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## **Executive Summary**

Lamu County is classified in the Stressed (IPC Phase 2) phase of food insecurity with a majority of the households having minimally adequate food consumption but unable to afford some essential non-food expenditures. However Lamu East is classified in the Crisis (IPC Phase 3) phase having significant food consumption gaps, and experiencing adverse effects of drought on water and pasture availability. In the month of December 2016, approximately 20 and 46 percent of the households had poor and borderline food consumption scores respectively with a mean Coping Strategies Index (CSI) of 22 implying that most households were frequently engaged in consumption based coping strategies

Food availability was significantly reduced by the poor performance of the short rains in the county with maize experiencing total crop failure and the expected harvest for green grams and cowpeas is 2.9 percent and 2.5 percent of LTA respectively. Household maize stocks are currently at 43 percent of the long term average. Milk production had reduced by 50 percent to one litre per day.

Food access was impacted by high maize prices that were 26 percent higher than the LTA and 29 percent higher than 2015 prices. The terms of trade were 14 percent below the long term average signifying a decrease in household purchasing power especially in the pastoral and agro pastoral livelihoods. Trekking distances to domestic water sources increased from the normal three to 15 kilometres with scarcity also increasing the cost of water from Ksh 5 to 50 per 20 litre jerrycan.

Food utilization deteriorated from the previous year. There was an increase in morbidity for children under five years of age and for adults reducing their capacity to absorb required macro and micronutrients from consumed food. There was a reduction in immunization coverage from 80 percent in 2015 to 72 percent in 2016 and in Vitamin A supplementation from 49.5 in 2015 to 38 in 2016. The proportion of children at risk of malnutrition increased to 4.2 percent in 2016 compared to 3.2 percent in 2015 due to reducing food consumption and dietary diversity.

The major contributing factors to food insecurity in the county include; poor performance of the short rains, pasture and browse depletion, water scarcity, insecurity, high food commodity prices and decrease in livestock prices.

## 1.0 Introduction

### 1.1 County background

Lamu County has two sub-counties namely: Lamu East and Lamu West and covers approximately 6,273.1 square kilometres consisting of the mainland and 65 islands, which form the Lamu Archipelago. According to the Kenya National Bureau of Statistics (2016), it has a projected population is estimated at 128,143 persons. The county has four livelihood zones mainly; the mixed farming food crop, mixed farming cash crop, fishing and mangrove and the formal employment/casual waged labour/business livelihood zone (Figure 1).

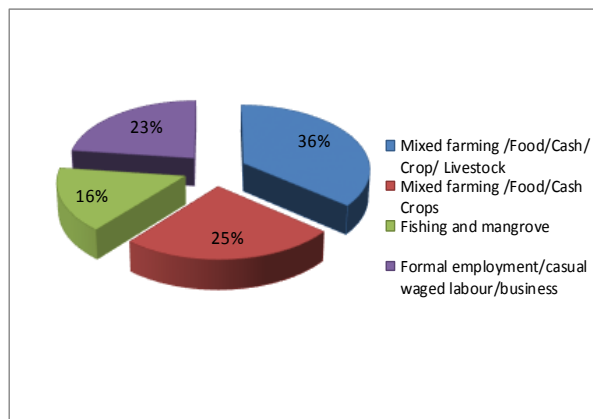


Figure 1: Proportion of population by livelihood

### 1.2 Objectives and approach

The aim of the assessment was to develop an objective, evidence based and transparent food security situation analysis following the short rains season of 2016 taking into account the cumulative effect of previous seasons, aimed at making recommendations for possible response options based on the situation analysis.

The assessment was conducted by technical members of Lamu County Steering Group (CSG) and field work was carried out from the 18<sup>th</sup> January 2017 to 25<sup>th</sup> January 2017. Secondary data was gathered and collated by county staff drawn from the agriculture, livestock, water, health and education sectors. Transect drives, focus group discussions and key informant interviews were used for data validation and triangulation. The data collected was analysed at the sub-county and livelihood zone levels and the draft county report was tabled in a CSG meeting for validation.2.0 Drivers of food and nutrition security in the County

### 2.1 Rainfall Performance

Most parts of the county recorded depressed rainfall which were characterized by poor temporal distribution. Temporal distribution was very poor and erratic with rainfall intervals of up to between 5 and 10 days. A late onset was witnessed in the first dekad of November as opposed to the first dekad of October. Most areas in Lamu received below average rainfall with a large portion of the county receiving between 25-50 percent of normal. Unfortunately the most productive areas for crop production such as Bahari and Hongwe wards received between 5-25 percent of normal. Few areas bordering Ijara in the north and Tana River in the west received 50-75 percent of normal (Figure 2). Cessation was

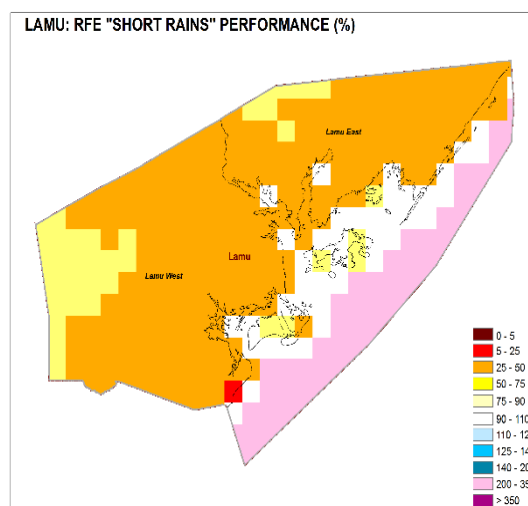


Figure 2: RFE long rains performance

earlier than normal as it occurred in the third dekad of December compared with the normal first dekad of January

## 2.2 Insecurity/Conflict

Security has been maintained in the county during the short rain period and has continued to improve due to security operation, and peace building efforts. This is despite recurring tensions caused by resource based conflicts between livestock farmers and crop farmers in Bahari, Widho, Lumshi and other hotspot areas. The Al Shabaab militia activities have significantly reduced and currently have minimal residual effects to human activities. Reports of slow return to normalcy have been received evidenced by re-opening of schools on hotspot Boni forest areas of Basuba Mangai, Kiangwe. Human and wildlife conflict over scarce water in Mpeketoni and Mkunumbi Wards were also reported during the period under review.

## 3.0 Impacts of drivers on Food and Nutrition Security

### 3.1 Availability

Lamu County is facing reduced food availability due to failure of the maize, green grams and cowpeas crop coupled with diminished stocks countywide at 34 percent of average expected to last less than a month. Milk production also reduced from 1- 3 km to <0.5 – 1.5 km, fishing activities are also currently hindered by rough seas that has increased food insecurity among households in the County.

#### 3.1.1 Crop Production

##### Rain-fed Crop Production

The short rains season accounts for 20 percent of the total food crop production and the major crops planted during the short rains season are maize, green grams and cowpeas. The short rains has in recent years become quite unreliable while the season has turned out to be important for irrigation farmers and favors trees crops such as mangoes and cashew nuts. Farmers are selling cashew nuts and mangoes which tend to thrive well in dry spell conditions.

The area planted was lower than the long term averages (LTA) due lack of rainfall in the Lamu East and most parts of Lamu West such as, Amu, Hindi and Mpeketoni. Only Witu and parts of Mpeketoni bordering Witu received some showers. The projected yields for all the crops are lower than the LTA owing to low acreage achieved and poor rainfall experienced in the season. Maize production has been the most affected and the crop is projected to record a near total failure.

Table 1. Rain-fed Crop production

Crop	Area planted during 2016 Short rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2016 Short rains season production (90 kg bags) Projected/Actual	Long Term Average production during the Short rains season (90 kg bags)
Maize	700	3488	0	36729
Green grams	376.8	1458	167.4	5704
Cowpeas	250	903	138.8	5418

Production of pulses has also reduced drastically and the expected harvest for green grams and cowpeas is 2.9 percent and 2.5 percent of their LTA respectively. Table 1 shows the area planted and achieved production compared to their LTA for the three main crops.

### Irrigated Crop Production

The area under irrigation increased by 151 percent compared to the LTA. Consequently production was 60, 17 and 200 percent above the long term average for tomatoes, kales and watermelon respectively (Table 2). The rise in production for irrigated crops was also attributed to adoption of good agricultural practices by farmers. Privately owned shallow wells are the main source of water for irrigation

**Table 2. Irrigated Crop Production**

<b>Crop</b>	<b>Area planted during 2016 Short rains season (Ha)</b>	<b>Long Term Average area planted during the Short rains season (Ha)</b>	<b>2016 Short rains season production (tons) Projected/Actual</b>	<b>Long Term Average production during the Short rains season (tons )</b>
Tomatoes	115	72	1150	720
Water melon	70	60	700	600
Kales	30	10	300	100

### Maize stocks

The total maize stocks in the county are 66 percent below the long term average. Currently the national cereals and produce board (NCPB) depot in Lamu County has no maize stocks. Stocks held at household level are currently at 43 percent of LTA which is attributed to the poor harvest in the previous long rains season. Household stocks are expected to last for less than one month instead of the normal three months.

**Table 3. Maize stocks in the County**

<b>Maize stocks held by</b>	<b>Quantities of maize held (90-kg bags)</b>	<b>Long Term Average quantities held (90-kg bags) at similar time of the year</b>
<b>Households</b>	4,051	9,335
<b>Traders</b>	15	1,417
<b>Millers</b>	8	174
<b>NCPB</b>	0	1181
<b>Total</b>	<b>4,074</b>	<b>12,107</b>

### 3.1.2 Livestock Production

Livestock contributes about 25 percent to income and food in the farming casual labor and irrigated cropping livelihoods, 16 percent in the fisheries /mangroves livelihood and 36 percent in the agro

pastoral/fishing livelihood. The agro pastoral livelihood receives the largest contribution from livestock at 60 percent.

### Pasture and Browse

Pasture condition is poor across the county and only fair in areas under irrigation within the mixed food crop livelihood zones. In the fisheries and mangrove livelihood zones that consist of the island villages of Pate, Siyu, Tchundwa and Kizingitini, pastures are completely depleted. The situation in the island is worsened by the fact that livestock migration is not practical. Browse conditions are fair to poor in most livelihood zones with the exception of the fisheries and mangrove livelihood zones which are depleted, livestock in this zone currently depend on dry twigs and supplementary feeding. Both pasture and browse are projected to last less than a month across the county.

**Table 4. Pasture and Browse condition by livelihood**

Livelihood Zone	Pasture condition		Browse condition		Comments
	Current	Normal	Current	Normal	Projection
Agro pastoral/Fishing	Poor	Fair	Fair/poor	Fair	0.5 months
Irrigated cropping	Fair	Good	Fair	Good	0.5 months
Fisheries /mangroves	Depleted	Fair	Depleted	Fair	0.5 months
Farming casual labour	Poor	Good	Fair/poor	Fair	Depleted
Agro pastoral	Poor	Fair	Fair/poor	Fair	0.5 Months

### Livestock body condition

Livestock body condition is currently poor for cattle and fair for goats and sheep with a worsening trend. In the irrigated cropping livelihood zone, the body conditions are currently fair stabilized by crop residues. The body condition for livestock in the Fisheries /Mangroves, Agro pastoral/Fishing were very poor currently and were at a risk of mortality. Use of crop residues has declined because agro pastoral livelihoods zones did not plant any food crops during the short rains season. The previously mentioned drought related deaths occurred in the agro pastoral livelihood zones.

**Table 5. Livestock Body Condition by Livelihood**

Livelihood zone	Cattle			Goat			Sheep		
	Current	Normal	Projected Trend	Current	Normal	Projected Trend	Current	Normal	Projected Trend
Agro pastoral/Fishing	Poor	Fair	Worsening	Fair	Good	Worsening	Fair	Good	Worsening
Irrigated cropping	Fair	Good	Stable	Fair	Good	Worsening	Fair	Good	Worsening
Fisheries / Mangroves	Poor	Fair	Worsening	Fair/Poor	Good	Worsening	Fair	Fair	Worsening



Farm casual labour	Poor	Good	Worsening	Fair	Good	Worsening	Fair	Good	Worsening
Agro pastoral	Poor	Fair	Worsening	Fair	Good	worsening	Fair	Good	Worsening

### Birth Rate, Diseases and Mortality and Tropical Livestock Units

The birth rates are expected to be below normal at this time of the year as there are a lot of abortions and calf deaths due to droughts reported attributed to forage shortages and below optimum body condition for all types of livestock. Drought related livestock deaths were reported in areas of Didewaride, Kibokoni and Chalaluma with estimated livestock deaths being 1,155 cattle (0.9%) and 1,057 sheep and goats (1.1%). Due to an outbreak of Contagious Caprine Pleuro Pneumonia (CCPP) in Bwajumwali, Miyabogi and Kizingitini 100 goats died in December while 30 cattle from Lumshi also died from suspected CBPP in January 2017.

The average tropical livestock units for farming casual labour fisheries /mangroves livelihood and irrigated cropping livelihood is currently 2.5, while the agro pastoral agro pastoral/fishing has the highest TLU at 14 which is still a reduction in the TLU as a result of losses due to drought.

**Table 6. Tropical Livestock Units**

Livelihood zone	Average TLUs/Household	
	Current	Normal
Agro pastoral/Fishing	14	19
Irrigated cropping	3	2.5
Fisheries /Mangroves	2	2
Farm casual labour	3	3
Agro pastoral	14	19

### Milk Production, Consumption and prices

Milk is a food source and also an important income earner for agro pastoral livelihood zone, Milk production decreased from an average yield of 0.47 litres per household per day in November to 0.45 litres per household per day in December. This was much lower than the long term average of 0.76 litres per household for December. This low milk production was attributed to reduced pasture due low rainfall and this is affecting food access especially in agro pastoral households.

**Table 7. Milk Production, consumption and prices**

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres)per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Mixed food	<0.5	1	0.2	1.5	60	40
Mixed cash	<0.8	1	0.2	0.62	100	60

Livestock/ pastoral	1.5	3	0.5	0.7	100	40
Fishing	0.0	1	0.0	0.62	100	60

Milk consumption decreased from 0.21 litres per household in November to 0.17 litres per household in December. This was due to a drop in milk production due to drought conditions and the average consumption per household was: 0.23, 0.23 and 0.03 litres per household in the agro pastoral/fishing zone, irrigated farming zone and farming/ casual labor zones respectively below the LTA of 0.69 litres per household. The reduced consumption will negatively impact children under five increasing their risk of malnutrition. Reduced purchasing power and increasing milk prices are reducing milk availability at household level.

### **Livestock Migration Patterns**

In migration of livestock from Garissa and Tana River counties and from the agro pastoral zones of Bargoni in Hindi was observed in January migrating to Lamu East areas of Milimani, Mangai, Mararani, Basuba and Boni areas of Lamu East which had fair pasture and browse. Livestock from Somalia have moved into Kiunga areas in Lamu East, those from Kiunga have moved northwards to Hulugho in Garissa while others have moved southwards into Basuba, Mangai and other areas.

### **Fisheries**

Fishing is an important source of income and food for the fishing / mangrove and agro pastoral/ fishing livelihood zones but only a small percentage of population is engaged in fishing that is mainly inshore fishing due to lack of equipment to venture further in the deep sea. Fishing activities are currently hindered by rough seas reducing catch productivity and also constraining fishing for special species like lobsters, crabs, squids and octopus by reducing underwater visibility. Prices of fish have remained stable at Ksh300 per kilo.

## **3.2 Access**

A large majority of the county's population (66%) are experiencing difficulties accessing food despite functional markets. This is due to increasing prices of staple foods due to shortages and erosion of purchasing power caused by reduced incomes. This is indicated by increasing percentage of people in the poor and borderline food consumption score and by the increase in people adopting crisis and emergency coping strategies.

### **3.2.1 Markets and Trade**

#### **Market Operations, Supplies and Traded volumes**

There were no marked disruptions of markets in the county. The main markets in the mixed farming livelihoods is Mpeketoni, for the agro pastoral livelihood zones markets are Witu, Mokowe, Hindi and Amu while in the fishing /mangrove livelihood zone markets are Faza, Pate, Kiunga and Kizingitini. An alternative market for livestock is Garsen in Tana River. The food commodities available in the markets are maize, beans, green grams, cowpeas and rice. Food prices were higher especially due to poor infrastructure and diminishing household food stocks. Livestock traded in the markets were sheep, goats and cattle.

### Maize prices

The price of a kilogram of maize was Ksh 40 which was 26 percent higher than the LTA and 29 percent higher than 2015 price (Figure 3). The trend of Maize price has been on increase from September and this can be attributed to depleted household stocks and increased transaction costs. The prices are following seasonal trends but at elevated level and will likely continue to increase as the shortage of maize is felt nationally.

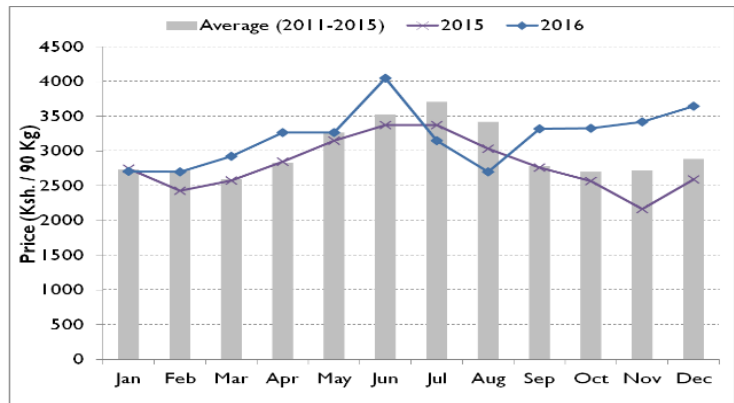


Figure 3. Maize prices

### Goat Prices

Goat prices were Ksh 3,135 in December a reduction of 85 percent from November due to a slight deterioration of body condition from good to fair. This price was eight percent above the LTA due to increased demand in the festive season (Figure 4). The agro pastoral/fishing zone and farming casual labour zone recorded a price of Ksh 4,500 while for Irrigation cropping zone was Ksh 2,142.

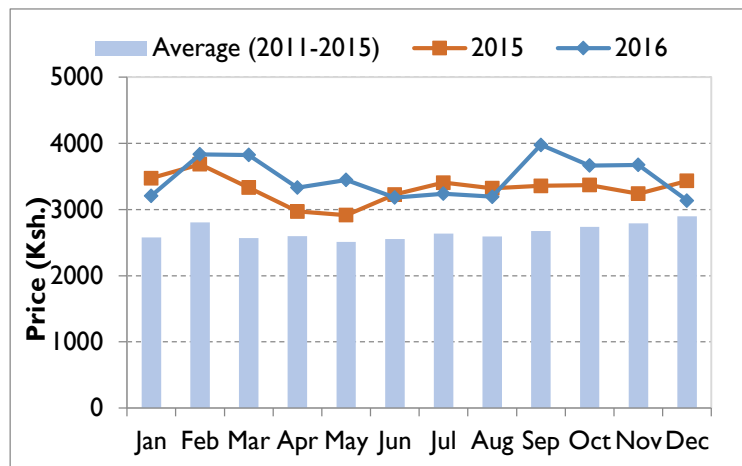


Figure 4. Goat prices

### Terms of Trade

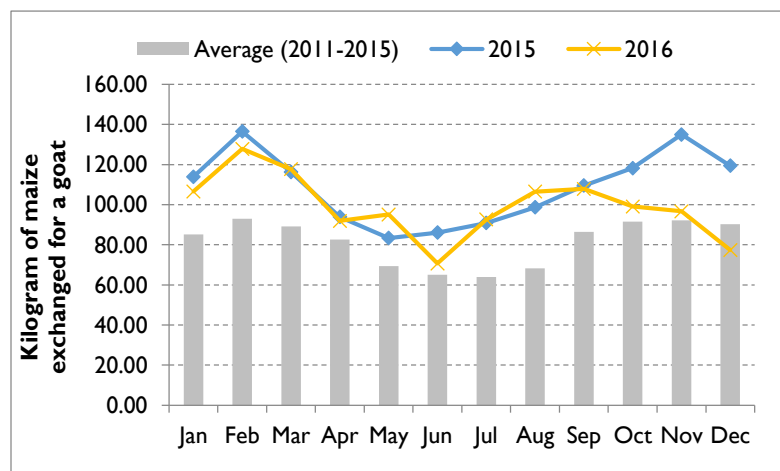


Figure 5. Terms of trade

In December 2016, the proceeds from the sale of one goat could procure 77 kg of maize which was 14 percent below the long term average (Figure 5). The decline in terms of trade was attributed to a decrease in the goat prices and an increase in maize prices. Terms of trade are expected to continue reducing impacting on household purchasing power.

### 3.2.3 Income sources

The main household income sources percentages for the month of January were casual labour followed by sale of livestock product and trade. Sale of crops and formal employment earn the incomes for the least number of people currently. Households have developed diverse coping strategies since farm related work were not available (Figure 6).

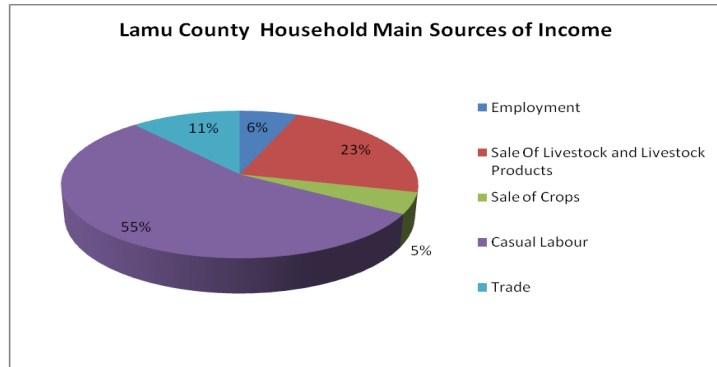


Figure 6: Household income

### 3.2.4 Water Access and Availability

The major sources of water in the county are water pans, shallow wells, *djabias*, boreholes, and swamps. There was poor recharge of water sources due to the below average rains and surface water sources have all dried up leaving water sources like shallow wells and boreholes, some of which have turned saline due to saltwater intrusion. Current sources are bore holes, water trucking and desalination plant.

#### Distances to water points, waiting time, consumption and prices

The current distances to water points currently ranges from 0.1-15 kilometers across all livelihood zones. Waiting time has increased at Siyu and Tchundwa shallow wells (4-6hrs), at Kizingitini desalination plant (3hrs), Bargoni and Pandanguo shallow wells (8hrs). Where water trucking is done, the average interval of delivery is 3 to 4 days of waiting. The average price for water per 20 litre jerry can ranges from Ksh 5-10 in Amu, Mpeketoni and Hindi. However, at Bargoni in Lamu West and Mtangawanda in Lamu East the price has gone up to between Ksh 50 and 100 per jerry can due to high transportation expenses.

Table 8. Water availability and access

Sub county/ livelihood zone	Sources of water	Distance to Water for Domestic Use (Km)		Cost of Water (Ksh/ 20litres)		Waiting Time at Water Source (Minutes)		Average HH Use (Litres/ person/ day)		Projected duration of water availability (Months)
		Normal	Current	Normal	Current	Normal	Current	Normal	Current	
Mixed farming/ food/Cash crop/ Livestock	lakes, shallow wells, rivers, boreholes piped water	0.1-0.5	1-8	2-4	5-50	5-15	60-180	15-25	3-5	<1
Mixed farming /food/cash crop	lakes, shallow wells, boreholes piped water	0.1-0.5	0.5-2	2-4	4-10	5-10	30-60	15-25	5-10	<1

Fishing and mangrove	shallow wells, boreholes	0.1-0.5	3-15	2-4	10-50	5-10	60-180	15-25	3-5	<0.5
Formal employment/ casual waged labour/ business	Lakes, dams. Shallow wells boreholes piped water	0.1-0.5	0.5-3	2-4	5-10	5-10	30-60	15-25	5-10	<1

### 3.2.5 Food Consumption

The percentage of households with poor food consumption increased to 20 percent compared to 8 percent in December 2015 with an overall increase in percentages of households with borderline and acceptable food consumption scores at 46 percent and 35 percent respectively. Trend analysis indicates an overall deterioration in food consumption attributable to poor harvest during the short rains (Figure 7). Meal frequency was 2-3 times a day in the pastoral zones and three times a day in the mixed farming and marginal mixed farming livelihood zones which is normal.

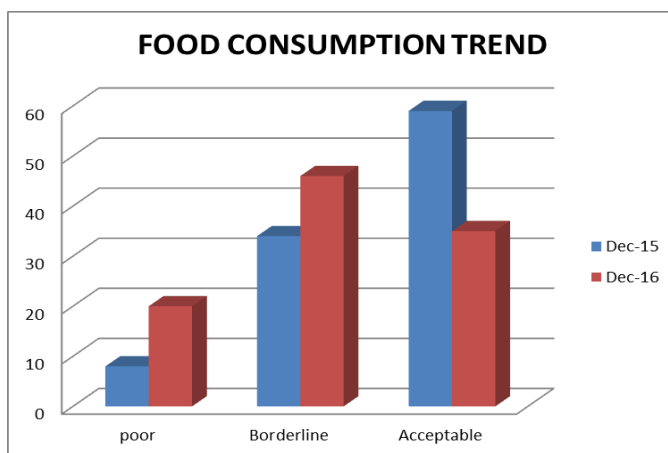


Figure 7: Food consumption scores

Households in the mixed farming zone mainly consumed at least 4 food groups, while those in the marginal mixed farming and pastoral zones consumed at least 2- 3 food groups a day.

### 3.2.6 Coping Strategies

The coping strategies index (CSI) is currently 22 compared to 16 at a similar time in 2015. This indicates a deteriorating food security situation thus more extra ordinary coping strategies being applied by households. Similarly, 44 percent of households were making use of emergency coping strategies while 30 percent were employing crisis coping strategies, 23 per cent were using stress strategies and 3 percent were not employing coping strategies.

### 3.3 Utilization

#### 3.3.1 Health and Nutritional status

The percentage of children at risk of malnutrition as measured by middle upper arm circumference (MUAC<135mm) decreased slightly for the past three months with 4.2 percent being at risk. The rate of children at risk was below the LTA by 13 percent (Figure 8). The farming/casual labor livelihood zone recorded an “at risk” percent of 3.4, agro pastoral/fishing and mangrove harvesting livelihood zone had 2.2 percent, irrigated farming recorded 9.8 percent while the agro pastoral zone recorded a MUAC percent of 4.4.

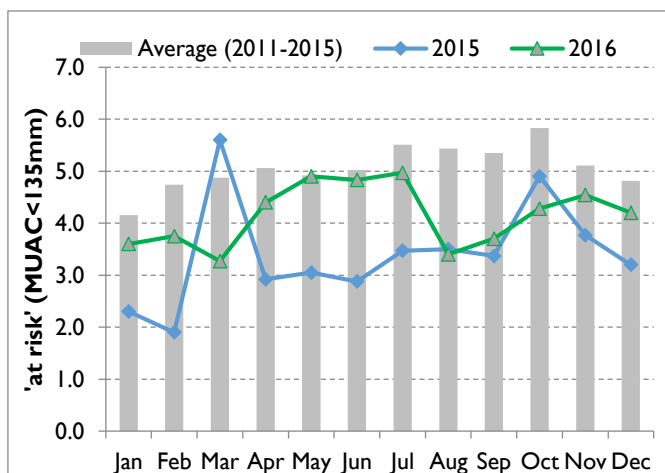


Figure 8. Percentage of children at risk of malnutrition

#### Morbidity and mortality patterns

Upper Respiratory Tract Infection (URTI), diarrhoea, skin diseases, intestinal worms and pneumonia were the prevalent diseases among under-fives and the general population across the livelihood zones. Diarrhoea cases declined in both under-fives and general population for the period under review which can be attributed to increased awareness on critical times for hand washing and use of safe water. Incidences of intestinal worms have reduced due to school deworming programmes.

#### Immunization and Vitamin A coverage

Immunization coverage reduced from 80 percent in 2015 to 72 percent in 2016 due to breakdown of fridges in some health facilities which led to rescheduling of immunization days. Vitamin A supplementation for children less than five years dropped from 49.5 percent in July to December 2015 to 38 percent in the same period in 2016. The dropping coverage rates is attributed to many children not attending child welfare clinics.

#### 3.3.2 Sanitation and Hygiene

Water treatment levels are improving in the water supply and established water schemes in the sub-counties. Individuals who own shallow wells occasionally collect chemicals from public health offices to treat their water, otherwise quite a number of households consume untreated water. Latrine coverage is fairly high at 67 percent in the county and over 90 percent of households across all livelihoods are aware about the importance of hand washing at different critical times. However, there is a gap between hand washing awareness and practice which translates to a significant segment (above 50 percent) of the population not using soap when washing their hands.

### 3.4 Trends of key food security indicators

Table 9. Food security trends in Lamu County

Indicator	Long rains assessment, July 2016	Short rains assessment, Feb 2017
Maize stocks held at household level (90 Kg bags)	10,930 bags	4,051 bags
Livestock body condition	Fair	Poor

Indicator	Long rains assessment, July 2016	Short rains assessment, Feb 2017
Water consumption (litres per person per day)	20 lpppd	5 lpppd
Price of maize (per Kg)	35	40
Distance to grazing	2.75 Km	5-15 Km
Terms of trade (pastoral zones)	128	77
Proportion of children under five years at risk of malnutrition	3.47	3.2
Coping strategy index (CSI)	16	22

### 3.5: Education

A total of 7,195 pupils in Lamu County are under the school feeding programme. However the school meals programme in the county is not fully operational due to delays in disbursement of funds to schools. The county government is supporting the school feeding programme but only in a few areas of the county. Improved school attendance was reported in schools where the school meals programme was running. Currently, about 10,000 pupils in 25 schools are in need of school feeding to sustain them in schools.

There was a drop in enrolment particularly for girls and also a high dropout rate in girls than boys due to: early marriages, early pregnancy, child labour, and late age of enrolment thus maturing at mid classes. Insecurity in Basuba, Kiunga, Witu Ward particularly Pandanguo caused 5 schools to close in 2016 necessitating the transfer of pupils to more secure schools like Mokowe Arid Zone school that admitted about 100 pupils from the Boni Area. Nationally, transition to form 1 stands at 85 percent while, Lamu County stands at 83 percent. In the early childhood development (ECD) centres, more boys transit to class 1 than girls. The main causes of poor transition from ECD, primary to secondary schools are; poverty, ignorance, long distance to school, lack of food program, insecurity, lack of enough sponsors in education sector and unemployment

## 4.0 Food Security Prognosis

### 4.1 Prognosis Assumptions

The following are the assumptions made for the next six months;

- The March – May 2017 long rains are likely to start late and be below average in terms of cumulative totals across the country.
- Expected below average rains and crop production will likely to result in reduced on farm income earning opportunities reducing household income
- Staple food prices are expected to increase as household stocks are depleted and supplies to the market dwindle due to poor crop production.
- Water scarcity will likely increase especially in the islands necessitating water trucking interventions to reduce the water stress for both humans and livestock.
- Rangeland resources likely to continue to deteriorate through March and from April the below average rains will improve forage but will not regenerate it fully.
- Livestock body conditions and milk production will remain below average resulting in increased malnutrition in children under five years of age.

- Terms of trade (ToTs) will continue to reduce through July but with a minimal improvement between April and May resulting in reduced purchasing power at household level.

#### **4.2 Food security outcomes (February to April)**

The water shortage for both domestic and livestock use is likely to persist until onset of the long rains. The projected below average short rains harvest in February will result in below average food stocks and an increase in food prices reducing household food availability and consumption. Poorly regenerated forage condition is expected to lead to poor livestock body condition reducing in milk production, less income from sale of livestock and therefore a decrease in household purchasing power. Milk consumption is likely to decline resulting in an increase in the prevalence of malnutrition while drought related livestock deaths are likely to rise. Most households are likely to remain in the Stressed (IPC Phase 2) phase with some areas in Crisis (IPC Phase 3) phase.

#### **4.3 Food security outcomes (May to July)**

The below average rains and poor forage regeneration is expected to result in poor livestock body condition and reduced milk production for home consumption and sale. Poor rains will result in reduced short cycle crop production in May reducing household income, food availability and consumption. Low household food stocks coupled with high food prices will increase household food insecurity and increasing malnutrition in children under five years of age. In July, the below average harvest will provide little relief resulting in an early onset of the lean season. Household food security will deteriorate further and the county will move into the Crisis (IPC Phase 3) with a majority of households in the Stressed (IPC Phase 2) phase.

### **5.0 Conclusion and Interventions**

#### **5.1 Conclusion**

The county is classified in the “Stressed” phase of food insecurity (IPC phase 2) and a majority of households are able to afford minimally adequate food consumption but are unable to afford essential non-food expenditures without engaging in irreversible coping strategies. Current factors affecting food security in the county are; crop failure, low food stock levels, water stress, poor pasture and browse condition, poor livestock body condition and poor milk production.

##### **5.1.2 Summary of findings**

The County is facing reduced food availability with maize experiencing total crop failure and the expected harvest for green grams and cowpeas is 2.9 percent and 2.5 percent of LTA respectively. Household maize stocks are currently at 43 percent of the long term average. Milk production has reduced by 50 percent to one litre per day. Maize prices were 26 percent higher than the LTA and 29 percent higher than 2015 prices. The terms of trade were 14 percent below the long term average signifying a decrease in household purchasing power in the pastoral and agro pastoral livelihoods. Trekking distances to domestic water sources increased from the normal three to 15 kilometres with scarcity also increasing the cost of water from Ksh 5 to 50 per 20 litre jerrycan. There was an increase in morbidity for children under five years of age and for adults reducing their capacity to absorb required macro and micronutrients from consumed food. Immunization coverage reduced from 80 percent in 2015 to 72 percent in 2016 and in Vitamin A supplementation from 49.5 in



2015 to 38 in 2016. The proportion of children at risk of malnutrition increased to 4.2 percent in 2016 compared to 3.2 percent in 2015 due to reducing food consumption and dietary diversity.

### 5.1.3 Sub-county ranking

Table 10. Sub County Ranking

Sub County	Food security rank (1-10) (worst to best)	Main food security threat (if any)
Lamu West	1	Crop failure Low food stock levels Water stress- lack at sources and high cost Very poor pasture and browse condition Poor livestock body condition, low milk production and deaths
Lamu East	2	Low food stock levels Extreme Water stress- salinity, lack at sources and high cost Depleted pasture and browse condition Poor livestock body condition, low milk production and deaths Reduced purchasing power

## 5.2. Ongoing Interventions

### 5.2.1 Food Interventions

Table 11. List of ongoing Food interventions

County	Intervention	Location	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (Ksh M)	Time Frame
<b>EDUCATION</b>							
Lamu	HGSM	Witu, Amu, Mpeketo ni	16 Schools	GOK	Retention Of Learners And Access To School	3.11	January-Dec-2017

### 5.2.2 Non Food intervention

Table 12. List of ongoing Non Food interventions

County	Intervention	Location	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (Ksh M)	Time Frame
<b>AGRICULTURE</b>							

Lamu	Construction of grain storage	Maisha masha	200	LCG (MOA& I )	Enhanced food security and income	4.2	End of March 2017
Lamu	Construction of grain storage	Vumbe	120	LCG (MOA& I )	Enhanced food security and income	4.7	End of March 2017
Lamu	Setting up irrigation system	Mkomani	34	LCG(MOA& I )	Increased income	0.830	End of February
Lamu	Provision of inputs	Bahati Njema and Kwadae villages (MKB)	83	LCG (MOA& I ) KCDP	Improved food security	0.98	End of DEC. 2016

#### LIVESTOCK

Lamu	Vaccination and treatment campaign	Lamu East and west	1200 HH	NDMA, National Government, RPLRP	Improve coping strategies	3.0	1 month
Lamu	Livestock Supplementary feed distribution	Lamu East and west	1200 HH	NDMA, State department of Livestock	Improve survival of livestock and incomes	12.5	6 months

#### HEALTH AND NUTRITION

Lamu	Vitamin A Supplementation	ALL	15,689	MOH	Improved immunity	-	Jan to July 2017
Lamu	Management of Acute Malnutrition (IMAM)	Amu, Mpeketoni, Faza, Witu	15,689	MOH,NHP/US AID, REDCROSS	Improved immunity		Jan-July 2017
Lamu	IYCN Interventions (EBF and Timely Introduction of complementary Foods)	All facilities in the county	15,689	MOH	Improved immunity		Jan-July 2017
Mpeketoni	Provision of inputs	Bahati Njema and Kwadae villages (MKB)	83	LCG (MOA& I ) KCDP	Improved food security	0.98	End of DEC. 2016

WATER							
Lamu	Construction of Pandanguo and Pangani pipeline is now complete	Pandanguo	800	County Government and Pangani- Water Services Trust Fund (WSTF}	Very Good	39M & 10M respectively	3yrs & 1 year respectively
Lamu	Construction of Manda Maweni. Ras Kitau phase 2 and Mararani pipeline extensions	Shela-Manda	500	Manda Maweni by WSTF & Kitau and Mararani by CGL	Very Good	10M, 3M & 2M respectively	1yr

### 5.3 Recommended Interventions

#### 5.3.1 Food interventions

Table 13. Proposed population in need of food assistance

Sub County	Population	Poverty level	Poor population	Approx.% in need of food assistance
Lamu West	104,366	66%	68,882	60-66
Lamu East	23,778	66%	15,693	66-66

#### 5.3.2 Non Food interventions

County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
<b>SECURITY</b>							
Lamu	Capacity building for peace committee	-2sub counties peace committee	-2 sub counties peace committee	County commissioner, County Government, NDMA, leaders	0.6M		Jan-Dec-2017
<b>AGRICULTURE</b>							
County wide	Provision of certified seeds	All	1000	LCG	Funds Transport	Human resource	End of June 2017
County wide	Provision of subsidized tractor higher services	All	3000	LCG	Funds Transport	-	End of June 2017
County wide	Provision of subsidized fertilizer	All	4,000	LCG	Funds Transport	-	End of June 2017

County wide	Establishment of fruit processing plant	All	1200	LCG	Land Raw materials Funds Human resources	- Land -Raw material	End of 2022
<b>LIVESTOCK</b>							
Lamu	Vaccination and treatment campaign	Lamu East and west	1200 HH	County, NDMA, State department of Livestock	funding	Human resource	6 months
Lamu	Livestock Supplementarily feed distribution	Lamu East and west	1200 HH	County, NDMA State department of Livestock	Funding	Human resource	6 months
Lamu	Water trucking for Livestock	Lamu East and west	1200HH	County, NDMA State department of Livestock	Funding Portable water troughs Tanks	Human resource	6 months
<b>HEALTH AND NUTRITION</b>							
All Sub counties	MIYCN dissemination at all levels	-		MOH	0.25M	Health staff	Jan-Dec-2017
All Sub counties	Scale up Vitamin A Supplementati on	-	3715	MOH	0.15M	Health worker, Chew	Jan-Dec-2017
All Sub counties	Scale up screening of malnutrition in all hot spot areas	-	3715	MOH	0.3M	Health worker, Chew	Jan-Dec-2017
<b>WATER</b>							
Lamu	Water Boating	Siyu,Tchund wa, Mtangawanda	4895	County Gov't, NDMA	10M		Jan-June-2017

Lamu	Water Trucking	Kiunga, Bargoni, Pandanguo, Pangani, Mais ha Masha Kiangwe, Widho. Basuba Mararani	12695	County Gov't, NDMA	8M		Jan-June-2017
Lamu	Emergency Drilling of 6 Boreholes	Maisha Masha Koreni Kiunga, Bargoni Widho Pandanguo	17578	County Gov't, NDMA N Gov't NGOs	7M		
Lamu	Construction of pipeline to Bargoni	Bargoni	3265	County government of Lamu, Amu Power	24M	Pipeline Construction has been allocated 15M in this F/Y	1yr
Lamu	Rehabilitation of the 11,000 litre reservoir	Mpeketoni	2000	County Government of Lamu	8M	Awaiting allocation from equalization fund	6 months

## EDUCATION

Lamu	Food For Fees	Amu, Kiunga, Mpeketoni, Faza, Witu	4387	MOE, County Gov. NDMA, Other Agencies	3.2M	Human Resources	Jan-Dec
Lamu	Water Tanks	Amu, Kiunga, Mpeketoni, Faza, Witu	4387	MOE, County Gov. NDMA, Other Agencies	1M	Collection Point	Jan-Dec