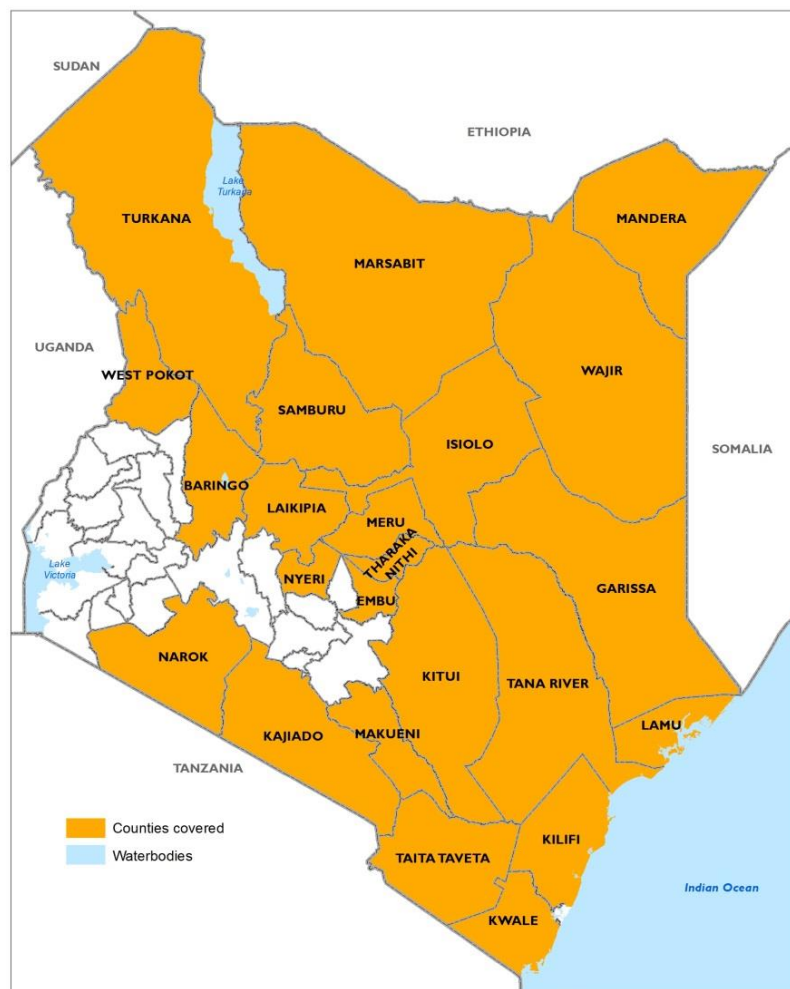




Government of Kenya

THE 2016 LONG RAINS SEASON ASSESSMENT REPORT

Kenya Food Security Steering Group (KFSSG)



Collaborative report of the Kenya Food Security Steering Group (KFSSG): Ministries of Devolution and Planning, Agriculture, Livestock and Fisheries, Water and Irrigation, Health, and Education, Science and Technology, National Drought Management Authority (NDMA), WFP, FEWS NET, FAO, UNICEF, World Vision, ACF, and Arid and Semi-Arid Lands (ASAL) County Steering Groups (CSGs): with financial support from the Government of Kenya (NDMA), WFP and partners.

August 2016

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Executive Summary

Scope of the 2016 Long Rains Assessment

The 2016 Long Rains Assessment, conducted from 18th to 30th July 2016 by the Kenya Food Security Steering Group and its partners, covered the 23 counties classified as arid and semi-arid. These counties are also considered the most vulnerable to food insecurity. They are:

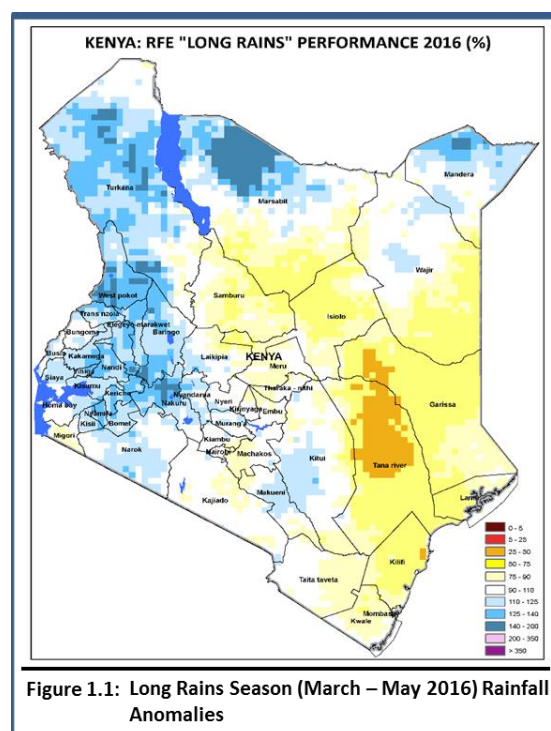
- North and north-west: Isiolo, Marsabit, Samburu, Turkana, Baringo, Laikipia and West Pokot.
- South Rift: Kajiado and Narok.
- North-east: Garissa, Tana River, Wajir and Mandera.
- Coast: Kwale, Kilifi, Lamu and Taita Taveta.
- South-east marginal agriculture counties: Kitui, Makueni, Nyeri (semi-arid areas of Kieni), Meru (Meru North), Embu (Mbeere) and Tharaka Nithi (Tharaka).

The unit of analysis was the livelihood zone. The main livelihoods are pastoralism, agro-pastoralism, and mixed farming. There are also areas with irrigated cropping which is becoming more significant as asset-creation interventions increase.

The objective of the bi-annual food and nutrition security assessments conducted after the long and short rains is to determine how each season has affected food security. In particular, they explore the impact of the season on food availability, access and utilization by looking at the contributing factors and outcomes, and at how each sector has been affected. The ultimate goal is to advise on appropriate response mechanisms by the sectors, which include agriculture, livestock, water, health and nutrition, peace and security, and markets and trade. The recommended interventions are categorized into immediate, medium term and long term.

Rainfall performance

The March to May long rains started at varying times across the country but were generally delayed by 2 – 3 dekads (10-day period in a month). Northern and north-western pastoral areas received 90 – 140 percent of normal rainfall, while most parts of the north-eastern pastoral and coastal and south-eastern marginal agricultural areas received 50 – 90 percent of normal rainfall (Figure 1.1). Exceptional areas in Tana River and Garissa counties received 25 – 50 percent of normal rainfall. Notably, most areas experienced poor temporal and uneven spatial rainfall distribution, except areas of Baringo, Kajiado, West Pokot, Laikipia and Nyeri which experienced fair to good temporal distribution. Cessation of the rains was earlier than normal in most areas, ending in the first or second dekad of May, except in Mandera, Wajir, Isiolo, parts of Mbeere, Nyeri and Meru, where cessation was normal.



Summary of key findings

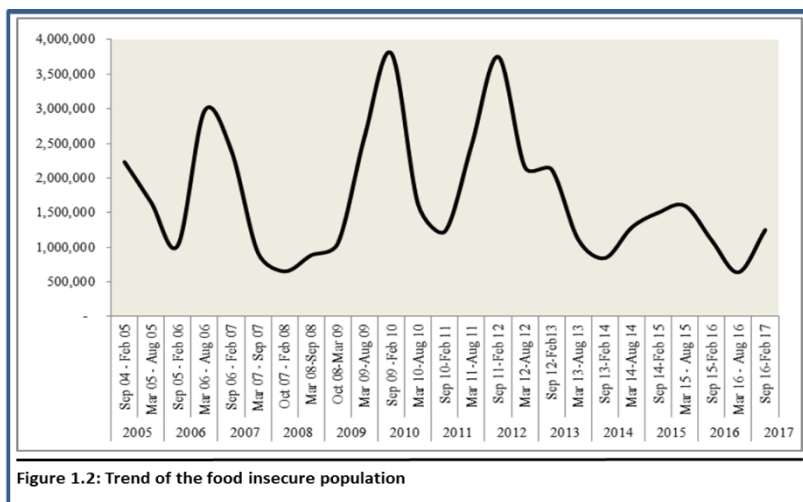


Figure 1.2: Trend of the food insecure population

An estimated 1.25 million people will be acutely food insecure and require humanitarian assistance over the next six months until February 2017 (Figure 1.2). The main contributory factors are the below-average performance of the 2016 long rains, characterised by poor temporal and uneven spatial distribution, livestock and crop pests and diseases,

resource-based conflicts, terror-related threats, especially in areas bordering Somalia, human-wildlife conflicts, and high food prices in certain areas.

Pastoral areas recorded modest improvements in rangeland conditions following the long rains, which varied across the zones. Most reported good to fair rangeland conditions, except for areas of substantial rainfall deficit which reported poor rangeland conditions, atypical for this time of year. Pasture and browse conditions were reported to be good to fair, especially in northern, north-western and agro-pastoral areas, and in parts of the north-eastern pastoral areas of Mandera and Wajir. However, pasture was largely fair to poor in the north-eastern pastoral areas of Garissa, Tana River and Isiolo, with some areas reporting depleted pasture. Water access for both livestock and domestic use was within normal levels in most pastoral areas, with the exception of the areas of rainfall deficit previously mentioned. Likewise, livestock body condition was good to fair in most areas but seasonally deteriorating as the dry season sets in. Livestock outmigration to dry season grazing areas was noted and is normal for this time of year, although in some areas such as Garissa, Tana River and Isiolo it was taking place earlier than normal. Most markets were operating normally, except in parts of the Kenya-Somalia border area affected by insecurity. In most counties livestock (goat) prices were favourable and above the five-year average but are now seasonally deteriorating. The exception was Isiolo, where goat prices were up to 11 percent below average. Maize prices in most areas were stable or had marginally increased between May and July 2016, attributed to adequate availability and low demand. Consequently, the goat-to-cereal terms of trade, used as a proxy for measuring the purchasing power of households, were favourable (Figure 1.3), being 18 – 45 percent above the long term average (LTA) in most counties, except in Isiolo where they were 12 percent below the LTA.

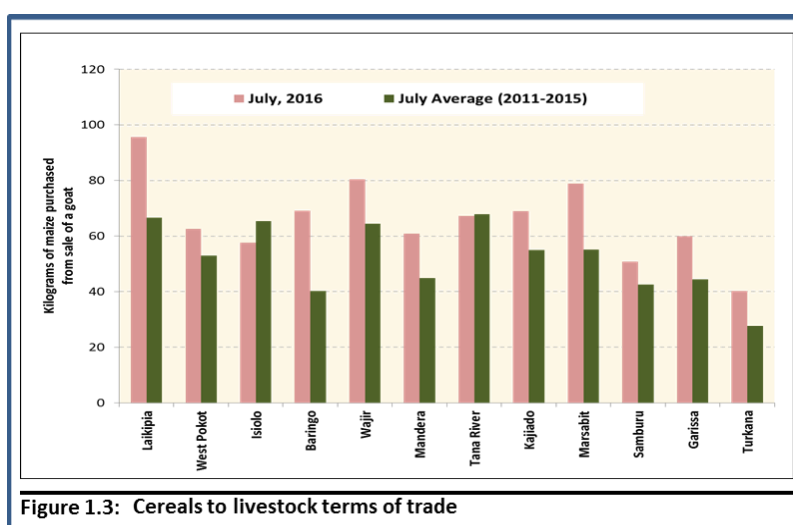


Figure 1.3: Cereals to livestock terms of trade

In the marginal agricultural areas, including south-eastern and coast, the long rains (which are less relied on for crop production than the short rains) were average to below-average and characterised by poor temporal and uneven spatial distribution. Poor cropping conditions, especially for maize, were evident across these areas, with production likely to be 30 – 40 percent below the LTA. Other leguminous crops were also grown during the current season, with average to below-average production expected.

The nutrition situation in Turkana (Turkana South, Turkana Central and Turkana North), Mandera, Baringo (East Pokot) and Marsabit (Laisamis and North Horr) is concerning (Figure 1.4). Acute malnutrition rates in these areas are above emergency thresholds, according to surveys conducted between June and July 2016, with global acute malnutrition above 20 percent. A detailed nutrition situation analysis shows that the situation in Turkana South is Extremely Critical, while it is Critical in Turkana Central and North and Serious in Turkana

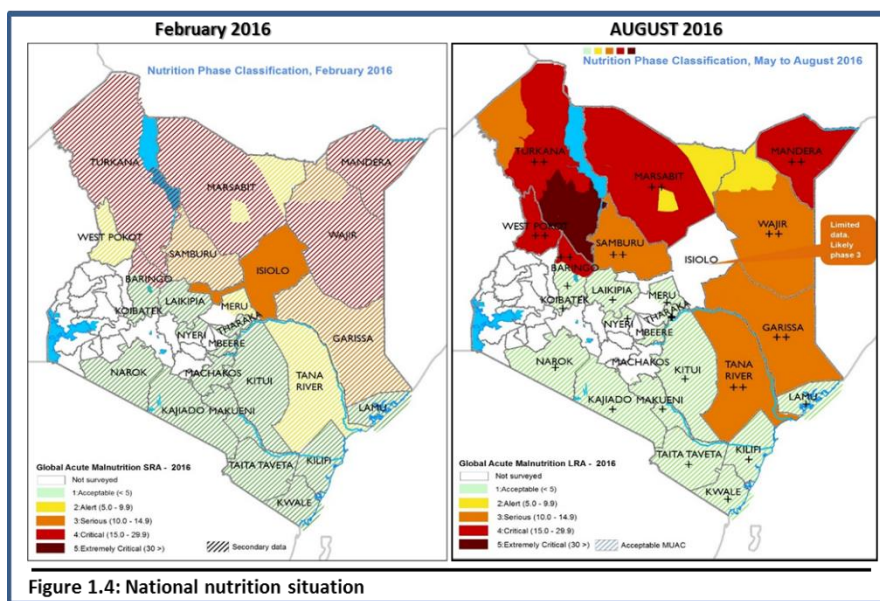


Figure 1.4: National nutrition situation

West, a slight deterioration compared with the same time last year. Neighbouring areas of East Pokot and West Pokot have also deteriorated and are classified as Critical and Serious respectively.

Deterioration was also noted in Tana River, currently classified as Serious. The nutrition situation in Marsabit (Laisamis and North Horr sub-counties)

although showing slight improvements, is still Critical, although Saku and Moyale sub-counties remain in Alert. The key factors likely to be affecting nutrition this season are poor dietary intake and food utilization and a high disease burden, with localised outbreaks of cholera (Mandera, Marsabit, Wajir and Tana River), measles (Moyale and Mandera), and chikungunya (Mandera). These factors combine with chronic challenges such as limited access to quality health services and inappropriate child care and feeding practices to increase vulnerability and aggravate the high malnutrition rates.

The nutrition situation is Serious but stable in Samburu, Garissa and Isiolo, and improving in Wajir, where Wajir East and South are classified as Serious and Wajir North as Alert. These improvements are linked to the positive impacts of the season on food security in the area, including increased access to milk. Levels of acute malnutrition in the south-eastern and coastal counties are low and stable and mainly classified as Acceptable. However, access to quality health services and improved child care and feeding practices are still of concern in these areas and should be improved to achieve optimal nutrition.

In February 2016, 223,000 children (MAM: 177,000 and SAM: 46,000)¹ and 34,400 pregnant and lactating women in ASAL areas required treatment for malnutrition. These figures now stand at 294,330 (MAM: 233,700 and SAM: 60,600) and 29,500 respectively. The increase in

¹ MAM: Moderate Acute Malnutrition. SAM: Severe Acute Malnutrition.

the number of children is mainly due to the rise in the GAM and SAM cases in Turkana, West Pokot, East Pokot and Tana River, and the calculation of caseloads using the revised population projections (2016) for those under five. Nutrition interventions targeting acute and chronic malnutrition are on-going in all counties that include mass screening, increase in outreaches and treatment sites, and ensuring an adequate and consistent nutrition commodity pipeline.

Category of the food insecure population

Summary of food security phase classification

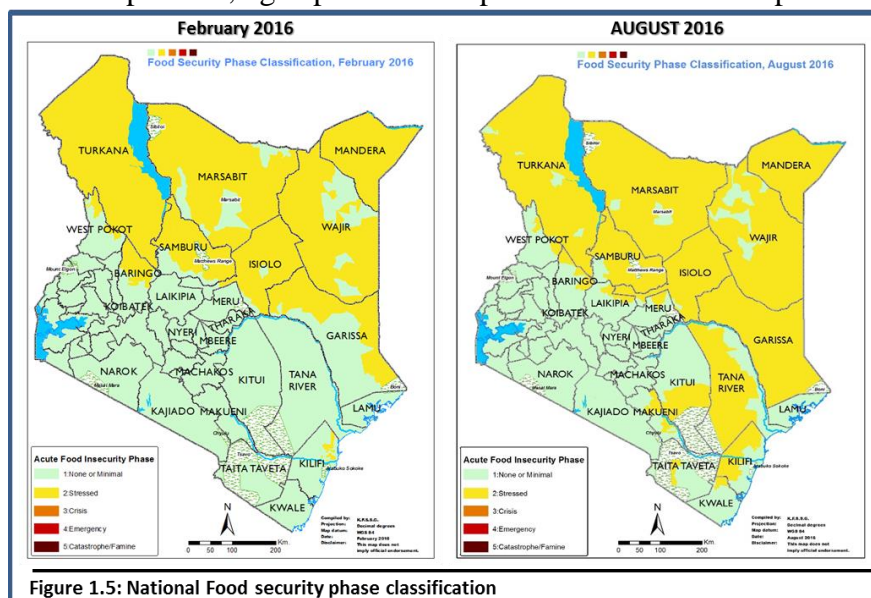
The Integrated Food Security Phase Classification (IPC) is a set of protocols (tools and procedures) to classify the severity of food insecurity and provide actionable knowledge for decision-making. An estimated 1.25 million people will be acutely food insecure and require humanitarian assistance over the next six months until February 2017. They are mainly found in the pastoral and marginal agricultural areas (Table 1).

Table 1.1: Distribution of the population affected by livelihood zone

Livelihood zones	Population affected after the 2015 short rains	Population affected after the 2016 long rains
Pastoral	520,000	750,900
Marginal agriculture	119,000	503,700
Total	639,600	1,254,600

Population in Stressed (IPC Phase 2)

The current food security situation in the pastoral and marginal agricultural areas is stable but deteriorating as the lean season progresses. Most areas (Figure 1.5) are classified in Stressed (IPC Phase 2)². In the pastoral areas, the long rains improved rangeland conditions although to varying degrees. In the north-west pastoral, agro-pastoral and parts of the north-east pastoral areas (Mandera and Wajir), the average to above-average rains regenerated rangeland resources to normal to above-normal levels. Open water sources recharged to 70 – 90 percent of their capacity. The average return trekking distance to livestock watering sources was 2 – 7 kilometres in agro-pastoral areas and 5 – 10 kilometres in pastoral areas, which are typical distances at this time of year. Pasture and browse conditions ranged from good to fair and were expected to last for the next two to three months. However, localized areas with high livestock concentrations, such as parts of Marsabit and Isiolo, and those which experienced substantial



² Households in ‘Stressed’ are able to afford minimally adequate food consumption but are unable to afford essential non-food expenditures without engaging in irreversible coping strategies

rainfall deficits (parts of Garissa and Tana River), reported poor rangeland conditions and livestock productivity. Livestock body condition for all species is fair to good, while household milk consumption is within seasonal norms at 1 – 3 litres per household per day; however, some exceptional areas reported much less (<1 litre/household/day) or much more (>3 litres/household/day). The proportion of households with an acceptable food consumption score increased in these areas given the improved availability of food in households. In agropastoral areas, most households are consuming 2 – 3 meals a day while those in pastoral areas are consuming 1 – 2 meals a day, typical for this period. The meals comprised 4 – 5 food groups, mainly cereals, pulses, oil, meat and milk. Livestock prices were above average though seasonally declining, while livestock-to-cereal terms of trade were favourable. However, low incomes constrain households who are only able to access minimally adequate food consumption and are unable to afford essential non-food items and contribute to their continued classification as Stressed (IPC Phase 2).

Parts of the south-east (southern Kitui and eastern Makueni) and coastal marginal agricultural livelihood zones that were previously in Minimal (IPC Phase 1) have deteriorated to Stressed (IPC Phase 2). Most parts of these zones received above-normal rainfall in the 2015 short rains, although localized areas received below normal rainfall which was poorly distributed. The long rains were then significantly below average, resulting in two consecutive below-average cropping seasons. Most households have depleted their food stocks. Household income is also below normal, given the loss of wage labour opportunities caused by the reduction in farm-related activity. Household food consumption is currently supported primarily by market purchases, although reduced incomes are constraining access. Most households in these areas can meet their minimum dietary needs but not their other essential non-food needs, and are therefore classified as Stressed (IPC Phase 2).

Population in Minimal (IPC Phase 1)

Most areas of the south-east and coastal marginal agricultural livelihood zones, and the agropastoral areas of Narok, Kajiado, Baringo, West Pokot and Laikipia, and parts of Wajir, are in Minimal³ (IPC Phase 1). The cumulative effects of three consecutive average-to-above average seasons continue to support favourable livestock production and cropping conditions, resulting in improved household food availability and access. More than 80 percent of households in these areas have an acceptable food consumption score. Food consumption is mainly supported by market purchase of major staples, the prices of which remain stable due to adequate supply and the availability of substitute commodities.

Crop production and prospects

National crops supply situation and prospects

According to the State Department of Agriculture's Food Security Report for July 2016, the national food security situation remains stable, with adequate availability of food commodities in most markets. This is supported by carryover effects from previous favourable seasons and by imports, mainly from Tanzania and Uganda. Further, early harvesting of crops from the South Rift, the lower parts of Nyanza, Western, Eastern and Coast regions, albeit at below-average levels of production, further boosts market stability. The East African Cross-Border Trade Bulletin of June 2016 notes that maize exports from Uganda and Tanzania continued between April and June but were atypically low at 85 and 54 percent respectively below their

³ Households in 'Minimal' are able to meet their essential food and non-food needs without engaging in atypical, unsustainable strategies to access food and income, including any reliance on humanitarian assistance

three-year averages, attributed to increased availability and reduced demand in most Kenyan markets. Over the same period, rice exports from Tanzania to Kenya were 38 percent higher than in the same period in 2015, but comparable to the three-year average. Kenyan consumers generally like Tanzanian rice, resulting in increased demand, even though it sells at a premium to Asian rice. Dry beans imports from Uganda and Tanzania also continued between April and June, but were 33 and 30 percent respectively below their three-year average due to increased availability in Kenya following the El Nino-enhanced harvest.

Although the 2016 long rains were average to above-average in key cropping areas, the poor temporal distribution is likely to affect the current crop. Below-average production is expected, especially of maize. Nevertheless, current stocks in the country, coupled with the expected long rains harvest and future imports, are likely to be adequate for national consumption until November 2016 (Table 2), with a surplus of about 0.3 million metric tons thereafter.

Table 1.2: Maize balance sheet, July to November 2016

	90kg bags	Metric Tons (MT)
Stocks as at 31st July, 2016 in 90kg bags	7,546,397	679,176
Estimated imports between Aug and Nov 2016		-
i) Private sector/ relief agencies estimated imports	300,000	27,000
ii) Government imports	-	-
Estimated harvests between Aug and Nov 2016		-
i) Estimated short rains harvests	-	-
ii) Estimated long rains harvests	12,000,000	1,080,000
Total available stocks by 31st Nov 2016	19,846,397	1,786,176
Expected total exports to East African Community (EAC) region	-	-
Expected exports outside the EAC region	-	-
Post-harvest storage losses estimated at 10%	1,984,640	178,618
Amount used for domestic livestock feeds (1%)	198,464	17,862
Amount retained as seed (1%)	396,928	35,724
Amount used for manufacture (2%)	379,000	34,110
Net available stocks by 31st Nov 2016	16,887,365	1,519,863
Consumption @ 3.17 million bags/month for 45 million people for 4 months	12,680,000	1,141,200
Balance as at 31st Nov 2016 (surplus)	4,207,365	378,663

Source: Ministry of Agriculture, Livestock and Fisheries

Food price trends

Food prices remain below their five-year average in most markets, supported by ample supplies from the previous and current season and by imports. Wholesale maize prices are gradually increasing in Nairobi and Mombasa but stable in Eldoret and Kisumu (Figure 1.6). July wholesale maize prices are 15 – 25 percent below their five-year average across the four urban

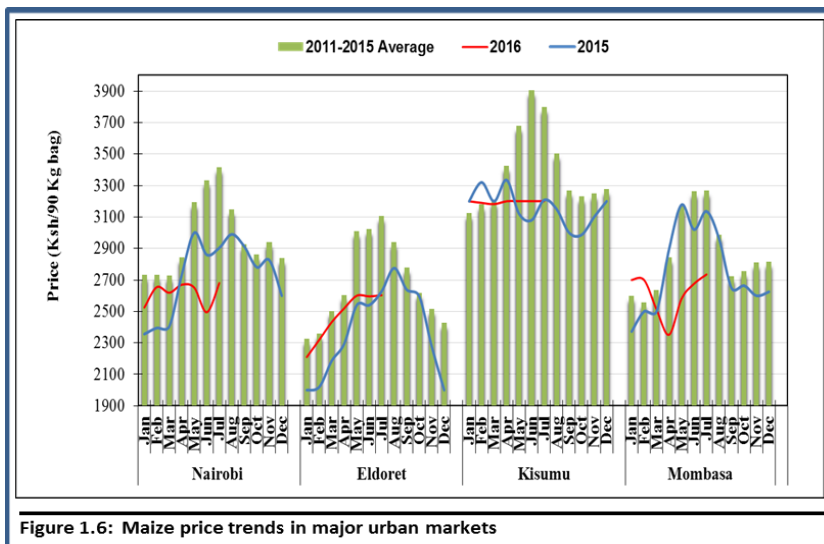


Figure 1.6: Maize price trends in major urban markets

markets. Similarly, in the south-east marginal agricultural areas, retail maize prices have remained up to 30 percent below their five-year average for most of 2016, attributed to the surplus stocks held by households and traders from the above-normal short rains harvest and inflows from other parts of the country. However, retail maize prices are gradually and typically

starting to rise as stocks are drawn down. In the coastal marginal agricultural markets, retail maize prices in 2016 remained stable but near average or slightly above average. The region has had two consecutive below-average maize production seasons which have reduced household stocks. However, supply pipelines from other parts of the country and cross-border imports have ensured that markets are well provisioned, resulting in stable prices. Maize prices in all pastoral areas have also remained fairly stable since the beginning of the year and within normal ranges, further underscoring the fact that markets are functioning well.

Food Security Prognosis, August 2016 – January 2017

Food security in pastoral areas is expected to deteriorate as the lean season of August-November approaches. Rangeland resources are expected to deteriorate in quality and quantity, with access to water and forage for livestock becoming more difficult. Consequently, most livestock are expected to migrate to dry-season grazing areas, far from homesteads. Livestock body condition is expected to decline from August to October resulting in a reduction in household milk availability and consumption. Livestock prices are also expected to decline, driven by poor body condition, and this will result in reduced household income. At a time when staple food prices are expected to increase, household purchasing power is likely to be eroded. Child malnutrition cases are likely to increase through October as diets become less diverse and portion sizes shrink. The north-eastern areas of Garissa, Tana River and parts of Isiolo, which received significantly below-normal rainfall and where rangeland resources regenerated poorly, are seeing a faster deterioration in food security conditions than other areas. To maintain food consumption, households are likely to engage more frequently in various coping strategies such as borrowing and buying food on credit (consumption-based strategies) and charcoal burning and selling of firewood (livelihood-based strategies). Most households are expected to remain in Stressed (IPC Phase 2) until November. However, localized areas in the north-eastern pastoral livelihood zones in Garissa, Tana River and Isiolo are likely to move to Crisis (IPC Phase 3). From November onwards, food security is expected to marginally improve with the onset of the October – December short rains, although these are forecast to be below average. The expected modest improvements in food security are unlikely to cause any improvement in the food insecurity phase classification before January 2017; on the contrary, more households are likely to move to Crisis (IPC Phase 3).

In the south-east and coastal marginal agricultural livelihood zones, household food security will also decline as the lean season continues. Market dependence will increase, at a time when household incomes are likely to be low due to limited demand for agricultural labour. Low household income will constrain access to food, especially in the marginal mixed farming areas

of Kitui South, eastern Makueni, Kilifi and Kwale. Market purchases are likely to be further constrained by the usual increase in food prices through September. To ensure food access, households are likely to increase their use of other sources of income, such as petty trading and construction labour. Most households will continue to support their food and non-food needs and remain in Minimal (IPC Phase 1) until November. However, the marginal mixed farming areas mentioned earlier are likely to remain in Stressed (IPC Phase 2). The onset of the short rains is expected to provide some marginal reprieve, as the rains are likely to be below average. Some households will access on-farm labour opportunities through land preparation and planting, although at much-reduced levels. Short-cycle early-maturing crops will also boost food availability, but again at lower levels than normal. Dependence on markets for food commodities will be highest during this period. Since the short rains are the primary production season in these areas, their poor performance is likely to exacerbate household food insecurity with more households becoming Stressed (IPC Phase 2) by January 2017.

The key factors to monitor over the next six months include:

- Cholera outbreaks and other diseases
- Health-seeking behaviours
- Dietary practices, especially among pastoral communities
- Likely impacts of La Nina conditions
- Livestock diseases, especially camel disease in pastoral areas
- Conflict and insecurity along the Somalia border.
- Impacts of programmes and interventions

Monitoring is especially critical in areas which have experienced successive below-average seasons.

Options for response

Table 1.3 contains various response options by sector (Table 1.3). Besides the immediate interventions required, the medium to long-term interventions that will build community resilience, as anchored in the Ending Drought Emergencies Common Programme Framework, need to be stepped up.

Table 1.3: Proposed Interventions by Sector

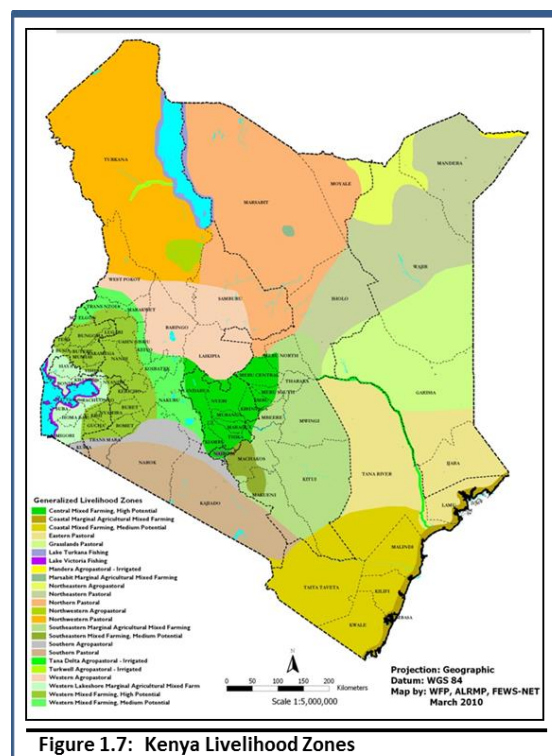
Sector	Proposed interventions	Cost in Ksh. (M)	Cost in US. Dollar (M)
Agriculture	Promote drought-tolerant crops; water harvesting through the construction of pans and irrigation systems; promote post-harvest management and marketing; conservation agriculture; farm subsidies; good agricultural practices.	100	1
Livestock	Livestock insurance; marketing and infrastructure; pasture & fodder establishment & conservation; sensitise farmers and traders on better livestock marketing strategies; livestock breed improvement schemes; continuous vaccination and disease surveillance;	400	4
Health and nutrition	Scale up High Impact Nutrition Interventions (HINI); conduct nutrition surveillance; enhance integrated disease surveillance; provide water treatment chemicals; strengthen community health strategy	300	3
Water	Construct dams and water pans; fuel subsidy for community boreholes; provide water tanks and storage facilities; water infrastructure development for emergency supply; repair strategic boreholes in grazing areas; roof water harvesting; repair water pans; purchase generators; fence water points.	9,000	90
Food assistance	Build resilience to future shocks through asset creation and safety net programmes. Food commodities and cash including associated costs for 1.25 million food insecure people in need of assistance for the next six months (September 2016 - February 2017).	6,600	66
Peace and security	Establish and support peace and conflict resolution mechanisms among pastoral and farming communities and form peace committees.	100	1
Total		16,500	165

1.0 Introduction

1.1 Assessment Coverage and Objectives

The food and nutrition security assessment for the March to May long rains season was conducted between 18th to 29th July 2016. The assessment was coordinated and conducted by the Kenya Food Security Steering Group (KFSSG)⁴ and the County Steering Groups (CSG) in the 23 arid and semi-arid pastoral, agro pastoral and marginal agricultural counties. The 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:

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



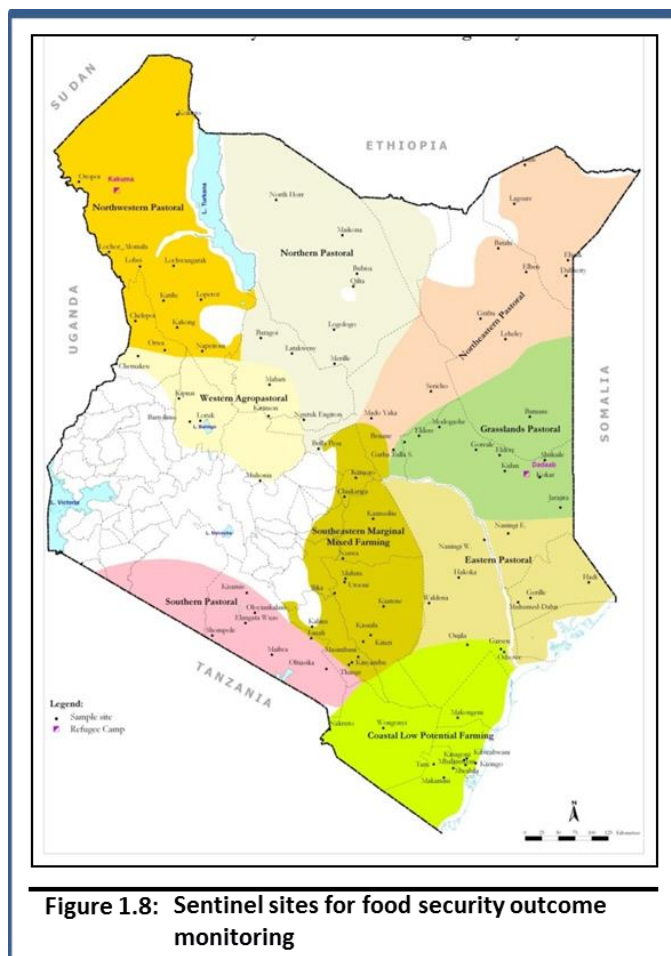
The overall objective of the assessment was to develop an objective, evidence-based and transparent food and nutrition security situation analysis, taking into account the cumulative effect of previous seasons in order to inform the government and relevant stakeholders on the status of food security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

Specific objectives were to:

- Ascertain at the livelihood level the quality and quantity of the 2016 March to May long rains and assess their impact on all key sectors including crop agriculture, livestock, water, health and nutrition, peace and security, and markets and trade.
- Establish the impacts of other compounding factors on household food security, such as conflict, crop pest and disease, relative high food prices and floods.
- Establish required non-food interventions, with particular emphasis on programmes that promote preparedness and build household resilience.
- Assess potential food needs, including options for appropriate transfer modalities including asset creation, cash and vouchers, safety nets and general food distribution.

⁴ KFSSG is comprised of Government of Kenya (GoK) ministries, the UN, NGOs and key development partners.

1.2 Assessment Approach



The overall assessment processes and methodologies were coordinated and developed by the KFSSG. First, secondary data for all assessed counties was collected, analysed and collated into briefing packs. The data included livelihood zone baseline data, drought monitoring information, 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 immediate food assistance, and report writing. In addition, food security outcome monitoring indicators were also collected from 2,700 households situated in 90 sentinel sites. 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. Visual inspection techniques were also used during transects drives to obtain qualitative information. The field data was collated, reviewed, analysed and triangulated to verify its validity. The NDMA drought monitoring bulletins, nutrition SMART survey reports and secondary data and the FEWSNET/NDMA/WFP 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, and Food Assistance Sectors. While the analytical framework is generally the sustainable livelihoods framework, with the livelihood zones being the unit of analysis, 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 term. The results from sampled areas, along with outcomes of discussions with the larger County Steering Groups (CSGs) and secondary data analysis, were used 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 consists of Marsabit, Turkana and Samburu counties. It covers an area of 172,933 square kilometres with a population of 1.37 million (KNBS, 2009). It has three main livelihood zones; pastoral 69 percent of the total population, agro-pastoral (24%) and fisheries/formal employment/business/petty trade (7%) as shown in Figure 2.1. The main sources of income in the cluster are livestock production contributing 80 percent and crop production at 15 percent. Others are fishing, casual labor and charcoal that contribute five percent.

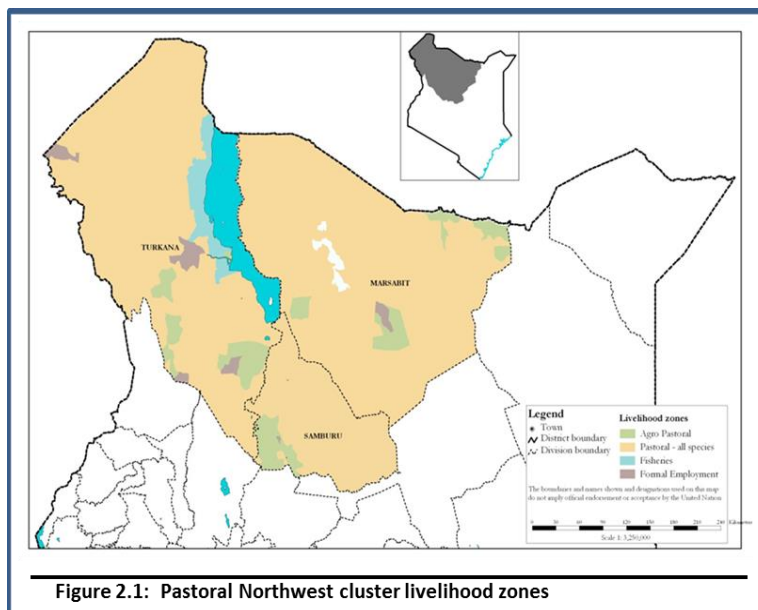


Figure 2.1: Pastoral Northwest cluster livelihood zones

2.1.2 Current Factors Affecting Food Security

The main factors affecting food security include, poor temporal distribution of the long rains, livestock pests and diseases, human wildlife conflict, livestock migration, insecurity and conflicts over rangeland resources, crop pests and diseases notably maize stalk borer and head smut, flash floods in Marsabit and locust infestation in the northern parts of Turkana county.

2.1.3 Cluster Food Security Situation

2.1.3.1 Current Food Security Situation

The cluster is largely in Stressed (IPC Phase 2), while localized parts of the agro-pastoral livelihood zones of Marsabit and Samburu counties are in Minimal (IPC Phase 1). Food consumption was favorable across all livelihoods with households consuming three to four food groups mainly cereals, beans, milk and meat. Households with acceptable food consumption score have increased to 90 percent compared to 56 percent same time last year. Water consumption had increased to 15 - 30 litres per person per day compared to normal of 15 - 20 litres, attributed to reduced distances and adequate recharge levels of water sources. Milk production was stable and within seasonal norms across livelihood zones in the cluster except in Samburu county where it was 25 percent below the Long Term Average (LTA) for both pastoral and agro-pastoral zones. However, milk consumption in the cluster was stable across the livelihood zones. The terms of trade had improved across the cluster and above the LTA. The proportion of children under five years at risk of malnutrition was stable across the cluster, and well below the LTA compared to similar period in 2015.

2.1.3.2 Food Security Trends

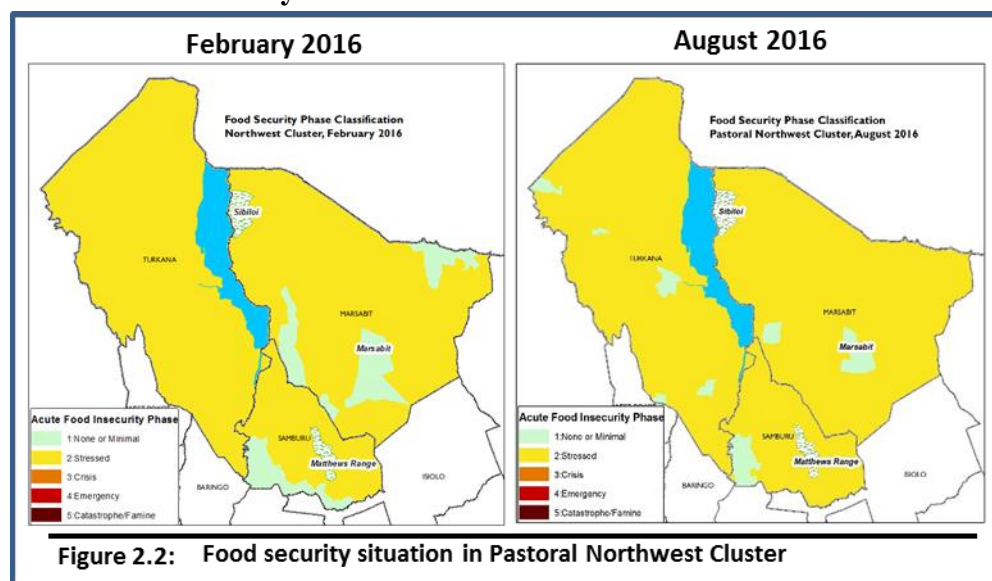


Table 2.1. Food Security Trends

Indicator	(Current) Long rains assessment, July 2016	(Previous) Short rains assessment, Feb 2016
Food security phase classification	Phase 2 Except for parts of agro-pastoral livelihood in Marsabit and Samburu that is in Phase 1 (Figure 2.2)	Phase 2 Except parts of Marsabit and Samburu
Food stocks	On average 42% below LTA	On average 56% below LTA
Livestock body condition	Good to fair	Good
Household water consumption	Between 15 - 30 liters	Between 15 - 30 litres
Meal frequency	2 - 3 meals per day	2 - 3 meals per day
HH milk production	1 - 2 litres across the livelihood zones	1 - 3 litres
Terms of Trade	Showing an improving trend across the cluster- highest in Marsabit with 76 and lowest in Turkana with 14. Compared to previous season of 65 and 34 for Marsabit and Turkana respectively	
Coping strategy index	In May 2016 CSI for Samburu and Marsabit county was 21 while for Turkana was 18.	In December 2015, CSI for Marsabit and Samburu and Turkana was 19, 19 and 25 for respectively
Food Consumption Score	Samburu and Marsabit households acceptable were at 61.8% in May 2016. In Turkana, households with acceptable score increased 53.6%.	Samburu and Marsabit households acceptable were at 90% in December 2015. In Turkana, households with acceptable score were 32%.
Children at risk of Malnutrition	Across the cluster and across the seasons, there was reduction in children at risk of malnutrition, ranging from the previous season at 18 percent to a current of 16 percent.	

2.1.4 Rainfall Performance

Onset of the 2016 long rains across the cluster was late, in the first dekad of April. The cluster received 140 - 200 percent of the normal rainfall while parts of Samburu, Turkana and Marsabit received 50 - 90 percent of normal rainfall. The spatial distribution was uneven and temporal distribution poor, except in Samburu where the distribution was good. Cessation was early in the third dekad of May.

2.1.5 Impact of Rainfall Performance, Shocks and Hazards

2.1.5.1 Crop Production

The cluster mainly depends on long rains for crop production, which contributes up to 80 percent of total annual food production in Samburu and Turkana counties. In Marsabit, the long rains contributes about 30 percent of the total annual crop production. The area under maize and beans was 26 and 72 percent above the LTA respectively, attributed to support by county governments through crop production campaigns and farm inputs subsidies. There was an increase in production of all the crops due to increased area under the crop. The production of maize, beans and sorghum was 210, 65 and seven percent above the LTA respectively. Samburu registered the highest increase in projected maize production of 259 percent above the LTA due to good rainfall performance coupled with county government subsidies.

The major crops grown under irrigation included maize, sorghum and cowpeas. Other crops were kales, tomatoes, cabbages and spinach. The area under irrigation reduced for all the crops due to delayed support with farm inputs and destroyed or silted irrigation systems. The area under maize reduced from 2,200 hectares to about 1,285 hectares while that of sorghum reduced from 1,420 hectares to 1,105 hectares. Area under cowpeas declined to 265 hectares from the LTA of 300 hectares. The projected production of the three crops was expected to decrease by 41, 46 and 26 percent respectively compared to the LTA.

The stocks held by households are 59 percent below the LTA. The stocks currently held will last less than a month. Households are however mainly dependent on markets for food access. However, household stocks are expected to increase once harvesting is completed, mainly in the agro-pastoral areas. Stocks held by traders are similar to the LTA.

2.1.5.2 Livestock Production

In the pastoral and agro pastoral livelihood zone, livestock production contributes to 80 - 90 percent and 20 - 60 percent to cash income respectively. Table 2.2 depicts condition of pasture and browse across the cluster. Exceptions were in the pastoral areas of Marsabit county (Oltorot, Kurkum, Golbo, Barambate and Qorqa), where pasture and browse was fair to poor due to high concentration of livestock. Cases of insecurity in northern areas of Turkana bordering South Sudan and Ethiopia and livestock disease (Acute Camel Death Syndrome in Shurr, Hawaye, and Lalesa) in Marsabit had hindered access to pastures.

Table 2.2: Pasture and browse situation

Livelihood zone	Pasture condition			Browse condition		
	Current	Normally	Projected Duration to last (Months)	Current	Normally	Projected Duration to last (Months)
Pastoral all species	Good-Fair	Good-Fair	1-2	Good-Fair	Good -Fair	2-3
Agro pastoral	Good-Fair	Good-Fair	1-2	Good	Good	2-3
Fishing	Good	Good	2	Good	Good	3

The livestock body condition was good across the cluster except for grazers in the pastoral areas of Samburu and Marsabit where their condition was fair to poor (Table 2.3).

Table 2.3: Livestock body condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Pastoral all species	Good-Fair	Good	Good-Fair	Good	Good	Good	Good	Good
Agro pastoral	Good	Good	Good	Good	Good	Good	Good	Good
Fishing	Good	Good	Good	Good	Good	Good	Good	Good

Milk production, consumption and prices have also remained within normal ranges across the livelihoods in the cluster (Table 2.4).

Table 2.4: Milk production, consumption and prices

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres)/Household		Prices (Ksh)/Litres	
	Current	LTA	Current	LTA	Current	LTA
Pastoral all species	1-2	2-3	1-1.5	1-2	60-90	50-80
Agro pastoral	1-2	2-5	1-2	1.5-3	60-80	50-80
Fishing	1	2	1	1.5	80	80

The average return trekking distance to water sources has relatively remained within normal ranges (Table 2.5), except for pastoral parts of Samburu (Laresoro, Ngutukengiron, Kiltamany, Kawop) where distances were 14 - 18 kilometres. Agro pastoral areas in Marsabit are reporting distances of 15 - 20 kilometres, while pastoral areas is 20 - 30 kilometres, all within normal ranges. Watering frequency for cattle, goats and sheep was after 2 - 3 days across the cluster except in Samburu where the frequency was daily.

Table 2.5: Water for livestock

Livelihood zone	Return trekking distances (Km)		Expected duration to last (Months)	
	Current	Normal	Current	Normal
Pastoral all species	8-10	10	1-2	1-2
Agro pastoral	2-5	6	2-4	2-4
Fishing	5	6	2	2

Livestock migration routes across the cluster are currently normal. Notifiable diseases such as Foot and Mouth Disease (FMD) and Lumpy Skin Disease (LSD) were reported in Marsabit and Samburu. Transboundary disease *Peste des Petitis Ruminants* (PPR) was reported in Marsabit. Other diseases reported include Sheep and Goat Pox, Contagious Caprine Pleuropneumonia (CCPP), Contagious Bovine Pleuropneumonia (CBPP), Acute Camel Death Syndrome (ACDS) and tick borne diseases. An estimated 40,000 small stock, 650 camels, 650 cattle, and 360 donkeys were washed by flash floods in Turkana and Marsabit. About 200 camels were killed by Acute Camel Death Syndrome in Marsabit.

2.1.5.3 Water and Sanitation

The main sources of water for domestic use were boreholes, water pans, shallow wells and rivers. Recharge to the open water sources was 60 - 100 percent of their capacity across the counties except Laisamis in Marsabit county where it was 50 - 60 percent. The recharge impacted positively in terms of water availability and access. The average household distance to water sources was 5 - 7 kilometres across the cluster which was normal at this time of the year. However, areas such as Ndono Wasin, Ngutuk, Elgiron, Kiltamany and Kawop in Samburu county recorded longer distances of 8 - 10 kilometres due to destruction of the available borehole by floods during the short rains season. Waiting time at water source was

between 30 - 60 minutes across the cluster which was normal. The cost of water per 20 litres jerrican ranged between Ksh. 2 - 5 in Samburu and Marsabit counties and Ksh. 5 - 10 in Turkana county which was normal except in fishing areas of Kalokol where vendors were selling water at Ksh. 50 per 20 litre jerrican due to destruction of piping systems by floods. Household water consumption was highest in Turkana, up to 30 litres per person per day due to reduced distance, cost and waiting time and lowest in Marsabit at 15 - 20 litres per person per day.

2.1.5.4 Market Performance and Trade

Market operations and activities were normal across the cluster, except in parts of Marsabit county where there was reported decline in traded volumes for camels, due to fewer buyers and low supply because of the re-emergence of Acute Camel Death Syndrome disease. Also disruptions were noted in the fishing zones of Turkana county, where there was a fish ban, due to use of inappropriate fishing gear reducing tradable volumes. Poor road network led to high transaction costs, especially during the rains, thus increasing commodity prices in these remote markets.

The pastoralists' Terms of Trade (ToT) were above the LTA across the cluster and favorable, driven by higher than average goat prices and fairly stable maize prices, that were below the LTA (Figure 2.3). Agro

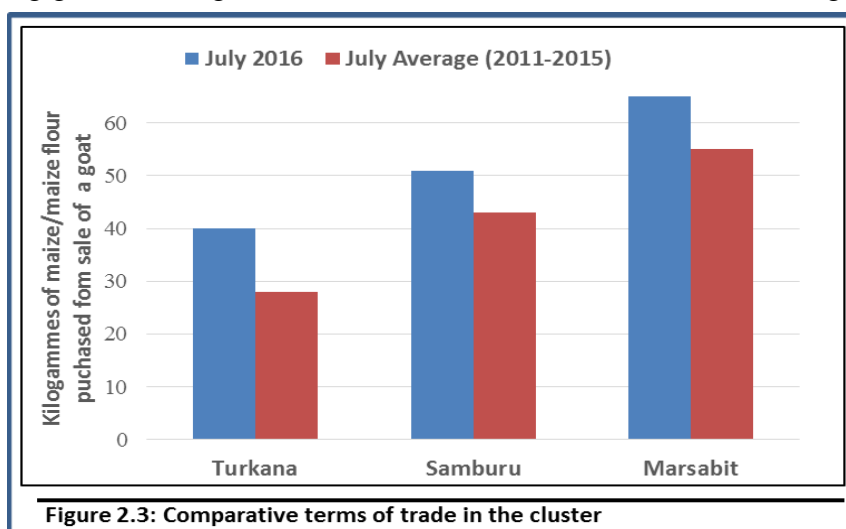


Figure 2.3: Comparative terms of trade in the cluster

pastoral communities in Samburu and Marsabit reported having carryover maize stocks from the short rains season. Maize prices in the cluster ranged from Ksh. 42 per kilogram in Marsabit to Ksh. 75 per kilogram in Turkana. Goat prices in the cluster ranged between Ksh 2,485 in Samburu to Ksh. 3,329 in Marsabit county.

2.1.5.5 Health and Nutrition

2.1.5.5.1 Morbidity Patterns

The top five disease across the cluster for both the under-fives and the general population were, respiratory tract infections, diarrhea, pneumonia, malaria and skin diseases. There has been a general decline in morbidity between January - June 2016 across the cluster for both the children under five years and the general population except in Turkana where morbidity was on an upward trend compared to the same period in 2015. The reduction in morbidity was attributed to operationalization of new health facilities and stocking them with drugs coupled with integrated mobile outreaches in hard to reach areas. The increase in morbidity patterns in Turkana was due to increase in mosquito transmitting vectors and limited access to health, poor health seeking behavior and low ownership of mosquito nets. Mortality rates were generally below the emergency thresholds across the cluster.

2.1.5.5.2 Immunization and Vitamin A Supplementation

The proportion of fully immunized child in the cluster was below the national target of 80 percent, though it marginally improved except in Marsabit county where it reduced by three

percent. The low immunization coverage in the cluster was attributed to poor access to health services especially in the far to reach areas and poor data documentation. The improvement in Turkana was attributed to more community outreaches and the fact that pastoralists did not move in search of pasture and water for their livestock as they usually would, following above average rainfall which supported pasture and water.

According to DHIS, Vitamin A supplementation for children 6 - 59 months in January - June period was below the national target of 80 percent across the cluster although improvement was noted compared to the same period in 2015. Surveys conducted in Samburu and Turkana, indicated that the coverage for children 6 - 59 months was below the national target of 80 percent, with a significant drop in Samburu by 18.4 percent. The low Vitamin A coverage across the cluster was attributed to poor health seeking behavior and limited access to health facilities.

2.1.5.5.3 Nutrition Status and Dietary Diversity

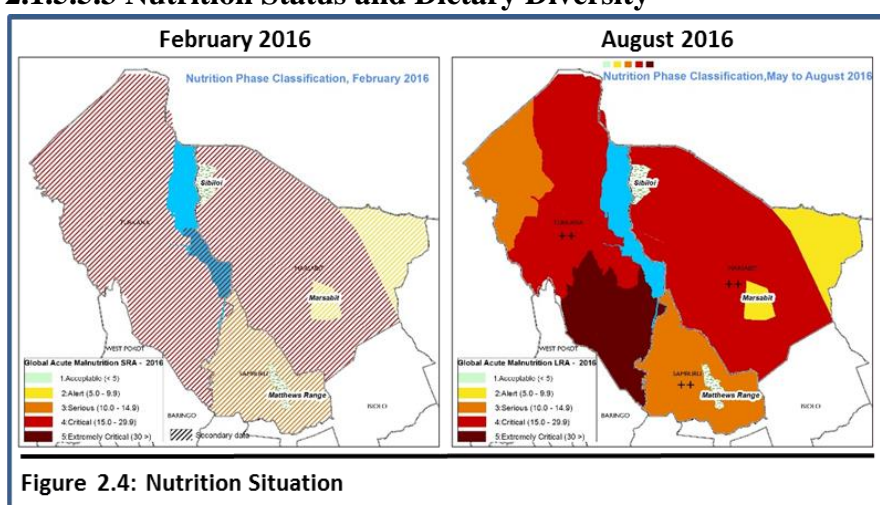


Figure 2.4: Nutrition Situation

The nutrition situation in the cluster remained above emergency thresholds, with Global Acute Malnutrition rates being above 15 percent, except in Samburu where the rates are below 15 percent but remains Serious. The situation has deteriorated in June 2016 compared to the same period in

2015 (Figure 2.4). The results of SMART survey revealed that the proportion of households having acceptable food consumption scores increased across the cluster. Households were consuming 1 - 2 meals across the cluster except in Marsabit where households are consuming 2 - 3 meals in a day.

2.1.6 Coping Mechanisms

Coping Strategy Index (CSI) in Samburu and Marsabit increased from 18 in May 2015 to 21 in May 2016, implying that households are engaging more on consumption based coping strategies. In Turkana CSI reduced from 23 in May 2015 to 18 in same period in 2016. The common coping strategies employed by households included, reduction in number of meals consumed in a day, purchasing food on credit, reliance on less preferred/less expensive foods and borrowing food or relying on relatives or friends. Livelihood diversification strategies reported by households included charcoal burning, casual labour and petty trade.

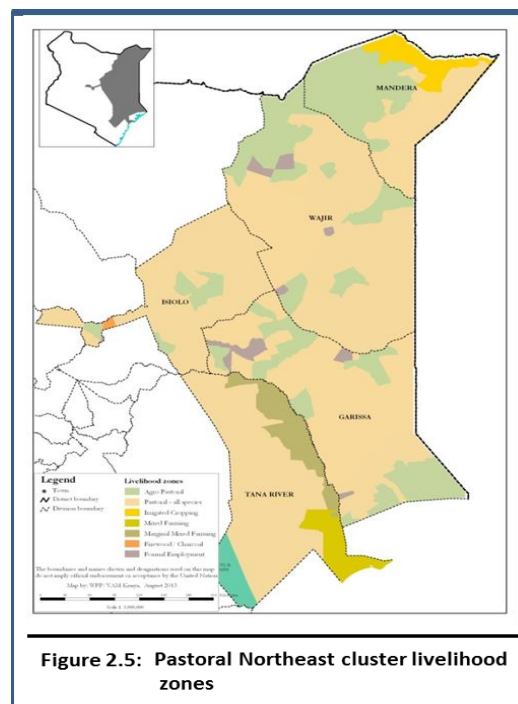
2.2 The Pastoral Northeast Livelihood Cluster

2.2.1 Cluster Background

The cluster consists of five counties: Isiolo, Tana River, Wajir, Mandera and Garissa. It covers an area of 190,634 square kilometres with a population of 1,844,780 (KNBS, 2009). It has five main livelihood zones: pastoral 57 percent of the population, agro-pastoral (21%), marginal mixed farming (9%), irrigated (7%) and informal/formal employment/business/petty trade (6%) as shown in Figure 2.5.

2.2.2 Current Factors Affecting Food Security

The main factors affecting food security were poor performance of the long rains, crop failure in the agro pastoral zones, poor regeneration of pasture and browse, livestock migration, resource based conflict, poor water infrastructure, crop destruction due to floods along River Daua, Tana and Ewaso Nyiro, poor road network limiting access to markets, terror threat in areas neighboring Somali border, human disease outbreaks, and human wildlife conflict in Tana River.



2.2.3 Cluster Food Security Situation

2.2.3.1 Current Food Security Situation

The cluster is largely classified as Stressed (IPC Phase 2) with some pockets in the formal employment, agro-pastoral and mixed/marginal farming areas being in Minimal Phase (IPC Phase I). The terms of trade were favorable, and above the LTA across the cluster except in Isiolo county where it was below the LTA by 12 percent. Households are consuming between two to three meals per day consisting of three to four food groups. The return trekking distances to watering points has improved to 5 - 10 and 0.5 - 3 kilometres in the pastoral and agro-pastoral livelihood zones respectively, compared to 10 - 20 kilometres normally. Livestock body condition for all species ranged from fair to good in all the livelihood zones across the cluster. Production of milk per household per day ranged between 1 - 4 litres across the livelihood zones, which was normal. Water consumption improved across the cluster compared to 2015 as well as LTA, ranging between 10 - 60 litres per person per day except in Tana River county where consumption reduced to 5 litres per person per day compared to normal of 10 - 15 litres per person per day. The proportion of children at risk of malnutrition based on Mid Upper Arm Circumference (MUAC <135mm) is stable and below the LTA across the cluster. However, in Tana River county it increased from 5 percent in 2015 to 10 percent in June 2016. Nutrition surveys conducted in Tana River showed an increase in the global acute malnutrition levels, with the nutrition situation classified as Serious. The nutrition situation in Garissa and Wajir (apart from Wajir North which was classified as Alert) was also classified as Serious, while the nutrition situation in Mandera was classified as Critical.

2.2.3.2 Food Security Trends

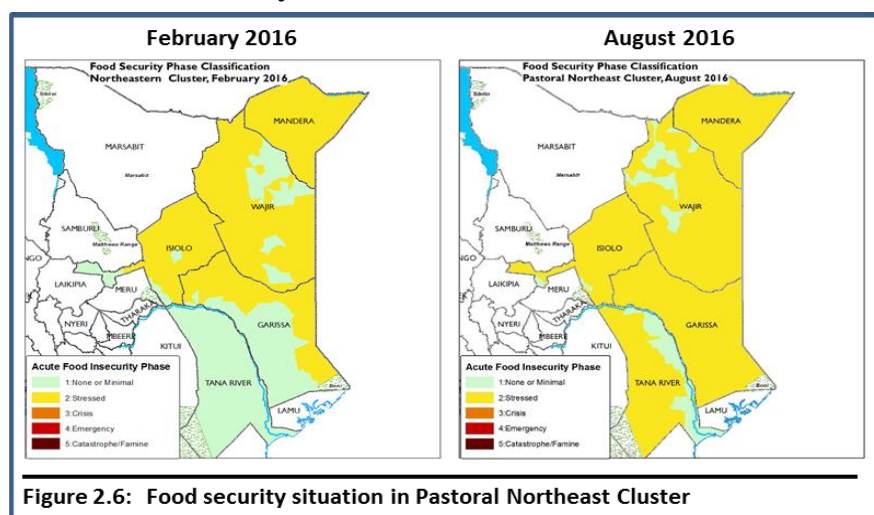


Figure 2.6: Food security situation in Pastoral Northeast Cluster

Table 2.6: Food Security Trends

Indicator	(Current) Long rains assessment, July 2016	(Previous) Short rains assessment, Feb 2016
Food security phase	Majority of the counties within the cluster are currently in phase 2 except localized parts of Tana river and Wajir county which is in phase 1 (Figure 2.6).	Largely in Phase 2 except Tana river and parts of Garissa and Wajir which were in phase 1.
Food stocks	Across the cluster HH held below average stocks.	
Livestock body condition	Fair across the livelihoods except for Wajir which is Good	Fair except for Garissa and Tana river which was good
Household water consumption	10 - 15 litres pp/day	15 to 20 litres pp/day
Meal frequency	2-3 meals per day	2-3 meals per day
HH milk production	1-4 litres	1-4 litres
Terms of Trade	Currently TOT for Tana River, Mandera and Isiolo show a reduction in values implying reduced purchasing power of households now when compared to the previous season. Garissa and Wajir counties show a positive trend across the two seasons. ToT is highest in Wajir at 82 and lowest in Isiolo at 52.	
Coping strategy index	Across the cluster and seasons the CSI values show a positive trend except for Garissa county which show a negative trend in SCI score being 17 previously to current 27.	
Food Consumption Score(Acceptable)	Across the county and seasons, FCS score for proportion within the acceptable category show an improving trend except in Garissa county which show reduction from the previous 78% to the current 55%	
Children at risk of Malnutrition	The proportion of children at risk of malnutrition within the cluster was stable and ranged from 12% to 22%. In Tana river the proportion at risk rose from 5% to current 10%.	

2.2.4 Rainfall Performance

The onset of the season was late by two dekads during the first dekad of April except for Wajir County which received rainfall in the second dekad. The amount received was below normal (50-90 percent) in Garissa, Isiolo, Tana River, Wajir and few parts of Mandera County. There was poor temporal and uneven spatial distribution in the entire cluster except Mandera with good temporal and even spatial distribution. There was normal cessation of rainfall in Mandera, Wajir and Isiolo counties and late cessation in Garissa and Tana River Counties.

2.2.5 Impact of Rainfall Performance, Shocks and Hazards

2.2.5.1 Crop Production

The main crops grown in the cluster are maize, sorghum, and cowpeas. The area under maize, sorghum, and cow peas declined by seven, 37 and 19 percent compared to the LTA respectively, attributed to flooding in some areas and late onset of the rains. Production of maize and sorghum was about 55 percent of LTA while that of cowpeas was about 40 percent of LTA mainly attributed to poor rainfall performance and reduction in the area planted.

The main crops grown under irrigation are maize, cowpeas and green grams. The cluster is served by Bura and Hola Irrigation Schemes majoring in maize production and community managed small scale irrigation production of crops like; kales, tomatoes, onions, banana, mango and pawpaw. The area under maize and cowpeas reduced by 75 and 13 percent while that of green grams increased by 15 percent. Farmers expect to realise 25 and 60 of their long term average harvest of maize and cowpeas respectively. Maize production was critically affected by suspension of provision of credit facilities to farmers in Hola and Bura irrigation schemes due to non-payment of loans by farmers. Other factors contributing to reduction in cropped area included, insecurity, flooding and change of river course. Green grams production is expected to increase by 10 percent largely attributed to increased area under the crop.

Households in this cluster are predominantly pastoralists and depend on market supply for maize food stocks. The maize stocks held by households is 5 percent of the LTA mainly attributed to decline in production. Maize stocks held by traders is about 70 percent above the LTA due to increased demand by households. The stocks held in the cluster are expected to last less than a month.

2.2.5.2 Livestock Production

The pasture and browse condition was fair to poor in pastoral and good to fair in agro pastoral livelihood zone which is below normal for the season. Access to forage and water in sections of Garissa (Maalimin, Dujis, Ashadin, Abakhayle,) and Isiolo (Hawaye, Bassa and Belgesh), was limited by insecurity and tsetse infestation (Garissa (Bura, Hulugho and Ijara). The livestock body condition was good for browsers and fair for grazers in all the livelihood zones across the cluster. The body condition is expected to deteriorate between now and the October to December short rains season.

Main sources of water for livestock are irrigation canals, River Tana, water pans, shallow wells along the *laggas*, swamps, springs and bore holes. The range of return trekking distances to watering points have remained within the LTA across the cluster as a result of the good rainfall performance which improved water recharge at the sources. Exceptional areas which recorded increased distances are Isiolo (pastoral and firewood/charcoal livelihood zones), Garissa (agro pastoral and pastoral all species livelihood zone) and in Tana River (pastoral livelihood zone).

The average watering frequency is once per day for all livestock in all livelihood zones across the cluster.

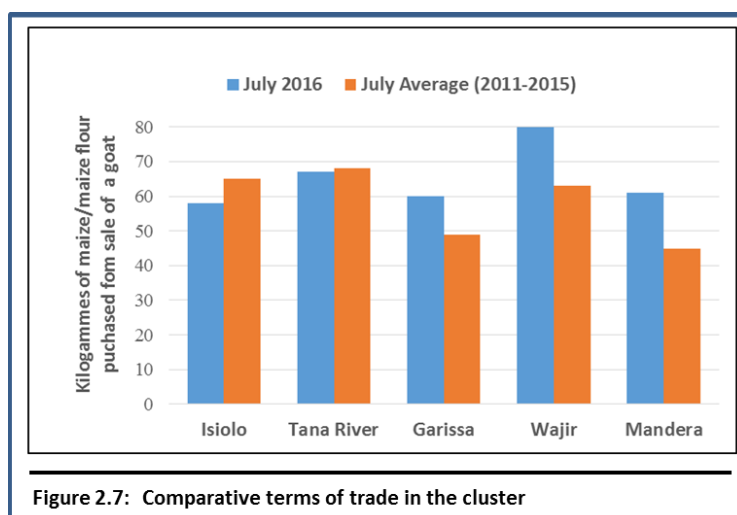
Milk production per household per day decreased by 50 percent of LTA in the pastoral areas but remained stable in the agro-pastoral zone. Household milk consumption reduced by between 25 and 50 percent of LTA across all zones. Average milk price per litre increased in the range of 33 and 50 percent of LTA across all livelihood zones. Tropical Livestock Units (TLUs) were ranging between 10 and 30 compared with normal 25 to 44 in all livelihood zones across the cluster. In and out migration was reported across the cluster, which is normal at this time of the year. The main migration routes were; from pastoral areas of Mandera West, Banissa and Mandera North towards Ethiopia, Mandera South towards Burmayao and Bolowle where pasture and water are available. In the agro pastoral parts of Wajir North, there was in-migration from Ethiopia, Wajir South from Somalia and Garissa. The influx of livestock is precipitating diseases across livelihood zones. Suspected cases of CCPP, FMD, CBPP, and Lumpy Skin Disease (LSD) were reported across the cluster. In Tana River County, led to imposition of a quarantine in Garsen. Current livestock mortality rates are low across all livelihood zones which is normal at this time of year.

2.2.5.3 Water and Sanitation

The main sources of water for domestic use in the cluster were; rivers, boreholes, water pans, and shallow wells. Recharge of the open water sources was 70 to 90 percent of their capacity across the cluster with the exception of pastoral cattle and pastoral all species livelihood zones of Wajir, Tana River and Isiolo counties which recorded 50-70 percent recharge levels. The recharge impacted positively in terms of water availability and access. Average distance to water sources across the cluster reduced from 10 to 4.5 kilometres in Mandera, seven to one kilometre in Wajir and remained within the normal 2.5-3 kilometres in Isiolo. However, the distances increased from 0.5-1 to 3-6 kilometres and from 0-3 to 5-10 kilometres in the agro pastoral and pastoral livelihood zones of Tana River respectively. The increase was occasioned by drying up of water pans which most households relied upon. In Oldonyiro ward in Isiolo county, the distances have increased from the normal 2.5 to five due to drying up of most water pans. The waiting time was normal across the cluster ranging from 30-60 minutes with exception of pastoral zones of Tana River which increased to two hours due to high concentration at the water sources. The average cost of a 20 litre jerry can was normal throughout the cluster ranging between Kshs 2-5. And from 10-50 from vendors. Water consumption in litres per person per day(l/pp/pd) was within the normal range of 10- 15 except the pastoral zones of Tana River and Lafey and Banisa in Mandera which recorded 5-10 l/pp/pd compared to the normal 10-15.

2.2.5.4 Market Performance and Trade Market operations in this cluster were affected by interruption of commodity flow by insecurity along the Kenya-Somali border and conflicts over pasture and water in Isiolo County which led to closure of Belgesh Market.

The terms of trade (ToT) were favourable and above the LTA across the cluster except in Isiolo



and Tana River counties (Figure 2.7). The current ToT was driven by better prices of goats and fairly stable prices of maize food commodity. Isiolo County experienced a sharp rise in maize price during the month compared to the long term average. Maize prices in the cluster ranged from Ksh. 45 per kilogram in Tana River to Ksh. 66 per kilogram in Mandera. In the livestock market goat prices in the cluster ranged between Ksh 2,936 in Isiolo to Ksh. 4,024 in Wajir County.

2.2.5.5 Health and Nutrition

2.2.5.5.1 Morbidity Patterns

Morbidity patterns across the cluster remained similar for both the under-fives and the general population. There has been a general decline in morbidity from January to June 2016 across the cluster for both the children under five years and the general population however an upsurge of Malaria was noted in Isiolo where cases reported increased by 88 percent compared to the same period in 2015. The upsurge was attributed to floods in Isiolo Central, Garbatulla and Merti areas that increased mosquito breeding. There was also an increase in diarrhoeal cases attributed to poor hygiene and sanitation practices. Mortality rates were generally below the alert thresholds across the cluster.

Table 2.7: Trends of epidemic diseases

County	Measles		Cholera		Dysentery	
	Jan-June 2015	Jan-June 2016	Jan-June 2015	Jan-June 2016	Jan-June 2015	Jan-June 2016
Garissa	196	5	0	10	478	425
Isiolo	0	0	13	0	127	181
Wajir	18	29	0	3	679	906
Mandera	25	162	0	1,792	830	890
Tana River	273	214	0	332	309	406

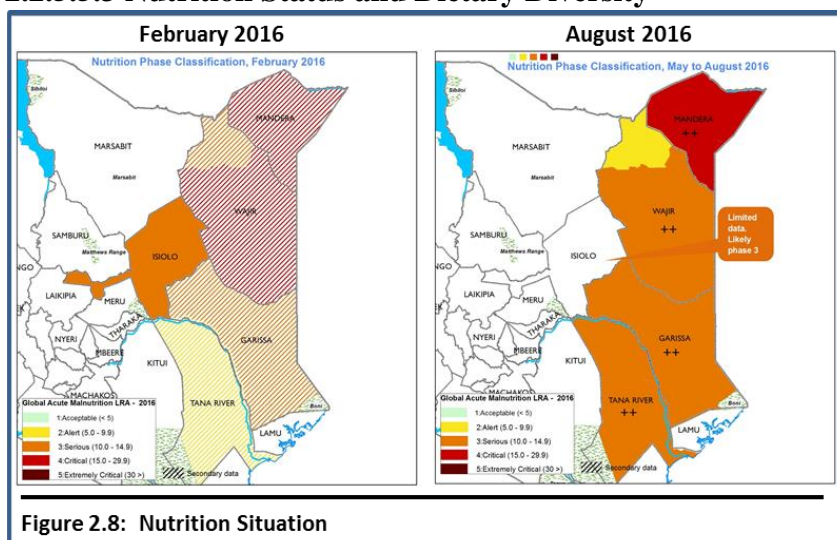
There were measles and cholera outbreaks reported in the cluster. In Mandera there were 18 deaths as a result of cholera and two due to measles (Table 2.7). Other epidemic prone diseases cases reported includes Chikungunya/ dengue out beaks in which a total of 35,952 cases were reported in Mandera. The cholera outbreak has been contained while Chikungunya cases are still being reported.

2.2.5.5.2 Immunization and Vitamin A Supplementation

The percentage of fully immunized in the cluster is below the national target and decreased from January to June 2016 compared to the same period in 2015 with the exception of Tana River where it is above the national target of 80 percent. The low immunization coverage in the cluster is attributed to cessation in outreach programs especially in the hard to reach places, closure of health facilities and staff turnover due to insecurity, households' migration, cultural beliefs and funding constraints.

According to DHIS, Vitamin A supplementation for children 6-59 months in January to June 2016 was below the national target across the cluster except in Isiolo County. The low Vitamin A coverage in the cluster was attributed to among others, reduction in outreaches, closure of some facilities and staff turnover due to insecurity, households' migration earlier than normal, making them more difficult to reach for immunization coupled with poor documentation.

2.2.5.5.3 Nutrition Status and Dietary Diversity



The nutrition situation in the cluster is generally Serious with global acute malnutrition rates being above 10 percent in Tana River, Garissa and Isiolo. The situation has deteriorated in June 2016 compared to the same period in 2015. In Wajir North, the GAM rates are 9 percent indicating an Alert situation. The nutrition situation in Mandera, although showing slight improvement, still remains Critical, with GAM rates above 20 percent. The proportion of households having acceptable food consumption scores increased across the cluster while the percentage of households having borderline and poor food consumption score decreased. Households are consuming 1-2 meals a day across the cluster except in Tana River where they are consuming 2-3 meals.

2.2.5.5.4 Sanitation and Hygiene

Latrine coverage was below the national target of 61 across the cluster. According to SMART surveys in June 2016, water treatment is low across the cluster at less than 20 percent. Hand washing practices were poor as indicated less than 30 percent washed their hands at the critical times.

2.2.6 Coping Mechanisms

Table 2.8: Coping Strategy Index

	May 2015	May 2016
Mandera	33	19
Wajir	33	15
Garissa	17	21
Isiolo	33	19
Tana River	15	27

Generally, the mean coping strategy index for the cluster declined compared with the same period last year which is indicative of reduction in the frequency and severity of food consumption strategies applied by the households. However, in Garissa and Tana River counties the index increased and were using the consumption more frequently compared with last year. The main strategies used were, eating less preferred and/or less expensive food, reducing the number of meals, reduced the portion sizes and restricting consumption of food by adult in order for young children to eat.

2.3 The Agro Pastoral Livelihood Cluster

2.3.1 Cluster Background

The cluster consists of six counties namely; Laikipia, Kajiado, Narok, Nyeri (Kieni), West Pokot and Baringo. It covers an area of 71,757 square kilometres with a population of 2,945,217 (KNBS, 2009). The cluster has six livelihood zones of which the pastoral livelihood zone accounts for 27 percent of the population while agro-pastoral, mixed farming, marginal mixed farming and formal employment/tourism/trade/business zones accounts for 11, 31, 20 and 10.7 percent respectively (Figure 2.9)

2.3.2 Current Factors Affecting Food Security

The main factors affecting food security are poor temporal and spatial distribution of the long rains, frost bite in Nyeri and Laikipia, crop pests and diseases such as Maize Lethal Necrosis Disease (MLND) in Narok, Baringo and Laikipia, high cost of farm inputs, invasive pasture weeds, endemic livestock diseases, high cost of veterinary drugs, inadequate pasture leading to livestock migration, insecurity along the borders due to cattle rustling and conflicts over water and pasture, human wildlife conflicts, poor road and water infrastructure, and flash floods in Kajiado.

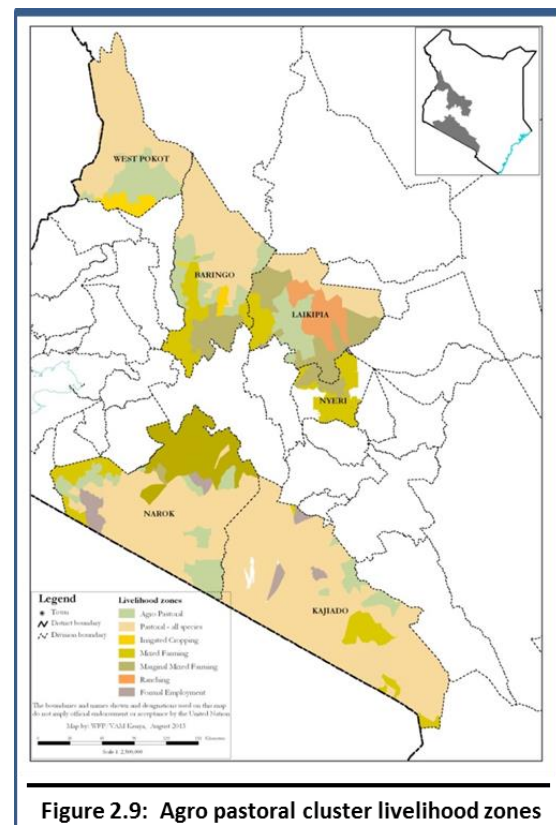


Figure 2.9: Agro pastoral cluster livelihood zones

2.3.3 Cluster Food Security Situation

2.3.3.1 Current Food Security Situation

Most of the cluster is classified in the Minimal phase (IPC Phase 1) except for some areas in the pastoral and agro-pastoral livelihood zones of Laikipia, Baringo and West Pokot counties, which are classified as Stressed (IPC Phase 2). Crop production mainly maize, beans, cow peas and potatoes increased across the cluster except in Laikipia and Nyeri counties where production reduced by 12 percent and 18 percent respectively compared to the LTA. Most households in the cluster have sufficient food and are able to consume between two to three meals with a diversity of four food groups which is normal. Pasture and browse condition is good translating to good livestock body condition in the entire cluster. Milk production is within the normal range across the cluster, except for West Pokot and Nyeri counties where milk production is above the LTA. Water consumption is normal ranging from 15 - 40 litres per person per day, with the highest consumption of 30 - 40 litres per person per day reported in the mixed farming and marginal mixed farming zones in Laikipia County. The percentage of children at risk of malnutrition as measured by mid upper arm circumference (MUAC <135mm) is below the LTA across the cluster. There were no unusual cases of disease outbreaks during the period. The crude mortality rate (CMR) and the under-five mortality rate (U5MR) were both below the alert cut-offs.

2.3.3.2 Food Security Trends

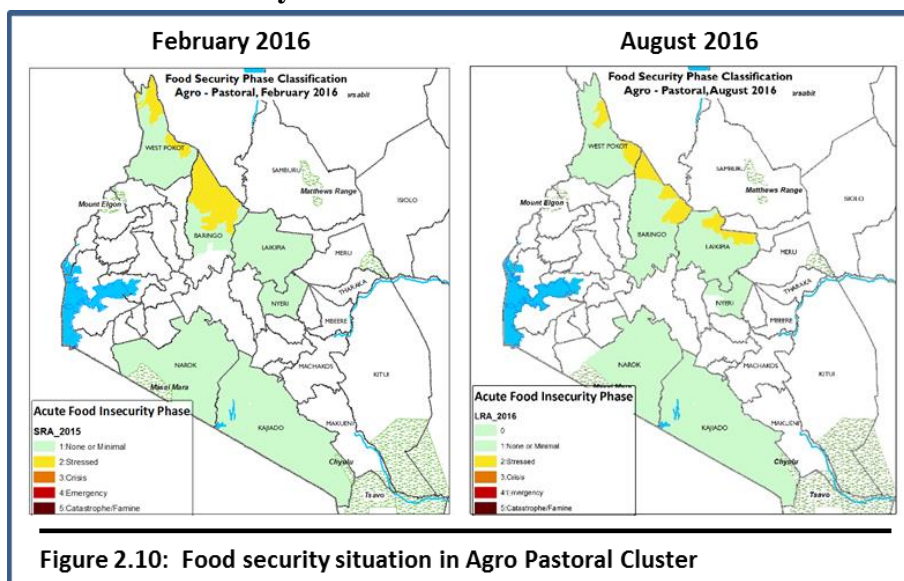


Table 2.9: Food Security Trends

Indicator	(Current) Long rains assessment, July 2016	(Previous) Short rains assessment, Feb 2016
Food security phase	None/minimal except for parts of the pastoral and agro pastoral areas of Baringo, West Pokot and Laikipia	None/minimal except for the pastoral and agro pastoral parts of Baringo and West Pokot
Household water consumption	15-25 litres per person per day	15-35 litres per person per day
Meal frequency	2-3 meals per person per day across the cluster	2-3 meals p/p/d across the cluster
Terms of Trade	All counties ToT are above LTA	West Pokot and Laikipia ToT was below LTA
Coping strategy index	CSI at 15 showing a positive trend across the cluster	CSI value was 27 across the cluster
Food consumption score	Acceptable: 90.7%	Acceptable: 56.4%
Children at risk of Malnutrition	Stable and below LTA, Nyeri at 0.8% and West Pokot 10.7% per	Stable and below the long term average

2.3.4 Rainfall Performance

The onset of the long rains in the agro pastoral livelihood cluster was late; with rainfall onset occurring in the first dekad of April with exemption of Narok and Nyeri counties where onset was timely; in the first dekad of March and third dekad of March respectively. Generally, the cluster received between 90 and 110 percent of normal rainfall. The average amount of rainfall ranged between 160mm and 340mm. Kajiado was the only county that received substantial off season rains in January and February. The rainfall was generally characterized by even spatial distribution with exemption of Baringo and West Pokot counties which had uneven spatial distribution. Temporal distribution in the cluster was poor. Cessation was generally early, as it occurred in the second and third dekad of May compared to first dekad of June normally, except in Narok where cessation was late; in the third dekad of June.

2.3.5 Impact of Rainfall Performance, Shocks and Hazards

2.3.5.1 Crop Production

The cluster is mainly dependent on the long rains season for crop production. Crop production contributes 30 percent to food and about 40 percent to cash income for households. The main crops grown in the cluster include maize, beans and Irish potatoes. Currently, maize harvesting is ongoing in most counties within the cluster. The area planted under maize and beans was within long term average. There was a slight decline in maize production by about 5 percent while production of beans declined by about 10 percent. The decline in production is due to below normal rainfall received in some parts of the cluster such as Kieni. In other parts of the cluster, production was generally within the normal range due to the adequate rains received, timely availability of fertilizer and reduced incidences of Maize Lethal Necrosis Disease. The main crops grown under irrigation are tomatoes, maize and cabbages. Other crops grown under irrigation include kales and onions. The total area under irrigation decreased from 6,730 hectares to 5,210 hectares. Area under maize reduced from 3,880 hectares to about 2,650 hectares while that of cabbages reduced from 755 hectares to 615 hectares. There was an increase in the area under tomatoes from 1,380 hectares to 1,640 hectares. Due to decreased area under irrigation, maize and cabbage production was about 60 percent of LTA. Tomato production was however 20 percent above the LTA.

The total maize stocks available in the cluster were about 90 percent of LTA. Household stocks are about 85 percent of the LTA due to reduced production in parts of the cluster, less carryover stock from the previous season and delayed harvesting. Maize stocks are expected to increase from the month of August from the long rains harvests in counties such as Nyeri, Narok and Laikipia. Stocks held by traders are generally within the LTA.

2.3.5.2 Livestock Production

The pasture and browse condition is good to fair in all the livelihood zones across the cluster which is normal for the season, except in parts of the pastoral areas in Kajiado county such as Iltital, Lenkism, Njukuini and Imbirikani, where pasture condition is poor due to inadequate rains and influx of livestock. Crop residues like maize stovers, wheat straws and beans husks are currently being utilized to supplement livestock feeds in the agro-pastoral, mixed farming (MF) and marginal mixed farming (MMF) zones, which is normal at this time of the year. Access to forage is unlimited across the cluster except in West Pokot county where access is limited by the imposed quarantine following the outbreak of Foot and Mouth Disease (FMD) in Pokot South and Pokot West.

Livestock body condition is good for browsers but good to fair for grazers in all the livelihood zones across the cluster. The trend is likely to remain stable due to availability of pasture and browse, and reduced trekking distances to grazing areas and water points. The range of return trekking distance to watering points remained stable in all livelihood zones across the cluster which is normal for this time of the year. The average watering frequency is once per day for all livestock in all livelihood zones across the cluster. Milk production, consumption and prices remained stable compared with the LTA in all livelihood zones across the cluster during the season.

Tropical livestock units (TLUs) in all livelihood zones in the cluster remained unchanged compared to LTA. In and out migration was reported across the cluster, which is normal at this time of the year. Migration patterns and routes in the cluster were normal except for livestock from the pastoral areas of Pokot North which migrated along the Amudat - Kiwawa route and the in-migration of livestock returning earlier from Uganda due to the good forage regeneration

following off season rains. In Kajiado county, livestock in-migration to Matapato south and Maparasha areas was reported while out-migration to Chyulu hills in Makueni county was also recorded.

Movement of livestock is causing an increase in the spread of diseases across the cluster. Confirmed cases of Foot and Mouth Diseases (FMD) were reported in Baringo (Tiaty) and in all sub counties in Kajiado County. Suspected cases of Contagious Caprine Pleuropneumonia (CCPP), FMD, Contagious Bovine Pleuropneumonia (CBPP) and Lumpy Skin Disease (LSD) were reported across the cluster. Vaccinations against Black quarter, LSD; Sheep and Goat Pox and Rabies were carried out in Baringo County. Current livestock mortality rates were within normal ranges.

2.3.5.3 Water and Sanitation

The main sources of water in the cluster are rivers, boreholes, streams, shallow wells, springs, swamps, pans/ dams piped water schemes. Recharge to the open water sources was 65 to 100 percent of their capacity with the least in the marginal mixed zones of Kieni. The recharge impacted positively in terms of water availability and access. Surface water sources are holding approximately 70 - 90 percent of their capacities and most of them have adequate water which is above normal at this time of the year. Distance to water sources is within the normal range of 0.5-3 kilometres in Baringo, Kieni, Laikipia and West Pokot and 2-5 kilometres in Narok and Kajiado. Distances in Kajiado South and Doldol in Laikipia have increased to 7-10 kilometres due to silting of pans as well as breakdown of boreholes.

Waiting time at the source is within the normal range of five and 10 minutes in areas with developed water sources in Baringo, mixed farming zones of Laikipia, Kajiado South and West Pokot. In the marginal mixed, pastoral and agro pastoral zones, the waiting time remained within the normal range of 20-40 minutes except for parts of West Pokot where it is currently at 60 minutes.

Water consumption was within the normal range of over 15 litres per person per day in the mixed, irrigated, agro pastoral and marginal mixed farming zones. The lowest consumption of 10-15 litres per person per day was recorded in the pastoral livelihood zone in West Pokot County. The cost of water at the source is within the normal range of Ksh. 2-5 and Ksh 10-20 from vendors.

2.3.5.4 Market Performance and Trade

Market operations in the cluster remained undisrupted with favourable terms of trade remaining above the long term average (Figure 2.11). Goat prices are above the LTA and fairly stable (ranging from Ksh. 2,835 in Baringo, to Ksh. 3,500 in West Pokot and Ksh. 4,800 in Kieni), maize prices are below the LTA trading between Ksh. 36 in Laikipia and Ksh. 45 in Kajiado. Current trend is expected to remain stable with the prevailing good body condition of goats and increased supply of maize from on-going harvesting in various parts of the cluster.

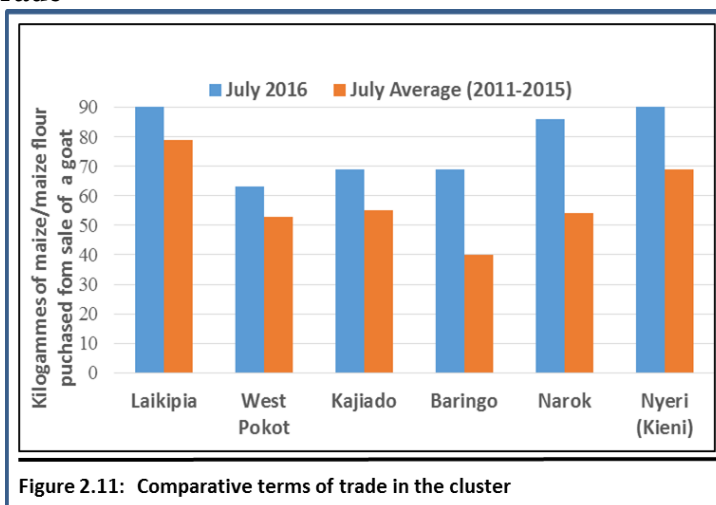


Figure 2.11: Comparative terms of trade in the cluster

2.3.5.5 Health and Nutrition

2.3.5.5.1 Morbidity Patterns

The five most common diseases reported across the cluster for children below five years were: Upper respiratory tract infections (URTI), diarrhoea, skin infection, pneumonia, and malaria in that order. There was a decline by 34, 27, and 19 percent in URTI, malaria and diarrhoea respectively in the cluster. However Narok County reported 13 percent increase in diarrheal diseases among the children below five years in 2016 compared to the similar period in 2015. However, pneumonia and skin diseases incidences increased by 13 and 12 percent respectively in the cluster among children below five years.

The general population had similar top five diseases reported in children under five years. Except Nyeri (Kieni) which reported rheumatism and hypertension among the top five diseases. Overall, there was 28, 7, and 8 percent decline in URTI, malaria and diarrhoea respectively in the cluster. However there was an 8 percent increase in malaria cases in West Pokot and 12 percent increase in diarrheal diseases in Kajiado County. Pneumonia incidences increased by 16 percent across the cluster except in Nyeri (Kieni). On the other hand the cluster recorded a reduction in measles, cholera and dysentery cases by 15 percent, 65 percent and 16 percent respectively.

2.3.5.5.2 Immunization and Vitamin A Supplementation

The proportion of fully immunized children vaccinated during the period between January and June 2016 compared with same period in 2015 remained relatively stable in Nyeri, Baringo and Narok counties. However immunization coverage in West Pokot and Laikipia decreased by 32 and 7.4 percent respectively. The decline in coverage is attributed to scaling down of outreach programmes due to inadequate resources.

Vitamin A coverage is generally poor across the cluster, with none of the counties achieving the national target of 80 percent. Low vitamin A coverage in the cluster is attributed to poor health seeking behaviour and inadequate support for integrated outreaches activities in the hard to reach areas.

2.3.5.5.3 Nutrition Status and Dietary Diversity

The proportion of children at risk of malnutrition by mid-upper arm circumference (MUAC) <135mm across the cluster is stable and below the LTA (Figure 2.12), indicating relative improvement in factors contributing to food security situation.

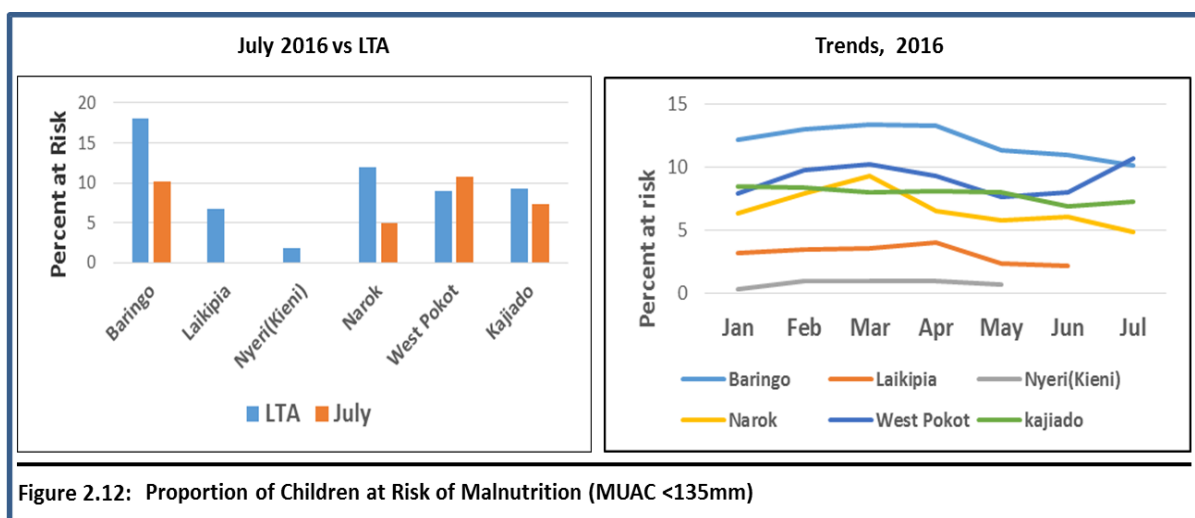


Figure 2.12: Proportion of Children at Risk of Malnutrition (MUAC <135mm)

2.3.5.5.4 Food Consumption Score

The proportion of households with acceptable food consumption score (FCS) has increased since 2014, while those in borderline and Poor FCS has been reducing to less than 15 percent as of May 2016. The proportion of households in the cluster with acceptable consumption increased significantly in May 2016 from 56.4 percent in May 2015 to 90.7 percent in May 2016. The substantial shift of households from poor and borderline to acceptable FCS is indicative of improved household dietary diversity and meal frequency which has resulted from increased food production and favourable market prices of food commodities over the last three seasons. Many households across all livelihood zones continued to rely on cereals, legumes and milk as the main foods. In addition, vegetables are regularly consumed in the mixed farming zone. Currently households are consuming two to three meals per day which is normal for this time of the year.

2.3.5.5.5 Sanitation and Hygiene

Latrine coverage is lowest in the pastoral zones ranging from 10-30 percent in Baringo and West Pokot. The low latrine coverage is attributed to cultural practices and migration. A significant proportion of population in agro pastoral livelihood zones rely on open water sources and surveys indicate low water treatment, hence there is high likelihood of contamination.

2.3.6 Coping Mechanisms

The mean coping strategy score reduced from 36 in May 2014 to 27 in May 2015 and further to 15 in May 2016, implying that households in the agro pastoral livelihood cluster were employing less severe coping mechanisms to bridge any food gaps and the strategies used were less severe. Most common consumption related coping strategies employed by households were relying on less preferred and less expensive food.

2.4 The Southeastern Marginal Agriculture Livelihood Cluster

2.4.1 Cluster Background The cluster consists of Tharaka Nithi, Meru (North), Kitui, Makueni and Embu (Mbeere) counties. Its population is 3,032,460 (KNBS, 2009) and covers an area of 47,348 square kilometres. It has two major livelihood zones (figure 1): mixed farming (26 percent of the population) and marginal mixed farming (65 percent of the population).

2.4.2 Current factors affecting food security

Main factors affecting food security are poor rainfall distribution, crop failure in parts of Makueni, poor pasture quality, resource based conflicts, livestock diseases, high cost of veterinary drugs, poor road and water infrastructure, and poor post-harvest management.

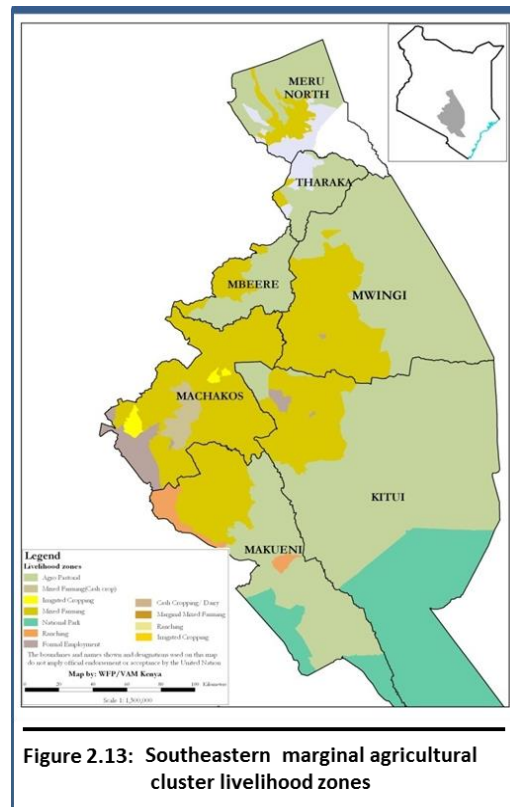


Figure 2.13: Southeastern marginal agricultural cluster livelihood zones

2.4.3 Cluster Food Security Situation

2.4.3.1 Current Food Security Situation

The cluster is classified as Minimal (IPC Phase 1) in the integrated food security classification system except the Marginal Mixed Farming livelihood zones of Makueni county, Kitui South sub county and localized parts of Agro-pastoral areas of Meru North, which are classified as Stressed (IPC Phase 2). Food consumption at household level has improved with a score of 90 percent in the acceptable category across the cluster compared to last season's 70 percent. Households consume two to three meals per day which is normal except in Makueni and Kitui Counties, as well as in the Mbeere in Embu County, where households consume one to two meals instead of the normal two to three meals. Water consumption across the livelihoods in the cluster reduced to 10 - 20 litres per person per day compared to normal of 15-30 litres, with exception of Mbeere areas where it stabilized at 15 - 60 litres across the livelihoods.

The Terms of Trade for the cluster rose significantly over the period, ranging between 103 kilograms and 138 kilograms of maize from the sale of one goat in Makueni and Mbeere areas respectively. Household milk production and availability were reduced across the livelihood zones in the cluster ranging from 0.2 to 3 litres compared to one to five litres for LTA. Exception is Meru North where both production and consumption is normal for this time of the year. The proportion of children at risk of malnutrition is stable and below alert levels ranging 4.4 percent in Mbeere to 6.8 percent for Tharaka Nithi and Kitui Counties. Meru North has sustained higher MUAC percentages compared to other counties in the cluster at 15.2 percent, a drop though from last year's 18.4 percent. The Coping Strategy Index for the cluster reduced to 13 compared to last season's 20, and closely comparable to similar period in 2015 when it was 10.

2.4.3.2 Food security trends

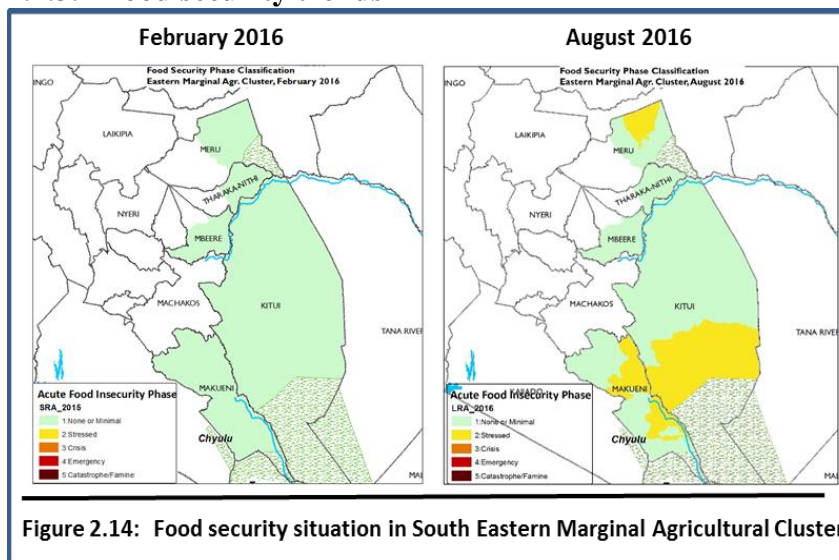


Figure 2.14: Food security situation in South Eastern Marginal Agricultural Cluster

Table 2.10: Food Security Trends

Indicator	(Current) Long rains assessment, July 2016	(Previous) Short rains assessment, Feb 2016
Food security phase	None or Minimal, except parts of marginal mixed farming areas.	Minimal across the cluster
Household food stocks	374,796 bags (30% of LTA)	234,989 bags
Livestock body condition	Good	Good
Household water consumption	Comparable	Comparable
Terms of trade	103-138 (June 2016)	89 - 115 (January 2016)
Coping strategy index	13 (May 2016)	20 (December 2015)
Food consumption score; MF and MMF livelihood zone	Acceptable (91.1) Borderline (7.9) Poor (1)	Acceptable (73) Borderline (29) Poor (6)
Children at risk of malnutrition	4.4% – 6.8 % Meru North 15.2%	3.5% - 6.7% Meru North 18.4%

2.4.4 Rainfall performance

The onset of the 2016 long rains was late, in the first dekad of April across the cluster. Generally, the cluster received near average rains, with localized areas (in Kitui and Makueni) receiving about 110 - 125 percent of normal rains, mainly in the mixed farming livelihood zone. Other parts of the cluster especially in Meru, Tharaka Nithi and Embu received 75 – 90 percent of normal rains. The rainfall pattern was characterized by uneven distribution in space while temporal distribution was poor in most parts of the cluster with only Kitui and Makueni recording good temporal distribution. Cessation was early in second dekad of May except for Embu (Mbeere) where cessation was normal in the second dekad of June.

2.4.5 Impacts on Rainfall Performance. Shocks and Hazards

2.4.5.1 Crop production

The cluster is mainly dependent on the short rains season which accounts for about 60 percent of annual crop production. The main crops grown in the cluster include maize, cowpeas and green grams. Other important crops are pigeon peas, beans, sorghum and mangoes. There was a decline in the area put under maize by about 20 percent mainly as farmers opted to plant other drought tolerant crops. The area under cowpeas and green grams increased by 30 and 10 percent respectively. Maize production was about 50 percent of LTA while that of cowpeas and green grams was 20 percent of LTA.

Irrigation in the cluster is mainly carried out in small scale irrigation schemes and green houses. The crops grown under irrigation include tomatoes, water melons, kales and bananas. The area under irrigation increased by about 630 hectares from an LTA of 2,350 hectares to the current 2,980 hectares. Increase in area under irrigation is mainly attributed to support to small irrigation projects and good markets for horticultural produce. Overall production under irrigation increased from the LTA by about 40,000 MT to the current 70,000MT.

Maize stocks held by households is about 30 percent above the LTA mainly attributed to availability of carry-over stocks of the previous short rains season when there was a bumper harvest in parts of the cluster. Household stocks are expected to increase with onset of maize harvesting. Household stocks in Makueni and Meru Counties are 90 and 70 percent of LTA respectively. The total stocks held by traders is in the cluster 70 percent of LTA mainly attributed to availability of stocks at household level thus lower demand for maize. The overall stocks held were 92 percent of the LTA.

2.4.5.2 Livestock Production

The main livestock species are cattle, goats, sheep and chicken and livestock production contributes 22 - 35 percent to cash income in mixed farming zones, and 40 - 60 percent in the marginal mixed farming zone. Pasture condition was fair across the cluster except in the mixed farming zone where they were good. Maize stovers are expected to supplement livestock feeding following the anticipated crop harvest. The forage situation is fast deteriorating with progressing dry spell. Pasture fields were accessible for grazing without any hindrance.

The range of return trekking distance to watering points remained stable in all livelihood zones across the cluster which is normal for this time of the year. The agro-pastoral zone recorded the longest trekking distance. The livestock body condition for all species across the cluster is good in all livelihood zones. The good livestock body condition can be attributed to the availability of forage, water and the ongoing vaccination measures.

The current average milk production and consumption per household and prices remained stable across all the livelihoods in the cluster but is expected to reduce as the lean season sets in.

The average milk consumption per household per day is within the normal ranges across all the livelihoods expect for the agro pastoral livelihood zone. The average price of milk per litre has increased by 10 percent of LTA, for all the livelihood zones across the cluster, which is normal at this time of the year.

Several cases of Foot and Mouth Disease, Lumpy Skin Diseases, Trypanosomiasis, Peste des Petits Ruminants, Contagious Bovine Pleuropneumonia, and Contagious Caprine Pleuropneumonia in cattle, sheep and goats were reported across the cluster. Vaccination is being undertaken as a control measure and diseases surveillances have been up-scaled across the cluster. Other endemic diseases are Newcastle diseases reported in Mwingi, Tharaka Nithi and Meru.

2.4.5.3 Water and sanitation

The major sources of water in the cluster are rivers, boreholes, dams, piped water, springs, water pans and shallow wells, which are the normal ones at this time of the year. Recharge of open water sources ranged between 60 and 80 percent with the exception of marginal mixed farming livelihood zones of Kitui and Meru North where recharge was about 50 percent. The recharge impacted positively in terms of water availability and access. Water in the open water sources is projected to last for two to three months. The current distance to water sources averaged 0.5 - 4 kilometres which is normal at this time of the year with an exception of marginal mixed farming livelihood zones of Kitui and Meru North where they are eight compared to six kilometres normally. The current waiting time was between 20 - 30 minutes which compares normally with exception of marginal mixed farming zones of Mbeere and Makueni where waiting time increased to 60 minutes. The increase could be attributed to drying up of open water sources resulting in high concentration in the permanent water sources.

Cost of water remained within the normal range of two to five shillings per 20 litre jerrican in Kitui and the mixed farming zones of Makueni. However, it increased in the marginal mixed farming zones of Makueni and Tharaka from five and 10 to 10 and 20 respectively. There was a reduction from 20 shillings normally to 15 in the mixed farming zones of Tharaka but remained within the normal range of 10-30 in the rain fed and agro pastoral zones of Meru North and Tharaka. The average water consumption per person per day was above 15 across the cluster which is within the normal. However Kitui South and East recorded the lowest

consumption of five and 10 compared to the normal 10 and 15 respectively due to drying up of most open water sources as well as and water rationing for the piped schemes.

2.4.5.4 Markets and trade

Market operations in the cluster were normal. Since April the price of maize has notably been on a gradual increase mainly attributed to rise in demand for the commodity following a decline in food stocks at the household level and poor prospect of a harvest from the long rains. Relatively, prices in Meru county were consistently below the cluster average for most of the period owing to availability of stock from the

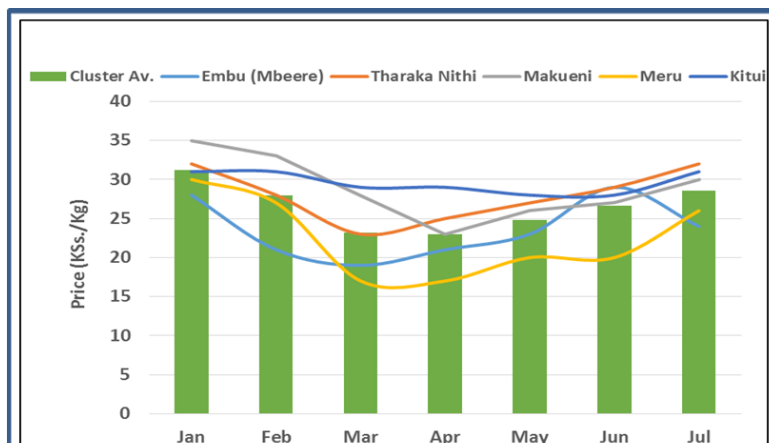


Figure 2.15: Comparative maize price trends in the cluster

short rains harvest. Price per kilo ranged from Ksh. 24 in Embu and Ksh. 32 in Tharaka Nithi. The current price trend is expected to persist until the start of short rains harvest in January 2017 (Figure 2.15).

2.4.5.5 Health and Nutrition

2.4.5.5.1 Morbidity and mortality patterns

Across the counties the diseases most prevalent among children under five years are Upper Respiratory Tract Infections (URTIs), diarrhea, Intestinal worms, pneumonia and skin diseases. The major diseases among general population include; URTI, hypertension, arthritis, skin diseases, and Urinary Tract Infection (UTI). Diarrheal cases declined in 2016 compared 2015 this was attributed to improved hygienic practices.

2.4.5.5.2 Immunization and Vitamin A Supplementation

Fully Immunized Child (FIC) under one year old coverage varied from 63 to 88 percent, with Kitui, Meru North and Tharaka Nthi counties reporting below the national recommended target of 80 percent. Routine Vitamin A supplementation coverage for children six to 59 months was below the national target of 80 percent across the cluster. The decline in coverage was attributed to documentation gaps across the counties and religious beliefs by communities in parts of Kitui and Tharaka Nithi whose faith advocates for non-use of modern health practices.

2.4.5.5.3 Nutrition Status and Dietary Diversity The percentage of children under five at risk of malnutrition based on MUAC less than 135mm remained stable. In July 2016, lower proportions were reported against the LTA in all counties. Meru North had the highest percentage of children at risk of malnutrition and the trend has been rising since the month of May (Figure 2.16).

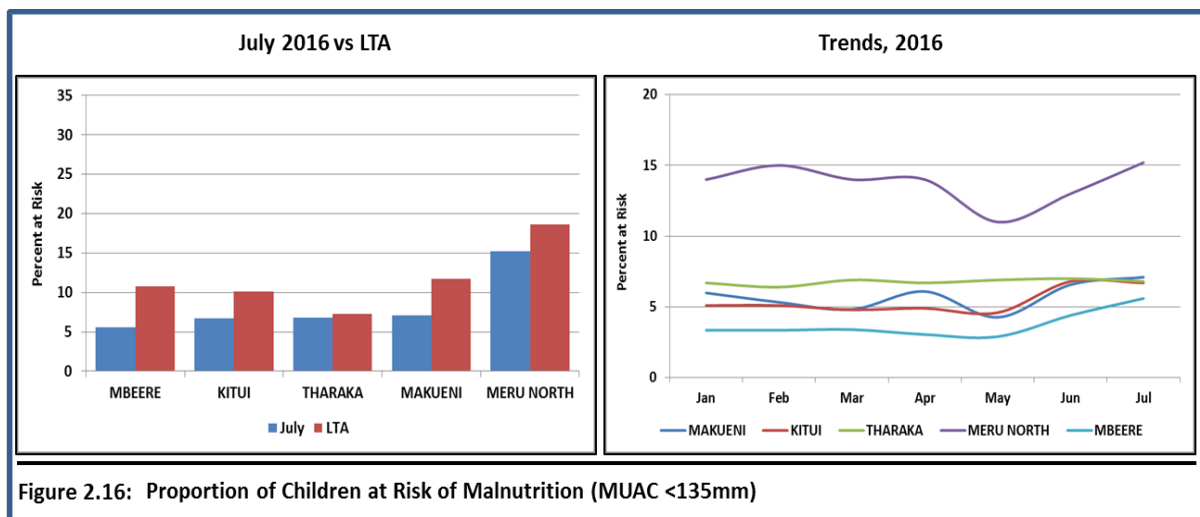


Figure 2.16: Proportion of Children at Risk of Malnutrition (MUAC <135mm)

2.4.5.5.4 Food Consumption Score

Some 91 percent of households had an acceptable food consumption and only 2 percent had a poor diet while 7 percent had borderline food consumption. This was an improvement compared to May 2015 and could be attributed to carry over effects from the previous good short rains season. Current meal frequency is two to three meals per day as compared to the normal of three to four meals per day. This can be attributed to diminishing food stocks and limited sources of income. The meals had low dietary diversity of 2-3 food groups consisting of cereals, pulses and vegetables.

2.4.5.5.5 Sanitation and Hygiene

Across the cluster there were improved hygiene practices such as proper storage of water and hand washing at the critical times practiced resulting to reduction water borne diseases. Water treatment method remains low at 20-30 percent. Latrine coverage range between 60 to 90 percent. Hand washing is practiced in both livelihood zones with the resulting improved health status within the community

2.6 Coping Mechanisms

There was an improvement in the coping strategy Index from 20 in May 2015 to 13 in May 2016 meaning those who were adopting consumption coping strategies were doing it less frequently and were less severe. Additionally, there was an increase of households who did not adopt any of the consumption coping strategies from 12 percent in May 2015 to 44 percent in May 2016. The most commonly used strategy was reduction of number of meals by adults and engaging in casual labour.

2.5 The Coastal Marginal Agricultural Livelihood Cluster

2.5.1 Cluster Background

The cluster consists of Kwale, Kilifi, Taita Taveta and Lamu counties and covers an area of 47,861 square kilometres with a population of 2,182,554 according to the population census of 2009 (KNBS, 2009). It has three major livelihood zones; mixed farming (60 percent of the population), trade/business/formal employment/casual labour (21 percent) and marginal mixed farming (11 percent) as shown in Figure 2.17.

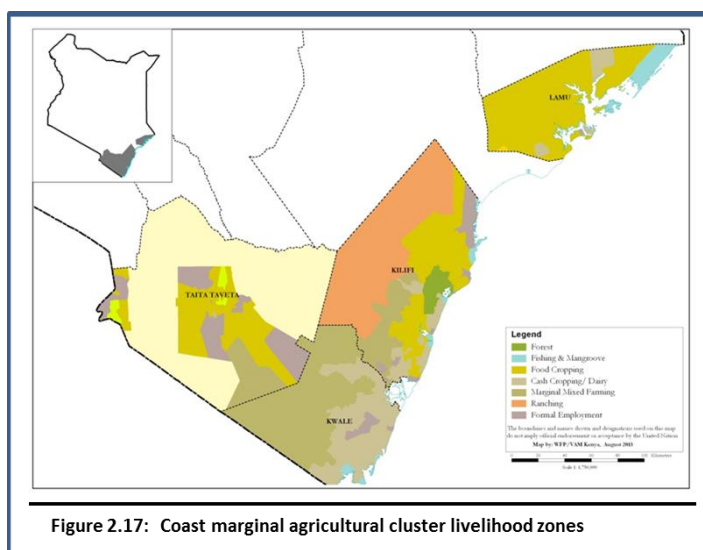


Figure 2.17: Coast marginal agricultural cluster livelihood zones

2.5.2 Current Factors Affecting Food Security

The main factors affecting food security are poor performance of the long rains, crop failure, flooding in parts of Kwale, high food prices, poor road infrastructure, insecurity, human - wildlife conflict and livestock diseases.

2.5.3 Cluster Food Security Situation

2.5.3.1 Current Food Security Situation

The current cluster food insecurity phase classification is Minimal (IPC Phase 1). However, the ranching livelihood zone as well as parts of the mixed farming and marginal mixed farming livelihood zones of Kilifi county, the northern part of the livestock zone in Kwale county, and the mixed farming (food crops, livestock) zone of Mwatate Sub county of Taita Taveta county are in Stressed (IPC Phase 2). Food consumption is normal across the cluster where in May 2016, the households with acceptable food consumption was 67.4 percent while those with poor food consumption was at 6.3 percent, a reduction when compared to a similar period last year. Households consumed 2 - 3 meals per day consisting of 3 - 4 food groups. Milk production, consumption and prices remained stable. Water consumption was stable ranging 10 - 15 litres per person per day across the livelihood zones. The percentage of children at risk of malnutrition as measured by Mid Upper Arm Circumference (MUAC <135mm) is stable and below the LTA across the cluster. Similarly, the Crude Mortality Rate (CMR) and the Under Five Mortality Rate (U5MR) were below the alert levels of one person per 10,000 persons per day. The Coping Strategy Index (CSI) was 18 in May 2016 closely comparable to 16 during the same period in 2015. Prices of maize were relatively stable following seasonal trends across the cluster except in Kilifi and Lamu counties where prices were lower than the LTA by eight and 13 percent respectively.

2.5.3.2 Food Security Trends

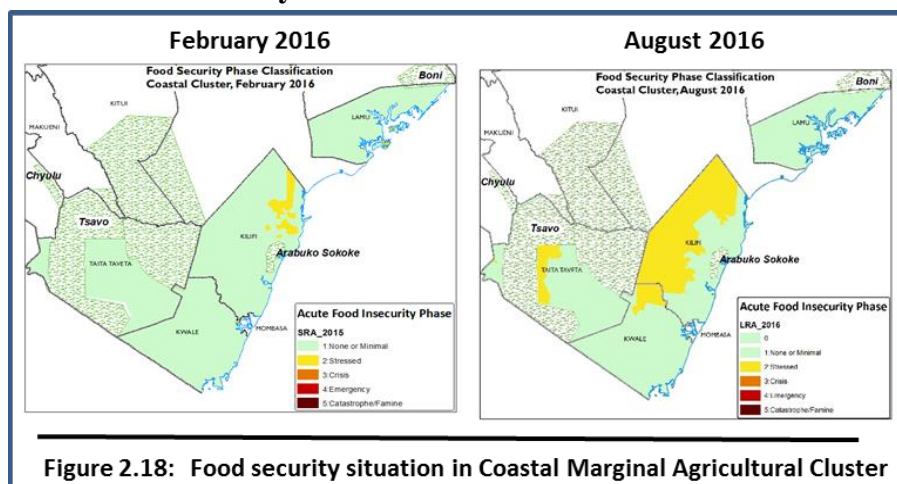


Figure 2.18: Food security situation in Coastal Marginal Agricultural Cluster

Table 2.11: Food Security Trends

Indicator	(Current) Long rains assessment, July 2016	(Previous) Short rains assessment, Feb 2016
Food insecurity phase	Minimal in most parts of the cluster except the marginal mixed farming, mixed farming and ranching livelihood zones in Kilifi county and localized parts in Kwale and Taita Taveta (Figure 2.18).	Largely Minimal in all counties in the cluster except in parts of the mixed farming livelihood zone of Kilifi which was stressed in
Maize stocks held by households	60 percent of LTA	62 - 81 percent of LTA
Livestock body condition	Fair to good across the cluster	Fair to good across the cluster
Water consumption	5 - 30 litres per person per day	10-30 litres per person per day
Price of maize	35 – 41 Ksh. per kg	30-40 Ksh. per kg
Distance to grazing areas	5-15 km ranching and marginal mixed farming livelihood zone 1-8 km mixed farming livelihood zones 2-8 km livestock farming livelihood zones	2-4 km marginal mixed farming, livestock farming and ranching livelihood zones 1-8 km mixed farming livelihood zone
Coping strategy index	18 (May 2016)	16 (May 2015)
Food consumption score	(May 2016) Poor 6.3 percent Borderline 26.2 percent Acceptable 67.4 percent	(May 2015) Poor 11.8 percent Borderline 30.3 percent Acceptable 58.0 percent
MUAC	Averaged 5.0 percent except in Taita Taveta at 2.9 percent	Averaged 4.7 percent in Kilifi and Kwale, 3.6 percent in Lamu, 2.9 percent in Taita Taveta

2.5.4 Rainfall Performance

There was a late onset of the long rains in the first dekad of April across the cluster. The cluster received between 75 and 110 percent of the normal rainfall. Most parts of Kilifi and northern parts of Kwale received between 50 and 75 percent of the normal rainfall while some parts of Kilifi County received below 50 percent of the normal rainfall. Spatial distribution was uneven over the cluster while temporal distribution was poor except for Kilifi County which recorded good temporal distribution. Cessation was early in Kwale and Taita Taveta occurring in the

first dekad of May while in Kilifi and Lamu County rainfall ceased in the second dekad of May.

2.5.5 Impact of Rainfall Performance, Shocks and Hazards

2.5.5.1 Crop production

Most parts of the cluster are dependent on the long rains season for crop production including Lamu, Kwale and the coastal areas of Kilifi county. Taita Taveta county and the hinterland of Kilifi are mainly dependent on the short rains season. The total area under crop production was 20 percent above the LTA mainly attributed to provision of subsidized tractor hire services and distribution of seeds by county governments. Yield and production of crops was however below normal mainly attributed to poor rainfall performance except for Lamu which realized near average production due to an increase in area planted. Maize and cowpeas production was 46 and 28 percent of LTA respectively. Flooding in parts of Kwale destroyed about 2,000 hectares of maize reducing production. Cassava production was 35 percent above the LTA due to the good performance of the 2015 long and short rains.

The main crops grown under irrigation are bananas and maize. Other minor crops are tomatoes, rice, onions and capsicums. The area under irrigation increased slightly from 3,880 hectares to about 4,000 hectares attributed to development of new irrigation schemes and support from counties with micro irrigation kits. The banana value chain is gaining importance especially in Taita Taveta County through support of several development partners.

The maize stocks held by households in the cluster was about 60 percent of LTA mainly attributed to the below normal production, delayed harvesting due to late onset of the rains. Stocks held by traders were 10 percent above LTA as they increased their stocks anticipating higher demand from households. Majority of households were more dependent on markets for their stocks until the August harvest becomes available. The available stocks at household level can last the cluster less than one month.

2.5.5.2 Livestock Production

Livestock production contributes 70 - 80 percent to cash income in livestock farming and ranching zones and 25 - 50 percent in mixed farming, marginal mixed farming zones in the cluster.

Pasture and browse condition was good to fair across the cluster which was normal at this time of the year, except in the ranching and livestock farming areas of Kilifi and Lamu counties where the condition was fair to poor. Pasture across the cluster is expected to last between 1 – 2 months up to September while browse is expected to last 2 – 3 months up to October. In Lamu, access to pasture and browse was affected by conflicts between crop farmers and livestock keepers especially in Lumshi, Mkunumbi, Katsaka-Kairu areas. Livestock farmers were also avoiding the Tsetse flies infested areas in Lamu county. Private ranches have fenced off vast areas of pasture land in Taita Taveta thus restricting grazing of livestock.

The livestock body conditions were good to fair in the ranching/livestock livelihood zones for all species and was good for all species across the rest of the livelihood zones across the cluster. The body condition is likely to deteriorate with the diminishing pasture and increasing trekking distance to water as the dry spell progresses.

Table 2.12: Milk production, consumption and prices

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres)/Household		Prices (Ksh)/Litres	
	Current	LTA	Current	LTA	Current	LTA
Ranching/Livestock Farming	1-2	2-3	1-1.5	1-2	45-60	45-60
Marginal mixed farming and Mixed farming	1-2	2-5	1-2	1.5-3	40-50	40-50

Household milk production, consumption and prices remained stable in all livelihood zones (Table 2.12). The birth rates are normal for all livestock types across the livelihood zones in the cluster. The tropical livestock units ranged between 2 - 5 TLUs for poor households, 5 - 7 for middle income households and above 20 for wealthy households in the mixed farming, marginal mixed farming and mixed farming/livestock livelihood zones respectively which were normal for this time of the year.

Table 2.13: Water for livestock

Livelihood zone	Return trekking distances (Km)		Expected duration to last (Months)	
	Current	Normal	Current	Normal
Ranching	5-15	2-7	1-2	3
Marginal mixed farming/Livestock	2-7	2-5	1-2	3
Mixed farming	5-7	2-5	1-2	3
Cash cropping/dairy	1-2	1-2	6	6

The average return trekking distance to water sources has increased across most livelihood zones except in the cash cropping dairy zones that are supplied by piped water supply and boreholes. Water is expected to last between 1 - 2 months instead of the normal 3 (Table 2.13).

Normal migration of livestock was reported across the cluster. In Kilifi, influx of livestock from Tana River County into Hawe Wanje and Shakahola in Magarini occurred, fueling conflicts between pastoralists and farmers. Lumpy Skin Disease (LSD) and Foot and Mouth Disease (FMD) were reported in Taita Taveta and Lamu respectively. In Lamu, the FMD outbreak resulted in the imposition of a quarantine. Other endemic diseases reported were Contagious Caprine Pleuropneumonia (CCPP), Trypanosomiasis, and tick borne diseases. Vaccinations were carried out against Rift Valley Fever, LSD and FMD in some areas in the cluster. No unusual mortalities livestock were reported across the cluster.

2.5.5.3 Water and Sanitation

The main sources of water in the cluster are boreholes, piped systems, rivers/streams, dams, water pans, shallow wells and springs. The recharge impacted positively on water availability and access. The open sources are at 60 - 70 percent of their capacities except those in the livestock livelihood zone of Kwale which are at 40 percent. In the mixed farming (food crops and livestock) livelihood zone of Taita Taveta, 60 percent of the pans have dried up due to seepage and high surface temperatures. Distances to water sources ranged from 1 - 4 kilometres which is normal at this time of the year with exceptionally short distances of 0.1 - 0.5 kilometres across all livelihoods of Lamu. However, distances were at the highest ranging from 5 - 10 kilometres in some locations of ranching and mixed farming (food crop/livestock) livelihood zones including Mwakitau, Mwachabo, Kishushe and Kisimenyi in Taita Taveta County. Waiting time at the source was within the normal range of 5 - 10 minutes except in the food crop /livestock zone in Taita Taveta where it had increased from 15 minutes to the current 3 - 4 hours elicited by high surface temperatures, competition from humans, livestock and wildlife,

drying up of water pans, overstretching of boreholes and lowering of water levels in dams. The cost of water was within the normal range of Ksh. 2 - 5 across the cluster except for in the food crop/ livestock zones of Taita Taveta where it was at Ksh. 30 currently and in the marginal mixed and mixed farming livelihood zones of Kilifi increased to Ksh. 7 and 10 currently. Household water consumption was stable across the cluster at 15 - 20 litres per person per day apart from the food crop/ livestock zone of Taita Taveta where it reduced to 10-15 litres and across Kilifi where it reduced from the normal 15 - 20 litres to the current 10 - 15 litres. Hand washing at critical times at household level across the county is practiced and averages from 60 - 80 percent. Water treatment at household level ranges between 50 - 60 percent of households. Access to safe drinking water was good in areas which are not dependent on water from earth surface, with exception of Kishenyi in Taita sub county where the Kishenyi dam water is suspected to be contaminated and the alternative source for the area is water trucking. Latrine coverage in the cluster averaged 70 percent.

2.5.5.4 Markets and Trade

All the markets in the cluster were operational with the exception of Lamu County that was affected by security threats. The average maize price in the cluster remained stable and slightly above the cluster long term average with the exception of Lamu County that was 10 percent below the LTA. Price per kilogram ranged between Ksh. 35 and Ksh. 42 across the cluster. The cluster benefits from cross border trade with Tanzania and inter-county trade with neighboring counties. The goat prices ranged from Ksh. 2,195 in Kwale to Ksh. 3,850 in Taita Taveta.

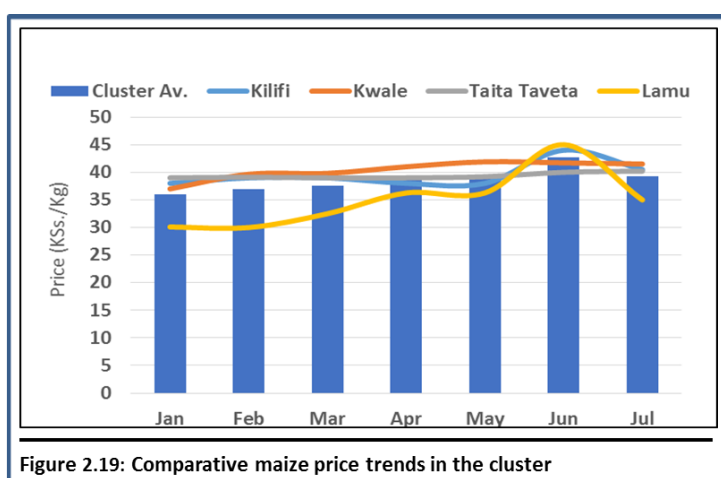


Figure 2.19: Comparative maize price trends in the cluster

2.5.5.5 Health and Nutrition

2.5.5.5.1 Morbidity Patterns

Across the counties the diseases most prevalent among children under five years and the general population were Upper Respiratory Tract Infections (URTIs), diarrhea, malaria, pneumonia, skin diseases, and Urinary Tract Infections (UTIs). There were fewer cases compared to 2015 attributed to increased advocacy on good hygiene practices.

2.5.5.5.2 Immunization and Vitamin A Supplementation

Fully Immunized Child (FIC) under one year old coverage was stable and within the recommended national target of 80 percent across all the counties. Routine Vitamin A supplementation coverage for children six to 59 months was below the national target of 80 percent across the cluster attributed either to reduction of integrated outreach services or documentation gaps across the cluster. Lamu County was however, the most improved in the cluster, as a result of improved documentation.

2.5.5.3 Nutritional Status and Dietary Diversity

The percentage of children under five at risk of malnutrition based on MUAC less than 135mm remained stable with exception of Kilifi County reporting higher rates in March and April 2016 (Figure 2.20). In July 2016, lower rates were reported against LTA in all counties. The Food Consumption Score (FCS) revealed 67 and 6 percent of the households had acceptable and poor food consumption scores respectively which was an improvement compared to both May 2015 and 2014 and could be attributed to stable markets and adequate food stocks at households in the cluster. Currently, meal frequency is two to three meals per day as compared to the normal of three to four meals per day. With exception of marginal mixed livelihood zones of Kilifi where the meal frequency is one to two meals per day attributed to poor crop yield and limited sources of income.

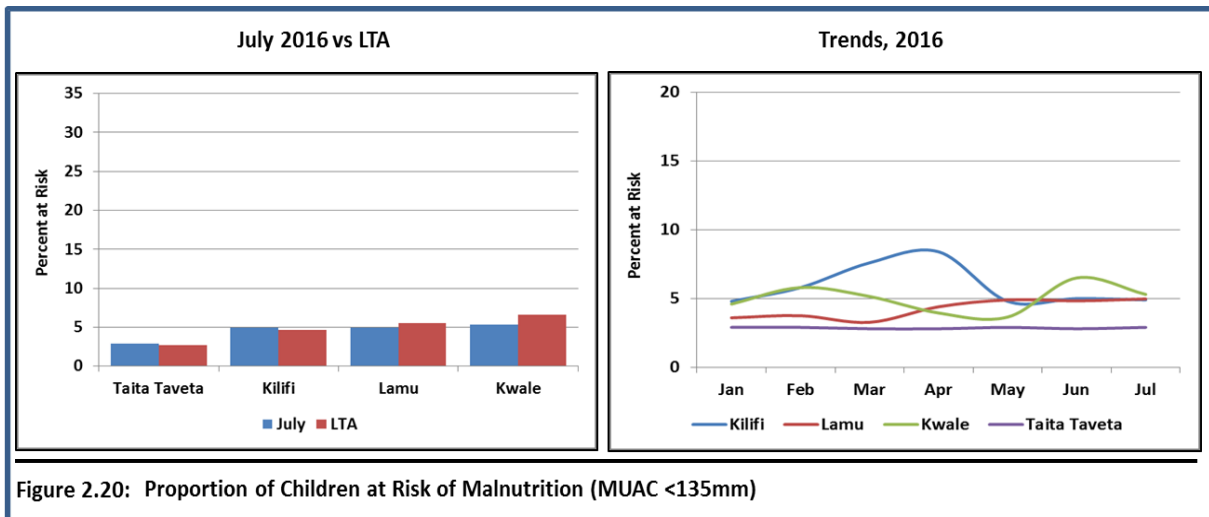


Figure 2.20: Proportion of Children at Risk of Malnutrition (MUAC <135mm)

2.5.6 Coping Mechanisms

The Coping Strategy Index (CSI) across the cluster from May 2015 to May 2016 was comparable at 16 and 18 respectively. The most common strategies employed were; reduction in the number of meals consumed per day, reduction in the portion size of meals and relying on borrowing food or seeking help from a friend or relative. A few members of the community in Kwale reported increase in livelihood coping strategies to meet food needs. Most of households in this area were burning charcoal.

3.0 Food Security Prognosis

3.1 Prognosis Assumptions

The food security outcomes in the next six months (September 2016 to February 2017) will be determined by several factors. This section summarizes the assumptions about the key food security drivers.

- The Great Horn of Africa Climate Outlook Forum forecasts an increased likelihood for a La-Nina at 50 – 60 percent towards the end of the year. Subsequently, there is an increased likelihood for below average rains over eastern parts of the country.
- Warmer than average mean temperatures are likely in the Western parts of the country as the lean season peaks while average to warmer than average mean temperatures are expected in the Eastern part of the country.
- Grazing resources are likely to continue diminishing during the long lean season from August to November heightened by above average land surface temperatures.
- Opportunities for casual labor and wages are expected to decline through September due to limited demand for agricultural labor but demand is expected to increase, but at below normal levels in October as land preparation and planting begins just before the onset of short rains season in the marginal agricultural areas.
- Reliance on markets is expected to increase due to depleted household food stocks and purchases are likely to be constrained at a time when prices are likely to rise through September.
- Food security and nutrition programmes by national, county and development partners are likely to be intensified due to high malnutrition rates and expectations of a below average short rains season.

3.2 Food Security Prognosis, August 2016 – January 2017

Food security in pastoral areas is expected to deteriorate as the lean season of August-November approaches. Rangeland resources are expected to deteriorate in quality and quantity, with access to water and forage for livestock becoming more difficult. Consequently, most livestock are expected to migrate to dry-season grazing areas, far from homesteads. Livestock body condition is expected to decline from August to October resulting in a reduction in household milk availability and consumption. Livestock prices are also expected to decline, driven by poor body condition, and this will result in reduced household income. At a time when staple food prices are expected to increase, household purchasing power is likely to be eroded. Child malnutrition cases are likely to increase through October as diets become less diverse and portion sizes shrink. The north-eastern areas of Garissa, Tana River and parts of Isiolo, which received significantly below-normal rainfall and where rangeland resources regenerated poorly, are seeing a faster deterioration in food security conditions than other areas. To maintain food consumption, households are likely to engage more frequently in various coping strategies such as borrowing and buying food on credit (consumption-based strategies) and charcoal burning and selling of firewood (livelihood-based strategies). Most households are expected to remain in Stressed (IPC Phase 2) until November. However, localized areas in the north-eastern pastoral livelihood zones in Garissa, Tana River and Isiolo are likely to move to Crisis (IPC Phase 3). From November onwards, food security is expected to marginally

improve with the onset of the October – December short rains, although these are forecast to be below average. The expected modest improvements in food security are unlikely to cause any improvement in the food insecurity phase classification before January 2017; on the contrary, more households are likely to move to Crisis (IPC Phase 3).

In the south-east and coastal marginal agricultural livelihood zones, household food security will also decline as the lean season continues. Market dependence will increase, at a time when household incomes are likely to be low due to limited demand for agricultural labour. Low household income will constrain access to food, especially in the marginal mixed farming areas of Kitui South, eastern Makueni, Kilifi and Kwale. Market purchases are likely to be further constrained by the usual increase in food prices through September. To ensure food access, households are likely to increase their use of other sources of income, such as petty trading and construction labour. Most households will continue to support their food and non-food needs and remain in Minimal (IPC Phase 1) until November. However, the marginal mixed farming areas mentioned earlier are likely to remain in Stressed (IPC Phase 2). The onset of the short rains is expected to provide some marginal reprieve, as the rains are likely to be below average. Some households will access on-farm labour opportunities through land preparation and planting, although at much-reduced levels. Short-cycle early-maturing crops will also boost food availability, but again at lower levels than normal. Dependence on markets for food commodities will be highest during this period. Since the short rains are the primary production season in these areas, their poor performance is likely to exacerbate household food insecurity with more households becoming Stressed (IPC Phase 2) by January 2017.

The key factors to monitor over the next six months include:

- Cholera outbreaks and other diseases
- Health-seeking behaviours
- Dietary practices, especially among pastoral communities
- Likely impacts of La Nina conditions
- Livestock diseases, especially camel disease in pastoral areas
- Conflict and insecurity along the Somalia border.
- Impacts of programmes and interventions

Monitoring is especially critical in areas which have experienced successive below-average seasons.

4.0 Proposed Sectoral Interventions

4.1 Agriculture Sector: Priority Interventions September 2016 – February 2017

There was crop failure in parts of the southeast and coast marginal agricultural as well as agro pastoral areas. The October to December short rains, which is the main cropping season especially for the southeast and coast, has an increasing likelihood to perform below average. It will be therefore necessary to promote drought tolerant crops during the upcoming season as well as support farmers with inputs. The recommendations below are proposed for the sector before the onset of the next rainy season.

Intervention	County	Cost in Ksh (M)
Agriculture		
Distribution of drought tolerant and early maturing crop seeds	Isiolo, Mandera, Wajir, Tana river, Garissa, West Pokot, Narok, Nyeri, Baringo, Laikipia, Meru North, Isiolo, Kitui, Makueni	40
Procurement and distribution of assorted farm inputs (certified seeds, seedlings and agro-chemicals) and subsidies	Isiolo, Mandera, Wajir, Tana river, Garissa, Turkana, Marsabit, Samburu, Kwale, Lamu and Kilifi, Makueni, Kitui	60
TOTAL		100

4.2 Livestock Sector: Priority Interventions September 2016 – February 2017

Livestock production is the main source of income in the pastoral areas. The temporal and spatial distribution of the long rains was poor and uneven across most parts of the country and the gains made are likely to be short lived as grazing resources and livestock productivity begins to decline earlier than usual. The following proposed recommendations will support and production and mitigate against extreme conditions during the lean season.

Intervention	County	Cost in Ksh (M)
Up scaling the livestock insurance	Isiolo, Mandera, Wajir, Tana river, Garissa, Turkana, Marsabit	95
Livestock breed improvement especially for the small stock	Isiolo, Mandera, Wajir, Tana river and Garissa	50
Fodder production, conservation and utilization campaigns	Mandera, Tana river, Wajir, Isiolo, Garissa, Turkana and Marsabit	60
Livestock disease surveillance/vaccination/supplementary feeding	Mandera, Isiolo, Wajir, Tana river, Turkana, Marsabit, samburu, Isiolo, Tana river and Lamu	195
TOTAL		400

4.3 Water Sector: Priority Interventions September 2016 – February 2017

As the lean season peaks and most water sources begin drying, households increasingly rely on permanent water sources such as boreholes most of which are broken down. Majority of households do not also treat water making them susceptible to water borne diseases. A few measures have been recommended to ensure that increased trekking distances are minimised and also concentration of both livestock and households at available water sources is controlled.

Intervention	County	Cost in Ksh (M)
Rehabilitation of water systems and desilting of water pans, provision water treatment to households, Borehole repair and drilling, provision of tanks, water committees capacity building	Isiolo, Mandera, Wajir, Tana river, Garissa, Marsabit, Samburu, Turkana, Kilifi, Kwale, Taita taveta, Baringo, West pokot, Tharaka Nithi, Meru North, Kajiado, kitui, Makueni, Mbeere and Nyeri	9,000
TOTAL		9,000

4.4 Health and Nutrition Sector: Priority Interventions September 2016 – February 2017

Nutrition surveys carried out in June 2016 show that the rates of acute malnutrition are high in northern parts of the country and are above emergency levels while other parts have serious acute malnutrition levels. This requires an immediate response through scaling up of emergency nutrition interventions in the most affected counties in order to reach the undernourished children, pregnant and lactating women.

Intervention	County	Cost in Ksh (M)
Scale up nutrition services and Outreaches for hard to reach sites	Garissa, Wajir, Mandera, Tana river, Isiolo, Kwale, Lamu, Taita taveta, Embu, Mbeere, Nyeri, Tharaka, Baringo, West pokot, Kajiado and Narok	100
Upscale of HINI/IMAM/IYCN	Garissa, Isiolo, Tana River, Mandera, Wajir, Turkana, Samburu, Marsabit, Kwale, Lamu, Taita Taveta, Embu, Mbeere, Nyeri, Tharaka, Baringo, West pokot, Kajiado and Narok	200
TOTAL		300

4.5 Peace and Security: Priority Interventions September 2016 – February 2017

Conflicts over resources and insecurity mostly in pastoral areas continue unabated causing loss of lives and livelihoods in affected areas and exacerbating food insecurity. There is need to continue supporting communities in the areas of conflict resolutions and promoting peace through committees and also monitoring areas of potential conflict.

Intervention	County	Cost in Ksh (M)
Peace building initiatives to resolve conflict over resources	Tana River, Wajir, Turkana, Samburu, Baringo and Isiolo	40
Monitoring of potential conflict locations and support to response	Tana River, Wajir, Turkana, Samburu, Baringo and Isiolo	60
TOTAL		100

4.6 Food Assistance Sector: Priority Interventions September 2016 – February 2017

The food security situation in the pastoral and marginal agricultural is stable though deteriorating as the lean season progresses. However, in the pastoral areas malnutrition rates remain above emergency levels while in parts of the marginal agriculture areas of the coast and southeast, crop failure occurred due to poor and uneven temporal and spatial distribution of the rains. Appropriate food assistance and nutrition programs are necessary to continue building resilience to future shocks and to address the persistently high malnutrition rates. The following table indicates the populations that also includes mothers and children under the age of 5 years requiring cross sectoral interventions both food and non-food, through February 2017.

County	Total County Population	Population in need of assistance after the 2016 SRA	September 2016 – February 2017	
			% of population that is in need of food assistance	Number of people requiring food assistance
Turkana	539,264	123,800	30	161,200
Wajir	619,220	62,700	16	101,800
Mandera	337,800	95,200	27	92,700
Garissa	504,391	22,500	17	83,900
Marsabit	291,166	58,400	26	77,000
Samburu	223,947	74,500	36	79,700
Laikipia	399,227	4,000	0	0
West Pokot	512,690	8,000	6	33,200
Tana River	240,075	8,600	22	53,900
Isiolo	143,294	56,600	34	48,600
Kajiado	687,312	0	0	0

County	Total County Population	Population in need of assistance after the 2016 SRA	September 2016 – February 2017	
			% of population that is in need of food assistance	Number of people requiring food assistance
Baringo	555,561	5,700	3	18,900
Narok	576,388	0	0	0
Subtotal Pastoral	5,630,335	520,000	13	750,900
Makueni	884,527	8,000	9	82,100
Kwale	649,931	43,600	11	73,600
Kilifi	1,109,735	14,000	9	98,400
Kitui	1,012,709	18,100	9	87,300
Taita Taveta	284,657	33,100	14	40,400
Mbeere	219,220	0	12	26,400
Tharaka	130,098	0	0	0
Meru North	775,982	0	4	31,000
Kieni	324,659	0	8	25,400
Lamu	101,539	2,800	39	39,100
Marginal Agricultural	5,493,057	119,600	9	503,700
Total	11,123,392	639,600	11	1,254,600