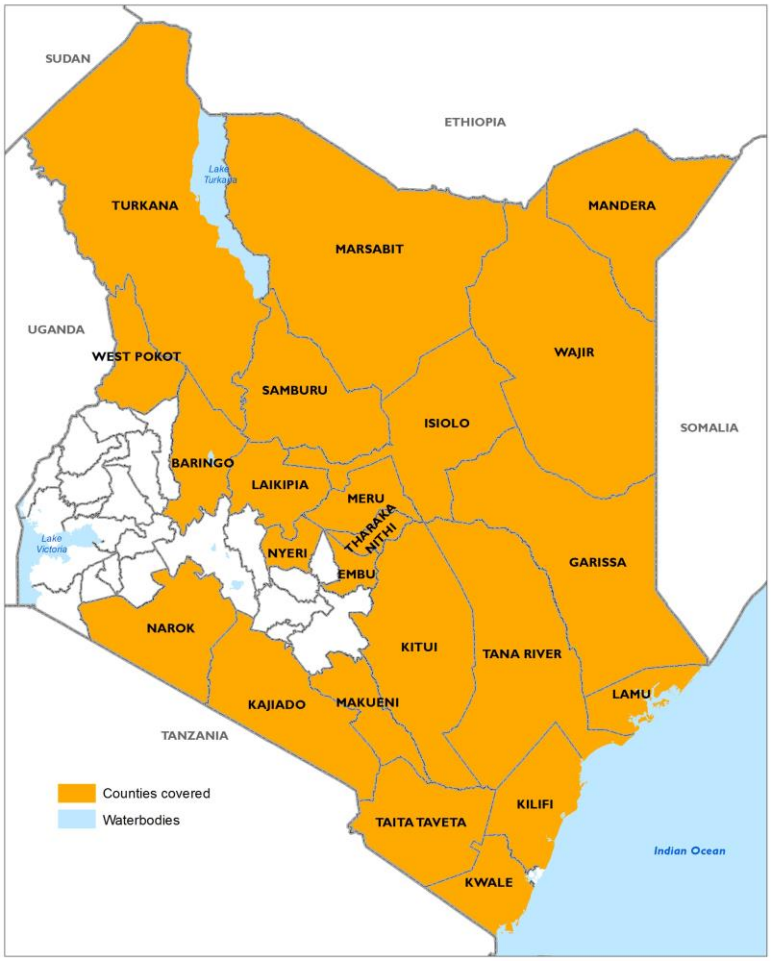
Government of Kenya

THE 2014 SHORT RAINS SEASON ASSESSMENT REPORT

Kenya Food Security Steering Group (KFSSG)



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

FEBRUARY 2015

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Executive summary

Summary of key findings

Below average performance of the 2014 short rains resulted hindered improvements in food security in the pastoral, agro pastoral and marginal agricultural areas

The 2014 short rains assessment has established that an estimated 1.6 million people are acutely food insecure and will require immediate food assistance over the next six months (March – August 2015). This is a seven percent increase from the August 2014 food insecure population (Figure 1.1). While the short rains were generally below average across most of the arid and semi-arid (ASAL) counties, cumulative amounts varied. As a result, food security improved n some areas while also worsening in others. The counties of Turkana, Samburu, Mandera, West Pokot and Baringo recorded substantial improvements in food security conditions, with the food insecure population reducing. These areas were characterized by extension of the 2014 long rains that continued through September, beyond their normal cessation in June. Marsabit, Wajir, Isiolo and Garissa on the other hand experienced increased food insecure cases. The below average 2014 short rains resulted in below normal recovery of rangeland resources in the pastoral areas and agro pastoral areas, thereby affecting livestock productivity, household income and consequently households food consumption. Most water points in the pastoral areas are depleted and livestock return trekking distances have increased 20 – 50 percent compared to the normal, and are expected to increase further as the short lean season progresses. The above average land surface temperatures that have prevailed from January have exacerbated the rate of depletion of rangeland resources. Seasonal livestock migration occurred earlier than normal, while in some instances, livestock remained in the dry season grazing areas, further depriving households the much needed livestock products. Though livestock prices seasonally declined between December and January 2015. Terms of trade were still favorable across most of the pastoral markets. In the southeastern marginal agricultural areas, most of the maize crop did not reach maturity, wilting at the tussling stage, due to moisture stress. Short rains crop harvest is expected to be up to 70 percent below the long term averages. Most households are therefore expected to have higher than normal dependence on the markets for food access.

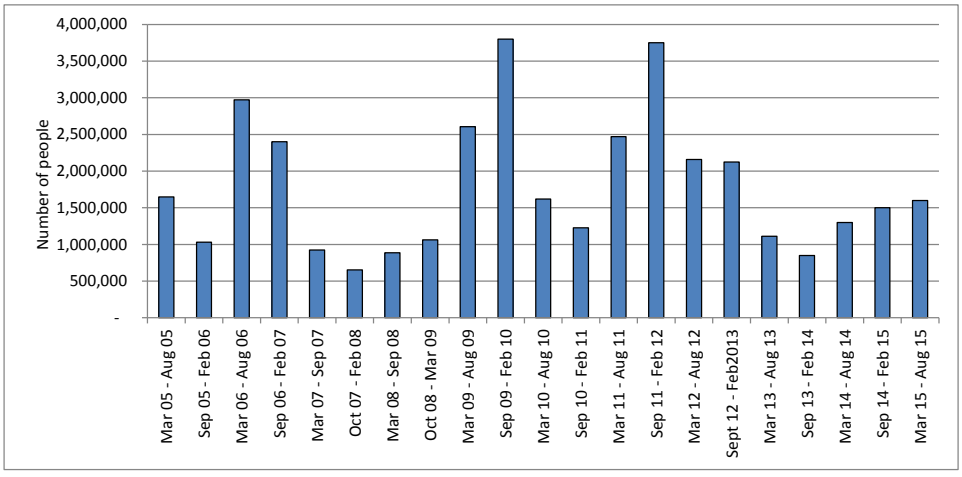

Figure 1.1: Trend of the food insecure population

The current areas of concern include parts of Wajir, Marsabit, Isiolo and Garissa, where localised households have moved into *Crisis phase* of the Integrated Food Security Phase Classification (IPC Phase 3). Being s short lean season, food security conditions are expected to improve in less than two months' time, upon resumption of the 2015 long rains in mid-March.

Scope of the 2014 Short rains assessment

In Kenya most of the crop growing areas and livestock rearing areas are predominantly rainfall dependent. There are two major seasons across the country, namely the Short Rains (October – December) and the Long Rains (March – May). Some areas are majorly dependent on the long rains for both crop and livestock production while other depend on the short rains. Kenya can be divided into two broad zones namely the Arid and Semi-Arid Lands (ASAL) which covers about 80 percent of the countries' landmass while the remaining 20 percent comprises the Medium- to High- Rainfall cropping and livestock zones.

The 2015 Short rains assessment was conducted from 26th January 2015 to 6th February 2015 in 23 Arid and Semi-arid (ASAL) counties that are vulnerable to drought hazard. The counties covered during this assessment include; Turkana, Samburu, Marsabit, West Pokot, Mandera, Wajir, Isiolo, Tana River, Garissa, Kitui, Makueni, Narok, Kajiado, Baringo, Laikipia, Kwale, Kilifi, Lamu, Taita Taveta and Kieni part of Nyeri county, Meru North part in Meru County, Mbeere region in Embu, and Tharaka part of Tharaka Nithi county.

The objective of the assessment was to evaluate the performance of the 2014 short rains season (October – December rains) and its impacts on various key sectors including water quality and access, crop and livestock production, health and nutrition, markets and trade and education . The assessment further sought to evaluate the manner and extent to which shocks such as conflicts, floods, crop diseases and high food prices, together with ongoing food and non-food interventions, were affecting food availability and household food access and gave a prognosis for food security situation in the next six months and recommendations for the current short term response required. Other contributing factors that were affecting food security including conflicts, markets operations, livestock and crop diseases were analysed and a food security prognosis done to provide recommendations for possible response options. The findings are summarized in the sections below.

Categories of the food insecure population

Summary of food security phase classification

From the 2015 short rains assessment, an estimated 1.6 million are acutely food insecure. The main factors that exacerbated food insecurity include the below normal short rains performance, cumulative effects of the previous poor rains seasons, elevated food prices, crop pests and diseases, livestock diseases, and conflict incidences especially in the pastoral areas. The food insecure populations are mainly in the northwest and northeast pastoral clusters, and the southeast marginal agricultural areas. To mitigate against the food insecure conditions, both the national and county governments together with development partners are implementing an array of activities which include, activation of drought contingency funds for all the affected ASAL counties, Hunger Safety Net Programme which manages cash transfer programmes in Turkana, Mandera, Marsabit and Wajir with about 100,000 beneficiary households. Government of Kenya

(GoK) partnering with World Food Programme (WFP) is also implementing food for assets/cash for assets programme in 13 ASAL counties with about 750,000 beneficiaries. Others include general relief food distribution, provision of school meals under various programs such as Expanded School Meal Program, and Supplementary Feeding Programmes.

Population in Crisis (IPC Phase 3)

The areas under Crisis (IPC Phase 3) currently are Wajir (parts of Eldas, Griftu, Sabule, west of Tarbaj), Garissa (parts of Dadaab, Ladgera, Balambala), Isiolo (parts of Merti and Sericho), Marsabit (parts of Maikona, Laisamis and Moyale). Households in Crisis are those who are marginally able to meet minimum food needs only with accelerated depletion of livelihood assets that will lead to food consumption gaps. For these areas, the 2014 short rains were cumulatively 50 percent and below, compared to the normal (Figure 1.2). The situation was further compounded by the cumulative effects of the poor performance of the previous two seasons. The state of rangeland conditions (pasture, browse and water) in these areas is mainly poor with some areas having depleted resources. As a result, livestock trekking distances to water sources have increased from the normal 5 – 10 kilometres to 20 – 40 kilometres. Consequently, livestock health and body conditions have been affected, with most livestock having poor to emaciated body conditions. Unusual migrations of livestock was reported in these areas, with close to 90 percent of livestock having migrated out of these areas. Figure 1.3 illustrates the on-going livestock migration routes, depicting a general haphazardness in migration patterns. Due to the

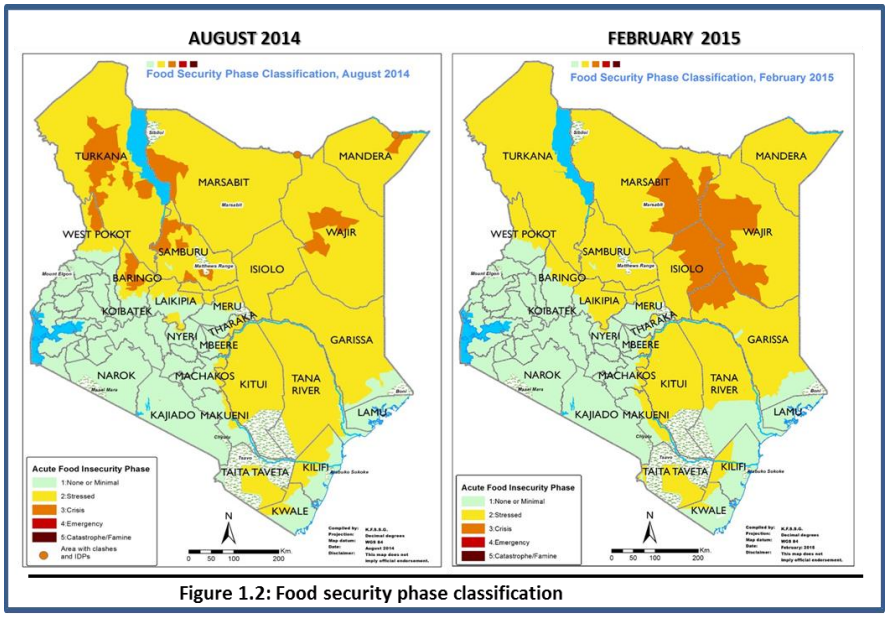

Figure 1.2: Food security phase classification

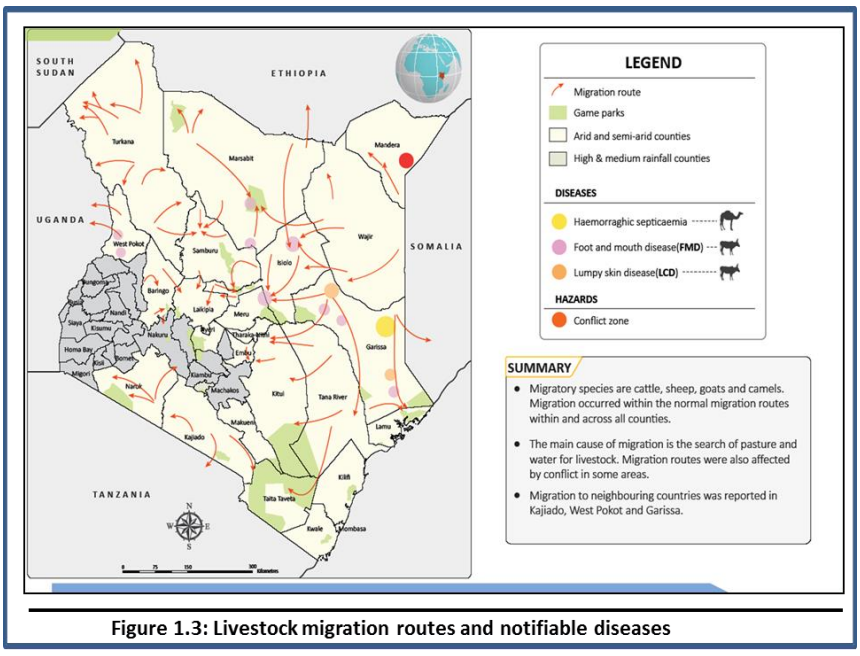

Figure 1.3: Livestock migration routes and notifiable diseases

migration levels witnessed, household access to milk and livestock products has declined markedly with milk availability declining by up to 80 percent compared to the normal, less than a litre compared to 3 – 4 litres. Milk prices have increased by 70 – 120 percent between November and January 2015, resulting in reduced consumption of milk at the households level. Though the terms of trade are still favourable in these areas, the very poor households who are in *Crisis* are not benefiting much due to low livestock holdings. The food consumption gaps being experienced have resulted in increased acute malnutrition cases for children under five years. The nutrition situation in the *crisis* areas, according to the nutrition surveys conducted in January 2015, showed critical levels. Nutrition surveys conducted in Wajir indicate a '*very critical'* nutrition situation with GAM rates of 22 percent and SAM of 7.1 percent, implying 1 out of 4 children are malnourished, and 1 in 10 children severely malnourished. In Wajir East and South the situation is '*critical'* with GAM and SAM rates of 17.6 and 3.7 percent respectively. In Northern Garissa a deterioration has been noted, with surveys results indicating GAM and SAM of 15.2 and 2.7 percent respectively indicating a critical nutrition situation. In Isiolo, the nutrition situation is Serious, GAM rates remain stable compared to the same period last year, however high number of cases were noted in Merti and Sericho areas, bordering Wajir West and Garissa north.

Population in Stressed (IPC Phase 2)

Households in the stressed (IPC Phase 2) are mainly in the southeastern (Kitui, Mbeere, Meru North, Tharaka Nithi and parts of Makueni) and coastal marginal agricultural areas (Taita Taveta and parts of Kilifi, Kwale), the agro pastoral areas (Laikipia, Baringo, West Pokot, Nyeri), and parts of the northwest (Turkana, Marsabit, Samburu) and northeast (Isiolo, Garissa, Mandera, Wajir, Tana River) pastoral areas. Households in stress are able to afford minimally adequate food consumption but are unable to afford essential non food expenditures without engaging in irreversible coping strategies. Majority of the pastoral household groups in the Stressed Phase received about 80 – 140 percent of the normal rains, that resulted into 60 – 90 percent recharge of water sources. Distances to water declined significantly and average less than 10 kilometres, with the exception of parts of Turkana and Marsabit where trekking distances reach 15 kilometres. Currently, though watering distances have started increasing, they are still within normal ranges, except for localized areas. Relatively less distances covered to water points coupled with fair quantity and quality of pasture and browse were still able to support some livestock productivity, with households still able to access 1 – 3 litres of milk per day, compared to a normal of 4 – 6 litres per day. Foot and Mouth Disease outbreak has been reported in most parts including Isiolo, Meru North, there was also outbreak of CCPP in Tseikuru and Nuu in Kitui county but disease incidents remain normal in other areas. While nutrition levels have remained fairly stable in areas classified in the Stressed Phase, localized areas in Turkana, Marsabit, Isiolo, Samburu, Mandera, Garissa still had high malnutrition rates, and would require close monitoring.

For the southeast (Kitui, Mbeere, Meru North, Tharaka Nithi and parts of Makueni) and parts of the coastal marginal agricultural areas, the below normal performance of the short rains, which were largely below 80 percent of the normal, resulted in substantial crop failures, estimated at up to 70 percent below the long term averages. This is attributed to the fact that rainfall receded during the critical stage of crop development, especially tussling for maize and, on resumption of the rains, the crops were past recovery stage of growth. Pasture conditions are fair in all the

stressed areas, but expected to last for about one to two months as opposed to two to three months normally. This is an indication that conditions are likely to deteriorate in the event that the onset of the 2015 long rains delays. Milk production has reduced by about 50 percent and prices have also increased by about 50 percent in these areas. Livestock prices remained within the normal ranges while maize prices have remained fairly stable due to ample supplies in the markets. Though nutrition status will continue deteriorating as food security conditions worsen, it's not expected to reach alarming stages, as continued supplementary nutrition programs will prevent the worst outcomes from occurring.

Impacts of the 2014 Short Rains Season

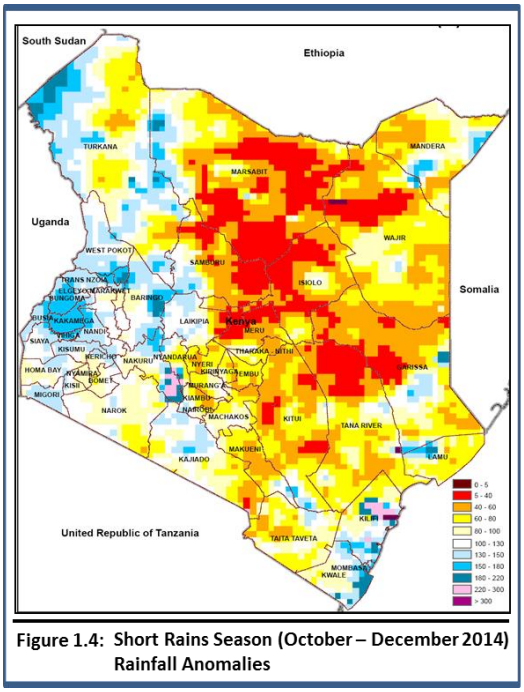

Figure 1.4: Short Rains Season (October – December 2014) Rainfall Anomalies

The October to December 2014 short rains had a false start in most of the southeast marginal agricultural areas, and a late onset in pastoral areas, occurring between third week of October to first week of November, compared to the normal onset of second week of October. In much of the northeast pastoral, northwest pastoral areas of Samburu, Marsabit, and parts of Turkana, and southeast marginal agricultural areas, the rains were 25 – 80 percent of the normal amounts (Figure 1.4). The northwest pastoral areas of West Pokot, Baringo, Turkana and most parts of the coastal marginal agricultural areas received 90 – 140 percent of the cumulative normal rains. Southern pastoral areas of Narok and Kajiado received 80 – 110 percent of normal rains, with localized parts having more than 110 percent, while others having less than 75 percent of normal rains. Both spatial and temporal distribution was poor and uneven, impacting negatively on crop and livestock production. Cessation across most counties occurred earlier than normal, between last dekad of November and first dekad of December, as opposed to third dekad of December to first dekad of January.

National Maize Supply Situation and Prospects

According to the State Department of Agriculture, the national maize stocks stood at 1.56 million metric tons (Table 1.1) by end of January. The stocks remained high following the concluded harvesting of the long rains crop in the North Rift (Trans Nzoia, Uasin Gishu), Western highlands (Kisii and Nyamira), and parts of central Rift (Nakuru, Laikipia). Additionally, increased importation by the private sector players also boosted stock levels nationally. The Food Security and Nutrition Working Group's (FSNWG's) East Africa Cross-Border Trade Bulletin for January 2015 noted that 2014 maize imports from Tanzania and Uganda were 21 and 16 percent higher than 2013, respectively. Considering imports from across the border by the private sector players and the expected 2014 short rains harvest between January and March, the total available national stocks will stand at about 2 million metric tons by end of June. Taking into account the monthly per capita consumption of 0.3 million metric tons, the available stocks would last through June 2015, with a surplus of 0.03 million metric tons thereafter. Continued importation of maize and early long rains harvested crop from the South Rift, would ensure

adequate availability of maize after June, hence no cause for alarm, at this point. Through June, ample maize stocks will ensure prices remain fairly stable or increase gradually, largely following the seasonal trends. According to the food security situation report (January 2015), published by the State Department of Agriculture, stocks of other crops except wheat, are adequate and would last through July 2015. Beans stocks by end of January stood at 1,446,810 bags, Wheat at 1,931,420 bags and Rice 540,580 bags. In areas where short rain crop was not severely affected by poor rains, harvesting is expected to begin in February. The short rains maize crop is expected to be up to 70 percent below the five-year averages, being 0.18 million metric tons (MMT) against an average of 0.5 MMT.

Table 1.1: Maize balance sheet (1st January to 30th June 2015)

Maize Balance Sheet through October 2014	90 Kg bags	MT
Stocks as at 31st January 2015 in 90kg bags	17,359,400	1,562,346
a) Total East Africa Imports* (Private sector cross border trade) expected between January to June 2015	2,500,000	225,000
b) Imports outside EAC between January to June 2015	600,000	54,000
c) Estimated Short Rains harvest between January to March 2015	2,000,000	180,000
Total available stocks between January to June 2015	22,459,400	2,021,346
Post –harvest storage losses estimated at 10%	2,245,940	202,135
Amount used for manufacture of feeds and other industrial products (2% of stocks)	449,188	40,427
Amount used as seed (1%)	224,594	20,213
Expected total exports to East Africa Community region	0	0
Expected exports outside the EAC region	0	0
Projected national availability as at 30th June 2015(90kg Bags)	19,539,678	1,758,571
CONSUMPTION @3.84 million bags/Month for 43 million people for 5 months	19,200,000	1,728,000
Balance as at 30th June 2015 (Surplus/Deficit)	339,678	30,571
Surplus	339,678	30,571

Source: Ministry of Agriculture, Livestock and Fisheries

Food price trends

Figure 1.5 illustrates the wholesale maize prices for the urban representative markets in Kenya, namely Nairobi, Mombasa, Nakuru and Kisumu. Evidently, wholesale maize prices have been on a declining trend from mid-2014 through December. Between July and October, prices declined 13 – 27 percent in all the four markets, but remained above the long term

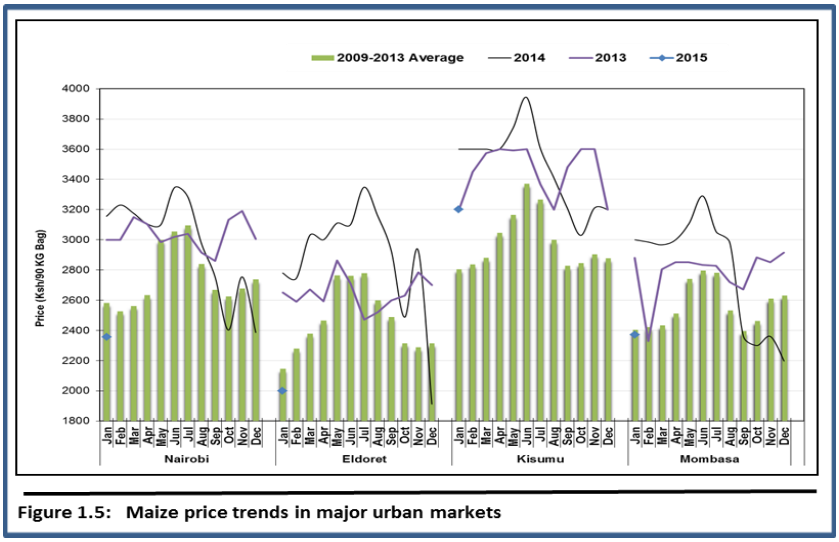

Figure 1.5: Maize price trends in major urban markets

averages in Eldoret and Kisumu throughout the same period. The decline in prices was mainly due to stable supplies in the markets. The government through the Ministry of Agriculture signed a Memorandum of Understanding (MoU) with the Tanzanian Government that allowed Kenyan private sector traders to import up to 180,000 metric tons (MT) of maize at a negotiated price and under import duty waivers through September. The imports, coupled with the early harvest from the southern Rift Valley including in Bomet, Transmara, Nyamira, and Kericho Counties along with some production in the southeastern marginal areas and the Lake Victoria basin ensured normal supply on markets at the national level through September. Continued imports and harvest from the North Rift, that usually trickle in from November onwards, ensured price decline through December, while also remaining 10 – 20 percent below the averages in Nairobi, Eldoret and Mombasa. Between December and January 2015, prices have maintained a stable trend.

Retail maize prices in the southeast marginal agricultural markets continued to remain stable between December and January 2015, at Ksh. 35 – 40, and in some instances going below Ksh. 35.. Maize prices have remained stable in Kitui, Makueni, Tharaka Nithi, Meru North and Nyeri, and declined by 10 percent in Embu. These prices are up to 12 percent below the long term averages in Kitui, Makueni and Tharaka Nithi, while being six to 27 percent above the averages in Meru North, Embu and Nyeri. As mentioned earlier, stability in prices is due to ample supplies in the markets, owing mainly to imports from across the borders, and some short rains crop harvest from these areas. Cereal prices were up to 25 percent above the averages in most of the pastoral markets, between December and January, except in Marsabit and Mandera counties where they were comparable to averages. Normal market operations have ensured continued flow of commodities from various source markets into the pastoral markets, supporting stable prices, and favorable terms of trade. Terms of trade were still favorable in the pastoral and agro pastoral areas. with variations noted from county to county.

Food Security Prognosis through August 2015

The higher than average land surface temperatures expected to prevail through end of March will increase the rate of depletion of rangeland resources in the pastoral and agro pastoral areas. Due to the declining forage and water availability, livestock productivity is set to continue declining through April as livestock health deteriorates. With the livestock prices expected to decline through April, a combination of decline in livestock income and increase in cereal prices is likely to result in decline in livestock to cereal terms of trade, further limiting household food access. Decreasing water availability will likely result in increased water prices and further constraint the household purchasing power. Recurrent outbreaks of contagious livestock diseases with increased clustering of weakened livestock around water points, and conflicts over grazing resources are likely to be escalated. Households are likely to use poor quality or contaminated water, resulting in increased disease incidence, and subsequently, poor food utilization and an increasing number of malnutrition cases through March. With less income, household food consumption will be reduced. Though majority of households will remain Stressed (IPC Phase 2), except for areas currently in Crisis, other poor pastoral households in parts of Wajir, Turkana, and Garissa are likely to slide to crisis by March (Figure 1.6).

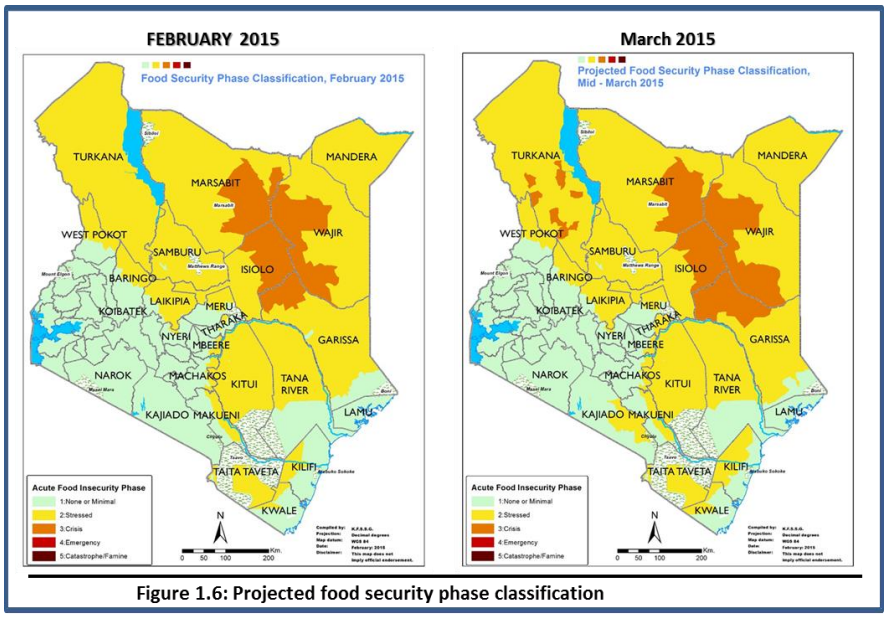

Figure 1.6: Projected food security phase classification

The 2015 long rains have been forecasted to be near-normal in cumulative amount, with a late onset. This is likely to bring moderate relief to households from April onwards. Importantly though, households' recovery may be hampered by successive previous season failures, which could require more than one good season for substantial recovery. Through August, households are expected to have improved food security conditions, and be in *stressed* (IPC Phase 2), including those who were previously in *crisis* (IPC Phase 3). However, if the 2015 long rains are below normal and poorly distributed in space and time, food security conditions are likely to deepen both in the pastoral and marginal agricultural areas, with possibilities of more households especially those in the *stressed* (IPC Phase 2), getting in to the *crisis* (IPC Phase 3), through August 2015. The importance of monitoring closely the performance of the coming long rains cannot be overemphasized, as it will be key in determining how food security outcomes evolves over the next six months.

Options for response

The prevailing conditions and situation of food security provides several points for both short and long-term intervention. The immediate interventions should focus on nutrition support and livestock offtake programmes specifically in the pastoral areas. Long term interventions that enhance the productivity target promotion of drought resistant crops besides provision of inputs in the arid and semi-arid areas, pasture reseeding, and water harvesting. In addition, immediate food and cash assistance programs to sustain food access and demand while enhancing resilience in those localized areas where there is heightened food insecurity should be up scaled. In areas experiencing conflicts, peace building and conflict management initiatives should be promoted. Table 1.2 below summarizes the priority interventions by sector. More detailed analysis of the sector specific interventions are presented in section 4 of this report.

Table 1.2: Summary of priority interventions by sector for March 2015 – August 2015

SECTOR	PROPOSED INTERVENTIONS	COST Ksh.(M)	COST IN U.S. DOLLAR (M)
AGRICULTURE	Up Post- Harvest management, management of the Maize Lethal Necrosis Disease (MNLD), Provision of drought tolerant crops and traditional high value crops and subsizied farm inputs, Promotion of on farm water harvesting, Purchase of	**598M**	**6.57M**
LIVESTOCK	Vaccinations, Pasture reseeding and rangeland rehabilitation, Livestock Disease Surveillance, Livestock Supplementary feeding, Commercial Emergency Off take, Livestock water supply	**322M**	**3.54M**
WATER	Fuel subsidy for community boreholes, Water Trucking, Water treatment, Provision of water Tanks and storage facilities, Water Infrastructure development for emergency supply, repair of strategic boreholes in grazing areas,	**204M**	**2.24M**
HEALTH AND NUTRITION	Active case finding outreaches, Water and hygiene interventions, HiNi interventions including IMAM, Vitamin A supplementations, deworming, IYCN Intervention including mother to mother support group, Strengthen Documentation and Strengthen disease surveillance	**325.3M**	**3.57M**
EDUCATION	Up scaling Home Grown School Meals Program and supplementary feeding for ECD, Provision of infrastructure for water storage, Water Trucking, Deworming and Vitamin A supplementation	**373M**	**4.1 M**
FOOD ASSISTANCE	Building resilience to future shocks through FFA and CFA. Food commodities and cash for 1.6 million food insecure people in need of assistance for the next six months (March- August 2015). An estimated 69,500 MT of food or cash equivalent (CFA) will be required.	**7,270M**	**80M**
Total		**9,100M**	**100M**

1.0 Introduction

1.1 Assessment Coverage and Objectives

The 2014 October to December short rains season assessment was conducted between the period of 26th January to 6th February 2015. The assessment was coordinated and conducted by the Kenya Food Security Steering Group (KFSSG)[1] and the County Steering Groups (CSG) in the 23 persistently drought-prone pastoral, agro pastoral and marginal agricultural counties. The 23 counties assessed cover close to 80 percent of the country's geographic area with diverse livelihood zones (Figure 1.7). Specifically, the following counties, grouped into five livelihood clusters, were covered during the assessment:

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

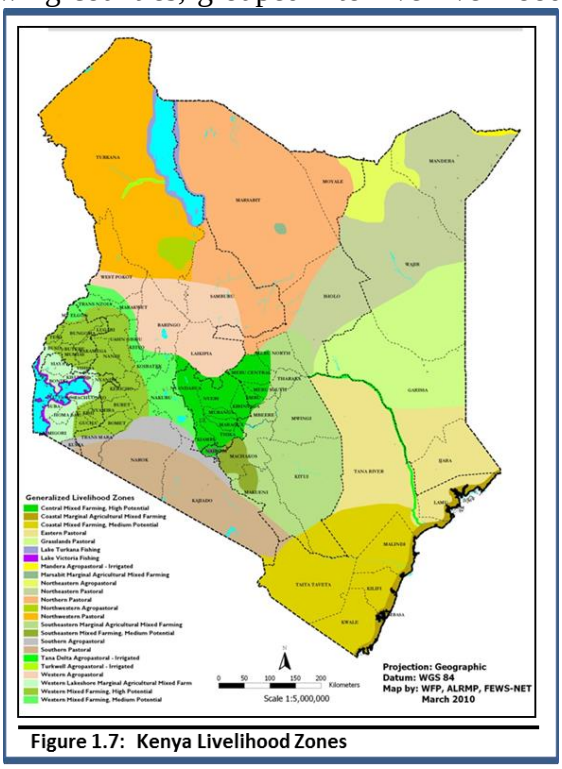

Figure 1.7: Kenya Livelihood Zones

The overall objective of the assessment was to develop an objective, evidence-based and transparent food and nutrition security situation analysis, taking into account the cumulative effect of previous seasons and inform the government and relevant stakeholders on the status of food security across the Arid and Semi-Arid areas. Moreover, the assessment aimed at identifying areas with high severity of food insecurity and to provide recommendations for appropriate response options, whether short or long term, required.

Specific objectives were to:

- Ascertain at the livelihood level, the quality and quantity of the 2014 October to December short rains, and assess their impact on all key sectors including crop agriculture, livestock, water, and health and nutrition as well as education .
- Establish the impacts of other compounding factors such as conflict, crop pest and disease, relative high food prices and floods on household food security.

[1] KFSSG is comprised of Government of Kenya (GoK) ministries, the UN, NGOs and key development partners.

- Assess potential food needs, including options for appropriate transfer modalities including food for assets, cash and vouchers, hunger safety nets and general food distribution.
- Establish required non-food interventions, with particular emphasis on programs that promote preparedness and build household resilience.

1.2 Assessment Approach

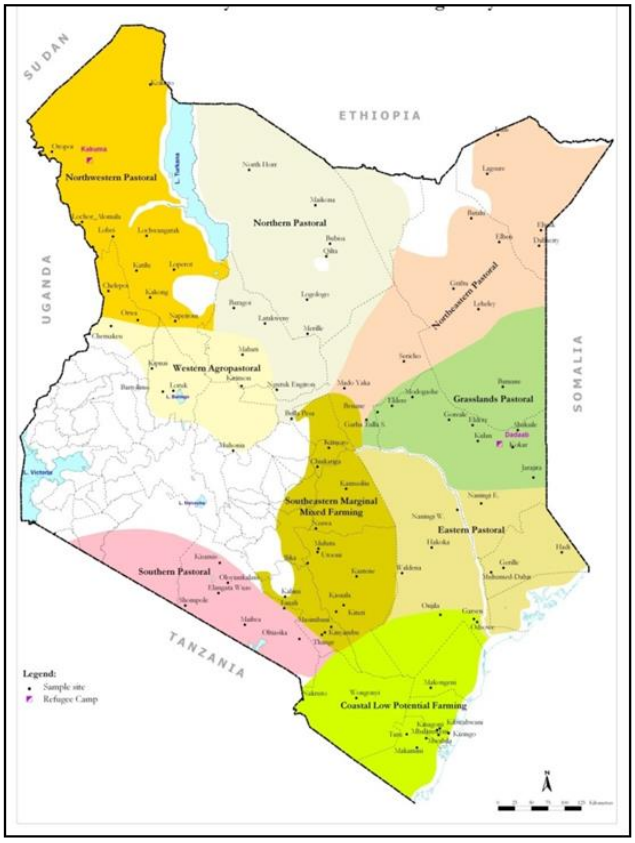

Figure 1.8: Sentinel sites for food security outcome monitoring

The overall assessment processes and methodologies were coordinated and developed by the KFSSG. First, secondary data for all assessed counties was collected, analyzed and collated into briefing packs. The data included livelihood zone baseline data, drought monitoring information, monthly nutrition surveillance data, price data and satellite imagery. Thereafter, the KFSSG organized a one-week training workshop for the assessment teams. During the workshop, the teams refined sectoral indicators and interview guides, and were taken through the entire assessment process, including, agro-climatic information analysis, sampling methods and field data collection techniques, integrated food security phase classification, estimation of population in need of emergency food assistance, and report writing. In addition, food security outcome monitoring indicators were also collected from 2,700 households situated in 90 sentinel sites. Outcome indicators that were collected included the coping strategy index, food consumption scores and household expenditure data. Figure 1.8 shows the sentinel sites from which the outcome indicators were collected. Once in the counties, each assessment team conducted a minimum of two community, two key informant and two market interviews in each sample site. The teams also visited health and education institutions to gather relevant information. Visual inspection techniques were also used during transects drives to obtain qualitative information. The field data was collated, reviewed, analyzed and triangulated to verify its validity. The NDMA drought monitoring bulletins, the February 2015 nutrition SMART survey reports and the KFSSG monthly Food Security Updates provided important additional information.

The KFSSG adopted a multi-sectoral and multi-agency approach covering the Agriculture, Livestock, Markets, Health and Nutrition, Water and Sanitation, Education and the Food

assistance Sectors. While the analytical framework is generally the sustainable livelihood framework with the livelihood zones being the focal areas, the required outcome is a detailed understanding of the changes in food security and identification of populations affected and in need of multi-sectoral assistance, particularly in the immediate and medium terms. Results from sampled areas were used, along with outcomes of discussions with the larger County Steering Groups (CSGs) and secondary data analysis to draw inferences for non-visited areas situated in similar livelihood zones. The findings and recommendations were provided at both the county and sub-county levels for planning purposes. The Food Security Integrated Phase Classification (IPC Version 2.0) was employed in classifying severity levels of food insecurity in different livelihood zones.

2.0 Food and Nutrition Security Analysis by Livelihood Cluster

2.1 The Pastoral Northwest Livelihood Cluster

2.1.1 Cluster Background

The cluster comprises of Marsabit, Turkana and Samburu Counties and covers an area of 173,877 square kilometers with an estimated population of 1.37 million persons (KNBS Census 2009). The cluster has three main livelihood zones namely: Pastoral livelihood zone, accounting for 69 percent of the population, Agro pastoral 24 percent and Fisheries/Formal employment/Business/Petty trade at seven percent (Figure 2.1). The Pastoral livelihood zone accounts for 80 percent of the total area in the cluster. The main sources of income are; livestock production at 80 percent, crop production at 15 percent and others including fishing, casual labor and charcoal burning at five percent.

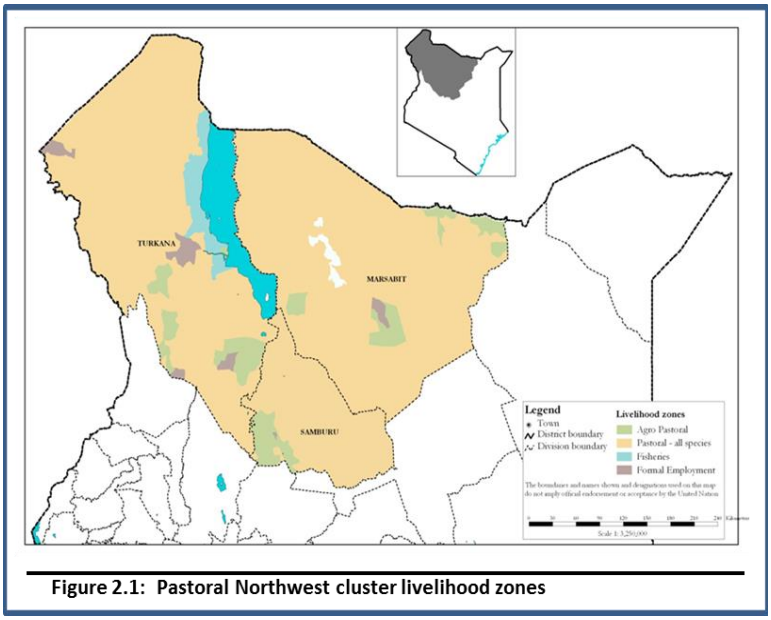

Figure 2.1: Pastoral Northwest cluster livelihood zones

2.1.2 Factors Affecting Food Security

The main factors affecting food security include: poor temporal and uneven distribution of the short rains, human and livestock diseases, high food prices, human wildlife conflict, livestock migration and insecurity related to resource based conflicts and cattle rustling.

2.1.3 Cluster Food Security Situation

2.1.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is *Stressed* (IPC Phase 2). Terms of Trade (ToT) for the cluster were slightly above the long term average and more favorable in Samburu, increasing by 34 percent. Food stocks held in Marsabit county were lowest at 9.8 percent of long term average (LTA) while in Turkana and Samburu counties stocks were 45 and 30 percent of LTA respectively. Meal frequency was normal at one to two meals per day in the pastoral areas and two to three in the agro pastoral areas. Household water consumption per person per day was normal at a range of 6 to 10 liters in the pastoral areas and 10 to 15 liters in the agro pastoral areas. Milk production ranged from 0 – 0.75 liters compared to 2 – 3 liters normally. Milk available in the markets retailed at Kshs 80 – 100 per liter while in Turkana, the farm gate price of milk was normal at Kshs 45 per liter. The percentage of children at risk of

malnutrition based on mid upper arm circumference (MUAC <135mm) was stable and within the seasonal ranges across the cluster. The coping strategy score for the cluster ranged between 22 to 25 in December 2014 compared to 14 to 23 in December, 2013.

2.1.3.2 Food Security Phase Classification

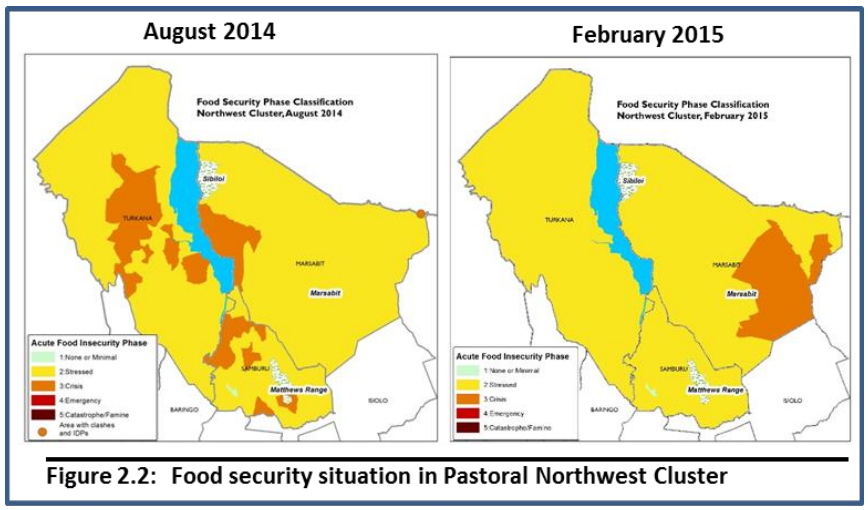

Figure 2.2: Food security situation in Pastoral Northwest Cluster

The current food security phase classification for the cluster after the 2014 short rains assessment was *Stressed* (IPC phase 2) and was a slight improvement compared to six months ago however, some pockets in Marsabit county are classified as *Crisis* (IPC Phase 3) as shown in Figure 2.2. Household water consumption improved in Turkana and Samburu to 10 – 15 liters from 5 – 8 liters per person per day in August 2014. However in the pastoral livelihood zones in Marsabit, water consumption has declined to five liters from 7 – 10 liters per person per day after the long rains. The terms of trade were still favorable and within seasonal norms except for Samburu county where they have improved, with one goat exchanging for 51 kilograms of maize compared to the long term average of 35 kilograms of maize. The nutritional status as indicated by percentage of children at risk (MUAC < 135mm) was stable across the cluster, and within the five year averages.

2.1.4 Rainfall Performance

The onset of the short rains was timely in the first and second week of October in most parts of pastoral northwest cluster. Despite the timely onset, the rainfall was poorly distributed in time and unevenly in space with most areas receiving between 25 to 50 percent of normal except for Turkana where most parts received between 125 and 140 percent of the normal. In Samburu and Marsabit counties, most parts received between 25 and 50 percent of the normal. Within the cluster, Marsabit had more parts receiving below 25 percent of the normal compared to other counties. Cessation was one dekad earlier than normal across the cluster except Samburu, where the cessation was in the second dekad of December.

2.1.5 Current Shocks and Hazards

The shocks and hazards affecting food security in the cluster include, cattle rustling and resource based conflicts, in and out-migration of livestock, livestock diseases; outbreak of Foot and Mouth Disease (FMD), crop destruction by wildlife, crop pests and an upsurge of human diseases in Marsabit county and insecurity in Turkana.

2.1.6 Impact of Rainfall Performance, Shocks and Hazards

2.1.6.1 Crop production

Crop production is mainly practiced in the agro pastoral livelihood zones of the cluster. The major crops grown under rain-fed include maize, beans and sorghum. Area planted was 99 and 95 percent of LTA for maize and beans respectively. In terms of production, yields for maize and beans declined by 78 and 24 percent respectively. The decline in production was attributed to the poor temporal and uneven spatial distribution of rainfall and early cessation across the cluster. The main crops grown under irrigation are; tomatoes, maize and sorghum. Area planted under irrigation was for maize was 55 percent; sorghum- 90 percent of LTA, and tomatoes-33 percent of LTA. Production for maize, sorghum and tomatoes was 91, 60 and 47 percent of LTA respectively. Some of the factors that led to the decline in performance are; low water levels in the rivers, siltation of irrigation canals and insecurity in Turkana where some schemes were not planted.

Current stocks held are 82 percent of normal with households keeping 55 percent of LTA; National Cereals and Produce Board (NCPB) - 62 percent of normal; traders -33 percent above normal. Households in Marsabit county hold the least with 9.8 percent of normal while Samburu and Turkana hold 30 and 40 percent respectively. Highest stocks at trader level are held in Turkana at 82 percent normal, attributed to high demand resulting from ongoing cash and voucher programs. The stocks are expected to last for 1-2 across the cluster.

2.1.6.2 Livestock Production.

The body condition for cattle and sheep ranges from fair to poor while that of camel and goats ranges from good to fair. Pasture and browse situation was generally fair to poor and expected to last for one month compared to three months usually. The birth rates are low and normal for all the livestock species across the cluster. Generally, milk is available and quantity from own production was 50 percent below normal across the cluster. Production ranged from 0-0.75 liters compared to 2-3 liters normally. In the markets, a liter of milk retailed at Kshs.80-100. In Turkana the farm gate price of milk was normal at Ksh.45 per liter. Water for livestock is available from boreholes and shallow wells. The frequency of watering is once in three days for most species except in Marsabit where shoats were watered once in six days and camels once in 8-10 days.

Early migration was reported in Marsabit and Samburu counties. In Samburu, there was external migration of cattle from Marsabit, Laikipia and East Pokot. In Marsabit, cattle were migrating to Ethiopia and Isiolo. In Turkana, some migration was due to insecurity in areas along the border with Baringo and West Pokot and international borders with Uganda and Ethiopia. Confirmed sporadic cases of Foot and Mouth Disease (FMD), Lumpy Skin disease (LSD) were reported across the cluster. Livestock endemic diseases were reported however, preventive and control measures have been taken up by county governments together with partners.

2.1.6.3 Water and Sanitation

The main sources of domestic water are boreholes, springs, pans/dams, shallow wells and Lake Turkana, river Turkwel and river Kerio in Turkana county and River Ewaso Nyiro in Samburu county. Open sources were recharged up to 100 percent in Turkana and below 50 percent in Marsabit and Samburu. Over 80 percent of pans in Marsabit and Samburu have dried up while most pans in Turkana have water expected to last for two to three months. Distances to water sources are within the seasonal range of between five to 10 kilometers. In Karare area in Marsabit county, households are walking up to 13km. Waiting time at water sources was between 10 to 30 minutes across the cluster except in the pastoral areas of Samburu where households are waiting between four to eight hours to collect water. Cost of water ranges between two to five shillings per jerrican, except in Samburu where cost of water at the boreholes is up at Kshs.20. Vendors in Turkana and Samburu are selling a 20 liter jerrican of water between Kshs. 10-20 while water vendors are selling at Kshs. 40 in Marsabit township.

Household water consumption was within the normal range between 6-12 liters per person per day with consumption having improved from 10 to 20-30 liters in the agro pastoral areas of Turkana and between 10-15 liters in the pastoral and fisheries zones. In the pastoral areas of Samburu, water consumption is about three liters per person per day. Water treatment at household level is below 20 percent and this is done either by boiling, use of water treatment chemicals and sand filters. Despite the availability of treatment chemicals at household level, in Marsabit and Turkana, low utilization is due to culture. Treatment chemicals are scarce in Samburu and when available, most households cannot afford due to high prices. Latrine coverage across the cluster was low ranging between 10 to 30 percent. Water related diseases reported include diarrhea and malaria. Sources of water contamination reported across the cluster was mainly open defecation and unprotected open water sources.

2.1.6.4 Market Performance

Markets across the cluster operated normally with food commodity supplies being normal. Poor infrastructure in remote market, leads to high transportation costs. Market supplies were mostly from outside the cluster, however, in Turkana, some supplies are from irrigation schemes in the county. Average maize prices in the cluster were about 18 percent above LTA and ranged from Kshs. 48.9 in Marsabit county to Kshs. 82 per kilogram in Turkana county as January 2015. Goat prices in the cluster were about 25 percent above the LTA and ranged between Kshs. 2,040 – Ksh. 2,917.

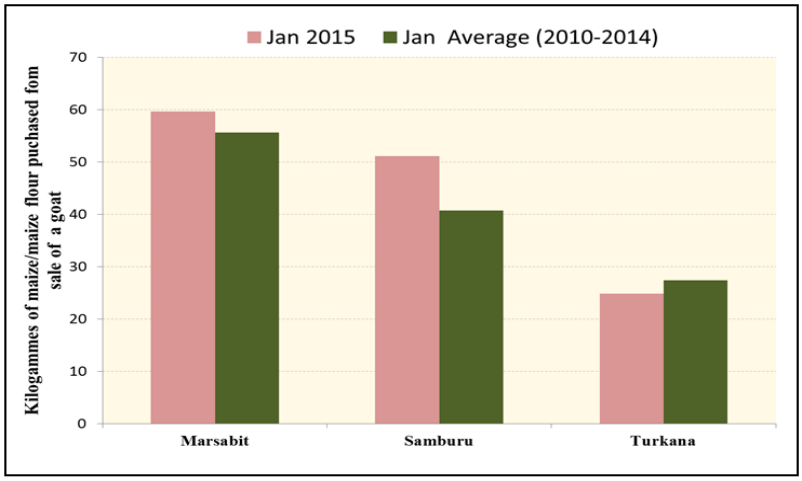

Figure 2.3: Comparative terms of trade in the cluster

Terms of Trade (ToT) in January 2015 were generally good across the cluster. In Samburu, terms of trade improved significantly where the sale of one goat could be

exchanged for 51 kilograms of maize compared to the long term average of 35 kilograms of maize. Terms of trade were most favorable in Marsabit where the sale of one goat would purchase 60 kilograms of maize compared to the LTA of 56 kilograms (Figure 2.3).

2.1.6.5 Health and Nutrition

2.1.6.5.1 Morbidity and mortality patterns

The most common diseases for both the under-fives and the general population are; Upper Respiratory Tract Infections (URTI), malaria, diarrhea and skin diseases. Morbidity incidences were on the increase across the cluster except in Samburu where they remained within the seasonal ranges. In Turkana county, there were eight reported cases of measles, while dysentery cases doubled to 2,064 between July - December 2014 from 1,024 reported in the same period in 2013, mainly attributed to poor sanitation and hygiene. The crude mortality rates (CMR) and under-five mortality rates (U5MR) in the period under review were within the seasonal norms in the three counties.

2.1.6.5.2 Immunization and Vitamin A supplementation

The percentage of fully immunized children increased by 10-20 percent at 51.9, 61 and 78.4 percent in Samburu, Turkana, and Marsabit counties respectively, this is below the national target of 80 percent. Vitamin A supplementation among children aged (6-11 months) ranged between 59 to 68.2 percent while that of children aged (12 to 59 months) ranged from 15 to 54.7, generally below the national target. The low coverage for immunization and vitamin A supplementation is attributed to long walking distances to health facilities.

2.1.6.5.3 Nutrition Status and Dietary Diversity

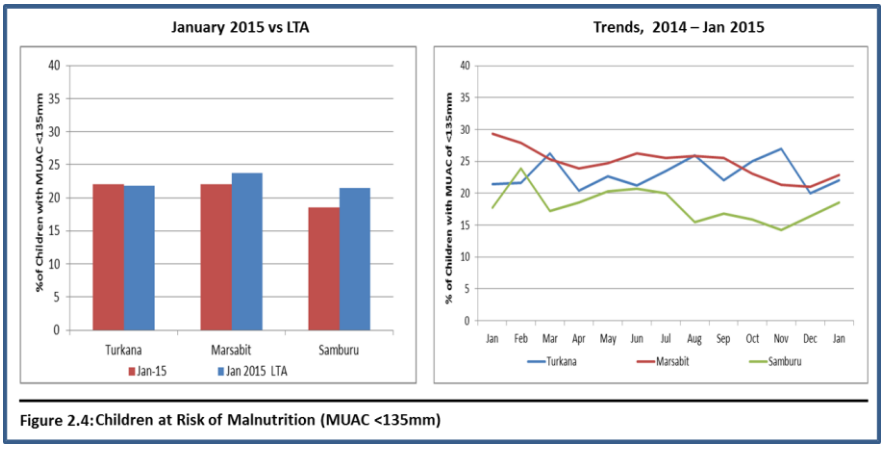

Figure 2.4: Children at Risk of Malnutrition (MUAC <135mm)

The proportion of children at risk of malnutrition (MUAC 135mm) in January 2015 was below the long term averages except for Turkana which was slightly above the LTA (Figure 2.4). MUAC trends July 2014 to January 2015 remained relatively stable and within seasonal trends. The increase in Turkana may be attributed to the reduced milk availability at household level. The stable nutrition situation across the cluster from August 2014 was due to response interventions put in place following high global acute malnutrition rates reported in June 2014. Dietary diversity remains poor across the cluster, with households consuming less than two food groups. Households with poor, borderline and acceptable food consumption scores (FCS) were 38, 27 and 35 percent respectively compared to 46, 51 and three percent in December 2013. Meal frequency was normal across the cluster.

2.1.6.6 Education

Enrolment and attendance for both boys and girls generally increased across the cluster. Transition from primary to secondary schools in the cluster was 63 percent except for Turkana at 40 percent. Low transition was attributed to poor performance in schools, lack of school fees for secondary education and in some cases early marriages for the girls. Dropout rates were higher for girls compared to boys except for Marsabit, where dropouts for boys were higher than that of girls. In Marsabit county, boys dropped out to support their households in search for water and pasture for livestock. Reasons contributing to drop outs for girls across the cluster were mainly domestic chores, early marriages and pregnancies. The Regular School Meals Programme (RSMP) in Turkana and Marsabit and Homegrown School Meals Programme (HGSMP) in Samburu county has contributed to improved enrolment, attendance, learners' concentration and retention in schools.

2.1.7 Coping Mechanisms

The mean coping strategy score across the cluster was 25 in December 2014, compared to 23 in December 2013. Most common consumption related coping strategies were reduction in the number and size of meals taken per day and reduction in the quantity of food consumed by adults/mothers for young children to eat. Charcoal burning which previously has been employed as a coping strategy is slowly evolving into a livelihood diversification strategy in the cluster. In addition, collection and sale of firewood, tapping and sale of *Aloe vera* and weaving of baskets, beads and mats was reported in Turkana as a livelihood strategy.

2.2 The Pastoral Northeast Livelihood Cluster

2.2.1 Cluster background

The cluster covers five counties that include; Tana River, Isiolo, Mandera, Wajir and Garissa with an area of 190,634 square kilometres and a population of 1,844,780 persons as per 2009 census (KNBS). The major livelihoods in the cluster as represented in Figure 2.5 are; Pastoral livelihood zone accounting for 57 percent of the population, Agro Pastoral 21 percent, Marginal Mixed Farming nine percent, Irrigated seven percent and Informal/Formal employment/Business/Petty Trade six percent. The major sources of cash income in the cluster are; livestock production contributing 60 percent and crop production 30 percent for the households.

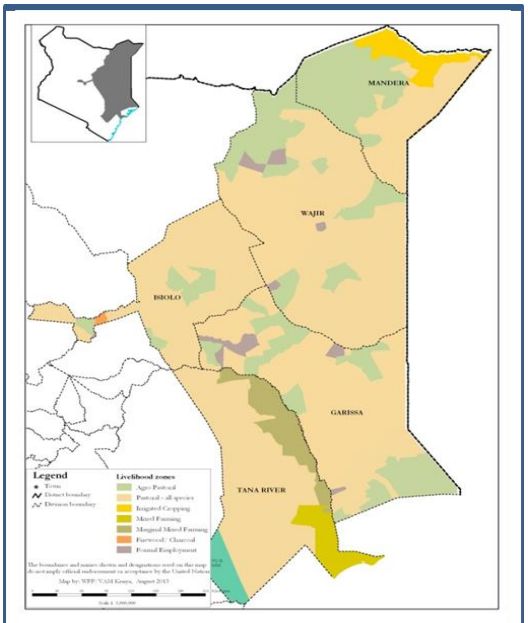

Figure 2.5: Pastoral Northeast cluster livelihood zones

2.2.2 Current Factors Affecting Food Security

The main factors affecting food security were poor performance of the short rains season, crops and livestock pests and diseases, inadequate and poor pastures, diminishing water supply for livestock and

domestic use, livestock migration, insecurity due to resource based conflicts, inter-clan clashes and terrorist threats in Mandera, Wajir and Garissa. Others are high food prices, low livestock prices, poor road infrastructure and human wildlife conflict in Tana River and Garissa.

2..2.3 Cluster Food Security Situation

2.2.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is *Stressed* (Phase 2). However, few pockets in Wajir (Griftu, Eldas), Isiolo (Merti, Garbatulla, and Oldonyiro) and Mandera (Kutulo) are in *Crisis* (Phase 3). The lowest and highest terms of trade in the cluster was 39 kilograms and 58 kilograms from a sale of goat in Wajir and Garissa respectively. Food consumption score changed from 77 percent poor, 22 percent borderline in December 2013 to three percent poor, seven percent borderline and 90 percent acceptable in December 2014. Households in the cluster were on average consuming between one and two meals per day with an average composition of three food groups. Water consumption in the cluster ranged 10 to 20 a litre which was within the normal ranges. The mean coping strategy index in the cluster was 27 percent in December 2014 compared to eight percent in December 2013. The GAM rates in Mandera, Garissa and Isiolo were 22.3, 15.2 and 13.2 percent, which are above emergency thresholds[2] in Mandera and Garissa.

2.2.3.2 Food Security Phase Classification

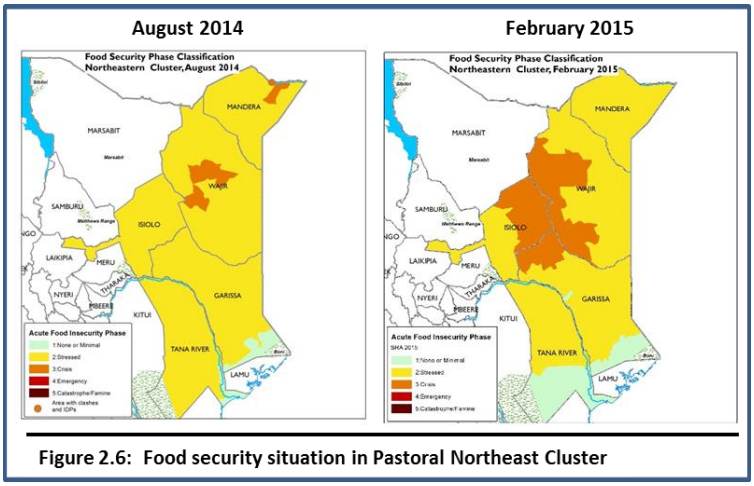

Figure 2.6: Food security situation in Pastoral Northeast Cluster

The food security phase classification in February 2014 after the short rains was *Stressed* (IPC Phase 2), across all the livelihoods in the cluster. In August 2014 after the long rains season much of the cluster is still classified as *Stressed* (IPC Phase 2). However, localized areas of Wajir (Griftu, Eldas, West of Tarbaj, Hadado and Sebule), Isiolo (Merti, Garbatulla, Oldonyiro) and Garissa **(**Balambala (Dujis), Benane, Danyere, Modogashe (Maalinin and Ilan), Shantabak (Baraki, Gurufa and Goreale) are in *Crisis* (Phase 3) as illustrated in Figure 2.6. The food consumption score is 90 percent acceptable, seven percent borderline and three percent poor from 37 percent acceptable, 39 percent borderline and 24 percent borderline in May 2014 after the long rains. The mean coping strategy index for the cluster changed from 19 percent in May 2014 to 27 percent in December 2014. The terms of trade declined by 22, 21 and 16 percent in Mandera, Garissa and Isiolo counties respectively. The proportion of children with MUAC below 135 mm increased by five percent in Garissa, was 18.1 percent in Wajir and 22.4 percent in Mandera. Water consumption per person per day ranged between 8 – 10 litres which is less than 10 – 15 litres in

[2] WHO Classification – GAM above 15% is classified as Emergency/Critical nutrition situation

August 2014 but was stable in Garissa at 20 litres per person per day. Household food stocks considerably increased compared to a similar period last year and the 2014 short rains season. Distances to water compare favorably to the normal despite the rain season. Distances for the pastoral livelihood zone ranged between 10 and 15 kilometres in Wajir, Garissa and Isiolo except for Mandera where distances reached up to 20 kilometres.

2.2.4 Rainfall Performance

The onset of the short rains was late in first week of November 2014, in Garissa, Isiolo and Tana River and timely in Wajir and Mandera in second week of October 2014. Most parts of Tana River, Wajir and Mandera received between 50 and 75 percent of the normal, while Isiolo and Garissa, most parts received 25-50 percent of normal. Some parts in Mandera, Tana River, Isiolo, Wajir and Garissa received below 25 percent of the normal. The spatial distribution was uneven and temporal distribution poor across the cluster. Cessation was early in first to third week of December 2014, except in Mandera third week of November 2014.

2.2.5 Current Shocks and Hazards

Shocks and hazards include; clan conflicts and Al-Shabaab threats along Somalia border, low amounts of rainfall resulting to water scarcity for both livestock and domestic, prolonged drought, poor livestock marketing infrastructure resulting to low prices. Resource based conflicts due to livestock migration to already fading pasture and water points. Others include; tension after the ethnic clashes in Tana Delta in Tana River, endemic livestock diseases in Garissa and Tana River. Human wildlife conflicts due to closure of national parks and reserves in Tana River and Isiolo.

2.2.6 Impacts of Rainfall Performance, Shocks and Hazards

2.2.6.1 Crop Production

The cluster depends both on the long and short rains season. Crop production contributes to about 30-40 percent of food and cash income. The main food crops planted during the short rains season are maize, cow peas and sorghum. Other crops include beans and green grams. Rain fed area under maize was 70 percent of the LTA, while cow peas and sorghum were 56 and 72 percent respectively of the LTA. Acreage under green grams and beans increased by 75 and 18 percent respectively of the LTA. Poor temporal rainfall distribution and early cessation lowered the production of all the crops. Maize, cowpeas and sorghum production in the rain fed area was projected to decline by 42, 28 and 77 percent respectively compared to the LTA. Isiolo County had the worst crop production with maize, beans and cow peas recording 100, 80, and 85 percent respectively below the LTA. Despite increased acreage under green grams and beans the projected yields will decline by 11 and 80 percent respectively. Area under irrigation increased by 47, 44 and two percent of LTA for bananas, mangoes and tomatoes respectively. Bananas and mangoes production increased by 58 and 67 percent while tomatoes declined by 54 percent of the LTA. The reduction in areas was due to lack of floods water along the flood plains in Tana River. Production further declined due to infestation of pests and diseases. Maize stocks held in the cluster was 96 percent of the LTA. Households, traders and millers hold 34, 76 and 62 percent of the LTA respectively while National Cereal Produce Board (NCPB) hold 97 percent above LTA. The low stocks at household level are attributed to below average performance of the short rains season.

2.2.6.2 Livestock Production

Pasture and browse condition is fair to poor across the livelihood zones except for Mixed Marginal Farming livelihood zone in Tana River where the condition is good to fair. The condition is expected to last for less than a month to two months compared to two to three months. Livestock body condition is good to fair across all livelihood zones except in the pastoral livelihood zone in Wajir where the condition of cattle is fair to poor. The body condition is expected to deteriorate further in the next one to two months. Milk availability has reduced and ranged at 0.5 to two litres compared three to five litres. Household milk consumption ranged between 0.5 to one litre compared to normal of two to three litres of milk. The cost of milk was Ksh.50-60 per litre with exception of Mandera and Wajir where one litre costs between Ksh.100-150 compared to the normal of Ksh.50-80. Return trekking distance in Mandera, Garissa and Isiolo ranged from 15-25 kilometres compared to normal of 4-10 kilometres. In Wajir livestock covered 20-40 kilometres compared to normal of 15 kilometres with exception of Eldas Sub County where cattle and camels trekked 48 kilometres. In Tana River, livestock covered one to eight kilometres in marginal and mixed farming livelihood zones and 5-15 kilometres in the pastoral livelihood zone. Water frequency varies ranging at three to five days for cattle and shoats. Tropical Livestock Units (TLUs) have generally decreased over the years across the cluster. In Wajir, Garissa, Isiolo and Tana River, TLUs in pastoral livelihood zone ranged at 3-5 compared to normal of 7-9. Livestock birth rate across all the species has declined due to the fair to poor livestock body condition.

Out migration has been reported in Mandera towards Somalia and Ethiopia, while in migration was observed from pastoral livelihood zone of Mandera South and Mandera West. Conflicts between border communities along Kenya and Ethiopia has affected in migration to access pastures along river Daua, Malkamari, Guba and Choroqo. In Wajir, Garissa and Isiolo some livestock have moved out of the counties to Tana River, Laikipia and Kitui counties. Outbreak of Foot and Mouth Disease, Anthrax, Black Quarter and Lumpy Skin Diseases has been reported in Wajir, Isiolo, Garissa and Tana River. Endemic diseases reported were Contagious Caprine Pleuralpneumonia and Pestes des Petit Ruminants, Contagious Bovine Pleuropneumonia, Sheep and Goat Pox, Trypanosomiasis and tick infestation. Haemorrhagic Septicaemia in Camel had led to several deaths in Wajir and Garissa.

2.2.6.3 Water and Sanitation

The major water sources are rivers, shallow wells, boreholes, dams/pans, irrigation canals, piped water systems and springs. Open water sources were poorly recharged as a result of the poor performance of the rains. However, distances to water sources have remained within the normal range of less than five kilometres with the exception of Garissa county where the distances have increased to 7.5 kilometres from the normal maximum of five kilometres. In all the pastoral and agro pastoral livelihood zones, waiting time at the water source has considerably increased from less than half an hour to 2-4 hours with the exception of Isiolo and Tana River where it is within the normal of 15 minutes to one hour. However, in Gafarsa, Muchuro and Kombola in Isiolo county, households are taking more than five hours compared to the normal two hours due to influx of livestock from other areas and whose watering takes precedence to collection of water for domestic use. Water for household consumption was 15 to 20 litres per person per day in Garissa and Tana River. In Isiolo and Mandera, water consumption was 5-10 litres per person per day compared to normal of 10-15 litres per person per day. The cost of water has remained

within the normal range of Ksh.2-5 per 20 litres jerican across the cluster with the exception of the pastoral and agro pastoral livelihood zones of Mandera and Wajir Counties where the cost is Ksh.10-20 per 20 litres jerican compared to the normal Ksh.5. However, private water vendors in the pastoral livelihood zones of Tana North-Bura, Madogo, Bangale in Tana River and Ashadin, Mbalambala and Geillab in Garissa County are selling water at Ksh.20-30 per 20 litres per jerican. Latrine coverage in the cluster ranges from 30-51 percent in Wajir and Isiolo. Mandera, Garissa and Tana River Counties have a latrine coverage of 28, 35and 47 percent respectively.

2.2.6.4 Markets and Trade

Market operations in the cluster were at optimal levels; except the occasional insecurity related disruptions reported in parts of Garissa, Wajir and Mandera Counties. Remote markets situated far away from the main (urban) markets are affected by poor infrastructure resulting to high transport costs. Livestock supplies were from within the cluster and were reported to be high; whereas majority of the food supplies were mainly from external markets. In January 2015, maize prices were two percent below LTA in Wajir and Isiolo counties. In Mandera, Tana River and Garissa, prices were 19, 38 and 60 percent above the LTA respectively. Prices ranged between Ksh.35 (Tana River) to Ksh.66 per kilogram (Mandera). Goat prices were two percent below LTA in Tana River and 8, 33, 46 and 48 percent above the LTA in Mandera, Wajir, Garissa and Isiolo respectively. The prices ranged between Ksh.2, 052 (Isiolo) to Ksh.3, 371 (Tana River). Terms of Trade (ToT) for Wajir and Tana River were above the LTA, while in Mandera, Garissa and Isiolo ToT were below the LTA as illustrated in Figure 2.7. Mandera county had the least favorable ToT; where the sale of a medium sized goat would purchase 40 kilograms of maize; which is 11 percent lower than the LTA. Tana River county had the most favorable ToT; sale of a goat would purchase 96 kilograms of maize compared to the LTA of 64 kilograms.

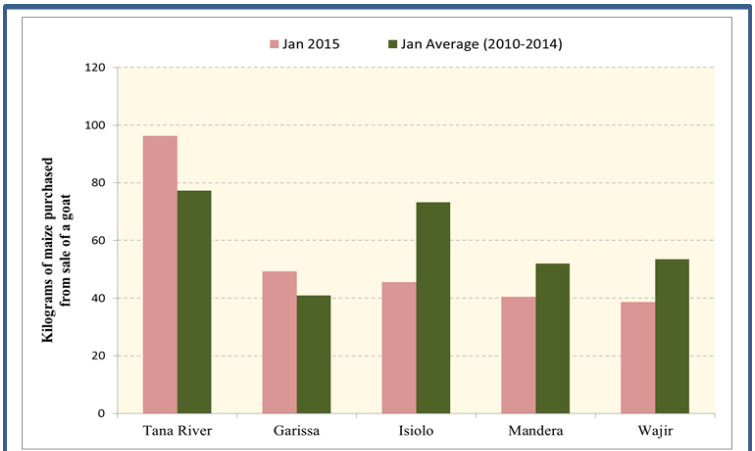

Figure 2.7: Comparative terms of trade in the cluster

2.2.6.5 Health and Nutrition

Major diseases among under-five and general population in July to December 2014 were diarrhoea, skin diseases, respiratory diseases and eye infections. Others were; ear infections, intestinal worms, malaria and rheumatism. An increase in diarrhoea and malaria illnesses was reported in Isiolo, Mandera and Garissa in July to December, 2014 compared to 2013 same period. The crude death (CDR) and under-five death rates (U5DR) remained below alert levels across the cluster. The percentage of fully immunized child (FIC) for Wajir, Mandera, Tana River and Garissa Counties in the month of July to December, 2014 decreased to 47.3, 27, 25.1 and 64 percent respectively compared to 54.5, 53, 28 and 70 percent in 2013 same period which are below national targets of 80 percent except in Isiolo County. Vitamin A supplementation coverage for children aged (6-11 months) ranged between 49-78.2 percent. Vitamin A

supplementation for children aged (12-59 months) ranged between 40.9-58.4 percent which are below national targets of 80 percent. The decline was attributed to stock outs in Vitamin A supplementation (100, 000 I.U dosage) in Garissa and Isiolo Counties.

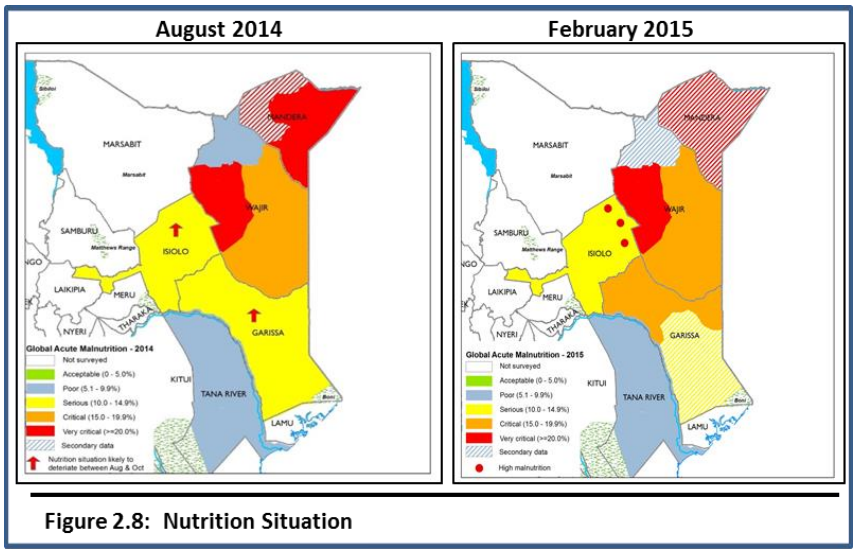

Figure 2.8: Nutrition Situation

The percentage of under-five at risk of malnutrition by mid upper arm circumference (MUAC <135 millimetres) was below long term averages (LTA) except in Garissa County where the January 2015 MUAC average was above LTA. The percentage of under-five malnourished by MUAC<135MM ranged between 10.9-21.7 percent. The current rates increased in all counties compared to 2014 same period rates except for Tana River County. Integrated nutrition surveys conducted in Isiolo and Tana River County in February, 2015 indicated global acute malnutrition (GAM) rates based on weight for height z-scores at 13.2 percent and 9.9 percent respectively. The GAM rates for Garissa (Dadaab, Lagdera, Balambala) and Wajir (Wajir South /East) was at 15.2 percent and 17.0 percent respectively (Figure 2.8). However for Wajir West the GAM and SAM rates were at Very Critical levels of 22.6 percent and 7.1 percent respectively. Meal frequency across the cluster reduced from a normal of two meals a day to current one meal a day.

2.2.6.6 Education

School enrolment for both boys and girls increased generally across the cluster in 2014. However, enrolment for boys was higher than that of girls due to preference of educating boys as opposed to girls and early marriages for girls. Female Genital Mutilation and conflict in Mandera was the main reason for low enrolment in girls. Boy's enrolment ranged at 53-60 percent while girls was 39-47 percent across the cluster. Since January 2015, attendance and enrolment in Mandera and Wajir Counties has been adversely affected by the teachers' strike protesting against insecurity as well as agitating for better terms of engagement. In 2014, transition rates from Early Childhood Development (ECD) centers to primary schools ranged at 90-97 percent due to employment of ECD teachers by the County Governments and School Meals Programme (SMP). Wajir County recorded the highest transition rate at 97 percent. Transition rate from primary to secondary schools was low across the cluster except for Garissa County with transition rates of 90 percent in 2014 up from 80.1 percent in 2013 which was above the national average of 74 percent, attributed to a cash transfer programme by the Save the Children and Children Department, who supported orphans and vulnerable children transiting to secondary schools with bursaries. The general low transition rates across the cluster is attributed to high poverty levels, early and long trekking distances to schools.

Dropout rates across were low in 2014, with the lowest in Mandera County at two percent and

Garissa County recording the highest at 33 percent. Reasons for dropouts are mainly migration, conflicts, early marriages, Female Genital Mutilation (FGM) and herding activities practiced by the boys. Regular School Meals Programme (RSMP) was implemented in all public primary schools across the cluster and all ECD centers attached to them, except for Isiolo which transitioned from RSMP to the Home Grown School Meals Programme (HGSMP) in 2014. Under the new approach, schools receive cash and procure food commodities from the local markets with support from the School Management Committees. Provision of meals contributed to school enrolment, retention and completion rates to schools across the cluster. The meals contributed to improved access, class participation and retention of pupils in schools and improving the nutritional status which enhances pupil's performance. Main reasons for pupils missing their meals is lack of firewood, water, delayed delivery of food to schools and inability by some schools to employ and retain cooks.

2.2.7 Coping Mechanisms

The mean coping strategy score across the cluster in the month of December 2014 was 27, as compared to eight in December 2013 except in Garissa where score was 16 in December 2014, compared to 11 recorded in December 2013. Households were employing consumption related coping strategies more often compared to the same period in the previous year. The common insurance coping strategies employed by households across the cluster included reduction in number and meal rations, skipping of meals and reliance on less preferred and less expensive food, borrowing food and non-food items on credit, reliance on relatives and friends. Other livelihood strategies being employed in the cluster were burning of charcoal and engagement to casual labour.

2.3 The Agro Pastoral Livelihood Cluster

2.3.1 Cluster Background

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

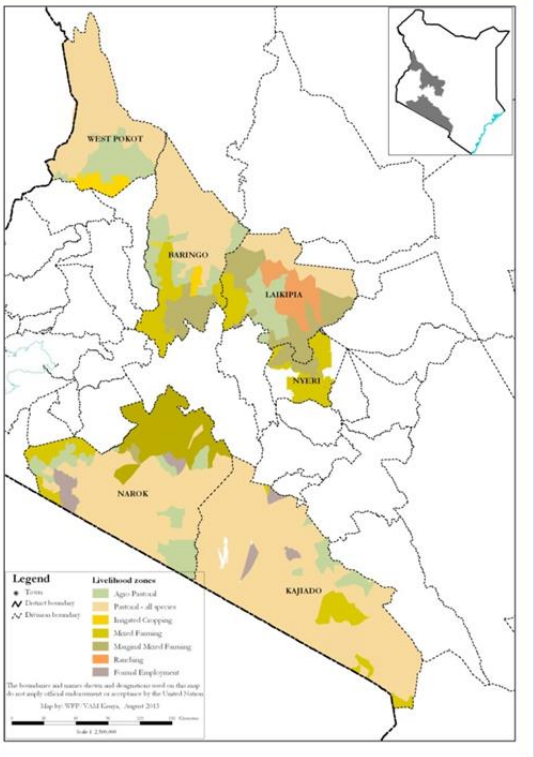

Figure 2.9: Agro pastoral cluster livelihood zones

2.3.2 Current Factors Affecting Food Security

The main factors affecting food security are endemic livestock diseases, poor post-harvest management practices, crop pests and diseases such as Maize Lethal Necrosis Disease (MLND) in Narok, Baringo and Laikipia, insecurity along the borders due cattle rustling and conflict for water and pasture. Others are, high food prices, frost bite in Nyeri and Laikipia, human wildlife conflicts, poor hygiene and child care practices, water borne diseases.

2.3.3 Cluster Food Security Situation

2.3.3.1 Current Food Security Situation

The current food security phase classification for the cluster is *None/minimal* (IPC Phase 1) except for pastoral and agro pastoral livelihood zones of West Pokot and Baringo, marginal mixed farming zone of Kieni and pastoral and marginal mixed farming livelihood zones of Laikipia which are in *Stressed* (IPC Phase 2). In the pastoral and agro pastoral areas of Baringo and the marginal mixed farming livelihood zones in Kieni, households are currently consuming between one to two meals compared to a normal of between two to three meals in a day. Meal frequency was stable and normal in Kajiado and Narok Counties at three meals per day across all livelihood zones as well as in the mixed farming livelihood zones in the rest of the counties within the cluster. Food consumption generally improved across the cluster as 70 - 90 percent of households in the cluster had acceptable food consumption score. The percentage of children at risk of malnutrition as measured by Mid Upper Arm Circumference (MUAC <135mm) is stable and below the long term average (LTA) across the cluster except in some parts of Baringo (East Pokot) currently at 33 percent, largely due to insecurity. There was no reported disease outbreak. Under-five mortality rate (U5MR) across the cluster is less than 0.5 per 10,000 persons per day and crude mortality rate (CMR) is less than 0.3 per 10,000 per person day which is below the alert threshold of one death per 10,000 persons per day. The Coping Strategy Index (CSI) in Baringo, West Pokot, Laikipia and Kieni currently stands at 21. However, CSI stand at 7 and 28 in Kajiado and Narok counties respectively. Water consumption is above 15 litres per person per day across the cluster, lowest consumption was in the pastoral areas at 8 - 12 litres per person per day.

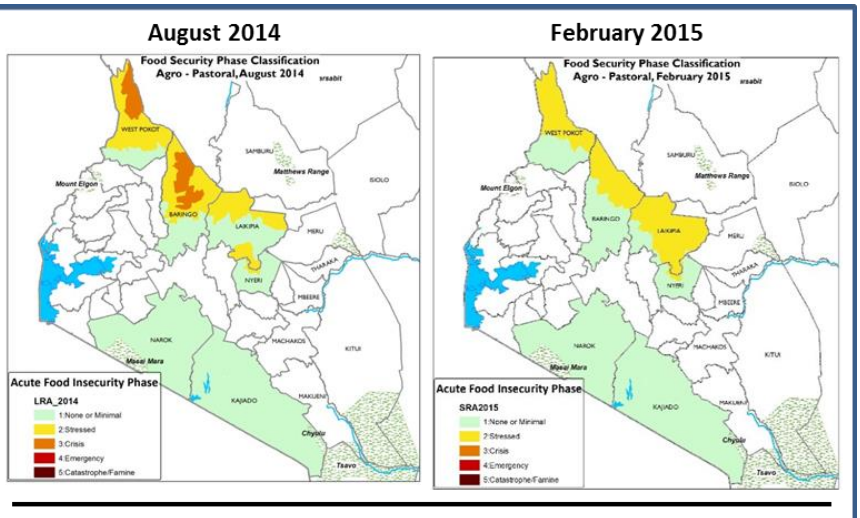

Figure 2.10: Food security situation in Agro Pastoral Cluster

2.3.3.2 Food Security Phase Classification

The cluster has remained in *None/minimal* food insecurity phase as it was after the long rains assessment in August 2014. Parts of West Pokot and Baringo County, which were classified in *Crisis* (IPC Phase 3) last season, have moved to S*tressed* phase (Figure 2.10). The rest of pastoral and agro pastoral livelihood zones of West

Pokot and Baringo, marginal mixed farming zone of Kieni and pastoral and marginal mixed farming livelihood zones of Laikipia have remained in *Stressed* Phase (IPC Phase 2).

2.3.4 Rainfall Performance

The onset of the short rains in this cluster was generally timely in the 2nd week of October except Kajiado where rains started in the 1st week of November. However, Baringo received off season rains in August 2014. Spatial distribution was uneven while temporal distribution was poor within the cluster. Larger parts of West Pokot and Baringo received between 110 - 140 percent of the normal rainfall while most parts of Nyeri received between 50 - 70 percent of the normal rainfall. Narok, Kajiado and Laikipia received above 90 percent of the normal rains in most parts. Cessation was timely in Narok, Nyeri and Baringo between the 4th week of December and 1st week of January 2015. However, cessation was earlier by two weeks in Kajiado, Laikipia, West Pokot instead of the 4th week of December.

2.3.5 Current Shocks and Hazards

The current shocks and hazards contributing to food insecurity in the Agro-Pastoral cluster include, outbreak of livestock diseases especially Foot and Mouth Disease (FMD) in Baringo, West Pokot and Kajiado. Maize Lethal Necrotic Disease (MLND) was reported in Baringo and Laikipia. Other hazards reported in this cluster were insecurity due to cattle rustling in Baringo and West Pokot, human-wildlife conflicts in Laikipia and frost bites in Nyeri and Laikipia.

2.3.6 Impacts of Rainfall Performance, Shocks and Hazards

2.3.6.1 Crop Production

Most counties in the cluster are long rains dependent. Crop production in the area contributes to 30 percent of food and 40 percent income to the households. The major crops grown in the area are maize, beans and Irish potatoes.

2.3.6.1.1 Rain Fed Crop Production

The area put under maize was 52 percent of LTA. Maize production was 1.15 million bags and is a reduction to 58 percent of the LTA of 1.95 million bags (90kg), followed by a subsequent decline in production by 41 percent of the LTA. The decline was attributed to fear of Maize Lethal Necrosis (MLND) as most farmers opted to have a closed season for maize in favor of other crops. Inadequate moisture at critical stages of germination and tasselling, poor choice of seed and late distribution of subsidized seed were among other reasons cited. The area put under beans and Irish potatoes marginally reduced but production significantly decreased to 42 and 98 percent below the LTA for beans and potatoes respectively.

Crops under irrigation are tomatoes, onions, kales and maize. There was no significant change in the area put under irrigation for the crops except for maize which reduced by 43 percent. However, production of tomatoes reduced by 65 percent compared to the LTA. The decline was attributed to tuta absoluta pest. Maize production also reduced by 58.6 percent because of the reduced hecterage that purposed to break the MLND cycle. There was an increase in production of onions by 58.6 percent.

2.3.6.1.2 Maize stocks held in the cluster

There was a reduction of stocks at all levels, with the households holding 751,466 bags of maize which is 50.5 percent below the long term average of 1,517,703 bags, traders held 187,735 bags compared to 404,152 bags (46.4% of LTA), while millers had 52,837 bags compared to LTA of 161,705 bags (32.6 %). Stocks held are expected to last for one month.

2.3.6.2 Livestock Production

Pasture condition in the Pastoral and Agro-Pastoral livelihood zones is fair to poor and expected to last for one month compared to 2 - 4 months normally. Browse is good to fair across all livelihood zones in the cluster and is expected to last 2 - 3 months, which is normal. Livestock body condition in pastoral livelihood zones is poor for cattle and sheep and good for goats and camels. In the agro pastoral and mixed farming livelihood zones, livestock body condition was good for all species. Birth rates for all species are normal in all livelihood zones in the cluster.

Milk production per household per day is 0.5 - 2 litres, three litres and 3 – 4 litres in the pastoral, agro-pastoral and mixed farming livelihood zones respectively, which is normal. Households are consuming 90 percent of milk produced. Milk prices increased from Ksh.20 to Ksh.30 in the mixed farming livelihood zone and from Ksh.50 to Ksh.60 per litre for the agro pastoral and pastoral livelihood zones. Tropical Livestock Unit (TLU) per household ranges from 8 - 30 which is normal. Pastoral and agro pastoral livelihood zones are holding TLUs of 25 and 20 respectively. Common water sources include rivers, water pans, shallow wells and boreholes, most of which have dried due to low recharge rates. Available water is expected to last until the next one month.

Return trekking distances are 1 - 5 kilometers in the mixed and agro pastoral livelihood zone and 8 – 10 kilometers in the pastoral livelihood zones, which is normal at this season. Watering frequency is daily in the Mixed and Agro-Pastoral livelihood zones. Cattle and goats were watered after 2 – 4 days while camels were watered after 8 - 10 days. There were in and out migrations from the pastoral livelihood zones which is normal. In West Pokot, migration was along the Kenya/Uganda border and also towards Turkana. Movement of livestock in Kajiado was towards Mara, Mau, lota and Nairobi.

Outbreak of notifiable diseases Food and Mouth Disease (FMD), lumpy skin (LSD), black quarter, Contagious Bovine Pleuro Pneumonia (CBPP) and Anthrax in cattle and *Peste des Petits Ruminants* (PPR), sheep and goat pox, Contagious Caprine Pleuro Pneumonia (CCPP) in sheep and goats was reported in West Pokot, Narok, Kieni and Baringo. Vaccination against Foot Mouth Disease was administered in November and December in (Narok County) and is on-going in (West Pokot County).

2.3.6.3 Water and Sanitation

The major sources of water in the cluster are rivers, piped water systems, springs, boreholes, shallow wells, lakes, swamps, streams, roof catchment and dams/pans. Recharge of the open water sources was 60 - 90 percent in Baringo, West Pokot and Narok Counties and 30-50 percent in Kieni, Laikipia and Kajiado counties. Distances to water sources were within the normal range except in the pastoral zones. In the mixed farming, agro pastoral and marginal mixed farming livelihood zones, they were less than three kilometres while in the pastoral zones, the distances

were 3-6 kilometres compared to the normal 4 - 8 kilometres. Waiting time at the source was within the normal range of a maximum of 20 minutes except in the marginal mixed livelihood zones of Kieni where it was about one hour compared to the normal 40 minutes due to imbalanced water distribution hence deficits experienced in this zone.

The cost of a 20 litre water jerrican is within the normal range of Ksh. 2 - 5 in Baringo and Narok counties as well as in the mixed farming livelihood zones of Laikipia and Kieni counties. In the marginal mixed farming livelihood zones of Kieni, the price is normal at Ksh. 10. However, the price has increased from Ksh. 2 normally to Ksh. 3 - 5 in the marginal mixed farming zones of Laikipia County. Water consumption per person per day has remained within the normal range of 12 - 20 litres per person per day with the exception of the pastoral zones of Baringo, West Pokot and marginal mixed farming zones of Kieni where consumption is currently at 7.5 - 12 compared to the normal 12 - 15 litres. In the mixed farming zones of Kieni, Laikipia, West Pokot and Baringo, consumption is 20-30 litres. Latrine coverage is varies between 46 percent (Kajiado) and 98 percent (Kieni).

2.3.6.4 Markets and Trade

Market operations in the cluster were normal except for a few markets in Baringo and West Pokot, which were closed due to quarantines imposed against Foot and Mouth outbreaks. The prices of maize across the cluster were above the long term average except West Pokot and Narok where their maize prices were Ksh. 26 and Ksh 32 per kilogram respectively. Goat prices across the cluster were above the long term average and ranged from Ksh. 2,400 in Baringo to Ksh. 3,500 in Nyeri.

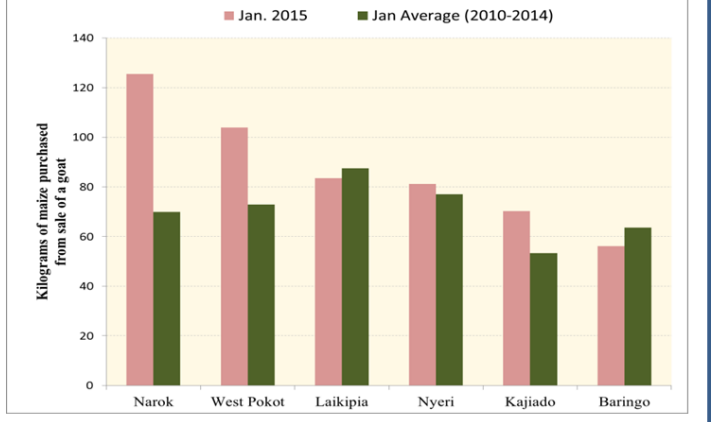

Figure 2.11: Comparative terms of trade in the cluster

The terms of trade are above the long term averages across all the livelihood zones in the cluster with exception of Baringo county where the terms of trade are slightly below the long term average. Households in Baringo are purchasing 56 kilogrammes of maize from the sale of a goat compared to the long term average of 65 kilogrammes of maize as shown in Figure 2.11. Narok County has the most favorable terms of trade where the sale of a goat would purchase 126 kilogrammes of maize compared to the long term average of 59 kilogrammes.

2.3.6.5 Health and Nutrition

3.5.1 Morbidity and mortality patterns

The most prevalent diseases among under-fives and the general population were disease of the skin, upper respiratory infections, diarrhoea, malaria, eye infection and pneumonia. Baringo and Laikipia counties reported eye infection while Kieni reported intestinal worms. There was an increase in morbidity cases compared to last year in all counties with the exception of Laikipia

and Narok where there was a decline of diseases in children under five years old. Typhoid, diarrhea, dysentery and suspected cases of measles increased in West Pokot County by 18, 48, 46 and 46 percent respectively in 2014 compared to 2013. There was no reported case of disease outbreak across the cluster.

The crude and under five death rate across the cluster ranged between 0.03 /10,000 persons per day to 0.24/10,000 persons per day and <0.034 /10,000 persons per day to 0.48/10000 persons per day respectively. The rates were below alert thresholds of 1death per 10,000 persons per day and 2 /10,000 persons per day respectively.

3.5.2 Immunization and Vitamin A supplementation

Fully Immunization Child (FIC) coverage is below the national target of 80 percent except Kieni in Nyeri County. The coverage was between 65 – 75 percent across the cluster and 104 percent in Kieni respectively. Similarly, vitamin A supplementation was below the national target of 80 percent across the cluster except Kieni and Laikipia with coverage of 81 and 89 percent respectively. Narok and Baringo counties had coverage of 53 and 16 percent respectively. The low coverage in Baringo was attributed sporadic insecurity in Baringo North and East Pokot sub counties between August to December 2014.

3.5.3 Nutrition Status and Dietary Diversity

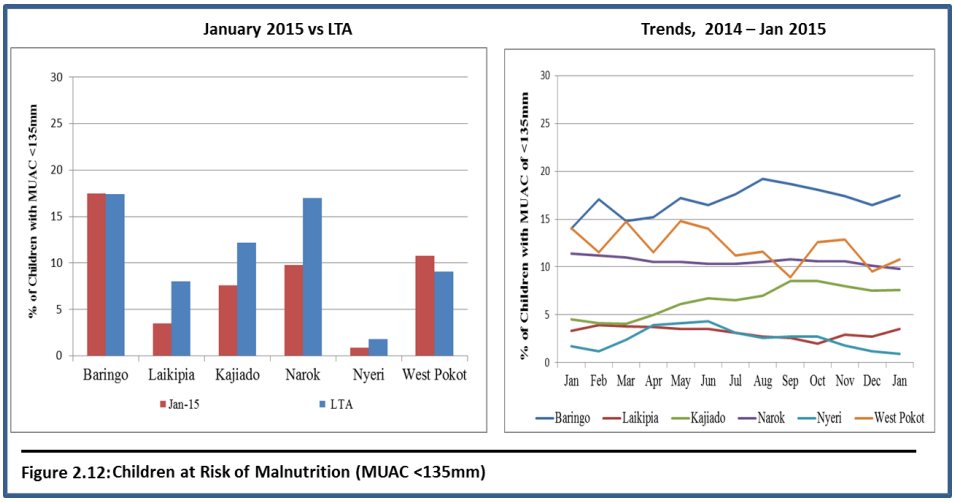

Figure 2.12: Children at Risk of Malnutrition (MUAC <135mm)

The percentage of children at risk of malnutrition by Mid upper Arm Circumference (MUAC) <135mm across the cluster are below the LTA except Baringo and West Pokot counties that are about average. The MUAC trends are generally stable in this cluster as shown in Figure 2.12. Household food consumption was normal in all livelihood zones at 3 - 4 meals a day for mixed farming and 2 - 3 meals a day for pastoral and agro pastoral livelihood zones. The meal frequency for under-fives remained between 3 - 4 meals per day and poor dietary diversity with foods comprising mainly carbohydrates. Household food consumption scores compared to December 2013 showed a general food security improvement across the cluster.

2.3.6.6 Education

There was a general increase in enrolment across the cluster. The enrolment of boys was slightly higher than that of girls across the cluster with Narok, Laikipia and Kieni counties recording a near gender parity in their enrolment data. The dropouts were generally low across the cluster with the lowest at one percent being recorded in Narok and the highest at five percent in Kajiado. The dropouts were mainly attributed to early pregnancies, early marriages, drive for casual jobs

due poverty at households among other factors across the cluster. The transition rate from ECDC to primary schools were much higher compared to primary to secondary for all the counties due to limited secondary schools within the cluster. All the counties has had transition rates from primary to secondary above the national average of 70 percent except for Laikipia which had 65 percent. There was Home Grown School Meals Programme implemented within the cluster though not in all public primary schools. The programme was in selected schools in the cluster characterized with food insecurity and low educational participation. The HGSM programme is said to have contributed to increased enrolments, attendance, completion rates and performance among other factors.

2.3.7 Coping Mechanisms

The Coping strategy Index (CSI) for the agro pastoral cluster indicate that households were engaging in consumption coping strategies less frequently in December 2014 compared to the same period the previous years with an exception of Kajiado and Narok counties where they were using the strategies more frequently. CSI for West Pokot, Baringo, Laikipia and Nyeri (Kieni) counties was 21 in December 2014 compared to 25 in Dec 2013.

2.4 The Southeastern Marginal Agriculture Livelihood Cluster

2.4.1 Cluster Background

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

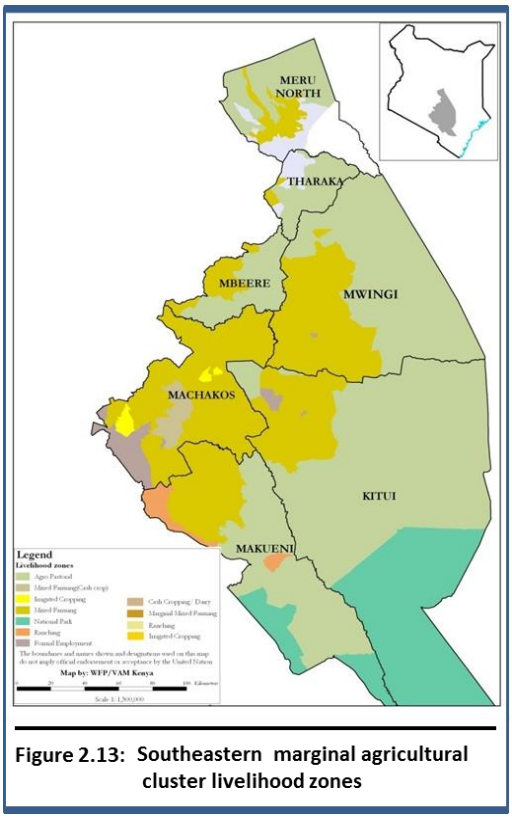

Figure 2.13: Southeastern marginal agricultural cluster livelihood zones

2.4.2 Current Factors Affecting Food Security

Main factors affecting food security are poor performance of the rains, poor quality pasture, low livestock prices, resource based conflicts, use of uncertified seeds, high food prices, diminishing water sources and livestock diseases.

2.4.3 Cluster Food Security Situation

2.4.3.1 Current Food Security Situation

The current food insecurity phase classification is *Non/minimal* (IPC Phase 1) with an exception to Kitui County and Marginal mixed livelihood zone of Mbeere, Meru North and Makueni Counties which are *Stressed* (IPC Phase 2). Performance of the short rains was below normal resulting in reduced maize production of 70 to 80 percent, compared to the long term average. Market prices for cereals (maize) are currently on the rise. Maize prices range between Ksh. 28 to Ksh. 35 which is higher than the Long Term Average (LTA) of Ksh. 25 to 30. Meal frequency has reduced to 1-2 meals per day in the Marginal Mixed Farming livelihood zone compared to three meals normally. In Mixed Farming zones, consumption was within normal at 2-3 meals per day. Pasture and browse were fair to good. Water consumption was at 10 to 20 liters per person per day (lpppd) except in some pockets of marginal mixed farming zones of Kitui County which recorded 10 liters pppd. The proportion of children at risk of malnutrition as measured by mid upper arm circumference (MUAC < 135 mm) is stable at 5 to 10 which was below normal of 8 to 15 with an exception of Meru north recording 16 percent.

2.4.3.2 Food Security Phase Classification

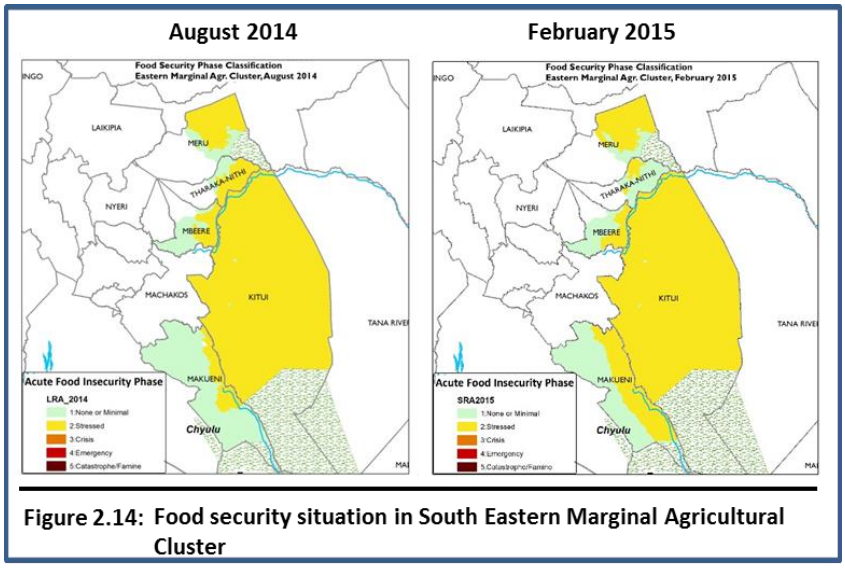

Figure 2.14: Food security situation in South Eastern Marginal Agricultural Cluster

The food insecurity phase classification after the 2014 long rains assessment for each livelihood zone was minimal phase for the Rain Fed Cropping areas in Mbeere, Makueni and Tharaka. However, the Marginal Mixed Farming Livelihood Zones remained at "stressed" (Phase 2) except for Makueni. The Short rains, 2014 food insecurity phase classification for the cluster is in *Stressed* (Phase 2) with exception of Rain Fed and Mixed Farming zones of Meru North, Marginal Mixed Farming zones of Tharaka , Mixed Farming zones of Mbeere and Makueni all of which are at *Non/Minimal* (IPC Phase 1) as shown in (Figure 2.14). The stability of the food security phase will be highly dependent on the performance of the next rain season. Water consumption ranges was 10 to 20 liters per person per day (pppd) except in some pockets of the marginal mixed farming zones of Kitui County which registered below 10 liters pppd as compared 10 to 25 liters pppd in August 2014. Milk availability improved at an average of 1-3 liters across all livelihood zones as compared to 0.25 - 1.5 liters in August, 2014. Distances to water sources increased by 20 to 30 Percent. The percentage of children at risk of malnutrition rates remained the same as reported in August, 2014 except for Meru North Sub county which had 16 percent compared to 21percent in 2014. The under-five mortality rate has remained below 1/10,000/ day.

2.4.4 Rainfall Performance

The onset of the short rains varied in different counties; in Makueni and Meru it was timely in the first dekad of October while in Kitui and Embu it was late. In Tharaka Nithi there was a false start in the second dekad of October that was followed by a dry period to the last dekad of the month. The rains resumed in the first dekad of November followed by another dry period. Spatial distribution was uneven while temporal distribution was poor. Embu County received between 50 and 75 percent of the normal. Larger parts of Makueni and Tharaka Nithi received between 50 and 70 percent of the normal while larger part of Meru received below 25 percent of the normal. The cessation of the rains was earlier than normal across the cluster.

2.4.5 Current shocks and hazards

Current shocks and hazards include resource-based conflict in Meru, Tharaka Nithi and Embu, illegal abstraction of rivers by upstream users in Tharaka Nithi and poor performance of short rains. Livestock diseases included New Castle Disease, CCPP, Foot and Mouth Disease (FMD), Lumpy Skin Disease (LSD).

2.4.6 Impacts of Rainfall Performance, Shocks and Hazards

2.4.6.1 Crop Production

The short rains are the main season for crop production accounting for about 70 percent of annual production. The main crops grown are maize, green grams and cowpeas. The area under maize reduced by about three percent of the LTA due to poor rainfall performance. The area under sorghum and green grams increased by 10 and three percent of LTA following campaigns on adoption of early maturing crops, drought tolerant crops and promotion of Gadam sorghum as a cash crop (Table 2.1). Projected yields of 64 percent for maize, 50 percent for beans and cowpeas respectively to the LTA was reported.

Table 2.1: Rain fed crop production

Rain fed Crop	Area planted during 2014 Short rains season(Ha)	Long Term area (Ha)	2014 Short rains season production (90 kg bags) projected/Actual	Long Term Average production during the Short rains season (90kg bags)
Maize	171,648	179,841	824,084	2,322,568
Sorghum	96,269	87,549	287,823	48,4474
Green Grams	81,743	79,043	246,678	56,3526

The total area under irrigation increased by 58 percent from 2,120 Ha to 3,359 Ha attributed to establishment of irrigation schemes in some counties and adoption of green-house technology especially for tomato production. The three main crops grown under irrigation are tomatoes, kales and bananas covering an area of 454 hectares for tomatoes and kales, and 1,365 hectares for bananas. Other crops grown under irrigation are paw paws and maize covering an area of 422 hectares and 570 hectares respectively.

Following the poor rainfall performance maize stocks held are 44 percent below the LTA. (Table 2.2) The stocks currently held by households are 14 percent of LTA while traders' stocks are about 20 percent higher than the LTA. The National Cereals and Produce Board (NCPB) are

currently holding about 76 percent of LTA. The stocks held by millers increased by 96 percent of LTA. Available stocks are expected to last for 2-3 months compared to 4-7 months normally.

Table 2.2: Maize stocks held

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags)at similar time of the year
Households	35,014	242,764
Traders	131,594	109,300
Millers	29,220	14,900
NCPB	36,519	47,400
Total	**232,347**	**414,364**

2.4.6.2 Livestock Production

The body condition for cattle, goats and sheep ranges from good to fair. Pasture and browse situation was fair in Mbeere, Makueni, Meru and Kitui and good in Tharaka. Available fodder was supported by crop residues from the farms and is expected to last for 1-2 months in Mbeere and Makueni, 2-4 months in Rain Fed livelihood zone in Meru and until the onset of the long rains in Tharaka. The birth rates remain normal for all the livestock species. Milk is available but the production is approximately 50 percent below normal. In Meru and Tharaka, production per household ranged from 1-3 litres compared to 3-6 litres normally while in Mbeere, Kitui & Makueni it ranged from 0.5- 1 liters compared to two liters normally. The price per liter in Makueni and Mbeere was Ksh 40-50 up from Ksh.45-60, in Tharaka the farm gate price was stable at Ksh.40 per litre while in Meru the price reduced from Ksh.60 to Ksh.45 in Rain Fed livelihood zone.

Water for livestock is available in the normal sources and the frequency of watering is daily or once in two days and the distances to water points are gradually increasing. In Tharaka, abstraction of water upstream in the neighbouring county of Meru has led to low flow downstream leading to inadequate supply. There was normal internal migration of livestock in Mbeere to the hills of Kiangombe, Kanjiru and Kiambere and in Meru to Elat. Livestock migration has been reported from Tana River County in to Kitui County through Ngomeni and Tseikuru wards in Mwingi North, Endau ward in Kitui East, Mutha ward in Kitui South and Nuu ward in Mwingi Central which are the normal migratory routes. Camels were reported to be migrating from Isiolo to Meru. Confirmed sporadic cases of Foot and Mouth disease (FMD), Lumpy Skin disease (LSD) were reported across the cluster. However, it's only in sections of Mbeere, Makueni and Meru North where a quarantine has been imposed. In Makueni 30 cattle and 67 goats were reported to have died from Pestis de Pestis and Rift Valley Fever Disease.

2.4.6.3 Water and Sanitation

Major sources of water for domestic use are rivers, boreholes, pans/dams, rock catchment, shallow wells, springs and piped water systems. Distances to water sources are normal at 1-5 km except in the Marginal Mixed Farming livelihood zones of Meru North which are at 10-12 km compared to 6-8 km normally. However households in Ukasi-Nguni ward (Kitui) was experiencing severe water stress with households trekking 15km to 20km to Ukasi borehole. Waiting time at the source is within the normal range of 30-60 minutes except in Mukuyuni and Kalata areas of Makueni where it was five and four hours respectively due to breakdown of the

main water supply. The current water consumption is 10-25 liters pppd compared to the normal 25-30 litres, with the exception of the Marginal Mixed farming zone of Kitui at eight litres. The cost of water is within the normal ranges across the livelihood of Ksh.3-5 per 20 liter jerican except marginal mixed farming of Tharaka, Mbeere and marginal mixed farming of Meru North where the cost ranged from Ksh.20-30. Households have not embraced fully the use of water treatment methods and it stands at 10 percent. Latrine coverage ranges from 70-85 percent. However, in Kitui, Tseikuru ward latrine coverage is at 30 percent.

2.4.6.4 Markets and Trade

The main markets operations in the cluster continued without disruptions. However Kibwezi market (in Makueni) was under quarantine due to Foot and Mouth disease. The new ministerial directive to package produce in 50 kilograms bags also led to disruption of Laare and Mutuati markets in Meru North. Maize prices decreased between August 2014 and January 2015. The price of maize was highest between August to October for Meru North and December for Mbeere compared to the cluster averages and prices in other Counties (Figure 2.15). Kitui recorded the lowest maize prices for October 2014, November 2014 and January 2015. The maize prices remained above the cluster averages except for Makueni, Tharaka and Kitui in the months between August 2014 and January 2015

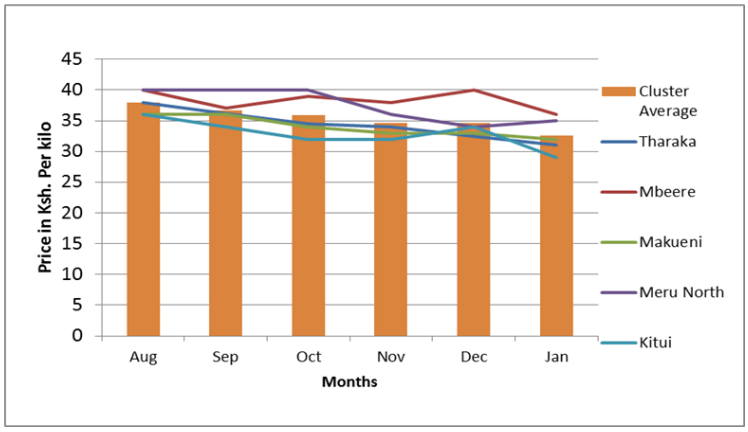

Figure 2.15: Comparative maize price trends in the cluster

2.4.6.5 Health and Nutrition

2.4.6.5.1 Morbidity and mortality patterns

The morbidity prevalence among children under five years are Upper Respiratory Tract Infections (URTIs), diarrhea, malaria, pneumonia and skin diseases. Prevalence of intestinal worms was also reported in Meru North and Kitui. The major diseases among general population include; URTI, clinical malaria, diarrhea, skin diseases, and Urinary Tract Infection (UTI). Diarrhea cases increased in 2014 compared 2013 in Meru North and Makueni and this was attributed to low adherence to water safety and poor hygienic practices.

2.4.6.5.2 Immunization and Vitamin A supplementation

Fully Immunized Child (FIC) coverage was below the national target of 80percent and varied from 45.8 to 78 percent, with exceptional of Embu 88.7 percent. Routine Vitamin A supplementation coverage for children six to 59 months was below the national target of 80 percent. The decline in coverage was attributed to documentation gaps across the counties and cultural beliefs by communities in parts of Kitui whose faith don't allow them to go to the health facilities.

2.4.6.5.3 Nutrition Status and Dietary Diversity

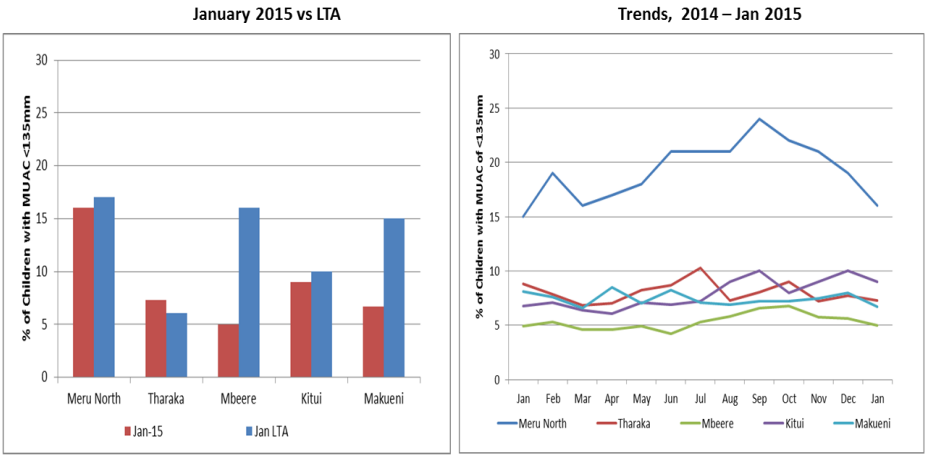

Figure 2.16: Children at Risk of Malnutrition (MUAC <135mm)

The percentage of children under five at risk of malnutrition based on MUAC less than 135mm remained stable. In January 2015 MUAC rates were above LTA in Tharaka (Figure 2.16). Admissions to the Integrated Management of Acute Malnutrition (IMAM) programme in Kitui increased. Current meal frequency is between one to three meals per day as compared to the normal of three to four meals per day. This can be attributed to poor yield and limited sources of income. The meals had low dietary diversity of 2-3 food groups consisting of cereals, pulses and vegetables. The diet consumed for the 6-23 months consists of mainly starches, for example maize meal porridge, mashed potatoes, pumpkins and bananas.

2.4.6.6 Education

Increased enrolment was recorded in all counties in both primary and early childhood development centers (ECDCs) except Kitui, which recorded a decline in enrolment of four percent. Dropout rates were minimal across the counties and the cases recorded are attributed to child labour (search for casual jobs) to cushion family incomes, early marriages, unwanted pregnancies, and other more cherished cultural roles within different communities. The transition rates were higher from ECDC to primary in the range of 80 to 99 percent with Kitui recording the highest within the cluster. Transition from primary to secondary was in the range of 60 to 88 percent with Makueni recording the highest in the cluster. The Government supported Home Grown School Meals Programme is being implemented across the cluster except Meru North. It is reported that the school meals programme has contributed to increased enrolment, attendance, retention, completion rates and improved performance.

2.4.7 Coping Mechanisms

The coping strategy index was 23 in December 2014 compared to 20 (Sep 2014) and 17 (Dec 2013) which implied they were employing consumption-based coping strategies more frequently. Some strategies included reduction of meals in quantity and quality, increased engagement in casual labour, charcoal burning, borrowing, sale of firewood and consumption of less preferred but cheaper foods.

2.5 The Coastal Marginal Agricultural Livelihood Cluster

2.5.1 Cluster Background

The cluster is located in the south most tip of Kenya. It covers an estimated area of about 47,861 square kilometers, with a population of 2,182,554 persons, and consists of Kwale, Kilifi, Lamu and Taita Taveta Counties. Major livelihood zones in the cluster include; Mixed Farming (60 percent of population), Trade/Business/Formal employment/Casual labour (21 percent), Marginal Mixed Farming (11 percent) and others 8 percent) Figure 2.17. Major source of income for the livelihoods are livestock production representing 40 percent of total household income, crop production and waged labour accounting for 30 percent respectively. .

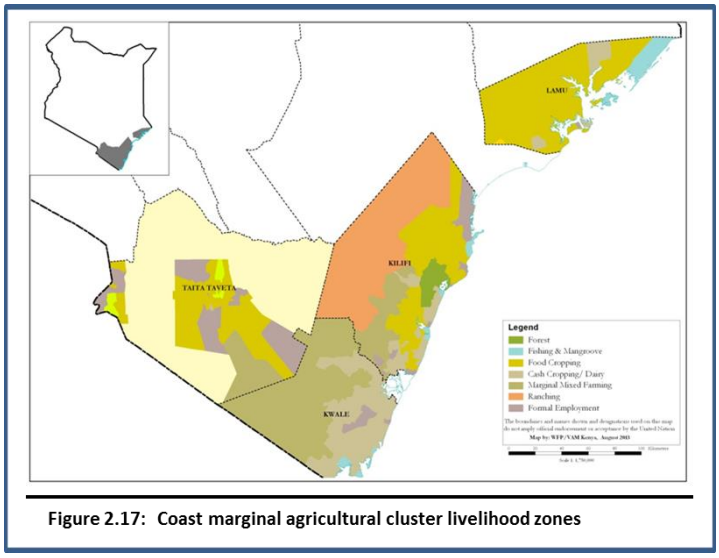

Figure 2.17: Coast marginal agricultural cluster livelihood zones

2.5.2 Factors Affecting Food Security

The main factors affecting food security are poor performance of the short rains especially in Taita Taveta, high food prices, insecurity that affected markets especially in Lamu, poor post-harvest management practices, human wildlife conflict, collapse of the tourism industry reducing remittances for rural households.

2.5.3 Cluster Food Security Situation

2.5.3.1 Current Food Security Situation

The current food insecurity phase classification for the cluster is *Non/Minimal* (IPC Phase 1) with an exception of ranching livelihoods in Kilifi, Parts of Kwale boardering Taita Taveta and Taita Taveta Counties which are *Stressed* (IPC Phase 2).The performance of the short rains was normal however, both temporal and spatial distribution was poor resulting in maize production deficit of 35 to 45 percent, compared to the long term average. Maize prices in the cluster are on an increasing trend owing to minimal household stocks and increasing dependency on the markets with prices ranging from Ksh.30 to Ksh.35 in comparison to a range of Ksh.25 to 30. Households in the cluster were on average consuming one to two meals per day in comparison to the normal three. Rangeland conditions, water, pasture and browse, were fair to good and were favourably comparable to normal across the cluster. Water consumption is at 15 to 20 litres per person per day with an exception of Lamu and Kilifi counties which records 10 to 15 litres per person per day. The current terms of trade have improved with households purchasing 80 to 110 kilograms of maize from sale of a goat as of January, 2015 in comparison to a normal range of 60 to 80.The proportion of children at risk of malnutrition as measured by mid upper arm circumference (MUAC < 135 mm) is stable and slightly below the normal LTA. Currently the

normal insurance coping mechanisms are being employed and there are no unusual disease outbreaks and mortalities across the cluster

2.5.3.2 Food Security Phase Classification

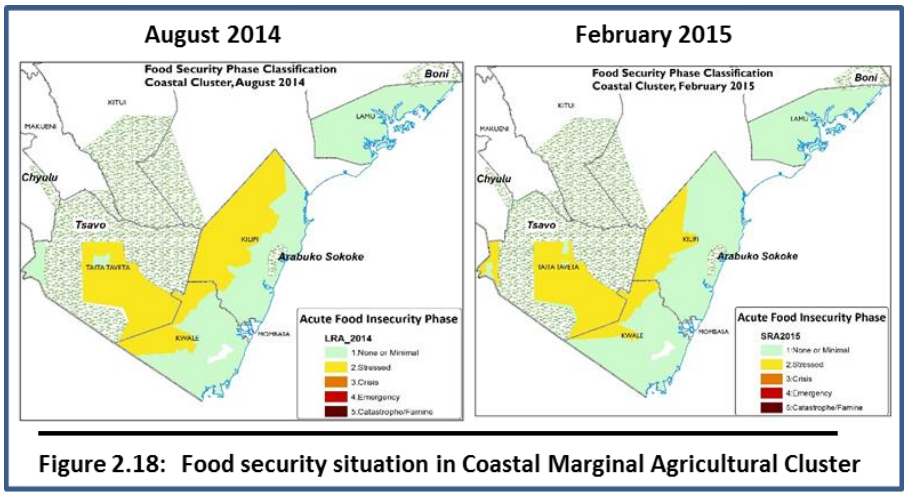

Figure 2.18: Food security situation in Coastal Marginal Agricultural Cluster

The food security situation has slightly improved compared to the long rains of 2014, the cluster was in minimal Phase excluding Taita Taveta and some pockets of Kwale and Kilifi which were in *Stressed* phase (IPC Phase 2), currently the cluster remains in the *non/Minimal* (IPC Phase 1) with an exception of parts of Kwale boardering Taita Taveta, Parts of Kilifi and Taita Taveta Counties which are *Stressed* (IPC Phase 2) as shown in (Figure 2.18). Water consumption remained favourably comparable at 15 to 20 litres per person per day with an exception of Lamu and Kilifi counties which records 10 to 15 litres per person per day in comparison to August which was 17 to 30 litres per person per day. Livestock productivity has remained stable as evidenced by milk availability by an average of one to three litres across all livelihood zones as compared to average of one to two litres in August, 2014. Milk prices have marginally increased by about 30 percent as compared to August, 2014. In January of 2015, one medium sized goat was exchanged for 80 to 110kilograms of maize compared to 70 to 90 kilograms in August, 2014. Distances to water sources across the cluster maintained a stable trend of one to four kilometres .The proportion of children 'at risk' (MUAC<135mm) of malnutrition in January 2015 has remained within seasonal norms. The under-five mortality rate has remained below 1/10,000/ day.

2.5.4 Rainfall Performance

The onset of the short rains was timely in the second week of October across the cluster except for Kilifi where the short rains were characterized by a false start in the first dekad of October followed by a dry spell until the first dekad of November and peaked in the first dekad of December. Larger parts of Taita Taveta and Lamu received between 50 and 90 percent of the normal. Kwale and part of Kilifi County received above 100 percent of the normal while and others parts of Kilifi receiving below 75 percent, the county had some parts receiving between 200 and 350 percent of the normal. Spatial distribution was uneven while temporal distribution was poor within the clusterr. The cluster experienced early cessation except for Lamu where cessation was normal in the last week of December. The rest had early cessation in the first week of December.

2.5.5 Other Shocks and hazards

The Coastal Marginal Agricultural cluster has faced insecurity issues that have resulted in a decline in tourism leading to loss of jobs and remittances to households. Others include

insufficient recharge of water sources for both livestock and humans due to poor short rains performance across the cluster, human-wildlife conflict, deteriorating condition of pasture across the cluster, human and livestock disease outbreaks, increased cases of diarrhea and malaria; and low food stocks at household level in Taita Taveta.

2.5.6 Impact of Rainfall performance, Shocks and Hazards

2.5.6.1 Crop production

The long rains are the main season for crop production in the cluster. Crop production contributes 10 – 20 percent of cash income in the cluster. Main crops grown are maize, cow peas and green grams. Overall area under crops increased by 11 percent of the LTA with increase in area for maize being 26 percent, cowpeas 96 percent and green grams at 77 percent. Production declined by 35, 14 and 19 percent for maize, cowpeas and green grams respectively.Other food crops grown are beans and cassava covering an area of 731 and 2532 hectares respectively. Production realized from beans and cassava was 8,310 bags and 45,589 metric tons respectively.

The main crops grown under irrigation include tomato, kales and amaranthus. The area under irrigation increased by 14, 60 and 10 percent of the LTA for tomato, kales and amaranthus respectively. Production was 60 percent of LTA for tomatoes and 149 percent of LTA for kales and 201 percent for amarunthus. The overall maize stocks in the cluster have increased by eight percent of LTA, attributed to good performance of the Long rains. Households and NCPB are holding 25 and 10 percent more than their LTA stocks, while traders and millers have 80 and 88 percent of their LTA stocks

2.5.6.2 Livestock Production

Pasture condition was fair to poor across the livelihood zones in the cluster with the exceptions of Kwale where pasture condition was good. This is expected to last for one to two months instead of two to three months. Browse condition is fair across the cluster and expected to last for next two months. Crop residues (maize stovers) were being utilized in Taita Taveta as alternative livestock feeds. Body condition of cattle, sheep and goat is good to fair across the cluster and is expected to last for two to three months. Milk availability ranges from one liter to three liters per day with eight liters being produced by dairy herd in Taita Taveta. Household milk consumption ranges from half a liter to two liters per day. In Taita Taveta, Kilifi and Lamu Counties, milk was sold at Ksh.35-50 per liter compared to normal of Ksh.30 while in Kwale, milk prices was Ksh.60 per liter compared to normal of Ksh.50 per liter. Milk prices in Lamu, Fishing/Mangrove livelihood zone and Kwale especially in Msambweni, Lungalunga and Matuga sub counties was highest ranging at Ksh.60-80 per liter compared to normal of Ksh.50 per liter. Water access for livestock in the cluster remained normal.

Low livestock migrations observed in Lamu from Tana River and Garissa Counties due to perceived insecurity and curfew while in Taita Taveta, in migration of livestock was reported especially in the Mixed Farming (Crop/Livestock) livelihood zones from Kajaido and Tana River Counties through Mackinon along Taita ranches bordering Kwale. Foot and Mouth Disease outbreak was reported in Galana Ranch in Kilifi County. Other diseases such as Contagious Caprine Pleuropneumonia, Newcastle Disease, Fowl Coryza, Fowl Pox, Coccidios Trypanosomiasis, Sheep and Goat pox, Contagious Bovine Pleuropneumonia, Anaplasmosis and

worm infestations have been reported across the cluster. Preventive measures, vaccination and diseases surveillance have been on going.

2.5.6.3 Water and Sanitation

The main sources of domestic water were boreholes, springs, pans/dams, shallow wells, piped water, roof and rock catchments across the cluster. *Djabias* are reliable water sources in Lamu. Open water sources were recharged to 50-70 percent of their capacity. About 50 percent of pans in Lamu, Kilifi and Taita Taveta have dried up and the remaining pans are expected to last for one month. However, over 70 percent of pans in Kwale have water expected to last for between two to three months. Distances to domestic water sources in the Mixed and Marginal Mixed zones of Lamu and Mixed farming (food crop, horticulture and Dairy, irrigated) zones of Taita Taveta range from 0.5km – 1km while in other parts of the cluster, distance range from 1-2km. However, Mwenza Mwenye, Vitsangalaweni, Mteza and Kifusini areas in Kwale County, households are trekking for 4 – 6 km to fetch water. Kiunga in Lamu is relying on water trucking as the nearest water source is 15 km away. Waiting time at water sources was between 10 to 30 minutes across the cluster. Bura, Kasigau, Marungu and Ngolia areas in Kwale, households have to wait for up to one hour while Mwakitau in Taita Taveta, it takes up to six hours to collect water.

Cost of water ranges between one to five shillings per jerry can across the cluster. However, in the fishing and mangrove livelihood zone of Lamu and Gongoni, Marereni, Mryachakwe and Mrima wa Ndege in Kilifi, water cost Ksh. 10 - 20 per 20 liters jerry can. Domestic water consumption ranges from 10 to 20 liters per person per day across the cluster. Water treatment at household level is below 30 percent mainly either by boiling or use of water treatment chemicals though many households cannot afford to buy treatment chemicals. Water treatment chemicals are available at household level in Kilifi although they are largely not acceptable because of the smell and taste. Latrine coverage across the cluster ranges between 50 to 76 percent. It was noticed that some of the villages such as Mteza and Kifusini in Mwereni have no a single toilet. Though no water borne disease outbreak has been reported, few cases of Malaria, Bilharzia and Diarrhea have been reported in most part of the cluster. Main source of water contamination is open defecation and sharing of same sources of water with livestock and wildlife.

2.5.6.4 Markets and Trade

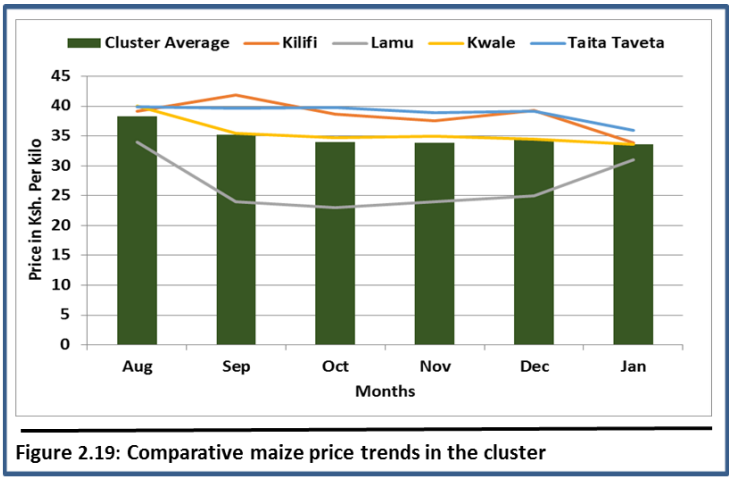

Figure 2.19: Comparative maize price trends in the cluster

The main markets in the cluster were; Mpeketoni, Witu, Hindi and Mokowe while in the fishing and mangrove livelihood, are Faza and Kiunga. Wundanyi, Mwatate, Voi, Chumvini and Taveta. Bamba, Guru Guru, Mariakani, Kanagoni and Kayafungo while those for food include Kilifi, Mtwapa, Kaloleni, Mariakani, Malindi and Gongoni Samburu, Malomani, Vigurungani, Mwakijembe, Kinango, Taru and Mwangulu. No Market disruptions

were noted. Demand is high for the main dietary items for the households.

The price of maize in the cluster ranged from Ksh.31 per kilogram in Lamu County to Ksh.46 per kilogram in Taita Taveta. Prices were on a downward trend in August and September, 2014 and picked again in December and January 2015 (Figure 2.19). Except for Lamu County, maize prices within the rest of cluster remained above LTA. Goat prices across all the counties in the cluster in December 2013 ranged between Ksh.2,036 in Kilifi and Ksh.3,500 in Taita Taveta County. The trend for goat price from January to December was marginal increase across the cluster with prices fluctuating between Ksh.2,069 in August 2014 in to a maximum of Ksh.3,500 in January

2.5.6.5 Health and Nutrition

Morbidity patterns for both the under-fives and the general population were similar across the cluster with upper respiratory tract infections (URTI), diarrhea, skin infections, clinical malaria and pneumonia reported as the most prevalent diseases. Malaria and diarrheal diseases increased in Kwale, Kilifi and Lamu attributed to more mosquito breeding sites, low usage of bed nets and low latrine coverage. 2014 had more diarrhea cases compared to 2013 due to water shortages and inadequate water treatment tablets. A measles outbreak was reported in Kiwandani in Kilifi and four cases were confirmed. There was a confirmed case of Rift valley fever in Ramada in Malindi. Mortality information for Kilifi and TaitaTaveta County showed the under-five Crude Mortality rates was 0.048 and 0.13/10,000 persons /day respectively and were below the alert thresholds.

Fully immunized child coverage was 38, 77, 81 and 82.9 percent in Lamu, Kilifi, Kwale and TaitaTaveta respectively. Coverage improved compared to 2013 but still below the national target of 80 percent. Routine Vitamin A supplementation coverage for children aged six to 59 months was below the national target though higher than 2013. Improved coverage is attributed to Malezi Bora activities and integrated outreach services. The percentage of children under-fives at risk of malnutrition (MUAC<135mm) across cluster was low and stable (Figure 2.20).

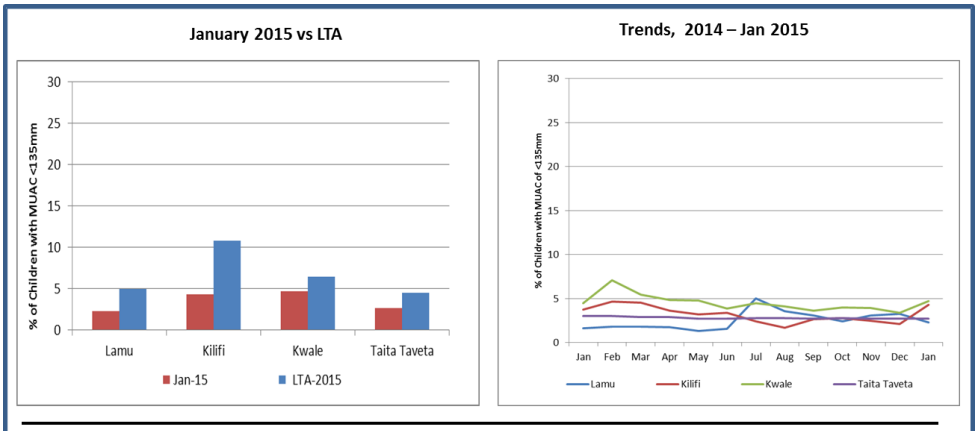

Figure 2.20: Children at Risk of Malnutrition (MUAC <135mm)

Food consumption across the cluster reduced to between one to two meals per day in the Food Cropping; Marginal Mixed and Livestock livelihood zones and two to three meals per day in the Mixed and Cash Crop livelihood zones. The meals in the Livelihood zones comprise of three to four food groups mainly cereals, pulses and vegetables except in the Livestock farming zone where they take no vegetables and reduced quantities of protein. Admission of underweight

children and those admitted under supplementary feeding program (SFP) has shown a stable trend than admissions of 2013.

2.5.6.6 Education

There was a slight increase of 0.1 to 1.9 percent in enrolment between term two and three 2014 in the cluster except for Taita Taveta. Even though there were more boys than girls across the cluster, Kwale and Lamu had almost near gender parity with a ratio of 51: 49 of boys to girls respectively. There was an improvement in attendance in term three with Taita Taveta recording the highest percent. In general the dropout rates were minimal in all the Counties within the cluster, the isolated cases were attributed to early marriage, unwanted pregnancies, rush for casual jobs to cushion family income among other factors. Transition rates from ECDC to primary were generally high in the range of 90 to 100 percent while from primary to secondary was in the range of 30 to 85 percent. Lamu sub-county had the lowest transition rate of 30 percent (Primary to secondary) which is below the national average of 74 percent attributed to limited secondary schools within the County. The Home Grown School Meals Programme is implemented in all the Counties across the cluster. School Meals Programme is also provided by Njaa Marufuku Kenya (NMK) a project of Ministry of Agriculture to selected four schools per sub-county across the cluster.

2.5.7 Coping Mechanisms

The mean coping strategy score across the cluster in the month of December 2014 was 18, as compared to 13 and 15 in September 2014 and December 2013 respectively. Households were employing consumption related coping strategies more often compared to the same period in the previous year. The common insurance coping strategies employed by households across the cluster included reduction in number and meal rations, skipping of meals and consumption of less preferred foods.

3.0 Food Security Prognosis

3.1 Prognosis Assumptions

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

- The March to May long rains are likely to have a late onset, be near average in cumulative amounts and have erratic distribution both in space and time.
- Hotter than normal conditions, are likely during the January – March period along the Eastern Horn of Africa. Heat waves and dust storms likely to be more, especially in the northern parts of the country.
- Rangeland resources are expected to deteriorate faster than normal during the January to March dry season, due to the below normal short rains the previous season.
- Continued importation of maize from Uganda and Tanzania is expected through June. Maize prices are expected to marginally increase from January through June though ample supplies will ensure price increases are not unseasonable or particularly large.
- Fuel prices are expected to continue decreasing through April, driven by the expected continued fall in international crude oil prices. Declining fuel prices are expected to drive transportation and energy costs down, eventually further reducing the consumer inflation rate. Prices of a broad range of products are likely to fall, increasing household purchasing power.
- Casual labor opportunities and wages in marginal agricultural areas is expected to marginally increase in early March as households begin land preparation and planting for the 2015 long rains.
- Humanitarian assistance by the national government, county governments, and other agencies is expected to increase and widen in scope between January and June as agencies respond to increasing needs.

3.2 Food and Nutrition Security through August 2015

The higher than average land surface temperatures expected to prevail through end of March will increase the rate of depletion of rangeland resources in the pastoral and agro pastoral areas. Due to the declining forage and water availability, livestock productivity is set to continue declining through April as livestock health deteriorates. With the livestock prices expected to decline through April, a combination of decline in livestock income and increase in cereal prices is likely to result in decline in livestock to cereal terms of trade, further limiting household food access. Decreasing water availability will likely result in increased water prices and further constraint the household purchasing power. Recurrent outbreaks of contagious livestock diseases with increased clustering of weakened livestock around water points, and conflicts over grazing resources are likely to be escalated. Households are likely to use poor quality or contaminated water, resulting in increased disease incidence, and subsequently, poor food utilization and an increasing number of malnutrition cases through March. With less income, household food

consumption will be reduced. Though majority of households will remain Stressed (IPC Phase 2), except for areas currently in Crisis, more poor pastoral households in parts of Wajir, Turkana, and Garissa are likely to slide to crisis by March. Nonetheless, in the marginal agricultural areas, households are expected to remain in stressed (IPC Phase 2) through March (until onset of the long rains).

The 2015 long rains have been forecasted to be near-normal in cumulative amount, with a late onset. This is likely to bring moderate relief to households from April onwards. The long rains will lead to regeneration of pasture, browse, and recharge water points to support kidding, lambing, and calving. Livestock will likely return to the wet season grazing areas. Livestock body conditions, milk availability, and livestock prices will most likely track the availability of pasture and browse, decrease through March and increasing from April through June. Household food access will track livestock prices, decreasing through April and increasing from May through June. Importantly though, households' recovery may be hampered by successive previous season failures, which could require more than one good season for substantial recovery. Through August, households are expected to have improved food security conditions, and be in *stressed* (IPC Phase 2), including those who were previously in *crisis* (IPC Phase 3). However, if the 2015 long rains are significantly below normal and poorly distributed in space and time, food security conditions are likely to deepen both in the pastoral and marginal agricultural areas, with possibilities of more households especially those in the *stressed* (IPC Phase 2), getting in to the *crisis* (IPC Phase 3), through August 2015. The importance of monitoring closely the performance of the coming long rains cannot be overemphasized, as it will be key in determining how food security outcomes evolves over the next six months.

4.0 Proposed Sectoral Interventions

4.1 Agriculture Sector: Priority Interventions March 2015 – August 2015

Frequent erratic and poor performance of the rains in the ASAL areas is largely responsible for low agricultural production. The efforts of different organizations and agencies have been to secure the areas for a more sustained productivity within the fragile ecosystem and low rainfall amounts. A more sustainable way to improve productivity in the areas of the ASAL counties is to put resources into irrigation activities. The need has been identified within the County Integrated Development Plans (CIDPs) but will take time to be realized. In the meantime, provision of seeds and some inputs and a clear pest management strategy will be necessary. The few interventions identified for the coming season include the following:

Intervention	Counties	Cost in Ksh (M)
Upscale provision of subsidized inputs	Laikipia	144
Post- Harvest management, management of the Maize Lethal Necrosis Disease (MNLD),	Baringo, Narok, West Pokot, Tana River, Isiolo, Wajir	10
Promotion of Traditional High Value Crops and drought tolerant crop seeds	Kilifi, Lamu, Kwale, Taita Taveta, Kajiado, Narok, West Pokot, Makueni, Embu, Garissa, Isiolo, Tana River, Wajir	281
Promote on-farm water harvesting	Kilifi, Taita-Taveta,Tharaka	72
Up scaling of water harvesting for crop production(water pans)	Makueni, Kitui	70
Post harvesting management	Tharaka	21
Total		**598**

4.2 Livestock Sector: Priority interventions March 2015 – August 2015

Within the pastoral areas, livestock production is the main occupation that support livelihoods. The current short rains did not particularly perform well. There was normal onset, but poor temporal and spatial distribution. The resultant effect was very poor availability of pastures and browse in most areas immediately after cessation. Livestock migrations have been witnessed in most counties but only within normal dry season grazing areas. There are chronic issues in the ASAL areas that have led to poor rangeland management and are always aggravated by poor seasonal rainfall performances. As a result of the dry conditions prevailing, water availability is deteriorating with strategic boreholes also experiencing low yield and thus making it difficult to support livestock activities. It is expected that the long rains will be near average and hopefully reduce the pressure on the little pastures available. The assessment recommends a number of measures to be undertaken to mitigate on possibilities of extreme condition. These include the following:

Intervention	Counties	Cost in Ksh (M)
Livestock vaccination and disease surveillance	Narok, Baringo, Kajiado , West Pokot,Nyeri, Kilifi, Kwale ,Taita-Taveta, Lamu, Turkana,Samburu, Garissa, Wajir	142
Reseeding of grazing areas	Baringo, West Pokot, Kwale, Taita-Taveta, Lamu	15

Livestock supplementary feeding	Turkana,Marsabit, Wajir	60
Destocking of Livestock	Turkana, Marsabit, Girassa, Tana River, Wajir	95
Maintenance of boreholes for livestock	Wajir	4
Livestock vaccination against FMD, LSD, RVF, PPR	Meru County, Mbeere,Makueni	6
Total		**322**

4.3 Water Sector: Priority interventions March 2015 – August 2015

The open water sources were not sufficiently recharged to sustainable capacity in areas that received below normal short rains. As a result, trekking distances and unit cost of water have increased in several parts of the pastoral, agro pastoral and marginal mixed farming livelihoods. Pressure has begun building up on permanent water sources, such as boreholes and shallow wells. Furthermore, quality of available water in the unprotected sources including pans and dams is generally poor suggesting appreciable contamination. As a result, water consumption per person per day has reduced and for some households are below recommended thresholds. Consequently, in some of the most affected areas, water trucking has started as an immediate measure. However, this is very costly and not sustainable and targeting is nonexistent. There is need to invest in medium to long term sustainable development of water structures that would ensure continuous availability of water to vulnerable households. In preparation for the upcoming long rains season there is also need to develop and rehabilitate existing water structures and desiltation of pans and dams. The recommended interventions in water sector include the following:

Intervention	Counties	Cost in Ksh (M)
Fuel subsidy for community boreholes,	Kajiado, Baringo, Laikipia, Kilifi, Wajir	16
Community water trucking and Water treatment Chemicals	Baringo, Kilifi, Isiolo, Tana River, Wajir, Igembe north,Makueni	90
Water trucking for schools	Turkana,Marsabit,Samburu	15
Provision of water tanks	Baringo, Narok, West Pokot, Nyeri, Makueni/Mbeere/Tharaka N &S /Kitui/Igembe North	45
Replacement of pumping equipment, rehabilitation of pipelines	Kilifi, Kwale , Lamu	15
Provision of water treatment at household level	Turkana,Marsabit,Samburu	3
Piped water supply system extension	Kitui/Meru North/Embu/Tharaka	15
Repair of broken down boreholes in strategic grazing areas	Igembe North, Tharaka North,	5
Total		**204**

4.4 Health and Nutrition Sector: Priority interventions, March 2015 – August 2015

The health and nutrition situation in the ASAL areas remains of concern especially in the northwest and northeast cluster and requires continuous support. Nutrition specific interventions - High impact interventions (HINI) include integrated of management of acute malnutrition, immunization and vitamin supplementation and promoting of appropriate care and feeding

practices in addition to proper hygiene and sanitation practices, these interventions urgently need to continue and will help reduce the high acute malnutrition rates. The negative impacts of the poor performance of the season on food security outcomes has also affected the health and nutrition situation of the population, therefore nutrition sensitive interventions will also help to mitigate further deterioration in areas vulnerable to food insecurity. Details of the interventions can be found in the table below:

Intervention	Counties	Cost in Ksh (M)
Intensify Active case finding and outreaches	Baringo, Isiolo, Laikipia,Meru,Samburu,Tana river,Turkana,Wajir	80.4
Water Hygiene and Sanitation Interventions	Baringo,Meru,Turkana	4.1
Intensify HiNi Intervention including intensify IMAM, Vitamin A supplementation and deworming	Baringo,Kilifi,Kitui,Lamu,Marsabit, Meru,Turkana,Garissa,Isiolo,Laikipia, Mandera.	212.8
IYCN Intervention including mother to mother support group	Makueni,Kitui	27.5
Strengthen Documentation	Makueni	0.5
Strengthen disease surveillance	Meru	0.066
Total		**325.3**

4.5 Education: Priority interventions, March 2015 – August 2015

The poor performance of the short rains has led to low access of food in the households. There is a notable increase of pupils attending school and enrollment for the Early Childhood Development Centers (ECD) increased especially in Pastoral North West cluster. There is need to up scale the home grown school meals Programmes since there are schools that were not benefiting but are in need coupled with the increase with the pupils population.

There is also an increased need of water supply across the clusters and water trucking interventions are ongoing for schools. There is an urgent need to provide water storage facilities for the affected schools to enable them have reservoir for the supplied water. The following interventions are therefore proposed for education sector:

Intervention	Counties	Cost in Ksh (M)
Up scaling Home Grown School Meals Program	Kilifi ,Kwale, Taita-Taveta, Lamu,Tharaka	157
Provision of water storage tanks	Kilifi, Turkana,Samburu,Marsabit, Tharaka, Mbeere	48
Supplementary feeding ECD and HGSMP	Turkana,Samburu,Marsabit	80
Provision of water to schools	Isiolo, Wajir	20
School fees and food for fees	Wajir, Garissa	8
Expanded school meals program	Mbeere, Makueni, Kitui, Meru North, Tharaka North and south	60
Total		**373**

4.6 Food Assistance Sector: Priority interventions, March 2015 – August 2015

There is need to augment resilience building interventions through appropriate food assistance transfer modalities along other multi sectoral non-food interventions so as to improve the nutritional status of vulnerable households and prevent further engagement of undesirable or distress coping strategies. The following table shows the locations and populations that are in immediate need of food assistance, until August 2015:

County	Total County Population	Population affected after the 2014 long rains	March 2015 – August 2015	
			% of population that is in need of food assistance	Number of people requiring food assistance
Turkana	539,264	157,000	25	136,500
Wajir	619,220	150,200	29	179,900
Mandera	337,800	153,800	47	157,600
Garissa	504,391	133,400	32	158,900
Marsabit	291,166	86,000	34	100,100
Samburu	223,947	72,300	37	83,500
Laikipia	399,227	16,000	9	36,400
West Pokot	512,690	56,000	9	46,800
Tana River	240,075	42,500	12	29,800
Isiolo	143,294	64,500	55	78,800
Kajiado	687,312	0	2	10,600
Baringo	555,561	72,600	11	59,600
Narok	576,388	0	2	10,800
Subtotal Pastoral	**5,630,335**	**1,004,300**	**19**	**1,089,300**
Makueni	884,527	28,100	2	21,900
Kwale	649,931	82,600	10	64,900
Kilifi	1,109,735	75,500	3	35,900
Kitui	1,012,709	169,600	18	179,300
Taita Taveta	284,657	62,300	24	67,100
Mbeere	219,220	14,600	15	32,900
Tharaka	130,098	16,300	20	26,000
Meru North	775,982	39,400	7	56,200
Kieni	324,659	17,600	20	35,200
Lamu	101,539	0	3	2,800
Marginal Agricultural	**5,493,057**	**506,000**	**10**	**522,200**
Total	**11,123,392**	**1,510, 300**	**14**	**1,611,500**

Annex 1: Food Security Phase Classification Seasonal Trends, 2011 - 2014