National Drought Management Authority
(NYERI) COUNTY
DROUGHT EARLY WARNING BULLETIN FOR AUGUST 2017

NDMA

A Vision 2030 Flagship Project

KENYA VISION 2030

AUGUST EW PHASE

Drought Status: ALERT

Maandalizi ya mapema

Drought Situation & EW Phase Classification
Biophysical Indicators

☐ In the month of August, highland areas received substantial amounts off season rains while the low lands registered depressed showers which were poorly distributed in both time and space.

☐ Vegetation condition index for the month stood at 52.29 from 51.56 in July. This was indicative of above normal vegetation greenness.

Socio Economic Indicators (Impact Indicators)

☐ The livestock exhibited poor to fair conditions across livelihood zones. Body conditions were at 81.8 % poor and 18.2 % fair.

☐ Milk production decreased from 6.0 litres in July to 4.9 litres in August.

☐ Milk consumption increased from 1.5 litres in July to 1.7 litres in August. Registered increase was due to households supplementing scarcity of vegetables with milk.

☐ Distances to water sources for households decreased from 2.2 Km in July to 0.5 Km in August. The decrease was due to recharge of main water sources from the off season showers in the highland zones.

☐ Terms of trade increased from 51.9 in July to 61.1 in August.

☐ Children under five years at risk of malnutrition stood at 0.4 percent

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed Farming	Alert	stable
Agro pastoral	Alert	stable
Biophysical Indicators	**Value**	**Normal Range/Value**
Rainfall (mm)	60.7	52.9
VCI	52.29	60
Forage condition	poor	Fair
Production indicators	**Value**	**Normal**
Crop Condition(specify crop)		
Livestock Body Condition	Poor	Fair
Milk Production	4.9 litres	6. litres
Livestock Migration Pattern		None
Livestock deaths (from drought)	None	None
Access Indicators	**Value**	**Normal**
Terms of Trade (ToT)	45.3	0.3
Milk Consumption	1.7 litres	2.0 litres
Return distance to water sources	1.9 Km	1.3 Km
Utilization indicators	**Value**	**Normal**
Nutrition Status, MUAC (% at risk of malnutrition)	0.4	2.5
Coping Strategy Index (CSI)	5.31	0

|			
▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation	▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase	▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept)	▪ Short rains ▪ Planting/weeding
Jan	**Feb** **Mar** **Apr** **May** **Jun**	**Jul** **Aug** **Sept** **Oct**	**Nov** **Dec**

1.   CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

□ The month of August was relatively wet. However, there was a variance in rainfall amounts whereby the highland zones received enhanced amounts to normal while the low lands received reduced volumes which were poorly distributed in both time and space.

□ The first and third dekad received rains above long term average while the 2nd dekad was below long term average as indicated in figure 1 below. The rainfall received was at 114.7 % to normal.

Figure 1: Presentation of the rainfall performance for June 2017
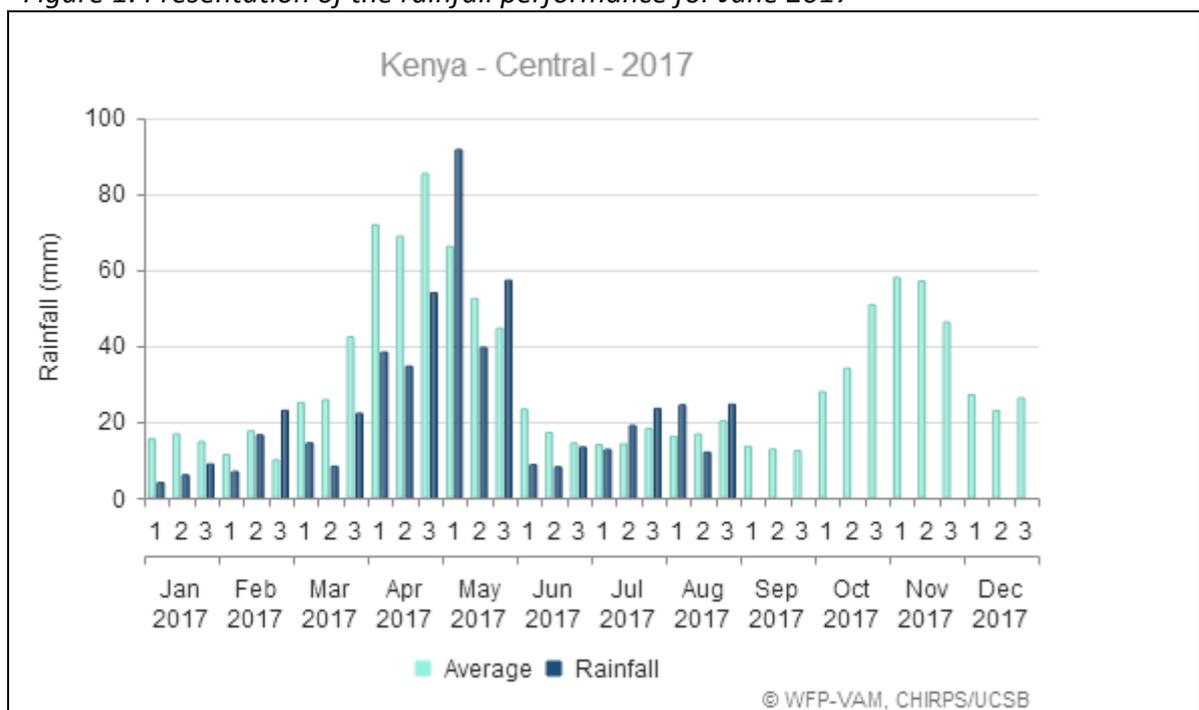
2.0   IMPACTS ON VEGETATION AND WATER

2.1   VEGETATION CONDITION

2.1.1   VEGETATION CONDITION INDEX (VCI)

□ The vegetation condition index (VCI) for Kieni constituency was below the long term average same as reported last year. The month's VCI increased from 51.56 in July to 52.29 in August as indicated in figure 2 below. Registered VCI is indicative of above normal vegetation greenness.

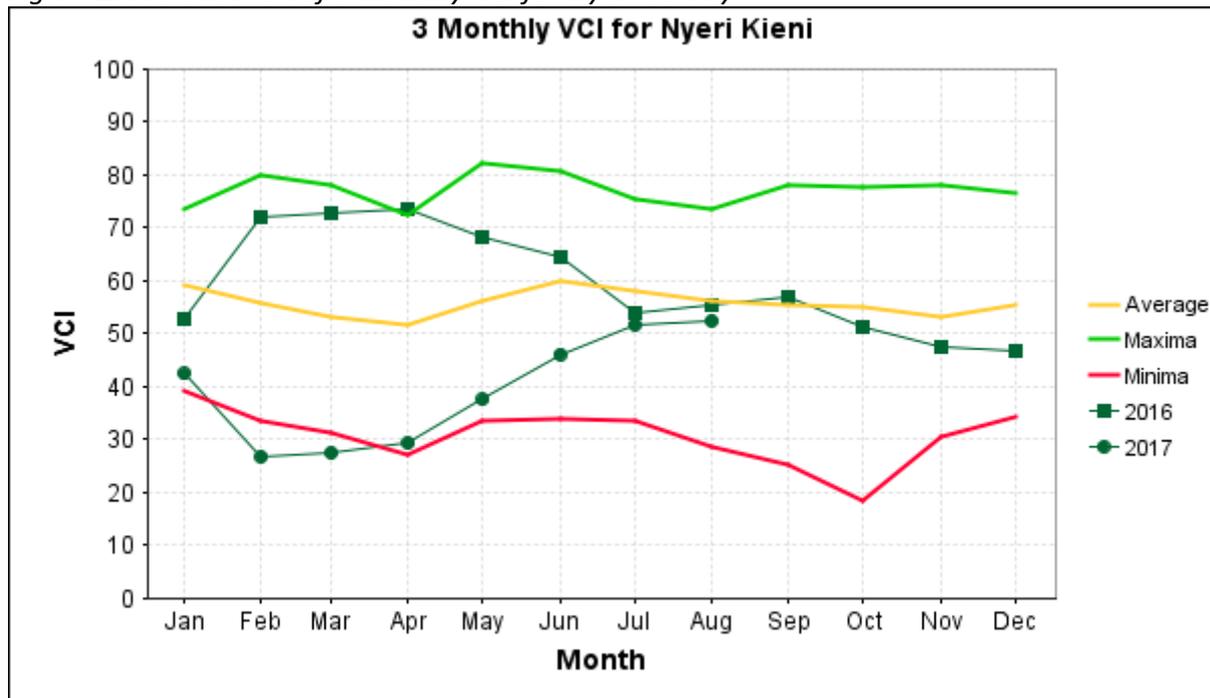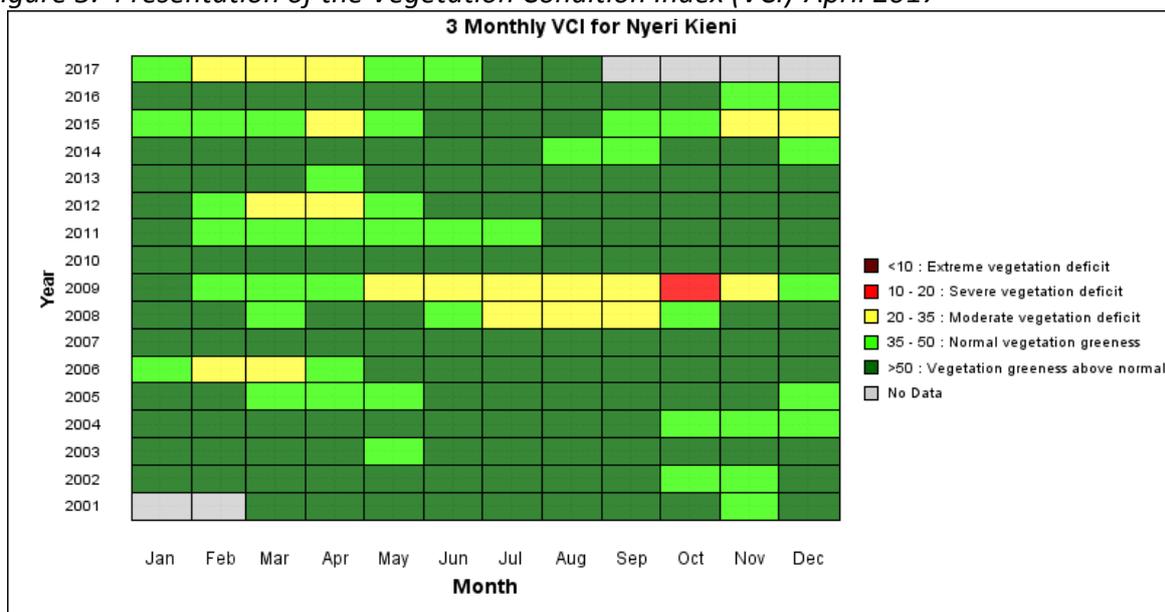*Figure 2: Presentation of 3 monthly VCI for Nyeri County*

Figure 3: Presentation of the Vegetation Condition Index (VCI)-April 2017

2.1.2 Pasture

☐ Pasture conditions were poor, which was wide spread in both mixed farming and agro pastoral farming livelihood zones. This condition had been brought about by frost bite which had impacted negatively on natural pastures leaving grazing fields bare as supported by figure 4(a).

☐ Available pastures are below normal and expected to last for a month in both mixed farming and agro pastoral farming livelihood zones.

Figure 4(a): Presentation of pasture condition for Nyeri County

Nyeri Pasture Condition
(Aug 2017 - Aug 2017)

Poor, 100%
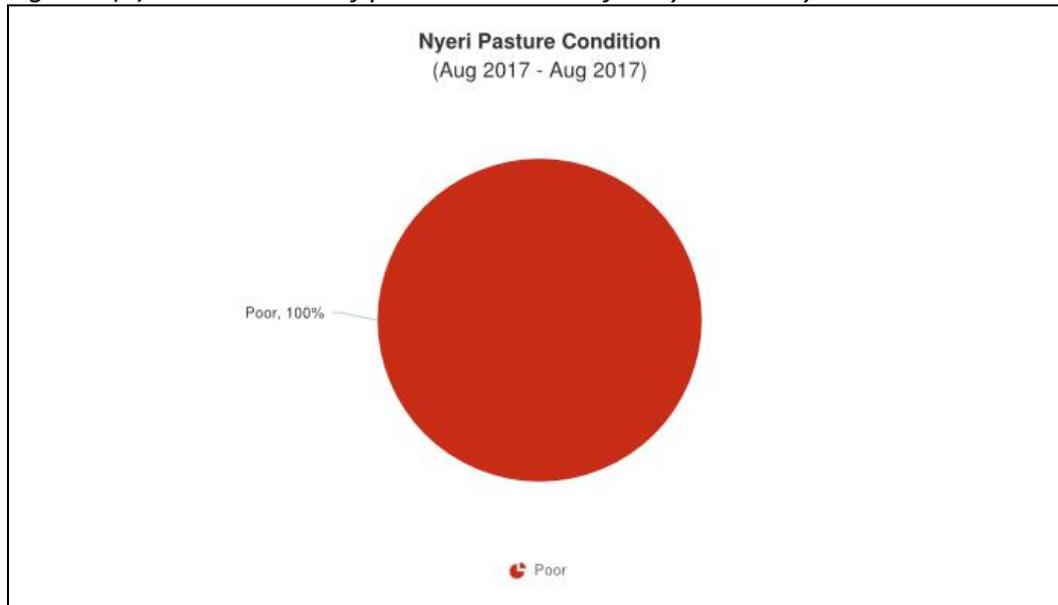
Poor

2.1.2   Browse
☐   Browse conditions were equally of poor quality and quantity in both mixed farming and agro pastoral farming livelihood zones due to over exploitation after the influx of animals from neighbouring counties.

2.2   WATER RESOURCE
2.2.1   Sources
☐   The main water sources in the region were rivers and piped water system at 34.4% respectively. Other sources were springs at 21.9 % and pans and dams at 9.4 % as illustrated in figure 5.

☐   There was recharge in the rivers; after off season rains were received along the highlands where these rivers originate from. Most rivers feed local community based water system whose multiplier effect was reduced rationing. This has led to a drop in distances to water sources for both domestic and livestock use from last month.

Figure 5: Shows main water sources for the region
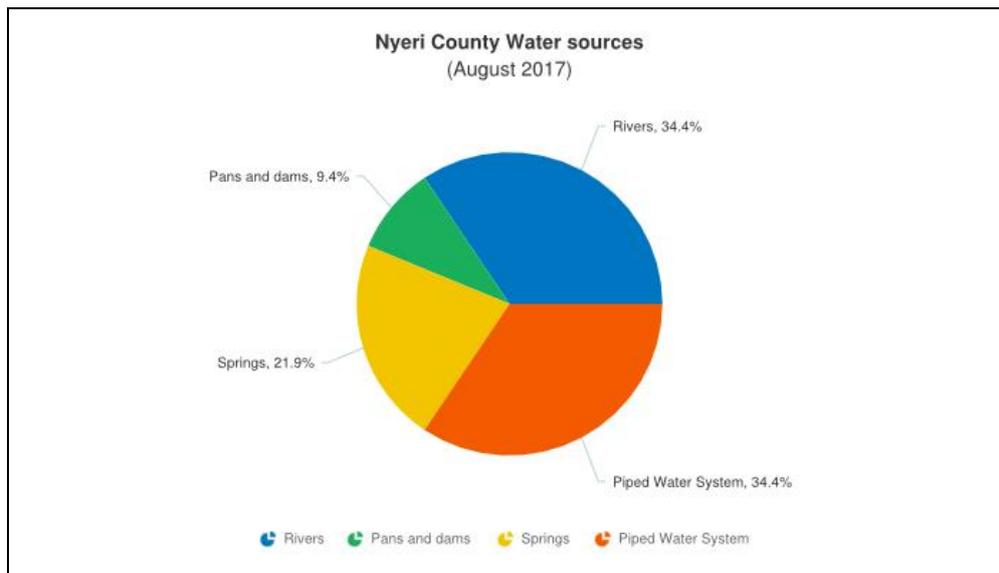
2.2.2 Household access and Utilization
☐ Distances to water sources reduced by 77.3%, from 2.2 km in July to 0.5 Km in August . Compared to the 2013-2015 mean averages of 1.4 Km, distances covered in August were below the long term averages by two folds as indicated in figure 6.
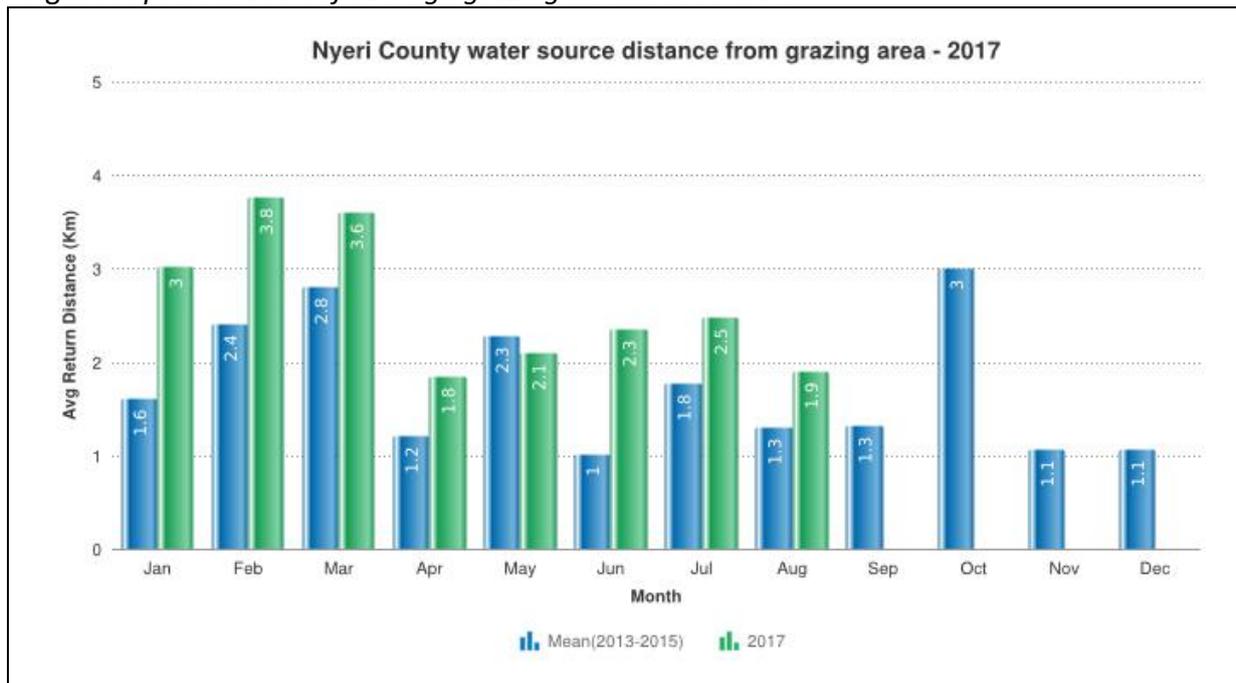
Figure *6: presentation of average return distances to water*
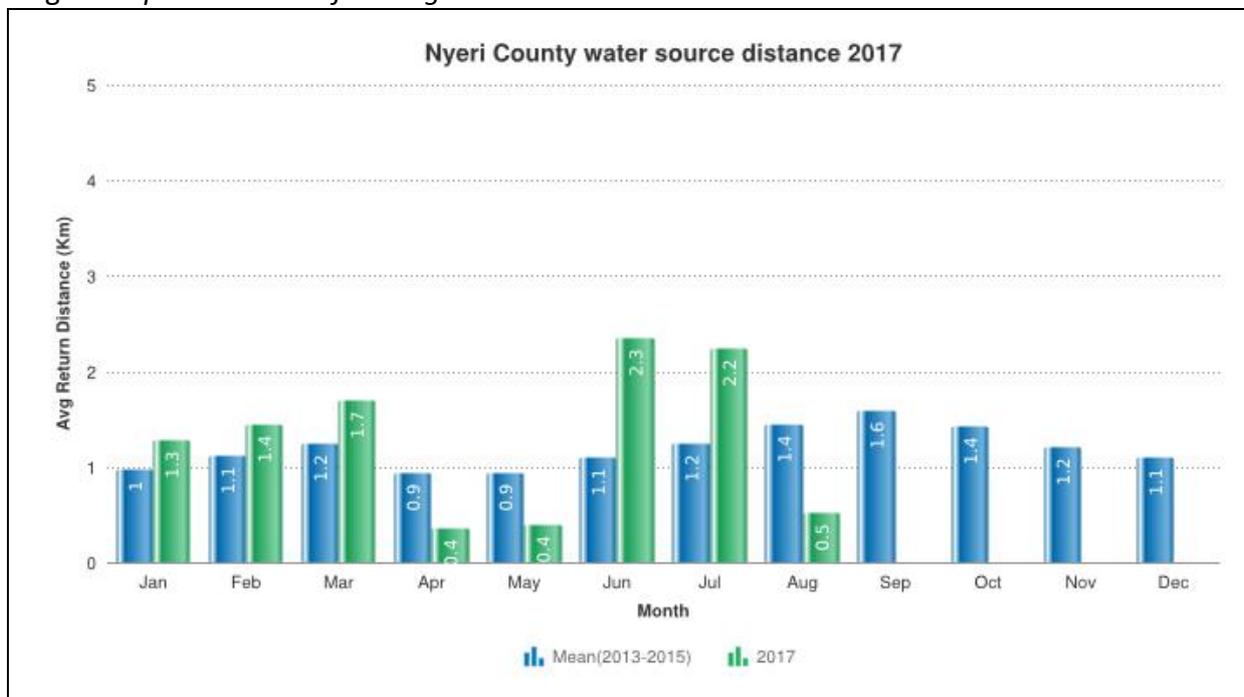
2.2.3 Livestock access
☐ Average distances from grazing field to watering points reduced by 24 % from 2.5 Km in July to 1.9 Km in August. Compared to 2013-2015 long term average of 1.3 Km in August, reported distances were higher as indicated in figure 7.

Figure *7: presentation of average grazing distances to water*

3.0   PRODUCTION INDICATORS

3.1   LIVESTOCK PRODUCTION

3.1.1   Livestock Body Condition

☐   Livestock body conditions were at 81.8 % poor and 18.2 % fair as indicated in figure 8.

☐   Observed body conditions have been aggravated by the region poor pasture conditions. This was due to the frost bite which has affected pasture and browse leaving grazing land bare.

Figure 8: Shows livestock body conditions
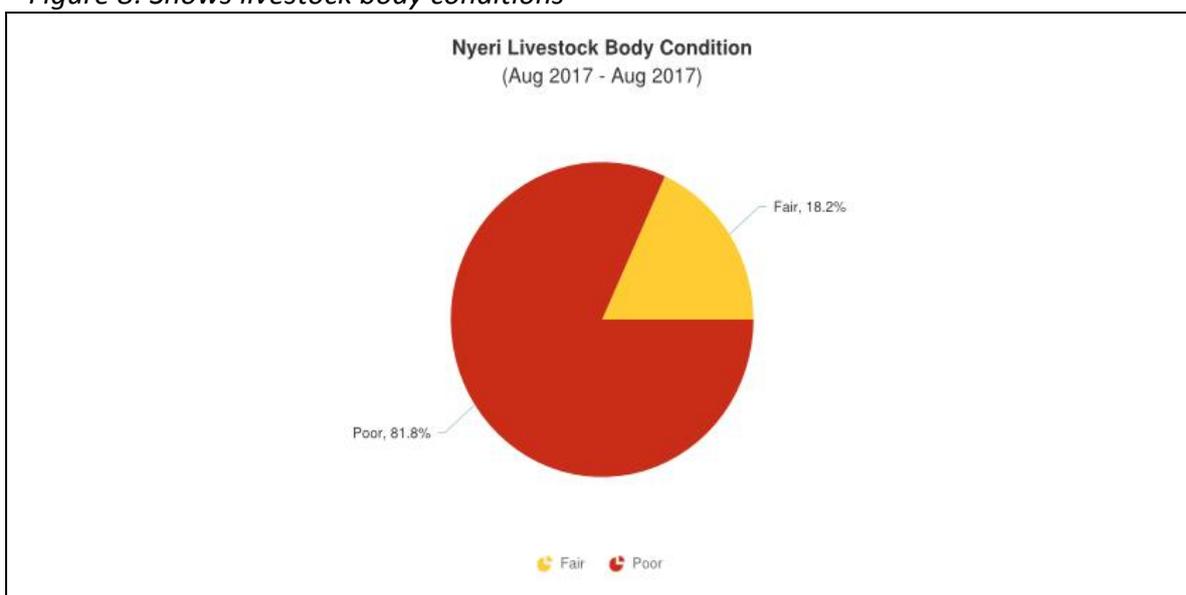
3.1.2 Livestock Diseases

☐   There were no reported cases of livestock diseases outbreaks.

3.1.3   Milk Production

☐ Milk production decrease by 18.3 % from 6 litres in July to 4.9 litres in August. The decrease in production was occasioned by poor pasture conditions, poor livestock health and lack of supplements and inadequate feeds. The month's production was low compared to the 2013-2015 average of 6.2 litres as indicated in figure 9.

Figure 9: Presentation of average milk production for the region
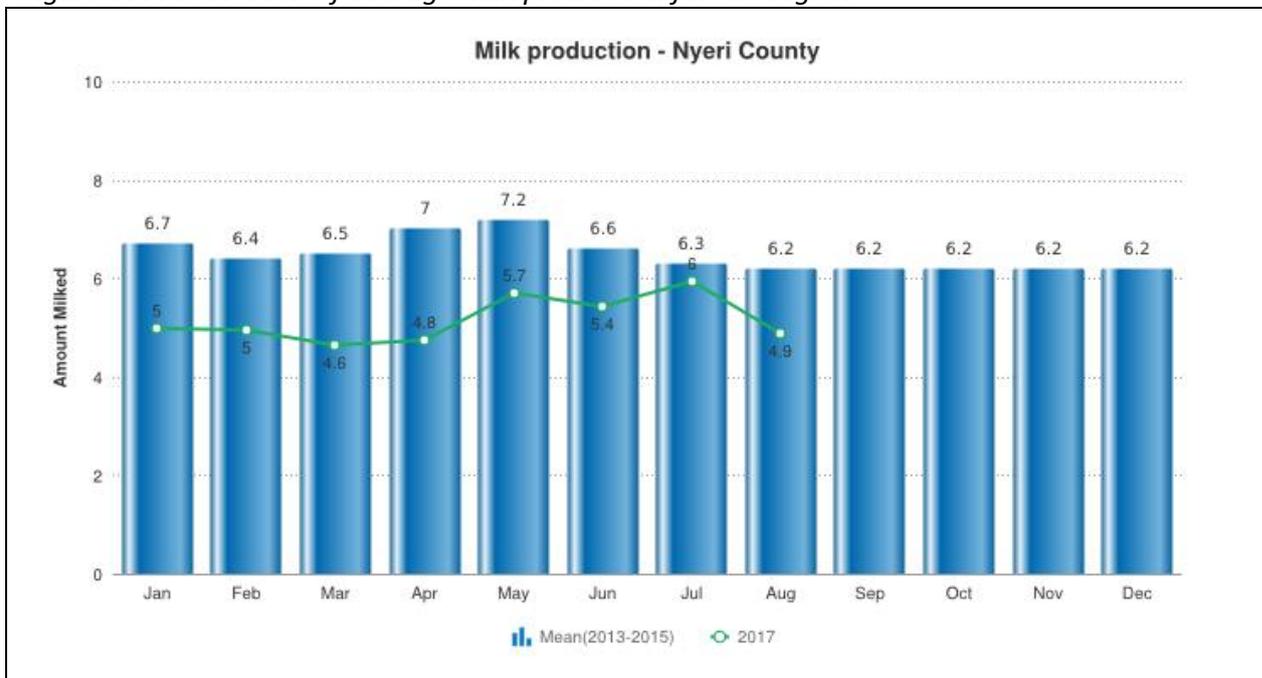
3.2   RAIN-FED CROP PRODUCTION
3.2.1   Stage and Condition of food Crops

☐ The main food crops grown in Kieni East and Kieni West sub counties include Maize, beans and Irish potatoes. Those under irrigation include cabbages, beans in pods and onions.

☐ Majority of the rain fed crops in the region were beyond salvage having succumbed to water stress after a poor performance of the MAM rains. A few areas under irrigation were able to salvage their crops.

☐ In July, crops nearing the harvest stage started developing signs of water stress across livelihood zones. In August, pockets under irrigation realised some harvest beans and maize though negligible.

4.0   MARKET PERFORMANCE
4.1   LIVESTOCK MARKETING
4.1.1 Cattle Price

☐ No sales were reported during the month under review.

4.1.2 Sheep prices

☐ No sales were reported during the month under monitoring.

4.2   CROP PRICES

4.2.1   Maize

☐ Food commodity prices continued on a downward trend. Maize prices dropped by 19.7 % to retail for Ksh 46.4 in August from Ksh 57.8 in July as shown in figure 12

☐ This was due to the little yields realised for the season. Other factors that may have led to price drop were introduction of the government subsidized maize flour and subsidized maize from the National Cereal and Produce Board at Kiganjo.

Figure 12: Outlines average price trends for maize
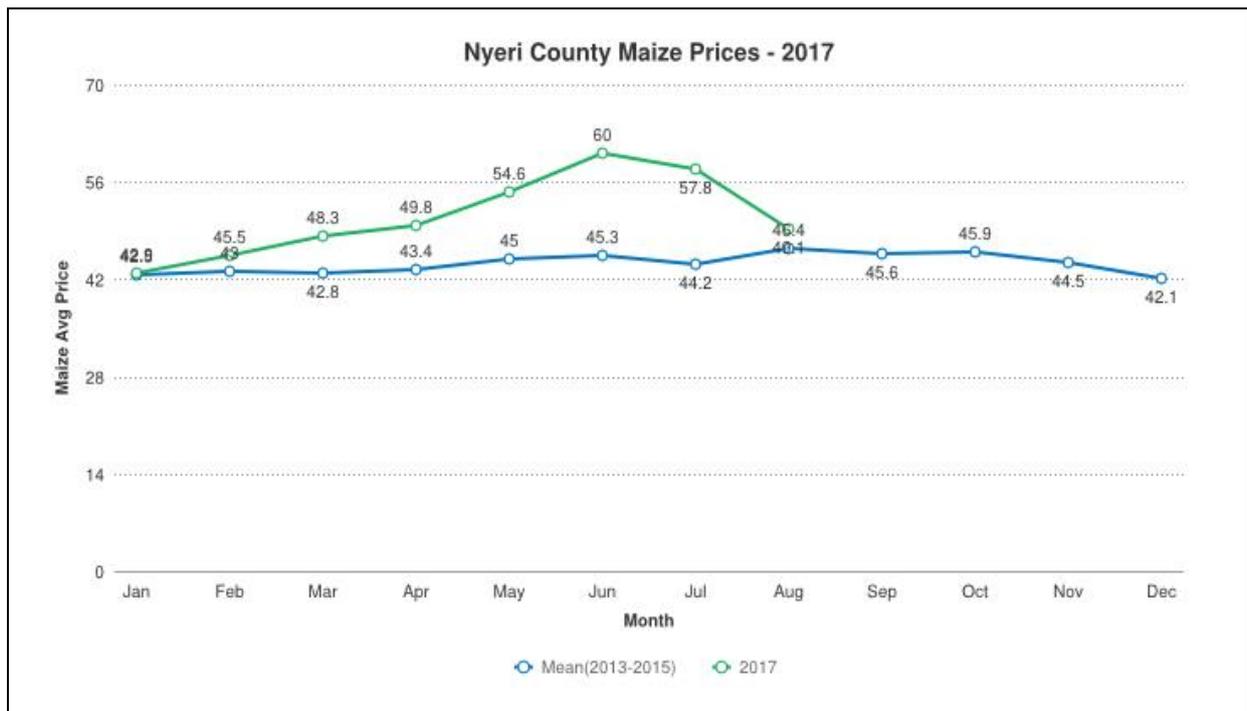
4.2.2   Beans

☐ Beans prices equally dropped by 13.7 percent to retail at Ksh 94 in August from Ksh 109 in July. Compared to the short term price average of Ksh 78, the month's price was high by 30.8 percent as shown in figure 13 below. This is attributed by the fact that the region has experienced some beans yields though negligible.

Figure 13: Outlines average price trends for beans
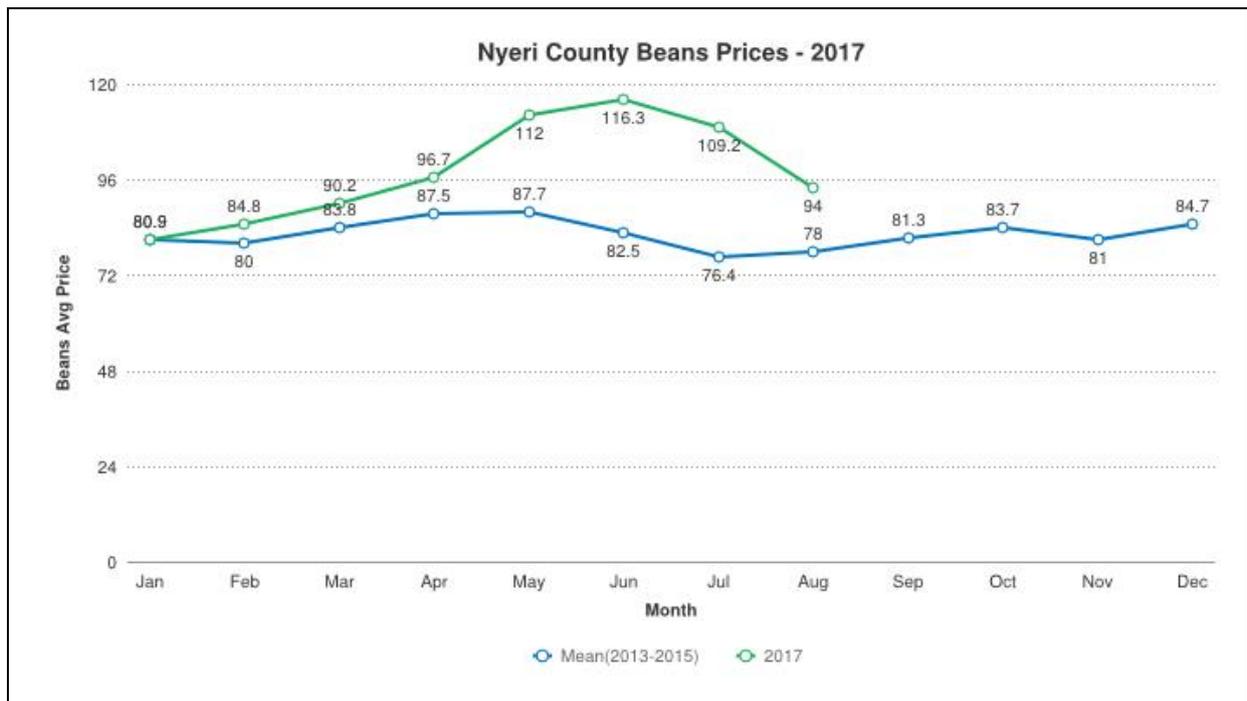
4.2.3 Livestock Price Ratio/Terms of Trade

☐ Terms of trade ratio increased by 17.7 % from 51.9 in July to 61.1 in August as indicated in Figure 14 below .This is attributed to reduced food commodity prices at market level as matched with relatively improved livestock prices.

*Figure 14: Analysis of households terms of trade ratio*
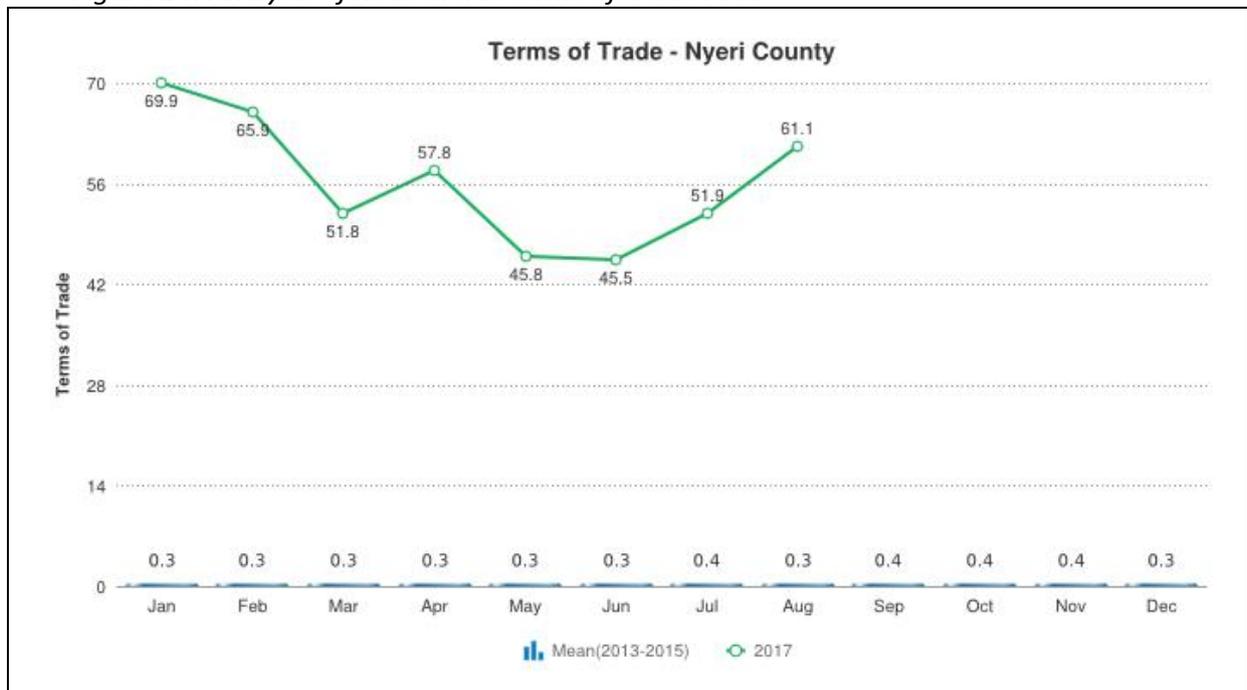
5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

☐ The month's household milk consumption increased from 1.5 litres in July to 1.7 litres in August. Compared to the 2013-2015 short term average of 2 litres, the month's consumption was lower by 15 percent as shown in figure 15 below.

☐ Increased consumption was as a result of some households supplementing lack of vegetables with milk.

Figure 15: Outlines milk consumption for the county
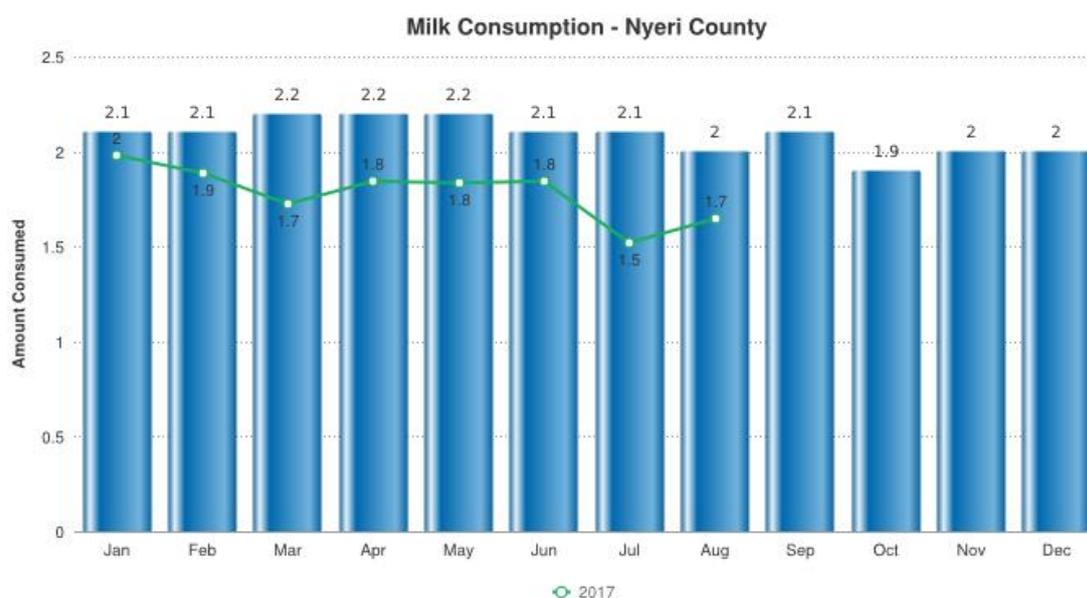
5.2 FOOD CONSUMPTION SCORE

☐ The region registered poor food consumption score of 0.8 percent, while those with borderline and acceptable food scores were 26.7 per cent and 73.5 per cent respectively as indicated in figure 16 below.

☐ This implies that approximately 70 percent of the households were able to have a balanced meal.

Figure 16: Presentation of food consumption score by livelihood zones

Nyeri County Food Consumption Score by Sub Counties - August 2017
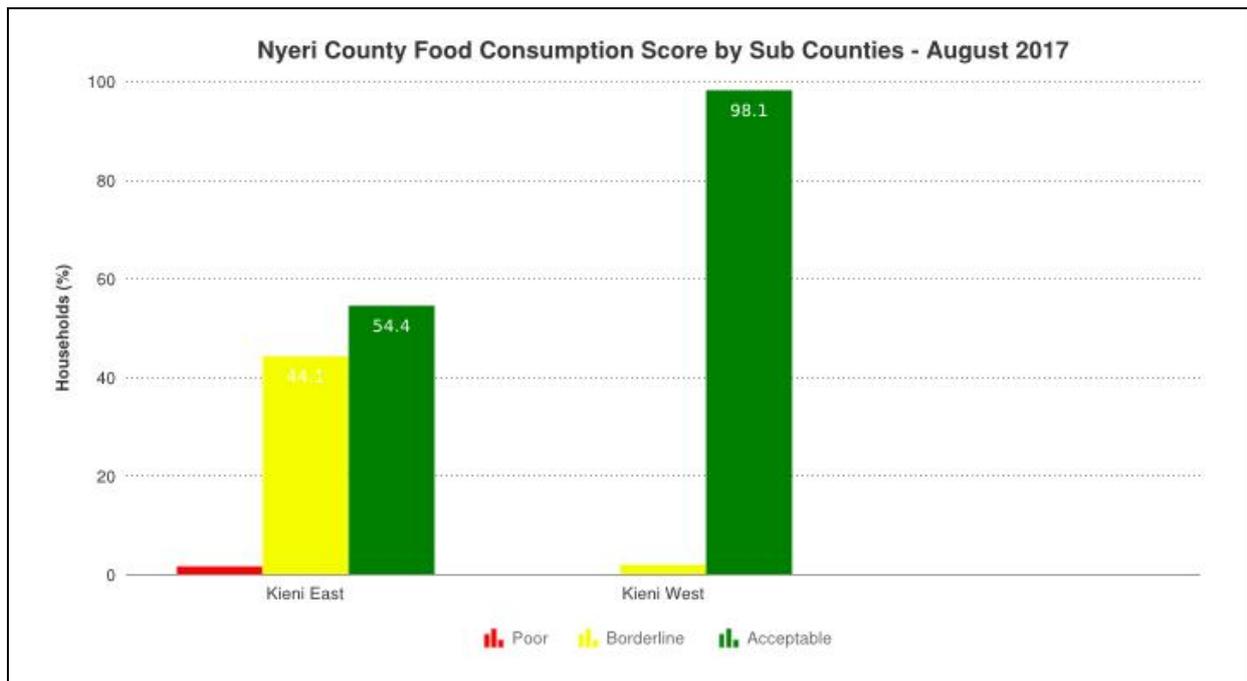
5.3   HEALTH AND NUTRITION STATUS
5.3.1   Nutrition Status

☐   During the month of August, under-fives at risk of malnutrition stood at 0.4 per cent. This was a decrease from the previous month which was at 0.8 per cent as indicated in figure 17 below. Improved nutrition status of under-fives was due to realised harvest, access to milk and drop in food commodity prices that enhanced food access.

Figure 17: Presentation of nutrition status of children below five years

Mid at Risk Children 2017 - Nyeri County
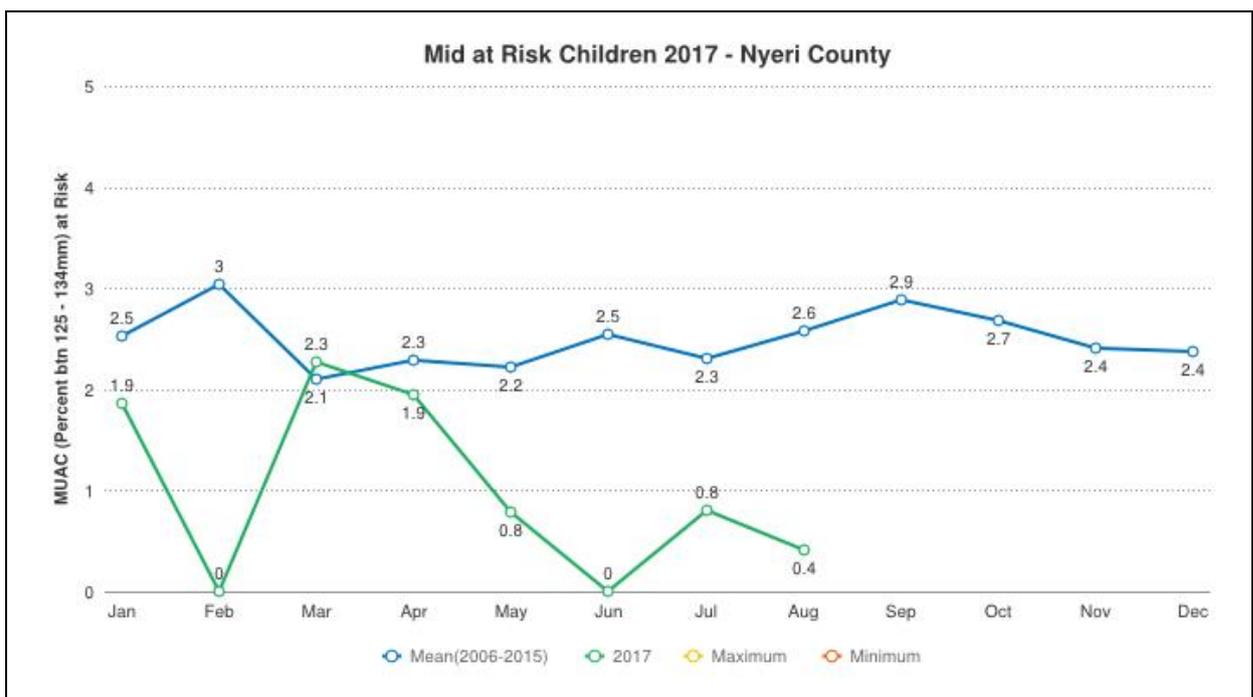
5.3.2 Health

☐ No human disease outbreaks were reported in the region during the period of monitoring.

5.4 COPING STRATEGIES

☐ The coping strategy index reduced by 3 % from 5.48 in July to 5.31 in August. This indicates that households were applying less coping mechanisms presently as compared to last month.

☐ Agro-pastoral farming livelihood zones registered high coping strategy index of 7.2 as compared to 3.9 in Mixed farming livelihood zones as indicated in figure 18 above. Reason being that food security indicators in agro pastoral zones were negatively impacted by frost attacks, resource based competition by both local and in migrating livestock's, crop losses as a result of poor season rains and overreliance on markets for food supplies.s

Figure 18: presentation of the region coping strategies
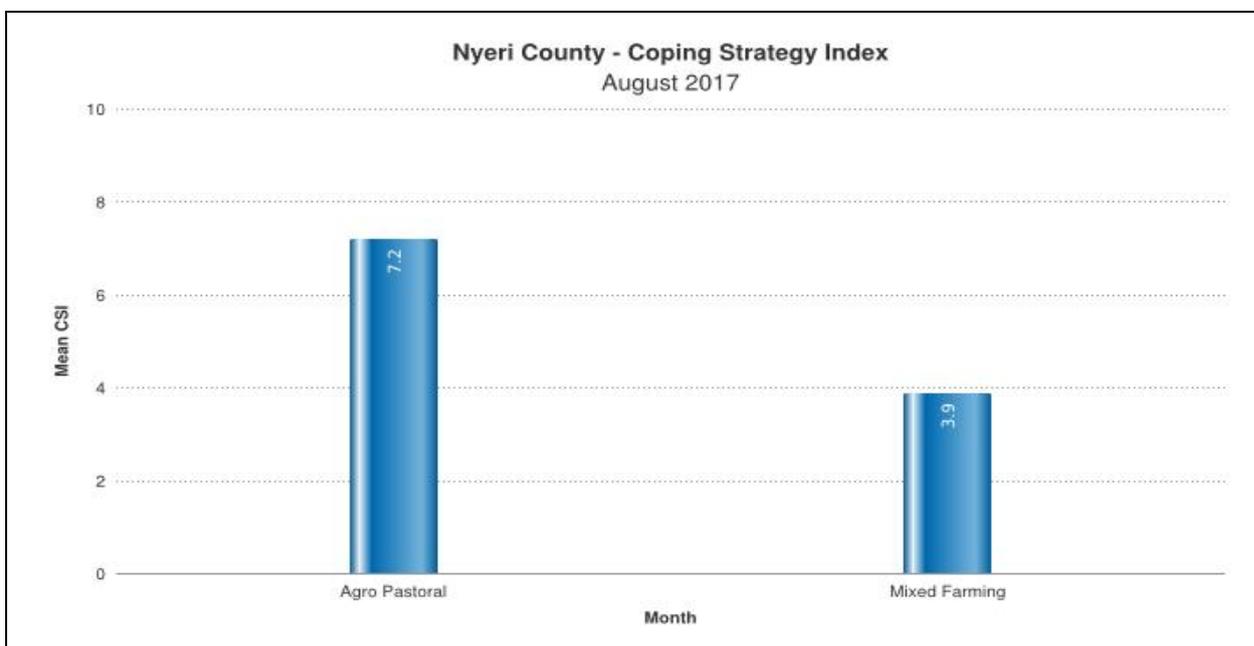
6.0 CURRENT INTERVENTION MEASURES (ACTION)
6.1 NON-FOOD INTERVENTIONS

There is an ongoing Livelihood diversification project, bee keeping in Kieni West sub County.

6.2 FOOD AID

There were no food interventions during the month under review.

7. 0 EMERGING ISSUES
7.1 FOOD SECURITY PROGNOSIS

☐ Markets remain the main source of food supplies to majority of the households. However households are supplementing on these purchases from the farm produce harvest realised for the season from irrigated pockets. The food security status remained stressed in both agro pastoral and mixed farming livelihood zones because majority of the rain fed crops in the region were beyond salvage, having succumbed to water stress after a poor performance of the MAM rains. This situation requires close monitoring.

8.   RECOMMENDATIONS

- Up scaling of livestock feeds. (N.D.M.A and livestock department).
- Continued livestock diseases surveillance. (Livestock Department).
- Peace forums and Barazas. (N.D.M.A).
- Review of county drought contingency plans. (N.D.M.A).
- Rapid Assessment of Kieni West and East. (N.D.M.A).

REFERENCE TABLES

Table 1: Drought Phase Classification

Normal	Alert	Alarm	Emergency
All environment Agricultural and pastoral indicators a within the season ranges	Meteorological droug indicators move outsid seasonal ranges	Environmental and least two productio indicators are outsid Long term seaso ranges	All Environmenta Metrological an Production indicato are outside norm 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
	> +1.5or 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 agriculturaldrought
	10 to 20	Severe agricultural drought
	<10	Extreme agriculturaldrought

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	Emerciated	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.