of maize crop was reported this month mainly in parts of the Agro-pastoral and rain-fed cropping livelihood zones. In the Mixed farming livelihood zone maize was at cob filling stages and drying. Overall, below normal harvests are expected to be achieved.
- Land preparation also commenced towards the end of the month in anticipation of the March-April rains.
- In sum, crop productions has been poor over the last season. Current food stocks are expected to deplete within a month or less. This is not normal for this time of the year.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- Cattle prices remained fairly the same as those recorded last month at Kshs 18,000 per head.
- Current prices are 29 percent higher than the long term average prices for the month and are expected to decrease next month as body conditions decline further.

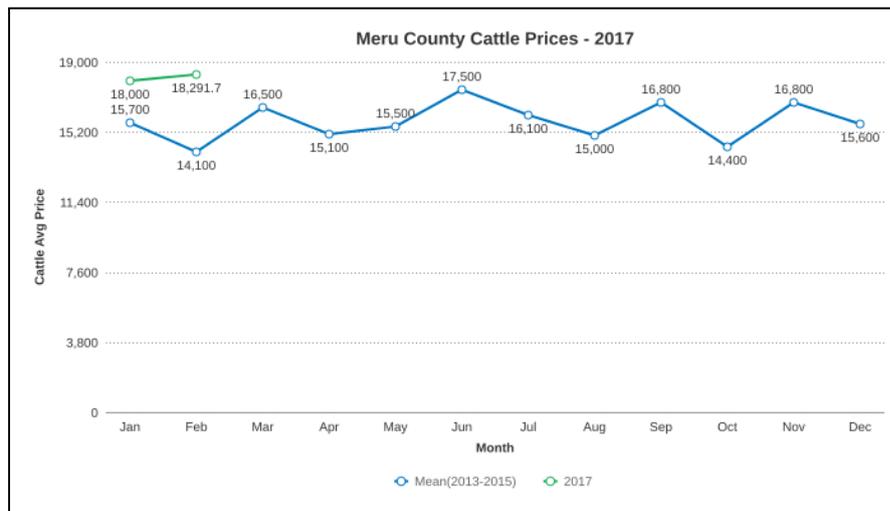


Figure 11: Meru County average cattle market prices. February, 2017

#### 4.1.2 Goat Prices

- Goat prices declined this month due to increased supply in the markets as herders and households sold goats to purchase food items and other necessities. Prices averaged at Kshs 3,850 this month compared to Kshs 4,000 last month.
- Current prices are slightly below the long term average for the month.

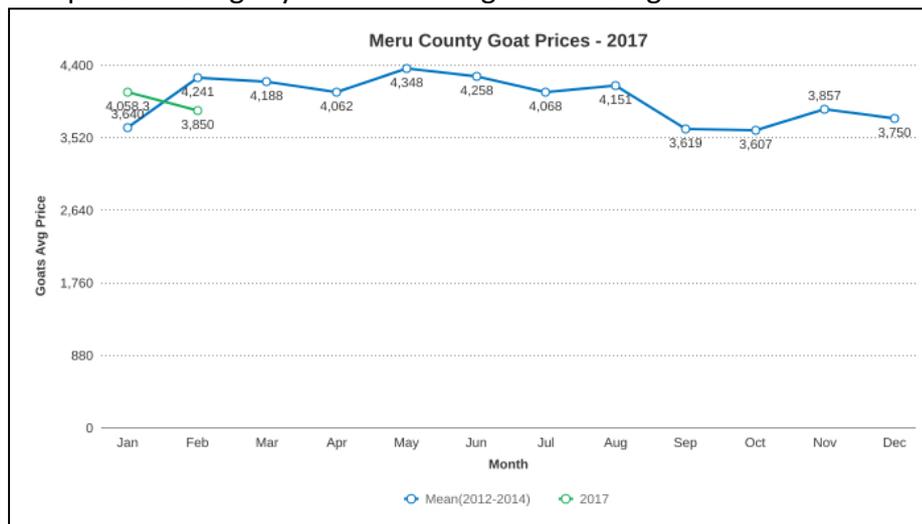


Figure 11: Meru County average goat market prices. February, 2017

## 4.2 CROP PRICES

### 4.2.1 Maize

- Further increases in maize prices were noted this month with prices averaging at Kshs 47 compared to Kshs 40 last month. Current prices were 56 percent higher than the long term average prices for the month.
- Sustained increases noted over the last three months are indicative of depleted stocks with majority of households relying on markets as the main source for the grain.
- Current prices are not normal for the month and are expected to increase further given the below normal harvests are expected.

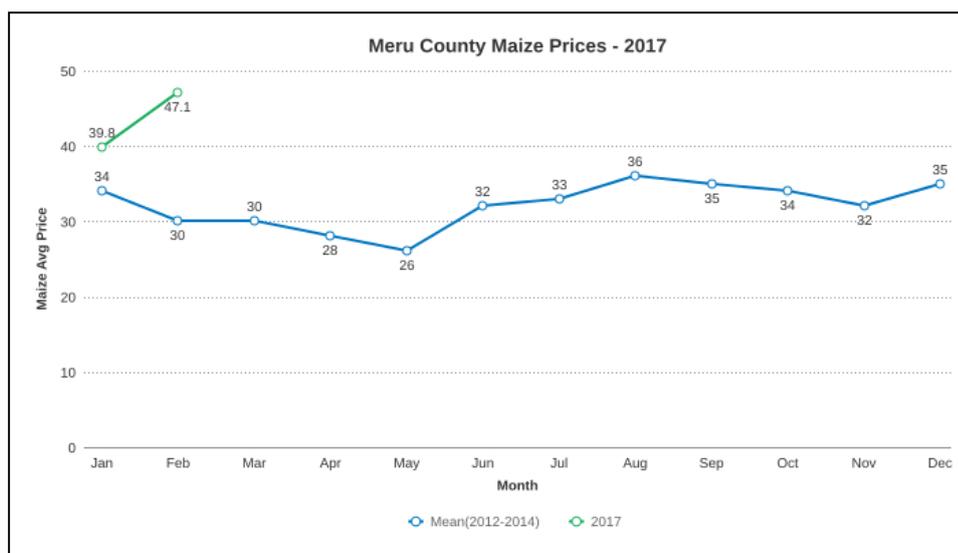


Figure 12: Meru County average maize market prices. February, 2017

### 4.2.3 Beans

- Bean prices increased notably to an average of Kshs 77 per kilo this month from Kshs 70 last month. This increase resulted from declined stocks following poor harvests realised in January. Current prices are not normal and are expected to increase further next month as stocks deplete.

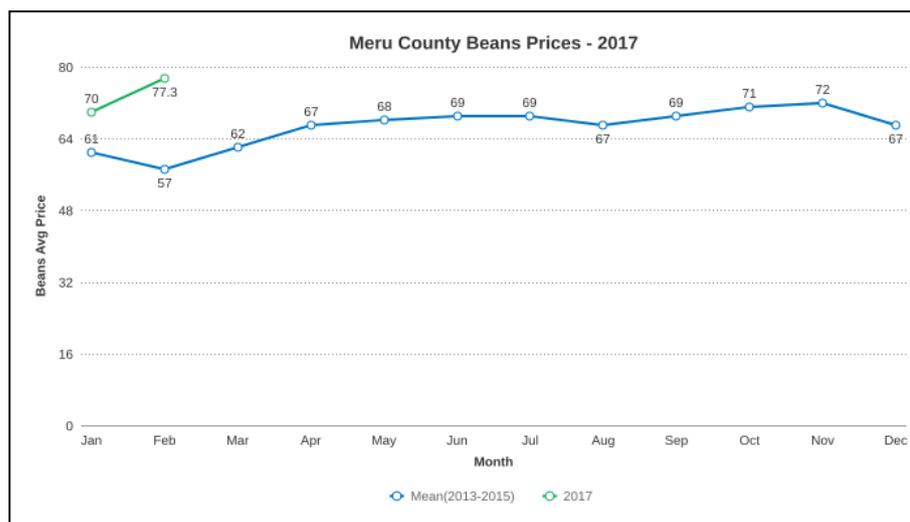


Figure 13: Meru County average bean market prices. February, 2017

### 4.3 Casual Labour Price Ratio/Terms of Trade

- Casual labour is the main source of income for majority of households in the County and as such it is used to calculate the terms of trade.
- Terms of trade declined further this month with households getting 27 kgs of maize from this month's wages compared to 30 kgs the previous month. This reflects declining terms of trade for casual labourers.
- The situation is likely to decline further as food prices increase.

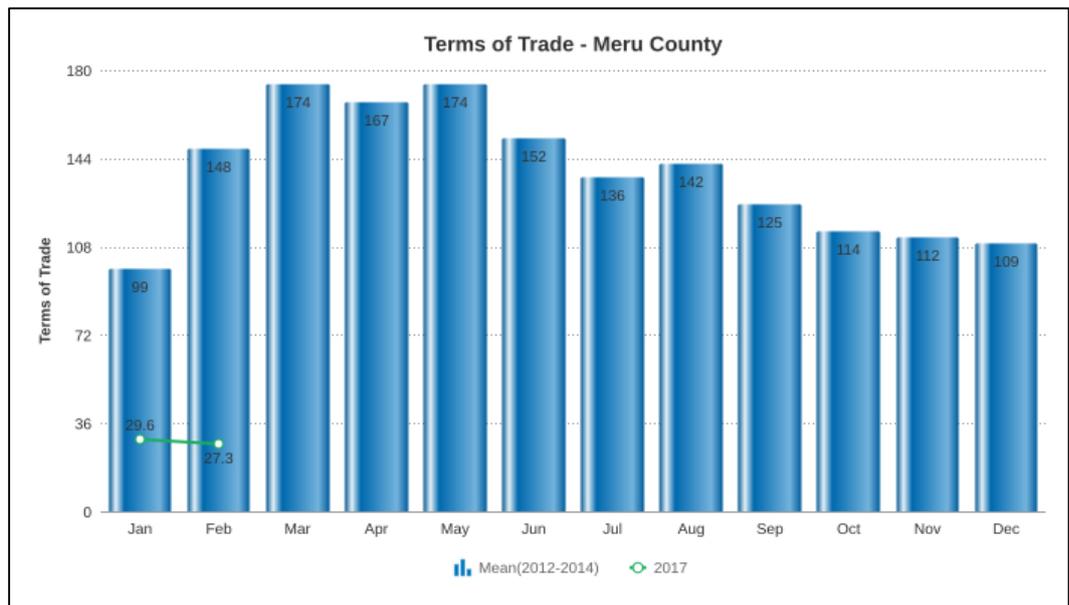


Figure 14: Meru County terms of trade. February, 2017

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 FOOD CONSUMPTION SCORE

- From a total of 118 households sampled this month, 71 of them had acceptable food consumption scores while 41 were at borderline. Only 6 of them had poor food consumption scores, a significant improvement compared to last month.
- Improvements in food consumption noted this month could have resulted from the harvest of pulses last month meaning that households could afford better food mixes than last month.

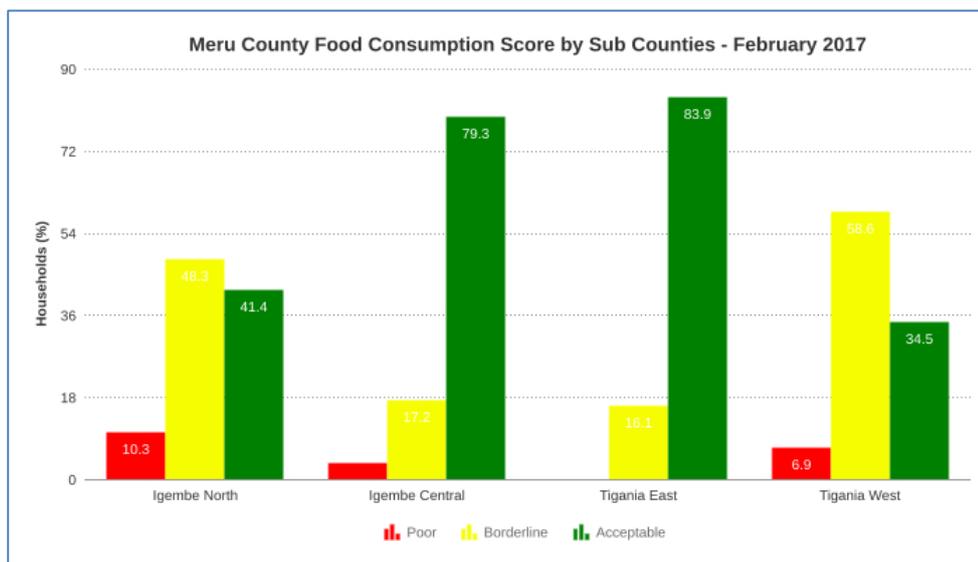


Figure 15: Meru County food consumption trends. February, 2017

### 5.2 HEALTH AND NUTRITION STATUS

#### 5.2.1 Nutrition Status

- 24 percent of sampled children were at risk of malnutrition similar to the previous month. This is higher than the long term average for the month an indication that food stocks at household levels have depleted.
- Current possible levels of malnutrition are not normal for this time of the year.

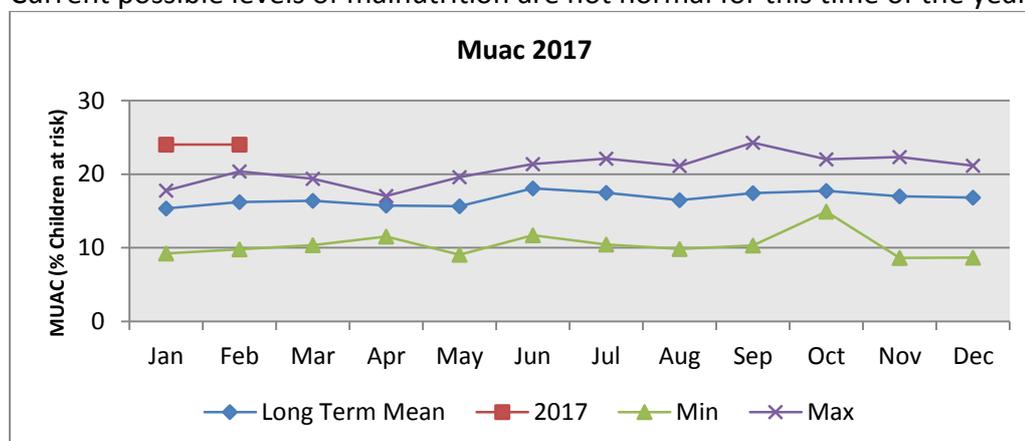


Figure 16: Meru County malnutrition levels. February, 2017

#### 5.2.2 Health

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

## **CURRENT INTERVENTION MEASURES (ACTION)**

### **6.1 NON-FOOD INTERVENTIONS**

- Construction of Sweet Potato Value Addition plant by Meru Friends SACCO with support from, National Drought Management Authority, Meru County Government and the European Union through Kenya Rural Development Project is almost complete and will begin operations May

### **6.2 FOOD AID**

- GOK relief food was distributed to the needy across all the Sub-Counties this month.

## **7. EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement**

- Cattle rustling in the grazing areas of Igembe North and Igembe Central was reported during the month.
- Conflicts between herders and farmers was also reported in Akithi (Tigania West Sub-County) during the month.

## **8. RECOMMENDATIONS**

- There is still need to monitor and implement interventions in pockets noted with possible high levels of malnutrition.
- There is an urgent need to activate the drought contingency planned activities to minimise and shield communities from the possible effects of the ongoing drought.

## 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.
<b>Recovery:</b> 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 3-monthly average	Agricultural Drought Category
	≥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.