CONSOLIDATED INTER-AGENCY REPORT

Kenya Food Security Steering Group
(KFSSG)

KENYA
LONG RAINS ASSESSMENT REPORT 2007

13th SEPTEMBER 2007

A collaborative report of the Kenya Food Security Steering Group: Office of the President (Ministry of State for Special Programmes (Arid Lands Resource Management Project and Department of Relief and Rehabilitation)); Ministries of Agriculture, Livestock and Fisheries Development, Health, Water, and Education; FEWS NET, FAO, WFP; and UNICEF, Oxfam, World Vision; with financial support from FAO, UN-OCHA, WFP, Oxfam, Arid Lands Resource Management Project and World Vision
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LIST OF ABBREVIATIONS

ALRMP	Arid Lands Resource Management Programme
ASAL	Arid and Semi Arid Lands
CBTD	Community Based Targeting
CBTF	Community Based Therapeutic Feeding Programmes
CBO	Community based organizations
CERF	Central Emergency Response Fund
CFA	Cash for Assets
CFW	Cash for Work
CSB	Corn Soya Blend
ECDs	Early Childhood Development
ECF	East Coast Fever
EMOP	Emergency Operation Programme
FAO	Food and Agriculture Organization
FEWS NET	Famine Early Warning System Network
FFA	Food For Assets
FFW	Food For Work
FMD	Foot and Mouth Disease
GAM	Global Acute Malnutrition
GFD	General Food Distribution
GoK	Government of Kenya
Ha	Hectare
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
Hrs	Hours
ICPAC	IGAD Climate Prediction and Application Centre
KES/Kshs	Kenya Shillings
KFSM	Kenya Food Security Meeting
KFSSG	Kenya Food Security Steering Group
KMS	Kilometres
LSD	Lumpy Skin Disease
LZ	Livelihood Zone
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NDVI	Normal Deviation Vegetative Index
NGO	Non Governmental Organization
NPEP	National Poverty Eradication Plan
OP	Office of the President
RVF	Rift Valley Fever
SFC	Supplementary Feeding Centres
TFC	Therapeutic Feeding Centre
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USD	United States Dollars
USGS	United States Geological Survey
UTI	Urinary Tract Infection
WFP	World Food Programme
WRSI	Water Requirement Satisfaction Index

1 EXECUTIVE SUMMARY

1.1 Background

The Long Rains Assessment 2007 was conducted in July 2007 to determine the impact of the long rains season, on the food security situation of drought and flood prone districts that have been on a recovery path in the last three seasons. Twenty three representative districts falling into six broad livelihood clusters were assessed including:

1. Northern Pastoral (Turkana, Moyale, Marsabit and Samburu Districts);
2. Eastern Pastoral (Mandera, Wajir, Garissa, Ijara, Isiolo and Tana River Districts);
3. Agro-Pastoral (Baringo, West Pokot and Kajiado Districts);
4. Coastal Marginal Agricultural (Taita Taveta, Malindi, Kilifi and Kwale Districts);
5. Eastern Marginal Agricultural (Tharaka, Mwingi, and Kitui Districts);
6. Lake basin marginal Agricultural (Migori, Suba, Homa Bay Districts).

The assessment teams were composed of government and non-government experts from both food and non-food sectors since the field of food security analysis is broad and multi-sectoral.

1.2 Key Findings

Rainfall Performance

In the northern pastoral cluster, the 2007 long rains season started in March to May but were ongoing up to July across most districts albeit erratically. The amounts of rainfall recorded were below normal with poor distribution. The eastern pastoral cluster received poor rainfall, which was between 50-80% of the normal except for a few pockets in the north east, east and south eastern areas. The long rains commenced in late March and early April in the agro-pastoral zone and continued until late July. The total rainfall received during the season exceeded the long term average.

The eastern marginal agricultural zone received depressed rainfall during the March/April 2007 long rains unlike the previous short rains season. There was variation in rainfall performance in the coastal region, from floods along the coastal strip to very poor precipitation in the hinterlands. Although the long rains of 2007 started in late March and ended earlier than expected in some areas around the lake they were adequate and well-distributed.

The rains have continued seasonally in western Kenya, the grain basket region enabling adequate crop development in the area.

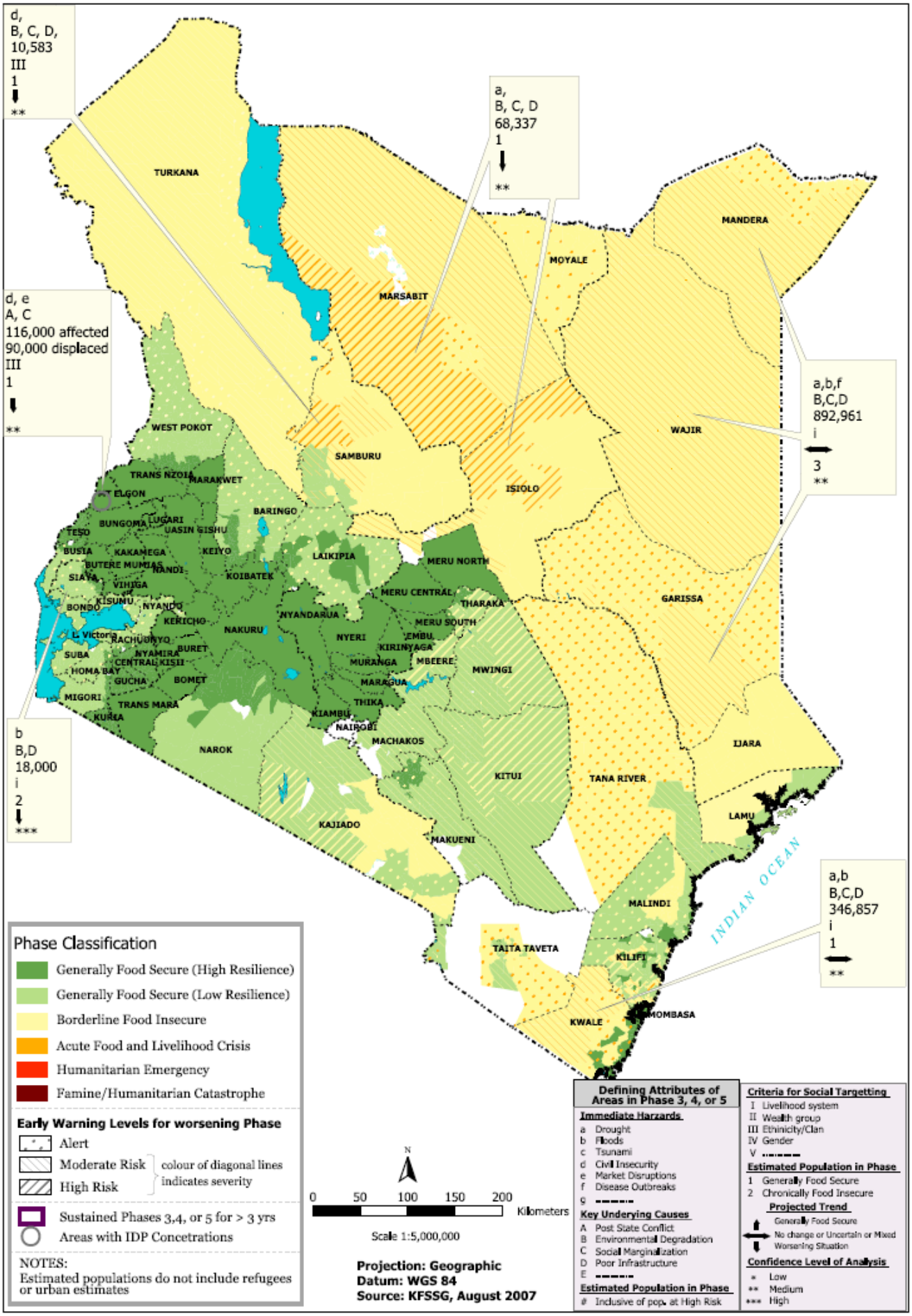
National Food Security Situation

There has been additional improvement in the food security status in the country after the 2007 long rains especially in Lake basin and coastal marginal agricultural; agro-pastoral and eastern pastoral livelihood zones. In the northern and eastern pastoral; eastern and parts of coastal marginal agricultural livelihoods, the marked improvement in both crop and livestock production during the successful short rains season lessened the negative outcome of the poor 2007 long rains season. Households in all these livelihood zones continue to recover from the adverse effects a succession of poor seasons before the 2006 long rains. Another good short rains season is critical in reinforcing the recovery process.

Food Security Situation by Livelihoods

The northern pastoral cluster is still classified as borderline food insecure although the pastoralists have recovered from the negative effects of Rift Valley Fever (RVF). Most households are still restocking limiting supplies of large stocks to markets. Livestock prices have been increasing while cereal prices have remained below long term average. Consequently food access and availability has improved because of the favourable terms of trade between livestock and cereals. However, the livelihood zones within the districts are at different stages of early warning ranging from alert to high risk. Figure 1.2.1 shows the classes of food security in various parts of the country.

Figure 1.2.1: Kenya Food Security Situation Analysis with Slight Adaptation from the Original IPC: March to June 2007



In the eastern pastoral cluster food security situation has improved from acute food and livelihood crisis to borderline food insecure. The region expectedly received below normal rainfall as predicted in the Climatic Outlook Forum for March to May rainfall, except for a few pockets in the north east, east and south eastern areas. However, the marked improvement in both crop and livestock production during the successful short rains season lessened the negative outcome of the poor 2007 long rains season. The pastoral areas have recovered from the effects of floods and Rift Valley Fever.

The overall food security status in most agro-pastoral livelihoods has improved from borderline food insecure to generally food secure with low resilience as a result of the good long rains. Parts of Kajiado District still remain under borderline food insecure status. The mixed farming livelihood zones in Narok, Kajiado, Laikipia and West Pokot Districts are still generally food secure with high resilience. There is instability and disruptive tension in some parts of Baringo and West Pokot due to cattle rustling.

The eastern marginal agricultural cluster remains generally food secure with low resilience because the significant improvement in both crop and livestock production during the successful short rains season assuaged the negative impacts of the poor 2007 long rains season.. However, the early warning level has been raised to moderate risk of falling to borderline food insecure from the previous alert level. The eastern flanks of the cluster bordering eastern pastoral areas are at high risk of becoming borderline food insecure while the other areas are at moderate risk. The region experienced depressed rainfall during the March/April 2007 long rains unlike the previous short rains season when above normal rains were received.

The food security status along the coastal strip is generally food insecure with low resilience with pockets of high resilience as a result of the good long rains which also improved the food security situation in the hinterlands of Kilifi and Malindi from borderline food insecure to generally food secure with low resilience. There is moderate risk that the hinterland of Kilifi may revert to borderline food insecurity while the hinterland of Malindi is on alert. Most of Kwale district still remains borderline food insecure with a moderate risk of sliding down to acute food and livelihood crisis because of poor rainfall.

The food security status of Lake basin marginal agricultural cluster improved from borderline food insecure to generally food secure with low resilience especially along the lowland marginal agricultural-mixed farming and fishing livelihoods as a result of a successful long rains season. Highland mixed farming zones remain at generally food secure with high resilience. The food security situation of fishing livelihoods has improved to generally food secure with low resilience from borderline food insecure, but the status remains at high risk of reverting to the latter.

1.2 Implications for Response

Most of the interventions proposed after the short rains assessment in April which were aimed at supporting the recovery of the vulnerable livelihoods have not been implemented. There is a high probability that any new shock could erode the remarkable gains in food security for most households in the country in the past three seasons. Therefore, there is an urgent need for asset building, preparedness and contingency planning. Table 1.2.1 is a summary of the estimated costs for immediate (September 2007-February 2008) intervention by sectors; more details are in the cluster report.

Table 1.2.1: Estimated Costs for Immediate (September 2007-February 2008) Intervention by Sectors in Million Kshs

	Sectors				
Food Security Phases	**Livestock**	**Agriculture**	**Health and Nutrition**	**Water and Sanitation**	**Education**
Borderline	350	204	113	1,036	92
Generally Food Secure with Low Resilience	114	297	73	683	115
Total	**465**	**501**	**186**	**1,719**	**207**

2 METHODOLOGY

2.1 Background

The Kenya Food Security Steering Group (KFSSG) coordinates the bi-annual assessments corresponding to the short and long rains seasons. The aim of the 2007 Long Rains Assessment is to develop an objective, evidence-based and transparent food security situation analysis following the Long Rains Season taking into account the cumulative effect of previous seasons, and to provide recommendations for possible response options based on the situation analysis. Most livelihoods in the pastoral, agro-pastoral and marginal livelihoods have been on a recovery path since the 2006 March to May long rains after a succession of failed seasons. It follows that an important aspect of the 2007 long rains assessment was to monitor the food security situation of households on a recovery path in the last three seasons.

2.2 Scope

The assessment teams were composed of officials from Office of the President (Ministry of State fro Special Programmes (Arid Lands Resource Management Project and Department of relief and rehabilitation); Ministries of Agriculture, Livestock, Water, Health and Education), United Nations (WFP, FAO, UNICEF, UNDP, UNOCHA) NGOs (, Oxfam, and World Vision) and FEWSNET.

To improve on assessments, there was additional and improved training for teams, which were also provided with more detailed set of available secondary information and data. This data was organized during a meta-analysis workshop conducted in late June 2007 including rain and moisture estimates from satellite imagery. Improved data checklists and templates were sent to the districts for collection of updated information on food security before the fieldwork. Twenty districts were assessed by the Rapid Appraisal teams from KFSSG in Nairobi and the District Steering Groups (DSGs). Ten of these districts were assessed at household and community level by field survey teams. Household and community surveys were conducted in 10 districts representing pastoral, agro pastoral and marginal agricultural districts. Households were selected using a two-stage cluster sampling method. A total of 200 community interviews and 4,000 household interviews were conducted. The sampling frame excluded urban livelihoods within the sampled districts.

The report recognizes that new districts have since been formed. However for this assessment and implementation of interventions, old district boundaries have been used.

2.3 Analytical Framework and Methodology

The analytical framework was based on livelihoods. The Integrated Food Security and Humanitarian Phase Classification System (IPC) tool was used to classify the food security situation by livelihood zones as per the last assessment. The IPC is designed to add rigour to food security analysis and be transparent and evidence-based. Because it employs a uniform set of indicators, and internationally recognised thresholds for many of them, the IPC provides a *common currency* for food security and humanitarian analysis that allows direct comparisons concerning food security status within and between countries.

The long rains assessment in Kenya piloted a slight adaptation of the original IPC (See figure 5.1 in the appendix) which aimed to test a six-phase system that increases the sensitivity of the system at the non-crisis end of the spectrum. The adapted IPC model has the four original components, but adds a new phase to take account of resilience in the generally food security phase, and renamed the Chronically Food Insecure phase to better reflect the borderline food insecurity. The adapted system follows: the phase classification which is a scale running from Generally Food Secure with High Resilience, Generally Food Secure with Low Resilience, Borderline Food Insecure, to Acute Livelihood Crisis, Humanitarian Emergency and finally Famine/Humanitarian Catastrophe (see Reference Table 5.1 in appendix). Each phase is assigned based on a convergence of evidence that is framed by the second component - the Key Reference Outcomes – together with other indirect evidence that is available. The Strategic Response Framework (third component) allows analysts to recommend the broad types of response that would meet the immediate and underlying needs of people in the different phases. Finally the early warning component provides information on the direction of change, and the relative risk.

The data was analysed and written up in three stages: firstly the field teams wrote district reports while still in the field; secondly the field teams with technical support from the DISK conducted the IPC situational and response analysis and wrote the cluster reports. Responsibility for drafting the national report was taken by the Office of the President, with support from partners.

3 RAINFALL AND IMPACT ON FOOD SECURITY

3.1 The Performance of the 2007 Long Rains

The significance of the long rains in the country varies. In the northern pastoral (Turkana, Moyale, Marsabit and Samburu Districts), agro-pastoral (West Pokot, Baringo, Laikipia, Narok and Kajiado), coastal strip (Lamu, Malindi, Kilifi and Kwale) and west of the country, the long rains normally account for 60-80% of the total annual rainfall. The long rains are 50-60% significant in the eastern pastoral (Mandera, Wajir, Garissa, Ijara, Isiolo and Tana River Districts), south eastern marginal agricultural areas (Tharaka, Mbeere, Mwingi, Kitui, Machakos and Makueni Districts) and coastal hinterland (including Taita Taveta District), but the short rains have greater reliability and is therefore the main cropping season accounting for approximately 70% of the annual crop production. It is therefore important to interpret the rainfall estimates in the context of the lower importance of the long rains on crop production in the eastern and coastal marginal agricultural livelihoods.

Figure 3.1.1: Percentage Rainfall Performance from March 20 to July 10 2007

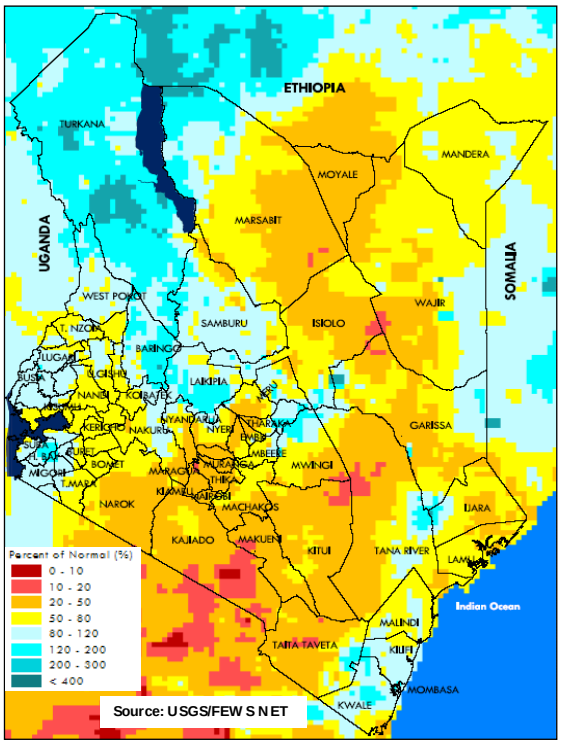


Figure 3.1.1 is a spatial representation of the 2007 long rains (20th March to 31st July 2007) performance across the country as a percentage of the long term average. The red, yellow and brown coloured areas received below normal rainfall. The other colours represent normal to above normal rainfall.

The intensity, spatial and temporal distribution of the long rains was varied across the country. The rains were inadequate and poorly distributed both spatially and temporally in the northern and eastern pastoral areas; southern agro-pastoral, and eastern marginal agricultural regions.

Figure 3.1.2 shows the comparative rainfall performance in six divisions representing five main livelihood zones and the variation in north-western pastoral area.

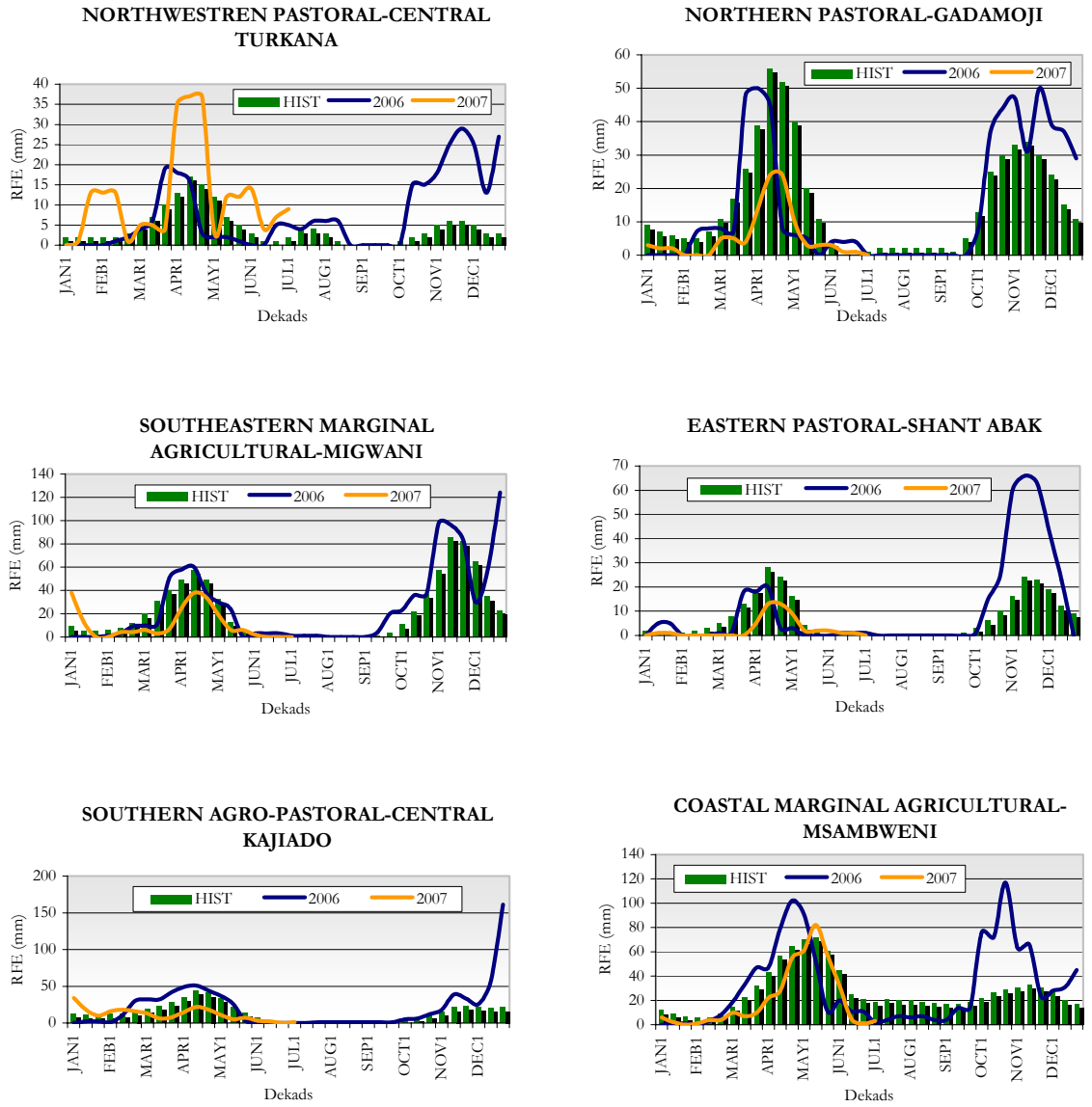
In the **northern pastoral cluster** comprising Moyale, Marsabit, Turkana and Samburu Districts, the 2007 long rains season started in March to May but were ongoing up to July across most districts albeit erratically. The amounts of rainfall recorded were below normal with poor distribution. However, Samburu, Marsabit and Moyale Districts received abnormal rains in the month of June and July. Most parts along the Lake Turkana received no rain. Localised and very intense storms occurred in some parts of the cluster mainly in Southern Turkana causing flash floods.

The **eastern pastoral cluster** which includes Mandera, Wajir, Garissa, Ijara, Isiolo and Tana River Districts expectedly received poor rainfall, which was between 50-80% of the normal except for a few pockets in the north east, east and south eastern areas.

The long rains commenced in late March and early April in the **agro-pastoral zone** (West Pokot, Baringo, Laikipia, Narok and Kajiado Districts).It rained continuously until late July. The total rainfall received during the season exceeded the long term amounts by 200 – 500 percent in most parts of Baringo and West Pokot Districts. Significant areas of Nginyang and Kollowa Divisions in Baringo District received between 200 and 400 percent of the long term average. However Kajiado

district long rain was far below normal, at less than 150mm and poorly distributed especially in lower part of Mashuru and Loitoktok Divisions.

Figure 3.1.2: Comparative Rainfall Performance in Selected Representative Divisions by Livelihood Zones
Source: FEWSNET/USGS



The **eastern marginal agricultural zone** received depressed rainfall during the March/April 2007 long rains which were slightly below the 2006 long rains. The rains began on time throughout the region but were erratic and inadequate below normal compared to the long term average. The cumulative rainfall amount in the region was 30-50% below the long term normal.

There was variation in rainfall performance in the **coastal region**, from floods along the coastal strip to very poor precipitation in the hinterlands. The rains started sluggishly in the cluster but intensified in the second half of the season along the coastal strip causing severe flooding and displacement; and continued into July. However, in the northern coastal strip and hinterland, rainfall performance was between 20 and 80 percent of the long term average.

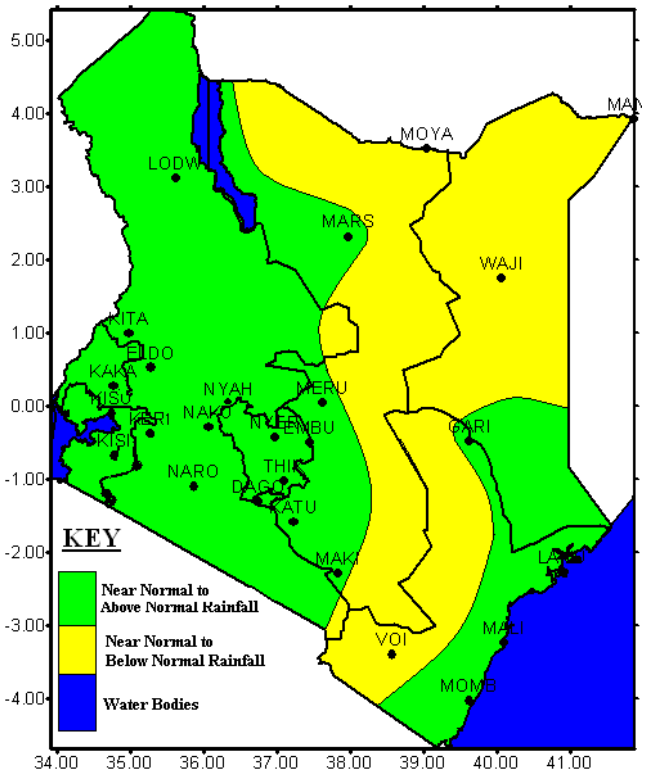
Although the long rains of 2007 started in late March and ended earlier than expected in some areas around the **Lake basin,** they were adequate and well-distributed. There were minor cases of flooding in Budalangi, Nyatike, Lower Sindo and Nyando Divisions which is normal at the beginning of the long rains.

The rains have continued seasonally in **western Kenya**, the grain basket region enabling adequate crop development in the area. The same rains have contributed to flooding downstream in Budalangi Division in Busia District.

3.2 The Short Rains Outlook

The consensus climate outlook is that the short rains may be normal to below normal because of a moderate La Nina phenomenon which may be mitigated by warm sea surface temperatures in the Indian Ocean. Figure 3.2.1 shows the probability of September to December precipitation in the country from the IGAD Climate Prediction and Application Center (ICPAC). Areas shown in green in the figure, are likely to receive near-normal tending to above-normal (enhanced) rainfall: Western Province, much of Rift Valley Province,Nairobi Province; Parts of Eastern Province (Meru, Embu, Chuka, Nyambene, Machakos, Marsabit, etc); Central Province, southern parts of North Eastern province (Ijara and parts of Garissa district); Coast Province especially the coastal strip, and Nyanza Province. Areas shown in yellow in the figure are likely to receive near-normal tending to below-normal (depressed) rainfall: Vast areas of North Eastern province, much of the Eastern Province especially the Northern part; and Coast Province especially the western parts (Voi, Taita Taveta, Tana River, etc.)

Figure 3.2.1: Consensus Climatic Outlook for the September to December Rainfall
Source: Kenya Meteorological Department



The continued recovery of pastoral, eastern and coastal marginal agricultural livelihoods would be dependent upon a favourable short rains season. To enable appropriate and prompt intervention, close monitoring is necessary for incidences of drought and/or floods and associated harzards during and after the short rains season.

3.3 Impact of the Long Rains on Food Security Indicators

The long rains were good in the agro-pastoral, the Lake basin and parts of coastal mixed and marginal agricultural livelihoods. They were erratic and poorly distributed in the pastoral, agro-pastoral and marginal agricultural livelihoods, but the negative effects were mitigated by the above normal short rains, which unusually extended into the long rains period. Consequently, there has been additional improvement in the food security situation in the country after the long rains.

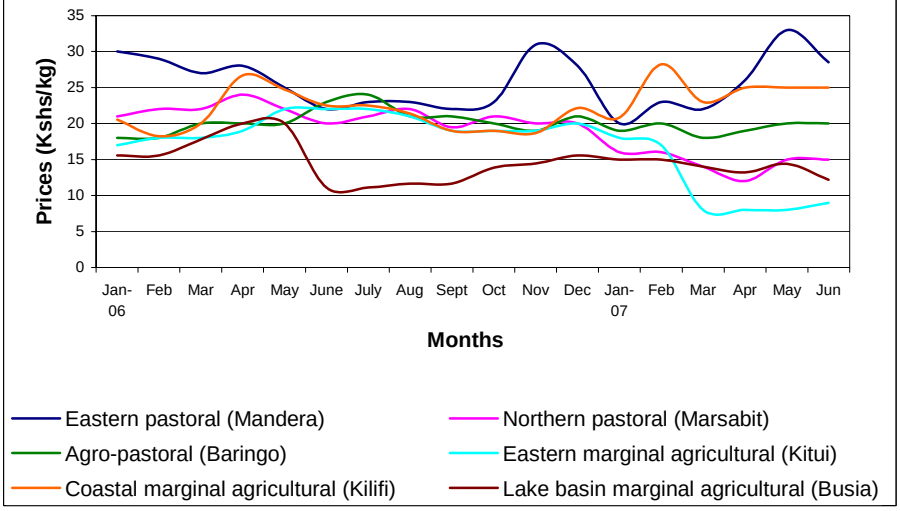
National Crop Production and Prices

In terms of national food availability there is increased probability of a good long rains harvest as rains continue in the grain basket in North Rift and western Kenya. The Ministry of Agriculture (MoA) expects 2.56 million MT of maize to be harvested, about 18 percent higher than the long-term average for the long-rains season. The long rains season accounts for about 85 percent of total annual national crop production. About 30 percent of the total long-rains maize crop has been harvested, especially in the early harvesting areas in the southwest, most of western Kenya as well as in the eastern and coastal lowlands. The rest of the crop is in various stages from tasselling, cob formation through to physiological stage. It is important to note that the estimated above normal harvest follows similar production levels in the two previous seasons, with the general implication that there is no food availability problem nationally at the current time. This does not preclude local deficits and the more pervasive problems associated with food access and utilisation.

Crop production was expectedly poor in the pastoral, agro-pastoral and marginal agricultural livelihoods. However, there were notable exceptions: agro-pastoral areas of Turkana, West Pokot, and Baringo Districts; and along the coastal strip and lake basin region where the rains were good; some regions in marginal agricultural zones of Tharaka, Kitui, where drought resistant crops are grown.

Cereal and pulse prices between February and June 2007 have been generally been lower than the same period last year as a result of good harvest as shown in figure 3.3.1. As household food stocks begin to decline, prices are expected to start increasing in the dry season. Increasing prices are expected to attract maize and other cereals in the eastern and coastal marginal agricultural livelihood zones from Uganda and Tanzania which may dampen prices slightly improving food access for market dependent households in these livelihoods. There is also increased supply of cereals and pulses, from Ethiopia to northern pastoral districts of Moyale, Marsabit and Wajir.

Figure 3.3.1: Wholesale Maize Prices in Representative Districts in Livelihood Zones (2006)



Food availability in most markets is adequate and prices are still affordable for most households in pastoral, agro-pastoral and marginal agricultural livelihoods.

Household Food Access

The average dietary diversity score, a proxy indicator for measuring food access, is four in agro-pastoral; eastern marginal agricultural zones because of diverse diets from both livestock and crops that contain at least a carbohydrate, vegetables or fruits, protein rich foods or milk and milk products, and oils and fats. See figure 3.3.2. In the pastoral livelihoods, the diversity score is three as the main diets consist of cereals, milk, fats and oils. In the coast, the main diet consists of tubers and roots; vegetables and legumes. A high proportion of households in most livelihoods except agro-pastoral livelihoods still have poor dietary adequacy, consuming one single food regardless of the number of times a day or, consuming a number of food groups once a day. Households accessing micronutrients remains dismally low in pastoral areas at 11% compared to an average of 60% in agro-pastoral and marginal agricultural livelihoods.

Figure 3.3.2: Representative Dietary Diversity Scores and Adequacy Source: District Survey Teams

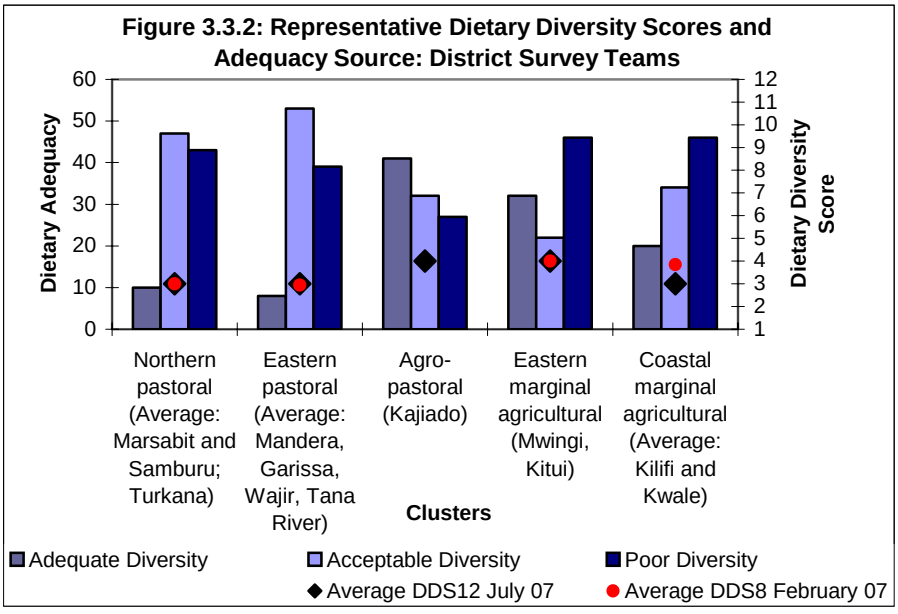


Table 3.3.1 shows that most households across all livelihood zones consumed two to three meals the day before the survey. In addition, more than 60 percent of children under-five years of age were ate

less than three meals the day before the survey and more than 95 percent were ate less than the desirable five meals per day.

Table 3.3.1: Number of Meals Consumed per day by Livelihood Zones.

	Average Number of Meals Consumed by Households (HH) Per Day						
	1	2	3		4 meals or more		5 meals or more
Livelihood Clusters			HH	<5	HH	<5	<5
Northern Pastoral	12	63	21	37	4	16	2
Eastern Pastoral	7	36	48	38	9	6	1
Agro Pastoral	6	23	63	40	8	-	
Eastern Marginal Agricultural	12	48	37	40	3		
Coastal Marginal	5	23	63	42	9	3	1

Source: District Survey Teams

The main source of food for most households in the eastern and coastal marginal agricultural livelihoods was own production from the previous successful short rains season. The short rains account for 70 percent of annual crop output for households in these livelihoods. However, household food stocks started to diminish due to minimal or no replenishment from the long rains production and the proportion of food sourced from the market increased especially in agro-pastoral and marginal agricultural zones see table 3.3.2. Although own milk production is an important source of food, food aid remains the main source of cereals for vulnerable households in pastoral zones. In normal times, without emergency, households in pastoral and agro pastoral livelihood zones usually obtain over 90 percent of their staples from purchases.

Table 3.3.2: Sources of Selcted Foods in % in Selected Livelihood Clusters

	Source Cereals				Source Protein				Milk		
Livelihood Zone	**Food Aid**	**Purchase**	**Own Production**	**Others**	**Food Aid**	**Purchase**	**Own Production**	**Others**	**Purchase**	**Own Production**	**Others**
Agro Pastoral (Kajiado)	0	86	12	3	0	83	15	2	44	55	1
Coastal Marginal Agriculture (Average: Kilifi and Kwale Districts)	5	74	21	3	2	86	10	2	88	10	2
Eastern Marginal Agriculture (Mwingi)	0	52	42	5	0	53	40	6	51	49	0
Eastern Pastoral	72	21	2	4	58	33	7	3	34	57	9
Northern Pastoral	49	40	5	6	29	44	21	5	22	73	6

Source: District Field Survey Teams

Livestock Conditions and Prices

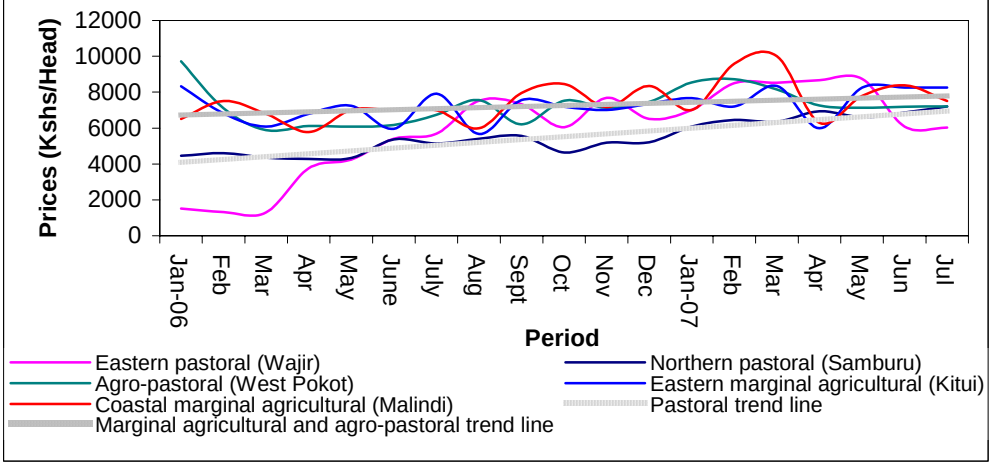
With the exception of a few pockets, where rainfall was not consistent, livestock body conditions are generally good and may remain so for the rest of this season as pasture and browse may last until the short rains in October. However, there are early signs of water stress in localized areas resulting in migration of livestock to dry season grazing areas. Kidding and lambing continued into the long rains season further increasing milk availability.

Generally livestock prices have been rising since the 2006 long rains after several consecutive seasons of drought. There was temporary dip in prices between February and April 2007 due to Rift Valley Fever (RVF) but prices bounced back in the second quarter. It has been noted that livestock trade between Kenya and Tanzania has also improved following the containment of RVF.

Figure 3.3.3 shows the trends in livestock prices for selected markets across livelihoods prone to food insecurity between January 2006 and July 2007.As most households restock, supply of cattle livestock to markets has been limited; and the quality of the animals being offered for sale is good. Consequently, the price of an average bull has increased by 22% from an average of Kshs 5,400 to 6,500; and 20% from an average of 6,000 to 7,200 per head in pastoral and agro-pastoral areas respectively, between July 2006 and July 2007. In the marginal agricultural areas, livestock prices

have been steady, ranging between Kshs 7,500 to 8,000 for an average bull during the same period. Livestock prices have been above long term average in most livelihood zones but are expected to decrease seasonably during the dry season. If the short rains are good, households are expected to continue building their asset base by restocking and prices are expected to track higher.

Figure 3.3.3: Average Livestock Prices in Selected Districts in Livelihood Zones (2006-2007)

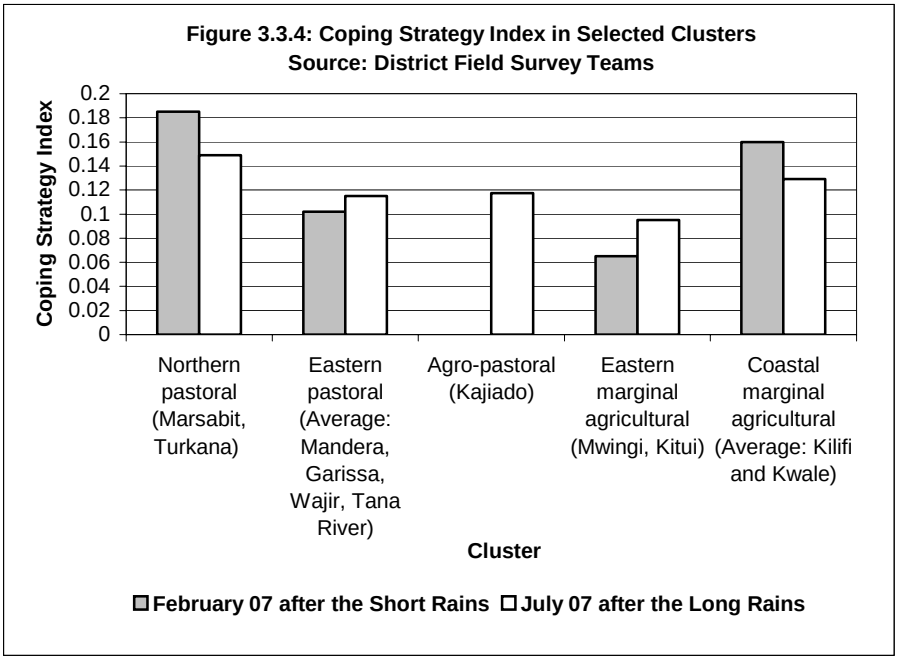


The Tropical Livestock Units (TLU)[1] was used to assess the ability of pastoral households to access food based on livestock holdings owned by each household. Four and less TLU signifies food insecurity; five to eight TLU, moderate food insecurity; more than eight TLU, food secure. On average, 57% of sampled households in pastoral livelihoods had zero to four TLUs which is not sufficient yet to support food purchases in the absence of food aid. Also, livestock in pastoral livelihoods have been affected by Pests des Petits Ruminants (PPR) and new/mysterious camel adversely affecting restocking in some households. . In the same pastoral livelihoods, 14% had 5 – 8 TLUs, while 27 % had more than 8 TLUs.

Coping strategy

The coping strategy index (CSI) for most households across most livelihoods remains non-critical at below 0.2 with notable improvements in northern pastoral and coastal marginal agricultural zones see figure 3.3.4. With diminishing food stocks, the mild to moderate coping strategies being employed by some households to access food contributed to the slight increase in the CSI in the eastern pastoral and eastern marginal agricultural households. Although most households across all livelihoods are consuming at least two meals a day, the composition of the ration is still poor and does not consist of at least energy giving foods and protein rich foods.

Figure 3.3.4: Coping Strategy Index in Selected Clusters
Source: District Field Survey Teams



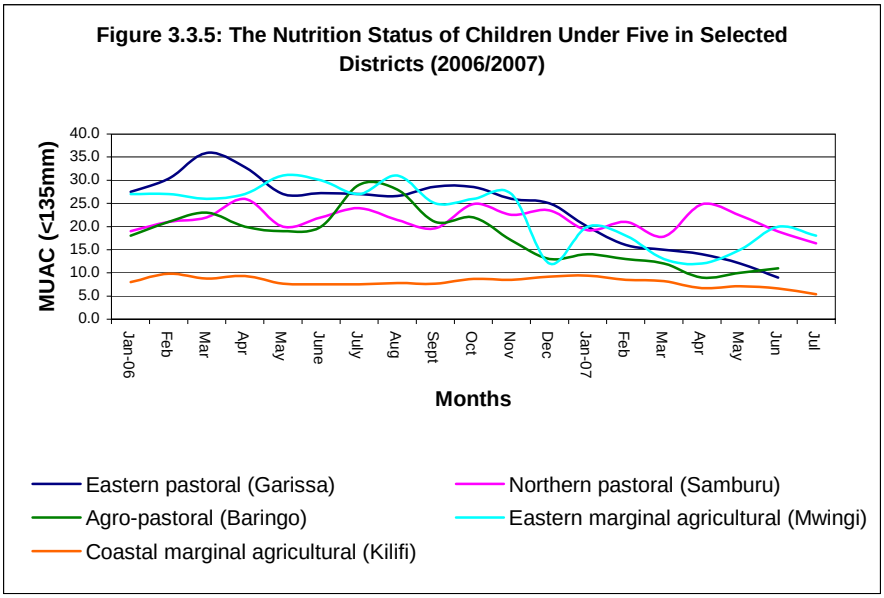
The three most common coping strategies in most livelihood zones include, reducing the size and frequency of meals; borrowing or credit purchases for food.

[1] A method used to quantify a wide range of types and sizes of livestock

Health and Nutrition

The continued improvement in the nutritional status of households across all livelihoods is attributable to the good 2006 short rains and the continuation of the recovery process in this season. The rains increased milk availability; improved availability of food in the household; uplifted livestock productivity and boosted food supplies to markets resulting in affordable prices for market-dependent households. Although poor in some areas, the long rains nevertheless sustained milk availability. The household survey shows that, 75% of the sampled households in pastoral and agropastoral livelihood zones had access to milk. Also contributing to the improving nutritional status is targeted supplementary feeding and general food distribution to susceptible households; and school feeding programs. Figure 3.3.5 shows the trends in the nutritional status of children under five years old in selected districts in various livelihoods from January 2006 to July 2007. Generally MUAC levels have been on a downward trend since November 2006 in all livelihood zones. Although Global Acute Malnutrition (GAM) rates have actually reduced compared to previous years for pastoral livelihoods, they still remain higher than the internationally recognized emergency threshold of 15% with the average GAM in 2007 in Mandera, Wajir and Marsabit Districts being 19, 23 and 17 percent respectively. Vitamin A supplementation still remains below 50% in most livelihoods while immunization coverage ranges between 60 and 80%.

Figure 3.3.5: The Nutrition Status of Children Under Five in Selected Districts (2006/2007)



The leading causes of morbidity and mortality in pastoral livelihoods remain preventable diseases including malaria, cholera, respiratory infections because of poor health seeking behaviour; poor environmental hygiene and sanitation; dilapidated and understaffed health facilities. Measles continue to be to be a problem in the pastoral livelihoods.

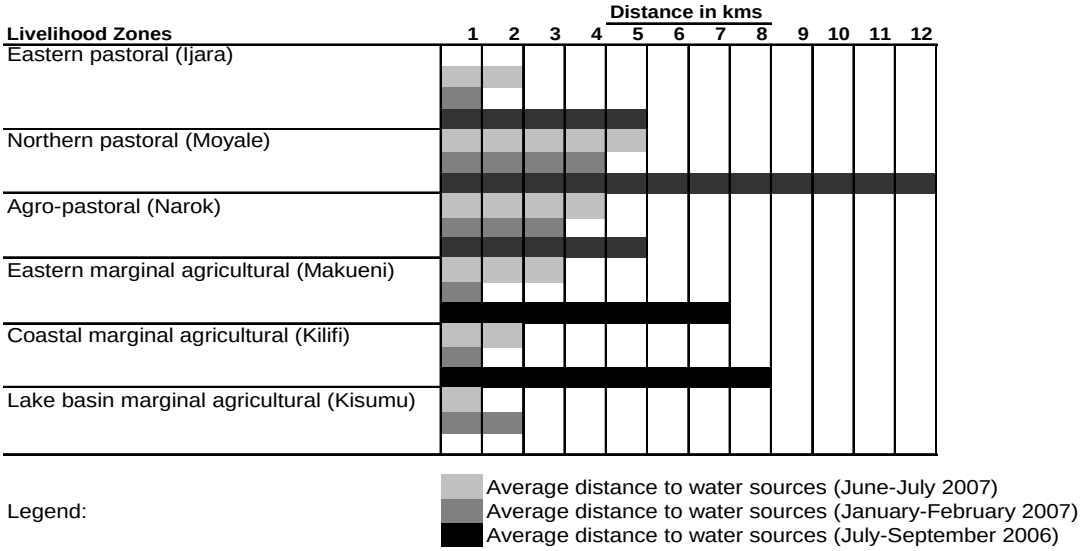
Water and Sanitation

The main water sources including boreholes, pans, shallow wells, rock catchments and all types of storage tanks were recharged adequately during the short rains. Most water sources required minimal replenishment which was met despite the generally poor performance of the long rains. However, the long rains ended early in most areas and as the dry season intensifies, average distances to water sources for domestic and livestock use have started to increase in pastoral, agro-pastoral and marginal agricultural areas by between 1 to 2kms. In the lake basin marginal agricultural zone where precipitation was adequate, distances to water sources have reduced from to one kilometre, see figure 3.3.6.

Due to poor distribution of water sources, early migration of pastoralists to dry season grazing areas has started despite availability of pasture in the wet season grazing areas in parts of eastern pastoral and coastal marginal agricultural livelihoods.

No conflicts have been reported over water although there are tensions in some parts of agro-pastoral and northern pastoral.

Figure 3.3.6: Average distance to water sources in selected districts in livelihood zones

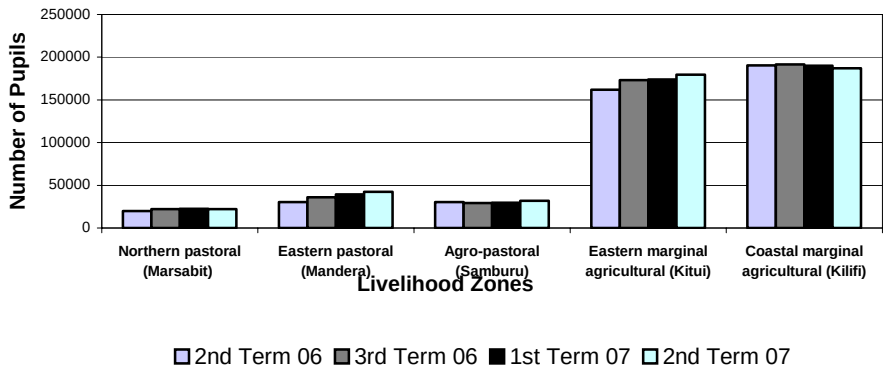


Source: RAT and DSGs, July 2007

Education

ECD and primary school enrolment have been steady since the long rains in 2006 and this may in future improve the resilience of most households to shocks such as drought and floods. Figure 3.3.7 shows the primary school enrolment in selected representative districts within livelihood zones assessed. Availability of pasture around homesteads in pastoral and agro-pastoral zones have reduced labour and time requirements for school age child herders. More children are attending school and absenteeism is minimal.

Figure 3.3.7: Primary School Enrollement in Selected Districts in Livelihood Zones (2nd Term 2006 to 2nd Term 2007)



In all livelihood zones, school attendance has been sustained by free primary education. School feeding programs have also enhanced retention of pupils in addition to improving their health status. However, the ration of boys to girls especially in pastoral areas is still high due to early marriages cultural practices and beliefs. School activities have also been disrupted in parts of Samburu District due to insecurity.

Most households are still on the recover path building their asset base. Consequently, most households are still unable to pay fees compromising the performance of most secondary schools.

Conflict and Insecurity

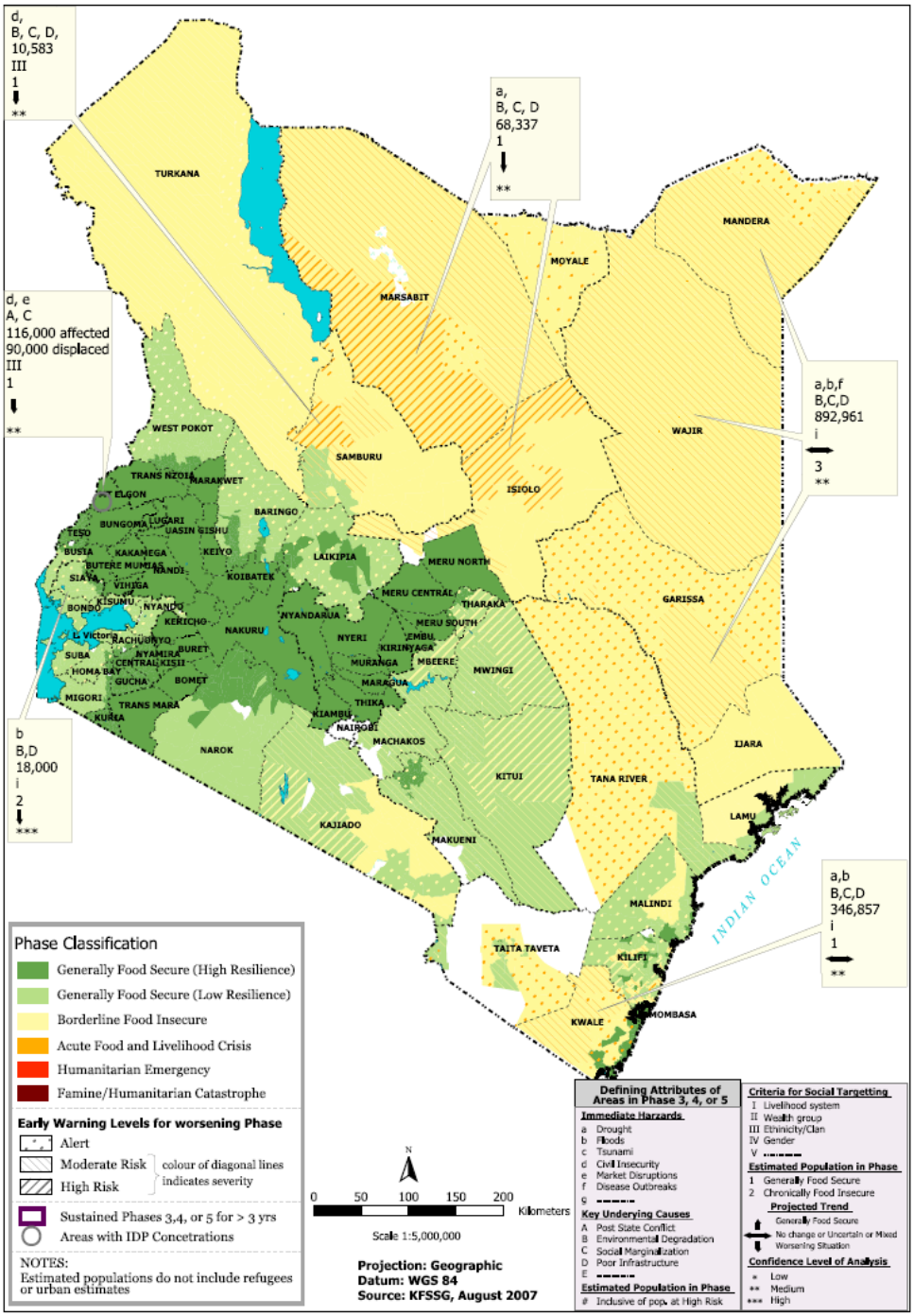
There is no significant conflict over resources in marginal agricultural, southern agro-pastoral and eastern pastoral zones. However, there are sporadic and localized conflicts over resources in northern pastoral and agro-pastoral areas. In West Pokot and Turkana districts, there is tension and migration away from the pasture areas near Uganda due to security operations in Uganda that sometimes spill over into Kenya. Cattle rustling have also resulted in tension in the dry season grazing areas of

Samburu, southern Turkana. In Moyale and Marsabit low level tension in some areas is due to lack of adherence to the provisions of inter-community peace negotiations and/or displacement. There many households still displaced from their productive farms in generally high food secure Mount Elgon area.

4 FOOD SECURITY SITUATION BY LIVELIHOODS

There has been additional improvement in the food security status in the country after the 2007 long rains especially in Lake basin and coastal mixed and marginal agricultural; agro-pastoral and pastoral zones east of the country. In the northern and eastern pastoral; eastern and parts of coastal mixed and marginal agricultural livelihoods, the marked improvement in both crop and livestock production during the successful short rains season lessened the negative outcome of the poor 2007 long rains season. Households in all these livelihood zones continue to recover from the adverse effects a succession of poor seasons before the 2006 long rains. Another good short rains season is critical in reinforcing the recovery process. Figure 2.2.6 show the national food security situation in country by livelihoods.

Figure 3.2.6: Kenya Food Security Situation Analysis with Slight Adaptation from the Original IPC: March to June 2007



4.1 Borderline Food Insecure

This food security phase denotes communities that have not achieved food security but are not considered to be in crisis. In this current phase of the drought cycle, the phase includes communities that are experiencing a recovery from a crisis phase, but who have not recovered their livelihoods to the level to support full food security. In many cases, chronic and structural factors may prevent drought-prone communities from achieving food security even after a sustained recovery period, especially those living in extreme poverty.

Pastoral Livelihoods: The **northern pastoral section** of the country is still classified as borderline food insecure but there is a notable improvement in the food security situation of pastoral and other livelihoods in the east in Wajir, Garissa, Ijara, Tana River and Isiolo Districts which has improved from acute food and livelihood crisis after the short rains to borderline food insecure. However, the various livelihoods in this predominantly pastoral zone of the country are at different stages of early warning ranging from alert to high risk according to specific contexts.

Most pastoral households are generally practicing usual or insurance coping mechanisms. Food access and availability has improved because of the favourable terms of trade between livestock and cereals. The marked improvement in production and value of livestock and allied products was sustained during the long rains season.

The pastoralists have recovered from the negative effects of Rift Valley Fever (RVF) which was rampant in late 2006 and early 2007. Most households are still restocking their livestock herd which were decimated by consecutive seasons of drought before the 2006 long rains. As a result, the limited supply of cattle to markets has sustained higher livestock prices compared to the long term average from around May 2007. Nevertheless, a seasonal drop in livestock prices is expected during the dry season. Pasture availability is expected to last up to October/November 2007. However, although the average distance to water sources for both domestic and livestock use is still below the normal range, the distance has started to increase in most areas as the dry season intensifies.

Despite improved progress in food security warning levels in most parts of **Samburu District**, insecurity is a major concern especially in the west and southwest parts of the district. Consequently, there is a high risk of pastoralists and agro-pastoralists in these areas sliding down into acute food and livelihood crisis and borderline food insecurity respectively.

In the pastoral areas of **Turkana,** malnutrition rates, though declining, still remain high against international emergency thresholds. Incidences of diseases including cholera, diarrhoea, malaria and measles continue to compromise the nutrition status of the under fives. However, milk availability has improved due to calving, kidding and lambing. The good short and long rain seasons in most of Turkana's pastoral areas have remarkably improved pasture and water availability. Incidences of conflict over resources have also declined significantly enhancing the recovery of livestock assets by most households. Consequently, the early warning level for all livelihoods in Turkana has been withdrawn.

Laisamis and Loiyangalani Divisions in **Marsabit** District are under high risk of deteriorating to acute food and livelihood crisis due to deteriorating pasture and water availability, high cases of malnutrition and relatively high cases of diseases including measles outbreak.

Due to increased incidences of mysterious disease in camels and trypanosomiasis; possible influx of livestock from neighbouring country in search of pasture; depletion of both pasture and water; and high incidences of malaria and diarrhoeal disease, the parts of pastoral zones in **Isiolo, Marsabit, Mandera, Wajir and Garissa** in remain under moderate risk of reverting to acute food and livelihood crisis. Parts of Isiolo District is at high risk of moving from borderline food insecure to acute food and livelihood crisis because of high malnutrition rate and still low dietary diversity.

Parts of pastoral livelihood in **Kajiado** District still remain under borderline food insecure status because the long rains were far below normal and poorly distributed especially Namanga, Mashuru and lower parts of Loitoktok Divisions. Dietary Adequacy is poor and calorific intake is inadequate in these divisions. Most water sources in the cluster collected enough water as a result of heavy rains. The return distances to the nearest water sources have remained at between five and ten kilometres.

The high population of wildlife, especially wildebeests and zebras has led to competition for pasture, overgrazing and increased exposure of livestock to contagious diseases like malignant catarrh fever. Dietary Adequacy is poor and calorific intake is inadequate.

Agro-Pastoral Livelihoods: The food security status in the agro-pastoral livelihoods of **Marsabit and Moyale** Districts is at alert level because of the poor performance of the long rains. Most agro-pastoral and irrigated areas in **Mandera, Wajir, Garissa , Ijara and Tana River** cluster are under alert with a probable crop failure if the there is a poor short season, or crop damage if the rains are excessive.

Marginal and Mixed Farming Livelihoods: Marginal and mixed farming areas in the predominantly eastern pastoral zone of the country have also improved to borderline food insecure from acute food and livelihood crisis. Most households in this cluster have recovered from the adverse effects of the floods. Some of the households displaced in **Bura, Kipini and Garsen** Divisions have returned to their normal livelihoods while others are still supported by various interventions. However, the area remains under alert due to high mortality attributable to malaria and water borne diseases. There is also possibility of floods or drought during the short rains season.

Some livelihoods in the coast districts of **Taita Taveta and Kwale** remain under borderline food insecure status because crops planted in April generally performed poorly due to either excess moisture including flooding and water logging or moisture stress particularly in the livestock livelihood zones. There was very good pasture regeneration across all the districts in all the livelihoods except in Taita Taveta and most parts of Kwale Districts which experienced below normal rainfall. There is uncharacteristic early animal migration in search of pasture in Taveta Division towards Salaita hills because pasture is depleted due to overstocking. In **Malindi and Kwale**, there was reported influx of cattle from Tana River in search of pasture for fattening before export creating tension between Maasai and Somali pastoralists in Samburu Division of Kinango District but no conflict. The main livestock diseases remain Lumpy Skin Disease. The distance to watering points in the livestock farming livelihood in Samburu Division is normal at between four and seven kilometres compared to average of two kilometres in other areas in the hinterland but is expected to increase as the dry season intensifies. There is competition for water between livestock and wild animals in Tsavo Park. Most water facilities that were damaged in the short rains season have been repaired.

Firewood gathering/charcoal burning livelihoods: The recovery of most livelihoods has concomitantly improved their purchasing power which in turn is improving the food security status of firewood gathering/charcoal burning livelihoods in the suburbs of Isiolo, Garissa, Mandera and Wajir towns. However, access to sanitation facilities and other amenities remains poor while disease morbidity is still high.

4.2 Generally Food Insecure with Low Resilience

This phase denotes communities who are currently food secure and are projected to remain so for the next few months. The adapted IPC tool used in this assessment has divided this phase into two in order to differentiate those communities who are currently food secure but have low resilience to future shocks and those who have a high resilience.

Agro-Pastoral Livelihoods: The food security situation for agro-pastoral livelihoods in **Baringo, Kajiado, Laikipia, Narok and West Pokot** Districts has improved from borderline food insecure to generally food secure with low resilience. Most of the mixed farming livelihood zones in Narok, Kajiado, Laikipia and West Pokot Districts are still generally food secure with high resilience. No severe coping mechanisms are being employed by livelihoods under this phase. There is prevailing and structural peace in most areas but in parts of Baringo and West Pokot, there is instability and disruptive tension.

Pasture conditions are above normal and are expected to last up to October and probably November 2007 in the dry grazing areas. PPR and Camel Mange diseases have been reported in East Pokot. The livestock body condition for all species is good. Livestock herds are currently in their wet season grazing areas in most parts of the cluster and there may be no significant migrations this season in Baringo and West Pokot Districts. There was an increase in lambing and kidding since breeding took place immediately after the onset of the long rains in April 2007. Calving of large stock started around

May and June, 2007. About 20-40% of the cattle are lactating and milk availability has improved remarkably.

Livestock prices are still rising mainly due to limited market supplies as households restock and also because of good quality animals being offered in the markets. There may not be significant price decline if the dry season is short.

In the one-season mixed farming areas of **Baringo and West Pokot,** harvesting of the long rains maize crop will take place between October and December 2007 and there are favourable prospects.

However, harvesting was in progress in the two-season agro pastoral areas of **Kajiado District** but there was already a 80% maize crop failure. The adoption of drought resistance crops is still low. The use of certified seed is high in commercial farming and low in subsistence farming areas.

The price of maize has been on a downward trend in Baringo, West Pokot, Laikipia and Narok after the October to December 2006 harvest improving the terms of trade between cattle and cereals. However, prices in most markets in the cluster are expected to pick up as supplies decrease. Some areas in the north of the cluster are difficult to access because several roads and bridges have been damaged which may also compromise food access.

The nutrition status of populations in the agro pastoral cluster continued to improve during the long rains season. Malnutrition rates are currently lower than they were during the same period in 2006. There is some evidence that increased milk and vegetable availability has improved dietary diversity from one to two food groups before the short rains, to two to three food groups after the short and during the long rains. Malaria, respiratory system infections and diarrhoeal diseases remain the three most important causes of morbidity in the cluster.

Enrolment in primary and pre-primary schools remains steady but few ECD centres were closed in West Pokot due to insecurity and lack of teachers.

Eastern Mixed Farming (MF) and Marginal Mixed Farming (MMF) Livelihoods: The eastern marginal agricultural cluster includes mixed farming (MF) and marginal mixed farming (MMF) livelihoods in Kitui, Mwingi, Makueni, Machakos, Mbeere and Tharaka Districts. The cluster remains generally food secure with low resilience. However, the early warning level has been raised to moderate risk of falling to borderline food insecure from the previous alert level. The eastern flanks of the cluster bordering eastern pastoral areas are at high risk of becoming borderline food insecure while the other areas are at moderate risk.

Generally, the season's crops performance was below normal compared to the 2006 short rains and slightly better than 2006 long rains season. There was total crop failure in MMF zones and in MF zones, only pigeon peas and cotton performed well. Most households are depending on their own food stocks from the previous short rains harvest. However, as food stocks decline, most households have started sourcing food from the markets. The prices and supplies in the market for major staple foods have remained stable over the past six months and were still below the long term average in June 2007 due to adequate supplies to markets from within and outside the region; improving access to food and dietary diversity.

The inadequate rainfall resulted in some forage regeneration across the region boosting livestock recovery most of which are generally in good body condition and health. Livestock productivity is stable; forage availability is fair but in decline as result of early cessation of long rains in both MF and MMF livelihood zones. There are frequent livestock disease outbreaks in Mwingi District due to livestock movement from eastern pastoral region en-route to the major livestock markets in Nairobi and Thika. Livestock prices are fairly good and above average from January 2007 to date.

Water availability in the region has deteriorated. Although the main water sources are fairly distributed within the region they were poorly recharged during the long rains season. Seasonal streams and rivers are drying up. Permanent water sources have started operating but some are stalled due to poor maintenance. Most of the boreholes in the cluster region are in a state of disrepair and require rehabilitation to improve access of water. The current return walking distances to water points

ranges between 0.5-3 Km in mixed farming zones and 7-12km in the marginal mixed farming zones. The water situation is likely to worsen in the next two months. Communities are sharing open water sources with livestock which partly explains the high incidences of water borne diseases in the region.

There was a general improvement in the nutritional status of children less than five years old because of significant improvement in food availability and accessibility at household level from the good harvest realized from the short rains season. Most households reported consuming two - three meals per day as opposed to one meal per day during worse times. This improvement was also attributed to the ongoing school feeding programme and vitamin A supplementation.

Generally, school enrolment was stable across the region. The enrolment of girls in ECD, primary and secondary schools has increased since 2003 due to free primary education, school feeding programmes. In addition there has been improvement in physical structures and equipment supported by the government, constituency development fund, local authority transfer funds and non-governmental organizations.

The coastal marginal agricultural cluster consists of the mixed farming (MF) and marginal mixed farming (MMF) livelihoods in Taita Taveta, Kwale, Kilifi and Malindi Districts.

Coastal Mixed Farming (MF) and Marginal Mixed Farming (MMF) Livelihoods: The food security status along the coastal strip is generally food secure with low resilience with pockets of high resilience. The food security situation in the hinterlands of Kilifi and Malindi has improved from borderline food insecure to generally food secure low resilience. There is moderate risk that the hinterland of Kilifi may revert to borderline food insecurity while the hinterland of Malindi is on alert.

The maize crop planted in April generally performed poorly across the region due to either excess moisture including flooding and water logging or moisture stress particularly in the livestock livelihood zones. However, along the coastal strip, replanting and planting of maize was done continuously because of the extended precipitation that had the 2007 long rains season kind of shifting to the month of May. The later crop is still green and in various stages of growth. Some areas expecting a good harvest especially if the rains continue through August. The main source of food for most households is own stocks from the short rains harvest. The prices of most foodstuffs are below the long term averages and affordable.

Available pasture in livestock farming livelihoods in all the clusters is under utilized because of low livestock heads per household and limited access to water in areas of Kinango and Chakama in Malindi. Generally there is adequate good quality pasture in most areas in the cluster compared to the same period last year which is expected to last until the onset of the short rains months. The livestock body condition for shoats and cattle is generally good and fair respectively. Kidding and lambing was prevalent in most areas resulting in significant increase in the number of newborns due pasture availability over the last four months. Milk production has improved compared to last year. Livestock prices increased in June due pasture availability after tracking low in the first four months of 2007 due to a ban on livestock sales in some districts and low demand for meat due to Rift Valley Fever. However, as the dry season sets in both pasture condition and water availability are expected to deteriorate compromising livestock body conditions which in turn may result in lower prices.

The nutrition status of children under five years has been improving across the region due to increased milk availability and improved general food security. However, the rates still remain high in mixed and livestock farming livelihoods because of low dietary diversity, low birth spacing and poor feeding practices. Cholera, diarrhoeal and respiratory diseases are common in this region.

Lake Basin Mixed Farming (MF), Marginal Mixed Farming (MMF) and Fishing Livelihoods

The lake basin mixed and marginal mixed farming livelihoods are situated along the shores of Lake Victoria in in Migori, Homa Bay, Suba, Rachuonyo, Nyando, Bondo and Busia Districts. Fish production is also an important source of food and income for most families residing in the perennially drought-prone areas along the lake's periphery.

The food security status of Lake Basin marginal agricultural cluster improved from borderline food insecure to generally food secure with low resilience including the lowland marginal agricultural-

mixed farming and fishing livelihoods because of sufficient rains. Highland mixed farming zones remain at generally food secure with high resilience because of better agro-climatical conditions and diversified sources of income.

HIV/AIDs pandemic remains a worrisome underlying cause of low resilience to shocks that result in food insecurity for a large proportion of households in the lowland areas of the cluster. Malaria and Typhoid are prevalent also leading causes of morbidity in the cluster.

The long rains of 2007 started in late March and ended earlier than expected in some areas around the lake. There were minor cases of flooding in Budalangi, Nyatike, Lower Sindo and Nyando Divisions which is normal at the beginning of the long rains. Prices for maize, millet, sorghum and sweat potatoes have started to decline as fresh supplies enter the market further improving food access for market dependent households.

The 2006 floods in the lake region had a marked negative impact on water sources and other infrastructure some of which are yet to be repaired. However the distances to water borehole and surface water sources have reduced from three to below one kilometre due to the good precipitation in long rains season.

Although lumpy skin disease, warm and Tse Tse fly infestation are still prevalent in the area especially in Karungu and Mbita Divisions , livestock body condition is generally good in the lake basin marginal agricultural cluster due to availability of pasture and shorter trekking distances to water sources. Livestock prices remain stable and relatively high compared to other years because of reduced market supplies. The average price of standard bull in July 2007 was Kshs 11,000 against the long term average price of Kshs 10, 000 improving the financial value of household assets.

The enrolment levels for both boys and girls remain stable and supported by free primary education programme and availability of food at the farm households.

Fishing Livelihoods: The food security situation of fishing livelihoods has improved to generally food secure with low resilience from borderline food insecure, but the status remains at high risk of reverting to the latter. The lifting of a scheduled four month ban on fish harvesting in July has had positive effects on the on livelihoods that depend on fishing. However there frequent incursions by Ugandan security personnel who confiscate fishing gears. The Lake is covered with water hyacinth weed that has pushed the breeding grounds away from the shores making fishing less accessible to small scale fishermen. Consequently in Muhuru Division, fish production has decreased from 80% to 35%.

5 IMPLICATIONS FOR RESPONSE

Most of the interventions proposed after the short rains assessment in April that were aimed at supporting the recovery of the vulnerable livelihoods have not been implemented. There is a high probability that any new shock could erode the remarkable gains in food security for most households in the country in the past three seasons. It should be reiterated that this is the right moment for Government and partners to seize the opportunity and implement transitional activities for medium term recovery to increase their resilience before the next shock, while pursuing and supporting the long term policies and strategies aimed at addressing the root causes of food insecurity in the most vulnerable livelihoods. Reconstruction, asset building, preparedness and contingency planning, can limit the magnitude and break the vicious cycle of relief assistance whenever there is a shock.

A significant number of households remain under fragile conditions, in borderline phase at high-risk early warning level, which makes them highly vulnerable to the performance of the next season. It is recommended that a well targeted food assistance programme serving 652,000 people will be implemented until February 2008, under the FFA /GFD and up to 60,000 people through supplementary feeding, requiring a total of 42,214MT, valued at USD $26.6 million. At the height of the drought in early 2006, about 3 million people were in need of food assistance and this number was reduced to 2.3 million and 920,000 after the 2006 long and short rains assessment respectively. The proposed current caseload of 650,000 people represents 21% of the population identified during the peak period as being in need of food aid.

5.1 Recommended Responses by Clusters

The Response Analysis findings are presented in detail in Cluster Report. The following represent a consolidation of these findings and can be considered the broad recommended interventions. Most of the recommendations of the short rains assessment remain relevant.

5.1.1 Borderline Food Secure

Pastoral Livelihoods: Mandera, Marsabit, Moyale, Samburu, Turkana, Isiolo, Tana River, Wajir, Garissa and Ijara

Total Estimated Population: 2.44 million (60% at highly vulnerable)

Cause/Sector	Immediate	Longer Term
Eroded Assets/ Livestock/ drought	o Redistribution of livestock from wealthier herders to poorer o Re-seeding denuded areas o Strengthen disease surveillance and treatment o Increase fodder/browse crop production o Diversify incomes o Sustainable charcoal production o Capacity building for pastoral emergency preparedness	o Establish strategic pasture/browse reserves o Improve water harvesting schemes o Develop livestock marketing o Undertake livestock census
High Malnutrition and Morbidity	o Supplementary and therapeutic feeding for vulnerable groups o Training on management of severe malnutrition o Promotion of breast feeding practices o Provision of treated mosquito nets and water treatment chemicals	o Establish causes of high chronic malnutrition o Strengthen primary health care system o Establish nutritional surveillance and growth monitoring o Education on hygiene and nutrition
Infrastructure	o Repair dykes, dams, wells pans, and pit latrines	o Develop road and other infrastructure o Develop and Improve distribution of water sources especially in dry and wet season grazing areas
Access to seeds	o Provision of certified seeds of drought tolerant varieties	
Low Literacy rates	o Promote primary education particularly for girls	o Provision of more bursaries to enhance secondary school enrolment
Civil Insecurity	o Initiate conflict resolution	o Strengthen conflict management groups in districts
Destitute pastoralists	o Study on extent of problem and potential solutions	o Invest in findings from study
Access to food	o Pilot and support Cash interventions and Food for Asset initiatives. Phase out general food distribution o Selective Feeding to be supported for identified most vulnerable families o Continuation of regular school feeding	o Establish cash/food based safety nets for most vulnerable

5.1.2 Generally Food Secure with Low Resilience

Agro-Pastoral Livelihoods: Baringo, Kajiado, Laikipia, Narok and West Pokot Districts.

Total Estimated Population: 1 million

Cause/Sector	Immediate	Longer Term
Environmental degradation	o Soil and water conservation projects o Reseeding of degraded areas o Capacity building for agro-pastoralists to combat environmental degradation	o Capacity building on environmental management o Afforestation o Range improvement/conservation
High Malnutrition and Morbidity	o Supplementary and therapeutic feeding for vulnerable groups o Promotion of best feeding practices o Provision of treated mosquito nets and water treatment chemicals	o Establish causes of high chronic malnutrition o Strengthen primary health care system o Establish nutritional surveillance and growth monitoring o Education on hygiene and nutrition in community and schools
Water scarcity	o Borehole rehabilitation, dam/pan desilting	o Strengthen water users associations o Construction of boreholes (Kajiado)

	o Rainfall harvesting facilities and tanks for schools	o Excavation of pans
Poor Agronomic practices	o Provision of certified seeds of drought tolerant varieties and farm inputs o Provision of animal traction equipment	o Promotion of drought tolerant and quick maturing crops o Support Agro-biodiversity Farmer Field Schools
Poor Livestock husbandry	o Redistribution of livestock to pastoralists who lost all animals o Improve animal husbandry management o Improve livestock support services	o Improve stock breeds to KMC standards o Diversify livestock enterprises
Poor Infrastructure	o Repair of bridges, road section and irrigation canals	o Strategic development of road infrastructure to support markets
Access to food	o No general food distributions o Selective feeding to be considered in areas with high malnutrition o Cash interventions recommended due to food availability in the market; Food for Assets to be considered in the absence of readily available Cash intervention programmes o No Expanded School Feeding due to improvement in food security indicators	o Establish cash/food based safety nets for most vulnerable

Mixed and Marginal Mixed Farming Livelihoods: Kitui, Mwingi, Makueni, Machakos, Mbeere, Tharaka, hinterlands of Kwale, Kilifi, Malindi, and Lamu.
Total Estimated Population: 4.2 million

Cause/Sector	Immediate	Longer Term
Environmental degradation and water conservation	o Repair to soil and water conservation structures (cash/food for work) o Desilt earth dams o Promote water harvesting techniques o Protect water sources	o Capacity building soil and water conservation o Reseeding degraded land
High Malnutrition and Morbidity	o Supplementary and therapeutic feeding for vulnerable groups o Promotion of breast feeding practices o Provision of treated mosquito nets and water treatment chemicals	o Measles and vitamin A campaigns o Strengthen primary health care system o Establish nutritional surveillance and growth monitoring through ECDs o Education on hygiene and nutrition in community and schools
Water scarcity	o Borehole rehabilitation, dam/pan desilting o Rainfall harvesting facilities and tanks for schools	o Strengthen water users associations o Excavation of pans
Poor Agronomic practices and marketing	o Provision of certified seeds of drought tolerant varieties and farm inputs o Promotion of grain storage structures	o Training on improved crop husbandry/ promotion of drought tolerant crops o Support existing marketing associations and promote new ones o Improve marketing information system o Establish/re-open NCPB depots
Fisheries (Coast)	o	o Construction of cold storage facilities o Improve marketing infrastructure o New technology: inshore/offshore
Poor Infrastructure	o Repair of bridges, road section and irrigation canals, water pipelines	o Strategic development of road infrastructure to support markets
Access to food	o No general food distributions; selective feeding in some areas. o Cash interventions recommended due to food availability in the markets o No Expanded School Feeding due to improved food availability	o Establish cash/food based safety nets for most vulnerable

Marginal Mixed Farming Livelihoods: Busia,, Migori, Nyando, Rachuonyo, Siaya and Suba
Total estimated population at risk: 349,595

Cause/Sector	Immediate	Longer Term
Flood Damaged Infrastructure	o Repair washed away sections of roads and bridges o Rehabilitate damaged school structures and furniture/ teaching materials o Repair dykes and river sluices o Repair of irrigation canals and equipment	o Upgrade roads to improve access to markets o Construction of check dams upstream to arrest run-off o Excavation and de-silting of rivers that drain into swamps instead of the Lake
Environmental degradation and water conservation		o Establish soil and water conservation structures on farms and river catchments o Afforestation in lowlands and upstream
Health	o Supplementary and therapeutic feeding where malnutrition is recorded o HIV/AIDS: provision ARVs; integrate infected and affected into community o Continued support to school feeding programme especially in high HIV prevalence o Provision of treated mosquito nets and water treatment chemicals	o Education campaigns on HIV/AIDS through IGAS o Strengthen primary health care system o Establish nutritional surveillance and growth monitoring through ECDs o Education on hygiene and nutrition in community and schools
Access to seed and Poor Agronomic practices	o Provision of emergency seed for an estimated 4,000 Ha (maize, beans, sorghum and millet)	o Conduct region-wide on-farm demonstrations to encourage improved agronomic practices o Expand land that has irrigation potential
Livestock Diseases	o Lumpy Skin Disease vaccinations in flooded areas still prone to their spread.	
Conflict in Lake Victoria	o Initiate conflict resolution between fishing communities and within the EAC	o Strengthen conflict management groups in districts within the EAC
Access to food	o Provide targeted free food to displaced and vulnerable groups especially in Budalangi	

5.1.3 Acute Food and Livelihood Crisis

Mixed Farming Livelihoods: Mount Elgon, parts of Busia and Bungoma
Affected Population: 90,000 displaced.

Cause/Sector	Immediate	Longer Term
Protection	o Immediate measures to protect vulnerable people (particularly women, children and elderly)	
Non-Food assistance	o Emergency provision of non-food items (kitchen sets, blankets, mosquito nets, soap, jerrycans, Unimix and water treatment) to displaced people.	o Conflict resolution between conflicting groups: resolve the underlying issues o Reintegrate displaced in safety
Access to food	o Emergency food relief to displaced people	

6 APPENDIX

The Data and Information Dissemination Sub-Committee of the Kenya Food Security Steering Group decided to carry out a pilot Integrated Phase Classification (IPC) during the long rains food security analysis (see as in figure 1.1.1) at the same time with the regular IPC (figure 1.1.2). This was in response to the recommendations from the Kenya IPC Learning Workshop of 23-26 April 2007 with regard to the development of the IPC tool, and in particular:

1. **Splitting of phase I:** The original 'Generally Food Secure' phase one was split into two phases- Phase 1 Generally Food Secure with High Resilience colored dark green; and Phase 2 Generally Food Secure with Low Resilience, colored light green.

   The distinguishing term 'resilience' was adopted over 'vulnerability' as it is more generic: vulnerability can only be applied relative to a specific hazard (i.e. vulnerable to drought or floods or another hazard). Resilience on the other hand, refers to the ability to withstand any hazard on the basis of livelihood capitals.

   For Phases 1 and 2, the existing IPC reference outcome indicators are used as normal as a first step. Thresholds derived from livelihood, human, natural, physical, financial, social and political capital indicators; preferably with links to millennium development goals are employed to distinguish between areas of low and high resilience. Some of the indicators used and being considered are shown in table 5.1

Table 5.1: Suggested indicators, thresholds and relationship to MDG indicators

Livelihood Capital	Indicator	Threshold/Constraints	Relationship to Millennium Development Goals
Human	• Incidence of HIV/AIDS	Insufficient data to assign threshold. Research on going	Indirect
	• Adult Literacy Rate	Phase 1: 70% or above Phase 2: <70%	Indirect
	• Primary School enrolment	Insufficient data to assign threshold. Research on going	Direct
Physical	• Access to Markets Index	Research on going	None
Financial	• % Population living under $1 per day (incidence)	Phase 1: 40% and below Phase 2: >40%	Direct
	• Poverty Gap	Phase 1: 30% and below Phase 2: >30%	Direct
Natural	• High Potential Land Equivalent	Research on going	Indirect
	• Forest Cover	Research on going	Direct
	• % access to safe water	Research on going	Direct
	• NDVI Coefficient of Variation	? Research on going	Indirect
Social	• Gender Development Index in combination with local knowledge of strong/weak social support networks	Phase 1: 0.6 and above Phase 2: <0.6	Indirect
Political	• Research on going	Research on going	Indirect

2. **Modifying Chronically Food Insecure phase into Borderline Food Insecure.** The previous Chronically Food Insecure phase is replaced by Borderline Food Insecure Phase, that is a non-crisis phase characterized by communities being food insecure and 'on the edge' in terms of vulnerability to a hazard. The phase is transitional between the generally food secure (1 and 2) and the crisis phases (4, 5 and 6) both as a potential crisis is developing and during the recovery stage. Some people, such as the poorer pastoralist in Northern Kenya, may be in this phase even when conditions are relatively good. During the early stages of a drought, people in (new) Phase 2 might be expected to move into this phase, possibly before moving to a crisis phase (4, 5 or 6). Equally, this phase would be characteristic of people who are recovering from a crisis, who are building their livelihood assets, but are not food secure.

   In terms of the response framework, as a situation is deteriorating, response options would focus on mitigation, disaster risk reduction, contingency planning and protecting livelihoods and assets. In a recovery stage, asset building, recovery interventions and phasing out relief

operations would be the priorities. Recovery strategies would link and move towards the longer-term developmental responses associated with phases 1 and 2.

The original indicators for Phase 2 are retained in the new Borderline Food Security phase pending some modifications.

3. **Development of four phase chronic scale**: To accommodate chronic food insecurity in the IPC, a modified scale is used based on the number of years an area had been in a crisis phase in the preceding 10 years as follows:
    - None: 0 Years
    - Low: 1-2 years
    - Medium: 3-4 years
    - High: >5 years

The term 'chronic' has proved ambiguous, meaning many things to many people. So the new phases are called'*Recurrent Crisis Scale: Number of Years in Crisis during the previous10 years'* (crisis referring to phases 4-6 in the amended scale). The None, Low, Medium or High would be represented in the call-out boxes of the main IPC map, and could also be mapped separately as a complementary piece of information.
I
In the absence of IPC classifications for Kenya for the previous 10 years, classifications from previous assessments in combination with food aid receipts (greater than 50% rations) are used to provide sufficient data for the scale.

It should be noted that these two phases and other adaptations of the original IPC are being piloted and changes may occur in future applications (see Appendix for more details).

Table 5.1: Integrated Food Security and Humanitarian Phase Classification Reference Table (Kenya Pilot)

Phase Classification		Key Reference Outcomes *(current or imminent outcomes on lives and livelihoods; based on convergence of evidence)*		Strategic Response Framework *(mitigate immediate outcomes, support livelihoods, and address underlying/structural causes)*
1	Generally Food Secure High Resilience	*Crude Mortality Rate*	< 0.5 / 10,000 / day	Strategic assistance to pockets of food insecure groups Investment in food and economic production systems Enable development of livelihood systems based on principles of sustainability, justice, and equity Prevent emergence of structural hindrances to food security Advocacy
		Acute Malnutrition	<3 % (w/h <-2 z-scores)	
		Stunting	<20% (w/age <-2 z-scores)	
		Food Access/ Availability	usually adequate (> 2,100 kcal ppp day), stable	
		Dietary Diversity	consistent quality and quantity of diversity	
		Water Access/Avail.	usually adequate (> 15 litres ppp day), stable	
		Hazards	moderate to low probability and vulnerability	
		Civil Security	prevailing and structural peace	
		Livelihood Assets	generally sustainable utilization (of 5 capitals)	
		Capital thresholds	Adult Literacy >70% Population leaving under $1 day: =< 40% Poverty gap: =< 30% Gender development Index: =>0.6	
2	Generally Food Secure Low Resilience	*Crude Mortality Rate*	< 0.5 / 10,000 / day	Strategic assistance to pockets of food insecure groups Investment in food and economic production systems Enable development of livelihood systems based on principles of sustainability, justice, and equity Prevent emergence of structural hindrances to food security Advocacy
		Acute Malnutrition	<3 % (w/h <-2 z-scores)	
		Stunting	<20% (w/age <-2 z-scores)	
		Food Access/ Availability	usually adequate (> 2,100 kcal ppp day), stable	
		Dietary Diversity	consistent quality and quantity of diversity	
		Water Access/Avail.	usually adequate (> 15 litres ppp day), stable	
		Hazards	moderate to low probability and vulnerability	
		Civil Security	prevailing and structural peace	
		Livelihood Assets	generally sustainable utilization (of 5 capitals)	
		Capital thresholds	Adult Literacy <70% Population leaving under $1 day: > 40% Poverty gap: =< 30% Gender development Index: <0.6	
3	Borderline Food Secure	*Crude Mortality Rate*	<0.5/10,000/day; U5MR<1/10,000/day	Design & implement strategies to increase stability, resistance and resilience of livelihood systems thus reducing risk Provision of 'safety nets' to high risk groups Interventions for optimal and sustainable use of livelihood assets Create contingency plan Redress structural hindrances to food security
		Acute Malnutrition	>3% but <10 % (w/h <-2 z-score), usual range, stable	
		Stunting	>20% (w/age <-2 z-scores)	
		Food Access/ Availability	borderline adequate (2,100 kcal ppp day); unstable	
		Dietary Diversity	chronic dietary diversity deficit	
		Water Access/Avail.	borderline adequate (15 litres ppp day); unstable	
		Hazards	recurrent, with high livelihood vulnerability	

		Civil Security *Coping* *Livelihood Assets* Structural	Unstable; disruptive tension 'insurance strategies' stressed and unsustainable utilization (of 5 capitals) Pronounced underlying hindrances to food security	Close monitoring of relevant outcome and process indicators Advocacy
4	Acute Food and Livelihood Crisis	*Crude Mortality Rate* Acute Malnutrition *Disease* *Food Access/ Availability* *Dietary Diversity* *Water Access/Avail.* Destitution/Displacement *Civil Security* *Coping* *Livelihood Assets*	0.5-1 /10,000/day, U5MR 1-2/10,000/dy 10-15 % (w/h <-2 z-score), > than usual, increasing epidemic; increasing lack of entitlement; 2,100 kcal ppp day via asset stripping acute dietary diversity deficit 7.5-15 litres ppp day, accessed via asset stripping emerging; diffuse limited spread, low intensity conflict 'crisis strategies'; CSI > than reference; increasing accelerated and critical depletion or loss of access	Support livelihoods and protect vulnerable groups Strategic and complimentary interventions to immediately ↑ food access/availability AND support livelihoods Selected provision of complementary sectoral support (e.g., water, shelter, sanitation, health, etc.) Strategic interventions at community to national levels to create, stabilize, rehabilitate, or protect priority livelihood assets Create or implement contingency plan Close monitoring of relevant outcome and process indicators Use 'crisis as opportunity' to redress underlying structural causes Advocacy
5	Humanitarian Emergency	*Crude Mortality Rate* Acute Malnutrition *Disease* *Food Access/ Availability* *Dietary Diversity* *Water Access/Avail.* Destitution/Displacement *Civil Security* *Coping* *Livelihood Assets*	1-2 / 10,000 / day, >2x reference rate, increasing; U5MR > 2/10,000/day >15 % (w/h <-2 z-score), > than usual, increasing pandemic severe entitlement gap; unable to meet 2,100 kcal ppp day Regularly 2-3 or fewer main food groups consumed < 7.5 litres ppp day (human usage only) concentrated; increasing widespread, high intensity conflict 'distress strategies'; CSI significantly > than reference near complete & irreversible depletion or loss of access	Urgent protection of vulnerable groups Urgently ↑ food access through complimentary interventions Selected provision of complimentary sectoral support (e.g., water, shelter, sanitation, health, etc.) Protection against complete livelihood asset loss and/or advocacy for access Close monitoring of relevant outcome and process indicators Use 'crisis as opportunity' to redress underlying structural causes Advocacy
6	Famine / Humanitarian Catastrophe	*Crude Mortality Rate* Acute Malnutrition *Disease* *Food Access/ Availability* *Water Access/Avail.* Destitution/Displacement *Civil Security* *Livelihood Assets*	> 2/10,000 /day (example: 6,000 /1,000,000 /30 days) > 30 % (w/h <-2 z-score) pandemic extreme entitlement gap; much below 2,100 kcal ppp day < 4 litres ppp day (human usage only) large scale, concentrated widespread, high intensity conflict effectively complete loss; collapse	Critically urgent protection of human lives and vulnerable groups Comprehensive assistance with basic needs (e.g. food, water, shelter, sanitation, health, etc.) Immediate policy/legal revisions where necessary Negotiations with varied political-economic interests Use 'crisis as opportunity' to redress underlying structural causes Advocacy

Early Warning Levels	Probability / Likelihood (of worsening Phase)	Severity (of worsening phase)	Reference Hazards and Vulnerabilities	Implications for Action
Watch	As yet unclear	Not applicable	*Hazard:* occurrence of, or predicted event stressing livelihoods; with low or uncertain vulnerability *Process Indicators:* small negative change from normal	Close monitoring and analysis
Moderate Risk	Elevated probability / likelihood	Specified by predicted Phase Class, and as indicated by color of diagonal lines on map.	*Hazard:* occurrence of, or predicted event stressing livelihoods; with moderate vulnerability *Process Indicators:* large negative change from normal	Close monitoring and analysis Contingency planning Step-up current Phase interventions
High Risk	High probability; 'more likely than not'		*Hazard:* occurrence of, or strongly predicted major event stressing livelihoods; with high vulnerability *Process Indicators:* large and compounding negative changes	Preventative interventions--with increased urgency for High Risk populations Advocacy

Figure 5.1: Kenya Food Security Situation Analysis: March to June 2007