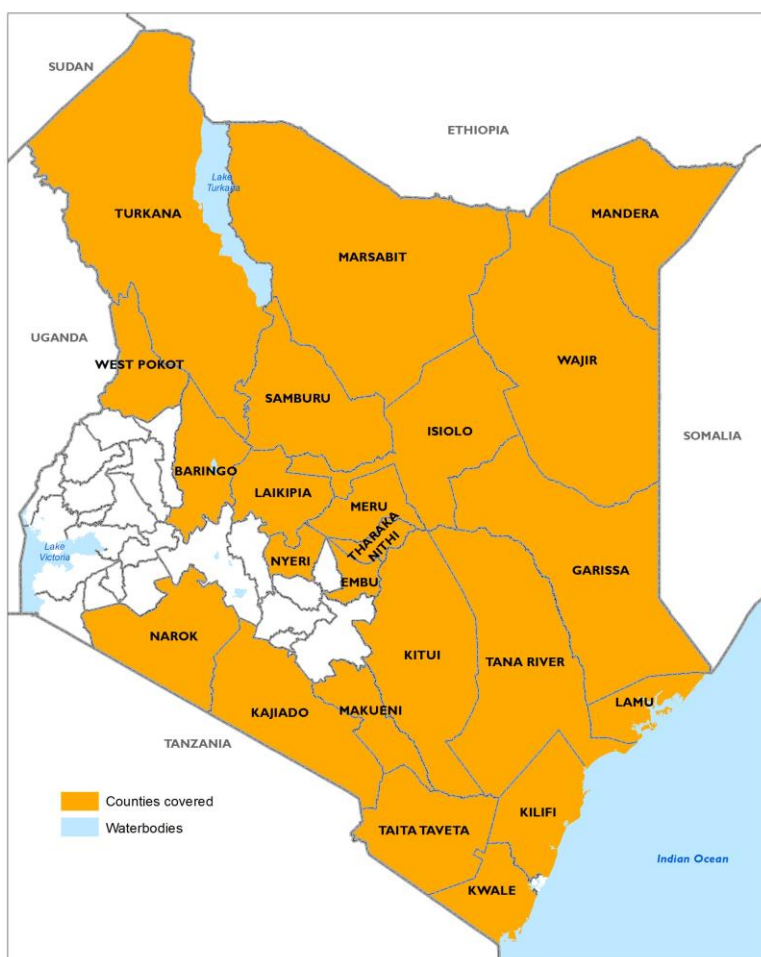




## Government of Kenya

### THE 2014 LONG RAINS SEASON ASSESSMENT REPORT

#### Kenya Food Security Steering Group (KFSSG)



Collaborative report of the Kenya Food Security Steering Group: Ministries of Devolution and Planning, Agriculture, Livestock and Fisheries, Environment, Water and Natural Resources, Health, and Education, Science and Technology, National Drought Management Authority, WFP/VAM, FEWS NET, FAO, UNICEF, World Vision, ACF; with financial support from the Government of Kenya, FAO, USAID and WFP.  
AUGUST 2014

## Table of Contents

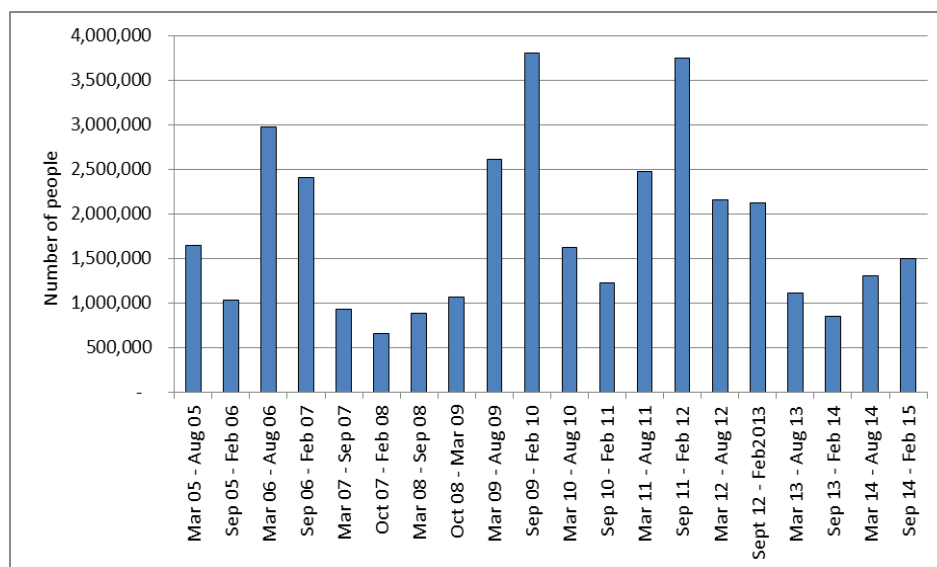
Executive summary .....	3
1.0 Introduction.....	11
1.1 Assessment Coverage and Objectives .....	11
1.2 Assessment Approach .....	12
2.0 Food and Nutrition Security Analysis by Livelihood Cluster .....	14
2.1 The Pastoral Northwest Livelihood Cluster .....	14
2.2 The Pastoral Northeast Livelihood Cluster .....	20
2.3 The Agro Pastoral Livelihood Cluster .....	26
2.4 The Southeastern Marginal Agriculture Livelihood Cluster .....	32
2.5 The Coastal Marginal Agricultural Livelihood Cluster .....	37
3.0 Food Security Prognosis .....	43
3.1 Prognosis Assumptions .....	43
3.2 Food and Nutrition Security through February 2015 .....	43
4.0 Proposed Sectoral Interventions .....	45
4.1 Agriculture Sector: Priority Interventions September 2014 – February 2015 .....	45
4.2 Livestock Sector: Priority interventions September 2014 – February 2015 .....	45
4.3 Water Sector: Priority interventions September 2014 – February 2015 .....	47
4.4 Health and Nutrition Sector: Priority interventions, September 2014 – February 2015 .....	48
4.5 Education: Priority interventions, September 2014 – February 2015 .....	48
4.6 Food Assistance Sector: Priority interventions, September 2014 – February 2015 .....	49

## Executive summary

### Summary of key findings

#### Food security deteriorating in the pastoral, agro pastoral and marginal agricultural areas following below-average March to May long rains

From the 2014 long rains assessment, an estimated 1.5 million people are acutely food insecure and will require immediate food assistance over the next six months (September 2014 – February 2015). This number has increased from 1.3 million who required food assistance in February 2014, representing a 15 percent increase (Figure 1.1). The cumulative effects of the poor 2013 short rains coupled with the below-average 2014 long rains in the pastoral, agro pastoral and marginal agricultural areas and increasing food prices and conflicts, have resulted in more population becoming food insecure. The poor rains resulted to below-average crop production and poor recovery of rangeland conditions. In pastoral and agro pastoral areas, forage conditions were fair to poor, with 70 – 80 percent of ground water sources reported to be exhausted. Earlier than normal livestock migration were witnessed in Isiolo, Turkana, Mandera, Wajir, Samburu, Marsabit, and agro pastoral areas of West Pokot, Laikipia, Baringo, and Kajiado. The deteriorated forage conditions have resulted to poor or in some cases emaciated livestock body conditions. Trekking distances to water sources have increased. In the southeastern marginal agricultural areas, most of the maize crop did not reach maturity. Household stocks have been depleted resulting in high market dependence for food access, at a time when income earning opportunities have significantly declined. With the peak of the lean season yet to set in, and the next rains expected in mid October, food security situation is set to continue worsening, prompting the need for urgent mitigation and response actions to avert the situation.



**Figure 1.1: Trend of the food insecure population**

Figure 1.1 illustrates the trend of the food insecure population over the past 10 years. The current areas of concern include parts of Turkana, Marsabit, Wajir, Mandera, Samburu, Baringo and West Pokot, where localised households have moved into *Crisis phase* of the Integrated Food

Security Phase Classification (IPC Phase 3) and significant numbers still under *Stressed* (IPC Phase 2), are at risk of sliding into *Crisis* (IPC Phase 3) by September. Households in northern parts of Garissa, Isiolo and other southeastern marginal agricultural areas are also experiencing rapid food deteriorating conditions. The below normal long rains are likely to result in below average crop harvest, especially in the country's grain basket areas of the Rift Valley highlands.

### **Scope of the 2014 long rains assessment**

In Kenya, agricultural production is rain dependent. This makes the assessments of the performance of the bimodal nature of rainfall on crops and livestock important. Kenya is divided into two broad clusters namely the Arid and Semi-Arid Lands (ASAL) and Medium- to High-Rainfall cropping and livestock zones, comprising of about 80 and 20 percent respectively of total land coverage. The assessment, conducted in July 2014 covered the 23 ASAL counties of Kenya. The overall objective of the assessment was to provide an objective, evidence-based, unbiased, and transparent food security situation analysis following the 2014 long rains season, by taking into account the cumulative effect of previous seasons on key food and nutrition security indicators. Specifically, the assessment aimed to; evaluate the performance and impacts of the March to May 2014 long rains on water quality and access, crop and livestock production, health and nutrition, markets and trade, and education; evaluate the manner and extent to which shocks such as conflicts, floods, crop pests and high food prices, together with ongoing food and non-food interventions were affecting the level of food availability and household food access; give a timely food security prognosis as well as provide recommendations for possible response options. The findings are summarized in the sections below.

### **Categories of the food insecure population**

#### **Summary of food security phase classification**

As noted earlier, the 2014 long rains assessment has established that about 1.5 million people are facing acute food insecurity conditions, after two successive poor or failed rain seasons coupled with adverse effects of high food prices and conflict incidences. These populations largely occur in the northwestern and northeastern pastoral livelihood zones of Kenya. Some of the interventions that are being put in place by both National and County governments include: activation of drought contingency funds for all the affected ASAL counties, Hunger Safety Net Programme which manages cash transfer programmes in Turkana, Mandera, Marsabit and Wajir with about 100,000 beneficiary households. Government of Kenya (GoK) partnering with World Food Programme (WFP) is also implementing food for assets/cash for assets programme in 13 ASAL counties with about 750,000 beneficiaries. Others include general relief food distribution, provision of school meals under various programs such as Expanded School Meal Program, and Supplementary Feeding Programmes.

#### **Population in Crisis (IPC Phase 3)**

Currently, the food insecure population in the *Crisis* (IPC Phase 3) are predominantly in Turkana (parts of central, Kaaling, Loima, Turkwel, Lokichar, Kerio), Marsabit (parts of North Horr, Loiyangalani), Samburu (parts of Baragoi and Wamba), Wajir (parts of Griftu, Hadado), Mandera (Hareri), West Pokot (Alale) and Baringo (East Pokot). Households in Crisis are those who are marginally able to meet minimum food needs only with accelerated depletion of

livelihood assets that will lead to food consumption gaps. Most of the areas under Crisis as shown in Figure 1.2, received cumulatively less than 50 percent of the normal rains in the past two seasons. In effect, the seasonal improvement in rangeland conditions, such as water, pasture, and browse availability, was below normal, resulting in the current fair to poor state of these resources, and their rate of deterioration being more rapid than usual. Deteriorating rangeland conditions have led to faster than usual deterioration of livestock body conditions and productivity. In some of these areas, earlier than normal migration of livestock was reported. Though the deteriorating livestock body conditions resulted in declining livestock prices, terms of trade (ToT) were still favorable, remaining 10 – 30 percent above long term averages (LTA), except for Baringo where ToT was 30 percent below the LTA. Livestock concentration in areas with favorable pasture was evident across these areas with conflicts over limited resources being reported. Also, breakdown of available water sources is expected due to overcrowding of both livestock and human beings. Inter-clan conflicts in parts of Wajir and Mandera have also contributed to the deteriorating food security conditions.

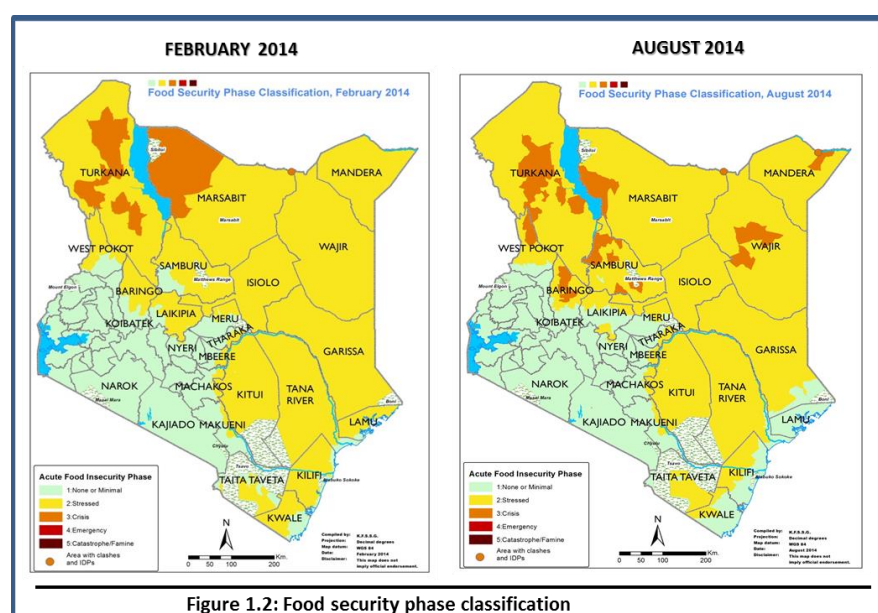


Figure 1.2: Food security phase classification

Trekking distances to water sources were more than 15 kilometers, which is uncharacteristically far this early in the lean season. Deteriorating livestock body conditions have contributed to reduced milk production and consumption at the household. Assessment findings noted that milk production declined 70 – 80 percent across these areas, while milk prices had increased by about 50 percent between May and July. Increased milk

prices and reduced availability at household level were impacting negatively on nutrition status. Nutrition surveys conducted by Ministry of Health (MOH) and partners between May and July in these areas showed that nutrition situation had deteriorated significantly from 2013 to **Critical**<sup>1</sup> levels in some areas and to **Very Critical** levels in other areas. North Horr and Loyangalani in Marsabit reported the highest Global Acute Malnutrition (GAM) rate in the Country at 29.2 percent and the total Severe Acute Malnutrition (SAM) rate at 7.6 percent. These results indicate on average **1 out of 4 children is acutely malnourished**. There were no disease outbreaks reported, apart from cases of Kalaazar in Wajir and Marsabit County, and measles in the refugee camps in Turkana.

<sup>1</sup>Global Acute Malnutrition (GAM) Classification- Acceptable 0-5%, Poor- 5.1 -9.9%, Serious 10-14.9%, Critical 15-19.9%, Very Critical ≥20% (global acute malnutrition includes all children with moderate and severe acute malnutrition)

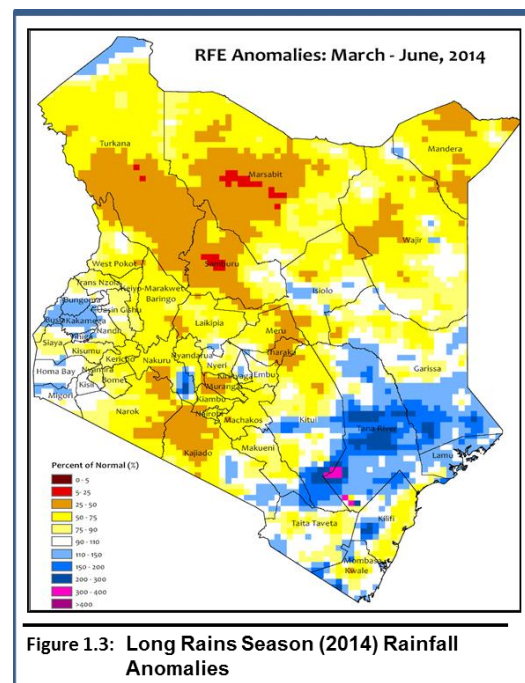
### Population in Stressed (IPC Phase 2)

Majority of households in the *Stressed* (IPC Phase 2) were mainly in the southeastern (Kitui, Mbeere, Meru North and parts of Makueni) and coastal marginal agricultural areas (Taita Taveta and parts of Kilifi, Kwale), the agro pastoral areas (Laikipia, Baringo, West Pokot, Nyeri), and parts of the northwest (Turkana, Marsabit, Samburu) and northeast (Isiolo, Garissa, Mandera, Wajir, Tana River) pastoral areas. Household groups in the Stressed Phase are characterized by reduced consumption which is minimally adequate without having to engage in irreversible coping strategies. Areas in the stressed phase received 50 – 90 percent of the normal rains, with localized areas receiving 90 – 150 percent, especially in Tana River, southern parts of Garissa, parts of Kitui, Taita Taveta and Kilifi. In the southeastern and parts of coastal marginal agricultural areas for instance, the short rains is the primary agricultural production season, accounting for up to 70 percent of total annual crop production. The next significant harvesting expected in these areas is in February/March 2015.

The lingering effects of the poor short rains coupled with the below average 2014 long rains have contributed to the current precarious food security situation in the areas classified as stressed. Household stocks from previous season's harvest in the marginal agricultural areas were exhausted earlier in the year. Current crop production, especially maize, performed poorly with below average harvest reported in most areas. With abnormally high market reliance due to exhausted household stocks, market access is highly constrained, as household income-earning opportunities have dwindled resulting in low household income. To meet food and non-food needs, majority of households are intensifying their coping activities, including diversifying into other income-earning opportunities, increasing reliance on remittances, credit purchase of food, and switching to less expensive and less preferred food. Malnutrition cases are tracking household food access and consumption. Though nutrition status will continue deteriorating as food security conditions worsen, it's not expected to reach alarming stages, as continued supplementary nutrition programs will prevent the worst outcomes from occurring. Nutrition surveys conducted in these areas revealed *Poor to Acceptable* nutrition situation. At least until the onset of the 2014 short rains, majority of households will remain in the stressed phase. Exceptions are in pockets of Kitui (Mwingi North) and some areas in the northwestern and northeastern pastoral areas where vulnerable households are likely to fall into Crisis (IPC Phase 3) by September.

### Impacts of the 2014 Long Rains Season

The onset of the long rains in March was timely in much of the country during the second to third weeks of March. The rainfall was below average in amounts with much of the pastoral, agro pastoral, southeastern and coastal marginal areas receiving 50 – 90 percent



of the normal rains as illustrated in Figure 1.3. Some parts of the northeastern pastoral, coastal marginal and southeastern marginal agricultural areas received 90 – 150 percent of the normal rains, while parts of northwestern pastoral, agro pastoral and northern parts of the southeastern marginal received less than 50 percent of the normal rains. Both spatial and temporal distribution were poor and uneven, impacting negatively on crop and livestock production. Cessation was varied across the clusters. In the northeastern pastoral and southeastern marginal, cessation was earlier than expected in the third dekad of April, while in the coastal marginal agricultural areas rains ceased towards the end of June. In the northwestern pastoral and agro pastoral areas, rains ceased in the third dekad of May.

### National Maize Supply Situation and Prospects

The national maize stocks as at the end of July 2014 stood at 0.9 million metric tons as shown in Table 1.1. Taking into consideration imports and expected harvests between August and end of October, projected national maize stocks will stand at 1.3 million metric tons. With the country's per capita consumption per month of 0.34 million metric tons, a total of 1.04 million metric tons of these maize will be consumed by end of October, leaving a surplus of 0.31 million metric tons for consumption after October, which can hardly last a month. However, continued imports coupled with the crop harvest from the high and medium potential areas and parts of the southeastern marginal areas and the Lake Victoria basin will ensure continued supply on markets after October. Market supplies will however remain tight and prices elevated due to the below average last season's production and the expected below average harvest from the recent long rains. Already, the Ministry of Agriculture's projections indicate that national long rains maize production will be up to 20 percent less than last year and the five-year average of 2.7 million metric tons. The production short fall is mainly attributed to crop losses and very low production in the grain basket areas of the Rift Valley due to the extended dry spell in April and May and the effects of the Maize Lethal Necrosis Disease (MLND). The disease caused total crop failure in Bomet, Narok, and Nyamira Counties. Equally it also affected crop production in the major grain basket areas of Trans Nzoia, Uasin Gishu, Nandi and Elgeyo Marakwet, resulting in reduced yields, and threatening food security and loss of income for the majority of Kenyans.

**Table 1.1: Maize balance sheet (1<sup>st</sup> August 2014 to 31<sup>st</sup> October 2014)**

<b>Maize Balance Sheet through October 2014</b>	<b>90 Kilograms bags</b>	<b>MT</b>
<b>Stocks as at 31<sup>st</sup> July 2014 in 90kg bags</b>	<b>9,844,558</b>	<b>886,010</b>
a) Total East Africa Imports* (Private sector cross border trade) expected between August to October 2014	1,800,000	162,200
b) Imports outside EAC between August 2014 to 31st October 2014	0	
c) Estimated harvest between August 2014 to October 2014	5,500,000	495,000
<b>Total available stocks between August and October 2014</b>	<b>17,144,558</b>	<b>1,543,010</b>
Post –harvest storage losses estimated at 10%	1,714,456	154,301
Amount used for manufacture of feeds and other industrial products (2% of stocks)	342,891	30,860
Amount used as seed (1% of household stocks)	163,000	14,670
Expected total exports to East Africa Community region	0	
Expected exports outside the EAC region	0	
<b>Projected national availability as at 31<sup>st</sup> October 2014 ( 90kg Bags)</b>	<b>14,924,211</b>	<b>1,343,179</b>
<b>CONSUMPTION @3.84 million bags/Month for 43 million people for 3</b>	<b>11,520,000</b>	<b>1,036,800</b>



months (August to 31<sup>st</sup> October , 2014)

Balance as at 31<sup>st</sup> October 2014 (surplus/deficit)

**Surplus**

No. of Months the Available maize Stock can last from End of March 2014

3,404,211

**3,404,211**

**Less than a month**

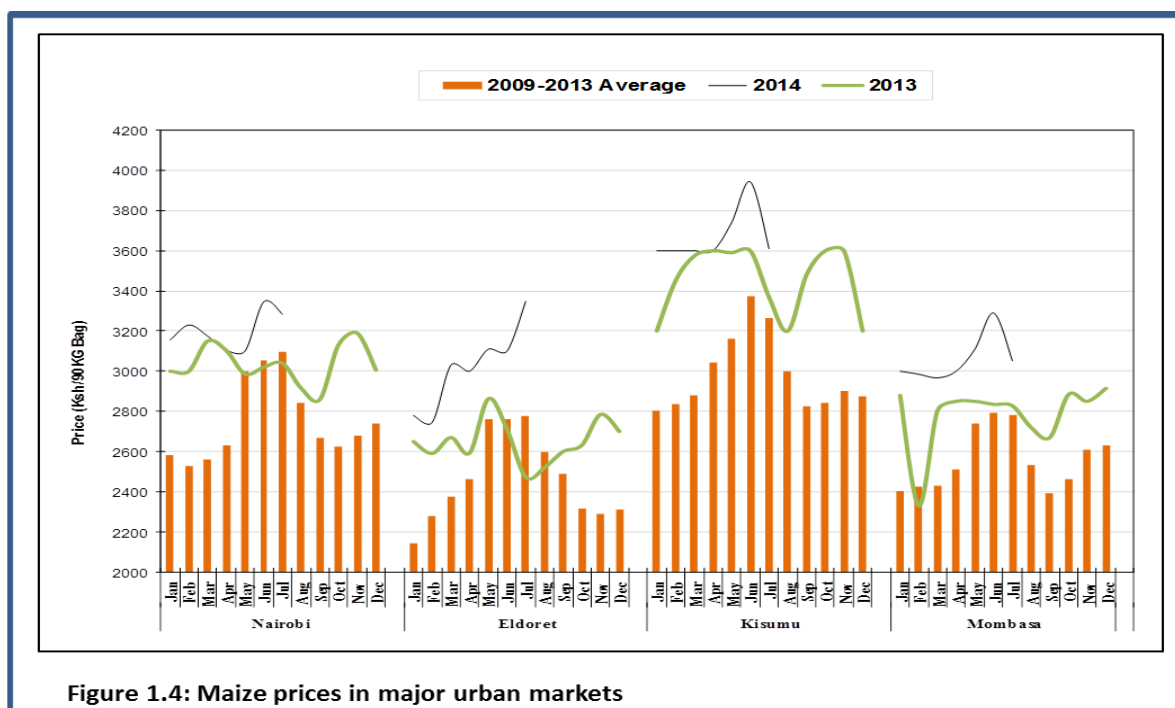
306,379

**306,379**

Source: Ministry of Agriculture, Livestock and Fisheries

## Food price trends

The wholesale maize prices for representative urban markets in the country is depicted by Figure 1.4. Wholesale maize prices in Nairobi, Eldoret, Kisumu and Mombasa were eight, 35 and seven percent above 2013 prices, and six to 20 percent above their respective five-year averages. Current prices have remain elevated due to the tightened supplies, occasioned by below average last season's production and the expected below average harvest from the recent long rains. Prices in all the urban markets have seasonally increased gradually between February and July 2014. However, prices declined marginally or remained stable in July supported by increased imports from neighbouring countries of Uganda and Tanzania and on-going harvest from parts of the Rift Valley, Lake Victoria basin, Western Kenya and southeastern marginal areas.



In the southeastern marginal agricultural areas, maize retail prices have remained fairly stable, at between Ksh. 37 – 40, mainly supported by on-going harvesting of the long rains crops in these areas and continued imports. Maize prices remained 10 – 30 percent above the long term averages in Kitui, Mbeere, Meru and Tharaka Nithi. In the pastoral markets, between June and July, maize retail price increased eight percent in Garissa but remained fairly stable in Mandera, Isiolo, Samburu and Marsabit. Prices declined six percent in Turkana. Prices were 10 – 40 percent above the long term averages in Turkana, Marsabit, Garissa and Isiolo. Normal market



operations have ensured continued flow of commodities from various source markets into the pastoral markets, supporting stable prices, and favorable terms of trade. Terms of trade were still favorable in the pastoral and agro pastoral areas, with current ToTs being above the long term averages and varying across various livelihood zones. With below-average household incomes, elevated staple prices will result in reduced purchasing power for poor, urban consumers as well as poor households in the pastoral and marginal agricultural areas.

### Food Security Prognosis through February 2015

With the expected below-average long rains harvest, staple prices will remain at higher levels through December, reducing the purchasing power capacities for many vulnerable households. In In pastoral areas, the poor livestock body conditions, set to continue as the lean season progresses, will further limit milk production and consumption, and result in low household income due to poor livestock prices. Households' purchasing power will be greatly eroded until October. Through various coping mechanisms, majority of households across the ASALs, except those currently in *Crisis* (IPC Phase 3), will be able to meet just enough expenditure for their

minimally adequate food consumption without engaging in irreversible coping strategies, thus remaining largely in *Stressed* (IPC Phase 2). New localized areas in the pastoral areas are likely to move into *Crisis* (IPC Phase 3) by September as depicted in Figure 1.5. However, the forecasted normal to above normal 2014 short rains are expected to provide a reprieve after November. Rangeland conditions are expected to improve and

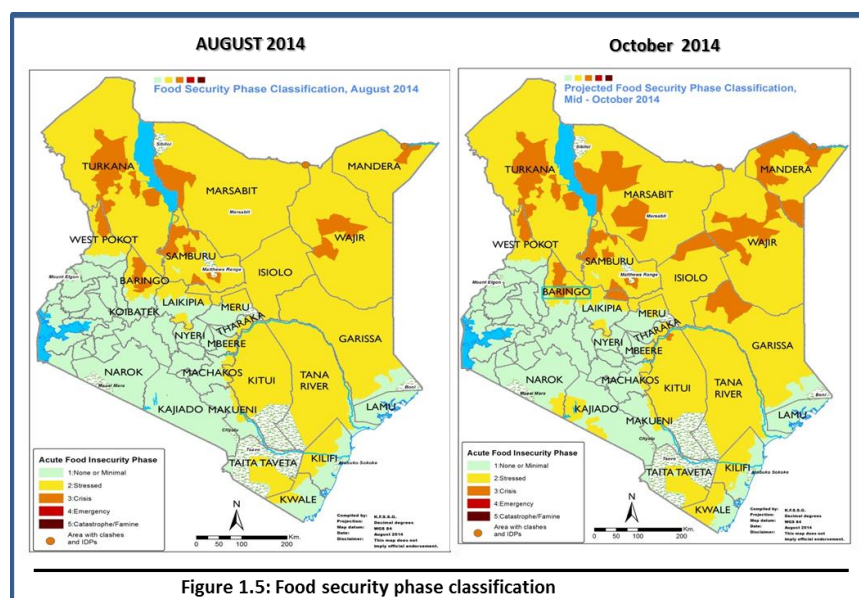


Figure 1.5: Food security phase classification

crop production activities are likely to increase in the coastal and southeastern marginal agricultural areas. While maize prices are expected to remain elevated due to tight supply, the start of the short rains season will trigger the seasonal increase in agricultural labor demand, increasing household incomes. Livestock production is also expected to improve, resulting in increased availability of milk and other livestock products. Majority of households, including those who had fallen into *Crisis* (IPC Phase 3) will move back to *Stressed* (IPC Phase 2), with significant areas of the coastal and southeastern marginal zone going into *Minimal/None* (IPC Phase 1) by February 2015.

### Options for response

The prevailing conditions and situation of food security provides several points for both short and long-term intervention. The immediate interventions should focus on nutrition support and livestock offtake programmes specifically in the pastoral areas. Long term interventions that enhance the productivity target promotion of drought resistant crops besides provision of inputs

in the arid and semi-arid areas, pasture reseeding, and water harvesting. In addition, immediate food and cash assistance programs to sustain food access and demand while enhancing resilience in those localized areas where there is heightened food insecurity should be up scaled. In areas experiencing conflicts, peace building and conflict management initiatives should be promoted. Table 1.2 below summarizes the priority interventions by sector. More detailed analysis of the sector specific interventions are presented in section 4 of this report.

Table 1.2: Summary of priority interventions by sector for September 2014 to February 2015

SECTOR	PROPOSED INTERVENTIONS	COST Ksh.	COST IN U.S. DOLLAR
<b>AGRICULTURE</b>	Up scaling of input subsidy programmes to improve access to inputs and post harvest technologies to reduce post harvest losses, management of Maize Lethal Necrosis disease, sensitization of farmers on management and promotion of drought tolerant crop varieties, water harvesting for crop production, enhancement of agricultural mechanization, upscaling of irrigation initiatives.	<b>1,300M</b>	<b>15M</b>
<b>WATER</b>	Fuel subsidy, purchases of fast moving spares, repair of storage facilities, water trucking to institutions and communities, hygiene and sanitation promotion, building capacity for water management committees, Survey, drilling and equipping of boreholes, excavations and de-silting of pans and dams, pipelines extension provision of water storage structures	<b>1,144M</b>	<b>13M</b>
<b>LIVESTOCK</b>	Destocking of cattle and supplementary feeding, Livestock disease surveillance/vaccination, breeding improvement, fodder production, conservation, and rehabilitation of rangeland, grazing management, Livestock marketing infrastructure-slaughter houses, sale yards, and capacity on livelihood diversifications.	<b>1,513M</b>	<b>17M</b>
<b>EDUCATION</b>	Up scaling of School Meal Programme [SMP], to include detached ECD centers, Dugsi and Madrasahs, Provision of Water tanks Peace Education campaigns, Construction of kitchens, expand support of field schools, construction of latrines, advocacy on girl child education, construction of ECD centers.	<b>363M</b>	<b>4.2M</b>
<b>HEALTH AND NUTRITION</b>	Scale up of High Impact Nutrition Interventions (HINI) including integrated management of acute malnutrition, procurement of equipment, active case finding, nutrition surveillance, nutrition surveys/assessments, integrated health and nutrition outreaches, medical screening, procurement of water treatment tablets,, promotion of proper hygiene and sanitation practices, deworming	<b>1,374M</b>	<b>16M</b>
<b>FOOD ASSISTANCE</b>	Building resilience to future shocks through FFA and CFA. Food commodities and cash for 1.5 million food insecure people in need of assistance for the next six months (September - February 2015). An estimated 66,900 MT of food or cash equivalent (CFA) will be required.	<b>6,612M</b>	<b>76M</b>
<b>Total</b>		<b>12,306M</b>	<b>142M</b>

## 1.0 Introduction

### 1.1 Assessment Coverage and Objectives

The 2014 long rains season assessment was conducted between the period of 21<sup>st</sup> July to 14<sup>th</sup> August 2014. The exercise was coordinated and conducted by the Kenya Food Security Steering Group (KFSSG)<sup>2</sup> and the County Steering Groups (CSG) in the 23 persistently drought-prone pastoral, agro pastoral and marginal agricultural Counties. The 23 counties assessed cover close to 80 percent of the country's geographic area with diverse livelihood zones (Figure 1.6). Specifically, the following counties, grouped into five livelihood clusters, were covered during the assessment:

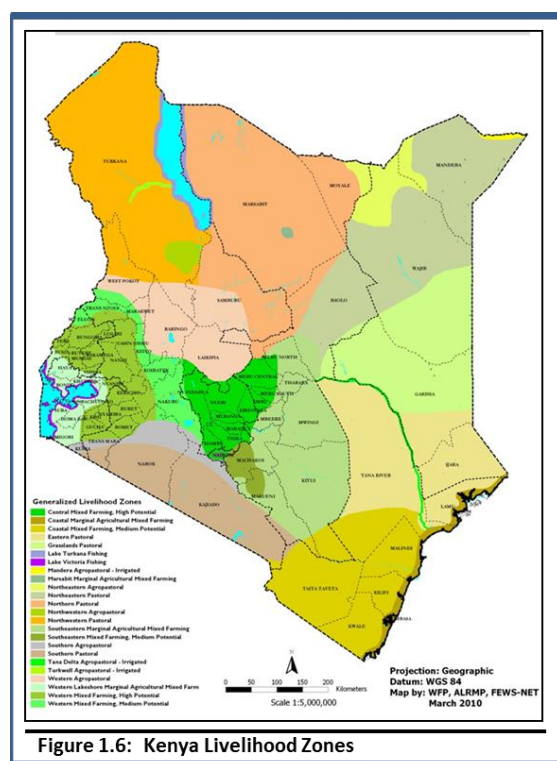
- a) Pastoral Northwest Cluster (Turkana, Marsabit and Samburu Counties);
- b) Pastoral Northeast Cluster (Mandera, Garissa, Isiolo, Wajir, and Tana River Counties);
- c) Agro pastoral Cluster (Baringo, West Pokot, Laikipia, Narok, Kajiado and Nyeri (Kieni) Counties);
- d) Southeastern Marginal Agricultural Cluster (Tharaka-Nithi, Embu (Mbeere), Meru North, Makueni, and Kitui Counties);
- and
- e) Coastal Marginal Agricultural Cluster (Taita Taveta, Kilifi, Lamu, and Kwale Counties).

The overall objective of the assessment was to inform the government and food security and nutrition relevant stakeholders on the status of food security across the Arid and Semi-Arid areas.

Moreover, the assessment aimed at identifying areas with high severity of food insecurity and the form of intervention, whether short or long term, required.

Specific objectives were to:

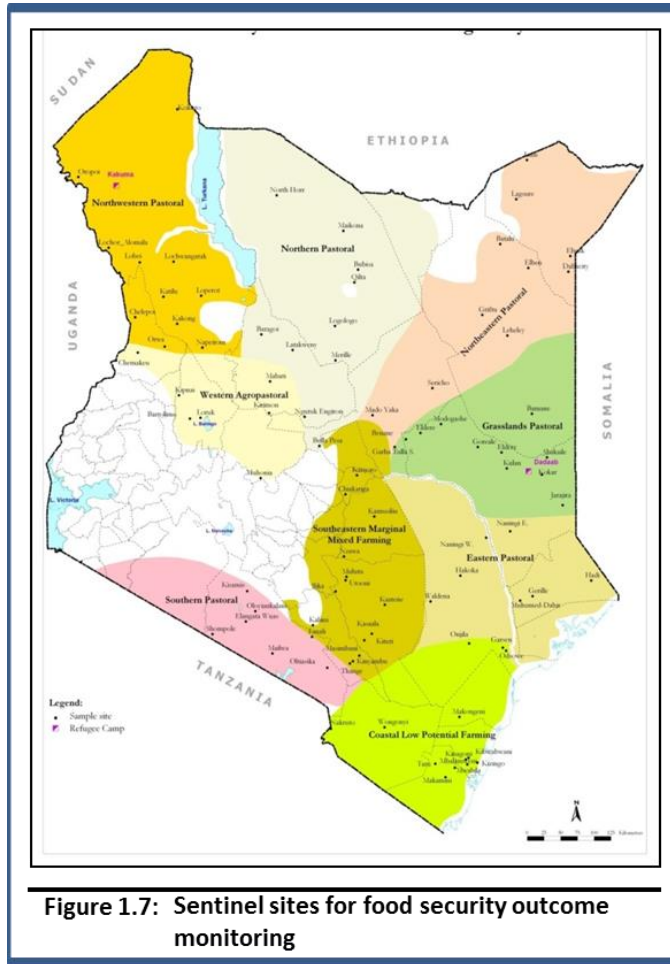
- Ascertain at the livelihood level, the quality and quantity of the 2014 long rains, and assess their impact on all key sectors including crop agriculture, livestock, water, and health and nutrition as well as education .
- Establish the impacts of other compounding factors such as conflict, crop pest and disease, relative high food prices and floods on household food security.
- Assess potential food needs, including options for, food for assets, cash for assets, hunger safety nets and general food distribution.



<sup>2</sup> KFSSG is comprised of Government of Kenya (GoK) ministries, the UN, NGOs and key development partners.

- Establish required non-food interventions, with particular emphasis on programs that promote preparedness and build household resilience.

## 1.2 Assessment Approach



The overall assessment processes and methodologies were coordinated and developed by the KFSSG. First, secondary data for all assessed counties were collected and collated. Thereafter, the KFSSG organized a one-week training workshop for the assessment teams. During the workshop, the teams refined sectoral indicators, and were taken through the entire assessment process, including, agro-climatic information analysis, sampling methods and field data collection techniques, integrated food security phase classification, estimation of population in need of emergency food assistance, and report writing. In addition, food security outcome monitoring indicators were also collected from 2,700 households situated in 90 sentinel sites. Outcome indicators that were collected included the coping strategy index, food consumption scores and household expenditure data. Figure 1.7 shows the sentinel sites from which the outcome indicators were collected. Each assessment team conducted a minimum of two community, two key

informant and two market interviews in each sample site. The teams also visited health and education institutions to gather relevant information. Visual inspection techniques were also used during transects drives to obtain qualitative information. The field data was collated, reviewed, analyzed and triangulated to verify its validity. The NDMA drought monitoring bulletins, the 2014 nutrition survey reports and the KFSSG monthly Food Security Updates provided important additional information.

The KFSSG adopted a multi-sectoral and multi-agency approach covering the Agriculture, Livestock, Markets, Health and Nutrition, Water and Sanitation, Education and the Food assistance Sectors. While the analytical framework is generally the sustainable livelihood framework with the livelihood zones being the focal areas, the required outcome is a detailed understanding of the changes in food security and identification of populations affected and in need of multi-sectoral assistance, particularly in the immediate and medium terms. Results from sampled areas were used, along with outcomes of discussions with the larger County Steering

Groups (CSGs) and secondary data analysis to draw inferences for non-visited areas situated in similar livelihood zones. The findings and recommendations were provided at both the County and sub-County levels for planning purposes. The Food Security Integrated Phase Classification (IPC Version 2.0) was employed in classifying severity levels of food insecurity in different livelihood zones.



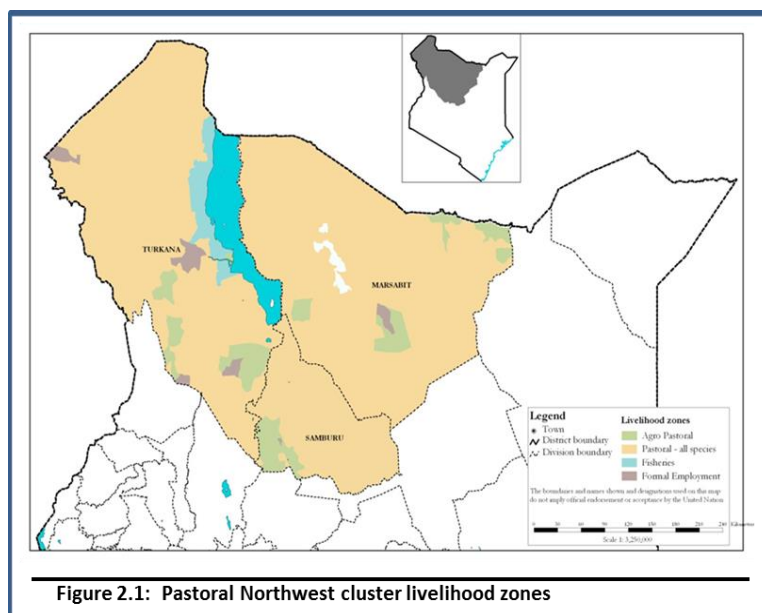
## 2.0 Food and Nutrition Security Analysis by Livelihood Cluster

### 2.1 The Pastoral Northwest Livelihood Cluster

#### 2.1.1 Cluster Background

The cluster comprises of Marsabit, Turkana and Samburu Counties and covers an area of 173,877 square kilometers with an estimated population of 1.37 million persons (KNBS Census 2009). The cluster has three main livelihood zones namely: Pastoral livelihood zone, accounting for 69 percent of the population, Agro Pastoral 24 percent and Fisheries/Formal

employment/Business/Petty trade at seven percent (Figure 2.1). The Pastoral livelihood zone accounts for 80 percent of the total area in the cluster. The main sources of



income are; livestock production at 80 percent, Crop production at 15 percent and others including fishing, casual labor and charcoal burning at five percent.

#### 2.1.2 Factors Affecting Food Security

Factors affecting food security in the cluster are poor performance of the rains, high food prices, insecurity related to cattle rustling and high banditry in parts of Samburu and Turkana counties. Others include livestock diseases such as Foot and Mouth Disease (FMD) in cattle and PPR in small stock and influx of livestock into parts of Marsabit and Samburu Counties.

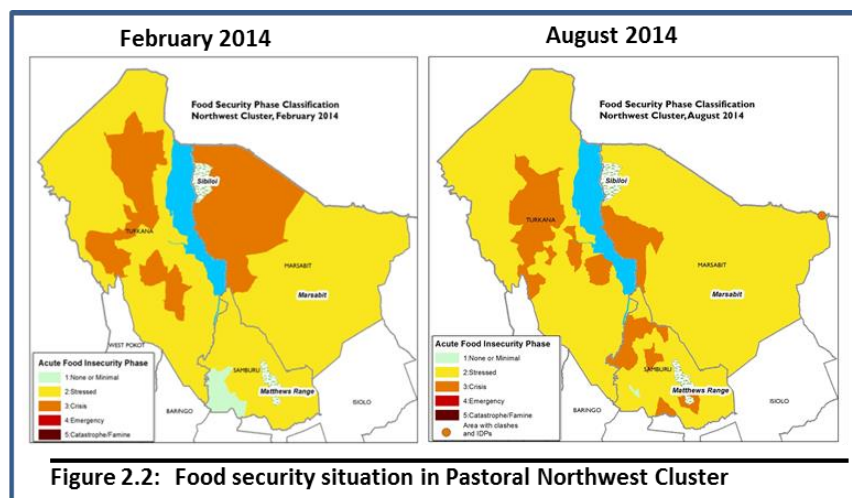
#### 2.1.3 Cluster Food Security Situation

##### 2.1.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is mainly *Stressed* (IPC Phase two) except for pockets in Marsabit (North Horr and Loiyangalani), Turkana (Kaaling, Loima Lokichar, Kakuma, Turkwel and Kerio) and Samburu (Nyiro, Baragoi and Wamba) which are in the *Crisis* (IPC Phase three). Terms of Trade (ToT) for the cluster stood at an average of 41 kilogrammes from the sale of a goat, as of July 2014, which was about 21 percent above the LTA. Meal frequency was one to two meals in a day across the livelihood cluster. Household water consumption per person per day was normal at a range of five to 10 litres in the Pastoral areas and 10 to 15 litres in the Agro Pastoral areas in the cluster. In the Agro Pastoral and Pastoral all species livelihood zones milk availability at household level is normally two to four and three to five litres respectively, but it was ranging between a quarter to one litre in all livelihoods as of July 2014.

Global Acute Malnutrition (GAM) rates were above emergency thresholds for Marsabit (North Horr and Chalbi) and Turkana (Central, North and South). However in Turkana (West), Marsabit (Laisamis) and Samburu Counties GAM rates were at critical levels of 17.4 percent and 17.3 percent respectively. The Coping Strategy Index (CSI) for the cluster was 26 in May 2014 compared to 23 in May 2013.

### 2.1.3.2 Food Security Trends



The food security phase classification in the cluster after the 2014 short rains assessment for each livelihood zone was *Stressed* (IPC phase two) for all three Counties except for parts of North West Marsabit around Loiyangalani, North Horr and Turkana North, Central and South which were at *Crisis* (IPC Phase three). The current food insecurity

phase classification after the long rains 2014 assessment is also largely *Stressed* for the cluster except in localized areas of Turkana, Marsabit and Samburu which are at *Crisis* phase as shown in Figure 2.2. There was indication that while the phase classification had changed for the better in Marsabit compared to February 2014, the same has currently worsened for parts of Turkana and Samburu as compared to February.

### 2.1.4 Rainfall Performance

The onset of the long rains was timely in the second week of March in most parts of Pastoral Northwest cluster. Despite the timely onset, the rainfall was poorly distributed in time and space with most areas receiving between 25 to 50 percent of normal with an exception of Northern part of Marsabit which received between 75 to 90 percent of normal, 50 to 75 percent of normal for Northern part of Turkana and Eastern parts of Samburu. Cessation occurred in the third week of May as expected in Turkana and Marsabit Counties with an exception of Samburu County which had an early cessation occurring in third week of April. Off season rains were received in the months of June and July in parts of Turkana County.

### 2.1.5 Current Shocks and Hazards

The shocks and hazards affecting food security in the Cluster include, resource conflicts, prevalence of animal pests and diseases, poor performance of rainfall and high food prices. An outbreak of Kalaazar claimed eight lives and a total of 101 cases were reported in Marsabit County.



## **2.1.6 Impact of Rainfall Performance, Shocks and Hazards**

### **2.1.6.1 Crop production**

The main crops grown under rain-fed agriculture are maize, beans, cowpeas and sorghum. The area under maize cultivation was at 8,092 hectares (49 percent increase) compared to the Long Term Average (LTA) of 5,440 hectares. Area under cowpeas increased fourfold to 1,092 from LTA of 270 hectares. Beans acreage declined by 16 percent to 4,040 hectares compared to LTA of 4,800 hectares. The increase in acreage planted for maize and cowpeas was attributed to availability of new tractors with subsidized ploughing rates and certified seeds availed by County Government especially in Samburu County.

The production of maize declined to 3,960 (90 kilogram bags); which was an 89 percent decrease compared to LTA of 36,755 bags. Beans production also declined to 1,500 bags (81 percent decrease) compared to LTA of 7,800 bags. Production of cowpeas increased to 228 bags (107 percent increase) from the LTA of 110 bags; mainly attributed to increased acreage and its low moisture requirement. The decrease in maize and beans production was attributed to poor performance of the long rains and poor agronomic practices.

The area planted under irrigation increased by 24 percent and 20 percent for maize and green grams respectively attributed to expansion of irrigation, while the area planted for sorghum decreased by 19 percent of the LTA. Maize production increased by 50 percent, while Sorghum production increased by 64 percent compared to the LTA.

Maize stocks held by households were 8,300 (90 kilogram) bags; which was a 32 percent decrease as compared to the LTA of 12,178 bags. The current household stocks are expected to last for less than a month which is normal, since majority of households in the Pastoral livelihood zones are market dependent as at this time of the year. Traders held 20,054 bags (eight percent decrease) compared to LTA of 21,687 bags, while millers had 9,707 bags (17 percent decrease) compared to LTA of 11,739 bags. The National Cereal and Produce Board (NCPB) held 35,599 bags (about four percent increase) from LTA of 34,404.

### **2.1.6.2 Livestock Production.**

Pasture situation is poor and browse fair to poor in most areas of the cluster. Pasture and browse availability is projected to last one to two months instead of the normal two to four months with the exception of isolated areas where available pasture can last for two to four months. Livestock body condition for camels is generally good; poor to fair for cattle while the goats and sheep are good to fair. Normal household milk availability for Agro Pastoral and Pastoral all species livelihood zones in the cluster is two to four and three to five litres respectively, but currently its ranging between a quarter to one litre in both livelihoods. Milk consumption is between 0.25 to one litre per household; most of which is packed milk, at a price range of Ksh. 150 to 200 per litre. The price of raw milk – where available - has increased to a range of Ksh. 80 to Ksh.120 per litre from a normal of Ksh. 30 to Ksh. 60.

Current sources for livestock water in the cluster include Lake Turkana, rivers, shallow wells, water pans and boreholes. Trekking distance to water is on the increase from a normal range of

five to 10 km to 10 to 15km in Turkana and 15 to 20 km in Samburu, while remaining normal at 25 to 30 km in Marsabit. Watering frequency for cattle and small stock has generally increased from one to two days to two to four days. The watering frequency for camels has remained normal at four to five days in Turkana and Samburu and 10 to 14 days in Marsabit. Migration of livestock to dry season grazing areas started early as a result of poor performance of long rains. Outward migration from the cluster is towards neighboring countries of Sudan and Uganda, and Laikipia County. Within the cluster there is movement of livestock from Samburu County to Laisamis area of Marsabit and general movement of livestock to traditional dry season grazing areas and forage areas that are insecure. There was no confirmed outbreak of notifiable diseases though prevalence of CCPP, CBPP and PPR. Suspected cases of Anthrax in North Horr (Marsabit), and FMD in Samburu (Losesia and Kom) were reported.

#### **2.1.6.3 Water and Sanitation**

The main sources of domestic water are boreholes, springs, pans/dams, shallow wells, Lake Turkana and river Turkwel, Kerio and Ewaso Nyiro. The recharge of the surface water sources was up to 70 percent in the Northern part of the cluster while sources in southern part were recharged below 50 percent. Over 90 percent of pans in Pastoral areas of Marsabit and Samburu East had dried up while 70 percent of pans in Moyale and Samburu Central/North had water and are expected to last for three to six months. Distances to water sources are within the seasonal range of between one to two kilometres except the Pastoral areas of Turkana and Samburu where distances are between four to five kilometres. However, increased distances ranging between seven to 12 kilometers were noted in isolated areas in the cluster. Waiting time at water sources was between 30 to 60 minutes except in Gororukesa and Marsabit Township where one may take up to three hours. Cost of water ranges between two to five shillings per jerrican while, those buying water from vendors are paying between Ksh. 10-20 per 20 litre jerrican in isolated places. Household water consumption per person per day was normal at a range of five to 10 litres in the Pastoral areas and 10 to 15 litres in the Agro Pastoral areas in the cluster. Water treatment at household level is below 20 percent while latrine coverage across the cluster ranges between 10 to 30 percent. Water related diseases reported include diarrhea and malaria.

#### **2.1.6.4 Market Performance**

There were no reports of any insecurity related disruptions of the normal operations of the traditional markets across the cluster; though households are yet to recover from the effects of the previous insecurity experienced across the cluster. Major livestock markets within the cluster had recorded reduced sales due to out-migration of livestock in search of pasture. Generally operations in remote markets - located far from the main (urban) markets - are normally disrupted by poor infrastructure, leading to high transportation costs. Food commodity supplies were normal as at this time of the year. Sources of supply were mostly from markets outside the cluster counties - in the high and medium potential areas of Kenya - with exception of early harvests from irrigated areas of Turkana County.

Average maize prices in the cluster were about 13 percent above LTA and ranged from Kshs. 42 in Marsabit County to Ksh. 77 per kilogram in Turkana County by July 2014. Goat prices in the cluster were about 35 percent above the LTA and ranged between Kshs. 2,000 in Samburu to Ksh. 3,413 in Marsabit County.

Terms of Trade (ToT - goat: maize) for the cluster stood at an average of 41, as of July 2014; which was about 21 percent above the LTA. Marsabit had the most favourable ToT; where the sale of a medium sized goat would purchase 81 kilograms of maize compared to the LTA of 66 kilograms. Turkana had the least favourable ToT; sale of a goat would purchase 31 kilograms of maize compared

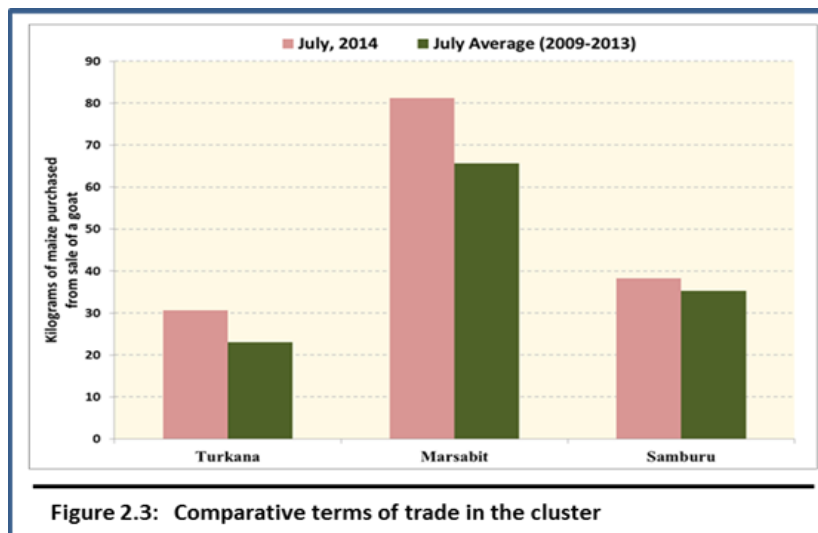


Figure 2.3: Comparative terms of trade in the cluster

to the LTA of 23 kilograms as shown in Figure 2.3. TOT were thus favourable for livestock keeping households, and above the LTA in all three Counties in the cluster.

#### 2.1.6.5 Health and Nutrition

The major diseases reported were upper respiratory tract infections (URTI), Malaria, skin diseases and diarrhea among under-fives and the general population. Localized outbreak of measles and Kalazaar were reported in Turkana (Kakuma refugee camps) and Marsabit Counties respectively. Under-five death rate (U5DR) was below alert thresholds of (2/10,000/day) across the livelihood cluster. However crude death rate (CDR) was above alert thresholds for Turkana County. CDR was below alert levels for Samburu and Marsabit Counties.

Percentage of fully Immunized child under-five years for Turkana, Samburu and Marsabit Counties was above the national target of 80 percent. Vitamin A supplementation for children aged six to 11 months was above 80 percent target. However, vitamin A supplementation for children aged 12 to 59 months in Turkana, Marsabit and Samburu Counties was 50 to 75 percent, which is below national targets of 80 percent.

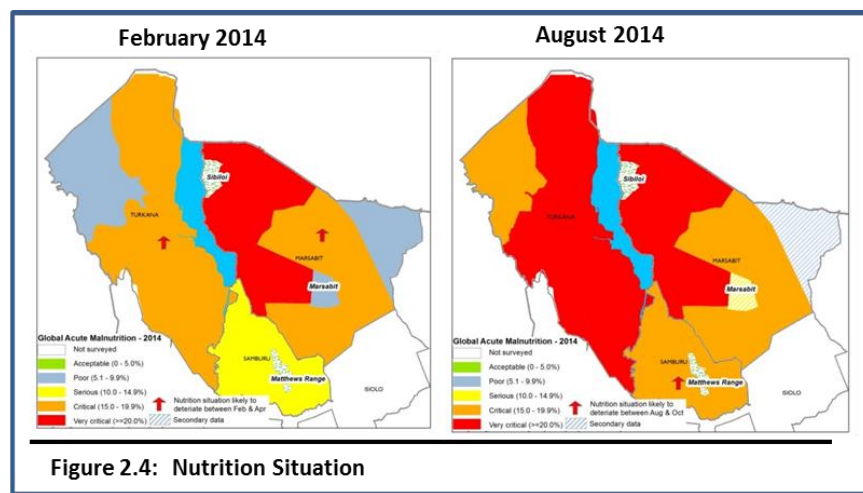


Figure 2.4: Nutrition Situation

Global acute malnutrition (GAM) rates for Marsabit (North Horr and Chalbi) and Turkana (Central, North and South) ranged between 20.5% - 29.2% at very critical levels as of July, 2014. However, in Turkana (West), Marsabit (Laisamis) and Samburu Counties GAM levels were within critical levels ranges of 17.3% - 18.2% respectively as shown in

Figure 2.4. Significant deterioration by GAM rates was observed for Turkana and Samburu Counties. The worst deterioration was noted in Turkana West with GAM rates deteriorating from 9.7 percent (poor levels) in July, 2013 to 17.4 percent (critical levels) to 2014 same period.

Percentage of Under-five at risk of malnutrition by mid upper arm circumference (MUAC < 135mm) in Turkana County increased from 23 percent in June, 2013 to 26 percent in 2014 same period above LTA. MUAC (<135mm) was 14.7 percent and 25.5 percent for Moyale (Sololo) and Marsabit (Saku, Laisamis and North Horr), which was below LTA of 22.3 percent. In Samburu, the current MUAC rates (<135mm) were stable at 20 percent with exception of pocket areas in Kawop, South Horr and Tuum which had 42.1 percent, 36.9 percent and 36.3 percent respectively.

Percentage of household with poor Food Consumption Score (FCS) was 100 percent for both Samburu and Marsabit Counties. However, the percentage of household with poor and borderline FCS increased from 29 percent and 24 percent in May, 2013 to 42 percent and 34 percent respectively in 2014 same period across the livelihood cluster. As of July 2014 meal frequency was at one to two meals in a day across the livelihood cluster.

#### **2.1.6.6 Education**

Enrollment has been on a steady increase with the highest rate being registered in Samburu County. Transfers were reported in Turkana and Marsabit attributed to drought, lack of water, poor performance of schools, increased distances from home to the school and insecurity (especially in Moyale). Attendance remains stable; however, delay in delivery of food commodities by suppliers as well as shortage of clean water for food preparation, and insecurity has impacted negatively on the attendance rate.

Dropout rates range between 10 to 20 percent across the cluster with the exception of Samburu which recorded between 45 to 50 percent. Gender wise, dropouts are predominant in girls attributed to cultural practices like early marriages and domestic tasks at home while boys engage in herding activities due to prolonged droughts. Transition rate from Early Childhood Development to Primary is high across the cluster mainly due to school meals programme while transition rates from primary to secondary schools averaged 72 percent. Regular Schools Meals Programme - covering all public primary schools in the region - has contributed to increased enrolment, enhanced retention rate, improved attendance and contributed towards good health among school going children.

#### **2.1.7 Coping Mechanisms**

Coping strategy index for the cluster has remained high at around 23 for the past two years. Currently CSI stood at 26 percent across all livelihoods in the cluster. Insurance coping mechanisms being employed across the cluster included skipping of meals, reduction in the size and number of meals, purchase of food on credit, turning to cheaper meals, limiting consumption of adults and borrowing of food from relatives and friends. Livelihood diversification strategies reported by households included: tapping and sale of Aloe Vera, charcoal burning and weaving of baskets, beads and mats in Turkana County. An isolated distress coping mechanism was being employed in Gas area of North Horr in Marsabit County where killing of new-borne kids and lambs to save does and ewes was reported.

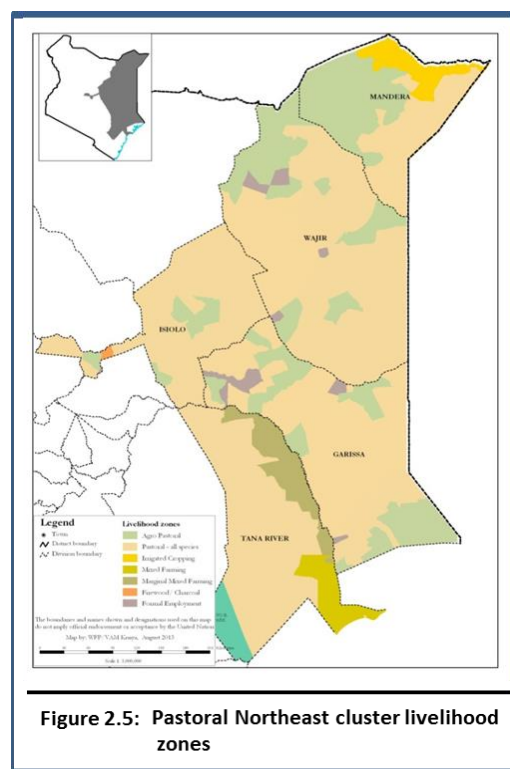
## 2.2 The Pastoral Northeast Livelihood Cluster

### 2.2.1 Cluster background

The cluster covers five Counties that include; Tana River, Isiolo, Mandera, Wajir and Garissa with an area of 190,634 square kilometres and a population of 1,844,780 persons as per 2009 census (KNBS). The major livelihoods in the cluster as represented in Figure 1 are; Pastoral livelihood zone accounting for 51.8 percent of the population, Agro pastoral 19.2 percent, Marginal mixed farming 7.6 percent, Irrigated 6.4 percent and Informal/Formal employment/Business/Petty Trade 5.4 percent. The major sources of cash income in the cluster are; livestock production contributing 60 percent and crop production 30 percent for the households.

### 2.2.2 Current Factors Affecting Food Security

The main factors affecting food security in the pastoral North East cluster were poor performance the long rain season which was below average, inter-clan conflicts in Wajir and Mandera counties, insecurity along Kenya -Somalia border that hampered trade. Others included high cost of food commodities, decline in livestock prices, human-wildlife conflict, conflicts over natural resources, livestock diseases such as Contagious Caprine Pleural Pneumonia (CCPP), Lumpy Skin Disease, Contagious Bovine Pleural Pneumonia (CBPP) and *Pestes des Petit Ruminants* (PPR) and poor access to good quality seeds and inputs especially fertilizer in Isiolo.



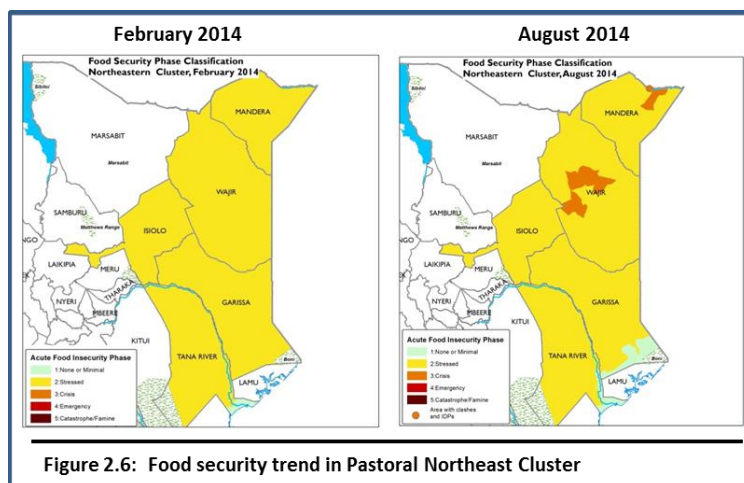
### 2.2.3 Cluster Food Security Situation

#### 2.2.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is *Stressed* (Phase 2). However, few pockets in Wajir (Griftu, Hadado) and Mandera (Harari) are in *Crisis* (Phase 3). The Terms of Trade for the cluster for the lowest and highest are 39 kilogrammes and 82 kilogrammes from the sale of a goat, for Garissa and Wajir respectively. The households in the cluster were on average consuming between one and two meals per day with an average composition of 3 food groups. Overall, milk availability per household ranges between 1.5 and 3 litres compared to normal of 4 to 7 litres. However, Pastoral livelihood zones produced on average between 0.5 to five litres while Marginal Mixed Farming produced between 1 and 2 litres across the cluster. Water consumption in the cluster ranged between 10 to 15 litres in the Pastoral livelihood zones and 15-20 litres in the marginal agriculture and agro-pastoral livelihood zones. The Coping Strategy Index in the cluster was 12 in May 2014 compared to 18 in May 2013. Malnutrition rates are at a very critical situation (GAM>20%), while in Wajir East and South the GAM rates were at critical levels. The GAM rates in Garissa were 14.6 percent, which is indicative of a

serious situation. Notable improvements were made in Wajir North and Tana River, whereby the malnutrition rates improved to just below 10% indicating a Poor nutrition situation.

### 2.2.3.2 Food Security Trends:



The food security phase classification in February 2014 after the short rains was *Stressed* (IPC Phase 2), across all the livelihoods in the cluster. In August 2014 after the long rains season much of the cluster is still classified as *Stressed* (IPC Phase 2). However, localized areas of Wajir County (Griftu and Hadado) and Mandera (Hareri) County have been classified as being in the *Crisis* (IPC Phase 3) as illustrated in Figure 2. Household food stocks considerably increased

compared to a similar period last year and the 2014 short rains. Distances to water compare favourably to the normal despite the below normal rain season. Distances for the Pastoral livelihood zone ranged between 10 and 15 kilometres in the larger Wajir, Garissa and Isiolo except for parts of Wajir and Mandera where distances reached up to 20 kilometres.

### 2.2.4 Rainfall Performance

The onset of long rains was timely across the cluster in the second dekad of March. The northern and central parts of the cluster recorded 50-75 percent of normal rainfall while the southern parts of the cluster received enhanced amounts ranging between 110 and 150 percent of normal. The spatial rainfall distribution was not even in the cluster similarly, temporal distribution was poor in much of the cluster. Cessation was in third dekad of April for Isiolo and Wajir while Mandera and Garissa it was in the second week of May.

### 2.2.5 Current Shocks and Hazards

Current shocks and hazards include; potential outbreaks of resource based conflicts, increase in prices of food commodities, prolonged drought, flash floods as a result of the bursting of River Tana in Tana River county, livestock diseases, and human-wildlife conflicts like the hyena menace in Wajir.

### 2.2.6 Impacts of Rainfall Performance, Shocks and Hazards

#### 2.2.6.1 Crop Production

Crop production contributes about 30 percent of food and incomes in the cluster. The main crops grown under rain fed agriculture include maize, beans, cowpeas, green grams and sorghum. The area under maize, cowpeas and beans, declined to 85 percent, 79 percent and 51 percent of LTA respectively. The production of maize, cowpeas and beans declined to 79 percent, 78 percent, and 10 percent of LTA respectively. Maize production was 52,935 90 kilogramme bags compared to the LTA of 67,309 bags, while that of cowpeas was 10,830 bags compared to the

LTA of 13,875 bags. However, area under green grams increased to 110 percent of LTA and production was near normal at 96 percent. The general decline in rain fed crop area and production was due to persistent inadequate and poorly distributed rains. Crop production in Tana River County declined because of water logging as a result of flooding.

The main crops grown under irrigation include maize, kales and tomatoes. Area under production for maize, kales and tomatoes increased to 102 percent, 400 percent and 154 percent, while production has increased to 180 percent, 113percent and 207 percent respectively. The increase in area and production for the irrigated crop production was a result of improved uptake of greenhouse technology and availability of ready market and good produce prices.

The stocks of maize held by households and traders are 61 percent and 92 percent of the long term average respectively. Households were holding 39,270 bags of maize compared to the LTA of 64, 812 bags while traders had 15,233 bags of maize compared to the LTA of 16,631 bags. The decline of stock at household is attributed to the poor performance of the last two rainy seasons. The stock held by millers is 56 percent of the LTA. However, stocks held by the NCPB (31,259 bags) are 49 percent above the LTA (20,969).

#### **2.2.6.2 Livestock Production**

Livestock rearing contributes over 60 percent of household incomes and is very critical food security in the pastoral cluster. Species kept include cattle, goats, sheep and camel. Pastures and browse availability is below normal and ranges from fair to poor in quantity and quality across the cluster. Livestock have moved to dry season feeding areas where the available pastures can last up to end of September, 2014. Livestock body condition is generally fair across all the livelihood zones of the cluster but signs of pasture and water related stresses are beginning to show. However, the cattle body condition is very poor and emaciated at Hareri area in Mandera. Factors affecting the livestock body condition include the deteriorating forage quantity and quality and the increasing longer trekking distances to water and forage.

Return trekking distances are up to 15 to 30 kilometres above the normal of 10 to 20 kilometres. Milk production and consumption have reduced across the livelihood zones of the cluster by about 60 percent on average. Milk availability per household ranges between 1.5 and 3 litres compared to normal of 4 to 7 litres. Milk price has generally increased by 30 to 50 percent of normal thus affecting milk accessibility at household level and may impact on nutrition status. TLUs are generally below long term average across livelihood zones. For example the TLU for Pastoral all species zone in Mandera was 15 compared to a normal 44.

Livestock migration is taking place within and outside the cluster which is influenced by the search of pastures and conflicts between communities. Animals are moving to Tana delta, Laikipia, parts of Isiolo County, and out of the country to Ethiopia and Somalia. The common livestock diseases in the cluster are Contagious Caprine Pleural- Pneumonia (CCPP) and Peste des Petits Ruminants (PPR) in small stocks and Contagious Bovine Pleural- Pneumonia (CBPP). Foot and Mouth Disease (FMD) has been reported in Merti in Isiolo and also along the Wajir-Ethiopia border. The major challenges of livestock disease control are the ongoing livestock migration and limited number of livestock personnel at the counties.



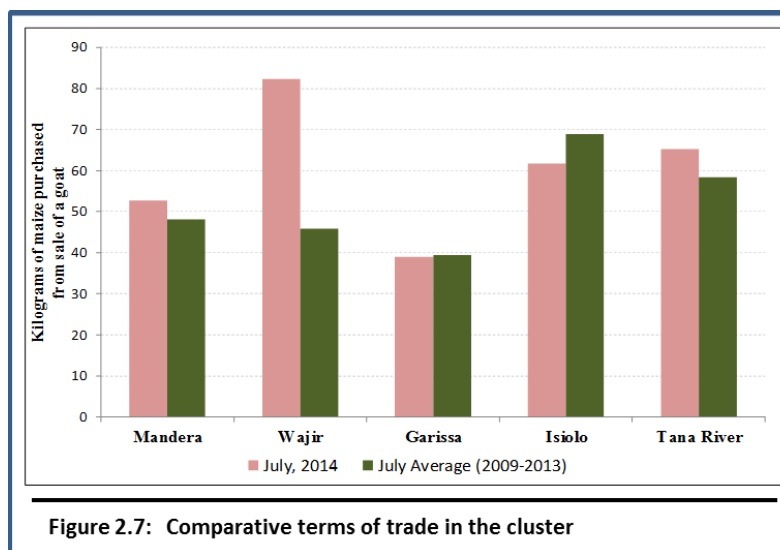
### 2.2.6.3 Water and Sanitation

The main sources of domestic water are boreholes, pans/dams, shallow wells, springs, rivers and irrigation canals. The surface water sources were recharged by 50 percent in Isiolo, Wajir, Mandera and northern part of Garissa. However, sources in Tana River and the southern part of Garissa were recharged to over 80 percent. About 30 percent of pans in Garissa have dried up. Distances to water sources are within the seasonal range of between one and five kilometres. However, in Bangale, Chifiri, Hara (Kinakomba) and Hurara which are under water trucking distances are up to 10 kilometres.

Cost of water at boreholes range between two to five shillings per 20 litres. However, prices are high at between Ksh. 10 and 25 at Boji, Bangale and Chifiri in Tana River and Modogashe in Garissa. Consumption of water per person per day ranges between 10-20 litres except in Isiolo and Mandera where consumption is between 7-10 litres per person per day. The current waiting time is stable at 30 minutes. Water related diseases reported include bilharzias, malaria, diarrhea and typhoid. Water treatment at household level is still low. The latrine coverage across the cluster ranges between 26 and 49 percent. Water related diseases reported include diarrhea and malaria.

### 2.2.6.4 Markets and Trade

Market operations in the counties within the cluster were optimal. Isiolo and Wajir counties had no reported case of major disruptions, although there was marginal reduction in household purchasing power. The low purchasing power could be attributed to reduced income from livestock. Remote markets situated far away from the main (urban) markets are affected by poor infrastructure causing high transport costs. Food supplies were mainly from external markets.



Maize prices in the Pastoral Northeast Livelihood cluster were 12 percent below LTA in Wajir County. Prices ranged between 18 percent (Tana River) and 41 percent (Garissa) above the Long Term Average (LTA) and are currently between Ksh. 48 in Isiolo County and Ksh. 65 per kilogram in Garissa County by July 2014. Goat prices in the cluster ranged between 23 percent (Isiolo) and 58 percent (Wajir) above the LTA and currently range between Kshs. 2,531 in Garissa and Ksh. 3,978 in Wajir County. The prices are affected by low market supplies and weakened purchasing power. Terms of Trade for Wajir, Mandera and Tana River were above the LTA while Garissa and Isiolo were below the LTA as illustrated in Figure 2.7. Garissa County

had the least favourable ToT where the sale of a medium sized goat would purchase 39 kilograms of maize, which is similar to its long term average. Wajir County had the most favourable ToT where the sale of a goat would purchase 82 kilograms of maize compared to the LTA of 46 kilograms.

### 2.2.6.5 Health and Nutrition

The most prevalent diseases among under-fives and the general population across the livelihood cluster are; disease of the skin, upper respiratory infections, diarrhea and pneumonia. Garissa and Isiolo counties also reported typhoid cases between January and June 2014. In Tana River, 250 dysentery cases were reported in June, 2014 compared to 72 in June 2013. Cases of bilharzia, chicken pox, and kalaazar (outbreak) were reported in Wajir County. Wajir also reported malaria as major causes of morbidity. The crude death rate (CDR) and the under five death rate (U5DR) across the cluster ranged between 0.43 per 10,000 persons per day to 0.7 per 10,000 persons per day and <0.01deaths per 10,000 persons per day to 1.3 deaths per 10000 persons per day respectively. The rates were below alert thresholds of 1death per 10,000 persons per day and 2 deaths per 10,000 persons per day respectively. In Wajir County 10 deaths were confirmed as a result of kalaazar outbreak. Immunization coverage (fully immunized child) is below the national target of 80 percent across the livelihood cluster with Garissa, Wajir, Mandera and Tana River counties reporting coverages of 52, 34, 53 and 32 percent respectively.

Vitamin A supplementation was below the national target of 80 percent with Garissa and Tana River at 71.6 and 78.2 percent respectively among children aged six to 11 months. However, the coverage for the same group in Isiolo County was above the national target at 95.5 percent. Vitamin A coverage among children 12 to 59 months was way below the national target of 80 percent with Wajir, Garissa Isiolo and Tana River reporting coverage at 48.3, 32.3, 27.5 and 40.9 percent respectively.

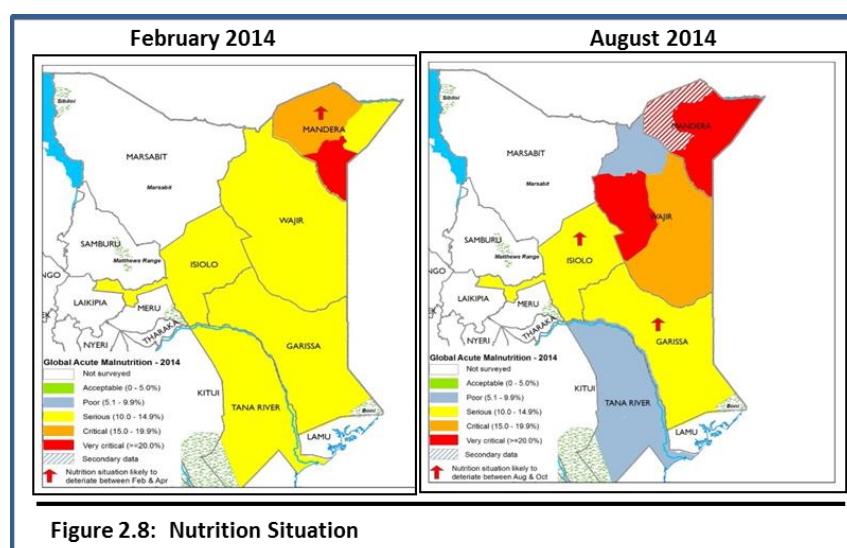


Figure 2.8: Nutrition Situation

Results from SMART surveys conducted in Wajir reported increased prevalence of global acute malnutrition (GAM) at 20.7 percent and 16.8 percent in Wajir West and Wajir East/South respectively. There was also an increase in GAM in Mandera County at 22.3, 23.7 and 27.3 percent in Mandera Central, Mandera East and Mandera North respectively. The results above indicate a very critical situation in Wajir

West and Mandera and a critical situation in Wajir East/South as shown in Figure 2.8. The main factors affecting the nutritional situation of the population include reduced household food

security and morbidity, coupled with the chronic underlying factors affecting the nutritional status of the children such as poor infant and young child feeding and care practices, lack of appropriate access to water and sanitation facilities and health services. There was also a slight increase in prevalence of GAM in Garissa County at 14.6 percent in 2014 compared to 12.0 percent in 2013. However nutrition situation in Tana River improved with GAM at 7.5 percent in 2014 compared to 13.8 percent reported in 2013. In Isiolo County MUAC at risk is currently at 18 percent as of July 2014 below the long term average of 23.2 percent. Food Consumption Score (FCS) across the livelihood cluster was 43, 6 and 51 percent for poor, borderline and acceptable level respectively as of May 2014. The households with poor food consumption increased from 24 percent in May 2013 to 43 percent in May 2014.

#### **2.2.6.6 Education**

There was a general increase in enrolment across the cluster. Enrolment for boys was high when compared to girls in both the ECD and primary schools. The reason for the discrepancy of the two is due to lack of favourable environment for girls in schools, early marriages and the low preference of pastoral communities to educate girls. In Garissa enrolment rose high from 2013 to 2014 by 28 percent this was attributed to an enrolment drive conducted by end of 2013 by the County Director of Education's office. Attendance in the schools registered an upward trend this was attributed to the school meals programme and provision of sanitary towels to girls. However in Tana River attendance is low in schools which border Lamu County due to insecurity. School dropout rate is minimal across the cluster; however Garissa recorded a dropout rate of 23 percent. Pastoral all species livelihood zones of Fafi, Lagdera and Daadab recorded a high dropout rate of 43, 40 and 25 percent respectively; this is attributed to herding activities practiced by boys. Transition rate from ECDE to primary school stood at 85 to 90 percent across the cluster. Transition rate improved from 35 to 64 percent from primary to secondary schools. School meals are provided in schools and this has led to increase in enrolment, attendance and retention of pupils.

#### **2.2.7 Coping Mechanisms**

The Coping Strategy Index was 12 in May 2014 compared to 19 in May 2013 indicating that households were not frequently using consumption coping strategies as they were during a similar period last year. The most common coping strategies used were, reducing portion size and number of meals eaten in a day, buying of food on credit, limiting consumption of adults for small children, consumption of wild foods, reliance on less preferred and less expensive foods and borrowing food or reliance on help from friend or relatives. Other coping strategies reported in the cluster included increased engagement in casual labour and intensified charcoal burning.

## 2.3 The Agro Pastoral Livelihood Cluster

### 2.3.1 Cluster Background

The cluster comprises of Narok, Laikipia, Kajiado, Baringo, West Pokot and Nyeri (Kieni) Counties and covers an area of 71,757 square kilometers. It has a population of 2,945,217 persons (2009 census) and six main livelihood zones (Figure 2.9). The zones include Mixed Farming livelihood zone accounting for 31 percent of the population, Pastoral livelihood zone (27%), Marginal Mixed Farming (20%), Agro Pastoral livelihood zone (11%). Formal employment/Tourism/trade/Business and Irrigated Crop livelihood zone account for 10.7 and 0.7 percent of the population respectively. The main sources of income in the cluster are livestock production and cash crop production, which accounts for 75 percent and 55 percent of cash income respectively.

### 2.3.2 Current Factors Affecting Food Security

The main factors affecting food security in the cluster include poor temporal and spatial distribution of the rain, crop pest and diseases such as Maize Lethal Necrosis Disease (MLND), in Narok, Marigat and Baringo central, post harvest losses due to pests and livestock diseases. Other factors were frostbite in Nyeri and Laikipia, high food prices, insecurity, and conflict that leads to closure of markets and displacement of population, Human- wild life conflict, and upsurge of water borne diseases.

### 2.3.3 Cluster Food Security Situation

#### 2.3.3.1 Current Food Security Situation

The current food security phase classification for the cluster is *None/minimal* phase (IPC Phase 1) except for Pastoral and Agro Pastoral livelihood zones in West Pokot, Marginal Mixed Farming zone in Kieni and Pastoral and Marginal Mixed Farming livelihood zones in Laikipia which are in *Stressed* Phase (IPC Phase 2). Parts of Baringo and West Pokot counties are in *Crisis* Phase (IPC Phase 3). In Baringo County households are currently consuming one to two meals in the Pastoral and Agro Pastoral livelihood zones compared to two to three meals per day. In the Mixed and Marginal Mixed Farming livelihood zones, the number of meals is normal at two to three meals per day. In Narok and Kajiado Counties, meal frequency is stable at three meals per day across the livelihood zones. Meal frequency in Nyeri is currently at two to three meals compared to normal of three to four meals per day. The percentage of households with poor food consumption increased from 10 percent in May 2013 to 34 percent in May 2014 in

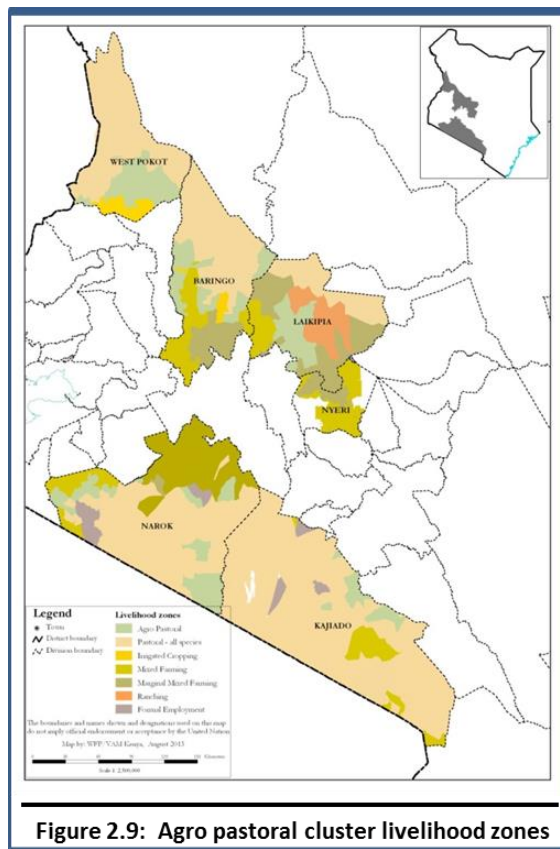


Figure 2.9: Agro pastoral cluster livelihood zones

West Pokot, Laikipia and Baringo and from zero to 77 percent in Narok and Kajiado counties. The percentage of children at risk of malnutrition as measured by Mid Upper Arm Circumference (MUAC <135mm) is stable across the cluster except in some parts in West Pokot and Nyeri Counties where an increasing trend has been noted. Nutrition situation is stable except for East Pokot where the situation has deteriorated rapidly from serious to very critical (GAM 21.1 percent). There was no reported disease outbreak during the review period. Under-five mortality (U5MR) across the cluster is less than 0.5 per 10,000 persons per day and crude mortality rate (CMR) is less than 0.3 per 10,000 per person day and is below the alert cutoffs of one death per 10,000 persons per day. The Coping Strategy Index in May 2014 was 38 compared to 24 during the same period in 2013 for Baringo, West Pokot and Kieni counties while it was nine in May 2014 compared to four in May 2013 in Kajiado and Narok Counties. The cluster average latrine coverage is 70 percent.

### 2.3.3.2 Food Security Trends

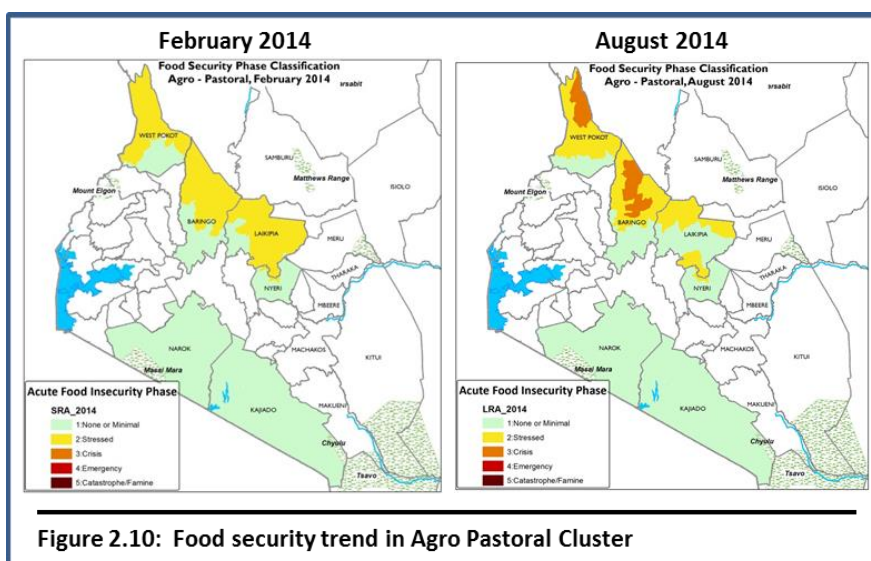


Figure 2.10: Food security trend in Agro Pastoral Cluster

After the 2014 short rains assessment the cluster was classified in *None/ minimal* phase (IPC Phase 1) except the Pastoral and Agro-Pastoral livelihood zones in Baringo and West Pokot and some pockets in Kieni and Laikipia which were in *Stressed* phase (IPC Phase 2). After the long rains assessment, the cluster has remained in *None/minimal* phase except Parts of West Pokot and Baringo County (Figure 2.10) which has

moved to *Crisis* Phase (IPC Phase 3). Pockets in the Pastoral, Agro-Pastoral and Marginal Mixed Farming in West Pokot, Kieni and Laikipia that were in *Stressed* Phase have also remained in the same phase.

### 2.3.4 Rainfall Performance

The onset of the long rains was timely, between the last week of February and the second week of March, with the exception of Kieni and Laikipia where onset delayed by one week. Rainfall amounts ranged between 50 to 90 percent of normal, except in parts of Narok, Kajiado and West Pokot that received 25-50 percent of normal rainfall. Temporal and spatial distribution of the rains was poor and uneven. The cessation of the rains was early in the third week of April in Kajiado and Narok compared to last week of May, while Nyeri Laikipia and Baringo cessation occurred in first dekad of May, second dekad of May and first dekad of June respectively, which is normal.

### **2.3.5 Current Shocks and Hazards**

The current shocks and hazards affecting food security in the cluster include, outbreak of Foot and Mouth Disease (FMD) in Nyeri, Laikipia and Baringo, Maize Lethal Necrosis Disease in parts of Narok, Nyeri and Baringo, insecurity and livestock rustling in Baringo, human wildlife conflicts in Laikipia, frost bites in Nyeri and Laikipia, and aflatoxin in some parts of Kajiado.

### **2.3.6 Impacts of Rainfall Performance, Shocks and Hazards**

#### **2.3.6.1 Crop Production**

Most part of the cluster depends on the long rains season for crop production. The main food crops grown in the cluster are maize, beans and wheat. Other minor food crops include Irish potatoes, sorghum and finger millet. Wheat is mainly grown by people who lease land in Narok County. Although the area put under maize decreased marginally by about 6 percent, production achieved was approximately 2.1 million 90 kg bags, which is 40 percent of Long Term Average (LTA) of 5 million bags. The lower than average production is attributed to poor rainfall performance and Maize Lethal Necrosis Disease, which affected maize in most counties (table 1). The poor rainfall performance also caused a decline in beans and wheat production by 64 and 35 percent respectively. The main crops grown under irrigation are maize, tomatoes and cabbages. Overall area under irrigation increased by about 20 percent as more areas were opened up for irrigation. The production of maize, tomatoes and cabbages increased by 23, 17 and 70 percent respectively due to increased area under irrigation.

The current maize stocks held in the county are 37 percent of LTA. Households are holding 28 percent of LTA mainly attributed to low production. About 60 percent of the stocks held in the cluster are in Narok County. West Pokot and Laikipia are holding 20 and 10 percent of the stocks respectively. Stocks held by traders, millers and National Cereals and Produce Board are 50, 89 and 78 percent of the LTA respectively. In Nyeri and Kajiado, the current stocks will last for less than a month, which is normal. In Laikipia and Baringo Counties the stocks are expected to last for one month compared to the normal four months. In West Pokot County, the stocks are expected to last for two months compared to the normal six months while in Narok County the stocks are expected to last for about three months to the normal 12 months. Within the Counties, most of the maize stocks are held in the Mixed Farming Livelihood zone and a small portion in the Agro Pastoral Livelihood zone. Households in the Pastoral Livelihood zone are dependent on markets for maize.

#### **2.3.6.2 Livestock Production**

Availability of pasture, browse and water in the Pastoral and Agro Pastoral livelihood zones is fair to poor compared to good at this time of the year. In the Mixed Farming Livelihood and Irrigated Farming zone livestock activities are limited. Conflict with wildlife is affecting access to pastures in some parts of Kajiado and Laikipia Counties especially in the Pastoral Livelihood zone areas bordering game reserves. The body condition of goats, cattle and sheep is fair to poor in the Pastoral and Agro Pastoral livelihood zones compared to fair at this time of the year.

The trekking distance to water points in the Pastoral Livelihood zone ranges from five to 10 kilometres while in the Agro Pastoral and Mixed Farming Livelihood zones trekking distance



range between one to three kilometres which is normal at this time of the year. In the Pastoral livelihood zone, current milk production is two to three litres compared to the normal three to five litres while in the Agro Pastoral livelihood zone the current milk production is stable at 4.5 litres compared to the normal five litres. The marginal decline in milk production is attributed to the prolonged dry spell which has affected body condition of livestock and also led to livestock migration. The production is expected to reduce with deteriorating in fodder condition and reduced water availability. The current average price of milk is Ksh.30 to Ksh.40 per litre compared to LTA of Ksh. 25 to 30 across the livelihood zones. The Tropical Livestock Units (TLUs) is 8 to 11.45, 8 to 10 and 2.5 to 8 in the Pastoral, Agro-Pastoral and Mixed Farming Livelihood zones respectively.

There has been out-migration of livestock from Pastoral and Agro-Pastoral zone to areas with available pasture and browse like Mara, Loita, Mau, Melili, Olokurto (Kajiado), Kadam in Uganda and Turkana hills (West Pokot and Baringo) which has led to reduced milk availability. There was an outbreak of Foot and Mouth Disease (FMD) in resulting in the closure of major livestock markets like Marigat and Araya (Baringo County); Olpajeta, Wiyumiririe, Dibathas and Sugoroi (Laikipia County); and Solio settlement (Kieni-Nyeri County). Quarantine was imposed coupled with strategic vaccination to the vulnerable groups (Ring vaccination).

#### **2.3.6.3 Water and Sanitation**

The major sources of water in the cluster are rivers, bore holes, springs, water pans, dams, shallow wells, lakes, gravity water and piped water schemes. Recharge to open water sources was 40 to 45 percent in all the zones except in Baringo where it was poor at 15 to 20 percent of their capacity. Water is expected to last into the next rainy season except in the Pastoral livelihood zones of Baringo, West Pokot and Kajiado where it is expected to last for one month.

The current distances to water sources are within the normal range of less than five kilometres in the Pastoral and Marginal Mixed Livelihood zones with exception of Loyeya and Bekibon in West Pokot and Mashuru in Kajiado where the range is 8 to 10 kilometres compared to the normal 4 to 6 kilometres. In the Agro Pastoral Livelihood zone, the distances are also within the normal range of 0.5 to five kilometres except in Kirim, Akwichatis and Naleket in West Pokot and Suswa in Narok where the distances are 7 to 10 kilometres compared to the normal 4 to 6 kilometres. In the Mixed Farming zone, distances have remained at less than two kilometres with the exception of Rombo and Entonnet in Kajiado where the distances have increased to 5 to 10 kilometres compared to the normal two to five kilometres.

The cost of water across the livelihood zones is Ksh.10 to 20 compared to the normal Ksh five to 10 in the Pastoral and Marginal Mixed Farming zones and Ksh. 3 to 5 in Agro Pastoral Livelihood zone. Water consumption for domestic use is currently within the normal range of 10 to 20 litres per person per day except in the Pastoral livelihood zone of Baringo and Marginal Mixed Farming zone of Kieni and Baringo where it is 7 to 10 litres per person per day. The average latrine coverage in the cluster is 70 percent.



#### 2.3.6.4 Markets and Trade

All markets operated without any disruptions except in Marigat and Amaya in Baringo County, Gobit, Tigithi, Ol Pajeta and Dibathas ward markets in Laikipia East and Rumuruti in Laikipia County, where quarantine was imposed due to an outbreak of Foot and Mouth Diseases. Increased traded volumes of livestock were observed as households disposed more livestock to access food commodities. The demand is high for food commodities especially cereals and vegetables across the cluster.

The price of maize is above the long term averages across the cluster and ranges from Ksh.42 to 65 per kilogram. Price of maize is highest in Baringo and Narok ranging at Ksh.57 to 65 per kilogram. The average maize price in the cluster in July 2014 is Ksh.50 per kilogram compared to the long term averages of Ksh.44. The current average price of goat is Ksh. 2,821 compared to the long term average of Ksh. 2,208. Goat prices were high above the long term averages, with the highest prices being reported in Narok at Ksh. 3,900.

Terms of trade are above the long term averages except in Baringo County (Figure 2.11). Kajiado County had the most favorable terms of trade in July 2014, where one could purchase 74 kilograms of maize from the sale of a goat, compared to the long term average of 46 kilograms. Baringo County had the least favorable terms of trade with 29 kilograms of maize purchased from the sale of a goat compared to the long term average of 40 kilograms.

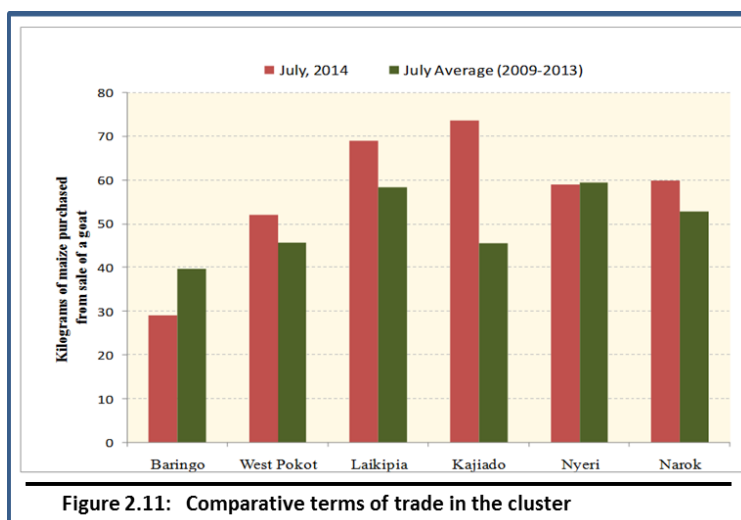


Figure 2.11: Comparative terms of trade in the cluster

#### 2.3.6.5 Health and Nutrition

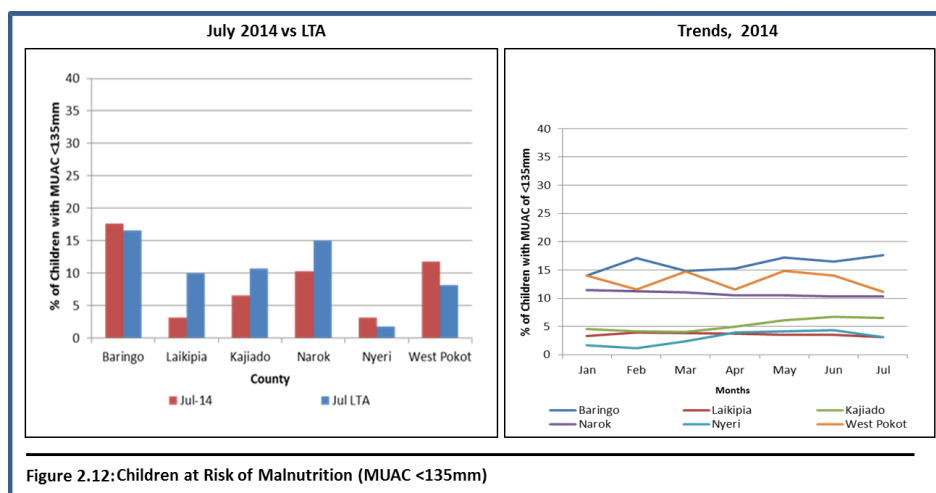
The most prevalent diseases for both the under-fives and the general population across the cluster were, upper respiratory tract infections (URTI), diarrhea, skin infections, clinical malaria and pneumonia. The increased morbidities such as diarrhea can be attributed to poor water quality resulting from the long dry spell. In Baringo and Laikipia Counties there was a decline in clinical malaria between January and June 2014 which can be attributed to distribution of long lasting insecticide treated nets. There was no reported disease outbreak during the review period. Under-five mortality (U5MR) across the cluster was less than 0.5 per 10,000 persons per day and crude mortality rate (CMR) was less than 0.3 per 10,000 per person day and was below the alert cutoffs of one death per 10,000 persons per day.

Immunization coverage is below the national target in all the Counties except for Nyeri. However, the coverage in Nyeri has decreased from 93.7 percent in 2013 to 87.5 percent in 2014. In Baringo County immunization coverage declined due to insecurity in Marigat, Baringo North and East Pokot in the period between January to April 2014 that led to population displacement. Vitamin A supplementation in all the Counties is below the national target of 80 percent and

coverage is lowest in Kajiado County with only 7.7 percent of children 12 to 59 months receiving the supplements. Low coverage across the Counties has partly been attributed to non-attendance of child welfare clinic after receiving measles vaccine at nine months. In Nyeri County the decreased coverage is attributed to Vitamin A supplements being out of stock.

Nutrition situation is stable except for East Pokot where the situation has deteriorated rapidly from serious to very critical (GAM 21.1 percent), which may be attributed to drought conditions, escalating prices of basic commodities and insecurity. In Baringo county, households are currently consuming one to two meals in the Pastoral and Agro Pastoral Livelihood zone and two to three in Mixed and Marginal Mixed Farming livelihood zone compared to the normal two to three meals per day. In Narok and Kajiado counties, meal frequency is stable at three meals per day across the livelihood zones. Meal frequency in Nyeri is currently at two to three meals

compared to normal of three to four meals per day. The nutrition situation in West Pokot remained stable with GAM and SAM prevalence at 11.8 percent and 1.7 percent respectively in June 2014. The percentage of children at risk of malnutrition as measured by Mid Upper Arm



Circumference (MUAC <135mm) is stable across the cluster as shown in Figure 2.12, except in some areas such as Pserem, Ptokou, Sasak, Poole in West Pokot and Naromoru area in Nyeri County where an increasing trend has been noted. An increasing trend was also noted in Kajiado County from the month of March. In West Pokot, meal frequency has reduced from three to four meals per day to two to three meals per day in the Agro Pastoral Livelihood zone and from two to three meals per day to one to two meals per day in the Pastoral Livelihood zone. The percentage of households with poor food consumption increased from 10 percent in May 2013 to 34 percent in May 2014 in West Pokot, Laikipia and Baringo and from zero to 77 percent in Narok and Kajiado counties

### 2.3.6.6 Education

There is a general increase in enrollment across the cluster with West Pokot recording the highest at 32 percent. Attendance rates were high ranging between 85 to 98 percent with Nyeri reporting 98 percent. Dropout rates are generally low between three to nine percent with the lowest being reported in Narok at one percent. There were more girls dropping out than boys attributed to teenage pregnancies, and early marriages. The current food scarcity and on-going drought has contributed to the high primary school dropout since most households have migrated in search of water, pastures and transfers to new schools in the new grazing lands. Transition from (Early Childhood Development Centers for Education (ECDE) to primary is generally high across the cluster with Laikipia registering the lowest of 92 percent. Transition rate from primary

to secondary was at an average of 71 percent with Nyeri recording a high of 86 percent. A total of 2,683 schools with a population of 356,060 are beneficiaries of different of School Meals Programme (SMP). Homegrown School Meal Program with a caseload of 701 schools with 245,101 beneficiaries is in all the counties in the Cluster except Nyeri. Regular School Meals Program is in Baringo, West Pokot and Nyeri counties covering 320 Schools with 82,845 children. Nyeri County has Expanded School Meal Programme with 5,311 beneficiaries in 52 schools. Community School Meal Programme is in Baringo, Laikipia and Nyeri Counties. Challenges facing SMP include lack of proper food storage, shortage of water and firewood and delay in disbursement of funds.

### 2.3.7 Coping Mechanisms

The Coping Strategy Index in May 2014 was 38 compared to 24 during the same period in 2013 for Baringo, West Pokot and Kieni Counties while it was nine in May 2014 compared to four in May 2013 in Kajiado and Narok Counties. There was a general increase in the cluster in the coping strategy index. The coping strategies employed by majority of the households in the cluster is insurance coping mechanisms which included; borrowing food from relatives, support from churches, reduction in size and number of meals and skipping some meals, reliance on less preferred or cheaper foods and purchasing food on credit.

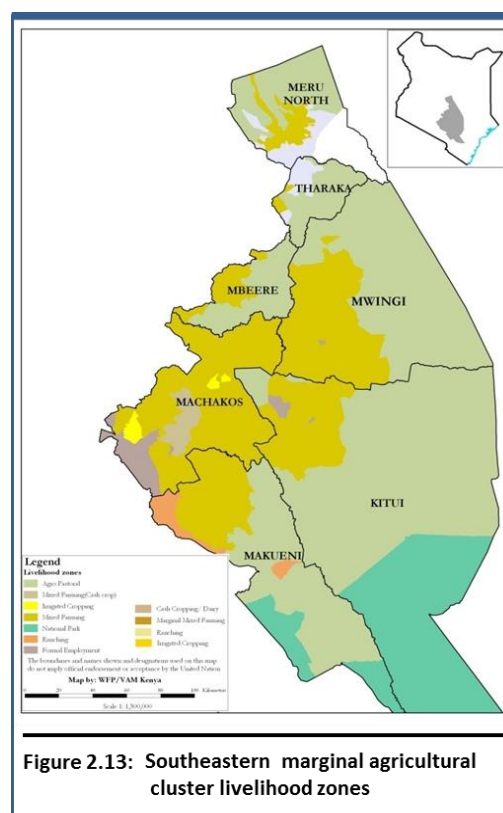
## 2.4 The Southeastern Marginal Agriculture Livelihood Cluster

### 2.4.1 Cluster Background

The cluster comprises of five counties namely; Makueni, Kitui, Tharaka-Nithi, Meru (North) and Embu (Mbeere). It covers an area of 47,348 square kilometers and has an estimated population of 3,032,460 persons (KNBS 2009). The cluster has two major livelihood zones; Marginal Mixed Farming livelihood zone representing 65 percent of the population, and Mixed Farming livelihood zone representing 26 percent of the population (Figure 2.13). The main sources of income for the cluster includes; Crop production which accounts for 40 percent of the total household income, Livestock production accounting for 35 percent and Employment at 25 percent.

### 2.4.2 Current Factors Affecting Food Security

The factors affecting food security in the cluster are poor performance of the 2014 long rains, limited household food stocks resulting from the previous below average harvest, low livestock prices, high food prices and livestock diseases such outbreak of Foot and Mouth Disease (FMD) in Makueni and Meru North. Others included increased incidences of human diseases in Embu and Makueni and poor soil fertility (Mbooni and Kibwezi).

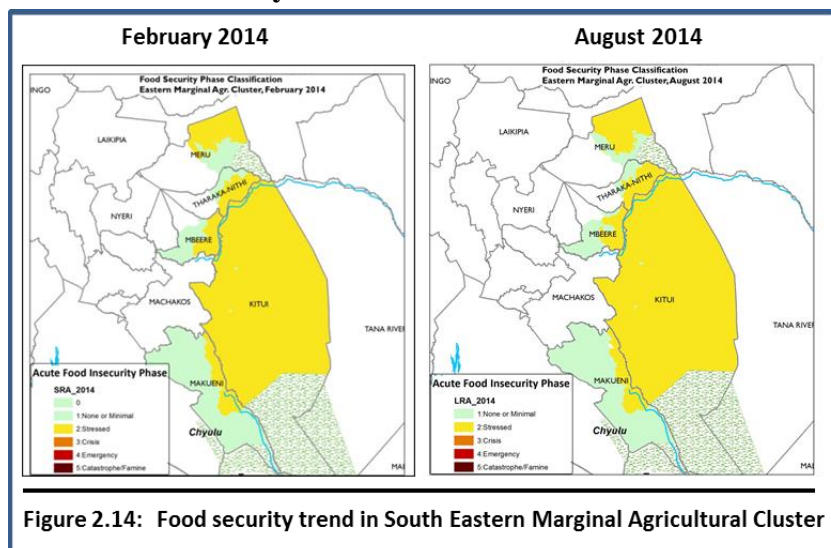


## 2.4.3 Cluster Food Security Situation

### 2.4.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is *Stressed* (IPC Phase 2) except for Makueni and Mbeere which are largely in the *None/minimal* phase (IPC Phase 1). The Terms of Trade for the cluster range between 57 and 90 kilogrammes for Tharaka and Meru North respectively. The households in the cluster were on average consuming one to two meals per day in the Marginal Mixed Farming livelihood zone compared to three meals normally at this time of the year. In the Mixed Farming zones, households were consuming 2-3 meals per day compared to the normal three. Water consumption in the cluster ranged between 12 – 20 litres per person per day across all livelihood zones compared to the normal 15 – 30 litres per person per day. Terms of trade have deteriorated where they ranged between 57 for Tharaka and 90 for Meru North compared to the LTA of 62 for Mbeere and Tharaka; and 100 for Meru North. Household milk production in the cluster has reduced by 30 – 50 percent currently ranging from half a litre to one litre which also applies to milk consumption. The proportion of children at risk of malnutrition remained fairly stable across the cluster compared to same period in 2013, except for Meru North Sub county which had 21 percent of children at risk compared to 16 percent in 2013. The Coping Strategy Index for the cluster remained at 10 in May 2014, same as last year similar period.

### 2.4.3.2 Food Security Trends



The food insecurity phase classification after the 2014 short rains assessment for each livelihood zone was *None/minimal* phase (IPC Phase 1) for the Rain Fed Cropping areas in Mbeere, Makueni and Tharaka. However, the Marginal Mixed Farming Livelihood Zones remained at *Stressed* phase (IPC Phase 2) except in Makueni. The Food Insecurity Phase Classification remained the

same after the 2014 long rains as depicted in Figure 2.14. Household food stocks were 118,691 bags having dropped from the long term average of 521,408 bags for the Cluster by 77 percent. Distances to water have increased from a range of one and eight kilometres in especially Marginal Mixed Farming Zones across the cluster compared to the normal of between one and five kilometres.

#### **2.4.4 Rainfall Performance**

Onset of rainfall in the cluster was timely, in the second dekad of March. Amounts received were within ranges of 50 to 75 percent of normal in Kitui, Makueni, Meru North, and Embu. However, pockets of Embu, Kitui and Makueni received 90 - 150 percent of normal rainfall. Most areas of Tharaka Nithi and Meru North received 25-50 percent of normal. This depicted uneven spatial and temporal distribution of rainfall. The rains ceased earlier in the third dekad of April instead of the expected second dekad of May 2014.

#### **2.4.5 Current shocks and hazards**

Current shocks and hazards include erratic performance of the long rains especially in Tharaka-Nithi, the effect of the increasing food prices due to low crop production, environmental degradation leading to soil erosion, conflict along Igembe North and Isiolo in Meru North and prevailing conflict along the Meru-Tharaka border affecting the construction of an irrigation project in Tharaka

#### **2.4.6 Impacts of Rainfall Performance, Shocks and Hazards**

##### **2.4.6.1 Crop Production**

The cluster is mainly dependent on the short rains for crop production. The main food crops grown in the cluster are maize, cow peas and green grams. Other crops grown include sorghum, beans, millet and pigeon peas. Although there was no significant variation in area put under various crops, there was a decline in production for all the crops attributed to poor rainfall performance. Production of maize, cowpeas and green grams were 33, 61 and 76 percent of the long term averages respectively.

The area under irrigation increased by about five percent attributed to more land being opened for irrigation and irrigation interventions by stakeholders. There was a slight increase in production of crops grown under irrigation. Kales and tomato production increased by about five percent. The current stocks held by households are 23 percent of Long Term Average (LTA) attributed to a significant decline in maize production. There was also very little carryover stocks from the previous season due to poor production. The stocks in the cluster are expected to last for less than one month compared to the normal 2-3 months.

##### **2.4.6.2 Livestock Production**

The Pasture situation was fair to poor and is projected to last for 1 to 1.5 months instead of a normal of two to three months. Browse situation was generally fair projected to last for the next two months. Some of the livelihood zones in the cluster are utilizing crop residues to bridge the shortfall in forage availability. The body condition for cattle, goat and sheep is generally good to fair in the cluster. The birth rates remain normal for all the livestock species. Household milk production has reduced by 30 to 50 percent currently ranging from half a litre to one litre which also applies to milk consumption. Milk prices have increased across the cluster from a range of Ksh 40-55 per litre to Ksh 60 - 70, except Mbeere where the increase is from Ksh 60 to 80 currently. The TLUs have generally reduced by 15 to 30 percent except for Kitui County where it remained stable.

The watering frequency remain near normal for all livestock species ( one to two days) but there is a gradual increase in distance to water which is affecting the normal daily watering in parts of the cluster. There were confirmed cases of Foot and Mouth Disease (FMD) in Meru North and Makueni Counties and Contagious Caprine Pleuro Pneumonia (CCPP) in Mbeere. Migration of livestock was noted in Meru North, Makueni and Kitui counties. There is quarantine in Makueni and Meru North and vaccination against FMD and LSD has been carried out by the Veterinary Department.

#### 2.4.6.3 Water and Sanitation

The major sources of water for domestic use are rivers, boreholes, pans/dams, rock catchment, shallow wells, springs and piped water systems. The current distances to water sources vary between one and five kilometres which is within the normal range with the exception of Marginal Mixed Farming livelihood zones of Meru North where the current distances are 6-10 kilometres compared to the normal four to eight kilometres, and Kitui where the current distances are four to eight compared to the normal three to four kilometres. However, households in Marisi, Kyuso, Mwitika, Mutitu and Kawalain in Kitui county are trekking for more than 10 kilometres due to breakdown of piped water system.

Waiting time at the source is within the normal range of 10-50 minutes except in the Marginal Mixed Farming livelihood zones where livestock share the same water points with water for domestic use where the time has increased from the normal 30 minutes to two hours compared to the normal 20-30 minutes. Kitui County recorded the longest waiting time of three to six hours due to breakdown of piped water system.

The current water consumption per person per day is 12-20 litres across the livelihood zones compared to the normal 15-30 litres per person per day with the exception of the Marginal Mixed and Mixed Farming livelihood zones of Makueni that recorded the lowest consumption of 10-15 compared to the normal 15 litres per person per day. The cost of water is within the normal ranges of Ksh.2-5 per 20 litre jerrican in Kitui and Makueni and Ksh.10-20 in Meru North and Tharaka. Households have not embraced the use of water treatment chemicals across all the livelihood zones. Latrine coverage is at 77 percent.

#### 2.4.6.4 Markets and Trade

The market operations in the cluster were normal in most parts of the cluster except in Meru and Makueni where livestock markets were closed due to quarantine as a result outbreaks of foot and mouth disease. Market supplies of basic commodities come from within the cluster and from Busia, Kitale, Thika and Loitokitok. Traded volumes in the markets within the cluster were below normal except

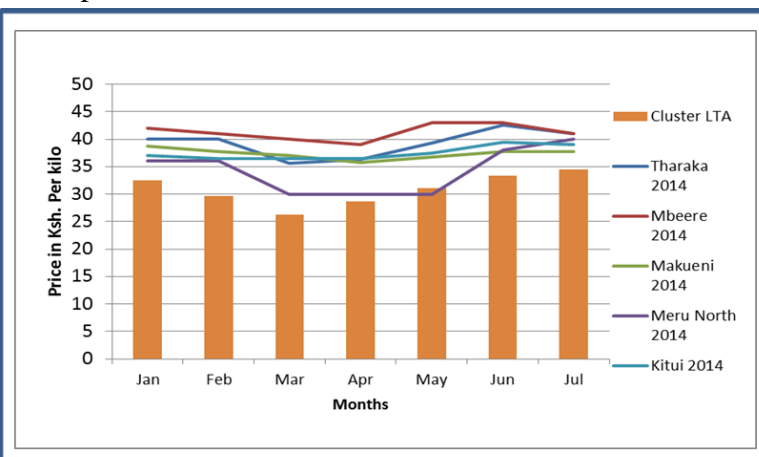


Figure 2.15: Comparative maize price trends in the cluster



in Kitui County where there was high volumes of traded commodities.

Maize prices within the cluster averaged between Ksh.36 in the months of March and April and Ksh.40 in the month of June. The current average maize price per kilo is Ksh.39. Generally, the prices declined from January to March and then started increasing towards July as shown in Figure 2.15. Mbeere recorded the highest prices across the months under review ranging from Ksh.39 in the month of April to Ksh.43 in the months of May and June. The lowest prices were recorded in Meru North and fell below the cluster averages ranging from Ksh.30 in the months of March through to May and Ksh.40 in July. Price trends for Makueni fell within the cluster average consistently for the periods under review.

#### 2.4.6.5 Health and Nutrition

The leading causes of morbidity among the general population and under five years are upper respiratory tract infections (URTIs), Malaria, skin infections and diarrhea. Crude Death Rate (CDR) ranged between 0.08 to 0.31 deaths per 10,000 persons per day while Under five mortality rate was between 0.07 to 0.11 deaths per 10,000 persons per day which is below the alert thresholds. Proportion of children fully immunized was below national targets of 80 percent across the livelihood cluster with exception of Embu (Mbeere) County which was 82 percent.

Vitamin A coverage for children aged six to 11 Months across the cluster ranged between 10.5 percent (Meru North) to 63.2 percent (Makueni) while the coverage for children aged 12 to 59 Months ranged between 15 percent, 22.3 percent and 74.2 percent for Mbeere, Makueni and Kitui respectively. Vitamin A supplementation coverage was below the national target of 80 percent.

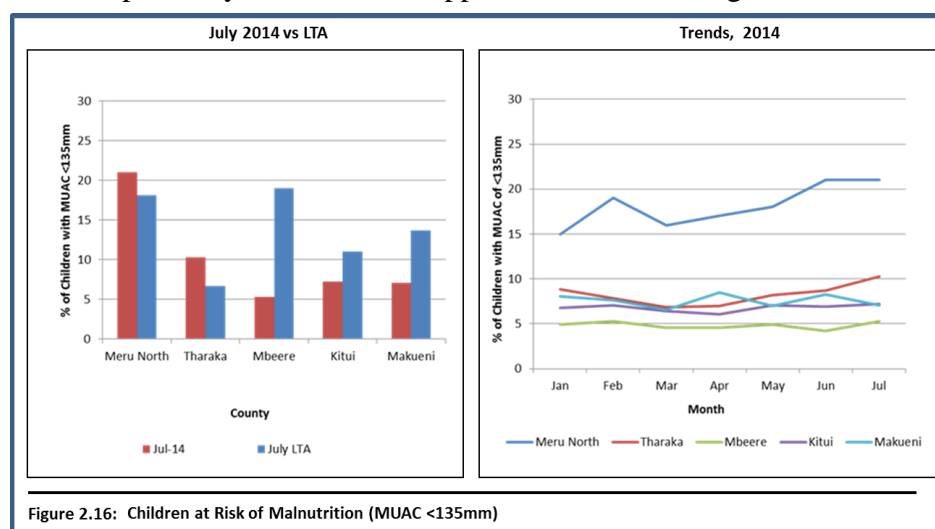


Figure 2.16: Children at Risk of Malnutrition (MUAC <135mm)

(LTA) as illustrated in Figure 2.16. Food Consumption Scores (FCS) across the livelihood cluster showed that 45 percent, one percent and 54 percent of households had a Poor, borderline and acceptable consumption levels respectively.

#### 2.4.6.6 Education

A general increase in enrolment across the cluster was registered. Enrollment for boys in primary schools recorded a minimal increase compared to girls while enrollment for girls in ECD was

higher than for the boys. The cluster sustained a high school attendance rate of approximately 80-90 percent with Makueni County recording the highest attendance rate at 99 percent. The dropout rate varied across the cluster but was very minimal. In Tharaka Nithi dropout rate for boys and girls had increased in term two 2014 by four percent compared to one percent in term two 2013. The rate of transition from ECD to primary school ranged from 90-95 percent while transition from primary to secondary school was at an average of 87 percent. Home Grown School Meals Program (HGSM) is operational in 706 schools in the cluster and the programme has contributed greatly to high enrollment and retention in schools.

## 2.4.7 Coping Mechanisms

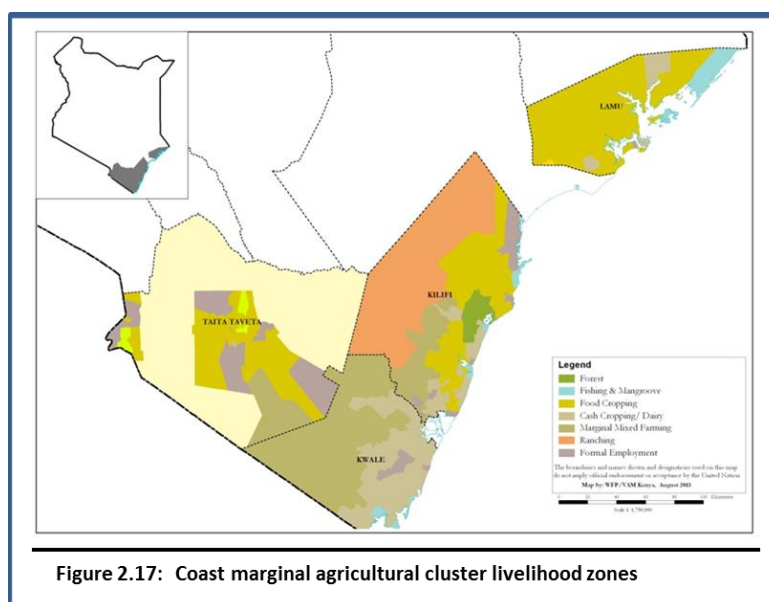
The mean coping strategy index score remained stable in most of the counties across the cluster at 10 in May 2014 as was in May 2013. Households across the cluster are generally employing insurance coping mechanisms including; skipping meals, reduced meal frequency and portion sizes, reduction in the quantity of food consumed by adults/mothers to ensure that children had enough to eat, consumption of less preferred and expensive foods, charcoal burning and selling firewood.

## 2.5 The Coastal Marginal Agricultural Livelihood Cluster

### 2.5.1 Cluster Background

The cluster is located in the south most tip of Kenya. It covers an estimated area of about 47,861 square kilometers, with a population of 2,182,554 persons, and consists of Kwale, Kilifi, Lamu and Taita Taveta Counties (Figure 2.17). Major livelihood zones in the cluster include; Mixed Farming (60 percent of population),

Trade/Business/Formal employment/Casual labour (21 percent), Marginal Mixed Farming (11 percent) and others 8 percent). Major source of income for the livelihoods are livestock production representing 40 percent of total household income, crop production and waged labour accounting for 30 percent respectively.



### 2.5.2 Factors Affecting Food Security

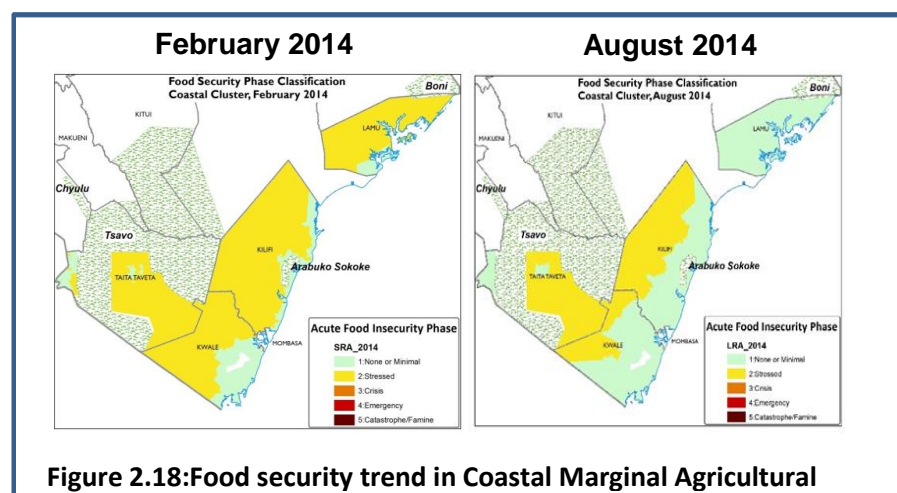
The main factors affecting food security in the cluster are; poor temporal and spatial distribution of the rain for two successive seasons, escalating insecurity incidences high food prices, over reliance on rain fed crop production and endemic livestock diseases.

## 2.5.3 Cluster Food Security Situation

### 2.5.3.1 Current Food Security Situation

The current food security phase classification for the cluster ranges from *None/minimal* phase (IPC Phase 1) especially most parts of Mixed farming Livelihoods and largely in Lamu County to *Stressed* in most parts of Agro pastoral livelihoods of Kwale, Kilifi and in Taita Taveta counties. Maize prices in the cluster increased from an average of Ksh. 41 in February to 42 in July while the price of a goat was Ksh. 2,863 in February and 2,688 in July showing a marginal decrease. The households were on average consuming between two and three meals per day across the cluster except mixed farming-crop production/livestock livelihood zone of Taita Taveta where they consumed 1-2 meals per person per day. Domestic water consumption in the cluster ranged between 15 and 30 liters per person per day across all livelihoods but was lower than normal in some livelihood zones. Consumption of water in the mixed farming-crop production/livestock livelihood zone of Taita Taveta was on average 7.5 litres which is below the normal 20 litres per person per day. Milk production doubled compared to amounts produced in February 2014 across all livelihoods due to improved livestock Productivity. The percentage of children below five years at risk of malnutrition based on Mid Upper Arm Circumference (MUAC) measurements have decreased compared to February 2014 across the cluster with significant decrease noted in Kilifi (4.6% to 2.7%) and Kwale (7.06% to 4.56%) indicating an improved situation. There was however a minimal increase in Taita Taveta and Lamu though still within the normal ranges. The Coping Strategy Index for the cluster increased to 20 in May 2014 compared to 16 in May 2013 attributed to the depletion of the short rains food stock within the households.

### 2.5.3.2 Food Security trends



The food security phase classification after the February 2014 short rains assessment for each livelihood zone was *Stressed* (IPC Phase 2) except of Kwale. The current food security phase classification after the long rains 2014 assessment remained the same *Stressed* phase in Taita Taveta and some pockets of Kwale and Kilifi while there was

significant improvement especially in Lamu and in the mixed farming livelihoods of the other counties (Figure 2.18). The food security phase may however start deteriorating and will be highly dependent on the performance of the next rain season though it's not the main crop growing season except in Tana River. Household food stocks have depleted in the Agro-Pastoral

zone with a production estimate of 63,853 bags for August 2014 compared to 442,610 bags in February 2014 and 177,755 bags in August 2013.

#### **2.5.4 Rainfall Performance**

The onset of the long rains was early, in the first week of March across the cluster, except few pockets in Kilifi and Kwale. Most parts of the cluster received rainfall above 90 percent of normal, with most parts of Lamu, Pastoral areas of Kilifi and pockets of Kwale and Taita Taveta receiving rainfall up to 200 percent of normal. Generally, the temporal and spatial distribution were good in most parts of the cluster, except some pastoral areas where temporal distribution was poor with most rains being received in April. Cessation was normal in May for Taita Taveta and July for the other counties. Kilifi, Lamu and Kwale Counties received off-season showers in August 2014 which were significant especially for livestock production.

#### **2.5.5 Other Shocks and hazards**

Current shocks and hazards contributing to food insecurity in the cluster are conflict between human and wildlife especially in areas adjacent to the National Parks and Reserves, poor infrastructure, human and livestock disease outbreaks and the insecurity in parts of Lamu.

#### **2.5.6 Impact of Rainfall performance, Shocks and Hazards**

##### **2.5.6.1 Crop production**

The long rains season is the most reliable for crop production for Lamu, Kilifi and Kwale Counties and contributes about 60- 80 percent of annual total crop production. Taita Taveta County mainly relies on the short rains season in terms of crop production. The major crops grown in the cluster include maize, beans, cowpeas, green grams and cassava under rain-fed cultivation. During the long rains season, the area under maize, cowpeas and green grams production was above Long Term Average (LTA) at 121 percent, 167 percent and 138 percent respectively.

The production of the same crops increased to 185 percent, 136 percent and 140 percent of LTA respectively. The increase in maize, cow peas and green grams was attributed to the increased acreage as farmers took advantage of the tractor plough services provided by County Governments. In addition the counties supported the farmers with fertilizer and certified seeds which equally enhanced the production. Except for Taita Taveta County, the rest of the cluster received near normal to above normal rainfall, hence the good to fair harvest.

Irrigated agriculture is on an improvement trend in terms of area planted and production for the cultivated crops. Main crops grown under irrigation include maize, French beans, snow peas, tomatoes, kales and bananas. Factors that contributed to the increase in area and production on irrigation include ready market for the produces a result of contract farming and diversification towards value addition of bananas into wine.

Total maize stocks held by households and millers are 6 percent and 7.5 percent of the LTA, while traders and NCPB are holding above average stock at 36.7 and 118 percent of LTA. The stocks at household are 6 percent of the LTA but expected to increase with the ongoing harvesting season.

#### **2.5.6.2 Livestock Production**

Cattle, Sheep and goats are in fair to good body condition in all livelihood zones as a result of good pasture, browse and water availability. Forage availability is further enhanced by availability of crop residues in the cluster. Pasture and browse is projected to last two to four months in all livelihood zones and this is above normal. Milk availability is generally normal. There was a general increase in average household milk consumption from half a litre to one litre. Milk prices ranged from Ksh 30 to 35 in Ranching, Ksh 40 – 60 in Marginal Mixed Farming and livestock Farming zones and Food Cropping zones, Household production is 2 to 3 liters per day on average.

Trekking return distances for livestock to water sources have remained normal at 0.5 -2 Km in Mixed Farming and Marginal Mixed Farming zones and 3 – 5 km in livestock farming and Ranching zones in the cluster. Out migration was reported in Lamu County occasioned by insecurity in areas around Mpeketoni, and animals have been moved to Ijara and Hulugho in Garissa County. Livestock disease outbreaks were reported in Kilifi and Lamu Counties, where Foot and Mouth Disease (FMD), lumpy skin disease (LSD), Newcastle Disease, Contagious Caprine Pleuro pneumonia (CCPP) and Contagious Bovine Pleuro pneumonia (CCBP) cases were confirmed. Measures such as quarantine, and vaccinations were instituted and the situation contained.

#### **2.5.6.3 Water and Sanitation**

The major sources of water for both livestock and domestic use are rivers, boreholes, dams/pans, springs, piped water systems shallow wells and *djabas*. The current distances to water sources are less than three kilometers which is within normal of 1-5 kilometres across all the livelihood zones. Waiting time at the source is within the normal range of 5-20 minutes with the exception of mixed farming-Food crops/Livestock livelihood zone of Taita Taveta where waiting time has increased from one hour to more than two hours. In isolated cases the waiting time significantly increased from two hours to eight hours due to reduced water discharge at the springs.

Cost of water is within the normal range of Ksh. 3-5. Water consumption has increased from 20-25 litres per person per day (lpppd) to 30 across all livelihood zones in Lamu and from 10 to 15 lpppd in the livestock Farming Zones of Kwale. Consumption is within the normal range of 15-25 litres in the Horticulture/Dairy and Irrigated/Livestock livelihood zones of Taita Taveta and 20 lpppd in the mixed Farming Zones of Kwale. However, consumption reduced from 20-7.5 lpppd in isolated locations in the Food crops/Livestock livelihood zones and as low as five litres per person per day in Taita Taveta. The current cost of water is also within the normal range of Ksh. 2-5 per 20 litre container with the exception of the mixed Farming food and livestock zone where the cost is Ksh. 25-30 compared to the normal five.

#### **2.5.6.4 Markets and Trade**

Market operations were normal in the cluster except in the mixed farming livelihood zone of Lamu where operations were disrupted due to insecurity and curfew in the county.

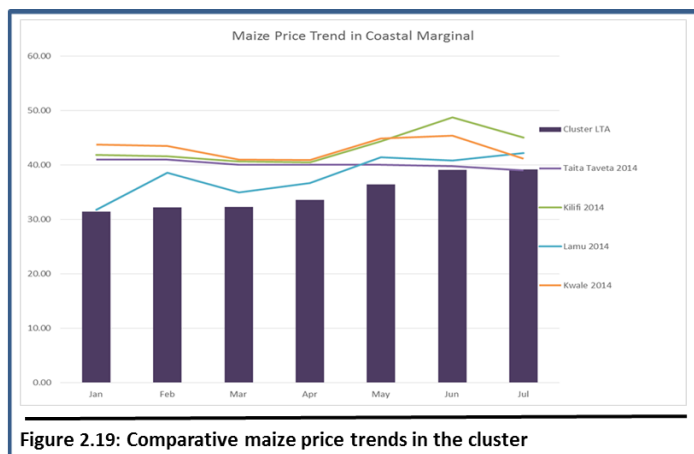


Figure 2.19: Comparative maize price trends in the cluster

Market supplies especially for the main staples (beans and maize) are mainly sourced outside the cluster from Tanzania, Rombo and Kajiado. Traded volumes for livestock to the market were high and above normal compared to same period last year across the cluster. Average prices of maize in the cluster ranged from Ksh. 41 per kilo in the month of February to Ksh. 42 per kilo in July with the lowest price in Taita Taveta at Ksh. 39 and the highest in Kilifi at Ksh.45. There was a general

increase in maize prices across the cluster between the months of April and May (Figure 2.19). Average price of goat in February was 2,863 while in July it was 2,688 with the lowest price in Kwale at Ksh. 2,076 and highest in Taita Taveta at Ksh. 3,450. Goat prices in the cluster marginally showed downward trend.

### 2.5.6.5 Health and Nutrition

The top common diseases are Upper Respiratory Tract Infection (URTI), pneumonia, clinical Malaria, skin infection, diarrhea and intestinal worms across the cluster affecting under-fives and the general population. There was increase in cases of diarrhea during the 2014 Long rains compared to the same period in 2013 in Lamu and Kwale which may be attributed to poor water quality and poor hygiene and sanitation. No disease outbreaks reported except unconfirmed measles outbreak (258 cases) in Kilifi County. Mortality rate was below the emergency thresholds. Immunization coverage across the livelihood zones was above the national target of 80 percent. Vitamin A supplementation

coverage was below the national target of 80 percent with coverage for children under one year ranging from 44.7 percent to 68.3 percent and for children 12 months to 59 months ranging from 12 percent to 58.2 percent.

The percentage of children at risk of malnutrition measured

by mid upper arm circumference (MUAC < 135 mm) has been on a down ward trend from February to June 2014 showing an improved situation except in Lamu where there was a notable increase though still within the normal range (Figure 2.20).

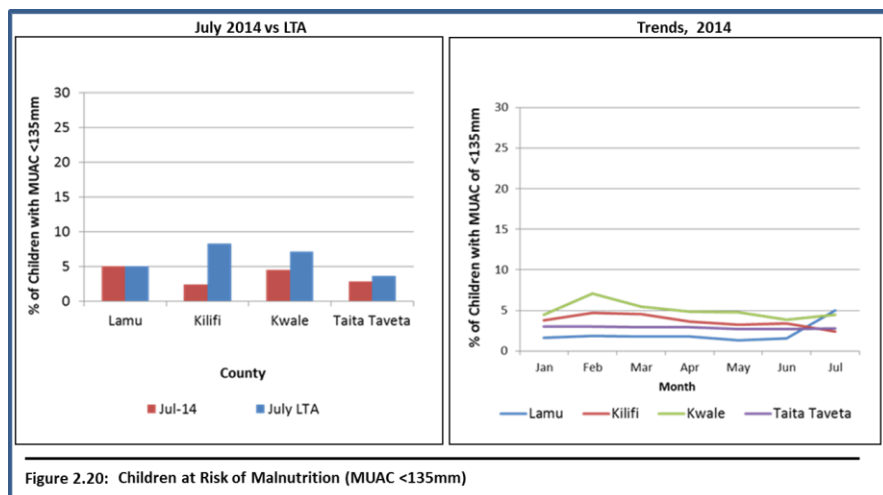


Figure 2.20: Children at Risk of Malnutrition (MUAC <135mm)



About 20 percent of households in the cluster had a poor food consumption score, 26 percent had border line and 54 percent acceptable consumption. Important to note is the increase on the households classified as poor from 11 percent and 13 percent in May 2012 and May 2013 respectively. Coping strategy index (CSI) was higher than previous years though stable with current score at 18 when compared with 14 in May 2012 and 16 in May 2013.

#### **2.5.6.6 Education**

Enrollment has increased in Kilifi and Lamu counties while a slight decrease was reported in Taita Taveta and Kwale; with a general increase in girls' population. The main causes for the stable trend include enforcement of laws for free and compulsory primary education coupled with school meals programmes. Attendance rates were high in the cluster except in Lamu where the rates have gone down to a range of 30 to 40 percent attributed to the recent insecurity in the region, compared to the normal attendance rates of 85 to 90 percent.

Dropout rates in the cluster decreased compared to the same time last year except for Taita Taveta County attributed to challenging economic situation at house hold level. Transition rates from ECD to primary schools are high between 90 to 95 percent; while from primary to secondary schools are improving across the cluster at an average of 68 percent. Home-grown school feeding Programme is being implemented in the cluster with 22 percent of the pupils across the cluster benefiting. This has increased enrolment and attendance in targeted schools. Challenges facing School meals implementation include delayed disbursement of funds, delivery of stocks as well as shortage of water.

#### **2.5.7 Coping Mechanisms**

The Coping Strategy Index (CSI) among the communities in this cluster in May 2014 had slightly increased to 20 compared to 16 in May 2013. About 45 percent of the households in this cluster were employing stress coping mechanisms with another 31 percent employing crisis coping mechanisms. The CSI increase was attributed to depletion of the short rains stock. Currently the cluster is harvesting the long rains crop and the CSI is expected to reduce.

### 3.0 Food Security Prognosis

---

#### 3.1 Prognosis Assumptions

The food security outcomes in the next six months (September 2014 to February 2015) will be defined by several assumptions that mainly include agro climatic, food price assumptions, livelihood assumptions, and humanitarian assumptions. These include but are not limited to the following assumptions.

- Forecasts from the Meteorological Organizations points to the likelihood of a moderate El Niño occurrence between October and December. The El Niño coupled with a weak positive Indian Ocean Dipole (IOD) is anticipated to result in above-normal cumulative October to December rainfall over eastern Kenya and normal to above-normal cumulative October to December rainfall in the northern pastoral areas.
- Warmer than normal land surface temperatures, up to one degree above average are likely during the August – October period across parts of eastern and northern Kenya.
- Casual labor opportunities and wages are expected to decline through September due to limited agricultural labor demand. However, labor demand is expected to increase from October as land preparation and planting begins in the marginal agricultural areas.
- Reliance on markets for food access is expected to increase through February 2015 due to exhausted household stocks, and minimal replenishment expected from the below average long rains harvest. ,
- Intensification of coping mechanisms including charcoal burning, sand harvesting, petty trade, credit purchase, reduction in meal size, reduction in number of meals taken per day and switching to less preferred foods expected through October.
- The national and county governments and other development partners are expected to intensify their food and non-food interventions in the pastoral and marginal agricultural areas.

#### 3.2 Food and Nutrition Security through February 2015

With the expected below-average long rains harvest, staple prices will remain at higher levels, increasing gradually through October. In pastoral areas, livestock body conditions are expected to deteriorate further as forage conditions get exhausted. This will result in further reduction in milk production and consumption at the household level. Livestock prices are also expect to continue falling until after onset of the short rains, resulting in reduced household income. Declining livestock prices at a time when cereal prices are gradually increasing will result in further erosion of household purchasing power. Reduced milk availability is likely to lead to increased malnutrition cases through October. Household food access will follow livestock prices, decreasing through October and increasing from November through February 2015. As the lean season progresses, more households in the northwestern and northeastern pastoral livelihood zones are likely to fall into Crisis (IPC Phase 3) by September, but majority will still

remain in the Stressed (IPC Phase 2). After October, onset of the short rains, forecasted to be normal to above normal, is expected to provide some reprieve. Resumption of rains will lead to regeneration of pasture, browse, and recharge water points to support kidding, lambing, and calving. Most livestock are likely to return to the wet season grazing areas, with improved livestock body conditions and milk production expected. Livestock prices are expected to start improving from November as body conditions recover. With households' income, food access, and consumption expected to track seasonal improvement of livestock and livestock prices, household food security will start improving from November through February 2015. Increased household income will facilitate food access from the markets. Majority of households' food security will remain Stressed (IPC Phase 2). Areas that had moved to Crisis (IPC Phase 3) are expected to improve to Stressed phase as well.

In the marginal agricultural areas, household food access and consumption is expected to continue deteriorating through October. Household food stocks have been exhausted and markets continue to be the main source of food. High market dependence, high though stable cereal prices and declining household incomes due to limited casual labor opportunities will continue to erode households purchasing capacities. Households are expected to intensify their coping strategies through October, in a bid to bridge the income gaps. Through the various coping strategies, households will still be able to meet essential food needs but not non-food needs through October. Majority of households will remain Stressed (IPC Phase 2). However, very poor households in a few areas such as parts of Kitui South and North where the lean season started early in July are likely to fall into Crisis (IPC Phase 3) by September. Towards the end of September/early October, demand for agriculture labor is likely to start increasing as some households begin land preparation activities in readiness for the short rains season. Onset of the short rains, expected to be above normal, will result in seasonal increase in agricultural labor demand, hence increased household incomes. With the forecasted good rains, food security indicators are expected to improve remarkably, with many households in the marginal agriculture areas expected to move to Minimal (IPC Phase 1) by February 2015.

## 4.0 Proposed Sectoral Interventions

### 4.1 Agriculture Sector: Priority Interventions September 2014 – February 2015

Crop production in the ASAL areas is mainly challenged by the erratic and poor performance of the rains. The major intervention presently is to focus on how to secure the fragile ecosystem so that the productivity of the farms can achieve its optimum. Irrigation activities remain the major avenue for circumventing the frequent dry conditions and below normal season performance. The areas will require clear and strategic intervention by both National and County governments through its strategic investment programmes. In the next one month there is need to preposition the inputs and supply to farmers before the onset of the short rains to support the farmers especially in the areas that traditionally rely on the short rains. The following interventions are thus recommended.

Immediate Interventions			
	Intervention	Counties	Cost (Ksh.)
1.	Input Subsidies and provision of high value traditional crops including capacity building activities	Kwale, Kilifi, Lamu, Taita, Narok, Nyeri, Kajiado, Baringo,	227M
2.	Establishment and renovation of water harvesting structures	Kwale, Kilifi, Lamu, Taita, Narok, Nyeri, Kajiado, Baringo, Makueni, Kitui, Nyeri,	151M
3.	Post-harvest management	Makueni, Mbeere, Kitui, Kwale, Taita Kilifi, Lamu	65M
Sub Total			443M
Medium to Long Term			
1.	Support for green house technologies and equipment	Kitui, Mbeere, Isiolo, Mandera, Garissa, Narok, Laikipia, and Westpokot	327M
2.	Support Post harvest management and Maize Lethal Necrosis Disease.	Makueni, Kitui, Kwale, Taita Taveta, Mbeere	125M
3.	Fruit tree nursery establishment and market support for fruit production	Kwale, Kilifi, Kitui, Makueni	56M
4.	Up scaling of irrigation initiatives	Kitui, Makueni, Mbeere, Kwale, Kilifi, Taita Taveta, Isiolo, Samburu, Mandera, Garissa, Narok, Laikipia, Baringo, Kajiado	349M
Sub Total			857M
Grand Total			1,300M

### 4.2 Livestock Sector: Priority interventions September 2014 – February 2015

The performance of the 2014 long rains ranged from fair to poor in most of the pastoral livelihoods. Though the season was characterized by a normal onset, poor temporal and spatial distribution followed leading to uneven rangeland development as well as earlier than normal livestock migrations. This is in consideration that in most of these areas, performance of the

previous short rains was also erratic. Poor rangeland management and widespread environmental degradation also contributed significantly to the current situation of depleted pastures in these livelihoods. Currently large proportion of livestock is in the dry season grazing areas where due to large populations the pasture conditions are deteriorating rapidly. Water availability is also becoming scarce with strategic boreholes being the main source. There is a need to have preparedness measures for off-take programme to avoid losses in case this situation worsens. Also there is need to provide water for livestock in areas where they have pasture but lack water. Disease surveillance, treatment and prevention is also very critical owing to the current migration of livestock from one county to the other. The proposed intervention measures for the sector are as follows;

<b>Immediate Interventions</b>			
	<b>Intervention</b>	<b>Counties</b>	<b>Cost (Ksh.)</b>
1.	Disease surveillance and Vaccination campaigns and treatment	Kwale, Lamu, Taita Taveta, Narok, West Pokot, Nyeri, Baringo, Embu (Mbeere), Meru North, Tharaka, Makueni, Mandera, Isiolo, Wajir, Tana river, Samburu, Turkana, Marsabit, Garissa	386M
2.	Livestock Off take	Kajiado, Wajir, Isiolo, Samburu, Turkana, Marsabit	460M
	Water supplies in strategic grazing areas	Samburu, Turkana, Marsabit,	24M
	Livestock supplementary feeding	Mandera, Wajir Turkana, Marsabit, Samburu	240M
	Peace building to solve conflict related to use of pasture and water	Isiolo	35M
<b>Sub Total</b>			<b>1,145M</b>
<b>Medium to Long Term Interventions</b>			
1.	Fodder/Pasture improvement and conservation, Reseeding and utilization campaigns and Capacity building for livestock keepers	Kwale, Kilifi, Taita Taveta Mandera , Tana River, Samburu, Narok, Laikipia, west Pokot, Baringo, Garissa	269M
2.	Promotion of emerging livestock as a way of livelihood diversification for bee keeping, Rabbit Rearing and promotion poultry and camel keeping	Kwale, Lamu, Kilifi, Taita Taveta Laikipia, West Pokot	37M
<b>Sub Total</b>			<b>306M</b>
<b>Long Term Interventions</b>			
1.	Introduction of dual purpose breeds and breed improvement	Narok, Nyeri, Samburu	47M
2.	Development of market infrastructure, Sale Yard, slaughter house	Narok, Nyeri, West Pokot, Samburu	15M
<b>Sub Total</b>			<b>62M</b>
<b>Grand Total</b>			<b>1,513M</b>

### 4.3 Water Sector: Priority interventions September 2014 – February 2015

The long rains did not sufficiently recharge the temporary water sources. As a result, trekking distances and unit cost of water have increased in several parts of the pastoral, agropastoral and marginal mixed farming livelihoods. Pressure has begun building up on permanent water sources, such as boreholes and shallow wells. Furthermore, quality of available water in the unprotected sources including pans and dams is generally poor suggesting appreciable contamination. As a result, water consumption per person per day has reduced and for some households are below recommended thresholds. Consequently, there is need to provide clean drinking water to households in affected areas as an immediate measure and enhance water treatment at household level to prevent spread of water borne diseases. In addition, there is need to develop and rehabilitate existing water structures and desiltation of pans and dams in readiness for the upcoming short rains season. The recommended interventions in water sector include the following:

Immediate Interventions			
	Intervention	Counties	Cost (Ksh.)
1.	Water trucking to institutions and public watering points	Isiolo, Tana River, Kajiado Baringo, Taita Taveta, Lamu	36M
2.	Fuel subsidies, , purchases of fast moving spares, repair of storage facilities	Wajir, Isiolo, Garissa, Samburu, Marsabit, Turkana, Kitui, Tharaka Nithi, Embu/Mbeere, Nyeri, Laikipia,Kajiado	352M
3.	Provision of water treatment at household level	Isiolo, Garissa	9M
<b>Sub Total</b>			<b>397M</b>
Medium to Long Term Interventions			
1.	Development and rehabilitation of water systems, desilting of open water sources, extension of water projects and management of water structures	Tana river, Isiolo, Garissa, Narok, Nyeri, Kajiado, Laikipia, West Pokot, Taita Taveta, Kwale, Kilifi, Lamu	631M
2.	Drilling and equipping boreholes	Kitui, Kilifi, Kwale, Taita Taveta	106M
3.	Establishment and capacity building of Water Management Committee	Samburu, Turkana, Marsabit	10M
<b>Sub Total</b>			<b>747M</b>
<b>Grand Total</b>			<b>1144M</b>



#### 4.4 Health and Nutrition Sector: Priority interventions, September 2014 – February 2015

The nutrition status of vulnerable groups in the pastoral and agro pastoral livelihoods in the northeast and northwest remains precarious. Households in pastoral livelihoods reported some of the highest GAM rates, which were at *Very Critical* and above 20 percent. Similarly, others in the same livelihoods remain at *Critical* levels with GAM rates above the emergency thresholds of 15 percent. The nutrition status continues worsening even for those areas whose malnutrition status is *Serious*(10% – 14.9%). Appropriate interventions must be immediately instituted in order to address these worrisome trends and a multi-sectoral approach is required, so as to tackle both immediate and underlying causes of high rates of child malnutrition and associated mortalities. The table below shows proposed immediate and medium term interventions.

Immediate Interventions			
	Intervention	Counties	Cost (Ksh.)
1.	Integrated Management of Acute malnutrition (SuFP, OTP and BSFP).	Turkana, Mandera, Wajir, Marsabit, Samburu, Baringo, West Pokot, Garissa, Isiolo, Tana River Laikipia, Taita Taveta, Kwale, Kilifi, Narok, Kajiado, Kieni	579M
2.	Integrated Outreach programme, Integrated Disease Surveillance and mass screening.	Baringo, West Pokot, Kwale, Kilifi, Taita Taveta, Turkana, Mandera, Wajir, Marsabit, Samburu,	245M
<b>Sub Total</b>			<b>824M</b>
Medium to Long Term Interventions			
1.	Promotion of Infant and Young Child Feeding (IYCF) practices and training of additional CHWs.	Kilifi, Kwale, Taita Taveta, Garissa, Isiolo, Tana River Baringo, West Pokot, Laikipia Kajiado, Narok, Marsabit, Samburu, Turkana.	350M
2.	Deworming and Vitamin A supplementation.	All 23 ASAL Counties	200M
<b>Sub Total</b>			<b>550M</b>
<b>Grand Total</b>			<b>1,374M</b>

#### 4.5 Education: Priority interventions, September 2014 – February 2015

The ongoing School meals programmes has mitigated school dropout rates in many areas of the pastoral, agropastoral and marginal agricultural counties. There is need for continuation and expansion of the program. Many households are increasingly becoming vulnerable to food insecurity and are likely to withdraw children from school so as to engage in income generating activities to supplement household food access. There is an increase in mobility of pupils that are migrating with their families in search of pasture and browse for livestock. To enable the development of human capital that is necessary for addressing cyclic food insecurity among the highly vulnerable population, the following interventions are proposed:

Immediate Interventions			
	Intervention	Counties	Cost (Ksh.)
1.	Home Grown School Meals Programme (HGSMP)	Kwale, Taita Taveta, Kilifi, Kitui, Makueni, Tharaka, Kajiado, Narok	213M
Medium to Long Term Interventions			
1.	Provision of water harvesting		50M

	and storage facilities in schools.		
2.	Construction of Kitchens and other hygiene facilities in schools.		100M
<b>Grand Total</b>			<b>363M</b>

#### 4.6 Food Assistance Sector: Priority interventions, September 2014 – February 2015

While cross sectoral non-food interventions are necessary to avert further engagement of undesirable or distress coping strategies, food assistance interventions are necessary to continue rebuilding resilience and avoid any loss of lives. The following table shows the locations and populations that are in immediate need of food assistance, until February 2015:

County	Total County Population	Population affected after the 2013 short rains	September 2014 – February 2015	
			% of population that is in need of food assistance	Number of people requiring food assistance
Turkana	539,264	141,900	29	157,000
Wajir	619,220	131,700	24	150,200
Mandera	337,800	130,100	46	153,800
Garissa	504,391	106,400	26	133,400
Marsabit	291,166	72,000	30	86,000
Samburu	223,947	45,500	32	72,300
Laikipia	399,227	17,800	4	16,000
West Pokot	512,690	29,900	11	56,000
Tana River	240,075	42,500	18	42,500
Isiolo	143,294	48,200	45	64,500
Kajiado	687,312	0	0	0
Baringo	555,561	30,000	13	72,600
Narok	576,388	0	0	0
<b>Subtotal Pastoral</b>	<b>5,630,335</b>	<b>796,000</b>	<b>18</b>	<b>1,004,300</b>
Makueni	884,527	12,400	3	28,100
Kwale	649,931	81,000	13	82,600
Kilifi	1,109,735	78,700	7	75,500
Kitui	1,012,709	130,000	17	169,600
Taita Taveta	284,657	49,000	22	62,300
Mbeere	219,220	37,300	7	14,600
Tharaka	130,098	0	13	16,300
Machakos	1,098,584	0	0	0
Meru North	775,982	53,500	5	39,400
Kieni	324,659	48,700	10	17,600
Lamu	101,539	0	0	0
<b>Marginal Agricultural</b>	<b>6,591,641</b>	<b>490,600</b>	<b>8</b>	<b>506,000</b>
<b>Total</b>	<b>12,221,976</b>	<b>1,286,600</b>	<b>12</b>	<b>1,510,300</b>