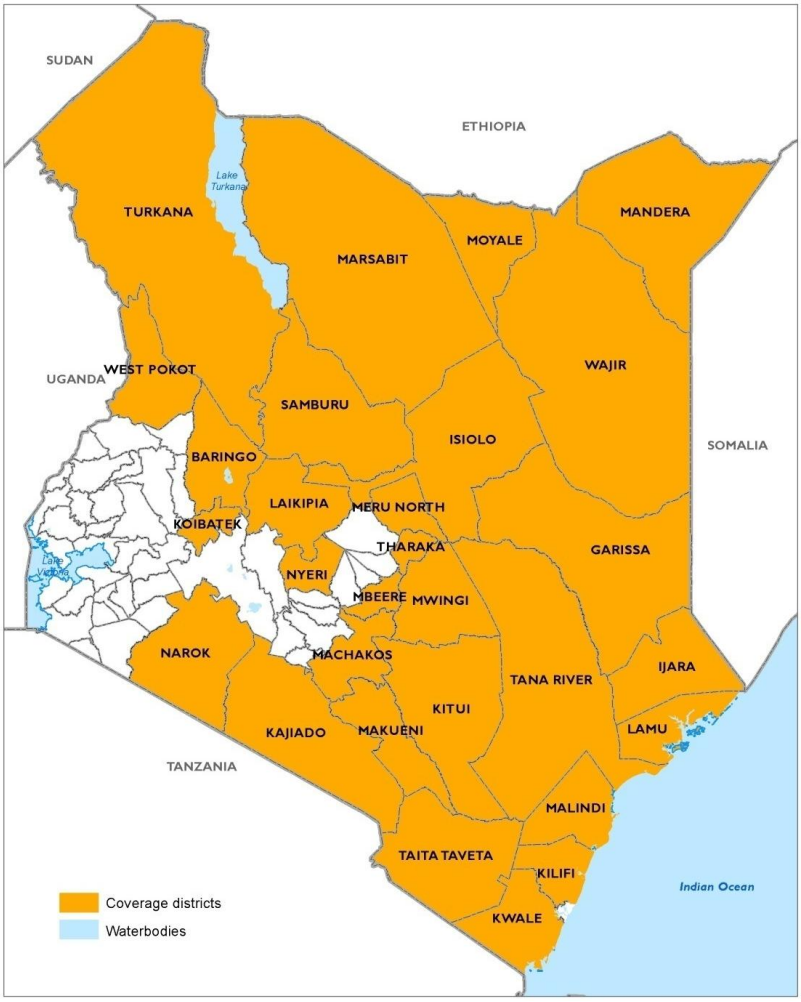
Government of Kenya

THE 2012 LONG RAINS SEASON ASSESSMENT REPORT

Kenya Food Security Steering Group (KFSSG)



Collaborative report of the Kenya Food Security Steering Group: Office of the President, Office of the Prime Minister, Ministries of State for Development of Northern Kenya and other Arid Lands, Agriculture, Livestock Development, Fisheries Development, Water and Irrigation, Public Health and Sanitation, Medical Services, and Education, National Drought Management Authority, WFP/VAM, FEWS NET, FAO, CARE-Kenya, UNICEF, OCHA, Oxfam GB, UNDP, World Vision; with financial support from the Government of Kenya, FAO and WFP.

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1.0 Executive Summary

1.1 Scope of the March-May, 2012 long rains food security assessments

Food security is largely rainfall dependent in Kenya making it imperative to assess impacts of short and long rains seasons. The report is a culmination of the 2012 long rains assessment which was undertaken in August by Government of Kenya (GoK), United Nations (UN), Non Governmental Organizations (NGOs), and the District Steering Groups (DSGs) under the umbrella of Kenya Food Security Steering Group (KFSSG).

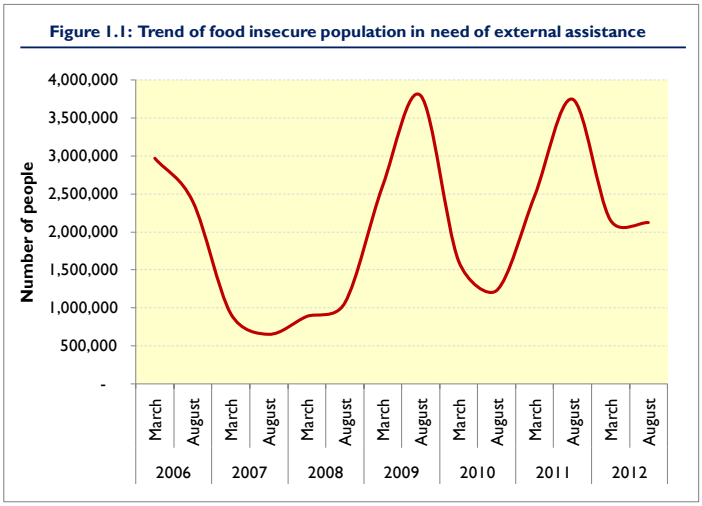
The assessment covered 29 districts within five broad livelihood clusters namely the agropastoral, coastal marginal agriculture, northeastern and northwestern pastoral areas, and the southeastern marginal agriculture zone. The aim of the assessment was to evaluate the impacts of 2012 long rains on water quality and access; crop and livestock production; nutrition and health; markets and trade; and education. In addition, considerations were given to the manner and extent to which hazards 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.

The overall objective of the assessment was to provide an objective, evidence-based and transparent food security situation analysis following the long rains season of 2012, by taking into account the cumulative effect of previous seasons on key indicators. Moreover, the assessments targeted to give a timely food security prognosis as well as provide recommendations for possible response options.

1.2 Findings

1.2.1 Food Insecure Population

The mixed performance of the long rains resulted in contrasting food security conditions. Although the food security situation improved in some areas, the number of food insecure people declined only marginally. An estimated 2.1 million people are classified in either the Crisis or Stressed Phases of food insecurity compared to 2.2 million people after the short rains assessments in February 2012. In general, the food insecure population declined by about 20 percent in the pastoral districts but increased by nearly 25 percent in the southeastern and coastal marginal agricultural zones. Figure 1.1 shows the trend of food insecure population since the year 2006.

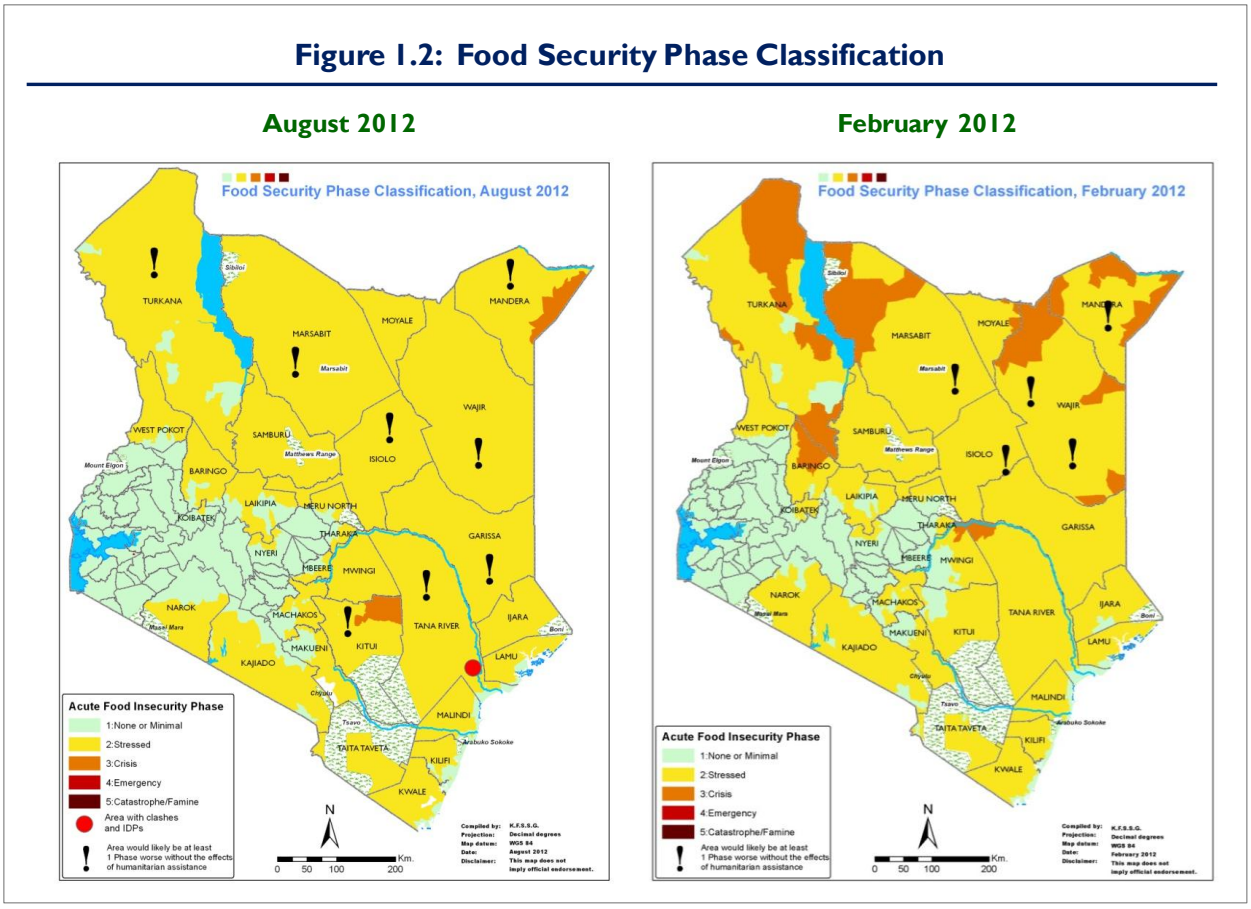


The ongoing food and non-food interventions contributed to food security improvements in many places and also moderated the possible decline in food security situation in areas where the rains performed poorly. The number beneficiaries reached through the ongoing interventions included 2.4 million people in Water Sector, 1.7 million in Health and Nutrition Sector; 800,000 in Livestock Sector, 300,000 in Agriculture Sector, and 40,000 people in Education Sector. Meanwhile, about 2.2 million people were being targeted for food assistance through food for assets (FFA), Cash for Assets (CFA), or General Food Distribution (GFD). While there was an improvement in implementation of priority non-food interventions recommended during the short rains assessment, for the period March to August 2012, sectors such as Agriculture and Education were still under funded. About 70-80 percent of required funds were availed for the implementation of recommended Health and Nutrition, Livestock, and Water sector activities compared to less than 15 percent for Agriculture and Education sectors.

1.2.2 Areas classified in the Crisis Phase of food insecurity (IPC Phase 3)

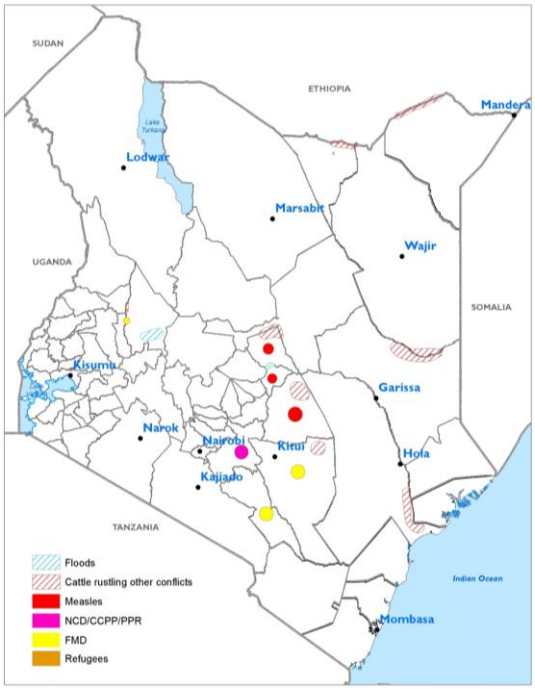
An estimated 80,000 people are classified in the Crisis Phase, and are mainly situated in eastern Mandera, and northeastern Kitui shaded orange in figure 1.2, and in Kipini in Tana River. The affected households were experiencing significant food consumption gaps with high and above usual acute malnutrition. In addition, food insecurity crisis occurs when one in five household are marginally able to meet minimum food needs, only with irreversible coping strategies.

Figure 1.2: Food Security Phase Classification



The areas in the Crisis Phase received below average rains, and also experienced conflicts and displacements or were characterized by high insecurity. In addition, food prices were exceptionally high and above average in these areas while the rate of acute malnutrition was above average. The areas in Crisis generally received depressed rains. In particularly, parts of Kitui and Tana River received less than 50 percent of normal rainfall amounts. The rains were also poorly distributed temporally leading to widespread crop failure. Although the long rains are not the main season in these areas, they account for up to 30 percent of annual crop output which helps to bridge food consumption gap during the long dry season which occurs before the short rains harvests. Furthermore, this was the third consecutive failed or very poor season in the marginal mixed farming areas of Kitui.

Figure 1.3: Conflict, disease and flood hazards



In these areas, water sources recharged to less than 30 percent of capacity. As a result, over 80 percent of the surface water sources had dried up. The distances to water sources and waiting time at water sources also significantly increased, leading to poor water consumption. For example, water consumption dropped from the usual 10-15 liters per person per day to less than 10 liters in the affected areas of Kitui and Mandera.

Heightened conflicts and insecurity compounded the situation by causing displacements, and also limited access to markets and humanitarian assistance. For example, migrating pastoralists clashed with local residents who are sedentary farmers in Kitui and Tana River leading to displacement of households. Meanwhile, the ongoing military operation in Somalia restricted movements in eastern Mandera thus disrupting normal livelihood activities and access to humanitarian assistance. Figure 1.3 shows the conflict hot spots and other hazards that occurred during the analysis time frame. The conflicts that occurred in Moyale, Mandera, and the boundary of Wajir and Garissa had political connotations and were mainly clan based clashes.

In these areas, over 40 percent of households had borderline or poor food consumption scores, mainly attributed to depleted food stocks, below normal availability of livestock products and exceptionally high food prices. For instance, the long rains harvests were only about 30 percent of long term average in the marginal mixed farming zone in Kitui. Meanwhile, unusually long trekking distances for livestock resulted into poor livestock productivity. As such, milk production averaged 0.25-1 liter per day compared to more than two liters at similar time of a normal year. Meanwhile, maize prices were more than 90 percent above the five year average in all the affected areas.

While livestock prices were generally up to two times the long term average prices, the households in these areas were unlikely to be benefiting because of prohibitive cereal prices coupled with very low livestock holdings. In general, disease outbreaks were reported to be within the normal range.

Acute malnutrition was reported to be high and was classified as either critical or very critical in these areas. For example, the Global Acute Malnutrition (GAM) was 15.9 percent (13.2-19.1%) in eastern Mandera, and 10-14 percent in Tana River. Malnutrition was also suspected to be high in the marginal mixed farming areas of Kitui where the proportion of children under five-years old 'at risk' of malnutrition, that is with Mid Upper Arm Circumference less than 135 millimeters (MUAC<135mm), was nearly 65 percent above the district and the long term averages. In western part of Mandera and in Tana River, the under-five year old mortality rates were 0.67 and 1.23 per 10,000 per day indicating a crisis situation. The areas where under-five year olds mortality rates were highest had been affected by heightened conflicts.

1.2.3 Areas classified in the Stressed Phase of food insecurity (IPC Phase 2)

About 2.05 million people are classified in the Stressed Phase of food insecurity. Households groups in this phase are described as having reduced and minimally adequate food consumption but are not engaging in irreversible coping strategies. At the same time, they are unable to afford some essential non-food expenditures. The majority of food insecure households in the northwestern and northeastern pastoral areas, the agropastoral zone, and the southeastern and coastal marginal agricultural lowlands were classified in the Stressed Phase.

While the onset or long rains generally delayed, by at least two weeks, the performance of rains varied significantly in all these areas. The northwestern pastoral area and the agropastoral zone received enhanced rains with rainfall amounts averaging between 120-160 percent of normal while the northeastern pastoral area, southeastern marginal agriculture and coastal lowlands received depressed rains averaging between 20-50 percent of normal.

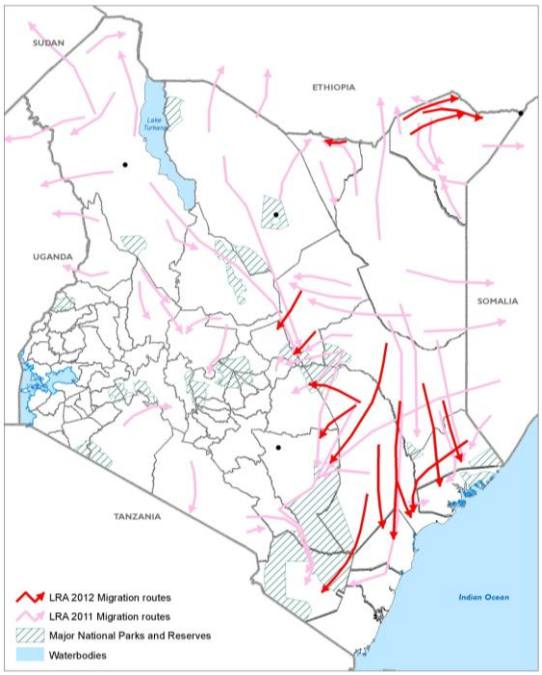
Surface water sources recharged to about 80 percent of capacity in most parts of the northwestern pastoral area and the agropastoral zone. As a result, the trekking distances to water for both domestic use and livestock were either within or below the normal range. Waiting times at water points were also normal while the cost of water had not changed. The majority of households were accessing water freely from open sources and water consumption was above 15 litres per person per day in most of these places.

However, in most parts of the northeastern pastoral area, and the southeastern and coastal marginal agricultural zone, water sources recharged to 30-50 percent of capacity. Most of the surface water sources such as pan and earth dams had dried by the time of the assessments and distances to water sources reached 15-20 kilometres. At the same time, increasing waiting time at water sources was compounded by the breakdown of overused boreholes in parts of Isiolo, Makueni, and Kitui. Water consumption was reducing and was less than 15 litres per person per day, for example, in parts of Kilifi, Malindi, Kitui, Makueni, Mbeere, Mwingi, Isiolo, Ijara, Mandera, Wajir and Tana River.

Livestock productivity was being sustained by enhanced availability of grazing resources following good 2012 long rains in the northwestern pastoral area, and the agropastoral zone. However, in the northeastern pastoral areas, livestock had access to pasture that regenerated after the very good 2011 short rains. The livestock body conditions were generally good across all livelihoods with the exceptions of parts of Ijara, and Tana River where they were fair to poor. Since most of the cattle and camels had not calved, milk availability was below normal except in parts of the agropastoral zone. Milk production was generally below two litres per day compared to the normal of up to five litres per day. However, in parts of the agropastoral milk production was over two litres per day.

Livestock prices were 30-100 percent above the five year average across all the livelihood zones, mainly due to good body conditions, and low market supply. Livestock sales were generally below normal because the majority of households were still rebuilding their herd sizes. The majority of households were accessing available livestock products for consumption or sale due to minimal migrations. As figure 1.4 shows, livestock migrations were less extensive compared to the same time last year. The significantly above average livestock prices were moderating the effects of equally high maize prices as they improved households purchasing capacities. For example, the terms of trade were up to 80 percent above average with the exceptions of Turkana and Ijara where they were about 10 percent below the five year average.

Figure 1.4: Minimal livestock migrations across livelihoods

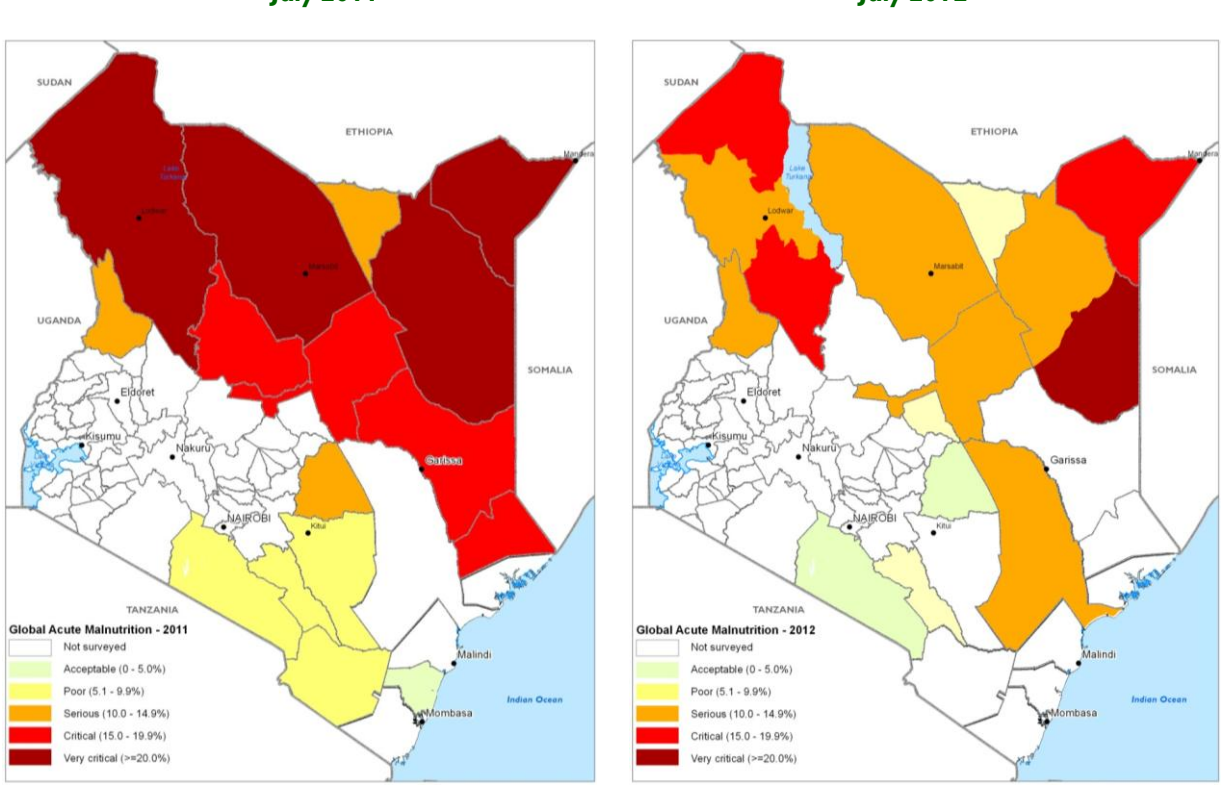


Although the overall long rains cereal production was below average, the availability of some harvests greatly improved household food consumption. For instance, maize harvests were about 30-60 percent of the five year average in the northeastern and northwestern pastoral areas, southeastern marginal agricultural area, and the coastal lowlands which are classified in the Stressed Phase. Below average maize output was attributed to a combination of poor rainfall distribution, low quality seed, crop diseases, and frost. However, in most parts of the agropastoral zone, maize harvests were about 70 percent of five year average with the exceptions of Laikipia and Koibatek where maize harvests surpassed the five year average by nearly 10 percent.

Household food consumption had improved in most of these areas and in general, less than 20 percent of households were classified as having borderline or poor food consumption scores, for instance in parts of Wajir, Garissa, Isiolo, Mandera, and Kajiado. However, in the coastal lowlands, and Turkana only about 50 percent of households had acceptable food consumption scores.

The nutrition status of children under-five years old significantly improved when compared to the same period last year across all the livelihood zones. The improved nutrition status was attributed to improved availability of milk, even though amounts were below normal, better access to cereals due to available harvests and above average terms of trade, and the ongoing cross sectoral interventions. Figure 1.5 illustrates the nutrition situation in July 2012 compared to July 2011.

Figure 1.5: Acute malnutrition considerably improves but still serious

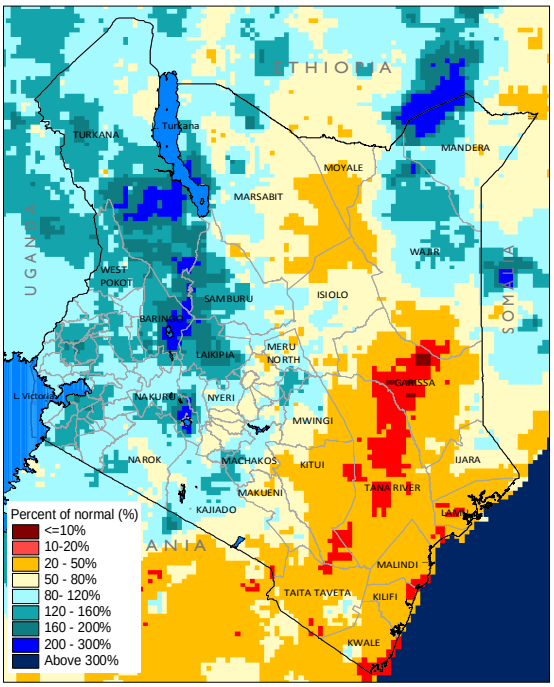


Despite the improvements in nutrition status, the situation remained serious or critical in most parts of the northwestern and northeastern pastoral areas. The high malnutrition rates may be attributed to health as well as food consumption issues. According to the assessments findings, an outbreak of measles disease was reported in Samburu, Mandera, Isiolo, Wajir, Tana River, Kajiado, Tharaka, Meru North, Kitui, Mwingi, Malindi and Kwale. However, the outbreaks were promptly controlled. Otherwise, disease incidences were either within or below the normal range in all livelihood zones. Also, mortality rates were within the normal range and averaged less than 0.5 per 10,000 per day.

1.3 The 2012 Long Rains Performance and Forecast for 2012 Short Rains

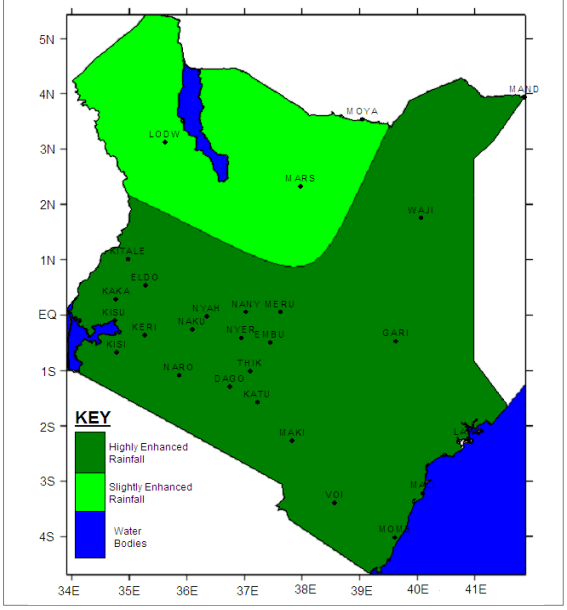
The onset of 2012 long rains generally delayed, by at least two weeks, across all the livelihood zones, with the exceptions of upper parts of northeastern pastoral area where the rains started on time in the first week of April. The rains were unevenly distributed spatially. Most parts of the northeastern pastoral area, the southeastern marginal agricultural zone, and the coastal lowlands received generally depressed rains. In the most parts of the northwestern pastoral areas, and the agropastoral zone, the rains were slightly or highly enhanced.

Figure 1.6: The 2012 long rains performance - as a percent of normal



In Figure 1.6, areas shaded in the different hues of blue received enhanced long rains. The areas in dark blue colour received the highest rainfall amounts, over 200 percent of normal. The cessation of the long rains varied across the country. In parts of the northeastern pastoral area, southeastern marginal agricultural zone, and coastal lowlands, the rains ceased unusually early in mid May instead of early June. However, in the northwestern pastoral area, outside of Marsabit and Moyale, the agropastoral zone, and along the coastal strip, the rains extended into August, after a lengthy dry period.

Figure 1.7: Forecast for October – December 2012 Short Rains



According to the Kenya Meteorological Department (KMD), there is a high probability of enhanced October-December 2012 short rains in all the livelihood zones, due to the likelihood of a mild to moderate El-Niño event. The onset of the rains is expected to be generally timely in mid October except in the lower parts of southeastern marginal agricultural zone where rains are expected to start towards end of October to early November. The rains are expected to cease in mid to late December in most parts of the pastoral and marginal agricultural zones. Usually, the rains cease at the end of December and sometimes extend to early January in the southeastern lowlands, particularly during an El-Niño event. The enhanced rains may cause flooding, landslides, or could disrupt transport services, particularly in the pastoral areas. Figure 1.7 shows the forecast for the 2012 short rains.

1.4 National Maize Supply Situation and Prospects

According to the Ministry of Agriculture, by June 2012 an estimated 1.3 million hectares had been planted with maize during the 2012 long rains season. The planted area was about the same as the five year average. Notably, the area planted in the Rift Valley was about 35 percent above average. In August, the maize crop was tasseling or in the cob filling stage and in very good condition in the main producing areas in the North Rift Valley. However, harvesting was going on in Nyanza, lower parts of Western Province, South Rift Valley, and parts of Central and Eastern Provinces. Despite the significant increase in area planted with maize in the Rift Valley, overall long rains harvests are expected to be about 10 percent below average. About 2.46 million MT of maize is expected to be harvested during the 2012 long rains season compared to the five year average of 2.6 million MT.

The below average 2012 long rains maize harvests is attributed to a combination of delayed onset of rains in many parts of the main growing zone in the Rift Valley, poor rainfall distribution in the southeastern and coastal marginal agricultural zones, and shortages of certified seed earlier on in the season. The outbreak of the Maize Lethal Necrotic Disease (MLND) particularly in the South Rift Valley and district bordering the area has affected nearly 59,500 ha of maize in Bomet, Chepalungu, Sotik, Borabu and Naivasha. In these areas, nearly 65 percent of planted maize was lost. A mild form of MLND was also reported in Embu, Meru Central, and Kieni where about 600 ha of maize were affected. In these areas, up to 10 percent of the crop was lost though a higher proportion was lost in localized areas of Kieni.

Kenya is a net importer of food due its structural deficit in production of main staples. Data from the MoA indicate that significant amounts of food staples have entered the country through cross border trade inflows and general imports in 2012. For example, about 403,000 MT of maize, 155,000 MT of beans, 230,000 MT of rice, and 723,000 MT of wheat have been imported, cumulatively between January and August 2012. Table 1.1 shows the maize supply situation for the current maize marketing year.

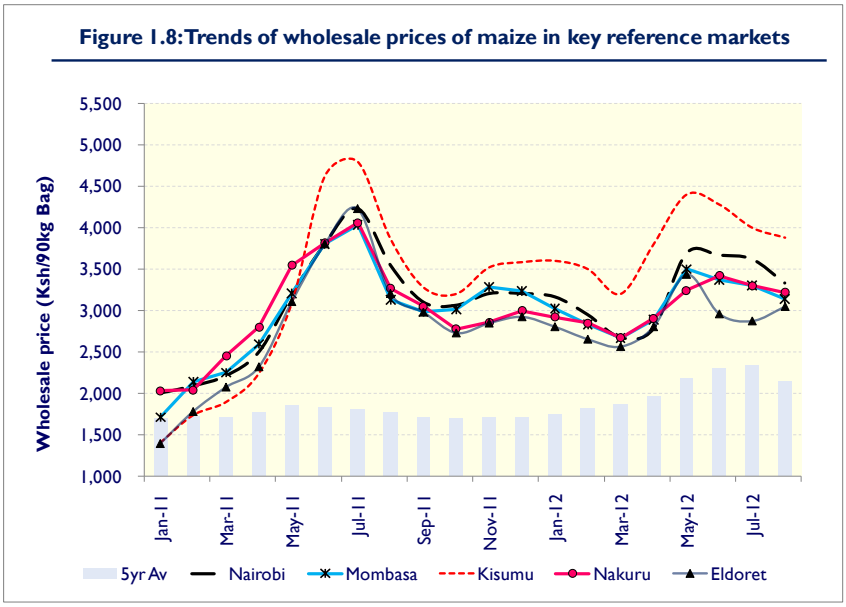
Table 1.1: Maize supply situation August 2012 to June 2013

Maize Stocks as at 31st August 2012	90 Kg Bags	Metric Tonnes
NCPB	1,061,030	95,493
Farmers	8,297,540	746,779
Traders	1,862,020	167,582
Millers	3,583,300	322,497
Stocks as at 31st August 2012 (90Kg bags)	**14,803,890**	**1,332,350**
Total EA Imports (cross-Border trade) expected between August-June 2013)	4,400,000	396,000
Imports from outside EAC by private sector/relief agencies		
Expected Harvest (Aug-Dec 2012)		
Long rains up to (Jan 2012)	18,200,000	1,638,000
Short rains Harvest (Jan-Feb) 2013	**650,000**	**58,500**
Total Available Stock June 2013	38,053,890	3,424,850
Post-Harvest Loses (15%)	2,827,500	254,475
Expected Exports		
National Available Stocks in June 2013	**35,226,390**	**3,170,375**
Amount used as seed (1% of household stocks)	82,975	7,468
Amount used as feed (2% 0f household stocks)	165,951	14,936
National consumption (monthly rate of 3.72 million bags estimated pop. of 40 million people for the next 10 months)	**32,781,567**	2,950,341
Balance as at 31st June 2013	**2,195,897**	**197,631**

1.5 Maize Price Trends

In August, wholesale prices of maize declined by up to 10 percent in key reference markets across the country. The main driver of maize price reduction was the general increase in market supply as harvesting of the long rains crop was intensifying. The increased maize inflows into the country also moderated the hitherto increasing prices, from May 2012. However, in Eldoret, where harvesting of the long rains maize had not stated, maize prices increased by about five percent. Despite the recorded general decline in maize prices, they remained at least 45 percent above the five-year average. Maize prices were significantly above average, by nearly 75 percent in Kitui which is situated in the southeastern marginal agriculture livelihood zone, and by about 85 percent in Mandera which is located in the northeastern pastoral area. The high maize prices are reflected in maize flour prices which are about 45 percent above the five-year average. Figure 1.8 illustrates the trends of maize price in the main wholesale markets since January 2011 compared to the five year average prices (2007-2011).

Figure 1.8: Trends of wholesale prices of maize in key reference markets



1.6 Options for response

The majority of households in the pastoral and marginal agricultural areas have not significantly recovered from the adverse effects of the previous successive poor seasons. The likelihood of a good short rains season, based on the forecasts of enhanced rains, provides an opportunity for strengthening recovery of livelihoods. It is imperative to institute measures that will enable households to enhance their livelihood assets and rebuild their resilience. At the same time, it will be necessary to take the necessary precautions to mitigate the likely adverse effects of the enhanced rains. For instance, flooding may cause displacements, disrupt transport services, or even result in heightened vector and water borne diseases. Since it is usually the case that an El-Niño event is followed by it opposite, a la-Niña, it will be crucial to harness the potential benefits of enhanced rains, for example through increased water harvesting, in preparation for future poor seasons. The proposed priority interventions and estimated costs are presented in Table 1.2.

Table 1.2: Summary of priority interventions by sector for September 2012–February 2013

	SECTOR	PROPOSED RECOMMENDATIONS	COST IN Ksh.	COST IN U.S. DOLLAR
1.	AGRICULTURE	Provision of certified drought tolerant seeds; establishing water harvesting structures for crop production; rehabilitation of irrigation facilities; bulking of drought tolerant crops; and capacity building on post harvest management to reduce losses.	**835 M**	**10 M**
2.	LIVESTOCK	Livestock management programmes; disease surveillance; treatment and vaccination; livestock production infrastructure upgrading; pasture conservation and reseeding; fodder conservation and strategic livestock feed reserve; livestock off take.	**1,005 M**	**12 M**
3.	WATER	Construction and rehabilitation of water harvesting structures; installation of new equipment and rehabilitation of water supply machineries; fuel subsidy, capacity building and water trucking.	**719 M**	**8 M**
4.	HEALTH AND NUTRITION	Human disease surveillance; nutrition surveys; integrated mobile outreach; strengthen IMAM and supporting coordination of sub-national information system; GFD linkages, coverage of SFP and OTP, monitoring of HINI	**4,400 M**	**52 M**
5.	EDUCATION	Expand school meals program; enhance supply of safe water to schools; provision of sanitary towels; develop school infrastructure and schools food production capacity; set up mobile schools and increase low cost boarding schools; Intensify health and hygiene programmes.	**480 M**	**6 M**
6.	FOOD ASSISTANCE	Building resilience to future shocks through FFA and CFA, and GFD where FFA and CFA are not possible to implement. Food commodities and cash for food insecure populations in need of assistance for the next six months (September 2012 – February 2013). An estimated 85,200 MT of food or cash equivalent (CFA) will be required.	**7,735 M**	**91 M**
Total			**15,174**	**179**

2.0 Food Security Assessment Methodology

2.1 Background and Objectives

The 2012 long rains assessment was coordinated and carried out under the auspices of the Kenya Food Security Steering Group (KFSSG) that includes institutions in the GoK, the UN, NGOs and key development partners. The coverage of the assessment extended to 29 traditionally drought-prone pastoral, agropastoral and marginal agricultural districts. The map on page 1 shows the assessment coverage, representing about 80 percent of the country's geographic area. In addition, crop production data from the high potential areas in the Rift Valley and Western Kenya as well as price data from key reference markets was analyzed. Figure 2.1 shows the generalized livelihood zones in Kenya, which is the unit of analysis for the assessments. While the newly sub-divided districts were assessed, the point of reference is the pre-November 2007 district boundaries. The actual field assessments were carried out in the following five livelihood clusters:

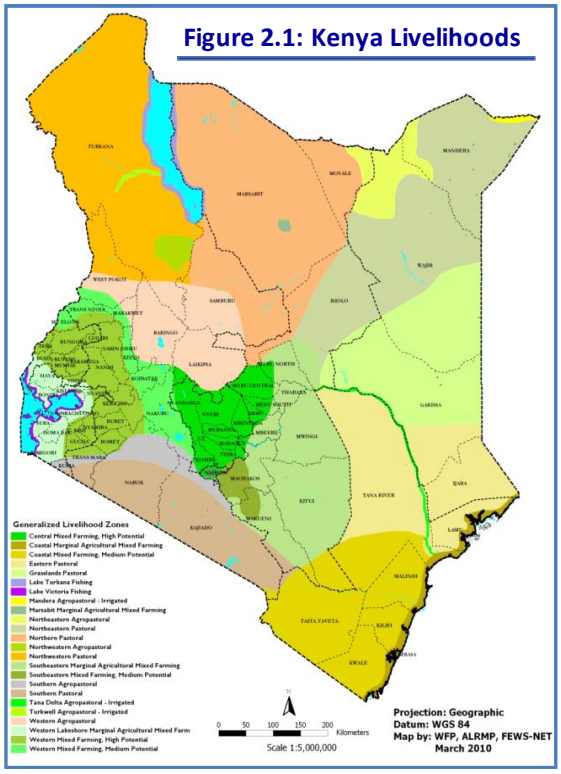


Figure 2.1: Kenya Livelihoods

a) Pastoral Northwest Cluster (Turkana, Moyale, Marsabit and Samburu districts).
b) Pastoral Northeast Cluster (Mandera, Wajir, Garissa, Isiolo, Ijara and Tana River districts).
c) Agro-Pastoral Cluster (Baringo, Koibatek, West Pokot, Laikipia, Narok, Kajiado and Nyeri North districts).
d) South Eastern Marginal Agricultural Cluster (Tharaka, Mbeere, Meru North, Makueni, Machakos, Mwingi and Kitui districts).
e) Coastal Marginal Agricultural Cluster (Taita Taveta, Malindi, Kilifi, Lamu and Kwale districts).

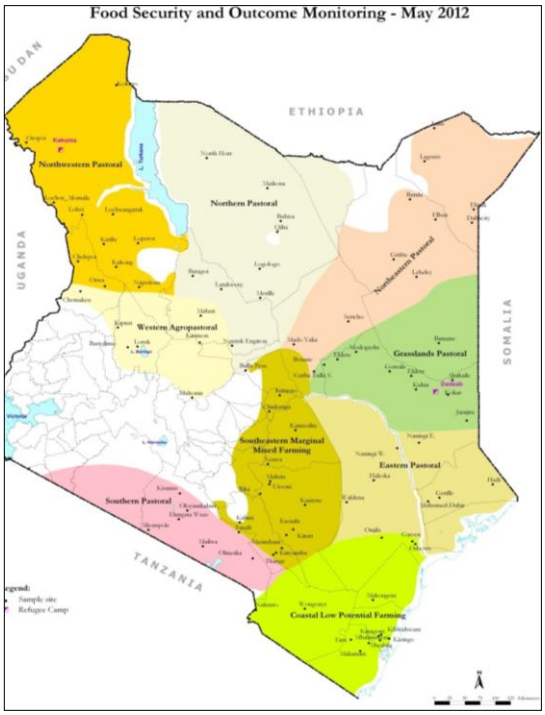
The overall objective of the assessment was to inform humanitarian, recovery and short term interventions across the food; water and sanitation; health and nutrition; agriculture and livestock; markets and the education sectors. Specific objectives were to:

- Ascertain at the livelihood level, the quality and quantity of the 2012 long rains, and assess their impact on all key sectors.
- Establish required non-food interventions, with particular emphasis on programs that promote preparedness and build household resilience.
- Assess potential food needs, including options for, food for assets, cash for assets, hunger safety nets and general food distribution.
- Establish the impacts of other compounding factors such as conflict, crop pests and diseases, higher than average food prices, and floods on household food security.

2.2 The Approach

The overall assessment processes and methodologies were coordinated and developed by the KFSSG. First secondary data for all assessed districts were collected and collated. Thereafter, the KFSSG organized a one week training workshop for 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 affected and in need, and report writing.

Figure 2.2: Sentinel sites for food security and outcome monitoring



At the same time, the KFSSG prepared household questionnaires that were administered to 2,025 randomly selected households in 405 National Drought Management Authority (NDMA) sentinel sites before the assessment teams reached the districts. The food security outcome monitoring indicators were also collected from 2,700 households situated in 90 sentinel sites shown in Figure 2.2. The outcome indicators included the coping strategy index, food consumption scores and household expenditure data.

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 used during transects to obtain qualitative information. The field data was collated, reviewed, analyzed and triangulated to verify its validity.

The NDMA drought monitoring bulletins and the KFSSG monthly Food Security Update provided important additional information for assessment teams. 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 Sectors. While the analytical framework is the livelihood zone, 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 District Steering Groups (DSGs) and secondary data analysis to draw inferences for non-visited areas situated in similar livelihood zones. The findings and recommendations were provided at the district and divisional level for planning purposes. The new version of the integrated food security phase classification was employed in categorizing levels of food insecurity.

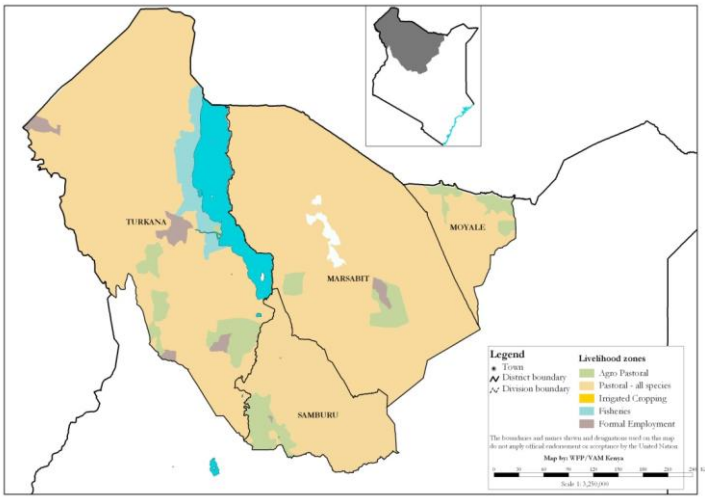
3.0 Food Security Analysis by Livelihood Cluster

3.1 The Northwest Pastoral Livelihood Cluster

3.1.1 Cluster Background

Pastoral Northwest livelihood cluster consists of Turkana, Marsabit, and Moyale and Samburu districts. The cluster is about 173,876 square kilometers in size and has an estimated population of 1.3 million persons. The main livelihood zones in the cluster as shown in Figure 3.1.1 are pastoral, agropastoral, fisheries and formal employment. The pastoral livelihood is the predominant zone in the cluster, accounting for over 60 percent of the population, followed by agropastoral and fisheries which account for 20 and 10 percent of the population, respectively. Livestock production contributes to 80 percent of household income.

Figure 3.1.1: Northwest pastoral cluster livelihood zone



3.1.2 Current Factors Affecting Food Security

The factors affecting food security in the cluster were poor performance of the long rains leading to low crop productivity especially in the agropastoral zone, and the unpredictable and above average food prices. The generally poor road infrastructure is an underlying factor that is influencing food security in the cluster. Meanwhile, persistent conflicts over pasture and water disrupted livelihood activities, resulted into loss of lives, and displaced households in Turkana, Samburu and Moyale.

3.1.3 Overall Food Security Situation

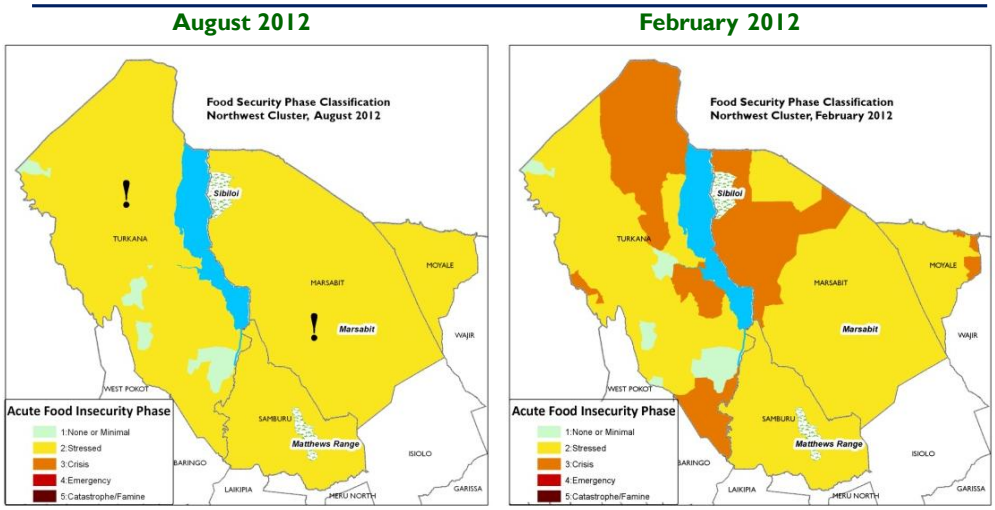
All the livelihood zones within the cluster are classified as being in the Stressed Phase of food insecurity (IPC Phase 2). In addition to the poor rainfall performance, internal and cross border insecurity is limiting access to grazing resources. As a result, livestock migration options have been reduced in parts of Turkana, Samburu, and Moyale.

3.1.4 Food Security Trends

In general, the food insecurity phase classification has remained in the Stressed Phase in most of the districts within the cluster when compared to the situation after the short rains assessment in February 2012. However, the food insecurity phase classification has improved from Crisis Phase to the Stressed Phase over the last six months in northeast, southeast and southern Turkana, northwest Marsabit and northeast Moyale

The improvement in food security situation is attributed to improved availability of pasture and water leading to the considerable decline in seasonal livestock migrations, enhanced livestock productivity, and the general improvement in security situation in many places. Figure 3.1.2 show the food security situation in August 2012 compared to the situation in February 2012.

Figure 3.1.2: Food security trend in northwest pastoral cluster



3.1.5 Current Shocks and Hazards

3.1.5.1 Rainfall

The long rains started in the second dekad of April across the cluster with the exception of Moyale district where the rains started in the last dekad of March. In general, the rainfall onset was late by about a week. The rains were unevenly distributed spatially across the cluster. The rains were more enhanced in the western part of the cluster. For example, rainfall amounts ranged between 120 to 300 percent of normal in the western part of the cluster including Turkana and Samburu compared to less than 80 percent of normal rainfall amounts in the eastern part particularly in Marsabit and Moyale. The temporal distribution was also poor as the rains were characterized by few days of heavy downpours in many places. The rains ceased in the first dekad of June compared to the normal cessation which is the third dekad of May. However, in Marsabit the rains ceased earlier than usual by two weeks, in the first dekad of May.

3.1.6 Impact of Shocks and Hazards

3.1.6.1 Crop production

The long rains season is the main season for crop production in the cluster as it account for 60 to 80 percent of the annual crop output. About 70 percent of the long term average area was planted to maize staple in the cluster. The below average area planted was attributed to lack of farm inputs and insecurity. For instance, farmers in parts of Moyale were unable to access their farms due to insecurity. However, due to the favorable weather condition planted area was 45 and 50 percent above average in Turkana and Samburu, respectively. The expansion of irrigation and water harvesting interventions contributed to increased planting in Turkana where the area under sorghum production nearly doubled from an average of 450 ha to about 850 ha.

Nonetheless, the overall cereal output was below average in the cluster, and was estimated to be about 75 percent of the long term average. The long rains season maize and sorghum harvests were about 3,770 MT and 370 MT compared to the long term average of 4,940 MT and 490 MT, respectively. Cereal yields were generally low due to the poor temporal distribution of rains which resulted into the wilting of early planted crop, pests and diseases, and the widespread use of poor quality seed. Over 85 percent of the maize output in the cluster was achieved in Samburu where maize production was nearly 80 percent above the long term average.

3.1.6.2 Livestock Production

Pasture and browse condition was rated as good across the cluster. Available forage was expected to last well into the next rains season in many places. Livestock trekking distances were generally normal and ranged between one 1-7 kilometres, with the exception of eastern Marsabit where trekking distances ranged between 10-18 kilometres. The livestock body condition was generally good for all species. However, milk availability was low and ranged between 0.5-1.0 litres compared to the usual 2-5 litres per day in similar times of the year. Most of the dams and cows were in calf and expected to give birth from late September onwards. As a result, milk prices averaged between Ksh. 80-90 per litre compared to the normal of Ksh. 30-40.

No out migration of livestock was reported depicting a favorable situation. During a similar time last year, about 70-90 percent of livestock had migrated to neighboring districts and across the border to Ethiopia. However, livestock were moving towards the dry season grazing areas away from settlements, mainly as a strategy to conserve available pasture. At the same time, there were livestock movements away from the areas near the Kenya and Ethiopia border due to insecurity in Moyale. No livestock disease outbreaks were reported except in Samburu where an outbreak of Foot and Mouth Disease (FMD) occurred.

3.1.6.3 Water and Sanitation

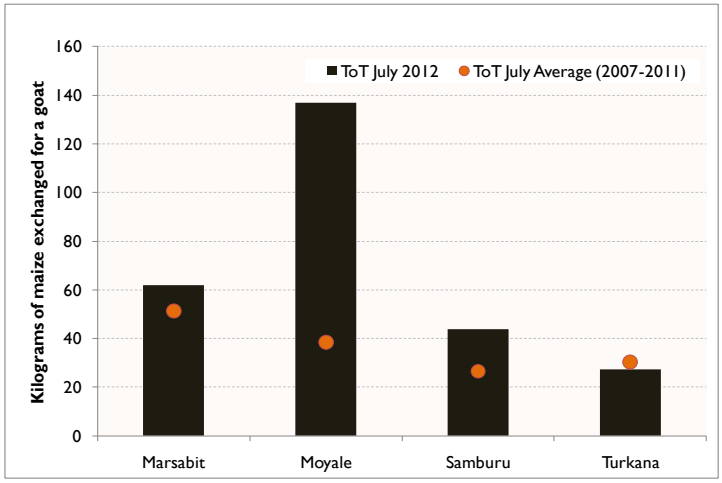
The surface water sources were recharged by about 60-80 percent during the long rains season except in Moyale where recharge was lower at about 20-30 percent. The available water was expected to last for two to three months. The average return distances to water points ranged between 1-6 kilometres which were below the normal distance of 2-5 kilometres. However, in localized areas within the pastoral livelihood zone in Samburu, distances to water ranged between 10-25 kilometres which were significantly above the long term average of less than five kilometres. The waiting times at the water sources were generally normal and did not exceed one hour. Similarly, the cost of water at the boreholes was normal at Ksh. 2-5 except in parts of the pastoral zone in Samburu where a 20 litre jerrycan was selling for Ksh. 10-20, which is double the normal price. However, water consumption was normal at 10-15 litres per person per day. Although water treatment was low, no cases of water borne disease outbreak were reported which implies that the quality of available water was good.

3.1.6.4 Market Performance

Market operations were generally normal except in Moyale where insecurity led to a three week closure of markets in May. Staple food supplies were generally good in all the markets. However, market prices of important food commodities and livestock remained high over the last six months. For example, livestock and maize prices were 100-200 percent above the long-term average.

The highest price of maize was recorded in Turkana where a kilogram as selling for Ksh 68. Maize prices were lowest in Moyale where it was selling for Ksh. 32 per kilogram. Cross border inflows were keeping the maize prices in Moyale low. Meanwhile, the price of a goat ranged between Ksh. 1,800 and Ksh. 4,300, highest in Moyale and lowest Turkana. Above average livestock prices were attributed to the generally good livestock body condition and reduced supply into the market because pastoral households were still rebuilding their herds. The terms of trade were generally favorable except in Turkana. As figure 3.1.3 show, a household was able to obtain 60-135 kilograms of maize in exchange for a goat compared to the long term average of 30-55 kilograms in Marsabit, Moyale and Samburu. However, terms of trade were slightly unfavorable in Turkana where a goat was exchanging for about 25 kilograms of maize compared to the long term average of 30 kilograms.

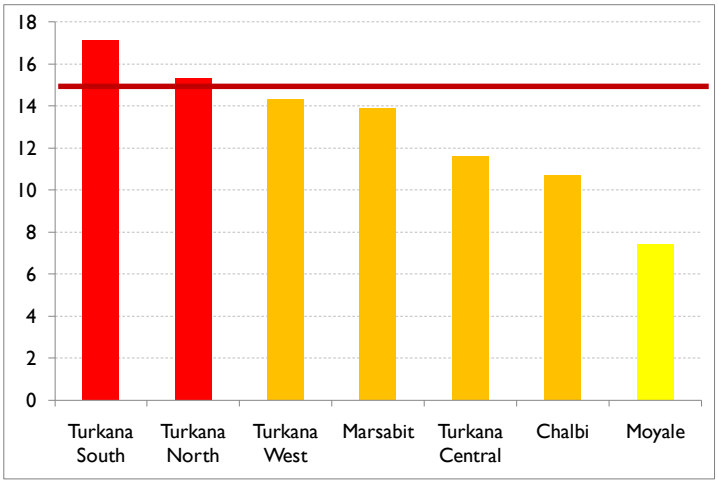
Figure 3.1.3: Comparative terms of trade in northwest pastoral cluster



3.1.6.5 Health and Nutrition

The main diseases reported in the cluster were within the normal range and included malaria, upper respiratory tract infections, diarrhoea, and skin infections. However, an outbreak of measles was reported in Samburu district in March 2012, resulting in a vaccination campaign. According to the nutrition surveys conducted in May and July 2012, the crude mortality and under five mortality rates were below 0.5 persons per 10,000 persons per day in all the districts within the cluster, and were also below World Health Organization (WHO) alert levels of one and two per 10,000 persons per day for the general population and under fives, respectively. The immunization coverage as depicted by fully immunized child was above the national target of 80 percent in Moyale, Marsabit and Samburu but only 42 percent in Turkana. Meanwhile, vitamin A supplementation coverage was below the recommended national target across the cluster and was lowest in Samburu at 68 percent. Low vitamin A supplementation was attributed to poor access to health care services.

Figure 3.1.4: Global acute malnutrition rates in northwest pastoral cluster



The proportion of children at-risk of malnutrition, that is with mid upper arm circumference (MUAC) less than 135 mm was below the long term average except in Marsabit. However results from the latest nutrition survey indicated that the Global Acute Malnutrition rates were still above critical levels in many places (orange and red bars in Figure 3.1.4). Nevertheless, the malnutrition status of children had considerably improved from critical or very critical levels recorded at a similar time in 2011. The improvements in malnutrition rates were attributed to improved food access and on-going food and non-food interventions. The majority of households were consuming 2-3 meals per day comprising 2-3 food groups.

3.1.6.6 Education

The enrolment in all public primary schools increased in 2012 compared to 2011 across the cluster. However, in Moyale enrolment marginally dropped because of insecurity. Also, school dropout rates significantly declined compared to the same time last year. The decline in school dropout rates was attributed to improved food security, lower migrations, improved security, improved availability of school boarding facilities, and the ongoing free primary education. All public primary schools in the cluster were under the regular school meals programme. There were no significant constraints in the implementation of school meals programs.

3.1.6.7 Coping Strategies

The coping strategy index (CSI) ranged between 0.20-0.35 which suggested that up to 35 percent of the households in localized areas within the cluster were employing unusual coping strategies. The CSI was highest in the agropastoral zone of Moyale that had been significantly affected by conflicts and insecurity. Among the coping mechanisms that were being practiced by households included reduced frequency and size of meals, increased sale of charcoal and firewood, and increased reliance on petty trade and casual labour, unusually early as the season was just concluding.

3.1.6.8 Food Security Prognosis

While food security situation is expected to improve over the next six months, the food insecurity phase classification will remain Stressed. The sustained availability of grazing resources until the next rains season is expected to stabilize livestock productivity in most of the pastoral areas. Births in cattle and camels is expected to peak in the next two to three months (October-November) leading to significant improvement in milk availability and consumption.

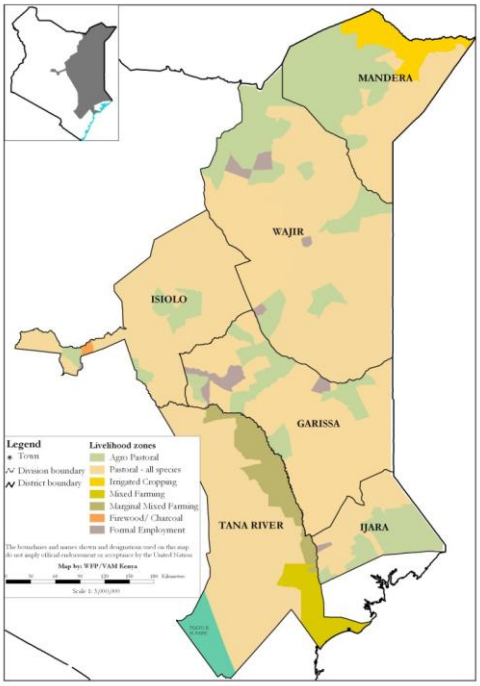
In the agropastoral areas in Marsabit and Moyale, the food security situation is likely to deteriorate though the phase classification may not change. The agropastoralists are likely to face unusually long periods without adequate food when their food stocks deplete in the next one to two months due to the very poor long rains harvests. The next harvest in these areas will be in February 2013. While livestock productivity is expected to significantly improve, livestock ownership among agropastoralists is below normal due to the effects of previous successive droughts.

3.2 The Northeast Pastoral Livelihood Cluster

3.2.1 Cluster Background

The Northeast pastoral livelihood cluster consists of the larger Mandera, Garissa, Wajir, Tana River, Isiolo and Ijara districts. The cluster covers an estimated area of 190,753 square kilometers and has an estimated population of 1,844,780 persons. The main livelihood zones in the cluster as shown in Figure 3.2.1 are pastoral, agropastoral and mixed farming which account for 47, 20, and 18 percent of the cluster population. The other livelihood zones within the cluster are marginal mixed farming and employment which includes casual labor. Livestock and crop production, the main sources of income in the cluster, account for 60 and 30 percent of total household income, respectively.

Figure 3.2.1: Northeast pastoral cluster livelihood zone



3.2.2 Factors affecting food security

The factors affecting food security in the cluster were below normal rainfall performance which resulted in low crop and livestock productivity, above average food prices, and conflicts and insecurity. Resource based conflicts occurred in Tana River, Ijara, and Isiolo while insecurity was intense in areas that are situated along the Kenya and Somalia border. Meanwhile, flooding destroyed crops in Mandera after river Dawa burst its banks.

3.2.3 Overall Food security situation

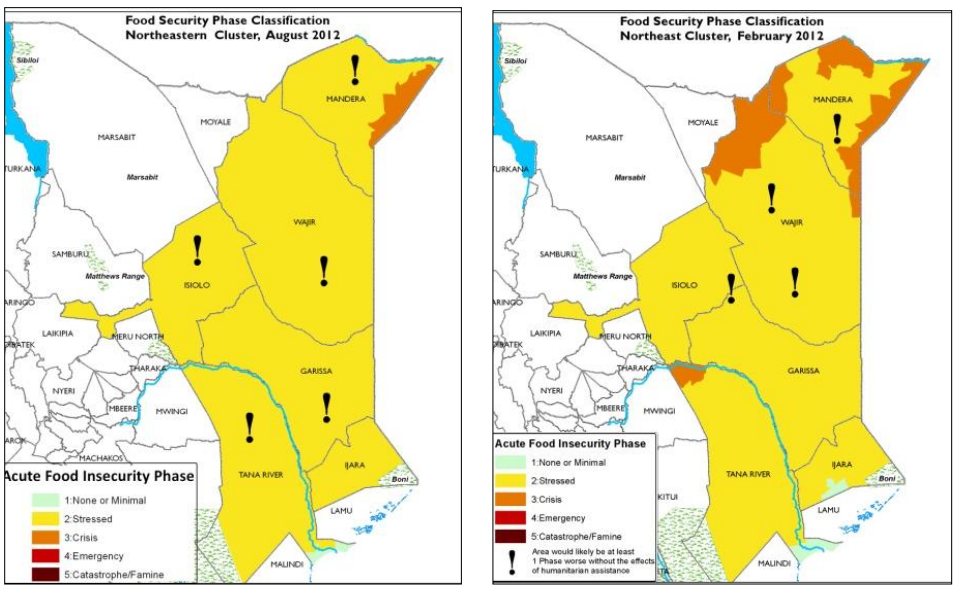
Households in most areas of the cluster are classified as being in the Stressed Phase of food insecurity. The exceptions are the northeastern part of Mandera district that borders Somalia which was classified in the Crisis Phase. The main drivers of food insecurity in the cluster were the poorly distributed and below normal long rains in many places, conflicts, internal and cross border insecurity, high food prices and restricted migration options, particularly in Tana River, Ijara, Isiolo and Mandera.

3.2.4 Food Security Trends

The food security situation marginally improved after kidding and lambing increased in June. However, the phase classification of food insecurity did not change in most of the areas which remained in the Stressed Phase in August 2012 after the long rains assessments. Nevertheless, the significant decline in conflict incidences and enhanced access in northern Mandera, Wajir and Tana River improved food security situation leading to a change in phase classification from Crisis in February 2012, to Stressed in August 2012.

The only area which did not record any change in food insecurity phase classification was the northeastern part of Mandera district which borders Somalia. Intense conflicts and poor access kept food insecurity high resulting in the area remaining in the Crisis phase. Figure 3.2.2 show the food security in the cluster in August 2012, after the long rains assessments, compared to the situation in February 2012, after the short rains assessments.

Figure 3.2.2: Food security trend in northeast pastoral cluster



3.2.5 Current Shocks and Hazard

3.2.5.1 Rainfall

The onset of the long rains was timely, during the first dekad of April, in Isiolo, Mandera and Wajir. However, the rains started late by nearly a week, during the second dekad of April, in Garissa, Ijara and Tana River districts. The rains were unevenly distributed spatially. The southern parts of the cluster, particularly Tana River and Garissa districts, received the lowest rainfall amounts which were generally less than 50 percent of normal while the northern parts of Wajir and Mandera received relatively higher rainfall amounts which ranged between 80 and 160 percent of normal rains. Localized areas in Ijara and Isiolo received between 50 to 80 percent of normal rains. The rains were poorly distributed temporally and many areas of the cluster recorded less than 10 days of rain throughout the season. The rains ceased normally in the third dekad of May except in Isiolo, Wajir and Tana River where the rains ceased earlier than usual during the first or second dekad of May.

3.2.6 Impact of Shocks and Hazards

3.2.6.1 Crop Production

Crop production is mainly practiced in the agropastoral and mixed farming livelihood zones within the cluster. About 80 percent of the long term average area was planted with maize during the long rains season. About 40 percent of the planted area was dedicated to irrigated agriculture which is significant in Tan River. Similarly, only about 55 percent of long term average area was put to sorghum production, mainly in Wajir and Mandera. Below average planting was mainly attributed to the forecast information for below average rains.

Although the poor performance of the rains and below average acreage led to below normal long rains harvests, sorghum output was relatively better. Cereal harvests were 60 percent and 75 percent of the long term average for maize and sorghum, respectively. Tana River district achieved about 85 percent of the long term average maize output, mainly due irrigated agriculture, and good rains in southern part of district. Maize produced in Tana River accounted for 75 percent of the total cluster output.

The maize stocks held by households across the cluster range between 40-60 percent of the long term average stocks. Bulk of the available stock was being held by traders whose maize stocks were 60-100 percent of average in Tana River, Wajir, and Ijara. However, traders in Mandera and Isiolo were holding about 30 percent of long term average stocks, possibly due to market disruptions caused by conflicts and insecurity, and low demand for the commodity due to availability of some milk to households.

3.2.6.2 Livestock Production

The main grazing resources such as pasture and browse were either in good or fair condition, with the exceptions of southern Garissa, Ijara and Tana River where the forage condition was poor. However, water for livestock was depleting seasonally leading to the increase in trekking distances. The return trekking distances were 10-20 kilometers compared to the normal distances of 5-10 kilometers except in parts of Isiolo and the mixed farming livelihood zones of Tana River districts where trekking distances were normal at 3-10 kilometers.

The livestock body conditions ranged between good and fair in most districts with the exception of Ijara where the body condition ranged between fair and poor. The longer trekking distances coupled with seasonal deterioration of livestock productivity resulted in low milk availability at household level. For example, majority of households accessed less than one liter of milk per day compared to the usual 3-5 liters during similar times. However, in Isiolo, where livestock birthing had started to increase, households were accessing 2-3 liters of milk per day, which was more than the usual 1.5 liters. The generally low milk availability resulted in nearly doubling of milk price in many places with a liter of milk selling for Ksh. 60-80.

Livestock migrations were reported to be occurring in Wajir, Isiolo, Garissa, Tana River, and Ijara. For example, some livestock from Isiolo had migrated to Meru, while others from Garissa, Ijara and the northern parts of Tana River had migrated to the Tana Delta, Taita Taveta, Mwingi and Kitui. Some migrations had also occurred into Isiolo from Wajir. However, the livestock migrations were not as widespread as they were last year. Increased livestock movements and concentrations increased the risk of disease outbreaks in many places. Suspected outbreaks of diseases were reported in different areas, for example, suspected Pestes Petits des Ruminant (PPR) in Mandera, Foot and Mouth Disease (FMD) in Isiolo and Lumpy Skin Disease (LSD) in Tana River. Nevertheless, livestock mortality was within the normal range implying that the diseases were localized.

3.2.6.3 Water and Sanitation

The main water sources in the cluster were boreholes, water pans, shallow wells, and sand dams. The temporary water sources recharged to 30-50 percent of capacity except in Banissa, Lulis, and Garsesala in Mandera where water sources recharged to 80 percent of capacity.

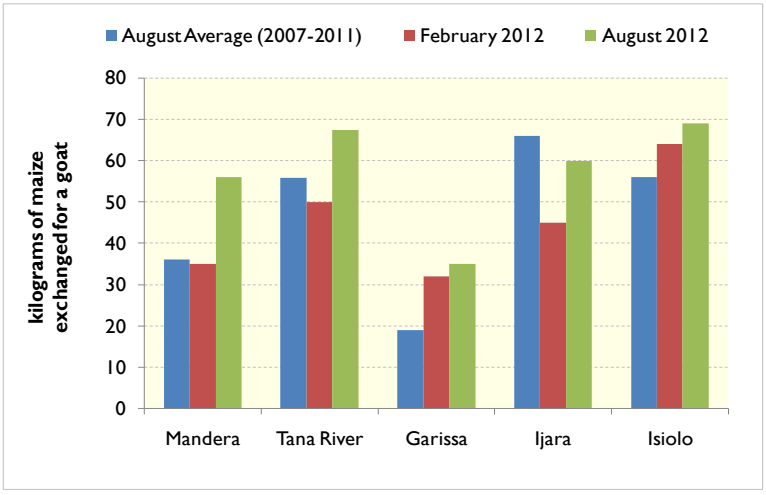
In areas outside of Mandera and Isiolo, nearly 80 percent of earth pans had dried up while the remaining 20 percent were expected to last for only one month. There was a severe water shortage in parts of Wajir and eastern Mandera districts and water trucking was ongoing in the affected areas.

The distance to water points were normal in parts of Garissa, Wajir, and Isiolo where they averaged 1-5 kilometers but had more than doubled in northern Garissa, Southern Wajir, Ijara, and Tana River. In areas where distances to water were normal, the waiting time at water sources were stable at less than an hour. The cost of water was normal ranging between Ksh. 2-5 per 20 liter jerrycan with the exception of parts of Mandera where water prices were above normal at Ksh. 5-10. Water consumption was normal at 15-20 liters per person per day in most parts of Wajir, Garissa, and mixed farming zone of Tana River. However, water consumption was below the threshold in Isiolo, Ijara, and Mandera at about 6-10 liters per person per day. Though households were overwhelmingly relying on unprotected water sources, no water borne disease outbreaks were reported even though water treatment is low. The risk of water contamination is usually high due to the low latrine coverage which estimated to be 10-41 percent.

3.2.6.4 Market Performance

Insecurity disrupted market operations across the cluster with the exceptions of Isiolo and Ijara. The main supply sources for staple food in the cluster were Ethiopia (through Moyale), Laikipia and Nairobi. Usually, the main supply source is Somalia.

Figure 3.2.3: Comparative terms of trade in northeast pastoral cluster



A kilogram of maize staple was selling for Ksh. 35-65 in the cluster which was 50-100 percent above the five year average price. However, prices were exceptionally high in Mandera where a kilogram of maize was selling for Ksh. 80, compared to the normal price of Ksh 40. The main drivers of the high maize prices were high transport and transaction costs.

The price of a mature goat ranged between Ksh. 2500-4000, which was up to four times the normal price. The high goat prices were offsetting the high maize prices leading to enhanced household purchasing capacity. The terms of trade have generally been improving since February 2012. As figure 3.2.3 show, household terms of trade were up to 85 percent above the five year average except in Ijara where it was 10 percent below average. Goat prices were declining in Ijara and Tana River due to the deterioration of body conditions and low demand in the markets, pushing prices down.

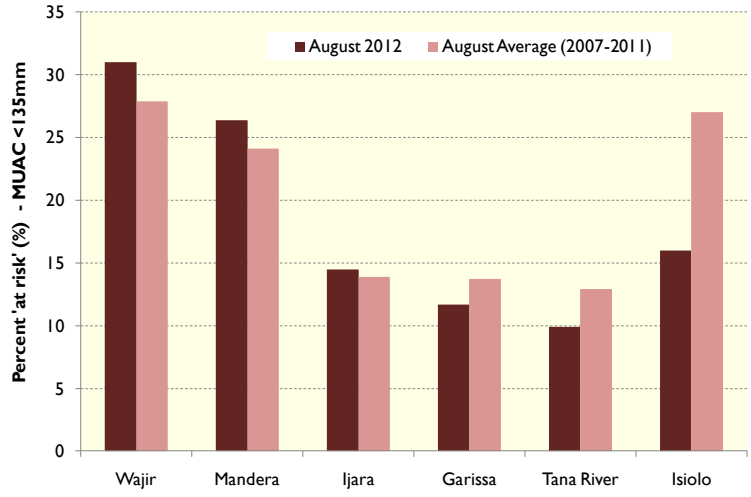
3.2.6.5 Health and Nutrition

The leading causes of morbidity in the cluster were respiratory diseases, malaria, diarrhea, pneumonia and skin diseases. Apart from the unusually high incidences of respiratory infections in Garissa and diarrheal diseases in Ijara, the reported cases of the other diseases were within the seasonal norms. Measles outbreak was reported within the cluster in Isiolo, Mandera, Wajir and Tana River.

The crude and under five mortality rates were below the WHO emergency thresholds of two and one per 10,000 per day**.** Meanwhile**,** immunization coverage for the period under review was below the target in all the districts except Isiolo and Tana River. Poor immunization coverage was attributed to lack of outreach services and inadequate vaccines. Similarly, vitamin A supplementation was below the national target of 80 percent except in Ijara and Isiolo districts. Low vitamin A coverage was mainly in children above one year old who have completed immunization and hence not taken to health facilities for other routine services.

The nutrition status of children appears to be stable in most districts with the exceptions of Wajir, Mandera and Ijara where it was worsening. The proportion of children under five years of age 'at risk' of malnutrition, was 5-10 percent above the five year average in Ijara, Mandera and Wajir, but 20-40 percent below average in Garissa, Tana River and Isiolo. Figure 3.2.4 shows the comparative MUAC rates across the cluster in August 2012.

Figure 3.2.4: Proportion of under-5 year olds at risk of malnutrition in northeast pastoral cluster



In general, the dietary diversity was poor as majority of households were consuming three or less food groups. The number of meals had also reduced as majority of households were consuming 1-2 meals compared to the normal of at least three meals. Meal number was lowest in Garissa where majority of households indicated that they were consuming one meal per day.

3.2.6.6 Education

Enrolment in public primary schools has increased by between 6-12 percent across the cluster. Attendance was stable with high attendance of up to 99.6 percent being recorded in all the districts between first and second terms of 2012. There was a decline in school dropout rates within the cluster except in Isiolo where an estimated 14 percent of pupils dropped out of school because of persistent conflicts. All the public primary schools were implementing the regular schools meals programme which had greatly contributed to the improved school retention and completion rates.

3.2.6.7 Coping Strategies

The coping strategy index ranged between 0.1-0.2, and was highest in Garissa. The majority of households were engaging in usual coping strategies including reducing the number, frequency and diversity of meals, increased borrowing and credit purchases, as well as reliance on remittances. Meanwhile, charcoal burning was increasingly becoming institutionalized while some households also increased trade in wood and wood products.

3.2.6.8 Food Security Prognosis

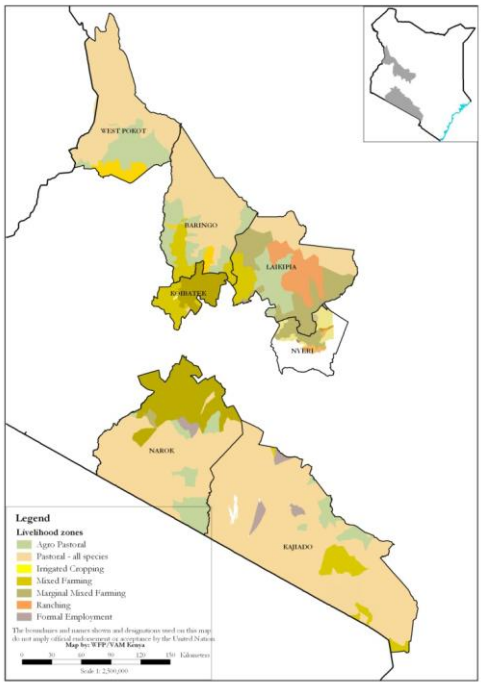
The food security situation is expected to continue deteriorating seasonably until the onset of the short rains in October. As a result, the food insecurity phase classification may go to Crisis by October in many places with the exception of Isiolo where the situation is likely to remain in the Stressed Phase. However, the expected enhanced short rains will positively impact key environmental indicators leading to significant improvements in food security from December onwards.

3.3 The Agropastoral Livelihood Cluster

3.3.1 Cluster Background

The Agropastoral livelihood cluster consists of Kajiado, Narok, West Pokot, Baringo, Laikipia, Koibatek and Nyeri (Kieni) districts. The cluster covers approximately 68,820 square kilometers and has an estimated population of 2,908,040 persons. The main livelihood zones in the cluster, as depicted in Figure 3.3.1, are mixed farming, pastoral, marginal mixed farming and agropastoral, which accounts for 36, 28, 13 and 11 percent of the cluster population. Livestock production contributes to 70-80 percent of cash income in the pastoral zone while crop production contributes to 55 percent to cash income in agropastoral livelihood zone. Households in this cluster access 30 and 60 percent of food from own production and market purchases respectively.

Figure 3.3.1: Agropastoral cluster livelihood zone



3.3.2 Factors Affecting Food Security.

The main factor affecting food security in the cluster include erratic rainfall, floods, crop diseases and pests, frost bite, low use of certified seeds, poor soil fertility, human and wildlife conflicts, and high cost of farm inputs. Other factors included insecurity caused by inter-ethnic conflict, livestock diseases, poor terms of trade and poor road network.

3.3.3 Overall Food Security Situation.

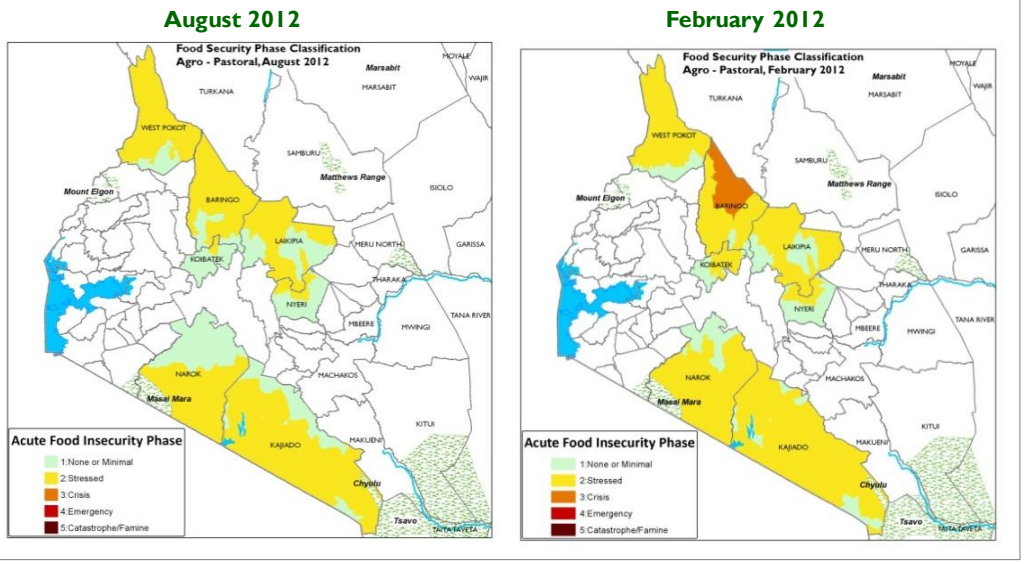
In general, most parts of the cluster are classified as Stressed (IPC Phase 2). However, many areas of Narok, Koibatek and Laikipia are in the Minimal Acute food insecurity phase (IPC Phase 1). While crop harvests were below average due to excess rainfall and the maize lethal necrosis disease (MLND), livestock productivity has significantly improved.

Abundant pasture, browse and water have resulted into good livestock body conditions, leading to above average market prices for livestock and enhanced milk production. Improved milk production coupled with availability of various short cycle crops and vegetable has enhanced household food consumption in many places.

3.3.4 Food Security trends

Most areas of the cluster were generally classified as Stressed in February 2012, after the short rains assessments. Subsequently, the good long rains have led to marked improvements in many places, leading to changes in food insecurity phase classifications. For instance, the northern pastoral area in Baringo which was in the Crisis Phase has now moved to the Stressed Phase. Similarly, the northern parts of Kajiado, Narok and most of Koibatek that were in the Stressed Phase have now improved to the Minimal Acute food insecurity phase. Figure 3.3.2 illustrates food security situation in the cluster in August 2012 compared to the situation in February 2012.

Figure 3.3.2: Food security trend in agropastoral cluster



3.3.5 Current Shocks and Hazards

3.3.5.1 Rainfall

The long rains started during the second dekad of April as opposed to the normal onset which is the first dekad of April. However, in Kajiado and West Pokot the rains started in the first to second dekad of March. The rains were unevenly distributed spatially. The northern parts of the cluster received high rainfall amounts ranging between 120-200 percent of normal while in the southern part including Nyeri, Narok and Kajiado, rainfall amounts were between 50-120 percent of normal rains. The southern tip of Kajiado received the least rainfall amounts, less than 50 percent of normal. Rainfall amounts were highest in Baringo which received more than 300 percent of normal rains. The temporal distribution of the rains was fair although some areas received high rainfall amounts in a few days. The rains ceased in the second and third dekad of June. However, Baringo and West Pokot continued to receive off-season rains through August.

3.3.5.2 Other Shocks and Hazards

Other shocks and hazards, in the cluster included insecurity, flooding, landslides, inter-ethnic clashes, cattle rustling, and livestock and crop diseases. Baringo was most affected as incidences of flooding, landslides and inter-ethnic clashes were reported. Meanwhile, the MLND was more significant in Narok and Kieni while FMD occurred in Koibatek.

3.3.6 Impact of Shocks and Hazards

3.3.6.1 Crop Production

The long rains are the main season in the cluster. The overall area achieved for maize production was the same as the five year average area which is estimated to be 123,000 ha. Similarly, achieved maize output of 3.9 million bags compared well with the long term average production of four million bags. Maize harvests were above the five year average by 10-55 percent in Laikipia, Koibatek, and Kajiado. However, a combination of frost and the MLND led to significant crop losses in Kieni where achieved harvests were only 30 percent of average. Although the disease also negatively impacted farmers in Narok, 90 percent of long term average crop harvests were achieved. A combination of landslides, flooding, leaching and suspected MLND lead to a drop in maze harvest in Baringo where 70 percent of long term average maize harvest was achieved.

The majority of households in the cluster have maize stocks which are estimated to be 70-100 percent of the long term average. The available stocks are expected to last well into the short rains season in most places, with the exception of Kieni. However, household food consumption was expected to remain favorable due to improved availability of other crops such as potatoes and beans.

3.3.6.2 Livestock Production

The pasture and browse conditions were good across the cluster. The available forage was expected to last for up to five months, except in the mixed farming livelihood zone of Kieni where forage was expected to last for a maximum of two months. However, cattle rustling and conflicts were adversely affecting the access to pasture and water in the pastoral livelihood zone in Baringo.

Overall, the livestock body condition was good for all species in all districts while milk production was just below average levels at one to two liters per day. Below average milk production was attributed to below normal number of livestock as households were still rebuilding their herds after previous successive poor seasons. However, in the mixed farming livelihood of Koibatek milk production was normal, with most households able to access more than four liters of milk per day.

Milk consumption at household level was within the normal range of two liters per day. Since bulk of the produced milk was being consumed by households, market prices were slightly above average, at about Ksh. 45 per liter compared to the normal price of Ksh. 40. However, in the mixed farming livelihood zone in Kieni and Koibatek, milk prices were below the average level with a liter selling for Ksh. 30, down from the usual Ksh. 35.

There were outbreaks of FMD in Kieni and Koibatek which led to closure of all livestock markets in the affected areas. Due to the cold weather, an outbreak of contagious caprine pleuro pneumonia (CCPP) resulted in significant mortalities of sheep in Koibatek.

3.3.6.3 Water and Sanitation

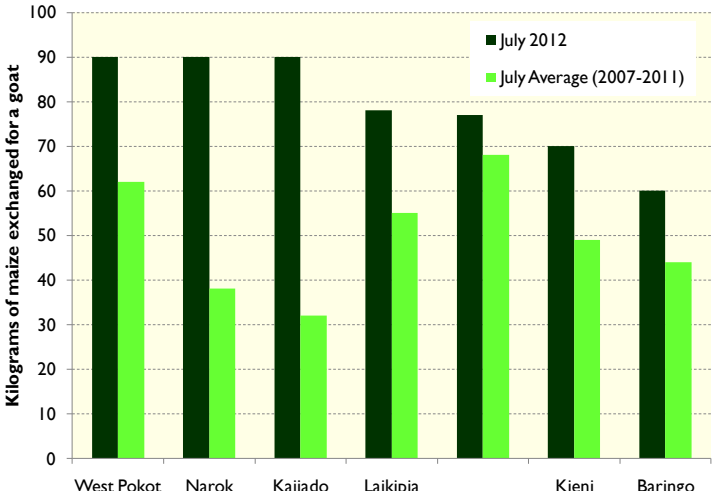
The main water sources in the cluster were rivers, boreholes, pans, dams, springs, wells and dry river beds. Water sources recharged to 70-80 percent of their capacity in many places due to the high rainfall amounts. The distances to water sources were generally normal or below normal and range between 1-6 kilometers except in Kajiado where livestock trekking distances ranged between 15-20 kilometers in the pastoral zone. The waiting time at water sources ranged between five and 30 minutes across the cluster, and was within normal. The average cost of water was Ksh.10 for 20 liters across the cluster. In the mixed farming livelihood zone consumption of water ranged between 20-30 liters per person per day while in the agropastoral zones it ranged between 10-20 liters per person per day. Typhoid cases were reported in Koibatek due to borehole contamination from latrine effluent. Open defecation is common in the agropastoral livelihood zones, which increases the risk of water contamination.

3.3.6.4 Market performance

Market operations were normal except in Koibatek and Kieni where some livestock markets were closed following an outbreak of FMD. The main source of food in Narok and Kajiado was Tanzania, through Namanga. Meanwhile, Uasin Gishu, Marakwet and Trans Nzoia were also important food sources for Baringo and West Pokot districts.

A kilogram of maize was selling for between Ksh 30-55, and was highest in Baringo. Despite average maize output and good market supplies, prices were 30-50 percent above the five year average across the cluster. However, maize prices are expected to significantly decline from October onwards when bulk of the harvests reach the market.

Figure 3.3.3: Comparative terms of trade in agropastoral cluster



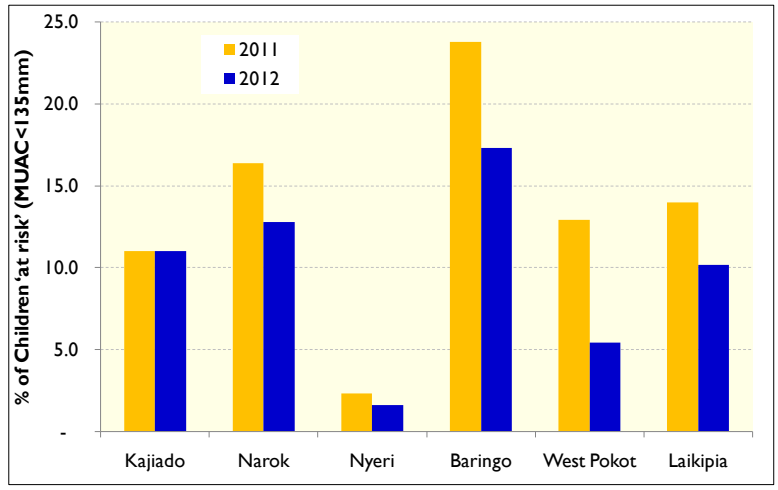
Livestock prices were above average across the cluster. A goat sold for between Ksh. 2,500-3,600 which was 20-40 percent above the five year average. The terms of trade were generally favorable and had significant improved in Kajiado where they had nearly tripled since February 2012. Figure 3.3.3 illustrates the terms of trade in July 2012 compared to the five year average terms of trade.

3.3.6.5 Health and Nutrition

The leading causes of morbidity across the cluster were upper respiratory tract infection (URTI), malaria and diarrheal diseases. Malaria was the leading cause of morbidity in West Pokot. Though disease incidences appeared to be stable and were lower than during a similar period in 2011, cases of URTI were on an increasing trend in Koibatek. There were no outbreaks of epidemic prone diseases reported in the cluster except suspected measles cases in Baringo and Kajiado districts. Cases of dysentery were reported in all districts, probably highlighting the low level of hygiene and sanitation.

The crude mortality rates and under five mortality rates were below the WHO emergency threshold. However, in Baringo the under-five mortality rates was 1.48 indicating a serious situation. Heightened under-five mortality in Baringo was attributed to malaria.

Figure 3.3.4: Proportion of under-five year olds at risk of malnutrition in the agropastoral cluster



The rates of child malnutrition as depicted by children at-risk of malnutrition indicated a stable situation across the cluster. The proportion of children 'at risk' of malnutrition was either below the five year average or comparable. Figure 3.3.4 show comparative MUAC rates in July 2011 and July 2012.

3.3.6.6 Education

The school enrolment increased, particularly in Baringo where enrolment rose by 20 percent in 2012. At the same time, school attendance was stable. The dropout rates declined across the cluster. The home grown school meals programme was being implemented in all the districts though it was only targeting schools located in areas of high poverty.

3.3.6.7 Food security prognosis

The food security situation is likely to remain in the Stressed or Minimal Acute Food Insecurity Phase in most areas. However, the food security situation may somewhat deteriorate in parts of West Pokot and Baringo due to the likelihood of heightened cattle raiding which normally increase towards the end of the year during rites of passage ceremonies.

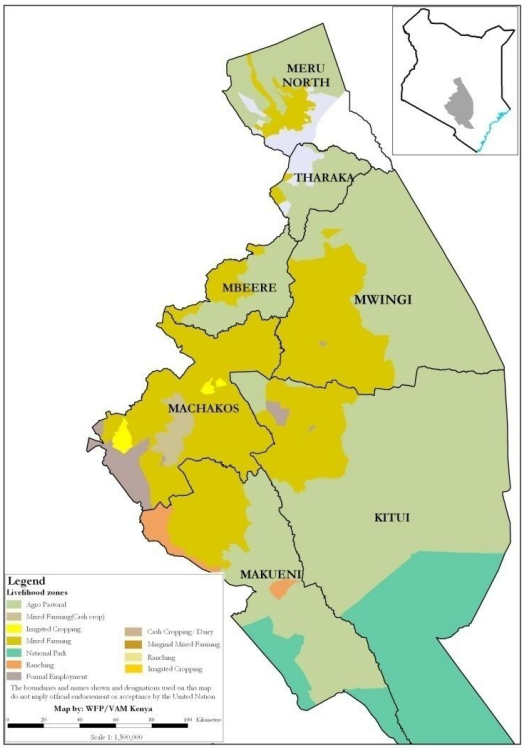
In Koibatek, Kajiado and Narok the situation is expected to improve as households consolidate gains from the long rains season. Food security is expected to strengthen from January onwards, particularly if expected enhanced short rains do not result in significant destruction of infrastructure or cause widespread water and vector borne disease outbreaks.

3.4 The Southeastern Marginal Agriculture Livelihood Cluster

3.4.1 Cluster Background

The Southeastern marginal agricultural cluster comprise of the greater Kitui, Machakos, Makueni, Mbeere, Meru North, Mwingi and Tharaka districts. The cluster covers approximately 54,158 square kilometers and has an estimated population of 4,158,090 persons. The main livelihood zones in this cluster are mixed farming and marginal mixed farming which account for about 65 and 25 percent of the population, respectively. Crop production is the most important income source in the cluster contributing to 40 percent of household cash income. Other important income sources are livestock production and employment which contributes to 35 and 25 percent of household cash income, respectively. Figure 3.4.1 shows the cluster location and the livelihood zones within it.

Figure 3.4.1: Southeastern marginal agricultural cluster livelihood zone



3.4.2 Factors Affecting Food Security

The main factor affecting food security in the cluster is the poor performance of the long rains which resulted in below average crop production. Other factors affecting food security are poorly organized markets, communal land tenure system in Tharaka and Mbeere, the Maize Lethal Necrosis Disease (MLND) in Meru North, low adoption of drought tolerant crops, and high food prices. In addition, livestock influx into Mwingi, Meru North, Tharaka and Kitui districts caused resource-based conflicts that impacted negatively on household food security in the affected areas.

3.4.3 Overall Food Security Situation

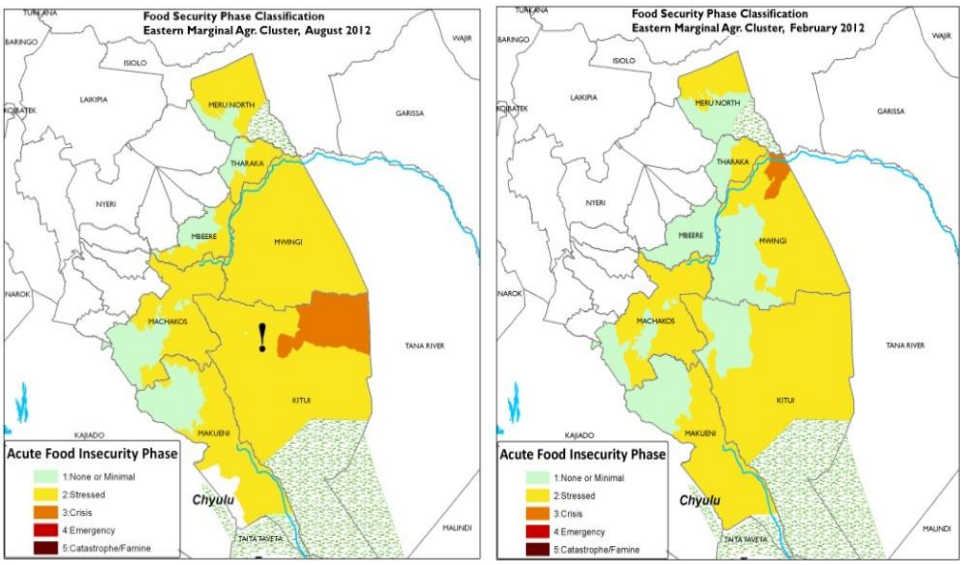
Most parts of the marginal mixed faming livelihood zone within the cluster are classified as being in the Stressed Phase of food insecurity. However, most parts of the mixed faming zone; particularly in Mbeere, Machakos, Makueni, Tharaka and Meru North are in the Minimal Acute food insecurity phase. The northeastern part of Kitui is in the Crisis Phase, mainly due to conflicts and displacements.

3.4.4 Food Security Trends

Most areas of the cluster were classified as Stressed after the short rains assessments in February and have remained in the same phase after the long rains assessments.

However, food security situation has deteriorated to the stressed phase in parts of Mwingi, Kitui, Mbeere and Meru North that were classified as having Minimal Acute food in February, after the short rains assessments.

Figure 3.4.2: Food security trend in Southeast marginal agricultural cluster



Meanwhile, food insecurity has intensified in the northeastern part of Kitui that are now classified in the Crisis Phase, from the Stressed Phase in February 2012. The food insecurity crisis is mainly being driven by conflicts and displacements. Figure 3.4.2 shows the food insecurity phase classification in August 2012 compared to the situation in February 2012.

3.4.5 Current Shocks and Hazards

3.4.5.1 Rainfall

The long rains started during the first dekad of April across the cluster with exception of Mwingi district where rains started normally in the second dekad of March. In general, the onset of the long rains delayed by about two weeks across the cluster. The long rains were unevenly distributed spatially. The western and northwestern parts of the cluster received rainfall amounts exceeding 80 percent of normal long rains while the southeastern part received less than 50 percent of normal long rains. The rainfall amounts was lowest in localized areas of eastern Kitui that received less than 20 percent of normal long rains. Rainfall amounts were highest, over 120 percent of normal in most parts of Tharaka and western part of Machakos. However, the rainfall was poorly distributed temporally with most rains being received in April. The rains ceased prematurely in the first to second dekad of May across the cluster instead of the normal cessation time which is the first dekad of June.

3.4.6 Impact of Shocks and Hazards

3.4.6.1 Crop Production

The long rains contribute to about 30 percent of annual crop output in the cluster. The three main crops grown are maize, green grams and cowpeas. Beans are mainly grown in Machakos and Meru North districts. Although the area planted with maize was about 40 percent above the long term average (LTA), overall production was below average and ranged between 40 to 60 percent of LTA. Maize production was significantly below average in Meru North and Tharaka where harvests averaged only eight and 16 percent of the LTA, respectively. Below average harvests were attributed to erratic rainfall, floods in parts of Makueni, frost in parts of Machakos, leaching of soil nutrients due to torrential rains, and the MLND in Meru North. Conversely, the area under cowpeas and green grams was above average by about 65 and five percent, respectively. However, due to the poor performance of the long rains, production was 40 and 80 percent below average for cowpeas and green grams, respectively.

The crops grown under irrigation included tomato, kale and banana. The irrigated area under tomato reduced by about 15 percent though output increased by about 20 percent. Irrigated area under kale and banana increased by about 20 percent leading to a corresponding increase in output by about 15 percent for kale and 75 percent for banana.

The stocks held by households ranged between 20 to 40 percent of average. Below normal stocks were as a result of the poor production during the long rains season that followed an equally poor short rains season production. The stocks held by traders were 70 to 90 percent of average across the cluster. The available stocks were expected to last for one to one and a half months.

3.4.6.2 Livestock Production

The pasture and browse conditions were fair across the cluster and was expected to last for two months. The exception was Machakos where the pasture and browse conditions are good and expected to last for three months. The livestock body conditions were fair across the cluster with the exception of Machakos where they were good.

Due to below average livestock holdings, households were only accessing 0.5 to one liter of milk per day compared to the normal of one to four liters. However, in the mixed farming livelihood zone of Meru North and Machakos, milk availability was normal at about four to five liters per day. Due to below normal availability, the price of milk was averaging between Ksh. 60-70 compared to the normal of Ksh. 40-50. Household milk consumption was below normal averaging 0.3 to 0.5 liters compared to the normal of 0.5 to 1.5 liters.

The return trekking distance to water sources increased to about eight to 12 kms from the usual four to six kilometers. In migration of livestock into Mwingi and Kitui resulted in conflicts over water and pastures. Meanwhile, foot and mouth disease (FMD) outbreaks were reported in Kitui, Makueni and Tharaka while the new castle disease (NCD) outbreak was reported in Machakos.

3.4.6.3 Water and Sanitation

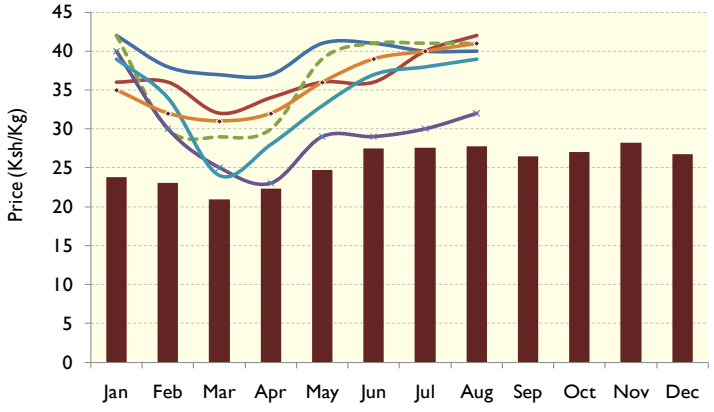
The main water sources in the cluster were rivers, boreholes, pans, dams, springs, wells and dry river beds. Most of the water sources were operating normally. In addition, the trekking distances to water sources were stable at about two to four kilometers across the cluster.

However, waiting time at the water sources remained relatively stable at 10 to 20 minutes across the cluster with the exception of the marginal mixed farming livelihood zone in Kitui, Mwingi, and Makueni and the mixed farming livelihood zone in Machakos. Water consumption was normal at 15 to 20 liters per person per day across the cluster. However, in parts of the marginal mixed farming livelihood zones in Kitui, Makueni and Mbeere, water consumption was less than 10 liters per person per day.

3.4.6.4 Market Performance

The market operations were normal across the cluster except in Meru North and Kitui districts where livestock markets were closed in June due to an outbreak of FMD. The traded volumes of food staples were normal though bulk of the supplies was sourced from outside the cluster. Main supply sources were Kajiado, Tanzania and the Rift Valley province.

Figure 3.4.3: Trends of maize prices in Southeastern marginal agricultural cluster



A kilogram of maize was selling for about Ksh. 30, up from the long term average price of Ksh 20. The highest price of maize, Ksh. 40, was recorded in Mwingi, Kitui, Makueni and Mbeere. Maize prices were lowest in Meru North at about Ksh. 30 per kilogram. Figure 3.4.3 shows the trends of maize prices in the cluster in 2012 compared to the five year average.

Due to the good body conditions, the prices of livestock were 15 to 50 percent above long term average. A mature goat was selling for about Ksh. 3,000 against the long term average of Ksh. 1,880. The prices were highest in Makueni at about Ksh. 3,800, and lowest in Kitui at Ksh. 2,000. The terms of trade were favorable across the cluster though relatively lower in Kitui. A goat was exchanging for about 80 to 100 kilograms of maize compared to the long term average of 55 to 75 kilograms.

3.4.6.5 Health and Nutrition

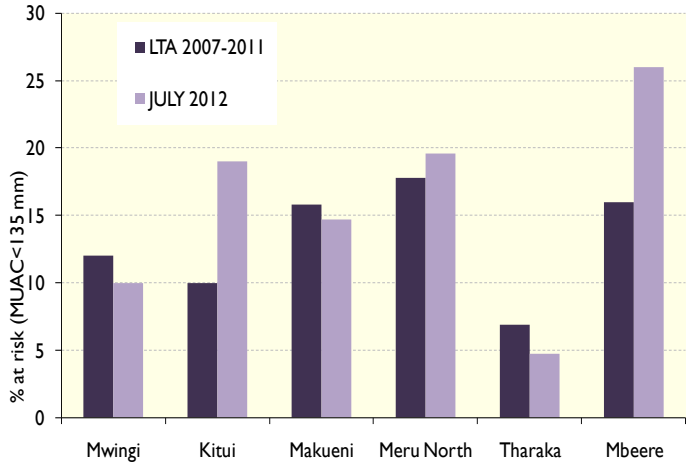
The morbidity trends for the under fives and the general population were similar across the cluster and were within the seasonal range. Measles outbreak was reported in Tharaka, Meru North, Mwingi and Kitui. As a result of the outbreak, 13 deaths occurred in Mwingi. Meanwhile, dysentery cases were reported in Meru North, Makueni and Machakos districts.

In addition, amoebiosis (5,434 cases) and typhoid (1,123 cases) were reported in Makueni and Mbeere districts, respectively. The under five mortality and crude mortality rates ranged between 0.1 and 0.2 per 10,000 persons per day which was below the alert cut offs.

The child immunization rate was above the national target of 80 percent across the cluster except in Makueni, Tharaka, and Mwingi where immunization rate ranged between 50-68 percent. Meanwhile, vitamin-A supplementation for under-fives ranged between 50 to 65 percent, which was below the national target of 80 percent except in Makueni and Kitui where the national target had been achieved.

The proportion of children under five years of age 'at risk' of malnutrition was 7.6 percent in Makueni and Mwingi, which was below the long term average. In the two districts, the MUAC rates marginally increased. In Meru North, Kitui and Mbeere the proportion of children 'at risk' of malnutrition range between 19 and 26 percent, and were above the long term average (Figure 3.4.4).

Figure 3.4.4: Comparative MUAC rates in the Southeastern marginal agricultural cluster



Households were consuming two to three meals per day across the cluster except in Makueni, Mwingi and Kitui where they were consuming one to two meals per day. The food consumption scores indicate that 17 percent of the households had borderline food consumption while 12 percent had poor food consumption.

3.4.6.6 Education

The enrolment rate generally increased except in Tigania East where it declined. In general, boys' enrolment was higher than that of girls. However, in the early childhood development and education (ECDE), the trend was reversed. The dropout rate was minimal across the cluster, particularly in Tharaka and Makueni where dropout rates were lowest, less than two percent. However, dropout rates were highest in Mbeere and Meru North. The main drivers of school dropouts across the cluster included, abuse of khat (*miraa)*, child labour, poverty, early marriage or teenage pregnancies, and the teachings of a religious sect (Kavonokia sect in Tharaka). The sect discourages it members from joining formal education.

The transition rate from ECDE to primary was above 80 percent compared to 40 to 65 percent transition rate from primary to secondary schools. The ongoing school meals programme has impacted positively on schools' enrolment, retention, completion and attendance. The districts without school meals programs, like Meru North, have recorded the highest school dropouts.

3.4.6.7 Coping Strategies

Across the cluster, households were engaging in normal coping strategies. The most common coping strategies included charcoal burning, reduced size and frequency of meals, and increased reliance on casual labour, including among the under aged children in Meru North. The strategies were generally not severe. The coping strategy index averaged between 0.14 in Tharaka and 0.2 in Kitui.

3.4.6.8 Food Security Prognosis

The food security situation is likely to deteriorate to the Crisis Phase by October, before onset of the short rains, particularly in the marginal mixed farming livelihood zones. The exceptions are the mixed farming zones in the southwestern part of the cluster, where acute food insecurity is likely to remain Minimal or nonexistent.

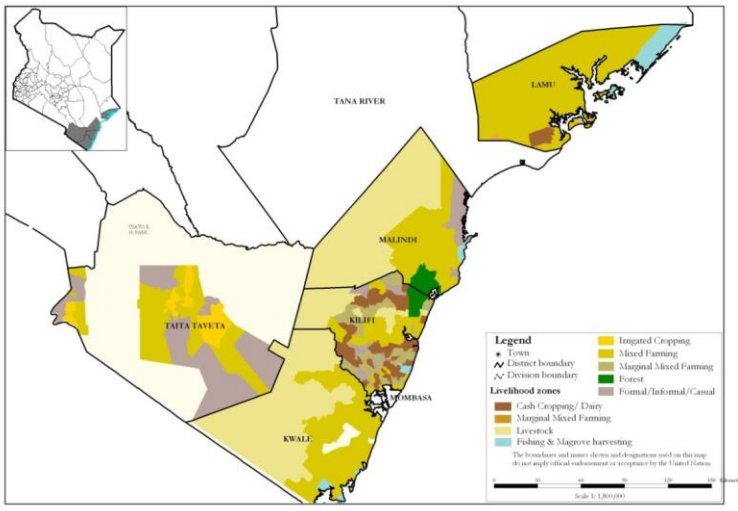
In migration of livestock is expected to intensify within the cluster heightening the risk of resource based conflicts, and spread of livestock diseases. Poor dietary diversity and decreasing quality of water is expected to continue impacting negatively on human health. Meanwhile malnutrition is likely to rise, especially in the northern most districts of the cluster, where MUAC rates are already above the long term average and rapidly increasing.

3.5 The Coastal Marginal Agricultural Livelihood Cluster

3.5.1 Cluster Background

The Coastal marginal agricultural cluster is located in southernmost tip of Kenya. It consists of the larger Kwale, Malindi, Kilifi, Taita Taveta and Lamu districts (Figure 3.5.1). The cluster covers an area of 47,860 square kilometers and has an estimated population of 2.3 million people. The main livelihood zones in the cluster are mixed farming, formal and informal employment, and marginal mixed cum livestock farming, which account for 60, 20 and 15 percent of the cluster population. The main source of household income is livestock production which account for 40 percent of household cash. Crop production and waged labor are also important as each contribute to 30 percent of household's cash income.

Figure 3.5.1: Coast marginal agricultural cluster livelihood zone



3.5.2 Factors Affecting Food Security

The main factor affecting the food security situation, particularly in the livestock farming and mixed farming livelihood zones, is the poor performance of the 2012 long rains which follow two to three successive previous poor seasons.

The other factors affecting food security include inappropriate agronomic practices such as use of uncertified seeds, production of maize in unsuitable areas, and tilling methods that lead to the development of hard pan in soil. Low livestock holdings, lack of adequate fishing gear, chronic poverty, high food prices, and endemic human and wildlife conflict in areas bordering national parks are also negatively impacting on food security.

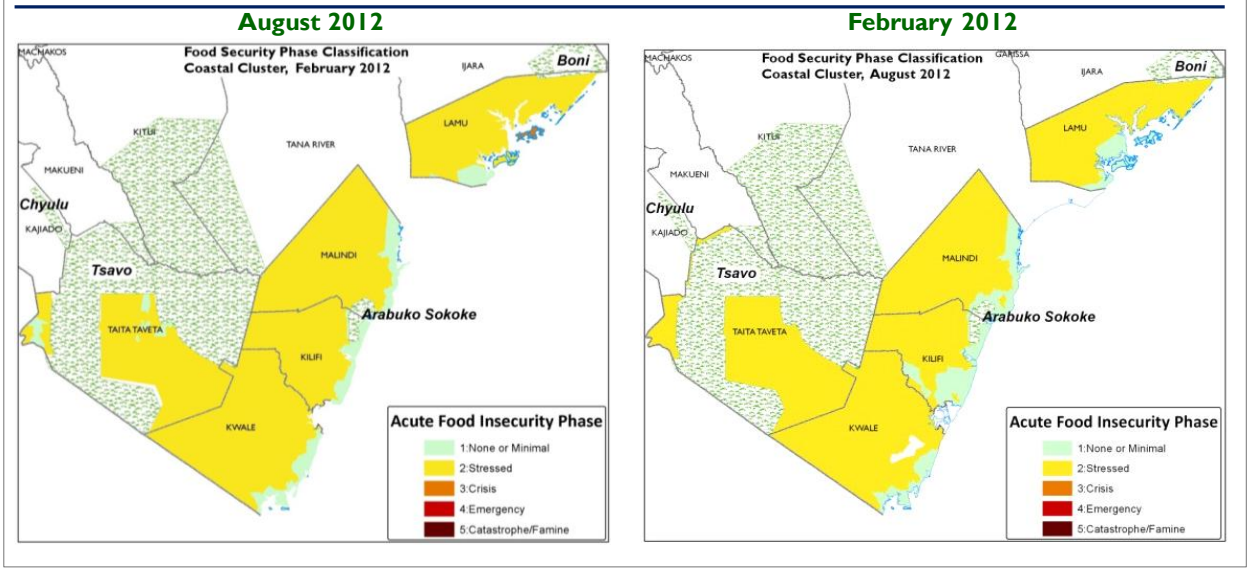
3.5.3 Overall Food Security Situation

Most parts of the cluster are classified as being in the Stressed Phase of food insecurity. Despite the poor performance of the rains, majority of households have some food stocks from the ongoing harvests, even though harvests are significantly below normal. However majority of households situated along the coastal strip are in the Minimal Acute Food Insecurity Phase.

3.5.4 Food Security Trends

Most parts of the cluster were in the Stressed Phase after the short rains food security assessment conducted in February, 2012. The food insecurity situation has remained in the Stressed Phase after the long rains food security assessments. Although the overall phase classification has remained the same over the last six months, the food security conditions have somewhat deteriorated due to the poor performance of the long rains. For example, distances to water sources have increased over the last six months while household access to food has declined due to above average prices of food. Figure 3.5.2 show the food security situation in August 2012 compared to February 2012.

Figure 3.5.2: Food security trend in Coast marginal agricultural cluster



3.5.5 Current Shocks and Hazards

3.5.5.1 Rainfall

The long rains started on time in Taita Taveta during the second dekad of February, and in Kwale in the second dekad of March. However, in Kilifi, Lamu and Malindi districts the rains started in the second dekad of April. In latter districts, the long rains delayed by about four weeks since rains normally start during the second dekad of March.

The long rains were generally evenly distributed in most areas. Most parts of the cluster received less than 50 percent of normal long rains amounts. The exceptions were pockets in southeastern Taita Taveta and southern Kwale which received 50-80 percent of normal long rains. Localized areas in southern Lamu and the coastal strip areas of southern Malindi and Kwale, and northern Kilifi received less than 20 percent of normal rainfall amounts. The long rains were generally poorly distributed temporally across the cluster as the season was characterized by lengthy dry spells. In Taita Taveta the rains ceased earlier than usual in the second dekad of May as opposed to the usual cessation at the end of June. However, the rains were continuing in most parts of the coastal strip in August.

3.5.5.2 Other Shocks and Hazards

The other shocks affecting food security in the cluster include conflicts, flooding and disease outbreaks. Human wildlife conflicts were occurring in Lamu, Kwale and Taita Taveta districts in areas bordering the national parks. At the same time, there was tension over the mandate to manage the irrigation canal in Taita Taveta. Flooding occurred in Malindi and Kilifi in April after river Sabaki broke its banks.

3.5.6 Impacts of Shocks and Hazards

3.5.6.1 Crop Production

The long rains are important for crop production along the coastal strip and Lamu where bulk of the crop is produced. The short rains are more important in the hinterland of Malindi and Kilifi, and in Taita Taveta and Kwale. Although the overall area under maize was about 15 percent above average, harvests were expected to be 30-60 percent of long term average across the cluster with the exception of Kwale where harvests were expected to be 75 percent of average. Early distribution of seed to farmers by the Ministry of Agriculture enabled above average planting in Kwale. Meanwhile, above average rains were received in Msambweni which is the main maize production region of the district. In the other areas of the cluster, the crop was adversely affected by the poor performance of the rains at the critical stage development. In most parts of the marginal mixed farming zone, the crop wilted before maturity.

The maize stocks held in the cluster were on average 50-95 percent of long term average, with the exception of Kilifi where available stocks were about five percent above the long term average. Maize stocks levels were lowest in Malindi where they were estimated to be about 10 percent of long term average. However, majority of households were having only about two percent of average stocks in Malindi. The maize stocks held in the cluster are expected to last for about one month as opposed to the usual two to three months, with the exception of Lamu where stocks may last for up to six months.

3.5.6.2 Livestock Production

In general, the pasture and browse conditions ranged between good and fair across the cluster. Available forage, which was depleting seasonally, was expected to last for one to two months. As a result, the livestock trekking distance to watering points from grazing areas had increased to between 15 and 20 kilometers from the normal of four to 10 kilometers at similar time of the year. Although livestock trekking distances were shorter in Taita Taveta and parts of Lamu where they range between five and 10 kilometers, they were nevertheless above the long term average of two to five kilometers.

Livestock productivity had started to deteriorate and livestock body conditions ranged between good and fair in many places. Milk output had also declined and households were accessing between one to two liters of milk per day compared to the usual three to four liters at a similar time of the year. In the food cropping and dairy livelihood zones of Kilifi, milk availability was within the normal range and households are able to access up to eight liters of milk per day. Below average milk production had led to price increases from the long term average of Ksh. 25 to about Ksh. 30 to 50. The price of milk was highest in Lamu at Ksh. 60 per liter. Household milk consumption ranged between a quarter of a liter to a liter, from the normal consumption of three to four liters per day.

The livestock disease outbreaks were minimal with the exceptions of cases of FMD in Kwale, and LSD in Lamu. Nevertheless, the increasing migration of livestock was likely to precipitate an increase in livestock diseases. There were reports of increasing in migration of livestock from Garissa and Tana River into Lamu, Kilifi and Taita Taveta.

3.5.6.3 Water and Sanitation

The main sources of water for domestic use were water pans, dams, seasonal and permanent rivers, shallow wells, boreholes, piped water, 'djabias' (underground water tanks) in Lamu and springs and roof catchments in Taita Taveta. In general, surface sources recharged to 30 to 50 percent of capacity due to poor performance of the long rains. As such, surface water sources were estimated to last for two to three months instead of the usual three to four months. Distance to water sources ranged between two to six kilometers in Kwale, Taita Taveta and Lamu, and 10 to 15 km in Kilifi and Malindi.

The waiting time at water sources was stable, less than 30 minutes, across the cluster. Water consumption ranged between 10 and 15 liters per person per day in Kwale, Lamu and Taita Taveta, and between seven and 10 liters in Kilifi and Malindi. The cost of water varied. A 20 liter jerrycan was selling for about two to five shillings at the source, while vendors were selling the same for between Ksh. 10 and Ksh. 30.

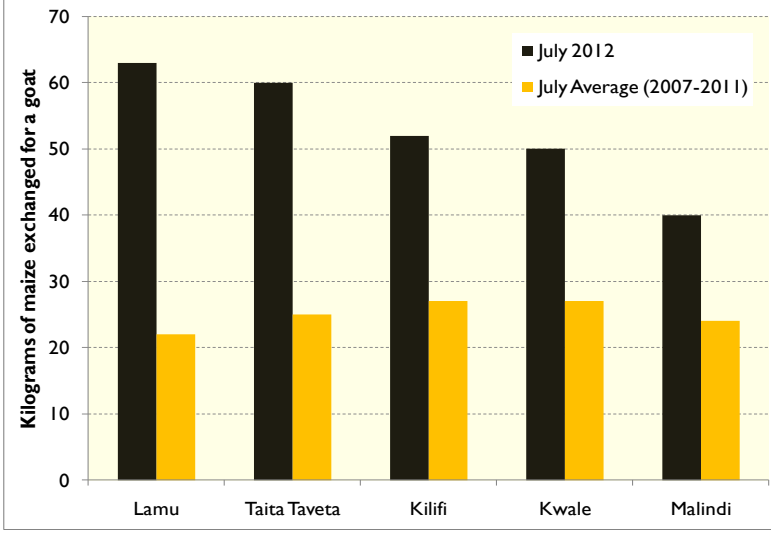
Sanitation levels were low across the cluster, for example, latrine coverage ranged between 55 and 65 percent with the exception of Kwale where it was less than 40 percent. Water treatment was low, estimated to be about 20 percent, with the exceptions of Malindi and Taita Taveta where water treatment was about 70 percent. Households normally treat water by boiling or applying treatment chemicals. While no incidences of water borne disease outbreaks were reported, high cases of diarrhea in Mryachakwe, Bamba and Tsangatsini in Kilifi, and Lamu together with incidences of bilharzias and typhoid fever in Lamu may be attributed to poor water quality.

3.5.6.4 Market Performance

Market operations were normal and the main sources of supply of staple foods included Tanzania, Loitokitok (Kajiado), Rift Valley and imports through the port of Mombasa. The prices of maize staple ranged between 50 and 80 percent above the long term average across the cluster. A kilogram of maize was selling for between Ksh. 35-50. Maize price was highest in the marginal mixed farming zone of Kwale where a kilogram was selling at Ksh. 70.

The price of goat was 50-100 percent above the long term average in the cluster and ranged between Ksh. 2,500-2,600. As illustrated in figure 3.5.3, the terms of trade were above average and had been improving since February 2012. A goat was exchanging for between 40 and 60 kilograms of maize compared to 30 to 40 kilograms in February 2012. The current terms of trade were over 80 percent above the five year average. Normally, a goat exchanges for about 20 to 25 kilograms of maize.

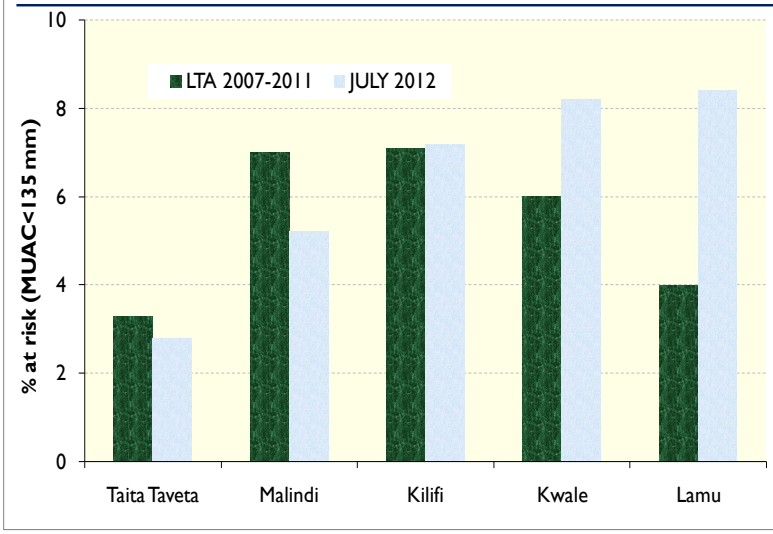
Figure 3.5.3: Comparative terms of trade in Coast marginal agricultural cluster



3.5.6.5 Health and Nutrition

The top five diseases in order of prevalence for the under fives and the general population were similar across the cluster. The main causes of morbidity included upper respiratory tract infections (URTI), malaria, diarrhea, skin infections and pneumonia. However, urinary tract infections and bilharzia were more prevalent among adults while pneumonia was common among the children. In general, morbidity was on a downward trend across the cluster with the exceptions of Kilifi and Lamu where diarrhea incidences were increasing. Measles outbreak was reported in Malindi and Kwale resulting in 88 cases and 47 cases (and one death), respectively. The under-five mortality rate (U5MR) and crude mortality rate (CMR) were less than 0.5 per 10,000 persons per day, which was below the alert cut offs.

Figure 3.5.4: Comparative MUAC rates in Coast marginal agricultural cluster



Immunization coverage and Vitamin A supplementation was above the national target of 80 percent across the cluster. The proportion of children at risk of malnutrition ranged between five and 8.2 percent across the cluster which was above the long term average except in Taita Taveta and Malindi (Figure 3.5.4). In general, households were consuming two to three meals per day across the cluster except in Malindi and Kilifi where households are consuming one to two meals.

3.5.6.6 Education

In general, the enrolment rate was rising in most districts except Taita Taveta. The dropout rate varied in the livelihood cluster with Taita Taveta and Lamu recording a minimal dropout rate in ECDE due to effective parental sensitization programs on the importance of education. Transition from ECDE to primary was high in the cluster and range between 80 and 100 percent in Lamu, Malindi and Taita Taveta. However, transition rate from primary to secondary school was below the national target of 80 percent, highest in Taita Taveta at 72 percent and lowest in Lamu at 50 percent.

The School Meals Program (SMP) namely Home Grown School Meals Program (HGSMP) and Extended School Meals Program (ESMP) were being implemented within the cluster. The programmes contributed to improved enrolment, retention, and completion rates. However, many other schools that were not being targeted were also in need of support.

3.5.6.7 Coping Strategies

In general, majority of households were meeting their food needs through normal livelihood strategies. However, some households that were experiencing significant food gaps were resorting to coping strategies such as increased charcoal burning particularly in Kilifi and Taita Taveta, consumption of less preferred foods, and reducing quantity of meals particularly in Kilifi and Malindi. Other coping strategies include increased migration in search for labour in Taita Taveta and Malindi, and increased early sale of livestock including young livestock in the mixed marginal livelihood zone of Kilifi.

3.5.6.8 Food Security Prognosis

The food security situation is likely to deteriorate from the current Stressed Phase to Crisis Phase in the short term, before the onset of the short rains in mid October. Significant deterioration is expected in areas outside the coastal strip. However, the food security situation is likely to remain in the Stressed or Minimal Acute food insecurity Phases in areas situated along the coastal strip where ongoing off season rains enhanced water availability.

The available households' food stocks were about 50 percent of normal and are not expected to last until the start of short rains season harvests which is anticipated from late December 2012. Food stocks are particularly low in Malindi and Kilifi at 10 percent and about 30 percent of normal respectively. However, food stocks are expected to last for at least next six months in Lamu. In general, food needs are expected to heighten in the next two months.

The anticipated above normal short rains is likely to positively impact food security in most parts of the cluster, particularly if flooding and outbreaks of water and vector borne diseases are minimal. In addition, the mitigation of the potential negative impacts of excessive rains and implementation of necessary interventions, such as timely provision of planting seeds, may enhance food security situation in the next six months.

4.0 Conclusion

The mixed performance of the 2012 long rains has resulted in mixed food security outcomes in different livelihood zones. The food security conditions have improved in the northwestern pastoral areas and the agropastoral zone, remained more or less the same in most parts of the northeastern pastoral area, and deteriorated in the southeastern and coastal marginal agricultural lowlands. As a result, this is the third successive failed or poor season in the marginal mixed farming areas of the southeastern and coastal lowlands.

The food security situation is expected to continue declining until after the 2012 short rains establish in November. In the meantime, the peak lean season is expected to be unusually intense in most parts of the southeastern and coastal marginal agriculture zone, and parts of the northeastern pastoral area including southern Wajir, northern Garissa, Tana River and Ijara. In some of these areas, tensions, conflicts and insecurity may limit households' capacity to engage in normal livelihood activities.

However, the food security situation is likely to significantly improve from November onwards after environmental resources are replenished by enhanced short rains. At the same time, pastoralists are expecting enhanced milk availability which will positively impact food consumption from November onwards. However, there will be need to intensify implementation of interventions aimed at mitigating the possible negative effects of the enhanced rains, for the benefits to accrue to households in a sustainable manner. In the southeastern and coastal marginal agricultural lowlands, improvements to food security situation are expected from January 2013 onwards after the maturity of the short rains crop.

5.0 Proposed Cross Sectoral Livelihood Support Interventions

5.1 Agriculture Sector – Priority Interventions, September 2012 – February 2013

The poor performance of the 2012 long rains has resulted into the second to third successive poor or failed season in many parts of the southeastern and coastal marginal agricultural zone. Although the upcoming short rains are the main season in these areas, the majority of farmers may not be able to purchase farm inputs, including quality seeds. Households who currently have less disposable income, or are unable to invest in livelihood activities may need support in order to access quality inputs and enhance their harvest prospects. Among the interventions that may be considered in the next six months include the following;

	Interventions	District	Cost (Ksh.)
1.	Provision of certified seed and fertilizer, and promotion of high value traditional crops	Tana River, Wajir, Ijara, Isiolo, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka	**207,000,000**
2.	Promotion of water harvesting for irrigation activities and supporting the establishment of green houses.	Moyale, Garissa, Ijara, Wajir, Samburu, Kieni, Laikipia, Koibatek, Kitui, Makueni, Mbeere, Tharaka,	**462,000,000**
3.	Activities aimed at soil fertility improvement, and soil conservation.	Machakos, Mbeere, Baringo	**66,000,000**
4.	Promotion of appropriate post harvest management techniques.	Meru North, Kieni, Makueni, Kitui, Mwingi, Machakos, Mbeere, Tharaka, Tana River	**100,000,000**
Total			**835,000,000**

5.2 Livestock Sector – Priority Interventions, September 2012 – February 2013

Although the availability of pasture has been sustained since after the end of the 2011 short rains season in many pastoral areas, livestock trekking distances are increasing. The increasing distances to water is likely to coincide with the peaking of calving which is expected to occur earlier than usual, from September onwards. There is also need for enhanced disease surveillance because increased livestock movements and concentrations near water points predispose them to contagious diseases. In addition, likely enhanced rains may precipitate outbreaks of vector borne diseases such as Rift Valley Fever. The following are the main interventions that aim to harness the advantages of expected above average 2012 October-December short rains so as to enhance households' resilience.

	Interventions	District	Cost (Ksh.)
1.	Livestock disease surveillance, treatment and vaccinations.	Tana River, Wajir, Ijara, Isiolo, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka, Kieni, Koibatek, Laikipia, Kajiado, Baringo	**490,000,000**
2.	Pasture and fodder crop establishment and conservation, and livestock feed supplementation.	Isiolo, Garissa, Ijara, Mandera, Samburu, Turkana, Kieni, Laikipia, West Pokot, Kitui, Machakos, Mwingi, Mbeere, Meru North, Malindi, Kwale, Taita Taveta	**281,000,000**
3.	Restocking and upgrading of livestock	Samburu, Turkana, Moyale, Marsabit, Kieni, west Pokot, Meru North, Tharaka, Makueni, Mwingi	**234,000,000**
Total			**1,005,000,000**

5.3 Water Sector – Priority Interventions, September 2012 – February 2013

The expected above average short rains provides the perfect opportunity to increase water harvesting. It is therefore crucial to ensure that the pans and dams available in the districts are desilted early. In addition, there is needed to take precautionary measures to averting outbreaks of water borne diseases that increase with excess runoff. Implementation of these medium to long term water innervations should not detract from addressing the current acute water shortages being experienced in different locations. Among the interventions that are proposed in the water sector are as follows.

	Interventions	District	Cost
1.	Rehabilitation old boreholes, and drilling and equipping new ones.	Tana River, Wajir, Ijara, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka, Kieni, Koibatek, Laikipia, Kajiado, Baringo	**273,000,000**
2.	Rehabilitation of earth dams, water pans, and shallow wells and construction of new ones.	Moyale, Marsabit, Isiolo, Garissa, Tana River, Ijara, Wajir, Mandera, Samburu, Turkana, Kieni, Baringo, Laikipia, Kajiado, Narok, Koibatek, Kitui, Machakos, Mwingi, Mbeere, Meru North, Malindi, Kilifi, Lamu, and Taita Taveta	**293,000,000**
3.	Water trucking and provision of plastic water tanks to schools, and fuel subsidy to water users associations.	Moyale, Garissa, Mandera, Wajir, Tana River, Ijara, Mbeere, Mwingi, Kilifi, Mbeere, Kieni, Laikipia	**110,000,000**
4.	Promotion of water treatment at household level and institutions, and provision of water treatment chemicals. Hygiene promotion and improve sanitation.	Kajiado, Ijara, Tana River, Baringo, West Pokot, Meru North, Tharaka, Mbeere, Mwingi, Kitui, Makueni, Machakos	**43,000,000**
Total			**719,000,000**

5.4 Education Sector – Priority Interventions, September 2012 – February 2013

The food security situation is likely to deteriorate significantly in parts of the southeastern and coastal marginal agricultural zone until December 2012. To minimize absenteeism and school dropouts, there is need to institute programs that enable pupils to access at least one decent meal per day. Meanwhile, there is need to establish appropriate water storage infrastructure in schools to improve water availability during the next dry season. The proposed interventions are aimed at retaining pupils in school and minimizing employment of typical coping strategy of withdrawal from school.

	Interventions	District	Cost (Ksh.)
1.	Introduction or expansion of school feeding programs including home grown school feeding. Food for school fees program	Kwale, Lamu, Malindi, Meru North, Mwingi, Baringo, Kieni, Laikipia, Kajiado	**300,000,000**
2.	Support the establishment of low cost boarding schools and mobile schools, and construction of classrooms.	Ijara, Mandera, and Moyale	**160,000,000**
3.	Energy saving stoves and solar panels.	Malindi, Wajir	**5,000,000**
4.	Promotion of food production techniques in schools.	Baringo, Narok, Kajiado, West Pokot, Laikipia	**5,000,000**
5.	Rain water harvesting and increasing water storage capacity in schools.	Ijara, Mandera, Wajir, Marsabit	**10,000,000**
Total			**480000000**

5.5 Health and Nutrition Sector – Priority Interventions, September 2012 – February 2013

Although nutrition status has improved in many places, malnutrition indicators still point towards a critical or very critical situation in many pastoral areas. Therefore, there is need for sustained implementation of nutrition interventions; at least until milk availability significantly improves. There is a high possibility of heightened disease outbreaks and thus the need to preposition essential medical supplies in areas that are usually inaccessible during the rainy season. Furthermore, prepositioning of medicines will ensure uninterrupted delivery of services. Among the proposed interventions in the next six months are as follows;

	Interventions	**District**	**Cost (Ksh.)**
1.	Strengthening integrated management of acute malnutrition (IMAM) and improving general food distribution (GFD) linkages, coverage of supplementary feeding programs (SFP) and outpatient therapeutic programme (OTP), and monitoring of high impact nutrition intervention (HINI) indicators for both under-five year olds and people living with AIDS (PLWA).	Tana River, Wajir, Ijara, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka, Kieni, Koibatek, Laikipia, Kajiado, Baringo	**2,000,000,000**
2.	Enhance IMAM in health facilities and outreaches for under-five year olds. Enhance community nutrition rehabilitation, surveillance and infant and young child feeding practices (IYCF)	Tana River, Wajir, Ijara, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka, Kieni, Koibatek, Laikipia, Kajiado, Baringo	**2,000,000,000**
3.	Blanket Supplementary Feeding for under-five year olds and pregnant mothers. Up-scaling therapeutic feeding programs.	Marsabit, Kieni, Tharaka, Mbeere, Meru North	**200,000,000**
4.	Enhance human disease surveillance. Improve vitamin A supplementation coverage. Strengthen school health programmes including deworming.	Tana River, Wajir, Ijara, Turkana, Samburu, Marsabit, Moyale, Meru North, Kitui, Mwingi, Makueni, Mbeere, Tharaka, Kieni, Koibatek, Laikipia, Kajiado, Baringo	**190,000,000**
5.	Nutrition survey	Kieni, Mbeere, Kilifi, Lamu, Malindi, Kwale, Taita Taveta	**10,000,000**
Total			**4,400,000,000**

5.6 Food Sector – Priority Interventions, September 2012 – February 2013

The primary objective of implementing external assistance programs to food insecure households is to build resilience to future shocks. Programs such as food for assets and cash for assets enable communities to set up and complete livelihood assets. An additional livelihood asset in a community improves households' capabilities thereby facilitating access to food and important non-food items. While improvement to food security are starting to manifest in many places, nearly 17 percent of the populations in both pastoral and marginal agricultural districts are likely to experience significant food consumption gaps through January 2013 when short rains crops are expected to mature. The table below shows the number and locations of households that are in need of various non-food and food interventions.

District	Total District Population	March 2012 – August 2012		September 2012 – February 2013	
		% in Need	Number of people requiring food assistance	% in Need	Number of people requiring food assistance
Turkana	539,264	31	167,500	21	115,400
Wajir	619,220	36	223,800	28	171,600
Mandera	337,800	40	135,400	39	131,700
Garissa	411,728	23	92,700	20	84,000
Marsabit	187,367	39	72,500	27	50,800
Samburu	223,947	32	71,100	21	46,200
Laikipia	399,227	14	56,600	3	10,700
West Pokot	512,690	11	56,600	6	30,000
Tana River	240,075	21	49,400	21	51,500
Isiolo	143,294	48	68,300	48	68,300
Kajiado	687,312	13	86,700	9	64,000
Baringo	389,329	12	47,200	13	49,000
Moyale	103,799	28	29,500	36	37,200
Ijara	92,663	26	23,600	40	37,500
Narok	576,388	4	22,800	4	20,900
Koibatek	166,232	9	15,200	5	9,100
Subtotal Pastoral Districts	**5,630,335**	**22**	**1,218,900**	**17**	**977,900**
Makueni	884,527	23	202,900	24	215,000
Kwale	649,931	19	122,100	22	142,600
Mwingi	384,948	36	137,100	38	147,300
Kilifi	709,221	7	50,300	12	87,900
Kitui	627,761	21	132,700	23	144,900
Taita Taveta	284,657	23	64,500	27	77,000
Malindi	400,514	8	30,800	14	56,200
Mbeere	219,220	0	0	22	47,200
Tharaka	130,098	0	0	9	11,500
Machakos	1,098,584	14	154,300	10	113,500
Meru North	775,982	0	0	10	77,600
Kieni	324,659	9	30,300	7	21,500
Lamu	101,539	14	13,900	5	5,000
Subtotal Marginal Agricultural Districts	**6,591,641**	**14**	**938,900**	**17**	**1,147,200**
Total	**12,221,976**	**18**	**2,157,800**	**17**	**2,125,100**