

# National Drought Management Authority LAMU COUNTY DROUGHT EARLY WARNING BULLETIN FOR JUNE 2017



A Vision 2030 Flagship Project



## JUNE 2017 EW PHASE

**Drought Status: ALERT**



**Maandalizi ya mapema**

### Drought Situation & EW Phase Classification

#### Biophysical Indicators

- Below normal rainfall was experienced in the month of June.
- The vegetation condition Index (VCI-3Month) was 25.31 in the month of June from 12.06 in May which is near normal.
- The VCI indicated improving vegetation condition with a moderate band deficit. The situation is improving the overall drought stage in the county was at Alert in June.

#### Socio Economic Indicators

##### Production indicators

- The body condition for both cattle and goats was good due to improving pasture and browse.
- Milk production in the month of June improved from 1.8litres in May to 2.6litres in June. This was due to easy access to water, pasture and Browse.

##### Access indicators

- The average Term of Trade for the month of June was 173.9 compared to 99.4 in May.
- Average return household watering distance remained the same from 1.6Km in May to 1.6 Km in June due to near normal rainfall. But the mean (2012-2016) average was different from 1.5km to 1.4km respectively.
- Milk consumption in June was still low at 1.2 litres lower than the long term Average.

##### Utilization indicators

- The proportion of children at risk of malnutrition decreased from 5.7 percent in May to 5.4 percent in June which was higher than the long-term mean of 5.2 percent.
- The average coping strategy Index was 6.46 in June, a decrease from 12.6 in May.

### Early Warning (EW) Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro pastoral/Fishing	Alert	Improving
Irrigated cropping	Alert	Improving
Fisheries /Mangroves	Alert	Improving
Farming Casual Labour	Alert	Improving
Agro pastoral	Alert	Improving
County	Alert	Improving
<b>Biophysical Indicators</b>	<b>Value</b>	<b>Normal</b>
Rainfall Amount(mm)	41.6mm	80-120
VCI	25.31	35 to 50
Water Distance	1.6	< 6.2
<b>Production indicators</b>	<b>Value</b>	<b>Normal</b>
Livestock Migration Pattern	Not Normal	Normal
Livestock Body Conditions	Good	Good
Livestock Death from Drought	No	No Death
Milk Production	2.6 Lts	>12.75Lts
<b>Access Indicators</b>	<b>Value</b>	<b>Normal</b>
Terms of Trade (ToT)	173.9	89.22
Milk Consumption	1.2Lts	>15.87Lts
<b>Utilization indicators</b>	<b>Value</b>	<b>Normal</b>
MUAC	5.4%	<5.1%
Coping Strategy Index	6.46	>56

### Seasonal calendar

<ul style="list-style-type: none"> <li>▪ Short rains harvests</li> <li>▪ Short dry spell</li> <li>▪ Reduced milk yields</li> <li>▪ Increased HH Food Stocks</li> <li>▪ Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Planting/Weeding</li> <li>▪ Long rains</li> <li>▪ High Calving Rate</li> <li>▪ Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>▪ Long rains harvests</li> <li>▪ A long dry spell</li> <li>▪ Land preparation</li> <li>▪ Increased HH Food Stocks</li> <li>▪ Kidding (Sept)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Short rains</li> <li>▪ Planting/weeding</li> <li>▪ Increase Milking</li> <li>▪ Livestock mating</li> <li>▪ kidding</li> </ul>								
Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

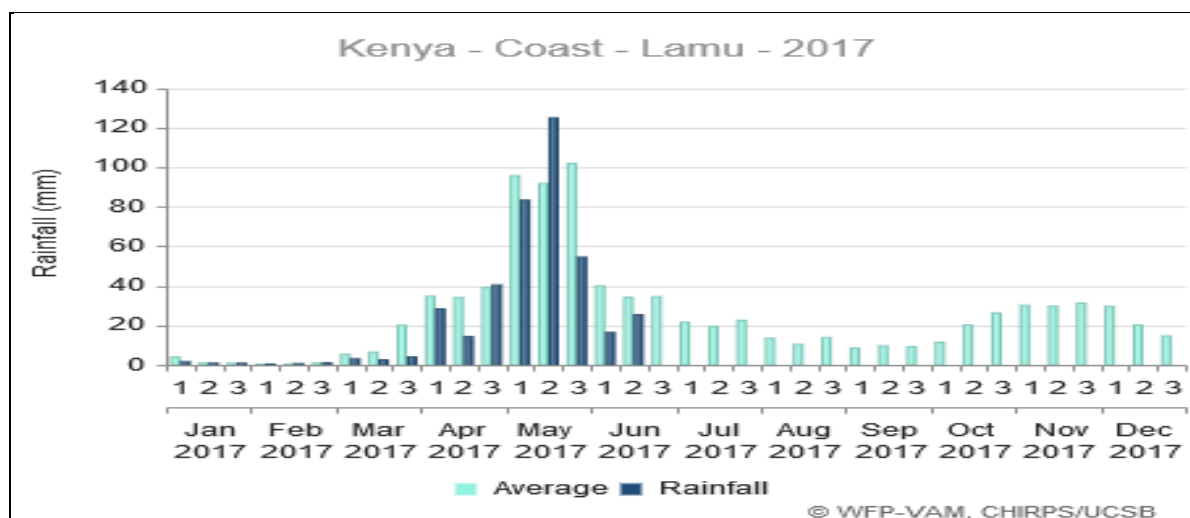
## 1.0 CLIMATE CONDITION

### 1.1 RAINFALL PERFORMANCE

#### 1.1.1 Actual Rainfall

- According to VAM WFP rainfall data, the County received a total average rainfall of 41.6mm in the Month of June during the 1<sup>st</sup> and 2<sup>nd</sup> dekad, however this was higher than the same period last year's rainfall of 33.1mm.
- The current amount of rainfall received in June was lower than Long term average of 74.1mm.

Figure1: Rainfall Performance for Lamu in June 2017. (Source: WFP-VAM)



#### 1.1.2 SPATIAL DISTRIBUTION

- Rainfall received in the month of June across the County, reduce the impacts of drought.
- The below normal rainfall was received across all parts of the county.
- The rainfall distribution was fair in both terms of time and space across the all livelihood zones

#### 1.1.3 TEMPORAL DISTRIBUTION

- The month was characterized by insignificant showers which were unevenly distributed in the County.

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 Vegetation Condition

#### 2.1.1 Vegetation Condition Index (VCI)

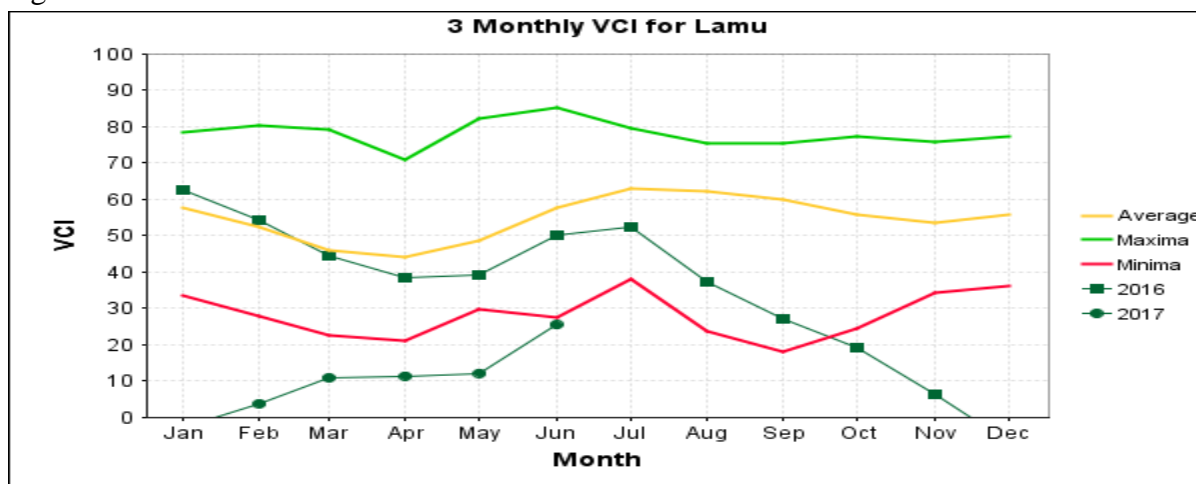
- The vegetation condition for the month of June is 25.31 for the County which shows moderate vegetation deficit compared to the previous month of May and the vegetation condition is improving.
- The VCI indicated moderate vegetation deficit both in Lamu East and West Sub-Counties as shown by the VCI table below.

June 2017 VCI (3M) Table

ADMINISTRATIVE UNITS		VCI as at 30th May 2017	VCI as at 30th June 2017
County	Sub County		
LAMU	County	12.06	25.31
	Lamu East	14.58	27.93
	Lamu West	10.58	23.78

Figures Below show three month Vegetation Condition Index (VCI) matrix for Lamu County {Source: Boku University, Austria}

Figure 2: VCI for Lamu



#### NDVI for Lamu

NDVI increased from 0.58 in May to 0.67 in June but it was below the Long term average of 0.7. However the vegetation index has been improving trend from the month of May. The figure below shows NDVI for the County.

Figure 3: NDVI for Lamu in the month of May 2017. (Source: WFP-VAM)

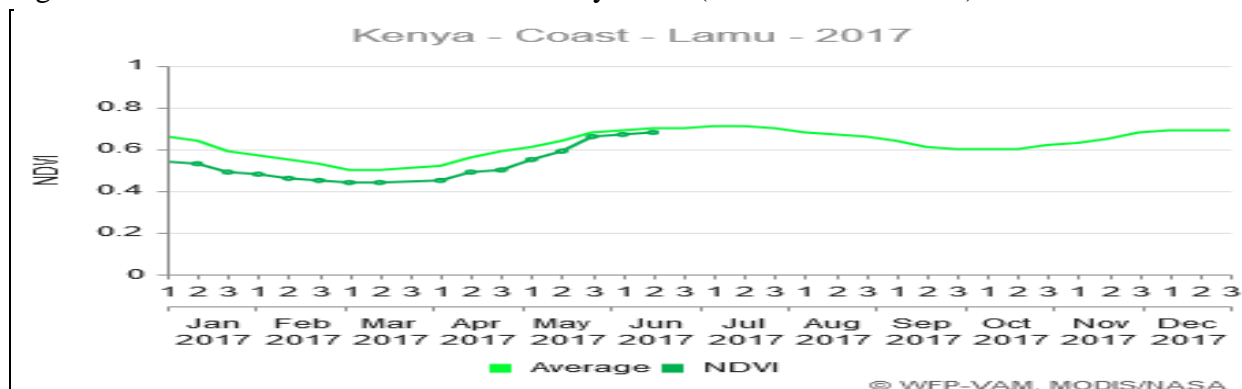


Figure 4: VCI for Lamu County

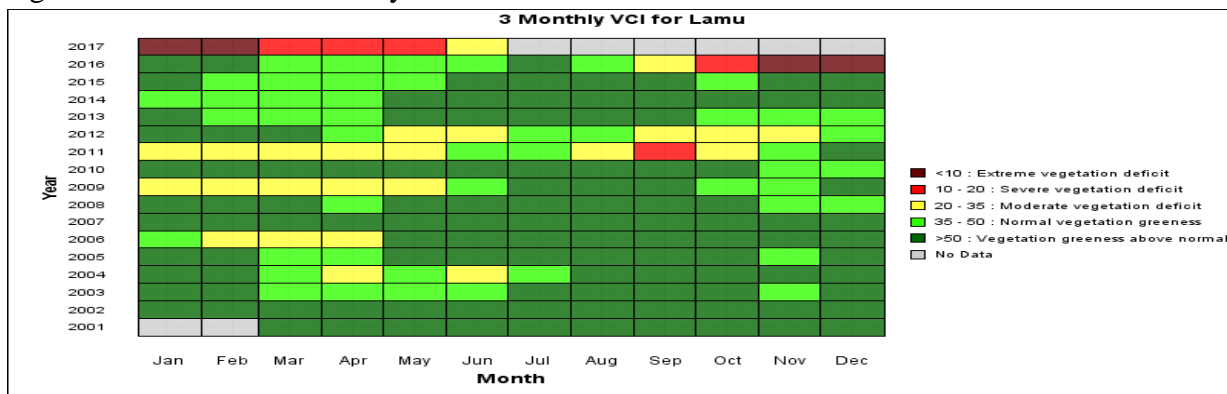


Figure 5: VCI for Lamu West

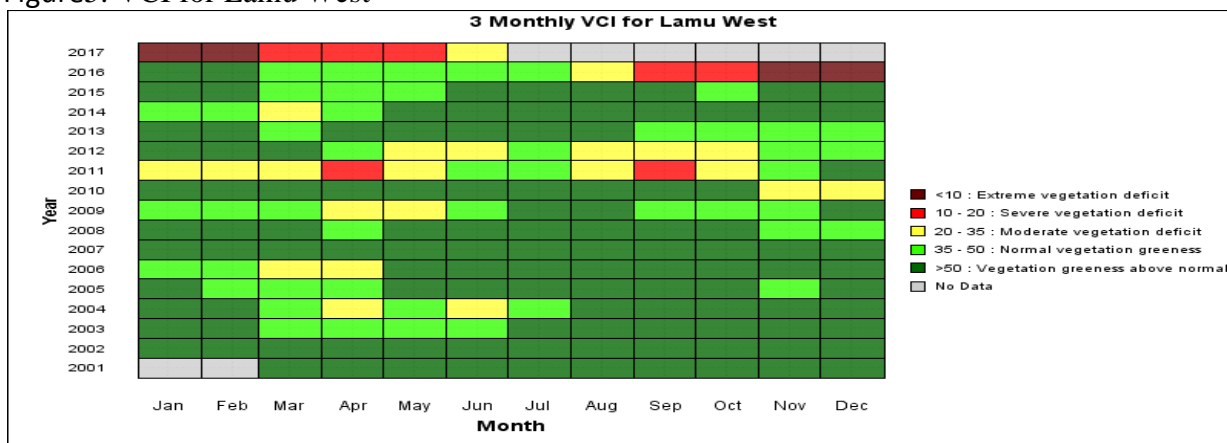
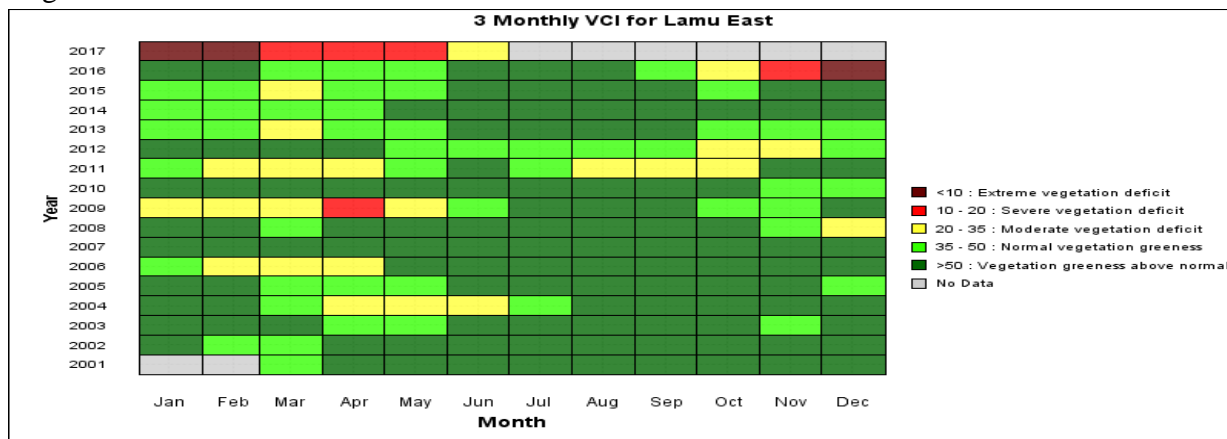


Figure 6: VCI for Lamu East



**FIELD OBSERVATIONS**

**Pasture and Browse Conditions**

**2.1.2 Pasture**

- Pasture condition was good across all livelihood zones and improving in both quality and Quantity.
- The quantity of pasture available is expected to last an average of 2 to 3 months in the Mixed Farming and 1-2 month in the Pastoral zone.

**2.1.3 Browse**

- The quantity and quality of browse was good across all livelihood zones for the month of June, but the browse condition continued to improve from that of the previous month.

- The available browse amount is near normal compared to a normal year but the situation is improving.
- The quantity of browse available is expected to last an average of 2 to 3 months in the Mixed Farming and 1-2 month in the Pastoral zone.

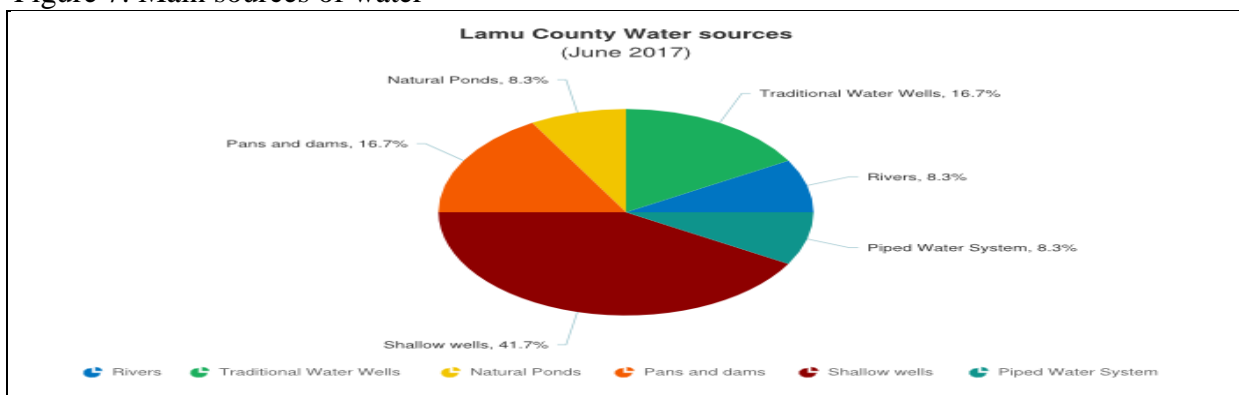
## HYDROLOGICAL DROUGHT

### 2.2 Water Sources and Availability

#### 2.2.1 Main water sources

- State of water sources in the County was good across most livelihood zones but the condition is still improving due to continuation of rainfall. Main water sources were recharged at an average of 60-85 percent of their capacities.
- The main water sources in the month of June were: Natural ponds- 8.3 percent, Shallow wells – 41.7 percent, Pans and dams-16.7%, Traditional water well at 16.7% and piped water system at 8.3 percent.

Figure 7: Main sources of water



#### 2.2.2 Availability of water for household consumption

- Average Household watering return distance was 1.6 Km in June same as May. This was due to increase in rainfall amount which led to increase in water table levels.
- Household Return Water distances per livelihood zone were as follows: the Agro pastoral - 7.6Km, Fishing & Mangrove Harvesting 4.5Km and for Mixed Farming Zone it was 1.8 Km and irrigated farming 3.6Km.
- The 2012-2016 average household water distances for June was 1.4 Kilometers which was lower than the current average household watering distance for June. This shows that the current average household water distance for June was above the long term average.

### Average House Hold Water Distance June 2017 vs. Long Term 2012-2016

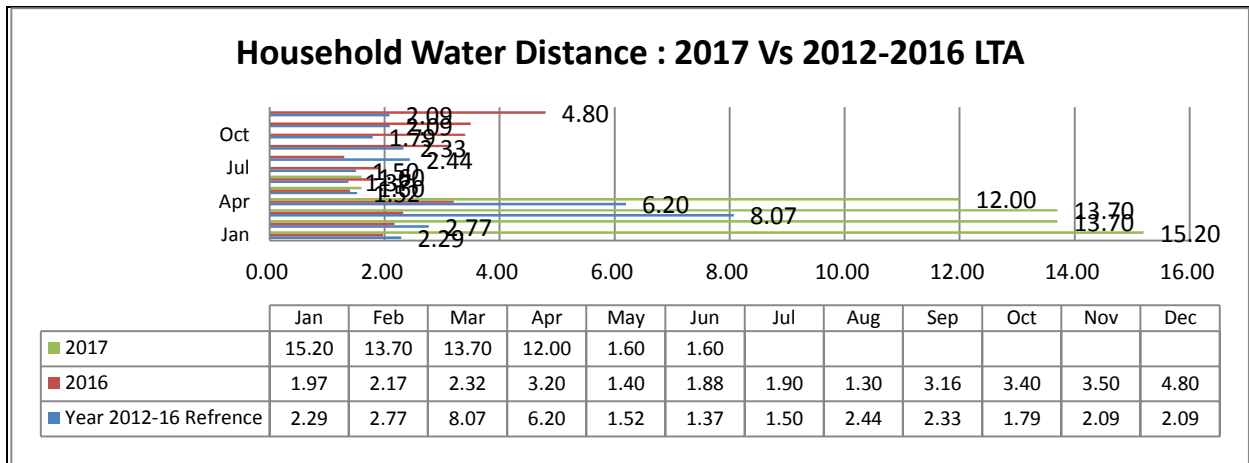


Figure 8: House hold water distance

n=150

### 2.2.3 Livestock access to Water

- Livestock average distance to water source from grazing Area was 2.4 kilometers in the month of June from 5.2 kilometers in the month of May. This decrease from last month's distance was due to the ongoing rains which led to improvement in browse and pasture near to water sources.
- The current average grazing water distance for June of 2.4 Km was lower than the year 2012-2016 long-term average of 2.5 Kilometers.

### Water Source from Grazing Area June 2017 in Kilometers vs. Long Term 2012-2016

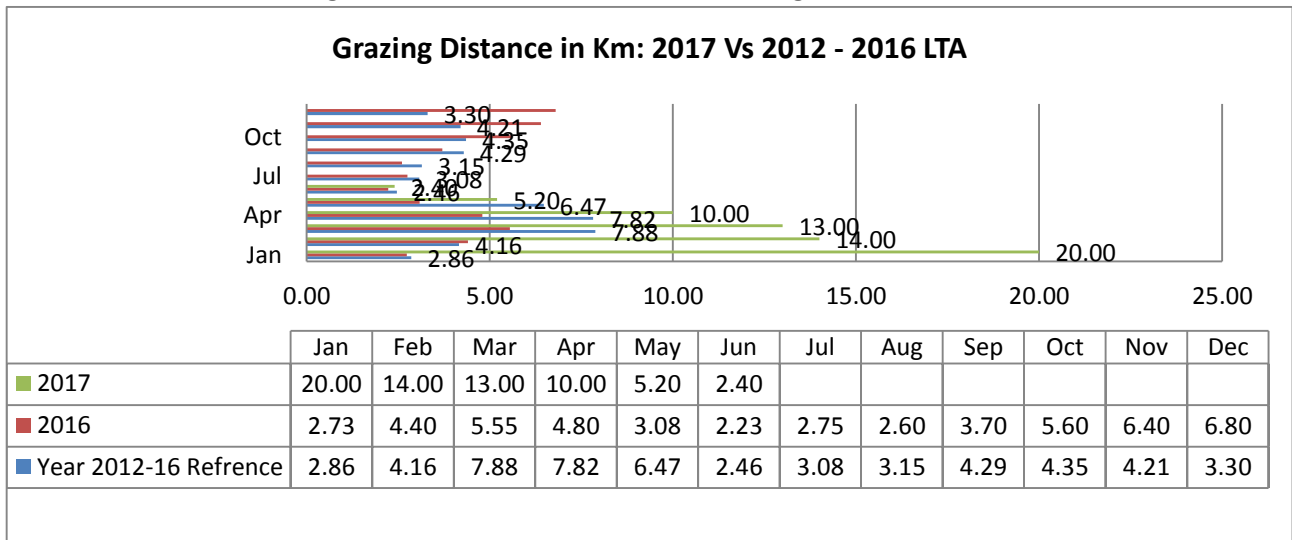
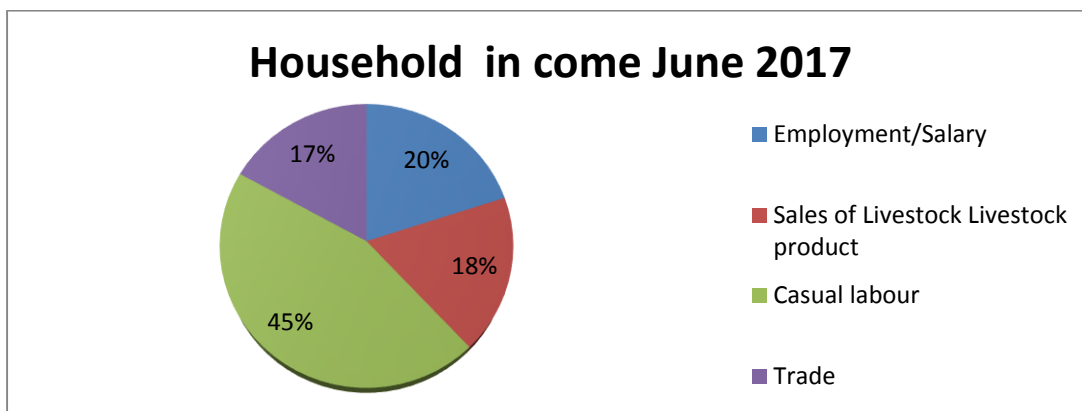


Figure 9: Grazing Distance-kilometers

n=150

### 2.3 Household Income

The main household income for the month of June were as follows: Employment/Salary 20%, sale of Livestock/Livestock products 18%, Casual labour 45% and trade 17%.



## 2.4 Implication on Food Security

- The prevailing long rain has led to recharging of water sources leading to improvement of pasture, browse and increased access to water for livestock.
- The decreases in distances to water sources have had a positive impact on the body condition of animals and household hygiene standards.
- Refilled water sources like boreholes, Rivers and Lakes in the Pastoral and Fishing and Mangrove zones which are the main water sources to communities living in the area have improved especially in Kizingitini, Pangani, Mangai and Lake Kenyatta.

## 3.0 PRODUCTION INDICATORS

### 3.1 Livestock Production

#### 3.1.1 Livestock Migration Patterns

- Huge influx of Livestock in-migration from neighboring Counties of Garissa and Tana River during the Month of June to areas surrounding the Agro-Pastoral areas of Mwa, Pandangou, Chomo, Chalaluma and Didwaride through Gamba and Masalani.

#### 3.1.2 Livestock Body Condition

- Livestock body condition was good for both cattle and goats/Sheep across all the livelihood zones. However, the condition is expected to flourish due to continuation of the rains and regeneration of the pasture and browse.

#### 3.1.3 Livestock Diseases

- There were no incidences of diseases outbreak except vaccination of Rift Valley Fever /CP was ongoing during the month of June.

#### 3.1.4 Milk Production

- Milk production increased from 1.8 litres in May to 2.6 litres in June. This was much lower than the long-term average of 14.88 litres in June and the same period last year.
- Mixed farming and Fishing Livelihood Zone produced an average of about <1.5 litre while the Agro pastoral Zone produced average of about < 5 litres.

Graph of milk production for the month of June 2017 is shown in the figure below

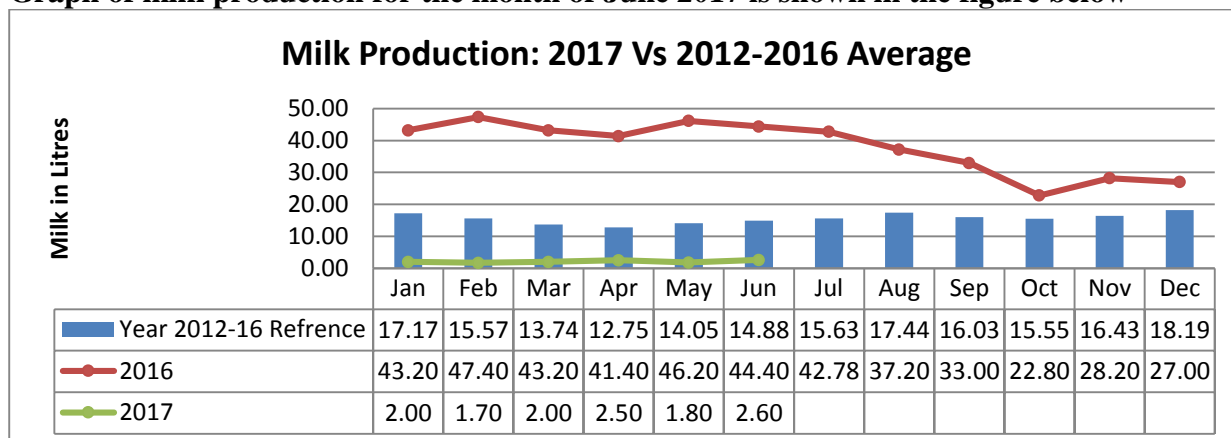


Figure 10: Milk production

n=150

### 3.2 RAIN FED CROP PRODUCTION

#### 3.2.1 Stage and condition of food crop

- The main crops grown are Maize, Cowpeas and Green grams in the County.
- Different crops are at different stages depending on when they were planted and the onset of the rains at various livelihoods.
- In most farms in parts of the Mixed Farming zones, maize is above knee high/ tasseling and silking stage. Most farmers who had planted green grams at the onset of rains are harvesting and selling.

#### 3.3 Implications on Food Security

- The improving body condition of cattle across the county has not improved the livestock prices resulting to decreased income from livestock sales.
- There is a high livestock influx from neighboring County of Tana River. This may result to increased diseases incidences and depletion of the available pasture.

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- Average cattle market price in the month of June was Kshs 17,750 from Kshs 23,750 in May. This was decrease from that of the previous month of May.
- This decrease in price could be attributed to poor market demand and lack of livestock investments.
- The prices were distributed as follows: Mixed Farming/Irrigation- Kshs 10,000, Fishing and Mangrove Harvesting- Kshs 25,500, Agro pastoral- Kshs 18,000, Agro pastoral/Fishing Kshs 25,000 while Mixed Farming/Casual Labour was Kshs 17,500.
- The average market cattle price for the month of June was, however higher than the 2012-2016 long-term average price of Ksh.13, 387.



Lamu County Cattle prices June 2017 Vs Long term Average 2012-2016

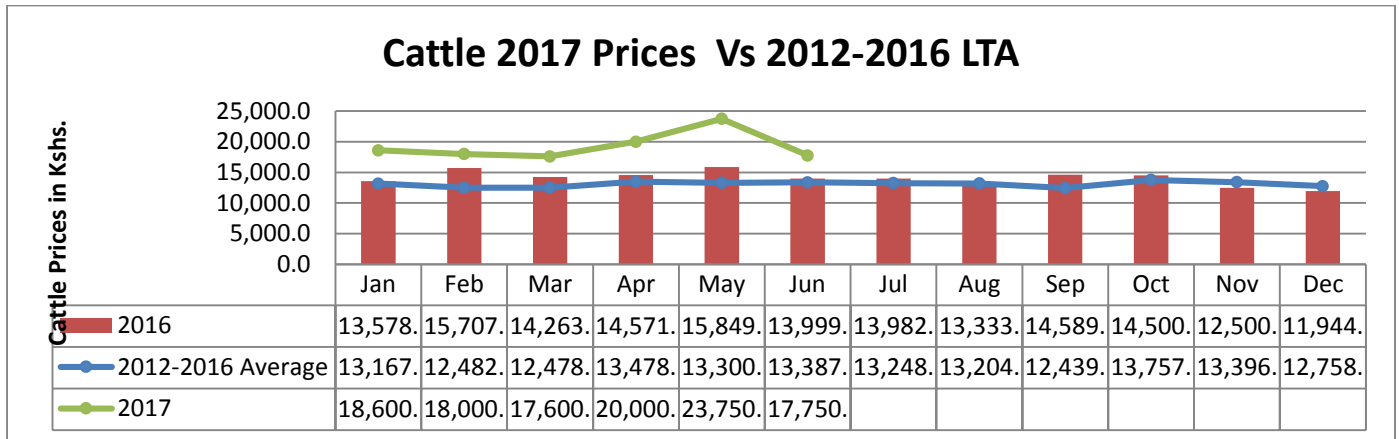


Figure 11: Cattle prices

4. 1.2 Small Ruminants Prices

4.1.3 Goat Prices

- Goat prices decreased from Kshs 4,375 in May to of Kshs 4,000 in June. This decrease in price of goats could be attributed to high supply and poor market demand.
- Agro pastoral Livelihood Zone recorded price of Kshs 3,000, Fishing and Mangrove Harvesting Zone recorded Kshs 5,000 and Mixed Farming/Casual Labour Zone recorded a price of Kshs. 5,000, Mixed Farming/Irrigation recorded price of Kshs 3,000 while the price for Agro pastoral/Fishing Zone was Kshs. 5,000.
- The long-term average goat price for the month of June was Kshs. 2,852 which was lower than the current average price for the month of June 2017.

Lamu County Goat prices June 2016 Vs. Long term Average 2012-2016

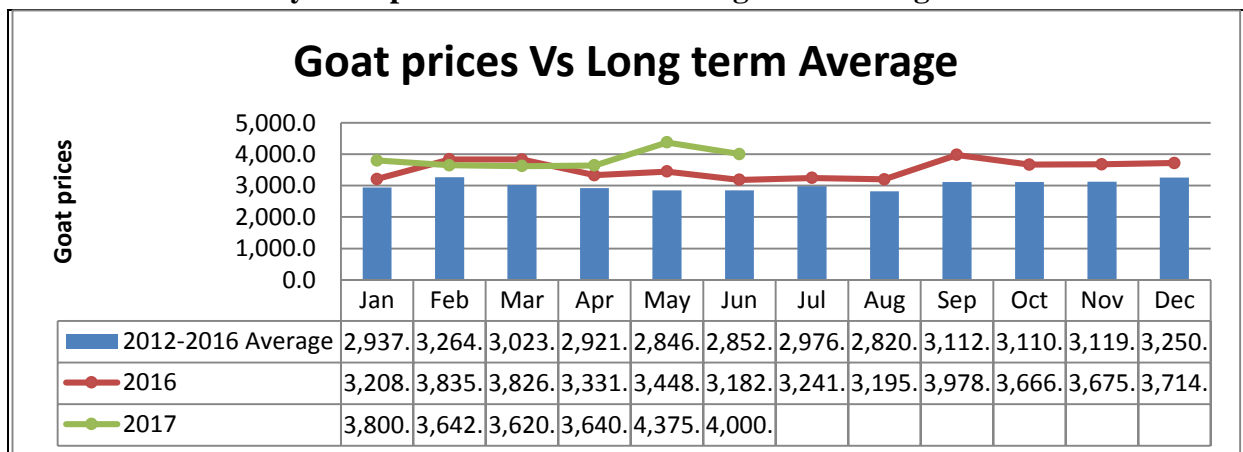


Figure 12: Goats prices

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## 4.2 CROP PRICES

### 4.2.1 Maize price

- Average price of a Kg of maize in the Month of June was Kshs 57.5/Kg an increase from Kshs. 55/Kg in May. The high average maize price was attributed to lower stock levels leading to higher prices.
- The prices were distributed as follows: Kshs 60 in Mixed Farming/Irrigated, Fishing/Mangrove Harvesting Kshs 45, Agro Pastoral/Fishing Zone Kshs 50, Mixed Farming/Casual Labour Kshs 55 and Kshs 55 in Agro Pastoral Livelihood zone.
- The average price of maize in June was higher than the long term-average price of Kshs 40.2.

### Maize prices June 2017 Vs. Long term Average 2012-2016

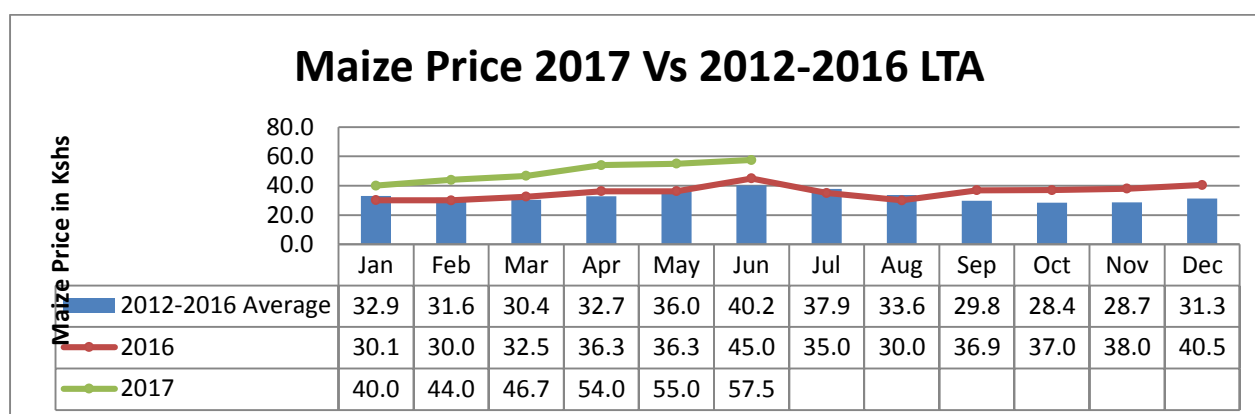


Figure 13: Maize prices

### 4.2.2 Beans

- Average price of Kg of beans decreased slightly from Kshs. 122 in May to Kshs.116 in June. This decrease in price was due to improved food stocks.
- The beans price was distributed as follows: Kshs 90 in Mixed Farming/Irrigation, Agro pastoral/Fishing Kshs 140, Mixed Farming/Casual Kshs 120, and Agro pastoral Kshs120 and in Fishing/Mangrove Harvesting Livelihood Zone Kshs 150.
- The long-term average price of beans was Kshs. 95.3 which was lower than the current average beans price for the month of June.

### Average Beans prices June 2017 by Markets vs. Long Term 2012-2016

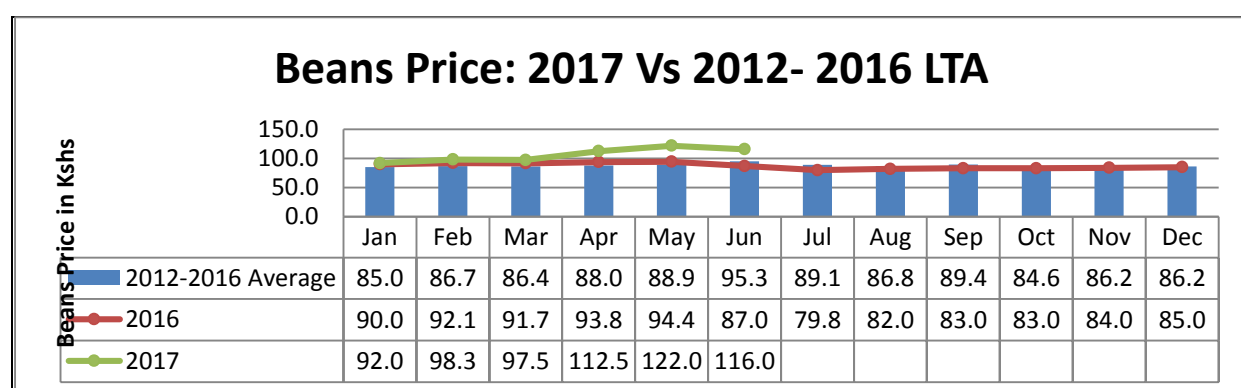


Figure 14: Beans prices

## Livestock Price ratio/Terms of Trade

- The average Term of Trade (ToT) for the month of June was 173.9 an increase from 99.4 in the month of May. This showed the exchange ratio improved in favour of Livestock Keepers to Crop farmers. These increase indicated an increase in goat price in relation to maize price.
- The ToT was 63.8 in Lamu West and 85.2 in Lamu East. The ToT for June was higher than the 2012-2016 LTA of 70.97.

### Term of Trade in June 2017 vs. Long term Average

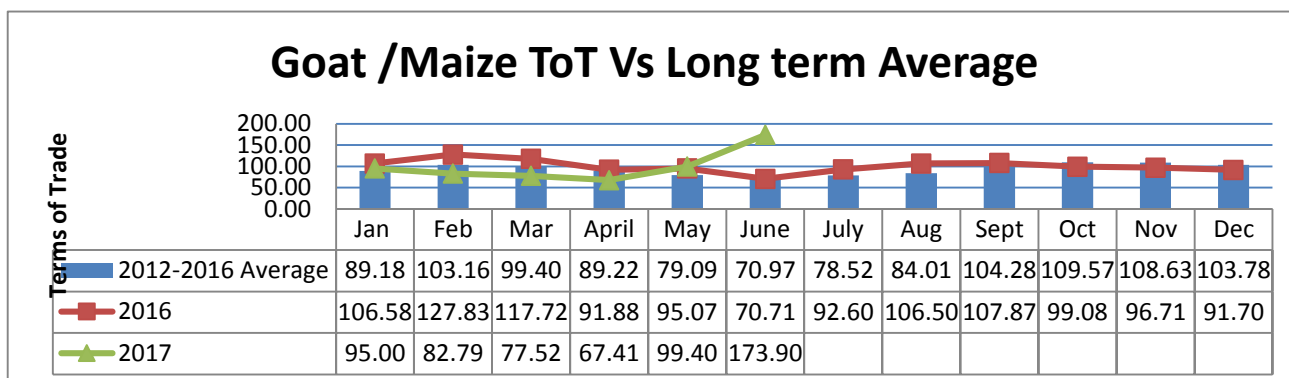


Figure15: Terms of Trade

## 4.4 IMPLICATION ON FOOD SECURITY

- The improving body condition of livestock and the onset of rain haven't improved livestock prices and therefore livestock keepers are unable to get better value for their livestock contributing to food insecurity in Agro pastoral zones although on a gradual pace.
- Maize prices are still unstable and high, with the sudden price increase from January- June period. This means that access to cereals is minimal hence leading to food insecurity at household level in Mixed farming Livelihood zones.
- The terms of trade still favors Livestock farmers than maize sellers.

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk for Household Consumption

- Milk Consumption was 1.2 litres in the month of June from 1.1 litres in May. This was due to low milk production in the County.
- June long term average milk consumption of 16.61 litres was much higher than the current average of milk consumption.

#### Household milk consumption 2017 average vs. long term average 2012-2016

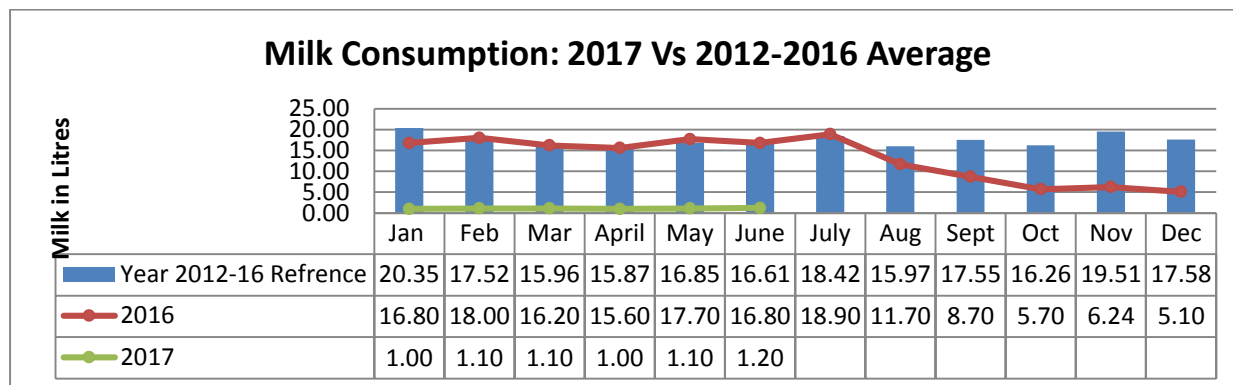


Figure 16: Milk Consumption

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## 5.2 HEALTH AND NUTRITION STATUS

### 5.2.1 MUAC

- The percentage of children aged between 6 months and 5yrs in the County with mid upper arm circumference of less than 135 mm decreased from 5.7 percent in May to 5.4 percent in June. This decrease in MUAC percentage for children could be attributed to increased interventions such as cash transfers programs and provision of CBS by Red cross which have increased access to food hence decreasing the rate of malnutrition levels amongst the children.
- This figure of 5.4 percent MUAC for June has improved compared to the year 2012-2016 long term average of 5.5 percent.

#### MUAC < 135 mm % June 2017 vs. 2012- 2016 Long Term Average

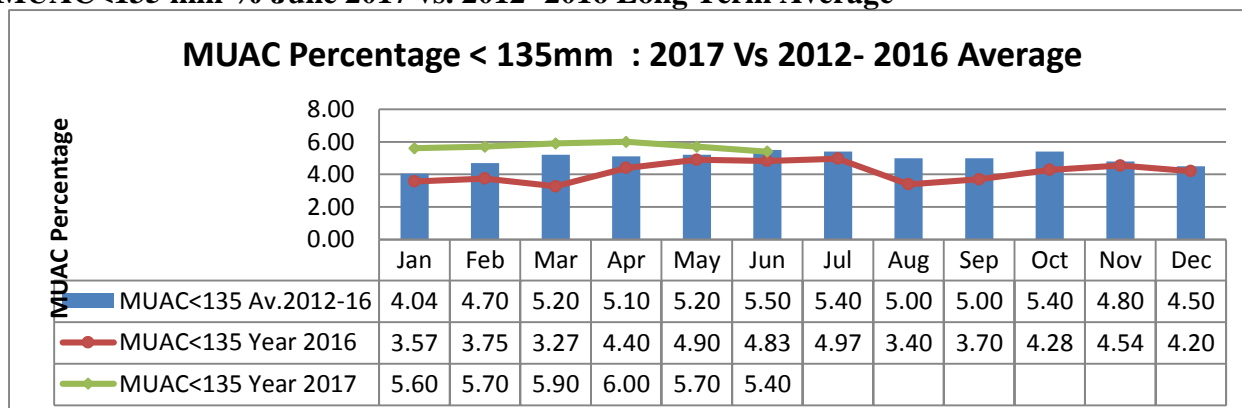


Figure 17: MUAC

n=150

### 5.2.2 Health

- There were no cases of major disease outbreak both for children and general population in the County.
- However, the rates of Malnutrition are still high in the Agro pastoral Zones of Witu such as Sedemke, Pandanguo, Katsaka Kairo, and Chalaluma areas.

### 5.3 FOOD CONSUMPTION SCORE (FCS)

- Agro pastoral and Mixed Farming livelihood zone had the highest number of Households with poor dietary diversity at 21.7 percent and 23.3 percent respectively.
- Households’ percentage with poor FCS decreased significantly from 88.3 in Agro pastoral Zone to 21.7.

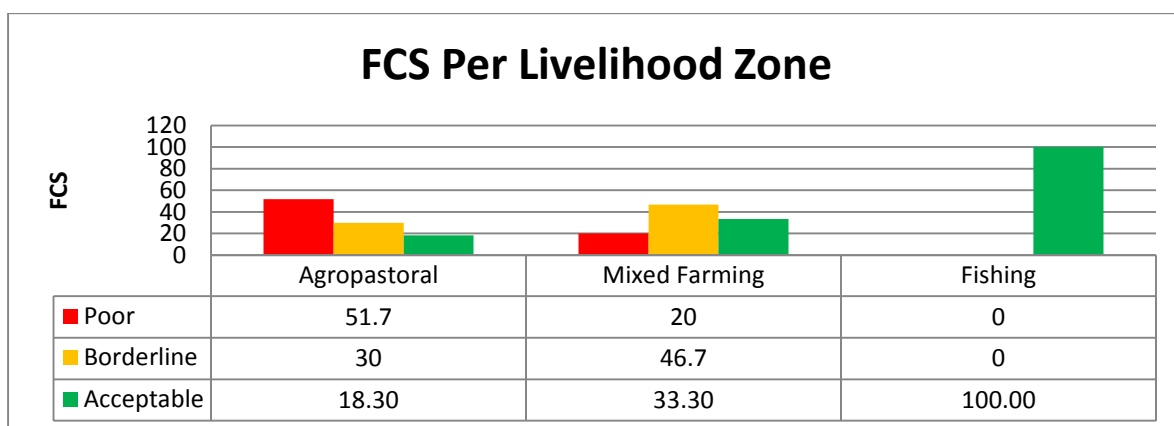


Figure 18: Food Consumption Score (FCS)

### 5.4 COPING STRATEGY INDEX

- The mean coping strategy Index in the Month of June decreased to 6.46 from 12.6 in May indicating decreased coping strategies at household level.
- Agro pastoral Zone had CSI of 6.4; Mixed Farming livelihood zone had 5.5 while Fishing Livelihood zone had a copying strategy index of 7.5.
- Common coping strategies employed by food insecure households in the month of June were:
  - ✓ Opting for less preferred or cheaper meals
  - ✓ Reduction in the number of meals.
  - ✓ Purchase on credit/remittances from relatives

#### Lamu County Coping Strategies Index for June 2017 vs. the Month of May 2017

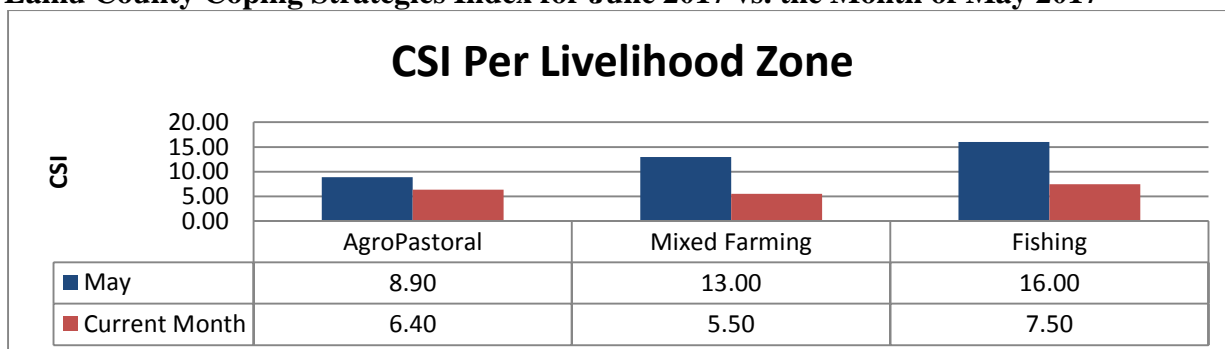


Figure 19: Coping strategies Index

## 5.5 Implication on Food Security

- Low milk consumption at household levels across all the Livelihood zones could lead to decreased dietary diversification and thereafter a negative impact on food security.
- The increase in the percentage of children under five, who are both at risk of malnutrition, have been increasing from January-June in areas of Agro pastoral Zones of Witu such as Sedemke, Pandanguo, Katsaka Kairo, and Chalaluma areas , resulted from decreased in food security.

## 6.0 CURRENT INTERVENTION MEASURES (ACTION)

### 6.1 FOOD INTERVENTION

- The following table highlights the food fees distribution by the National Drought Management Authority (NDMA) to Day and boarding secondary Schools.

#### CATEGORY 1: BOARDING SCHOOLS

NO	SCHOOL NAME	STUDENT	ALLOCATION	BEANS(45kg)			RICE(25kg)			TOTAL GIVEN TO SCHOOL
				BAGS	UNIT COST	TOTAL	BAGS	UNIT COST	TOTAL	
1	WITU SECONDARY	70	560,000	44	5,850	257,400	97	3,125	303,125	560,525
2	MPEKETONI SEC.	50	400,000	32	5,850	187,200	68	3,125	212,500	399,700
3	MUKUNUMBI SEC.	20	160,000	12	5,850	70,200	29	3,125	90,625	160,825
4	MOKOWE SEC.	50	400,000	32	5,850	187,200	68	3,125	212,500	399,700
5	LAMU GIRLS	50	400,000	32	5,850	187,200	68	3,125	212,500	399,700
6	LAMU BOYS	50	400,000	32	5,850	187,200	68	3,125	212,500	399,700
7	FAZA SEC.	70	560,000	44	5,850	257,400	97	3,125	303,125	560,525
	<b>TOTAL</b>	<b>360</b>	<b>2,880,000</b>	<b>228</b>		<b>1,333,800</b>	<b>495</b>		<b>1,546,875</b>	<b>2,880,675</b>

#### CATEGORY 2: DAY SCHOOLS

NO	SCHOOL NAME	STUDENT	ALLOCATION	BEANS(45kg)			RICE(25kg)			TOTAL GIVEN TO SCHOOL
				BAGS	UNIT COST	TOTAL	BAGS	UNIT COST	TOTAL	
1	WITU MJINI SEC.	70	280,000	20	5,850	117,000	52	3,125	162,500	279,500
2	MOA SEC.	45	180,000	14	5,850	81,900	33	3,125	103,125	185,025
3	HONGWE SEC.	70	280,000	20	5,850	117,000	52	3,125	162,500	279,500
4	BAHARI SEC.	70	280,000	20	5,850	117,000	52	3,125	162,500	279,500
5	MUKUNUMBI SEC.	24	96,000	8	5,850	46,800	16	3,125	50,000	96,800
6	HINDI SEC.	70	280,000	22	5,850	128,700	49	3,125	153,125	281,825
7	MOKOWE SEC.	50	200,000	16	5,850	93,600	35	3,125	109,375	202,975
8	KIZINGITINI SEC.	70	280,000	22	5,850	128,700	49	3,125	153,125	281,825
9	SIYU SEC.	40	160,000	10	5,850	58,500	33	3,125	103,125	161,625
10	KIUNGA SEC.	40	160,000	12	5,850	70,200	29	3,125	90,625	160,825
11	BRIGHT GIRLS	50	200,000	16	5,850	93,600	34	3,125	106,250	199,850
12	SHALOM HOME FOR DISABLED CHILDREN			2	5,850	11,700	1	3,125	3,125	14,825
	<b>TOTAL</b>	<b>599</b>	<b>2,396,000</b>	<b>182</b>		<b>1,064,700</b>	<b>435</b>		<b>1,359,375</b>	<b>2,424,075</b>
	<b>GRAND TOTAL</b>	<b>959</b>	<b>5,276,000</b>	<b>410</b>		<b>2,398,500</b>	<b>930</b>		<b>2,906,250</b>	<b>5,304,750</b>

- Relief Food was distributed by the Kenya Red Cross/ICRC to 930 households each receiving 25kg -Rice,2.5kg-Sugar,12kg-Beans,5litres-Oil in Boni areas of Bargoni, Kiunga, Pandanguo, Milimani and Kiangwe during the Month June.

## **6.2 NON-FOOD INTERVENTIONS**

### **6.3 Drought Response Interventions**

- Cash Transfer by Kenya Red Cross to 6,070 households in Faza, Witu, Basuba and Kiunga ward for the Month of June.
- Cash transfer by the Social Development department to 1600 households and 120 households for older persons and people with severe disabilities respectively. a
- The following amounts are to be received per household as follows: Faza and Ndau-Kshs 5,700 per hh, Kiwayu-Kshs 5,000 per households and in the mainland Kshs 4,800 per households.

## **7.0 EMERGING ISSUES**

### **7.1 Insecurity**

- Tension is high in Lamu County after 4 police and 4 pupils people were reportedly killed as police vehicle ran over IED by suspected Al Shabab militia between Mararani and Kiunga villages.
- Previously Al Shabab staged another ambushed on administration police vehicle and killed seven at Baure along the Hindi and Kiunga.

### **7.2 Migration**

- There were no abnormal cases of human migration during the month under review.

## **7.3 FOOD SECURITY PROGNOSIS**

- The state of drought is improving in the County due the ongoing rainfall received during the month. However, the county has move from Alarm to Alert Phase.
- Water availability and accessibility situation has improved for households due to fair recharge of the existing water sources.
- Availability of water and pasture will improve livestock body condition and hence reduce trekking distance, promote milk production and stabilize livestock prices.
- Nutritional status of the under-five, pregnant and lactating women is fair with few cases of Moderate Acute Malnutrition reported as household food security remained low.
- The June 3-Month Vegetation Condition Index indicating moderate vegetation deficit band for the entire County.
- Food prices expected to increase due to demand, following the low supply in the Markets/Shops.

## **8.0 RECOMMENDATIONS**

### **Water**

- Promotion of rain water harvesting, repair of Djabias and roof catchment areas and installation of gutters and tanks in Villages and Institutions.
- Public Health Education, promotion of Hygiene and sanitation and provision and distribution of aqua tabs.
- Construction of boreholes, water pans and Dams for preparedness.

### **Livestock and Agriculture**

- Accelerate completion of Nagele Livestock market and or Linkage to Livestock markets to enable accelerated destocking at alarm and emergency phases.
- Livestock disease surveillance and control to curb spread of livestock diseases as in-migration from neighboring Counties of Tana River and Garissa.

- Strategic pasture reserve during the Long rains for future Livestock feed.
- Provision of Veterinary and Livestock services extension staff in the County.

### Health and Nutrition

- Strengthen malnutrition screening and active case search as well as strengthen integrated management of acute malnutrition in the community.
- Enhance disease and nutritional surveillance.

### Education

- Support to school feeding programmes for the most vulnerable communities focusing the two sub counties.
- Provide Food for fees for students hailing from Vulnerable and poor families.

### Peace and Security Sector

- Peace and security meetings should be enhanced in the County.

### Information Communication Technology

- Promote use of ICT on Drought information sharing and development programmes

## 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.

