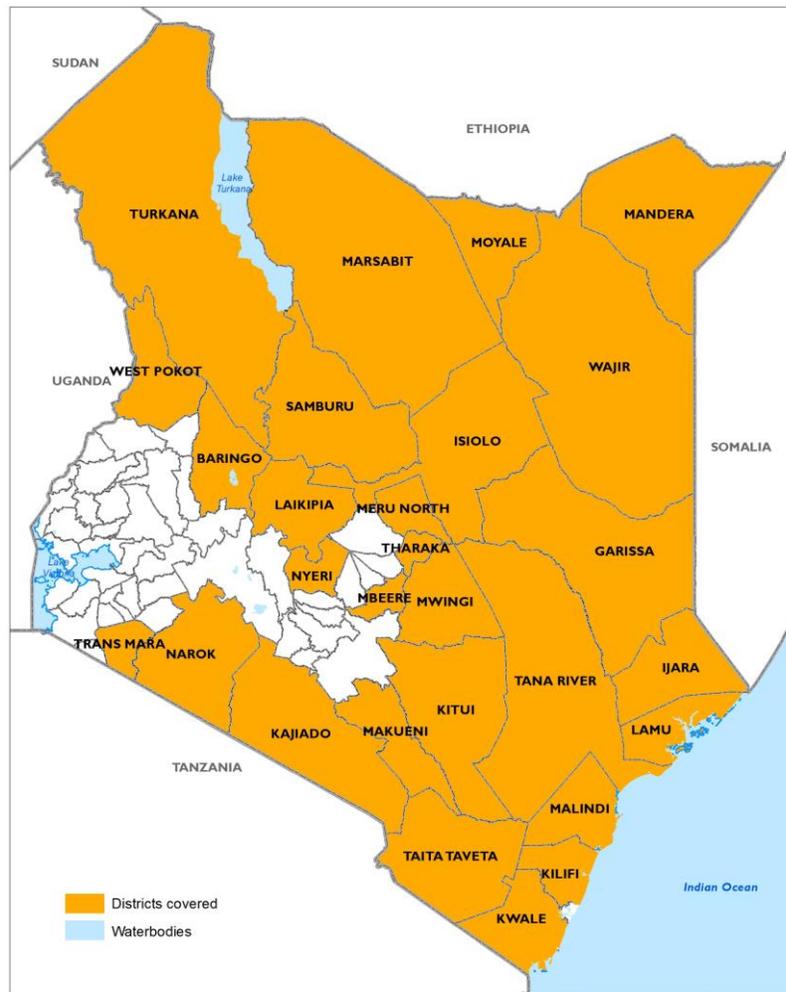




Government of Kenya

THE 2012-2013 SHORT 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.

Table of Contents

1.0 Executive Summary	3
1.1 Scope of the October-December 2012 short rains food security assessments	3
1.2 Findings.....	3
1.3 The 2012-2013 Short Rains Performance and Forecast for 2013 Long Rains.....	7
1.4 National Maize Supply Situation	9
1.5 Maize Price Trends	10
1.6 Options for response	10
2.0 Food Security Assessment Methodology	12
2.1 Background and Objectives	12
2.2 The Approach.....	13
3.0 Food Security Analysis by Livelihood Cluster	14
3.1 The Northwest Pastoral Livelihood Cluster.....	14
3.2 The Northeast Pastoral Livelihood Cluster	19
3.3 The Agro-pastoral Livelihood Cluster	24
3.4 The Southeastern Marginal Agriculture Livelihood Cluster.....	28
3.5 The Coastal Marginal Agricultural Livelihood Cluster	34
4.0 Conclusion	40
5.0 Proposed Cross Sectoral Livelihood Support Interventions.....	41
5.1 Agriculture Sector – Priority Interventions, March to August 2013.....	41
5.2 Livestock Sector – Priority Interventions, March to August 2013	41
5.3 Water Sector – Priority Interventions, March to August 2013	42
5.4 Education Sector – Priority Interventions, March to August 2013	42
5.5 Health and Nutrition Sector – Priority Interventions, March to August 2013	43
5.6 Food Sector – Priority Interventions, March to August 2013	44

1.0 Executive Summary

1.1 Scope of the October-December 2012 short rains food security assessments

The 2012 October to December short rains assessments were carried out from January 28th to February 8th, 2013. The assessments were conducted under the auspices of the Kenya Food Security Steering Group (KFSSG), jointly by the Government of Kenya (GoK), United Nations (UN), Non-Governmental Organizations (NGOs), and the District Steering Groups (DSGs).

The goal of the assessment was to provide an objective, evidence-based, and transparent analysis of the food security situation after the 2012 October to December short rains, taking into consideration the cumulative effects of the previous two seasons. Besides, the assessment aimed to provide timely food security prognosis for the March to August 2013 period, considering climate outlook for the long rains 2013 provided by the Kenya Meteorological Department, and also proposed possible options for response in the various food security related sectors for six months, March to August 2013.

The main objective of the assessment was to evaluate the impacts of the 2012 short rains on various sectors including: water quality and access; crop and livestock production; health and nutrition status; markets and trade conditions; education status; and the general food security status at household level. The assessment considered the impact of other hazards, such as flash floods that occurred in localized areas during the short rains, conflicts, crop pests, high food prices and livestock diseases, on household food access and consumption. A total of 28 arid and semi-arid districts situated within five broad livelihood zones, including the northwestern and northeastern pastoral areas, southeastern and coastal marginal agricultural lowlands, and the agro-pastoral livelihood zone were assessed.

1.2 Findings

1.2.1 The Food Insecure Population

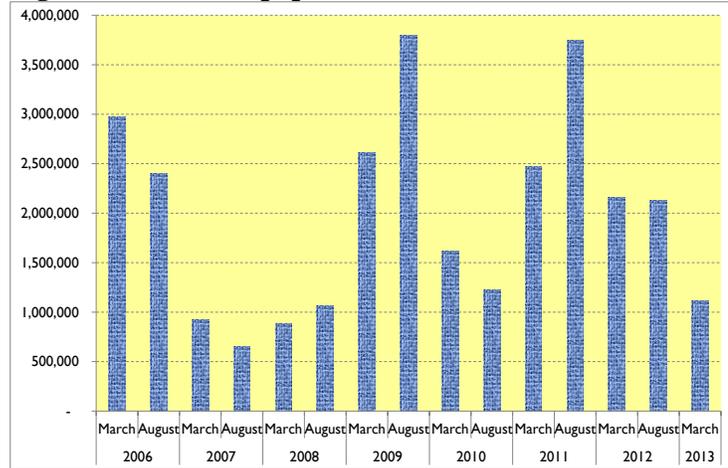
The performance of the 2012 short rains significantly improved towards the end of the season after a poor start. As a result, the rains were average to above average in many areas with the exception of parts of the northern and northeastern pastoral areas. The good performance of the 2012 short rains followed above average 2011 short rains, and the average 2012 long rains in most parts of the agro-pastoral zone, and the northwestern pastoral areas.

As a result of three successive good seasons in agro-pastoral zone, and northwestern pastoral areas, and the above average crop production across the southeastern and coastal marginal agricultural areas, substantial improvements to the food security situation has occurred in many places. In addition, above average livestock productivity across the pastoral due to sustained availability of grazing resources has boosted milk consumption, improved pastoralists' terms of trade, and lead to increases in livestock herd sizes. Consequently, the food insecure population has declined from about 2.1 million people in August 2012, to about 1.1 million people in February 2013.

The entire food insecure population is classified in the Stressed phase of food insecurity, which contrasts with the situation in August 2012 when a small proportion of the food insecure population was in the Crisis phase (See Figure 1.1). The food insecure population has declined by about 20, 60, and 70 percent in the Northern and Eastern Pastoral zone; southeastern and coastal marginal agricultural areas; and the agro-pastoral zone, respectively. However, food insecurity still exist in localized areas in the northern and northeastern pastoral areas, southeastern and coastal marginal agricultural areas, and the agro-pastoral zones where poor rainfall performance has been persistent.

The two consecutive good seasons in the pastoral areas lead to good conceptions and livestock births, particularly for sheep and goats. Meanwhile, continuous implementation of recommended cross sectoral interventions has also supported recovery. As at February 2013, about 2.1 million people were receiving food related assistance through food for assets (FFA), Cash for Assets (CFA), and General Food Distribution (GFD) in 29 districts.

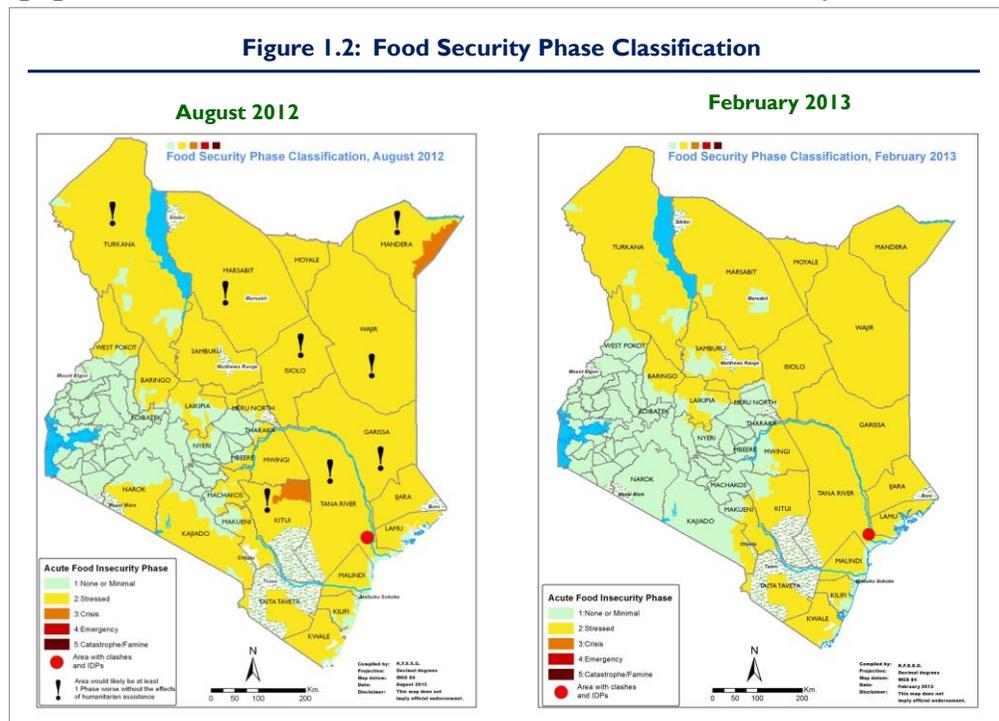
Figure 1.1 Trend of population in need of assistance



1.2.2 The areas and population classified in the Stressed Phase of food insecurity

The food insecure households are situated across the northeastern and northwestern pastoral areas, agro-pastoral zone, and southeastern and coastal marginal agricultural lowlands. The entire food insecure population, 1.1 million people, fall in the Stressed Phase of food insecurity (IPC Phase 2) as shown in Figure 1.2.

Figure 1.2: Food Security Phase Classification



The households in the Stressed Phase have reduced food consumption to minimally adequate consumption, contemporarily, they are unable to afford some essential non-food expenditure, for example, medical care, education, purchase of seeds for the upcoming season, among others. Although the affected households are increasingly applying more coping strategies, they are not engaging in irreversible coping strategies.

Water situation

The surface water sources situated in most parts of the northwestern and northeastern pastoral areas, agro-pastoral zone, and coastal marginal agricultural areas recharged to over 80 percent of their capacities. However, surface water sources recharge was lower, 50-60 percent of capacity, in areas where rains were below normal, including southern part of Kitui, northeastern Isiolo and Marsabit, western Wajir and southern Mandera.

Nevertheless, both waiting times at water sources and distances to water are generally within the normal range. Waiting time at water sources is generally less than an hour while distances to water sources are less than five kilometers in the agro-pastoral areas, and 5-10 kilometers, in the pastoral zone. However, due to unusually high temperatures, water sources that were poorly recharged have started to dry up leading to the increase in distance to water sources. Although the increased distances are not significantly above average levels, they range between 10-20 kilometers, for example in northeastern Isiolo, northern Marsabit, southern Moyale, and Wajir.

Water consumption is normal across all the livelihood zones, and range between 10 to 20 liters per person per day. Although, water consumption is less than 10 liters per person per day in localized areas in northern Marsabit, eastern Isiolo, and southern Samburu, this is typical in these areas as they normally experience chronic water shortages.

Pasture situation

The sustained availability of pasture, browse and water in all livelihood zones has enhanced livestock productivity. In parts of Samburu, Marsabit, Mandera, Isiolo, Moyale and Wajir, households were still accessing pasture from the exceptional 2011 short rains. Consequently, livestock trekking distances to water are within the normal range and are on average less than 10 kilometers. However, distances are longer, up to 15 kilometers, in southern Samburu and Moyale, Marsabit and Wajir, where surface water sources are drying up.

Livestock situation

Livestock body conditions are good for all species across all livelihood zones, except in the pastoral areas of Turkana and northern Marsabit where sheep and cattle have fair body conditions, mainly due to longer livestock trekking distances. In areas where Good conceptions after the 2011 short rains has resulted in high calving rates for camels and cattle during the 2012 short rains season while high kidding and lambing has occurred for the second successive season. As a result, milk production significantly improved across all the zones, for example, from about half a liter to 1-2 liters in the pastoral zone, and from 1-2 liters to 2.5-4 liters in the agro-pastoral zones.

Although milk available has improved, it is still only about half of normal in parts of the northeastern, and northwestern pastoral zones, where only measured improvements have occurred. However, milk availability ranged between 2-4 liters per day for the majority of households in the southeastern and coastal marginal agricultural areas, and the agro-pastoral livelihood zone, which is nearly twice the normal amount at similar time of the year. Household access to milk has also been enhanced because livestock migrations have been minimal, and most lactating animals are situated near settlements.

The two successive good conceptions in livestock, and subsequent good livestock births rates coupled with low incidences of livestock disease have combined to significantly improve households' livestock herd sizes in all livelihood zones. For instance, the tropical livestock units have increased by nearly 50 percent in 2012 to nearly 70 to 80 percent of average in Laikipia, Marsabit, Samburu, Turkana, Garissa, Tana River, Isiolo, and Moyale. In these districts, the number of sheep and goats owned by households is near the normal level. The high conception in cattle across the pastoral areas is expected to result in high calving rates in September to October 2013, while the number of sheep and goats owned by households is expected to normalize after the 2013 long rains.

Crop Production

The slow start of the cropping season, which was characterized by false starts of the short rains in many places, led to crop replanting in the marginal mixed farming area, particularly in Makueni, Kitui, Taita Taveta, and Kwale. However, rains improved from the middle of December onwards leading average or above average crop production in many places. For example, the area put to maize production increased by nearly 25 percent, to a total of 325,600 hectares in the pastoral, agro-pastoral, southeastern and coastal districts. Many farmers cultivated more land as the seasonal forecast indicated that the short rains were expected to be significantly above average. The maize output is expected to be about 35 percent above average, 5.2 million bags, in the districts within the northeastern and northwestern pastoral zones, the southeastern and coastal marginal agricultural lowlands, and the agro-pastoral areas.

Meanwhile, the output of the other crops is also expected to be above average. For instance, sorghum, cowpeas, and green gram output is expected to be 10 to 35 percent above five year average in the southeastern and coastal marginal agricultural areas, and northwestern pastoral zone. The short rains crop harvesting is expected to conclude in March 2013. Meanwhile households' food stocks are likely to last for up to four months, into June-July, for majority of farming households. Usually, the short rains food stocks do not last past the months of April or May. However, food stocks are expected to deplete within a months, nearly two months earlier than usual, in localized areas of the marginal mixed farming zones where rainfall distribution was poor, including Kwale, Makueni, Kajiado, Mwingi, Kilifi, Malindi, Taita Taveta, and Kitui.

Terms of Trade

The favorable terms of trade for livestock keepers has also enhanced households' access to food. On average, a goat is exchanging for 65 to 105 kilogram of maize, which is about 30 percent above the five year average range of 50 to 80 kilograms. An enhanced term of trade is mainly attributed to above average livestock prices.

For example, goat prices are nearly double the average prices in the northwestern and northeastern pastoral areas. Meanwhile, the declining maize prices are also translating enhanced food access in many areas. For instance, maize prices have either remained stable or declined by up to 15 percent across all livelihood zones (see section 1.5).

Food Consumption Score

Improved food access is reflected in the general improvement to households food consumption scores (FCS). According to World Food Program (WFP) food security outcomes monitoring data, 60 to 90 percent of households had acceptable FCS in the agro-pastoral areas, southeastern marginal agricultural lowlands, northern and northeastern pastoral areas, and the southern pastoral areas, in December 2012 before the start of short rains harvest. However, nearly 55 percent of households had poor FCS in the pastoral zones in Turkana and West Pokot, where livestock holdings are still significantly below average and households have limited income and food sources. The FCS was expected to substantially improve after start of harvesting in February 2013.

Nutrition status

The general improvement in nutrition status for children under five years of age in January is indicative of improved food access and consumption across all livelihood zones. According to the surveillance data from National Drought Management Authority (NDMA), the proportion of children under five years of age ‘at risk’ of malnutrition is below average in all livelihood zones, with the exception of Kwale, Lamu, Meru North, and Makueni where MUAC is up to 30 percent above the five year for January. Above average proportion of children ‘at risk’ of malnutrition in these districts is attributed to outbreaks of diseases such as dysentery and measles in Lamu and Meru North, respectively.

Above average MUAC rates are also being reported in localized areas within the marginal mixed livelihood zones where near total crop failure has been reported in Makueni and Kwale. The poor young child feeding and care practices also contribute to high malnutrition, particularly in Meru North and Mbeere where families spend substantial proportions incomes from khat growing on leisure rather than providing nutritious food for families. In general, disease incidences are within the usual range across all the livelihood zones and no unusual mortalities have been reported.

1.3 The 2012-2013 Short Rains Performance and Forecast for 2013 Long Rains

The 2012 October to December short rains started in the first to second weeks of October in most parts of the northwestern pastoral areas, and the southeastern and coastal marginal agricultural livelihood zones, which was two to three weeks earlier than usual. The rains started normally across the northeastern pastoral zone, towards end of October, but delayed by nearly two weeks in the lower parts of Makueni, Kitui, and Taita Taveta. However, the start of rains was characterized by below normal rainfall amounts in many places signaling a false start of the season.

As figure 1.3 show, the rains were highly unevenly distributed spatially. Most parts of the northwestern and eastern pastoral areas received above normal rainfall amounts, over 120 percent of normal, reaching 300 percent of normal in parts of Turkana, Baringo, West Pokot, Ijara, Garissa, and Tana River. The southeastern and coastal marginal agricultural areas received near normal rainfall, about 80 percent of normal rainfall amounts. The rains were depressed, less than 50 percent of normal, in parts of Marsabit, Isiolo, Wajir, Moyale, Mandera, Kajiado, Makueni, Kitui, and Mwingi. Rainfall amounts were significantly below normal, less than 20 percent, in parts of western Wajir, northeastern Isiolo, and eastern Marsabit.

The temporal distribution of the rains was initially poor across all livelihood zones as the season was characterized by a long dry spells immediately after the start of rains, and between mid-November and mid-December. At the same time, the rains were very erratic, particularly in the coastal areas. The temporal distribution improved from mid-December onwards. The rains ended in the last week of November in parts of Isiolo, Mandera, and Wajir, nearly a month earlier than usual. Meanwhile, the rains continued into January 2013 in many areas, indicating an extension of the season, though the late rains were sometimes sporadic in nature.

Forecast for 2013 Long Rains

According to the Kenya Meteorological Department (KMD), the March to May 2013 long rains are expected to be near normal to above normal over the western and coastal areas of the country, and near normal to below normal across the pastoral areas, and the southeastern marginal agricultural lowlands (Figure 1.4). The onset of the rains is expected to be normal, starting in mid to late March in the southeastern marginal agricultural areas and in late March to early April across the pastoral areas, and coastal lowlands. According to the forecast, the rains are expected to cease earlier than normal in most parts of the pastoral zone, during the end of April.

Figure 1.3: October-December 2012 short rains as a percent of normal

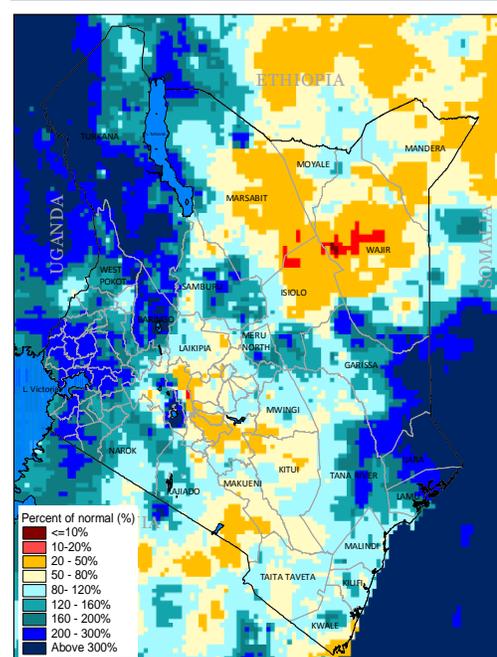
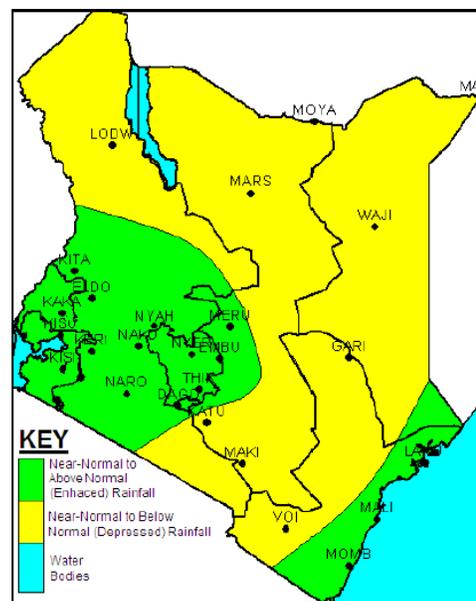


Figure 1.4: Forecast for 2013 March to May 2013 Long Rains



Source: Kenya Meteorological Department

The impacts of the rains on the different livelihoods is likely to vary in the event that the forecast holds. For instance, the prone areas in the western part of the country including the lake basin may experience flooding during the peak of the rainy season in April. At the same time, the highland areas may experience landslides. However, the temporal and spatial distribution of the rains are likely to determine the impact of the season across the pastoral livelihood zone.

1.4 National Maize Supply Situation

Based on the results from the 2012 crop assessment in the high potential areas, the total long rains maize output is estimated to be about 2.9 million MT, which is just over 10 percent above the five year average maize output of 2.6 million MT. The estimated short rains maize output in the Arid and Semi-Arid Lands (ASALs) areas is about 470,000 MT, which is about 30 percent above the national short term average (2008-2011) of 360,000 MT. Assuming average maize output in the Central, Rift Valley, Nyanza, and Western provinces, then the total short rain maize harvest is expected to be 605,000 MT, which is nearly 70 percent above the short term average. Consequently, the national maize output for the 2012 production year is estimated to be 3.5 million MT, which is about 20 percent above the short term annual maize output of 2.8 million MT. Despite above average maize output in 2012, maize available at the beginning of the 2013-2014 maize marketing year is expected to be adequate for only about half a month's consumption since monthly consumption is about 330,000 MT of maize. Table 1.1 shows the updated estimate of the national maize availability for the marketing year that start in July 2012 and end in June 2013.

Table: 1.1 National maize availability for June 2012 to June 2013

Period	Source	Quantity (MT)	Five year average (MT)
July 2012	National stocks as at 1st July 2012 (Include National reserve at NCPB, and stocks held by traders, farmers and millers)	981,151	1,091,750
August 2012-June 2013	Cross border trade inflows (Based on total inflows in 2012, Tanzania - 30,000 MT, Uganda - 195,000, Ethiopia - 1,500 MT)*	226,440	214,750
August 2012-January 2013	National long rains output	2,869,226	2,600,000
February-March 2013	National Short rains output	605,880	427,500
August 2012-June 2013	Post-harvest losses (15%)	521,266	454,125
	Household use as seed and livestock feed (3%)	104,253	90,825
June 2013	Total national availability	4,057,178	3,789,050
July 2012-June 2013	Total national consumption (3.63 million bags per month for 40 million people)	3,921,600	3,921,600
June 2013	Surplus	135,578	(132,550)

Sources: RATIN, MoA, FEWS NET Cross Border Trade Monitoring Data.

*Does not include possible off-shore imports by relief agencies and traders.

1.5 Maize Price Trends

The wholesale price of maize has been steadily declining since May 2012 and is now 10-35 percent lower across all major wholesale markets, after temporarily increasing in November 2012, just before the start of harvesting of the long rains crop. Significant maize prices decline has been recorded in the wholesale markets situated in the southeastern and coastal marginal agricultural zones where harvesting of the short rains crop is underway. Nevertheless, wholesale market prices of maize are still above the five year average, by 60-80 percent.

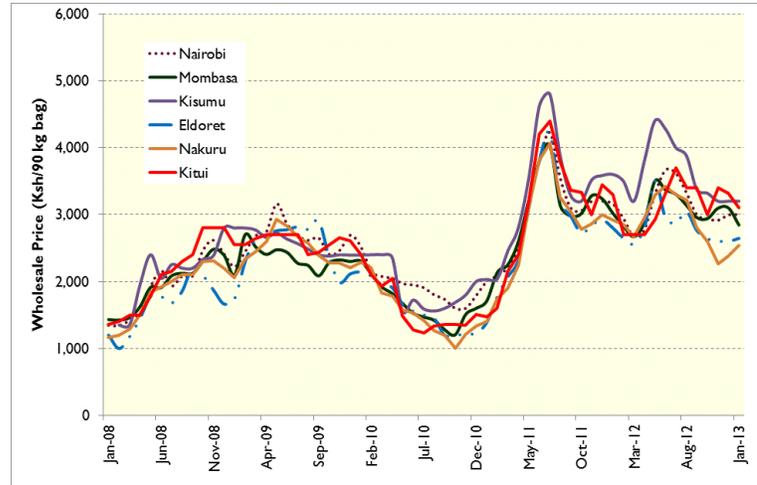
The retail maize prices are either stable or declining across all the livelihood zones due to increasing market supply after the conclusion of the long rains harvesting season, and the start of short rains harvesting season. In the pastoral areas, retail maize prices have either remained the same or decline by up to 15 percent in Turkana, Tana River, Moyale, Mandera, Laikipia, Kajiado, Isiolo, Ijara, and Garissa Districts.

However, maize prices are still above the five year average by up to 70 percent across the pastoral livelihood zone. In the southeastern and coastal marginal agricultural livelihood zones, retail maize prices have generally declined, by up to 10 percent, in Tharaka, Taita Taveta, Mbeere, Malindi, Makueni, Kilifi, and Kieni Districts. In this zone, maize price is 30 to 45 percent above the five year average for January. In some localized areas in Kajiado and Meru North, maize prices are as low as Ksh 15 per kilogram as a result of increased market supply after harvesting. Maize prices are expected to decline further, particularly in the southeastern and coastal marginal agricultural livelihood zones, at least until April 2013, as the short rains harvesting season is expected to conclude in March 2013.

1.6 Options for response

Although the earlier forecasted El Niño rains did not materialize, the 2012 short rains have significantly improved water availability, and enhanced livestock and crop production. Furthermore, negative impacts of enhanced rains such as floods, and vector and water borne diseases have been minimal in all livelihood zones. The household food security situation is expected to remain stable across all the livelihood zones in the next six months. Households' food stocks are expected to be sufficient in the southeastern and coastal marginal agricultural zone. Despite the likelihood of below normal rains in the eastern part of the country, the rains are expected to recharge water sources and enhance regeneration of forage leading to good livestock productivity. However, continuous interventions will be required to mitigate post-harvest losses, and support the food insecure population in the next six months.

Figure 1.5: Trends of wholesale price of maize in key markets



Furthermore, the possibility of livelihoods disruption due to the national elections necessitate contingency planning and preparedness. Table 1.2 below shows the proposed cross sectoral interventions for the next six months (March to August 2013).

Table 1.2: Summary of priority interventions by sector for March to August 2013

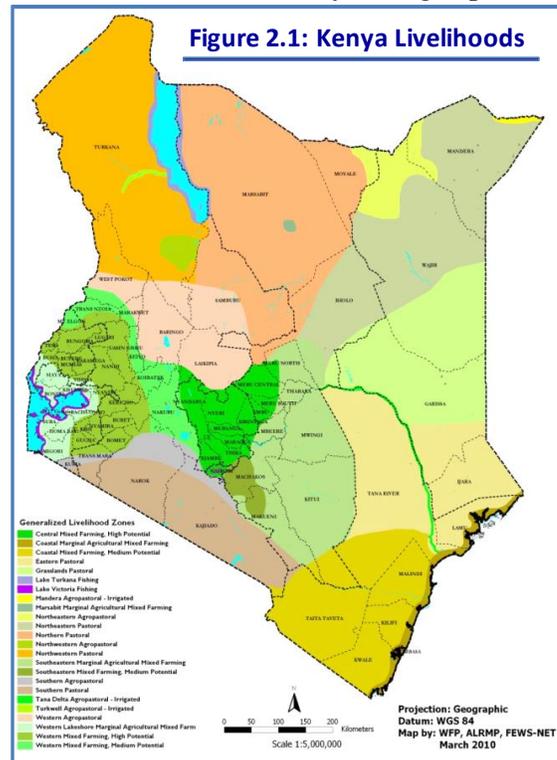
	SECTOR	PROPOSED RECOMMENDATIONS	COST IN Ksh.	COST IN U.S. DOLLAR
1.	AGRICULTURE	Provision of certified seed and fertilizer, and promotion of high value traditional crops; promotion of water harvesting for irrigation activities and supporting the establishment of greenhouses; promotion of appropriate post-harvest management techniques.	914 M	10.8 M
2.	WATER	Rehabilitation of earth dams, boreholes, water pans, and shallow wells; water trucking to institutions and provision of plastic water tanks to schools; fuel subsidy to community water projects; promotion of water treatment at household level and institutions and supply of water treatment chemicals; hygiene promotion and improving sanitation.	813 M	9.6 M
3.	LIVESTOCK	Livestock disease surveillance, treatment and vaccinations; Pasture and fodder crop establishment and conservation, and rehabilitation and building of watering structures.	307 M	3.6 M
4.	EDUCATION	Rain water harvesting and increasing water storage capacity in schools; training of head teachers on drought preparedness and livelihood diversification; Introduction or expansion of school feeding programs including home grown school feeding. Food for school fees program.	209 M	2.5 M
5.	HEALTH AND NUTRITION	Capacity building and training of workers and stakeholders on health related matters; Immunization and Vitamin A supplementation, SFP and OTP programs; Nutrition Survey, Latrine coverage and hygiene promotion; Disease surveillance.	63 M	741,000
6.	FOOD ASSISTANCE	Building resilience to future shocks through FFA and CFA. Food commodities and cash for 1.1 million food insecure people in need of assistance for the next six months (March - August 2013). An estimated 45,201 MT of food or cash equivalent (CFA) will be required.	4,464 M	52.5 M
Total			6,765 M	79 M

2.0 Food Security Assessment Methodology

2.1 Background and Objectives

The 2012 short 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 assessment covered 28 traditionally drought-prone pastoral, agro-pastoral and marginal agricultural districts. The district teams conducted the assessments in the northeastern pastoral area including Mandera, Wajir, Garissa and Ijara, while the national teams covered the remaining districts. The map on page 1 shows the assessment coverage, representing over 80 percent of the country's geographic area. In addition, crop production data from the high potential areas in the Rift Valley, Nyanza, Central and Western Kenya as well as price data from key reference markets were analyzed. Figure 2.1 shows the generalized livelihood zones in Kenya, which is the unit of analysis for the assessments. The actual field assessments were carried out in the following five livelihood clusters:

- Pastoral Northwest Cluster (Turkana, Moyale, Marsabit and Samburu districts).
- Pastoral Northeast Cluster (Mandera, Wajir, Garissa, Isiolo, Ijara and Tana River districts).
- Agro-Pastoral Cluster (Baringo, West Pokot, Laikipia, Narok, Kajiado and Nyeri North districts).
- South Eastern Marginal Agricultural Cluster (Tharaka, Mbeere, Meru North, Makeni, Mwingi and Kitui districts).
- 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 short rains, and assess their impact on all key sectors.
- Establish required non-food interventions, with particular emphasis on programs that build resilience and enhance preparedness.
- Assess potential food needs, including options for, food for assets, cash for assets, and hunger safety nets.
- 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

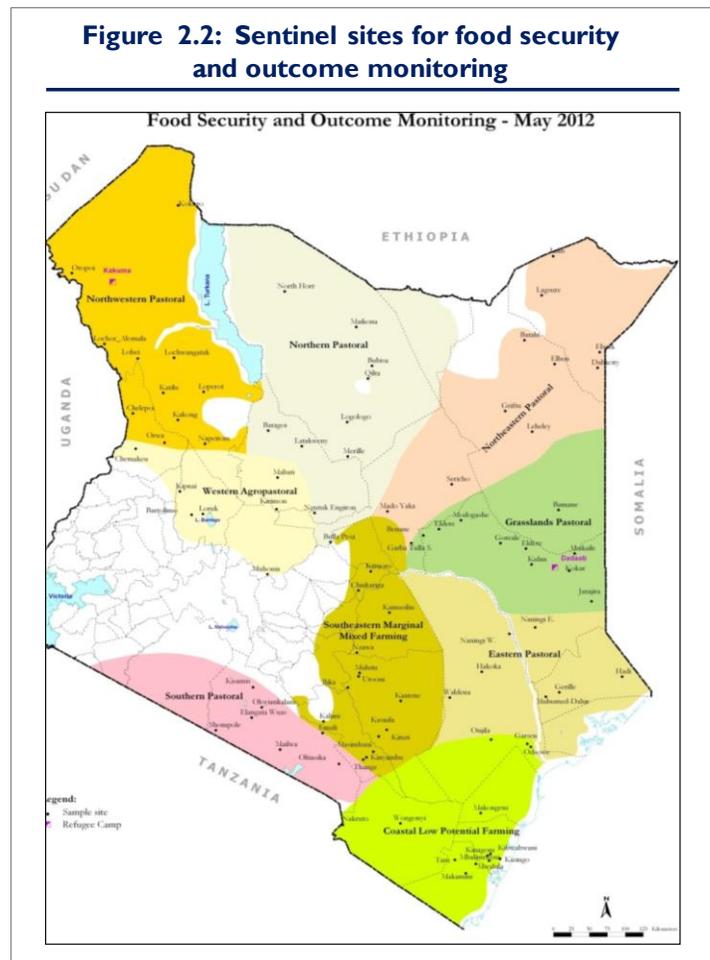
The overall assessment processes and methodologies were developed and coordinated by the KFSSG. First secondary data for all assessed districts were collected and collated. Thereafter, the KFSSG organized a three day training workshop for assessment teams. During the workshop, the teams reviewed sectoral indicators, and were taken through the entire assessment process, including, agro-climatic information analysis, field data collection techniques, integrated food security phase classification, estimation of population affected and in need, and report writing.

At the same time, 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 from the household monitoring included the coping strategy index, food consumption scores, and household expenditure data.

Each assessment team conducted a minimum of two communities or 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 early warning 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.

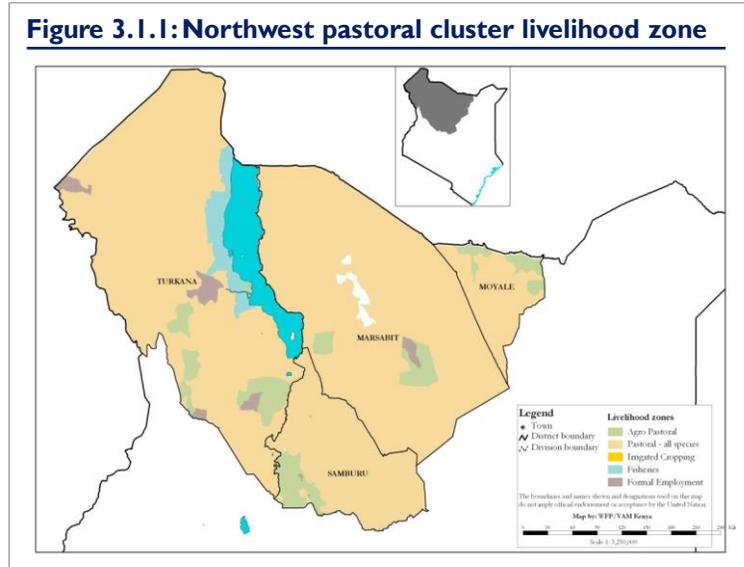


3.0 Food Security Analysis by Livelihood Cluster

3.1 The Northwest Pastoral Livelihood Cluster

3.1.1 Cluster Background

The northwest pastoral livelihood cluster consists of Turkana, Marsabit, Moyale, and Samburu districts. The cluster is approximately 173,876 square kilometers in size and has an estimated population of 1.3 million persons. As figure 3.1.1 show, the main livelihood zones in the cluster are pastoral, agro-pastoral and fisheries, which account for 60, 20 and 10 percent of the population. Livestock production is the main source of income which contributes to 80 percent of household cash income.



3.1.2 Current Factors Affecting Food Security

The factors affecting food security in the cluster are successive poor performance of the rainfall seasons in the pastoral zone of Marsabit and Moyale, above average food prices, livestock and crop diseases and pests. Meanwhile insecurity has led to market disruptions, and is limiting access to grazing resources in several places. Locust invasion occurred in northern Turkana, while flash flooding led to water logging of farms in the agro-pastoral area in Turkana, and also resulted in loss of livestock assets in Marsabit.

3.1.3 Overall Food Security Situation

In general, the entire cluster is classified as being in the Stressed Phase of food insecurity (IPC Phase 2), with the exceptions of the agro-pastoral livelihood zones in Samburu and Marsabit which are classified in the Minimal Acute Food Insecurity Phase (IPC Phase 1). The 2012 short rains was the second or third successive good season in most places outside the pastoral areas in Marsabit and Moyale. As a result crop production and livestock productivity have nearly normalized in many parts of the cluster.

3.1.4 Food Security Trends

Most parts of the cluster were in the Stressed Phase of food insecurity after the 2012 long rains assessments in August 2012. After the 2012-2013 short rains assessments, the pastoral areas have remained in Stressed Phase (IPC Phase 2). However, due to significant improvements in the food security situation, the agro-pastoral areas in Turkana, Marsabit and Samburu that have moved to the Minimal Acute Food Insecurity phase (IPC Phase 1).

3.1.6 Impact of Shocks and Hazards

3.1.6.1 Crop production

The short rains season is the minor season which accounts for 20-40 percent of annual cereal production. The area cultivated with maize, bean and sorghum was 20 percent below the long term average due to inadequate availability of planting seeds, and low availability of draft animal power for cultivation. However due to good performance of the short rains, the total output of the three main crops was only 10 percent below average. About 3,025 MT compared to the long term average of 3,440 MT of cereal was produced under rain-fed agriculture.

The total irrigated area under sorghum and maize increased by 12 percent compared to the short term average, from about 1,910 hectares to 2,140 hectares. As a result, the output also increased by a similar proportion to 6,270 MT compared to the three year average production of 5,610. The continued expansions of irrigation facilities and water harvesting interventions, mainly in Turkana, have contributed to the increase in area under irrigated agriculture.

The overall total maize and sorghum output is expected to be 5,120 MT and 4,050 MT, which is 97 and 109 percent of the long term average, respectively. The available maize stock in the cluster was about 8,200 MT, which is near the five year average maize stocks, 8,300 MT. Maize stocks held by households were nearly 30 percent above the five year average and were expected to improve after the conclusion of harvesting in early March 2013.

3.1.6.2 Livestock Production

Pasture and browse condition was rated as good and above normal across the cluster, except in the pastoral, and fisher folk livelihood zones in Turkana where it was poor. Available forage is expected to last for 3-4 months in many places, well into the long rains season. Livestock trekking distances were within the normal ranges of less than 10 kilometres, with the exception of eastern Marsabit where trekking distances ranged between 15-20 kilometres, which was near or slightly above normal. The livestock body condition was generally good for all species.

Milk available to households range between 0.5-1.5 litres and 2-4 litres, compared to the five year average of 1-2 litres and 2-4 litres in the pastoral and agro-pastoral zones, respectively. Most of the milk is consumed within the households. Milk prices averaged between Ksh. 60-80 per litre, which was within the normal range. Milk prices are lowest, Ksh. 30-45, in the agro-pastoral zone in Turkana and Moyale, and highest in the pastoral areas in Marsabit, where a litre is selling for Ksh. 100-120.

Minimal livestock migrations have been reported. Migrations are mainly within the districts, to dry season grazing areas. For example, livestock are moving from the pastoral areas towards the agro-pastoral zones or the shores of Lake Turkana, and from north-eastern Marsabit into south western Moyale. The migrations are normal or better than normal at this time of the year and are mainly in search of water. However, livestock migration from Samburu into Marsabit is caused by high insecurity, and is not normal. Although livestock diseases outbreaks are minimal, Foot and mouth disease (FMD) is reported in Samburu while Pestes des petit ruminant (PPR) is suspected in Turkana and Moyale.

3.1.6.3 Water and Sanitation

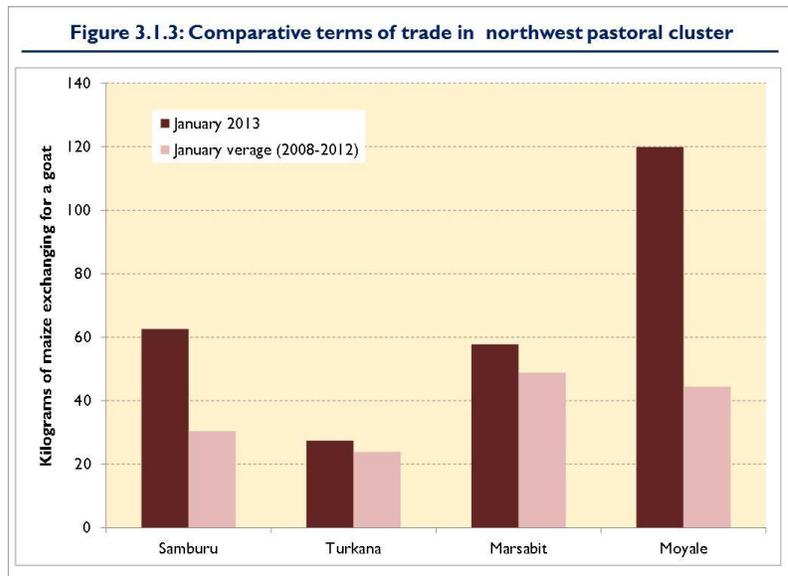
The surface water sources were recharged by about 60-75 percent of capacity during the short rains season, and the available water is expected to last well into the long rains. Exceptions are water sources in southern part of Samburu, and northern Marsabit, which are expected to dry within the next one month. The distances to water are generally within the normal range of 2-6 kilometres in the agro-pastoral and 5-10 kilometres in the pastoral zone.

Waiting time at water sources is generally within the normal range of 5-10 and 15-45 minutes in the agro-pastoral and pastoral areas, respectively. Water consumption is within the normal range of 15-30 litres per person per day. However, in areas where water sources have depleted or are depleting, water consumption average 5-10 litres per person per day. The price of water has remained within the normal range of Ksh. 2-3 and Ksh. 4-5 per 20 litre jerrican in the agro-pastoral and pastoral areas, respectively. In areas where there is acute water shortage, water vendors sell a 20 litre jerrican for Ksh. 30.

3.1.6.4 Market Performance

Market operations are generally normal across the cluster, except in the northern part of Samburu where market operations have been disrupted by insecurity. In November, market activities were slowed because roads were impassable due to heavy rains. The volumes and sources of food supply are normal. However, the volumes of livestock traded in the markets are still below average as only about 50-80 percent of households are able to sustainably sell livestock.

The market prices of key food staples and livestock are above average across the cluster. Maize prices range between Ksh. 33 to Ksh. 75, lowest in Moyale and highest in Turkana, and are up to 60 percent above the five year average across the cluster. Meanwhile, goat prices range between Ksh. 2,160 to Ksh. 3,960, lowest in Turkana and highest in Moyale, and are up to 180 percent above the five year average for January.

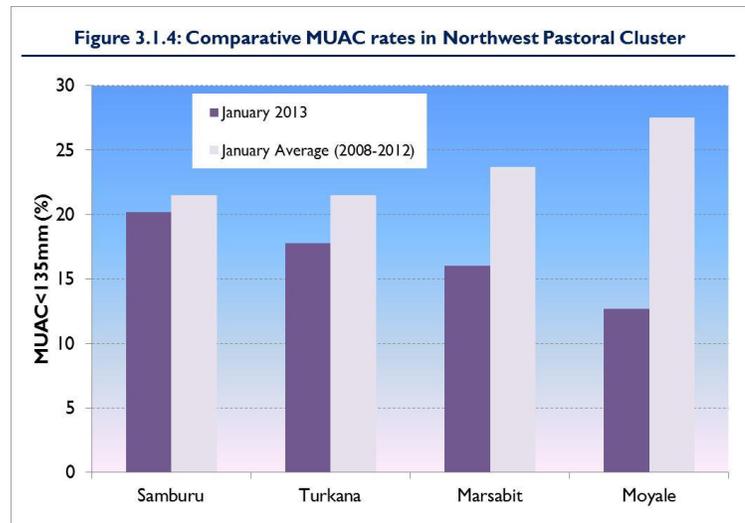


As a result, the terms of trade are generally favorable except in Turkana. A household is able to obtain 60-120 kilograms of maize in exchange for a goat compared to the long term average of 30-45 kilograms. Although terms of trade are above average in Turkana, a goat is exchanging for only about 25 kilograms of maize, due to exceptionally high maize prices. Figure 3.1.3 illustrates above average terms of trade in the cluster.

3.1.6.5 Health and Nutrition

The main causes of morbidity reported in the cluster were within the normal range and included the upper respiratory tract infections, clinical malaria, diarrhoea, pneumonia, and skin diseases. The crude mortality and under five mortality rates were 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 percent of fully immunized ranged between 42 and 84 percent; lowest in Turkana, and only above the 80 percent target in Moyale. Vitamin A supplementation coverage was between 75 and 98 percent, and above the 80 percent national target only in Turkana and Marsabit. Low immunization and vitamin A supplementation predisposes children to diseases and infections.

The proportion of children under five years old 'at risk' of malnutrition, that is, with mid upper arm circumference less than 135 millimetres (MUAC<135mm), range between 12-20 percent across the cluster (Figure 3.1.4). The MUAC rates are 6-30 percent below the January average, and are up to 55 percent lower than average in Moyale. The favourable nutrition status for children is attributed to the overall good access to food as a result



of improved milk availability at household level, above average terms of trade, the general low level of disease incidences, and on-going nutrition interventions. The majority of households are consuming 2-3 meals per day comprising 2-3 food groups, which is normal. However, in the pastoral areas of Turkana, and northern Marsabit, households are consuming one meal per day

3.1.6.6 Education

Pupil enrolment generally increased in the early child development (ECD) and primary schools. The main drivers of increased enrolment were government directive, intense sensitization, support by NGOs, and increasing settlement of previously nomadic populations. However, high dropout rates, absenteeism, and poor transition from primary to secondary schools, due cultural reasons, are likely to negatively impact on future household food security in the cluster. For example, primary school completion rate is 40-50 percent, while only about 65 percent of pupils who sit exams transit to secondary schools in Samburu and Turkana. The ongoing regular school meals program, in all registered primary schools, is enhancing school attendance, retention, and overall performance. However, in Marsabit, high transport cost dissuades transporters from readily moving food to schools in remote areas leading to delays in food supply to the affected school.

3.1.6.7 Coping Strategies

According to the food security outcome monitoring data, the December 2012 coping strategy index was about seven in Moyale, Samburu and Marsabit, and 18 percent in Turkana, out of a maximum of 56. Households are applying usual lean season strategies in many places.

No case of unusual coping has been reported across the cluster. Among the strategies households are using include minimal reduction of the quantities and frequencies of meals, borrowing and sharing of food, charcoal burning, and selling of firewood, particularly in Turkana.

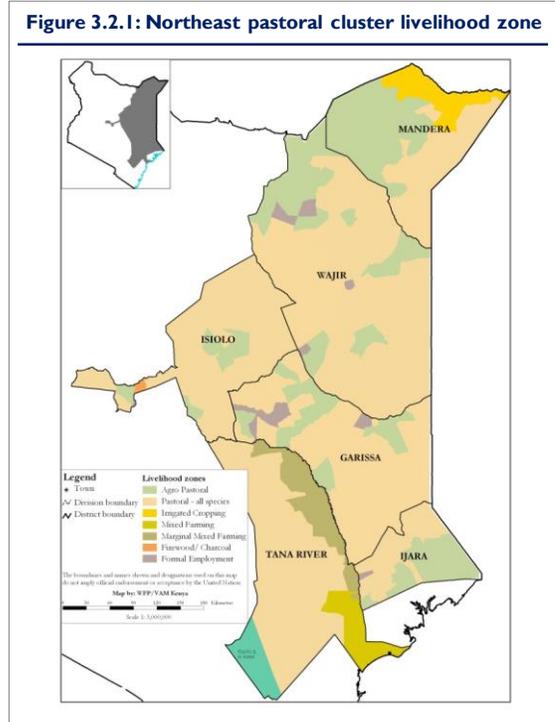
3.1.6.8 Food Security Prognosis

The food security situation is expected to remain stable in most of the agro-pastoral livelihood zone across the cluster, and no acute food insecurity is anticipated over the next six months in these areas. Harvesting is expected to conclude in March 2013 and thereby replenish households' food stock that is expected to last until May or June 2013. In the pastoral zone, food security situation is likely to deteriorate though at much slower rate than the usual seasonal decline. The improvement in livestock productivity and milk availability are expected to sustain household food access. Milk availability is expected to be sustained in the next six months through available camel milk, and when kidding and lambing peak in May to June 2013. The majority of pastoralists are expected to remain in the stressed phase of food insecurity.

3.2 The Northeast Pastoral Livelihood Cluster

3.2.1 Cluster Background

The Northeast pastoral livelihood cluster consists of the larger Garissa, Ijara, Isiolo, Mandera, Tana River, and Wajir 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, agro-pastoral 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.



3.2.2 Factors affecting food security

Several factors including high food prices, conflict and insecurity, poor distribution and amount of rainfall, livestock diseases, poor road infrastructure, and human-wildlife conflicts influence food security in the Northeast pastoral cluster. The October to December short rains, although resulting in regeneration of pasture and browse and recharge of water points, was not adequate for optimal crop production.

Food prices have remained above five-year average limiting household access to food. Similarly, frequent resource based conflicts limit market access and lead to food price inflation. For instance, during the recent Tana River Delta conflict, market access was limited resulting in livestock price decline in Ijara District.

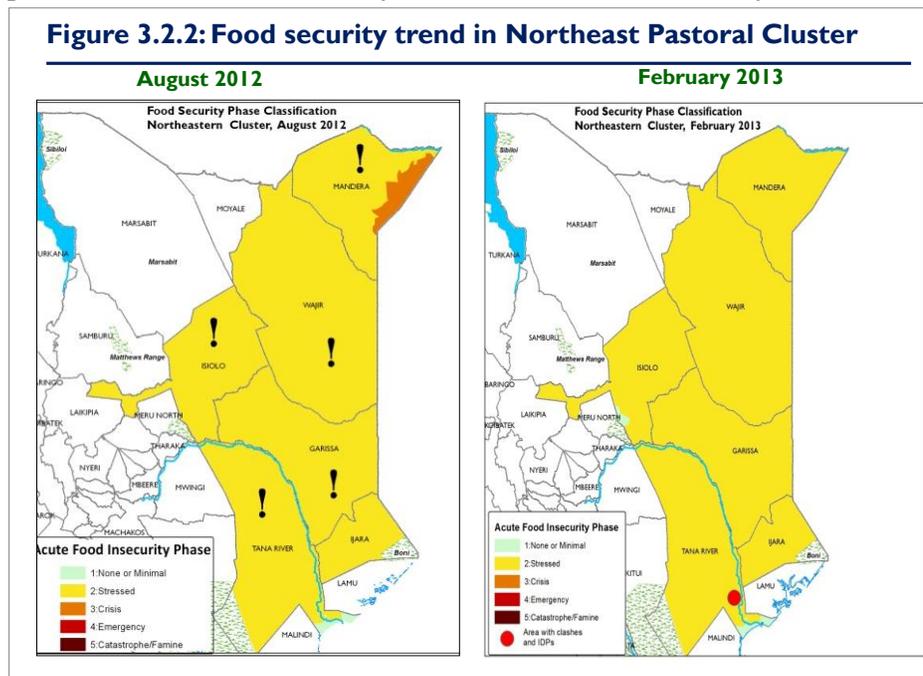
3.2.3 Overall Food security situation

Food security situation in the cluster is Stressed (Phase 2) although there is a risk of deterioration. Despite poor performance of the short rains, some regeneration of pasture and browse occurred and thus sustained the livestock body conditions. Milk production and consumption increased as a result of peaking of cattle and camel calving. Distances to domestic water sources reduced and households are consuming between 7 and 20 liters of water per person per day.

Livestock prices are above average resulting to increased household income. In addition, the declining maize price is making it easier for the pastoral households to access food from the market. Nevertheless, 80 to 90 percent of households across the cluster can manage to access daily minimum food requirements. As a result, the proportion of children under five years of age ‘at risk’ is below the January five year average.

3.2.4 Food Security Trends

Although food security has improved across the cluster due to improved grazing conditions which have resulted to improvement in food availability and access, the food security situation is still Stressed (Phase 2) similar to August 2012. Parts of eastern Manderla bordering Somali that were in Crisis (Phase 3) have improved to Stressed (Phase 2) as shown in Figure 3.2.2 following a significant improvement in the security situation that has enhanced market access and opened up trade across the borders. In Garissa and Tana River Districts, the level of malnutrition improved in February 2013 compared to August 2012, as depicted by the decline in proportion of children ‘at risk’ of malnutrition.



3.2.5 Current Shocks and Hazard

3.2.5.1 Rainfall

The onset of the October to December short rains was generally timely, in most parts of the northeast pastoral cluster with the exception of Tana River and Isiolo where the onset was early by 2-3 weeks. Usually, the onset of rains in this cluster is the last week of October. The rainfall varied considerably across the cluster and was characterized by relatively poor temporal and spatial distribution.

The southern half of the cluster covering Garissa, Tana River, Ijara and southern Wajir, received 80 to 160 percent of normal rainfall amounts increasing to 200-300 percent of normal in most parts of Ijara and the southern parts of Garissa. In contrast, the northern half of the cluster including Isiolo, Wajir and Mandera, received less than 50 percent of normal short rains amounts. The rains ceased nearly a month earlier than usual, in early December, in northeastern part of Isiolo, western Wajir and southern Mandera.

3.2.6 Impact of Shocks and Hazards

3.2.6.1 Crop Production

Almost 80 percent of the total long-term average area under rain-fed agriculture was cropped during the short rains season while 55 percent of the normal irrigated area was cropped. Overall, 64 percent of average area was cropped. However, harvested output ranged between 40 to 80 percent of the long term average for green grams, maize and cowpeas. The green grams harvest was nearly 80 percent of the long-term harvest while cowpeas, and maize harvests were 60 and 40 percent of the long-term average, respectively. The irrigated area under maize is 20 percent below the long-term average and output is projected to be 90 percent of average.

The total quantity of food stocks held in the cluster is 63 percent below average. The bulk of maize stocks are being held by households. Household stocks are 77percent of average. Meanwhile, traders, millers and the National Cereals and Produce Board (NCPB) hold between 50 and 60 percent of average stocks. Bulk of the maize stocks is concentrated in Isiolo, Garissa and Tana River.

3.2.6.2 Livestock Production

Livestock productivity improved during the October to December short rains season due to improvement in pasture, browse and water conditions. Grazing resources are expected to last for 2-6 months except in the pastoral livelihood zones in Mandera and northern Garissa where pasture and browse conditions are poor. The return trekking distances to water for livestock are generally less than 10 kilometers but reach 15 kilometers in parts of Garissa and Wajir.

Livestock body conditions are generally good for all livestock species while milk production has also improved. The majority of pastoral households are accessing 1-2.5 litres of milk compared to a normal of 2-5 litres per day. For instance, in Isiolo milk production has improved to 2.5-3 liters from the usual 2-2.5 litres. However, the increasing distance to water and grazing is likely to push milk production down. For example, although milk production average two liters per day, it has declined by almost 50 percent in Mandera. Milk prices have considerably declined and are currently 70 to 90 percent of average price per.

In general, the tropical livestock units (TLUs) have improved in Garissa, Isiolo, but remain lower much below normal in Mandera. Minimal livestock migrations are occurring in some parts of the northeast pastoral zone. For example from northern parts of Isiolo to the southern areas, and from Ijara into the northern part of Tana River. However, the rate of livestock migrations is low and normal during this short dry season. With the exception of endemic livestock diseases such as Contagious Bovine Pleuropneumonia (CBPP), and trypanosomiasis in Tana River, livestock disease outbreaks have been minimal. However, there are unconfirmed reports of above normal abortions in parts of Isiolo, and Pestes des Petit Ruminants (PPR) in parts of Mandera.

3.2.6.3 Water and Sanitation

Across the cluster, water sources recharged to between 60 and 80 percent of capacity, with exceptions in localized areas in Tana River where recharge was only 30 to 40 percent of capacity. Distances to domestic water are within the normal range or better and average less than 10 kilometers across the cluster except in Mandera where they have increased by about 30 percent.

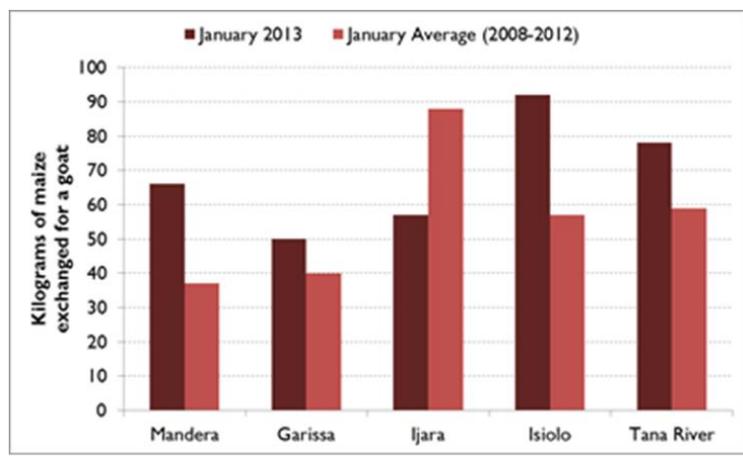
The waiting time at water points is normal, and range between 15 to 30 minutes except in localized areas of Mandera where waiting times surpass the usual one hour. The price of a 20 liter water jerrican cost between Ksh. 2-5. However, water prices are high in Mandera district and parts of Tana River where a 20 litre jerrican cost between Ksh. 15 and 30.

Households are consuming between seven to 15 liters per person per day. The lowest water consumption is recorded in the pastoral areas of Isiolo and Mandera, but is typical at this time of the year. In the other livelihood zones, water consumption range between 15 and 20 liter. The low latrine coverage, less than 35 percent, coupled with equally low water treatment, predisposes households to water borne diseases.

3.2.6.4 Market Performance

While markets are functioning normally in most parts of the cluster, there have been disruptions in parts of Tana River, Ijara, and Mandera because of conflicts and insecurity. Supply of commodities into the market in Tana Delta has been lowered by displacements due to insecurity and conflicts. Maize prices are declining across the cluster but they remain above the long-term average. Maize prices range between Ksh. 35 in Isiolo and Ksh. 78 in Mandera. The traded volumes in livestock markets are below average because pastoralists are holding onto their livestock for fattening while a considerable number is lactating.

Figure 3.2.3: Comparative terms of trade in Northeast Pastoral Cluster



The price of goats and cattle, are above the long-term average. Cattle prices range between Ksh. 13,000 and Ksh. 25,000, which is nearly 15 percent above average in Isiolo, and are more than double in Mandera. Goat prices range between Ksh. 2,800 in Ijara and Ksh. 5,000 in Mandera. The above average livestock prices have enhanced pastoralists' terms of trade as figure 3.2.3 show.

3.2.6.5 Health and Nutrition

The common causes of morbidity in the cluster include the upper respiratory tract infections (URTI), malaria, diarrhea, skin diseases, and pneumonia. Immunization coverage is below the national target in the cluster and ranges between 28 percent in Tana River and 71 percent in Garissa. The low immunization coverage in Tana River is attributed to conflicts and displacements. However, vitamin A supplementation is above the national average due to ongoing interventions.

The mortality rates are stable and below the emergency thresholds across the cluster. However in Tana River, the under 5-year olds mortality rate is stable at 1.23 per 10,000 per day while the crude mortality rate has increased slightly to 0.77 persons per 10,000 per day due to the recent clashes, compared to 0.75 per 10,000 per day in February 2012.

The status of nutrition has improved across the cluster as a result of increased milk availability and diversification of diets. Most households are consuming two to three meals a day while 60 to 90 percent of households had an acceptable food consumption score in December 2012. The proportion of children 'at risk' of malnutrition, (MUAC<135mm) range between 10-20 percent and is below the long-term average across the cluster. However, malnutrition rates remain chronically high in Mandera and Wajir, where global acute malnutrition (GAM) rates are above the emergency level of 15 percent.

3.2.6.6 Education

Primary school enrollment has increased in districts across the cluster. Enrollment is higher for boys than is for girls. However, enrolment was adversely affected in areas with high insecurity. Meanwhile, enrolment was also negatively impacted due to conflicts in Tana River. While girls enrolment and attendance dropped by 12 and 31 percent, boys attendance and enrolment dropped by 33 and 39 respectively in the first term of 2013 compared to third term of 2012. The rate of transition from ECD to primary range between 80 to 95 percent and is generally good for primary to secondary. The SMP supports over 200,000 pupils in 400 primary schools and ECD centers.

3.2.6.7 Coping Strategies

The coping strategy index reduced to 7-14 in December 2012, from 10-16 in September 2012. The decline signifies an improvement in the food security situation. There are no households employing irreversible coping strategies although some of the strategies being used currently may have detrimental effects on food security outcomes in the short run. Some of the strategies include petty trading, purchasing food on credit, borrowing food from relatives and charcoal burning. Some households are skipping meals in Tana River while others in Isiolo have reduced meals sizes.

3.2.6.8 Food Security Prognosis

Food security situation is expected to remain of Stressed (Phase 2) in the next six months. While grazing conditions are expected to last well into the long rains season. However, livestock productivity is expected to decline seasonably during the short dry season. At the same time, watering distances are likely to marginally increase during the lean season. Although March to May long rains are forecast to be average to below average, water sources are expected to recharge while pasture and browse regeneration is also expected to occur.

3.3 The Agro-pastoral Livelihood Cluster

3.3.1 Cluster Background

The agro-pastoral cluster is located in the south western side of Kenya. It consists of Kajiado, Narok, West Pokot, Baringo, Laikipia, Transmara and Nyeri districts. The cluster covers approximately 69,397 square kilometers and has an estimated population of 3,015,290 persons. The main livelihood zones in the cluster as depicted in Figure 3.3.1, are mixed farming, pastoral, marginal mixed farming and agro-pastoral, which represents 36, 28, 13 and 11 percent of the cluster population. Livestock production contributes 70-80 percent of cash income in the pastoral zone while crop production contributes to 55 percent of cash income in the agro-pastoral areas. Households in this cluster access 30 and 60 percent of food from own production and market purchases respectively.

3.3.2 Factors Affecting Food Security

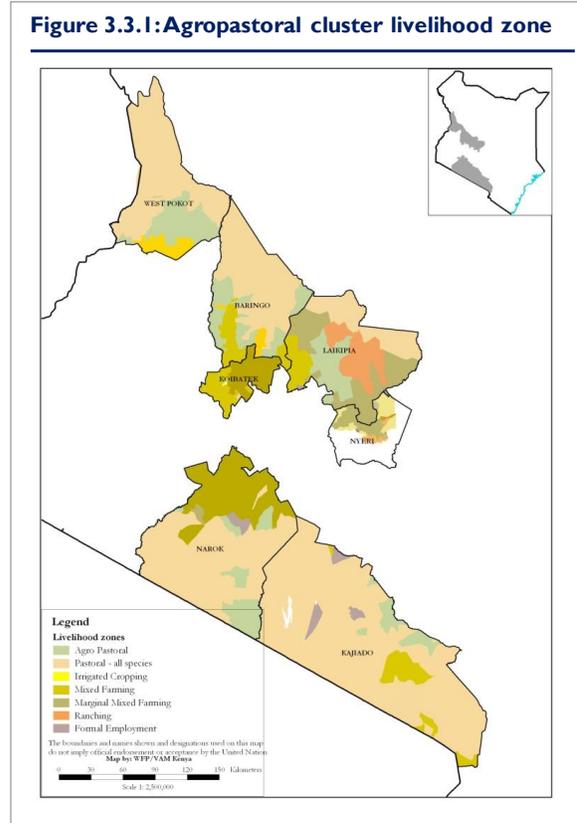
The main factor affecting food security in the cluster includes erratic rainfall, human and wildlife conflicts. Crop and livestock diseases; including the Maize Lethal Necrosis Disease (MLND), and foot and mouth disease (FMD). Others include frost bite, hailstorms, insecurity, poor road network, and low use of fertilizers and certified seeds.

3.3.3 Overall Food Security Situation

Food security situation vary across the cluster, and majority of the households in the cluster are either in the Stressed or Minimal Acute food insecurity phases. Most areas in Narok, Transmara, mixed farming zones in Baringo and Laikipia, the agro-pastoral zones of West Pokot as well as Kajiado are classified in the None or Minimal food insecurity phase. However, most parts of the pastoral livelihood zones in Baringo, Laikipia, West Pokot and Loitokitok are classified in the Stressed Phase. In general, crop and livestock productivity considerably improved in all areas.

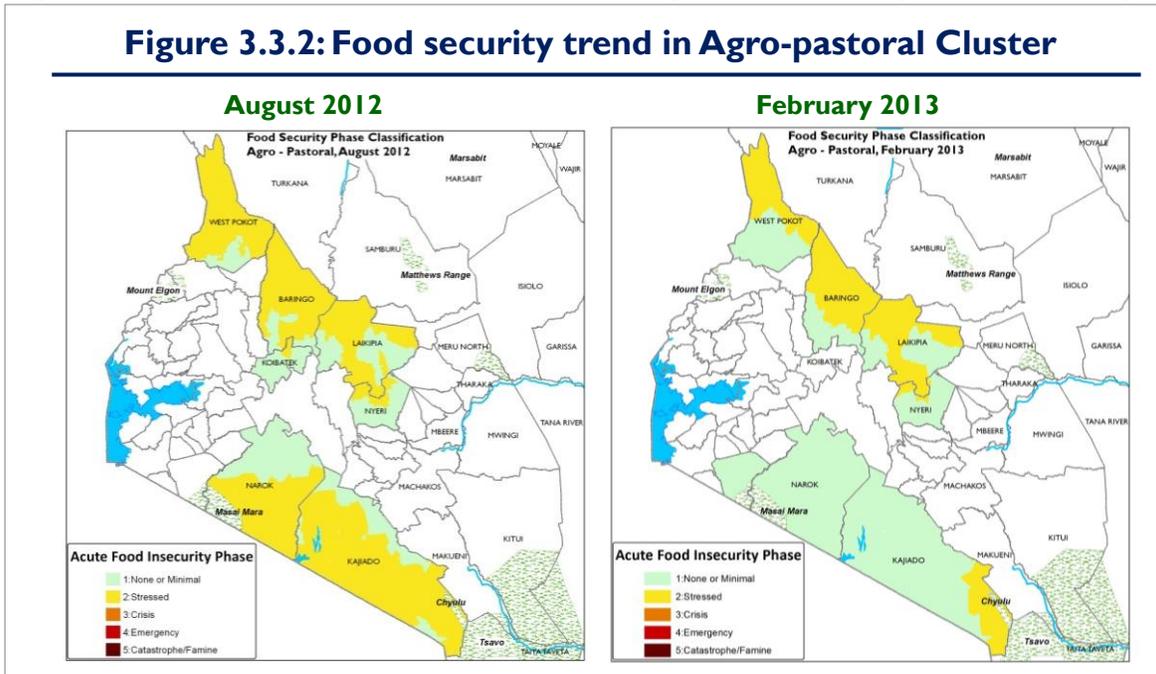
Crop performance was particularly good in Narok and Transmara, where rain-fed maize harvests were 17 and 23 percent, respectively, above average. Pulses performed well above the long term average, and these are expected to cushion farmers as an additional source of income and food. The number of children at risk of malnutrition was lower than the long term average in all districts.

Figure 3.3.1:Agropastoral cluster livelihood zone



3.3.4 Food Security trends

Most parts of the cluster were classified in the stressed phase in 2012 August, after the long rains



assessments. While most parts of cluster have remained in the Stressed Phase, most areas in Narok, Transmara, mixed farming zones in Baringo and Laikipia, the agro-pastoral zones of West Pokot as well as Kajiado are classified in the None or Minimal food insecurity phase (Figure 3.3.2)

3.3.5 Current Shocks and Hazards

3.3.5.1 Rainfall

The onset of rains was normal, in the first dekad of October, except in Kajiado where the rains were late by a month. The rains were poorly distributed spatially. The cluster generally received 80-160 percent of normal rainfall amounts, with the exception of southern parts of Kajiado where rainfall amounts were 20 to 50 percent of normal. The rains continued well into February across the cluster.

3.3.6 Impact of Shocks and Hazards

3.3.6.1 Crop Production

The area under maize was between 90 and 104 percent of normal in Laikipia, Kieni, Transmara and Kajiado, but was below 20 percent of normal in the other districts, for instance in Narok and Baringo where farmers opted to plant other crops to reduce the risk of the maize lethal necrosis disease (MNLN). Area under beans, pigeon peas and Irish and sweet potatoes increased by between five and 15 percent compared to average, which also translated into increased output across the cluster.

Nevertheless, maize output is about 84 percent of normal, with the highest production realized in Transmara at 123 percent above normal production. Beans and other pulses generally performed above normal by 26 percent in Transmara and 83 percent in Baringo. However, in Laikipia, Kieni and Kajiado maize production was below the LTA, but other crops such as tomatoes, cabbages and pigeon peas performed well above average by 16, 22 and 152 percent in Laikipia, Kieni and Kajiado. Maize stocks at the household level are currently about 70 percent of normal. However, stocks are low in Narok, at 22 percent of average. Meanwhile, stock levels were 10 to 25 percent above average in West Pokot and Laikipia. These stocks are likely to last for up to five months compared to the usual four to five months. Stocks in Laikipia and Transmara are likely to last more than six months compared to the usual five months.

3.3.6.2 Livestock Production

Livestock productivity is good, due to availability of water and pasture. Milk production was either normal or above normal across the cluster. And milk consumption increased from the usual half a liter to 1-2.5 liters, with the exceptions in Transmara and Kajiado where it increased from between 2-3 liters to 3-4 liters. The cost of milk was normal and ranged between Ksh. 30 and Ksh 45. Livestock diseases were minimal across the cluster with only FMD reported in Kieni, Baringo and Narok. Nevertheless, livestock production is constrained by cattle rustling, conflicts, and endemic livestock diseases.

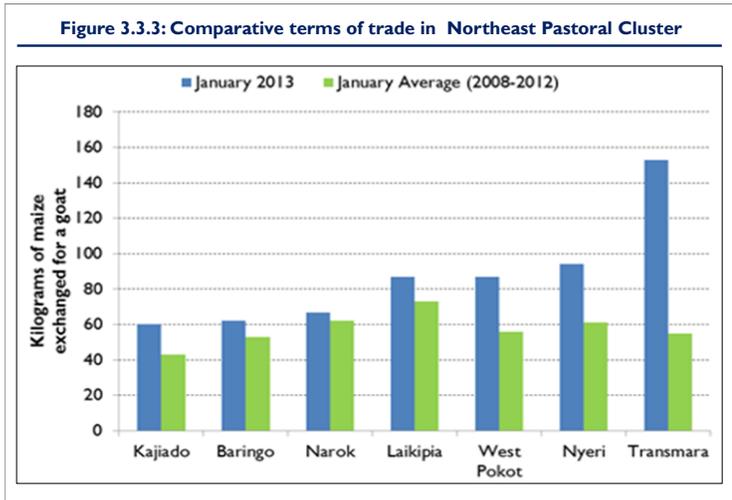
3.3.6.3 Water and Sanitation

All surface water sources recharged to over 80 percent of their capacity, and are expected to last for up to four months compared the normal duration of three to four months. Return trekking distances reduced to between half a kilometer to four kilometers in mixed farming areas compared to the long term average of 1-5 kilometers. In pastoral zones in West Pokot, the distances are higher at eight kilometers, but this is normal for the district. Waiting time is normal at between 10 to 40 minutes, and similarly, the cost of water is within normal ranges with as a 20 liter jerrican selling for an average of five shillings except in West Pokot and Narok where the price is higher at Ksh 10. Water consumption was normal at 10 to 15 liters per person per day, with the exception of pastoral areas of West Pokot where water consumption is five liters per person per day.

3.3.6.4 Market performance

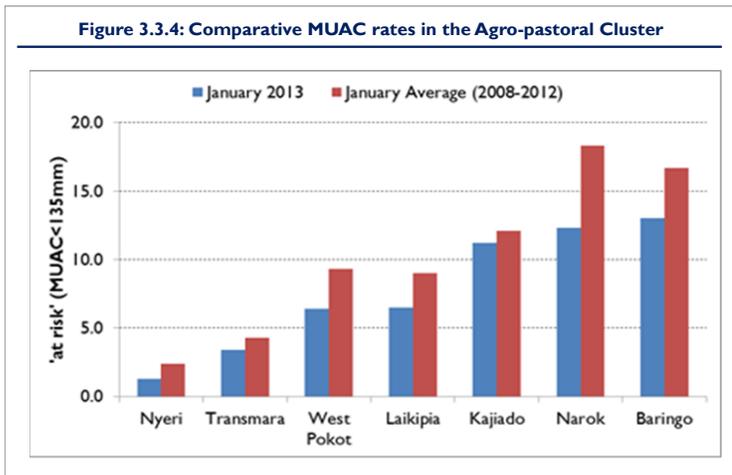
Market operations were normal across the cluster, and were also well provisioned. The main food source in the cluster is Tanzania, which supplies markets in Narok and Kajiado districts. Taveta is also an important source of food for Kajiado market, especially for horticultural produce. Maize prices ranged between Ksh. 30-55 compared to the normal of Ksh 25-42, across the cluster, significantly higher than normal in Narok and Kajiado, at 31 and 60 percent above the average, respectively.

However, maize prices were about five percent below average in Transmara and Laikipia. Goats' prices ranged from Ksh. 2,700 in West Pokot and Ksh. 5,500 in Transmara compared to a normal price range of Ksh. 2,000 and 2,200, respectively. In Transmara, Nyeri and Kajiado, the prices were 100, 30, and 75 percent above normal. As a result, the terms of trade are generally favorable across the cluster as shown in figure 3.3.3



3.3.6.5 Health and Nutrition

Upper respiratory tract infections (URTIs), malaria and skin diseases are the leading causes of morbidity in the cluster. An outbreak of measles was reported and contained in Kajiado, while an upsurge of malaria and diarrhea were reported in Baringo. Cases of dysentery were noted within the cluster, particularly in Narok where 341 cases were treated. Crude and under five mortality rates were generally within acceptable levels, and below the WHO emergency thresholds of 0.5 per 10,000 per day and 1.0 per 10,000 per day respectively. Immunization coverage was generally above national targets except in Baringo and Narok that had 67.8 and 60.9 percent respectively; while the highest coverage was 94 percent in Kajiado attributed to Malezi Bora campaign.



Vitamin A coverage for children between 6-59 months was below the national targets, and was lowest in Narok and Transmara, at 15.4 and 18.3 percent, respectively. Low coverage was attributed to lack of vaccines and proper storage facilities for the same. Nutrition status has improved and MUAC rates are up to 46 percent below the January five year average as depicted in figure 3.3.4. Most households in the cluster were consuming two to three meals per day, composed of two to four food groups, which is normal for this time of the year.

3.3.6.6 Education

Generally, enrolment improved across the cluster by 17 percent when compared to the previous year, with 53 percent being girls, mainly due to provision of school meals programme. Dropout rates were relatively low, except 40 percent dropout in East Pokot attributed to cultural practices such as early marriages and moranism. Home Grown School Meals programme covers over 600 schools in the cluster, which has facilitated improved attendance.

However, timely disbursement of SMP funds and high food prices are high affected smooth operation of HGMP. There was marked improved in transition from ECDE to primary at 90 percent, apart from Baringo which had 58 percent, while East Pokot low transition rate at 17 percent transition, but below the national, at 73 from primary to secondary schools due to the relatively high cost of education, and priority given to education, especially for the girl child.

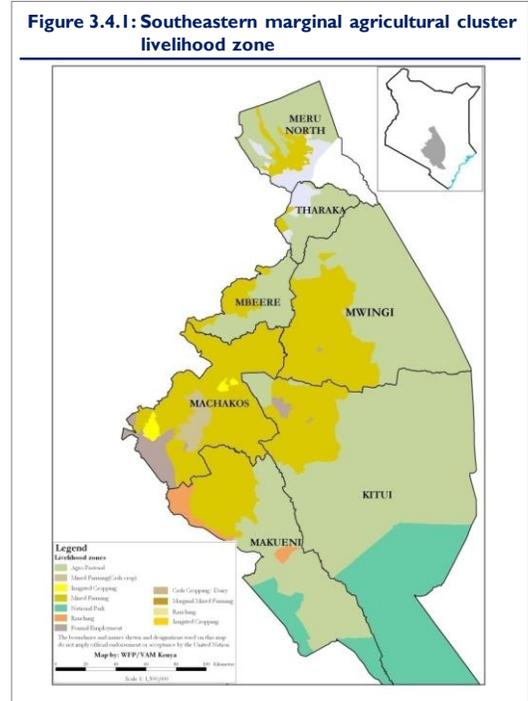
3.3.6.7 Coping Strategies

Households in the cluster are generally engaging in normal livelihood activities while ongoing coping strategies are also normal. The mean coping strategy scores as at December range between 6 in Kajiado and 17 in Baringo and West Pokot; these scores have generally remained stable since September 2012.

3.3.6.8 Food security prognosis

The mixed farming, irrigated and agro pastoral zones in most parts of the cluster are generally food secure, and the situation is likely to remain stable to the onset of the long rains. In the agro pastoral areas in Kajiado and Baringo and Laikipia, as well as pastoral and marginal mixed farming areas that are currently under the stressed phase, improvement is contingent on the performance of the long rains.

Household food stocks are high in Laikipia, Transmara and West Pokot, and are likely to last between three to more than six months, but they are low in the other districts, likely to last less than a month especially in Kajiado and Kieni. However, households are cushioned by better terms of trade, which may improve further with better livestock prices, and as a result; households' access to food may improve.



3.4 The Southeastern Marginal Agriculture Livelihood Cluster

3.4.1 Cluster Background

The South Eastern Marginal Agricultural cluster comprise of the greater Kitui, Makeni, Mbeere, Meru North, Mwingi and Tharaka districts. The cluster covers approximately 46,165.3 square kilometers and has an estimated population of 3,086,288 persons. Figure 3.4.1 shows the location of the cluster and the livelihood zones within the cluster.

The main livelihood zones in this cluster are mixed farming and marginal mixed farming which account for about 65 and 26 percent of the population, respectively. Crop production is the most important income source in the cluster and contributes 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.

3.4.2 Factors Affecting Food Security

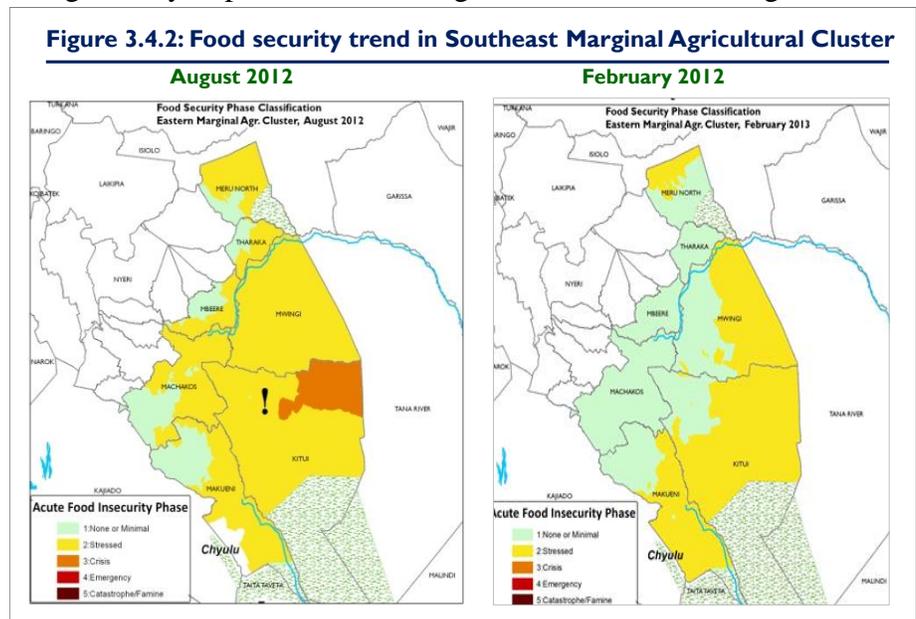
The main factor affecting food security is the poor performance of the short rains especially in Marginal Mixed farming zones which resulted in below average crop production. Other factors includes poorly organized markets leading to extortion by middlemen, poor post harvest management, poor choice of crop variety by farmers in Kitui and Makueni, communal land tenure system in Tharaka and Mbeere, low adoption of drought tolerant crops, poor soil fertility in the mixed farming zones, and high food prices. In addition, there is resource-based conflict's along border areas between Tana River and Mwingi, Tharaka North districts, and between Meru North and Kitui districts that have caused insecurity with negative impacts on food security.

3.4.3 Overall Food Security Situation

Most parts of the mixed faming livelihood zone particularly along the upper parts of in Makueni, Kitui, Meru North and Tharaka are classified as none or Minimal food insecurity phase whereas those in lower belt of Makueni, Kitui and Mwingi are in the Stressed phase but generally on improving trend. Milk consumption is below normal averaging 1 to 2 litres compared to the normal of 0.5 to 1.5 litres. Households were consuming two to three meals per day across the cluster with 79 percent consuming 2 meals and 13 percent consuming 3 meals per day. The food consumption scores indicate that 63 percent of the households have acceptable level, 31 percent have borderline consumption level, and 6 percent have poor consumption. About 88 percent of household can afford the price of minimum food healthy basket (MFHB), out of that 70 percent could afford twice the price of MFFB.

3.4.4 Food Security Trends

The food security situation has generally improved considering the cluster is emanating from two consecutive failed seasons. The food security situation is likely to continue improving especially in mixed farming livelihood zone as good harvest is expected as from end March and food commodity price decline. In Meru, projected productions are adequate to meet the district food requirements for the six months. In addition, the good pasture and browse situation across the livelihood zone will result in increase livestock production. In general, food security situation will remain stable should the anticipated long rains come on time. However, there may be significant deterioration in food security in parts of the marginal mixed farming where 20 to 50 percent of normal rains were experienced should long rains delay.



3.4.5 Current Shocks and Hazards

3.4.5.1 Rainfall

The short rains started during the first dekad of October across the cluster with exception of Makueni and Kitui district where rains started in 3rd dekad of October and 1st Dekad of November respectively. In general, the onset of the short rains was timely across the cluster. With exception of Meru north, the short rains were unevenly distributed spatially. The northeastern parts comprising of Meru North, Tharaka and North part of Mberere received rainfall amounts exceeding 80 to 160 percent of normal short rains while the central, southern and southwestern part received less than 50 to 80 percent of normal short rains.

The rainfall amounts was lowest in localized areas of eastern Kitui, southern part of Mwingi and Makueni that received less than 20 percent of normal short rains. Rainfall amounts were highest, over 120 percent of normal in most parts of Tharaka and southern part of Meru North. The rains ceased on time in the first to second dekad of December; however Makueni, Tharaka and Meru North districts continued to receive off season shower in last dekad of January and 1st dekad of February respectively.

3.4.6 Impact of Shocks and Hazards

3.4.6.1 Crop Production

The short rain season is the main and more reliable season and contributes to about 70 percent of annual crop output in the cluster. The three main crops grown are maize, green grams and cowpeas. Beans are mainly grown in Kitui, Machakos and Meru North districts. Area planted with maize, green grams and cowpeas increased by 6 to 10 percent, 20-35 percent and 2-5percent above the long term average (LTA), however in Mwingi area under green grams was significantly higher at 51 percent above LTA.

Overall production was above average and ranged between 19 to 52 percent of LTA. The above average is attributed to weather prediction information that had indicated that the rains would be above normal (mild el-Niño) and issuance of improvised seeds especially in Mwingi. In Meru North, beans, maize and cowpeas production was significantly above average where expected harvests averaged 129, 152 and 145 percent of the LTA, respectively. This are attributed to timely onset and good distribution of the rains, enhanced use of fertilizer and certified seeds by farmers.

The crops grown under irrigation included tomato, kale and onion. The irrigated area varied across the cluster, with Mwingi having lowest with area under tomato, kales, onion at 68, 36 and 44 percent of LTA. This is attributed to low utilization of irrigated land currently at 5 percent relative to 55 percent of potential. In Makueni, the irrigated area under tomato, kales and onion increased by 56.8, 104.5 and 208 percent above LTA, which is attributed to good recharge of irrigation water sources. This led to the corresponding increase in output by about 119, 99 and 136 percent of LTA for tomatoes, kales and onion.

The stocks held by households range between 2.5 to 55 percent of LTA. These below normal stocks are 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 are 47 to 67 percent of average across the cluster with exception of Meru North and Kitui where traders are holding 102 to 118 percent of average. The current stocks are expected to last for one to three months, however in Meru North this will last over six months.

3.4.6.2 Livestock Production

The pasture and browse conditions are good across the cluster and is expected to last for 2 to 3 months. The exception is Kitui where the pasture and browse conditions are good and are expected to last for 4 months. The available forage will be supplemented by cereal stubs from harvest now being realized. In Meru North access to pasture and browse is limited by insecurity in Northern grazing zones of Kachiuru and Ndumuru in Igembe north and Kandebene, Muula, Ngaremara and Gambella in Tigania East. The livestock body conditions are good for all species across the cluster.

Generally there is an improvement in milk availability with household able to access 1-2 litres compared to normal of 1-4 liters per day. However, in the mixed farming livelihood zone of Meru North, milk availability is normal at 5 liters per day. The increase is attributable to price reduction from Ksh. 50 to 60, to Ksh. 40 to 45. The return trekking distance to livestock water sources have reduced across the cluster to about 2 to 3 kms from the usual 6 to 8 kms. There are no in and out migration of livestock and no outbreak of livestock diseases reported across the cluster.

3.4.6.3 Water and Sanitation

The main water sources are rivers, boreholes, pans, dams, springs, wells and dry river beds. Most of the water sources are operating normally with a recharge of about 50-75 percent of capacity with exception of Mutomo area in Kitui District where recharge is very low. The water is expected to last about 2-4 months. The trekking distances to water sources have remained stable at about 2 to 3 kms across the cluster.

Waiting time at the water sources have reduced to 5 to 10 minutes across the cluster with the exception of the agro-pastoral livelihood zone in Meru North which is between 30 minutes to one hour, as both livestock and human use water from the same source. This is normal at this time of the year. Water consumption is normal at 15 to 20 liters per person per day across the cluster. On average about 20-50 percent of households treat their drinking water, but low use of the chemicals was found in Mwingi and Kitui and this is attributed to cost, availability and bad taste of chemicals. The current cost of water in mixed farming zone is Ksh 2-5 per 20 liter jerrican, however in marginal mixed farming livelihood zone; the cost was high at ksh 10-15 per 20 liter jerrican across the cluster.

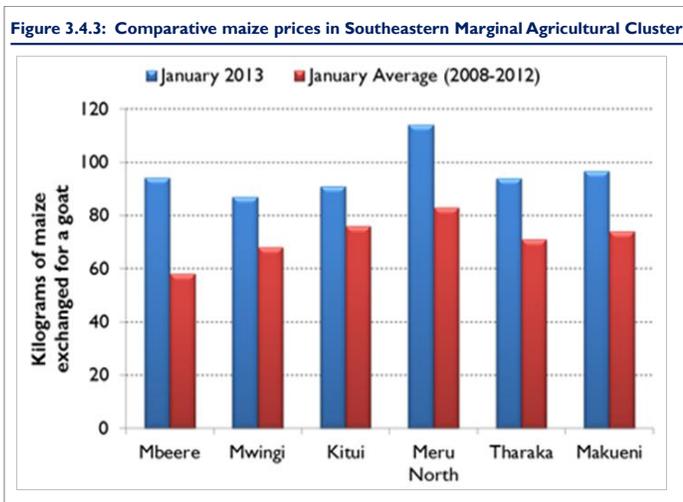
3.4.6.4 Market Performance

The market operations are normal across the cluster. The traded volumes of food staples are normal though bulk of the supplies is sourced from outside the cluster, for instance from Kajiado, Tanzania and the Rift Valley province. However in Meru, most of the commodities sold are from local production except a few imports from the neighboring district such as potatoes from Nanyuki.

A kilogram of maize is selling for about Ksh. 35, up from the long term average price of Ksh 25. The highest price of maize, Ksh. 38, is recorded in Kitui compare to LTA Ksh 41; the price is likely to drop further in the next 1 to 2 months when the peak harvest is reached. Maize prices are lowest in Meru North at about Ksh. 33 per kilogram. Figure 3.4.3 show the maize prices in January 2013 compared to the five year average.

The prices of livestock are 36 to 76 percent above long term average. A mature goat is selling for about Ksh. 3,000 against the long term average of Ksh. 1,880. The prices are highest in Tharaka at about Ksh. 4,000 and lowest in Mwingi at Ksh. 3,098. The terms of

trade for goat to cereals are favorable across the cluster though relatively lower in Mwingi. A goat is exchanging for about 86 to 116 kilograms of maize compared to the long term average of 68 to 89 kilograms.

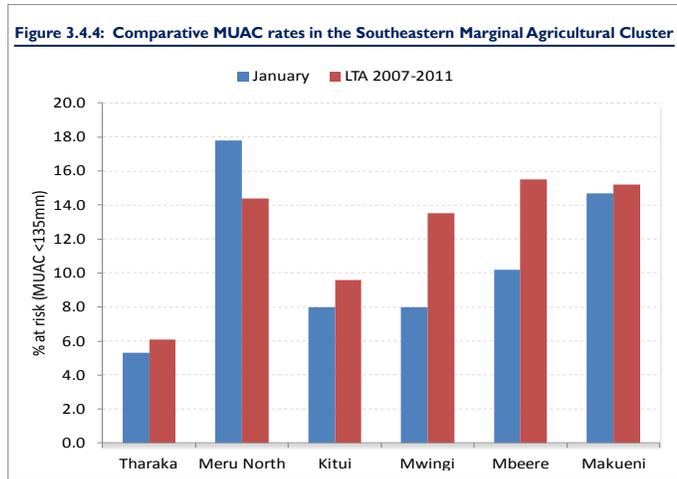


3.4.6.5 Health and Nutrition

The morbidity trends for the under-fives and the general population were similar across the cluster and are within the seasonal range. Measles outbreak was reported in Tharaka, Meru North, Mwingi and Kitui. As a result, 8 deaths have occurred in Tharaka district. This promoted mass measles immunization campaign in October and November. Meanwhile, 121 cases of dysentery have been reported in Kisasi division of Kitui district.

The under-five mortality and crude mortality rates ranged between 0.34 and 0.32 per 10,000 persons per day which is below the alert cut offs. The child immunization rate is above the national target of 80 percent across the cluster except in Makueni, Kitui and some part of Mwingi where immunization rate range between 45-54 percent. Low percentage in Mwingi is attributed to presence of households that were members of “kavonokia” sect that does not believe in conventional medicine and therefore they do not take their children to hospital. Meanwhile, vitamin-A supplementation for children 6 to 11 months was 69 to 83.4 percent while that for children aged 12 to 59 months ranged between 21 percent and 61 percent. This was below the national target of 80 percent except in Meru North and some part of Makueni where the national target has been achieved.

The proportion of children under five years of age ‘at risk’ of malnutrition, with mid upper arm circumference (MUAC) less than 135 millimeters, is below long term average for all districts with exception of Meru North with high MUAC of 17.8 percent compared to long term average of 14.4 percent. In Tharaka, Mwingi, Kitui and Mbeere the proportion of children ‘at risk’ of malnutrition range between 5.3 and 10.2 percent, and are below long term average (Figure 3.4.4).



3.4.6.6 Education

The enrolment rate in the cluster is generally increasing and this is attributed to free primary education and availability of food at schools especially in Tharaka, Mwingi, Makueni and Kitui. In general, girls’ enrolment is higher than that of boys with exception of Mwingi. However, in the early childhood development and education (ECDE), the trend is reversed. The dropout rate is minimal across the cluster, particularly in Mwingi where dropout rates are lowest, less than two percent. However, dropout rates are highest in Makindu division of Makueni and Tharaka currently at 6 to 11 percent respectively. The main drivers of school dropouts across the cluster include, abuse of khat (*miraa*), child labour, poverty, early marriage, or teenage pregnancies, and the teachings of a religious sect (Kavonokia in Tharaka). The sect discourages its members from joining formal education.

The transition rate from ECDE to primary is above 80 percent compared to 40 to 70 percent transition rate from primary to secondary schools. The ongoing school meals programme has impacted positively on schools’ enrolment, retention, completion and attendance. Transfer of pupils occurred to schools that had school meals programme as not all schools are under this program for example in Makueni and Tharaka only 29 percent and 41 percent respectively is covered by this program.

3.4.6.7 Coping Strategies

Coping strategy index across the cluster is 15 out of 56 indicating most household are employing insurance coping strategy or are engaging in normal coping strategies. The most common coping strategies include charcoal burning, reduced size and frequency of meals and increased reliance on casual labour, ballast making.

3.4.6.8 Food Security Prognosis

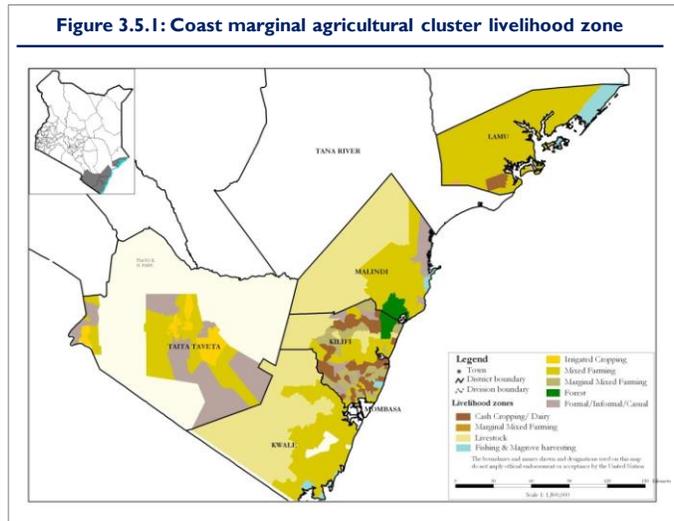
The food security situation is likely to continue improving especially in mixed farming livelihood zone as good harvest is expected as from end March and food commodity price decline and therefore insignificant change at the projected time of July 2013. In Meru, projected productions are adequate to meet the district food requirements for the six months. In addition, the good pasture and browse situation across the livelihood zone will result in increase livestock production. In general, food security situation will remain stable in the next three to four months should anticipated long rains come on time.

However, there may be significant deterioration in food security in parts of the marginal mixed farming where 20 to 50 percent of normal rains were experienced should long rains delay. Malnutrition is likely to decrease or remain stable across the cluster especially in Meru North with MUAC that are above long term average. No in or out migration of livestock is expected thus improving milk availability and consumptions.

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 1). The cluster covers an area of 47,860 square kilometers with 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 income.



3.5.2 Factors Affecting Food Security

The impact of two previous successive poor rainfall performance seasons continue to negatively affect food security, particularly in the livestock farming and mixed farming livelihood zones. In addition, 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 culminate to poor agricultural production. Besides the short term factors, are also long term issues such as chronic poverty, high food prices, and endemic human and wildlife conflict in areas bordering national parks. Few areas could benefit from alternative livelihood fishing opportunity but they lack necessary equipment such as the fishing gears.

3.5.3 Overall Food Security Situation

Relative to last two rainfall seasons, the food security situation has generally improved across all livelihoods, but remains at Stressed Food Insecurity Phase. The maize stocks held in the cluster are expected to last for 2-3 month, except in Kwale where the stocks are expected to last for a month. Market operations are normal and well provisioned with food commodities and there is downward trend of maize prices though it remains 22-40 percent above the five year average. Pasture and browse is available and has led to improved livestock body condition and milk availability. Households consumed 0.5-1 liters, as most households sold milk. Terms of trade of goats to maize are favorable due to high goat prices that are 40-90 percent above the long term average.

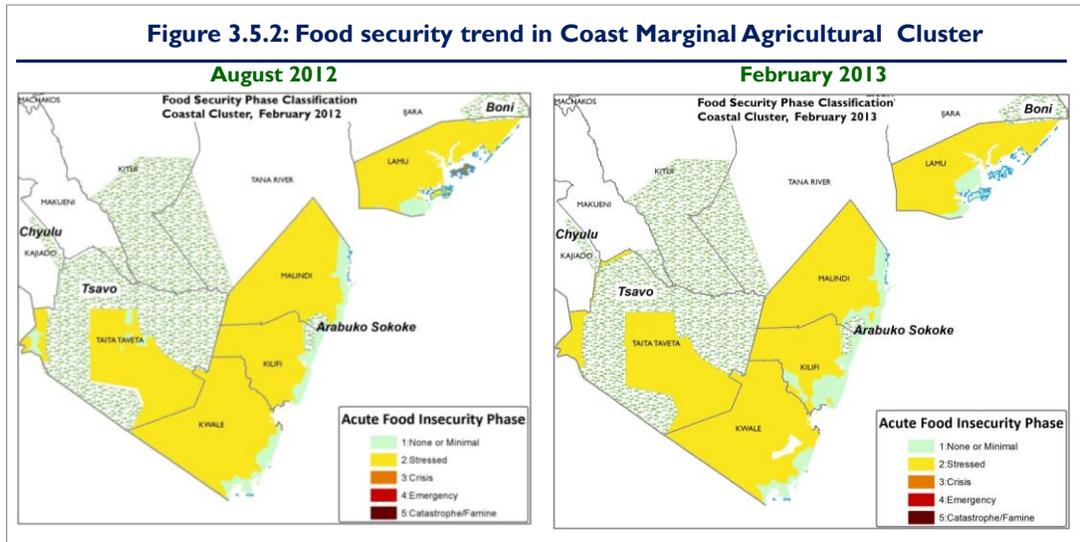
Water sources have recharged to about 75 to 90 percent of capacity. As a result, daily water consumption is up to 15 litres per person. Distances to water sources has significantly declined to below the long term average of 2-5 kilometres except in of Kizingitini, Kiunga and Faza in Lamu. The nutrition status of children under five years is improving and the proportion of children at risk in January was on downward trend.

3.5.4 Food Security Trends

Food security status has remained stable or marginally improved across the cluster, and is similar to the situation in August 2012. The food security situation is being maintained by stable daily consumption of

water, stable food prices, household food stocks that will last 2-3 months, and higher household consumption of 2-3 meals

compared to 1-2 meals in August 2012. The nutrition status of children under five years is also generally stable, and the proportion of children ‘at risk’ of malnutrition is less than 10 percent across the cluster. Figure 3.5.2 shows the food security trends in the cluster.



3.5.5 Current Shocks and Hazards

3.5.5.1 Rainfall

The amount of rainfall received ranged from 50-120 percent of normal in most parts of the cluster. Generally, the rains were poorly distributed temporally and spatially, as most of the rains were concentrated in third dekad of November to the second dekad of December. The coastal belt of Kwale registered exceptionally poor rainfall performance with only 20-50 percent of the normal rains. The rains ceased normally in the third dekad of December, with some off season rains realized into January 2013, except in Lamu where the rains ceased early in the second dekad of December 2012.

3.5.5.2 Other Shocks and Hazards

The other shocks and hazards in the cluster include human and wildlife conflicts, especially in areas around Shimba Hills in Kwale, and Tsavo national in Taita Taveta. The recent conflicts in Tana delta has resulted to displacement of 1,500 HH to Lamu (9,000 persons). As a result, there is pressure to the host communities.

Drying up of lakes and strong winds has disrupted the fishing livelihood. Flooding specifically in Jilore and Langobaya and parts of Fundissa locations in Malindi, approximately 200 Ha was affected and crops destroyed by the floodwaters.

3.5.6 Impacts of Shocks and Hazards

3.5.6.1 Crop Production

The short rains are more important in the hinterland of Malindi and Kilifi, and in Taita Taveta and Kwale, while the long rains are important for crop production along the coastal strip and Lamu where bulk of the crop is produced. In general, the short rains maize crop performance was varied; moderate in Kilifi, Lamu and Malindi, and poor in lowlands and the hinterlands of marginal mixed farming of Taita Taveta and Kwale respectively, with most of the maize crop succumbing to water stress.

Area put under maize, was near normal at 5 percent above the long term average across the cluster, with Kwale and Taita Taveta registering 21 and 8 percent below average, while Lamu and Malindi has area under maize at 113 and 22 percent above long term average. Across the cluster, the expected maize harvest is 5 percent below average, with only 49 percent of harvest in Kwale. Maize stocks held by households in the cluster are 16 percent below the long term average; on average Kilifi, Lamu and Malindi have 190, 89 and 147 percent stocks respectively. The stocks are expected to last for 2-3 months, except in Kwale where the stocks are 56 percent below the long term average and are expected to last for a month.

3.5.6.2 Livestock Production

Pasture and browse condition is good across the cluster and is likely to last 2-3 months instead of usual 1-2 months. However, in areas bordering Tana Delta district, the pasture will last two months due to the influx of 10,000-15,000 cattle and small stock into Malindi from Tana River as result of civil strife. Livestock trekking distances between pastures and water was normal between 1-5 kilometers, compared to long term average of 5-10 kilometres.

Livestock body condition is rated as good across the cluster, while milk production is normal at 2-3 litres compared 1-2 litres at this time of the year. Milk prices ranged between Ksh. 25 and Ksh. 60 per liter, compared to the normal of Ksh. 25-30, the price of milk as highest in Lamu and lowest in Kilifi. No major livestock disease outbreak was reported except the normal endemic tick borne diseases, lumpy ski disease (LSD) and contagious caprine pleuro pneumonia (CCPP) in Kilifi and Malindi. Livestock migrations occurred; from Ijara and Garissa into Lamu, from Tana River to Malindi, and from NEP, Tana River and Tanzania into Taita Taveta. Poultry mortalities were estimated at 70-90 percent due to Newcastle Disease. The sale of poultry and poultry products contribute to about 15 percent of household cash income, for example in Kilifi.

3.5.6.3 Water and Sanitation

The main sources of water for domestic use are water pans, dams, seasonal and permanent rivers, shallow wells, boreholes and piped water supplies. Djabia or ground water tanks and shallow wells are the major sources of water in Lamu, constituting 66 percent, and springs and roof catchments in Taita. There was 75-90 percent recharge of temporal water sources across the cluster due to good performance of the rains, hence most of the water sources have water that are to last for 2-3 months.

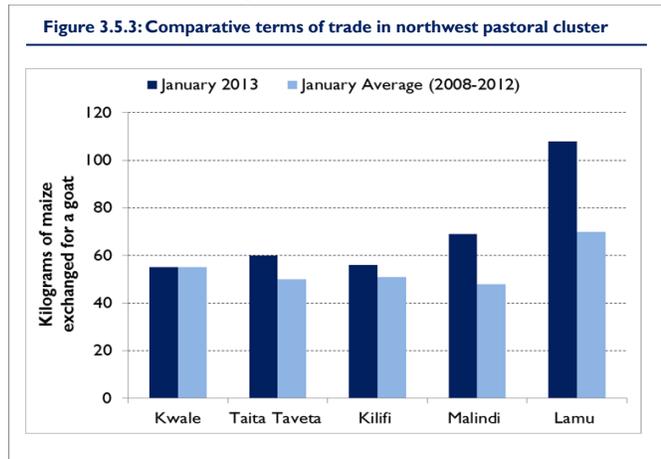
Distances to water sources reduced in most parts of the cluster, to 1-3 kilometers compared long term average of 2-5 kilometers except in Kizingitini, Kiunga and Faza in Lamu, the hinterland of Kwale and the lowlands of Taita Taveta, where the distances were 3-5 kilometres. Cost a 20 liter jerrican of water reduced to 3-5 Ksh compared to Ksh. 5-20 in August, except in Kizingitini, Kiunga and Faza in Lamu, where the cost of water was Ksh. 50-60 due to water trucking to the Islands. The waiting time at water sources reduced and ranged between 10- 30 minutes across the cluster.

Water consumption increased to 10-15 litres per person per day compared to 5-10 litres in August 2012. However, consumption was below 5 litres per day in Kizingitini, Kiunga and Faza, islands in Lamu which have a chronic shortage of fresh water, while consumption was highest in Kilifi at 15-20 litres. Sanitation levels varied across the cluster; latrine coverage range between 60 and 90 percent, highest in Taita Taveta at 90 percent and lowest in Kwale at 30- 40 percent. Water treatment is low, estimated to be about 20 percent, as the uptake for water treatment at household level is still low, with the exceptions of urban center where water treatment is about 70 percent. Households normally treat water by boiling or applying treatment chemicals. Cases of water borne diseases were minimal; however 108 cases of dysentery were reported in Lamu and Taita Taveta

3.5.6.4 Market Performance

Generally, market operations were normal throughout with no disruptions, and were adequately provisioned with food commodities like maize flour, rice, fish, pulses (mainly cow peas, green grams and beans), vegetables, oil and sugar. Currently, less than 50 percent of the households are buying food stuff from the market as compared to normal 90 percent, the situation is likely to be maintained for the next three months. The number of livestock sold in the market is lower as compared to the same period last year, attributed to the fact that most households have food stocks and are not selling livestock to purchase food. Maize prices ranged between Ksh. 30-45 per kilogram, 22-40 percent above long term average; the price of maize was lowest in Lamu at Ksh. 30 per kilogramme and highest at Ksh. 45 in Taita Taveta. The prices are likely to decrease as the harvests are still to be concluded by mid- February 2013. Goat prices ranged between Ksh 2,200-2,800 and were 40-90 percent above average across the cluster, highest at 90 percent in Lamu and the least at 40 percent in Kwale, goat prices are likely to drop due to demand for schools and as households progressively deplete their food stocks.

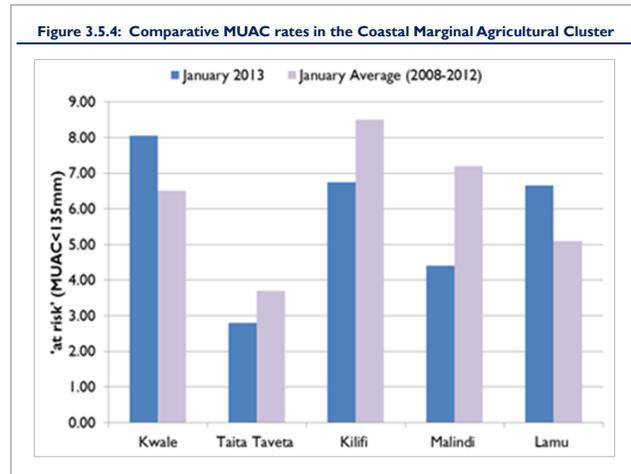
The terms of trade of goat to maize were favorable across the cluster as depicted in Figure 3.5.3. In January 2013, households were able to purchase 55-110 kilograms of maize from the sale of a goat compared to the normal of 50-70 kilograms; 10- 60 percent above average. Lamu had the most favorable term of trade, as households were able to purchase 110 kilograms and lowest and normal (55 kilograms) in Kwale. Terms of trade are expected to be within the normal ranges into the next season, as prices of maize are expected to go down as the harvest are ongoing, while the price of goat appreciate due to relatively sustained good body condition.



3.5.6.5 Health and Nutrition

The top five diseases in order of prevalence for the under-fives and the general population were upper respiratory tract infection, malaria, skin infection, diarrhea diseases, pneumonia and urinary tract infection. Pneumonia was common affliction with the young children while urinary tract infection was predominant among the adults. The crude mortality rate (CMR) and under-fives CMR was below the emergency threshold of 2.0 and 4.0 per 10,000 children and adults respectively. Immunization coverage and Vitamin A supplementation was above the national target of 80 percent across the cluster, except in Kilifi where immunization coverage was 68 percent and 59.4 percent for Vitamin A supplementation, attributed to the ongoing strike by health workers in government institutions. No major disease outbreak was reported in the cluster, except sporadic cases of measles in Malindi, and cases of dysentery in Voi, Mwatate and Lamu.

Mid Upper Arm Circumference (MUAC) (less than 135mm) which shows children at risk of malnutrition range between 2.8 and 8.05 percent across the cluster, and were above long term average in Kwale and Lamu and Malindi. MUAC rates were high, 25 percent above long term average in Kwale at 8.05, and lowest, 25 percent below term average, at 2.8 percent in Taita Taveta (Figure 3.5.4).



3.5.6.6 Education

Generally, enrolment improved across the cluster by 8-10 percent compared to previous year, mainly due to provision of school meals programme, sensitization campaigns for girl child education, opening of new schools and increased bursaries by various stakeholders. Drop outs were low, comparatively, high drop in boys (15 percent) than in girls (13 percent) out of the 17 percent average, due to job opportunity in the beaches, *bodaboda*, quarry mining and sand harvesting for boys and early marriage and pregnancies for girl child.

There are marked improved in transition from ECDE to primary ranging between 80-98 percent, but below the national, at 60- 75 from primary to secondary schools. 223 schools are under the Home Grown School Meals Programme (HGSM), targeting over 100,000 pupils. Other programmes included food for school fees in seven secondary schools benefiting 3,357 students in Kwale. School meals programme has led to improved access to education through improved attendance, retention, enrolment, performance and completion rates.

3.5.6.7 Coping Strategies

The coping strategies index (CSI) has slightly gone up (worsened) from nine in September to 11 in December 2012 for households that were not receiving cash or food assistance programmes. However, households that were receiving assistance, the CSI slightly declined (improvement) from 13 in September compared to 11 in December 2012, suggesting that non beneficiary households of the above assistance programmes were applying either of five main consumption coping strategies more frequently than households who were benefitting from FFA and CFA activities.

3.5.6.8 Food Security Prognosis

Food security status in the district is at Stressed phase in all the livelihood zones, and is likely to remain the same, into the projected time July 2013. The food security has marginally improved as compared to August 2012 but remains fragile due to continued effects of the two previous failed seasons. Pasture, browse and water are to last until the onset of the 2013 long rains, thereby sustaining the current livestock body condition and productivity. Water is adequate and will be available well into the next long rains season, with distance for domestic water remaining at less than 5 Kilometers.

Household have above average maize stocks, which will last for the next 2 to 3 months. Nutrition status of children under-five is expected to improve, due availability of milk and diversity in food in the household. The food security situation is expected to continue improving and will be stable until April and May 2013, a timely onset and good performance of the March to May 2013 long rains season will be important in enhancing and sustaining the recovery process as one good season is not sufficient for a full recovery after previously experiencing consecutive failed seasons

4.0 Conclusion

The food security situation has markedly improved in the agro-pastoral livelihood zone. Most areas that were classified in the stressed phase have improved to minimal or no acute food insecurity phase, particularly in West Pokot, Narok, Kajiado, and Kieni. However, conflicts and insecurity, and the maize lethal necrosis disease (MLND) may continue to adversely impact households. As such, there is need to intensify security related interventions, and at the same time continue implementing the recommended interventions that are aimed at eradicating the MLND.

Similarly, the food security situation significantly improved in the southeastern marginal agricultural areas. Although the short rains season started poorly, the temporal distribution of the rains significantly improved from mid-December onwards, and the rains extended into late January in many places. As a result, short rains harvests, which contribute to about 70 percent of annual crop output, are expected to be above average. Below average maize output in areas where the rains were poor have been compensated by above average output of the replanted drought tolerant crops. However, as a result of replanting and the delayed establishment of the crop, the peak harvesting season is expected to coincide with the onset of the long rains. Consequently, there is need to institute measures that will address the handling of harvests, so as to minimize postharvest losses.

While the 2012 short rains season have been the third average to above average season, only modest improvements to food security situation have occurred across the pastoral zone. Despite significantly below average rains in some areas, livestock productivity was sustained by pasture that regenerated during the short rains of 2011. Meanwhile, the affected households were able to access milk, and also recorded improvements in herd sizes, particularly for sheep and goats. As a result the food security situation did not deteriorate despite poor rains. The 2013 long rains are likely to be average to below average but significant deterioration of the food security situation is unlikely before the onset of the rains. Nevertheless, enhanced preparedness is necessary to mitigate the probable rise in food insecurity in the event that the long rains are poor, particularly in parts of the northern and northeastern pastoral areas where the past two seasons have been poor. There is also need to closely monitor the performance of the long rains, which are forecast to be concentrated in April, as livelihoods remain generally fragile.

The food security situation has generally remained stable across the coastal marginal agricultural areas. The situation is not expected to change significantly before the onset of the long rains. The favorable forecast for the upcoming season is likely to encourage further improvements in the situation, by the end of the long rains season. Still, there is need for continued implementation of resilience building interventions and also support the production capacities of farmers by providing them with appropriate planting seed, early.

5.0 Proposed Cross Sectoral Interventions

5.1 Agriculture Sector – Priority Interventions, March to August 2013

The peak of the harvesting season is expected to coincide with the onset of the long rains season across the southeastern and coastal marginal agricultural areas. The proposed interventions are aimed at minimizing postharvest losses, and also reducing the potential for aflatoxin contamination. In addition, farmers require appropriate drought tolerant seeds, to enhance production so as to consolidate the gains in food security situation, and also uplift households in localized areas of the southeastern and coastal marginal agricultural zone where the short rains performed poorly. The other proposed interventions, as shown in the table below, include rain water harvesting for crop production, and expansion of irrigated agriculture to enhance household resilience.

	Recommended interventions	Districts	Ksh (Million)
1	Provision of certified seed and fertilizer, and promotion of high value drought tolerant traditional crops.	Baringo, West Pokot, Kajiado, Laikipia, Kwale, Taita Taveta, Malindi, Kilifi, Kwale, Isiolo, Tana River, Moyale, Marsabit, Samburu, Tharaka, Mwingi, Makueni, and Kitui.	388
2	Promotion of water harvesting for irrigation and supporting the establishment of green houses.	Marsabit, Garissa, Isiolo, Tana River, West Pokot, Makueni, Mwingi, Laikipia, Baringo, and Moyale.	469
3	Promotion of appropriate post-harvest management techniques.	Laikipia, Isiolo, Tana River, Mandera, Mwingi, Makueni, and Meru North.	57
	TOTAL		914

5.2 Livestock Sector – Priority Interventions, March to August 2013

To ensure that livestock productivity is maintained, there is need for enhanced livestock disease surveillance, and prompt treatment, particularly in areas where outbreaks of contagious livestock diseases may occur as clustering near water points intensify. The improvement in livestock holdings and enhanced livestock productivity ensures adequate availability of milk, and income, thereby positively affecting household food access and consumption. As the table below shows, other proposed interventions include establishment of pasture and fodder crops, and conservation of rangelands to ensure sustained availability of grazing resources.

	Recommended Interventions	Districts	Ksh (Million)
1	Restocking and upgrading of livestock	Narok, Baringo, Kajiado, West Pokot, Kieni, Taita Taveta, Kwale, Malindi, Isiolo, Mandera, Tana River, Ijara, Moyale, Marsabit, Samburu, Turkana, Mwingi, and Makueni.	143
2	Livestock disease surveillance, treatment and vaccinations.	West Pokot, Baringo, Taita Taveta, Lamu, Kwale, Kilifi, Malindi, Ijara, Tana River, Mandera, Moyale, Samburu, Marsabit, Meru North, Makueni, Mwingi, and Tharaka.	94
3	Pasture and fodder crop establishment and conservation, and livestock feed supplementation.	Meru North, Makueni, Mbeere, Kitui, Mwingi, Marsabit, Turkana, Moyale, samburu, Mandera, Isiolo, Ijara, Tana river, Malindi, Kwale, Kilifi, West Pokot, Narok, Baringo, and Kajiado.	70
	TOTAL		307

5.3 Water Sector – Priority Interventions, March to August 2013

While surface water sources are expected to last until the onset of the long rains in many places, water quality is expected to decline as the water volumes decline seasonally. Therefore, there is need for promotion of water treatment and supply of water treatment chemicals at household level to avert the outbreaks of water borne diseases. It is also necessary to continuously de-silt surface water sources and also rehabilitate the other sources, in preparation for the long dry season, which is expected to start in May 2013, nearly a month early in the pastoral areas. Lastly, the provision of water is a priority, particularly to health and learning institutions, in areas where the water sources did not recharge adequately. Proposed interventions are in the table below;

	Recommended interventions	Districts	Ksh (Million)
1	Rehabilitation of earth dams bore holes, water pans, and shallow wells and construction of new ones.	Narok, Kieni, Kitui, Makueni, Mwingi, Kajiado, Baringo, Kilifi, Ijara, Tana river, Isiolo, Wajir, Mandera, Moyale, Marsabit, Samburu, Meru North, and Transmara.	665
2	Water trucking and provision of plastic water tanks to schools, and fuel subsidy to community water projects.	Localized areas in Makueni, Kitui, Mwingi, Kilifi, Taita Taveta, Narok, Kieni, Malindi, Marsabit, Moyale, Isiolo, Wajir, and Mandera.	50
3	Promotion of water treatment at household level and institutions, and provision of water treatment chemicals. Hygiene promotion and improve sanitation.	Transmara, Isiolo, Tana River, Mandera, Makueni, Wajir, Ijara, Mwingi, and Moyale.	98
	TOTAL		813

5.4 Education Sector – Priority Interventions, March to August 2013

Although no disruptions to access and retention have been reported in schools, transition and completion rates remain poor in many areas. Since education is important for addressing the cyclical nature of poverty and chronic food insecurity in most of the areas, there is need to invest in measures that ensure improved school transition, completion and performance. The proposed education interventions are in the table below.

	Recommended interventions	Districts	Ksh (Million)
1.	Support the establishment of mobile schools to ease access to education in pastoral areas.	Moyale, Turkana, Isiolo, Mandera, Ijara, Tana River Kwale, and Moyale.	150
2.	Rain water harvesting and increasing water storage capacity in schools.	Narok, Laikipia, Marsabit, Moyale, Samburu, and Turkana.	50
3.	Continuation of school feeding programs including home grown school feeding, and implementation of school fees support programs.	Mwingi, Isiolo, Tana River, Mandera, Ijara, and Laikipia.	9
	TOTAL		209

5.5 Health and Nutrition Sector – Priority Interventions, March to August 2013

The nutrition status have improved or remained stable in many places. However, malnutrition is still a cause for concern in many districts across the pastoral zone where GAM rates are near the emergency threshold. As such, continuation of ongoing nutrition interventions and institution of high impact nutrition interventions is necessary in many districts so as to prevent the possible deterioration of the nutrition status during the ongoing short dry season. At the same time, strengthening of the disease surveillance system is expected to improve the identification and treatment of diseases, thereby controlling morbidity incidences. The proposed interventions in the next six months are as follows;

	Recommended interventions	Districts	Ksh (Million)
1	Capacity building and training of workers and stakeholders on health related matters.	Makueni, Moyale, Kwale, Lamu, Malindi, Kilifi, Moyale, Marsabit, and Baringo.	37
2	Implementation of high impact nutrition interventions.	Makueni, Mwingi, Meru North, Tharaka, Kilifi, Lamu, Garissa, Moyale, Garissa, Tana River, Ijara, Isiolo, Mandera, Wajir, Lamu, Turkana, Samburu, Marsabit, and Moyale.	26
3	Nutrition Survey.	Kieni, Kwale, Lamu	10
	TOTAL		63

5.6 Food Sector – Priority Interventions, March to August 2013

While the food security situation has generally improved in all the livelihood zones, the situation is still precarious for about 5-10, and 20 percent of the population in the southeastern and coastal marginal agricultural zone, and pastoral areas, respectively. The affected households are just starting to recover after several successive poor seasons in parts of the motioned areas and have not rebuilt their livelihoods to sustainable levels. They have lower than average food consumption, and may not be able to access food without asset stripping.

The affected households are generally employing usual coping strategies due to on-going interventions, without which they would resort to unusual and unsustainable coping. The continuation of food assistance will be necessary for this population to enable them have required food consumption, and at the same time rebuild their assets to sustainable levels. The intervention will also enable communities to enhance resilience to future shocks.

The table below shows the affected population, and those in need of food assistance as a proportion of the entire district population.

District	Total District Population	Population affected after the 2012 short rains	March 2013 – August 2013	
			% of total population that is in need of food assistance	Number of people requiring food assistance
Turkana	539,264	120,900	17	93,900
Wajir	619,220	179,000	24	148,200
Mandera	337,800	132,400	34	115,550
Garissa	411,728	83,900	15	63,300
Marsabit	187,367	48,100	22	41,000
Samburu	223,947	38,800	15	32,800
Laikipia	399,227	13,700	3	11,200
West Pokot	512,690	59,100	3	15,600
Tana River	240,075	42,200	12	29,200
Isiolo	143,294	54,200	33	47,000
Kajiado	687,312	11,400	1	5,400
Baringo	389,329	28,100	5	21,300
Moyale	103,799	29,800	24	24,550
Ijara	92,663	26,600	23	21,200
Narok	576,388	0	0	0
Koibatek	166,232	0	0	0
Subtotal Pastoral	5,630,335	868,200	12	670,200
Makueni	884,527	76,900	7	61,400
Kwale	649,931	115,600	14	92,500
Mwingi	384,948	121,800	19	74,100
Kilifi	709,221	77,700	8	58,500
Kitui	627,761	114,100	16	99,000
Taita Taveta	284,657	45,600	7	19,700
Malindi	400,514	43,300	9	34,900
Mbeere	219,220	0	0	0
Tharaka	130,098	0	0	0
Machakos	1,098,584	0	0	0
Meru North	775,982	0	0	0
Kieni	324,659	0	0	0
Lamu	101,539	0	0	0
Marginal Agricultural	6,591,641	595,000	7	440,100
Total	12,221,976	1,463,200	9	1,110,300