

# **THE IMPACT OF RISING FOOD PRICES ON DISPARATE LIVELIHOODS GROUPS IN KENYA**

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**The Kenya Food Security Steering Group (KFSSG)**

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## Preface

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The Markets' sub-group of Kenya Food Security Steering Group (KFSSG) carried out a study intended to establish the impacts of rising food and non-food prices on the food security status of diverse livelihood groups in Kenya. The markets' sub-group was initiated in early 2007, chaired by the Government of Kenya (GoK) through Mr. James Oduor, the Drought Monitoring Co-ordinator of the Arid Lands Resource Management Project (ALRMP). The markets' study was led by Joao Manja (WFP/VAM) and included team members, Nancy Mutunga (FEWS NET), Allan Kute (WFP/VAM), Tom Awuor and Calum Mclean (FAO/ALRMP) and Mary Mwale (ALRMP). The Markets' sub-group is indebted to several institutions for vital support and collaboration, most notably the Ministry of Agriculture and RAIN.

The following are objectives of the Markets sub-group of the KFSSG:

- Streamline the collection of market information and data; collate the data and develop a shared national database and information systems network for critical markets and commodities.
- Institute a mechanism that will enable systematic monitoring of markets that will enhance understanding of the impact of markets and trade on food security.
- Strengthen the assessment methodology by developing tools and approaches that will explain better the role of markets in food security including identification of impediments to trade; causes of unusual price disparities, levels of market integration, etc..
- Ensure that key district technical staff and Rapid Food Security Assessment Teams are appraised on new tools and approaches.
- Develop a market response plan that is informed by results assessments and that will unambiguously enhance the role of markets in alleviating food insecurity.

The processes and methods used in this markets' study are drawn from best practices of food security assessments and monitoring developed by the KFSSG, namely:

- Extensive use of partners' knowledge and experience, to meet a broad range of critical information needs at both the spatial and social levels.
- Consensus building and increased transparency by involving all players, including government and partner agencies in a collaborative process that benefits from participation of the relevant expertise from all sectors.
- Linking major players including GoK, international institutions, emergency response agencies, NGOs and donors in on-going, intensive 'rolling' assessment coverage of food security conditions in the country.

Investigation of the increasing food prices and general market abnormalities that are manifesting in Kenya, in part due global trends that will help to:

- Provide a comprehensive situation analysis and prognosis of markets and prices.
- Develop policy options that can inform the GoK, donors and NGOs on appropriate measures that need to be instituted urgently, to protect the most vulnerable in the short term; and to address underlying causes in the medium to longer-term.
- To develop a response analysis that informs appropriate interventions that are intended to mitigate the impact of increased food prices in the short and longer term.
- Develop instruments and strategies to enable regular market monitoring, that is aimed at informing food security decision making.

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## List of Acronyms

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<b>Acronym</b>	<b>Definition</b>
AFC	Agricultural Finance Corporation
ALRMP	Arid Lands resource Management Project
ASAL	Arid and Semi Arid Lands
CAADP	Comprehensive Africa Agriculture Development Programme
CPI	Consumer Price Index
COMESA	Common Market for East Southern Africa
EAC	East African Community
FAO	Food and Agricultural Organisation
FEWS NET	Famine Early Warning System Network
GAM	Global Acute Malnutrition
GOK	Government of Kenya
KBS	Kenya Bureau of Statistics
KCC	Kenya Co operative Creameries
KFA	Kenya Farmers Association
KFSSG	Kenya Food Security Steering Group
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National bureau of Statistics
MDG	Millennium Development Goals
MOA	Ministry of Agriculture
MT	Metric Tonnes
NCPB	National Cereals and Produce Board
NEPAD	New Partnership for Africa's Development
PPR	Purchase Price Rise
RATIN	Regional Agricultural Trade Intelligence Network
SQL	Structured Query Language
SRA	Short Rains Assessment
UNICEF	United Nations Children and Education Fund
USAID	United States Agency for International Development
VAM	Vulnerability assessment and Mapping
WFP	World Food Program

## Summary of Main Findings

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The sustained rise in food and non-food prices is expected to accentuate food insecurity among the most vulnerable livelihood groups especially the urban, pastoral and marginal agricultural households. Domestic food supply, in particular maize, is expected to tighten significantly in Kenya during the July 2007-June 2009 marketing year. Long rains maize production in 2008 is projected at 2.12 million MT, comparing unfavourably with 2007 long rains output 2007 of 2.52 million MT. Although total maize production (short and long rains) for 2007 was estimated at 2.7 million MT, the MoA reported considerable pre- and post harvest losses of up to 100,000 MT, thus reducing overall carryover stocks. The expected reduction in maize output in 2008, which will likely sustain the current upward pressure on prices, has resulted from a complex combination of factors, namely:

- Poor weather conditions during long rains 2008 in the central highlands and eastern and coastal lowlands.
- An estimated 20 percent of land taken out of production in key production areas of the Rift Valley, due to post-election violence and the increased price of fertilizer and tractor hire.
- A 24 percent increase in cost of production will increase farm-gate, wholesale and retail prices.
- Sub-optimal application of standard agronomic practices which will likely reduce maize yields.
- Shortage of cereals from August 2008 will increase dependence on the regional and international market for imports; high import prices will be passed onto consumers.
- Regional market price trends are soaring, suggesting that the price of commercially imported food will become increasingly prohibitive.
- Price of fuel, transportation and basic transaction costs will be passed on to consumers, through higher prices.
- Overall inflationary trend in other sectors is compounding the situation by out-pacing the rise in wage rates.

Several compounding factors are accentuating the impacts of rising prices, including:

- Disruption of input and output markets in conflict epicentres in pastoral areas of Marsabit, Turkana, Samburu, Marakwet and West Pokot.
- Reduction in household production and purchasing capacities due to the debilitating impacts of HIV/AIDS among, highest among urban dwellers and marginal agricultural households around the Lake.
- Poorly integrated markets, in part due to heightened transaction costs coupled with limited number of markets participants especially in the pastoral livelihood.
- Overwhelming dependence on maize as the key crop and staple, in some areas grown in an inappropriate agroecology.
- High prices of production inputs that either result in a reduction in area put to maize or sub-optimal application of farm inputs.
- Stagnant incomes and salaries based in many cases on volatile sources of incomes, while the overall inflation is rising at an increasing fast pace.
- Setting of producer prices, by the Government through NCPB, above market rates, while close to 70 percent of the Kenya population are net buyers of maize, predominantly in the urban, marginal agricultural, the pastoral and agro pastoral livelihoods.

### Who are the most vulnerable to the price increases?

- The urban livelihood is considered most vulnerable to price, production and labor shocks because virtually all household food and non food needs are purchased from the market.

- The rural poor who do not own enough land for subsistence, and rely upon other sources of income. Poverty rates are particularly high in Coast Province, the southeastern marginal farming areas, the agro-pastoral areas of in the northwest and large areas of Western and Nyanza Provinces.
- People living with HIV/AIDS –the highest prevalence reported in Western and Nyanza Provinces.
- Practicing pastoralists, whose terms of trade are deteriorating as the rise in the price of food and non-food commodities supersedes the rise in livestock prices.
- Pastoralists that have dropped out of the pastoral economy after losing livestock.
- Vulnerable populations presently dependant upon free food assistance (IDPs in the Rift Valley and northern Kenya, refugees in the camps in North Eastern and Turkana, and drought-affected families situated principally in the arid and semi-arid districts).

### **What are the main implications?**

- It is estimated that the population living below the food poverty line has risen sharply since July of 2007 to June 2008. Most of these poor populations would still remain food insecure if they were to divert one quarter of their expenditure on non food items to food expenditure. See section 6.
- Poor populations with no alternative sources of income are resorting to diet changes and reduction in frequency and composition of meals.
- As many live in water scarce areas and the majority purchase water, the rise in malnutrition and susceptibility to disease are likely to occur beyond emergency levels.
- Informal wage rates are declining as a result of increased demand for casual jobs. The wages are already being eroded by the pace of inflation.
- In urban slums and in pastoral and agro pastoral livelihoods, the rise in school drop outs as a coping strategy is also contributing to the increase in social problems.
- The risk for recurrence of civil instability, food riots and heightened crime is increasing.
- In most affected districts, vulnerable pastoral households are resorting to distress livestock sales to cover food gap and it is likely that vulnerable populations will increasingly depend on medium to well-off households while destitution may also increase.
- Subsistence harvests among small scale farmers in agro pastoral and marginal agricultural livelihoods limits benefits accruing from the rise in food prices.
- Increased conflicts in the northwest have minimized migration options for pastoralists as well as barring access to scarce water resources and better grazing around the rivers and swamps.
- If prevailing price trends and compounding factors are not addressed, there is a high risk that populations in the urban slums, pastoral, agro pastoral and marginal agricultural farmers, may fall into acute livelihood crisis toward the end of the year.

### **What needs to be done?**

It is fair to say that in the long run, the government is committed, through a series of sectoral policies and Vision 2030, to implementing the millennium development goals (MDGs) that are intended to dramatically reduce the number of food insecure populations by shrinking the proportion of people living in extreme poverty, through increased access to primary education, reduction in infant and child mortality rates, providing access to basic health care, increasing access to safe and affordable water, diversifying income sources and reversal of environmental degradation. In the short to medium run, it is imperative that modalities to improve resource allocation to marginal areas are devised and in addition, create incentives for employment creation in urban areas. Recommendations in section 7.0 detail suggested policy options and desired interventions that are intended to forestall the precarious rise in food insecurity among the most vulnerable.

## **1.0 Introduction**

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### **1.1 Background**

Price plays an important role in any economic system. It is the signal that indicates how resources should be allocated, what and how much should be produced. In competitive markets, producers and traders are assumed to be rational such that when producer prices rise, they are encouraged to increase production and marketable surpluses. Likewise, less production would be taken off the same markets by consumers, all things being constant. Thus, the supply response of agricultural products, particularly field crops, is such that desired and actual output is expected to rise immediately after price increases while the relative purchasing power is expected to decline.

In the global context, there has been a dramatic increase in food prices in the recent past, signalling an end to a long-term decline in real food prices. For example, the FAO food price index of commodity prices rose 57 percent over the last year (March 2007-March 2008) after a 9 percent increase in 2006. At the beginning of 2008, real prices reached their highest level in nearly 30 years. Projections suggest that they are likely to remain relatively high in the next few years, although at a lower level than what has been observed in the first quarter of 2008. The sustained rise has negative implications for household food security of vulnerable groups but also creates opportunities for developing agricultural production and rural development. However, much will depend on how global supply will respond and on whether demand will continue to grow as rapidly as in the recent past.

The rapid rise in food prices calls for a rapid reaction from governments and the international community to avert social instabilities nationally, and even globally; unrest linked to high food price has already been witnessed in more than 25 countries. Thus, policies and programmes need to be put in place to address negative impacts and tap opportunities.

The current food price situation creates challenges for the achievement of the Millennium Development Goals (MDGs), particularly MDG1 of reducing poverty and hunger. However, higher food prices affect countries differently depending on whether they are net exporters or importers of food. Net-exporting countries will benefit and experience higher terms of trade and more income. Net-importing countries will face lower terms of trade and have to pay a larger food import bill which will impact negatively on trade balance and affect the strength of their currency. This is especially worrying for developing countries, the majority (55 percent) of which are net-food importers. Almost all countries in Africa are net importers of cereals.

The people most likely to be negatively affected by the higher food prices observed on international markets are net food buyers, depending on the extent by which international price movements are transmitted to domestic markets. Net food buyers comprise urban residents and small farmers, fishing communities, foresters, pastoralists and agricultural labourers that do not produce enough to meet their needs. Also negatively affected are those producers who are net buyers in value terms because they sell at low prices to finance essential needs and buy back at high prices later in the year.

The primary beneficiaries of higher food prices are those that have been holding food stocks and who are now able to sell at high prices. Potential beneficiaries are commercial farmers, provided high world prices are transmitted to them throughout the value chain. While commercial farmers will be hurt by rising fertilizer prices, they stand to benefit on balance because the costs of fertilizer constitute usually a relatively small (although growing) percentage of the gross revenue from production.

In the Kenyan context, the impact of global food prices is likely to be compounded by local and national issues. In particular, the violence following the contested presidential elections of late 2007 caused widespread displacement of people and assets and disruptions in marketing and trade in the breadbasket area of the country, which normally contributes an estimated 55 percent of national maize production.

The cost of maize production for the 2008/9 season increased sharply by 27 percent in the first quarter of 2008 due to increased fuel and fertilizer costs worldwide exacerbated by post-election violence in the country. Consequently, the area under maize production is estimated to have decreased by up to 20 percent, in the main maize producing districts and yields are similarly expected to decline as most farmers seek to reduce costs. In addition, the start of the long rains season has been characterized with inadequate and erratic rainfall in the grain basket region of the country, further reducing output expectations and rising prices.

Higher food prices will impact in different ways on different livelihoods in the country: some people – mostly net food buyers – are likely to be negatively affected to varying degrees according to their resilience, assets, and terms of trade. Others will likely benefit, especially surplus producers who are able to hold onto stocks (the more wealthy by definition) and possibly operators within the food value chain. Given the international attention to soaring food prices, and the almost inevitable impact on Kenya, it is also probable that some larger traders are speculating on rising prices, and raising prices now by hoarding stocks.

Other vulnerable groups include practicing pastoralists, depending upon their terms of trade, and thus on the price of livestock and livestock products; people who are already dependant upon free food assistance (IDPs in the Rift Valley and northern Kenya, refugees in the camps in North Eastern and Turkana, and the poorest families in the arid and semi arid (ASAL) districts); and to a lesser extent, populations of deficit districts and especially those living in areas with poor infrastructure remote from major markets.

In the medium term, this is likely to have a positive effect on agriculture and the Kenyan economy as the sector will be stimulated by higher commodity prices and the potential for more investment in production and research. In the short term, however, rapidly increasing food prices are expected to have a negative effect, principally on poor people.

The study provides comprehensive situation analysis and prognosis of markets and prices in Kenya and the region, discusses characteristics of disparate livelihoods that predispose them to the impacts of rising food prices on food security, outlines the methodology used in the analysis and provides recommendations and policy implications. The study is organized around seven main sections: The first is the introduction; the second the methodology; the third is the food production section; the fourth, markets trends in Kenya; the fifth, characteristics of livelihoods that determine their response to price rises; the sixth, a discussion of the impacts of the price rise on disparate livelihood groups; and the seventh intervention and policy options.

## 2.0 Methodology

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### 2.1 The analytical Framework

The Kenya Food Security Steering Group (KFSSG) uses a livelihood framework for food security analysis. The livelihood is defined as a set of strategies or ways through which households and individuals make their living. Food security is defined as a situation in which all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.

Vulnerability refers to the level of exposure of a household or community to particular shocks and their capacity to cope. A livelihood-based analysis of vulnerability to food insecurity due to a shock should also consider other options available to households and communities in the context of the livelihood. The study will consider the following:

1. Given the diversity of livelihoods in Kenya, markets offer different opportunities to different livelihoods and trigger diverse responses depending on their access to incomes and assets, their wealth and ability to cope. The study recognizes the different effects of prices within different livelihoods and the role of the market for different wealth groups.
2. It recognizes that households within a livelihood obtain food through a variety of ways which includes own production, reserves, purchase or barter, gifts, among others, in different proportions depending on the livelihood and wealth group.
3. It cross-checks information and ensures that the results that emerge from the data are internally consistent. It also enables assessment through quantitative analysis, the relative contribution of various sources to the total amount of food and income, and therefore to estimate the overall effects of the shock. The use of livelihood zone data is crucial in this study in typifying actual livelihood characteristics. For example, household responses in pastoral areas that do not refer to consumption of milk or meat will need to be cross-checked against livelihood seasonality to infer if it is likely that the survey period coincides with lean period for milk or meat consumption.
4. The livelihood baseline ensures that the study is predicated upon a real benchmark in analysing the change that results from the shock, in this case from prices hikes.

### 2.2 The Analytical Process:

A series of steps were followed:

- Assessment of different data sets and information. A livelihood database developed by the technical working group of the KFSSG with more than 500,000 records was used as the framework of analysis. It provided information on typical expenditure patterns within livelihoods, consumption patterns, sources of incomes, coping strategies and seasonal livelihood strategies and complementary options.
- Other information included crop data from MoA, the early warning market prices from MoA, FEWSNET, FAO and WFP, macro-economic and poverty indicators and thresholds from KIHBS, the joint monthly food security reports from GoK, FEWS NET and WFP, the post distribution food security monitoring data and reports from WFP, the global early warning and food security indicators from FAO and local reports from NGOs.
- Wealth groups and wealth thresholds in the base year were re-assessed, against the recommended food access threshold. The food access threshold was determined at 2250 Kcal as recommended by

FAO and used in poverty measures in Kenya, using the following formula, which represents the median value from which the overall food poverty is estimated as follows:

$$y_h^f = \sum_{i \in h(i)} \left[ \frac{\left( \frac{y_h^{io3}}{q_h} \right)}{\left( \frac{y_h^{io3}}{q_h} \right)} \left[ q_h^{io4} + p_c^i q_h^{io5} + p_c^i q_h^{io5A} + p_c^i q_h^{io6} \right] \right]$$

- To estimate the food gap at the household level and maintain comparability with the KBS data base this study adopts the following formula:

$$y_h^f = \sum_{i \in h(i)} \left[ q_h^{io4} + p_c^i q_h^{io5} + p_c^i q_h^{io5A} + p_c^i q_h^{io6} \right]$$

Where:

- $h(i)$  – set of all food items  $i$  consumed by household
- $io3$  – purchases
- $io4$  – consumption from purchases
- $io5$  – consumption from own production
- $io6$  – consumption from gifts

- Food poverty as defined below is the set threshold and numbers of people and households below the poverty line estimated. All households that fall below the food poverty line are considered ‘food poor’. A food poor household is defined as that household which is not able to achieve the minimum expenditure required to purchase the basic food items which attain the 2,250 kilocalories minimum nutritional requirements. Data sets used were mainly household demographic and food consumption data collected over a seven day recall period. The household data was collected between July and December 2007 through KFSSG food security assessments and WFP post distribution monitoring exercises. The data is geo- referenced and linked to KFSSG livelihood zones.
- Food expenditure aggregates were calculated using food consumption derived from a) purchases and b) own production, c) stocks and d) gifts. Daily per capita expenditure for each household was derived using household demographics and per-adult-equivalents expenditure to adjust for differing needs within households. The 2005/6 KIHBS food Poverty line of 33 Ksh. per household as the cut-off was adjusted using the June 2008 food sector consumer price index of 44.5 percent. This led to a new food expenditure threshold of Ksh. 47.7.

The following population categories were considered to define food access:

**1) Food Poor Population** - [food expenditure + own produce + stocks + gifts] < food poverty line, i.e., populations whose daily consumption, converted into daily food expenditure fall below the minimum food requirement threshold. Thus, total food purchased for daily consumption, plus daily consumption from own produce, stocks and gifts converted into Kenya shillings fall below the minimum required expenditure of Ksh 47.7.

**2) Medium Population** - [food expenditure + own produce + stocks + gifts] > food poverty but less than double poverty line.

**3) Well off** - [food expenditure + own produce + stocks + gifts] > than double poverty line.

A second scenario was considered in which households could use 25 percent of total expenditure declared for non food items during the same recall period in order to compensate for food price increases and improve food access. The following formula was used:

**1) Food Poor Population** - [food expenditure + own produce + stocks + gifts] + 25 percent cash borrowed from non food expenditures < food poverty line i.e., the populations whose daily consumption, converted into daily food expenditure fall below the minimum food requirement threshold. Meaning that total food purchased for daily consumption, plus daily consumption from own produce, stocks and gifts converted into Kenya shillings, (even if they borrow 25 percent from cash for non food expenditures), fall below the minimum required expenditure of Ksh 47.7.

**2) Medium Population** - [food expenditure + own produce + stocks + gifts] + 25 percent cash borrowed from non food expenditures > food poverty but less than double poverty line

**3) Well off** - [food expenditure + own produce + stocks + gifts] + 25 percent cash borrowed from non food expenditures > than double poverty line

A further dis-aggregation within the populations below the food poverty line was as follows:

- Populations below the poverty line and obtaining 75 percent or more of the minimum threshold.
- Populations obtaining between 50 percent and 75 percent of the threshold.
- Populations obtaining between 25 percent and 50 percent of the threshold.
- Populations obtaining with less than 25 percent of the threshold.

### **2.3 Data Use and Data Processing:**

The KFSSG baseline information on livelihood zones and wealth groups was collected using a combination of household surveys, focus group discussions and institutional surveys. The data is usually used in assessing changes resulting from particular shocks. It is also the framework for all food security analysis in Kenya.

The Kenya National Bureau of Statistics Integrated Household Budget Survey was used in this study to cross-check the food poverty line against change in prices. Food consumption and expenditure data were collected between July and December 2007, through household questionnaires administered to randomly-selected rural and urban sites. The sampling ensured that main population settlements types are included, to capture the diversity of the population. The data provided current information on daily food expenditures directly related to food consumption by households and individuals; daily consumption of food from own production; and stocks and gifts. It also provided information on prices of food and non foods used during the recall period, which were useful to estimate the total food and non food basic expenditures during the recall period.

A total of 423,761 records, after cleaning, were used from several sources, including, the Ministry of Agriculture, Regional Agricultural Trade Intelligence Network (RATIN), KFSSG's national livelihood baseline data, household survey data from KFSSG assessments and WFP post distribution monitoring exercises, as shown on table 1.1.

**Table 2.1: Records Used for Analysis**

<b>Record Type</b>	<b>Number of Records</b>
Household Demographics	4,743
Household Cash Expenditure	144,160
Household Food Consumption from Own Sources	57,579
Expenditure Analysis	169,979
Price Data - Crops and Livestock	10,000
Livelihoods Data	30,900
Population Statistics	6,400
<b>Total</b>	<b>423,761</b>

#### **2.4. Cleaning and checking for data consistency and accuracy**

In order to ensure quality and relevance of data, the data was triangulated and similar information from different sources compared. Tabulations with separate and individual datasets were simulated for cross-checking of results. The process supported the quality control exercise in several ways, namely, by providing information for cleaning of outliers, irrelevant data, checking mistakes, sanctioning of population figures, structures and validation of qualitative information. Key KFSSG members, who conducted the livelihoods baseline survey also acted as quality controllers through frequent dialogue and cross-checks which were useful in detecting possible sources of errors. A thorough cleaning was also conducted on other datasets including prices, units of commodities purchased and livestock holdings per wealth group. A clear distinction was made between 'typical' livelihood activities and coping strategies. Tabulation and further statistical analysis was conducted in SQL.

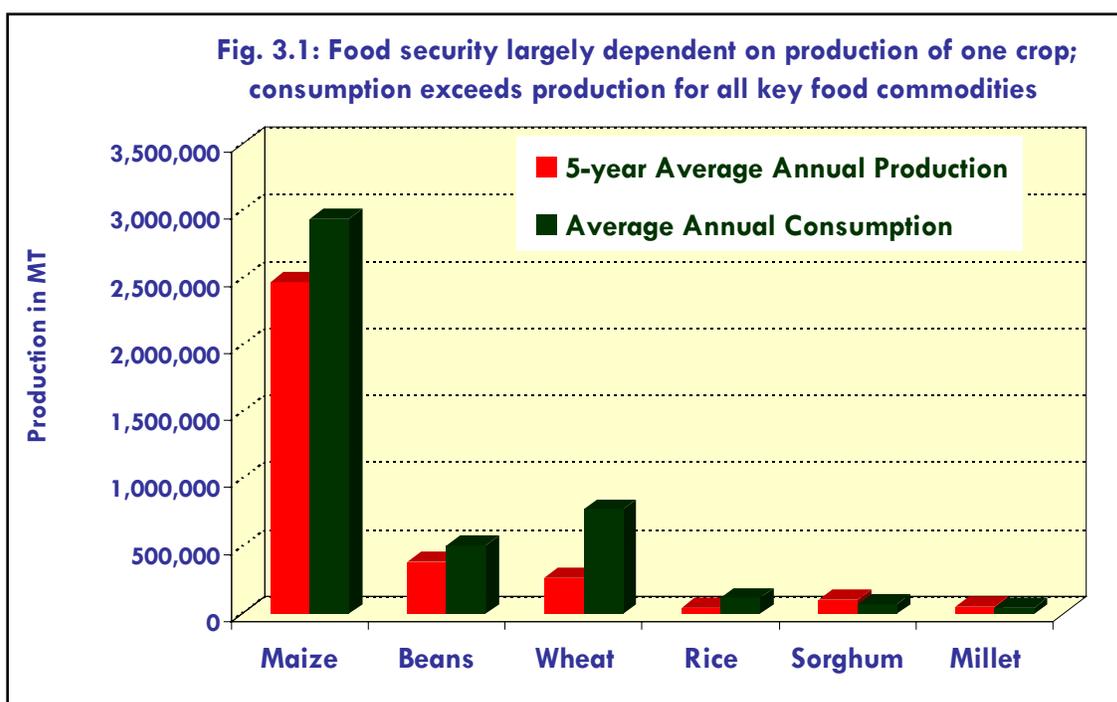
### 3.0 Food Production

#### 3.1 Maize Production in Kenya

The 2007 long rains maize production was 2.52 million MT, 15 percent higher than the 10-year average but an estimated 14 percent lower than the previous year. Production has been increasing in Kenya over the past few years owing to favourable agroclimatic conditions, improving agronomic practices, and the incentive of relatively higher producer prices since 2004, especially for net-selling medium to large scale farmers in the north Rift. Post-harvest losses from the 2007 production were about 100,000MT, mostly from the impacts of the post-election violence.

Due to a combination of a delayed start of season, inadequate and erratic rainfall in the southeastern and coastal lowlands, short rains maize production was estimated at about 225,000MT. The output was 50 percent below the long term average of 450,000 MT. Subsequently, total maize output from both seasons in 2007/'08 was approximately 2.75 million MT, higher than the long-term average.

The unfortunate reality is that any discussion on Kenyan food security centres around maize due to overwhelming dependence on maize as the key food staple, in spite of a structural deficit in production, as shown on figure 3.1. Subsequently, vulnerability to food insecurity resulting from the dramatic rise in local, regional and global maize prices is exacerbated by the absence of substantive diversification in food production and consumption.



Currently, the cereals balance sheet for Kenya shows sufficient supply through August 2008, coinciding with the onset of the harvest in the southeastern lowlands, South Rift and Nyanza Province. The Ministry of Agriculture plans to import 270,000MT of maize to offset the likely gap in maize availability, during the marketing year that ends in June 2009. Meanwhile, the expectation of shortages and price increases is encouraging farmers and traders to hold on to stocks, to some extent exerting an inflationary effect on prices.

### 3.2 Maize Production in Eastern and Southern Africa

**Figure 3.2 : Summary 2007/'08 Maize Production in Eastern and Southern Africa.**

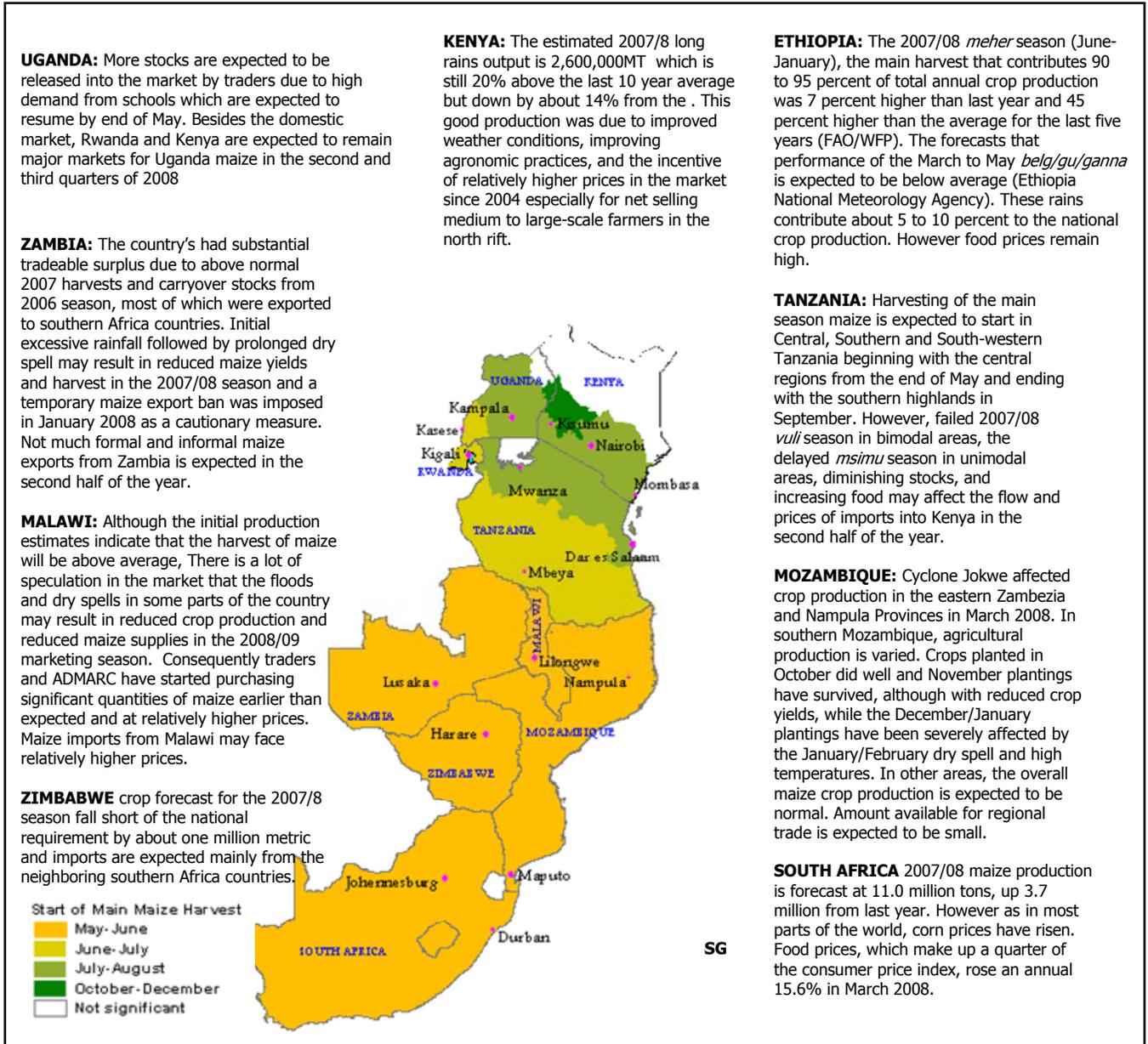


Figure 3.2 is points to a substantial exportable surplus in only one country, namely South Africa, in effect limiting options for importing maize into the country.

### 3.3 Maize Production in other Parts of the World

FAO forecasts world output of coarse grains at a record 1,090 million MT, marginal higher than last year. World maize production is expected to be about 780 million MT in 2008, after a considerable increase in 2007. **In South America**, output is expected to increase to nearly 90 million tonnes, attributed to expanded hectareage in Argentina and Brazil, in response to high international prices. Overall favorable production is anticipated **in South Africa**, in spite of sometimes erratic agroclimatic conditions. The 2008/09 crop is projected to decline by seven percent from the record 2007/08 crop **in the US**. A decline feed, residual use and exports have exceeded the considerable expansion in ethnaol production. However, corn exports from the US are expected to decline by 16 percent due to increase production and competion in other major producing countries.

### 3.4 Conclusion

Kenya is facing a tightened cereal market toward the third quarter of the year, inspite of improved production over the last three good seasons. There was a 50 percent crop failure during the 2007/'08 short-rains season due to dismal performance of the rains. In addition, imports from Tanzania to Kenya are expected to decline by 46 percent and projected total inflow of maize from Uganda and Tanzania is estimated to be about 23 percent lower than the long term average. There is also a reduction in tradable surpluses as traders and farmers stock-pile in anticipation of a general production shortfall and price hikes.

Less than normal crop output is envisaged in the country due to to a combination of factors, including, declining arable land; inadequate investment in agricultural production; high input prices; and impacts of post election violence. The combination of these factors has resulted in an expected drop in production. Preliminary estimates by the MoA project that only 2.17 million MT of maize will be harvested during the more dominant long-rains season which accouunts for 85 percent of total annual production. The low output in 2008 is against the backdrop of steadily increasing output over the past few years alluded to in section 3.1. The lower production levels will increase Kenya's dependence on imported cereals which are commanding high international prices.

Poor production prospects characterize most countries in the East and Southern Africa region, with the exception of South Africa. While harvesting is ongoing in Tanzania, unfavorable weather may result in lowered yields in Zambia, Malawi, Zimbabwe, Ethiopia and Mozambique. Global maize production is expected to remain unchanged in 2008, since recovery in Europe's output is expected to supercede a production decline in the United States.

## 4.0 Market Prices and Trade Prospects in Kenya and the Region

### 4.1 Introduction

Close to 70 percent of the Kenyan population are market-dependent and net buyers of food, largely constituting urban, pastoral and marginal agricultural households. Kenya is a net importer of most food commodities. Cereal imports representing 5-8 percent of local production and stocks, underlining the country's exposure to external price fluctuations. However, in the last five years, Kenya has seen a remarkable improvement in national production of maize, which has contributed to reducing the import requirement to less than 10 percent of the national requirement. Domestic wheat imports for the 2008-'09 marketing year represent about 60 percent of local production; about 55 percent of rice production; and 40 percent of bean production.

Due to the dramatic rise in the price of food and non-food commodities, in the context of a general inflationary background, the GoK and development partners are interested in discussing the immediate and longer term implications of this market phenomenon. The objective is to begin to decisively redress the multi-dimensional causes of food insecurity that render households highly vulnerable to price shocks. The unmitigated rise in prices is harming the poorest, accelerating the decline in their already precarious food insecurity. Soaring food prices have exacerbated the long term structural problem of widespread poverty and inequalities in rural and high density urban areas. Producers and traders are the largest beneficiaries in a skewed market, while poor households remain unprotected from price shocks.

### 4.2 Maize Surplus and Deficit Markets

The western and central regions of Kenya enjoy favourable agroclimatic conditions and key primary markets in Kenya are concentrated around those production areas. Figure 4.1 illustrates the distribution of maize markets in Kenya and maize flow from surplus to deficit areas. Surplus markets are those markets where maize originates from and flow to other areas, mainly deficit markets. The markets are situated in the key maize growing region in the highlands of the Rift Valley. Deficit markets source their maize supplies from key surplus markets and also through cross border imports.

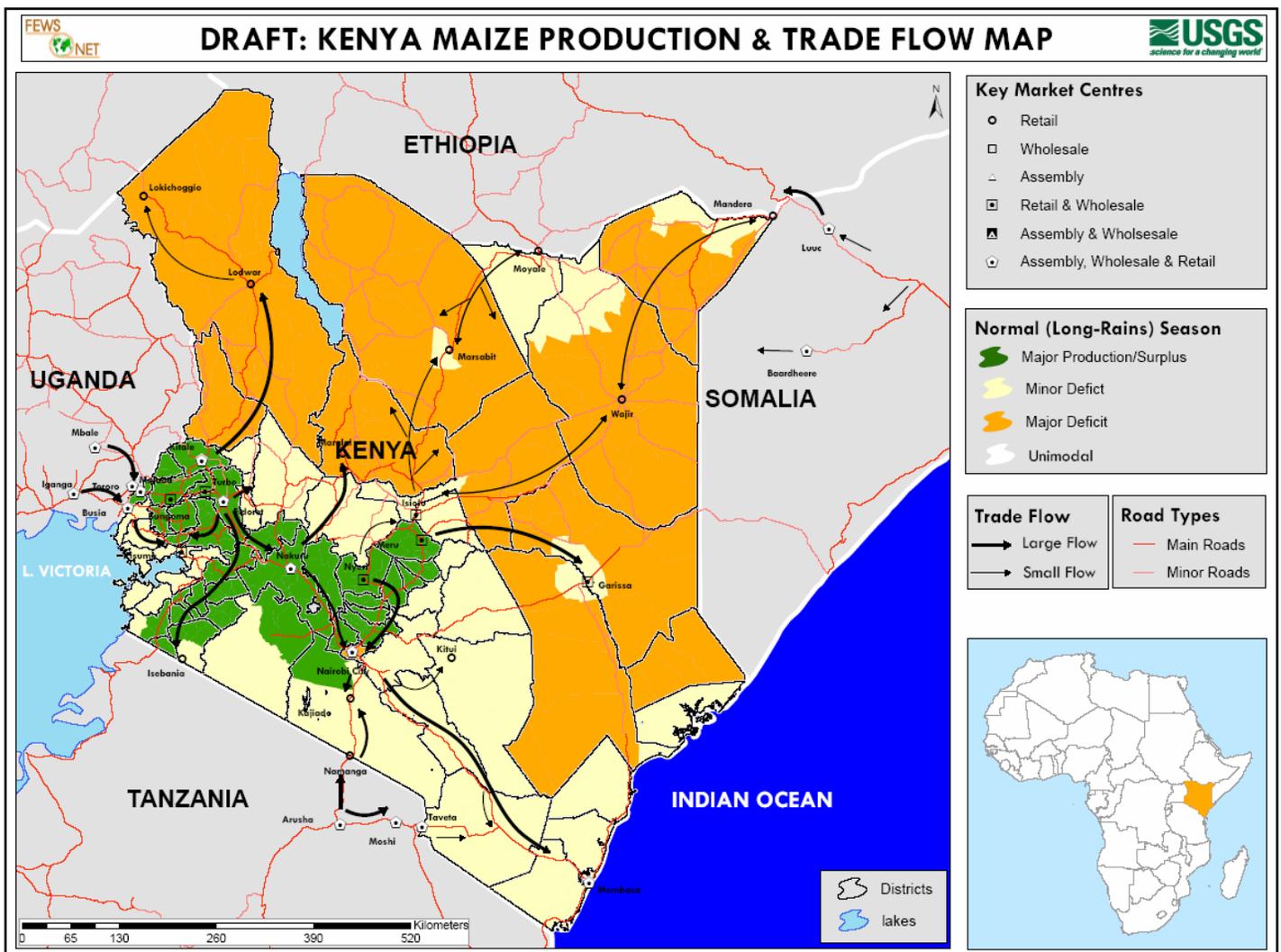
During the peak purchase months of October through February, wholesalers buy maize mainly from the North Rift for sale in the high-demand deficit districts. During the July to September period, wholesalers shift their operations to the South Rift coinciding with the beginning of the harvesting period. In the peak harvest season, most wholesalers from both the North and South Rift prefer to sell their produce to large-scale millers because of the millers' ability to purchase large volumes coupled with expeditious payments.

**Table 4.1: Value Added Along the Chain in Internal Trade (price in Ksh. per 90-kg bag)**

Transaction Point	Farm gate/buying prices		Selling Prices		Value Added (%)	
	On-Season	Off-Season	On-Season	Off-Season	On-Season	Off-Season
Farmer	700	1,000	900	1,300	28	30
Small Traders (cyclists/donkeys)	750	1,000	900	1,400	20	40
Urban Traders (Assemblers)	850	1,050	950	1,200	12	14
Wholesalers (Large-Scale Traders)/NCPB	950	950	1,050	1,250	10	31
Millers	900	1,200	1,100	1,400	22	17

However, significant price differentials exist along the marketing chain as shown on table 4.1 - prior to the post election crisis. Reports published after the post election crisis demonstrated that the most significant price change occurred at the wholesale and retail levels. While the price paid to small scale farmers at the farm gate remained at Ksh. 700 - 900, the price at the retail and wholesale levels reached record levels of Ksh 1,800 to Ksh 2,000 in some instances. Apart from increased transportation costs, wholesalers often adopt a speculative posture. Availability and prices of staple agricultural food products and livestock fluctuates widely throughout the year, with variations depending on local and regional market availability. Wholesalers tend to be the major beneficiaries of the seasonal nature of production since small scale producers often can not reach terminal markets whose access is often fraught with high transaction costs, particularly for small individual volumes of produce.

**Figure 4.1: Maize Surplus and Deficit Regions and Trade flows**



## 4.3 Trends in Cereal Availability and Prices

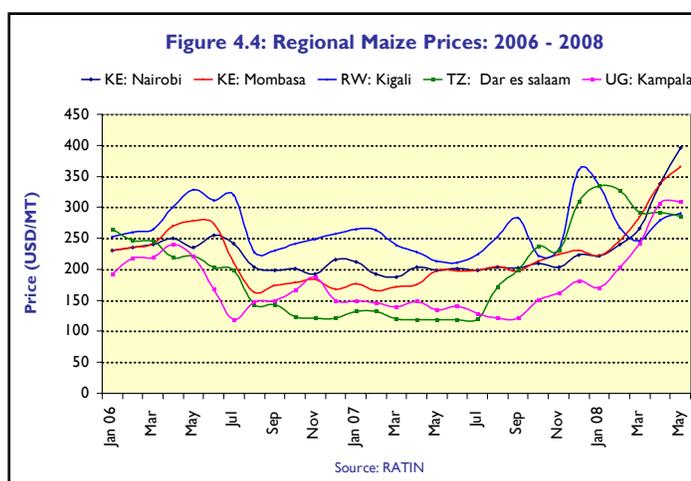
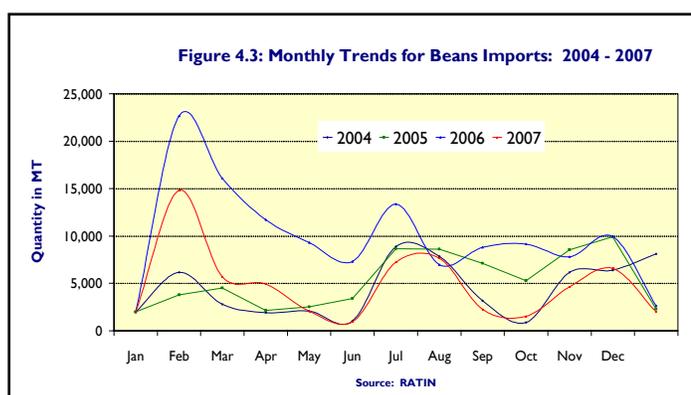
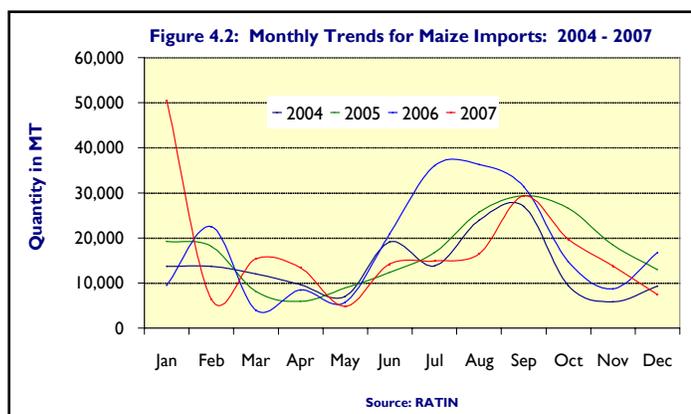
### 4.3.1 Trends in Regional Maize Prices and Availability

Food security in Greater Horn of Africa is closely inter-linked and determined by substantial cross-country variability in agro-climatic; socio-economic; infrastructural; geographic and cultural characteristics. Kenya is a net importer of key grains and pulses from Uganda, Tanzania, Ethiopia and Rwanda, regardless of the quality of the season. Maize imports from Uganda and Tanzania into Kenya account for over 50 percent of the total importation in the region and for about 5-10 percent of the total internal consumption requirement. While 2007 was considered a good year, informal trade brought into the country about 210,000MT of maize (RATIN). Figures 4.2 and 4.3 illustrate the trend in maize and bean imports from the region into the country.

The price of cereals tends to be highest in Rwanda as well as in Kenya. (See Figure 4.4). Continued high prices in Kenya are attributed to a combination of factors: a) sustained high level of effective demand in the country, especially in main urban centres, b) accelerated appreciation of the Kenyan currency in recent years c) the impacts of increased internal production costs, given the general cost of inputs and other production outlays, and d) the overall rise in inflation, - rising to 31.5 percent in May and 29.4 percent in June 2008, e) Overwhelming dependence on maize as the key staple for the majority of the population.

### 4.3.2 Regional Trade Prospects

The poor 2007/'08 short rains maize harvest in northern Tanzania, normally a key source of supply to Kenya's adjacent deficit zone, resulted in increased but infrequent exports from Kenya into Tanzania. Maize exports from Kenya to Tanzania were 20,000 MT from October 2007 through February 2008, compared to a four-year average of 12,000 MT, according to RATIN data. Similarly, imports from Tanzania to Kenya reduced from 132,000 MT to 62,000 MT from July 2006 through June 2007. In addition, the current exportable surplus



into Kenya from Tanzania may be limited, as producers, millers, traders and the government seek to replenish their stocks, after a marked production shortfall in 2007, in Tanzania.

However, an estimated 30 percent increase in imports from Uganda, during the current season, is expected to moderate the loss of imports from Tanzania. Just over 90,000 MT of maize should be imported into the country by the end of the current marketing year. There was a pronounced lull in maize exports from Uganda into Kenya from October-December 2007, which coincided with a very good Kenyan harvest which was later disrupted by the impacts of the post election violence in early 2008. Imports from eastern Uganda in particular, are especially attractive because they are priced up to 20 percent lower than local Kenyan production that is derived from the country's grain-basket in the North Rift.

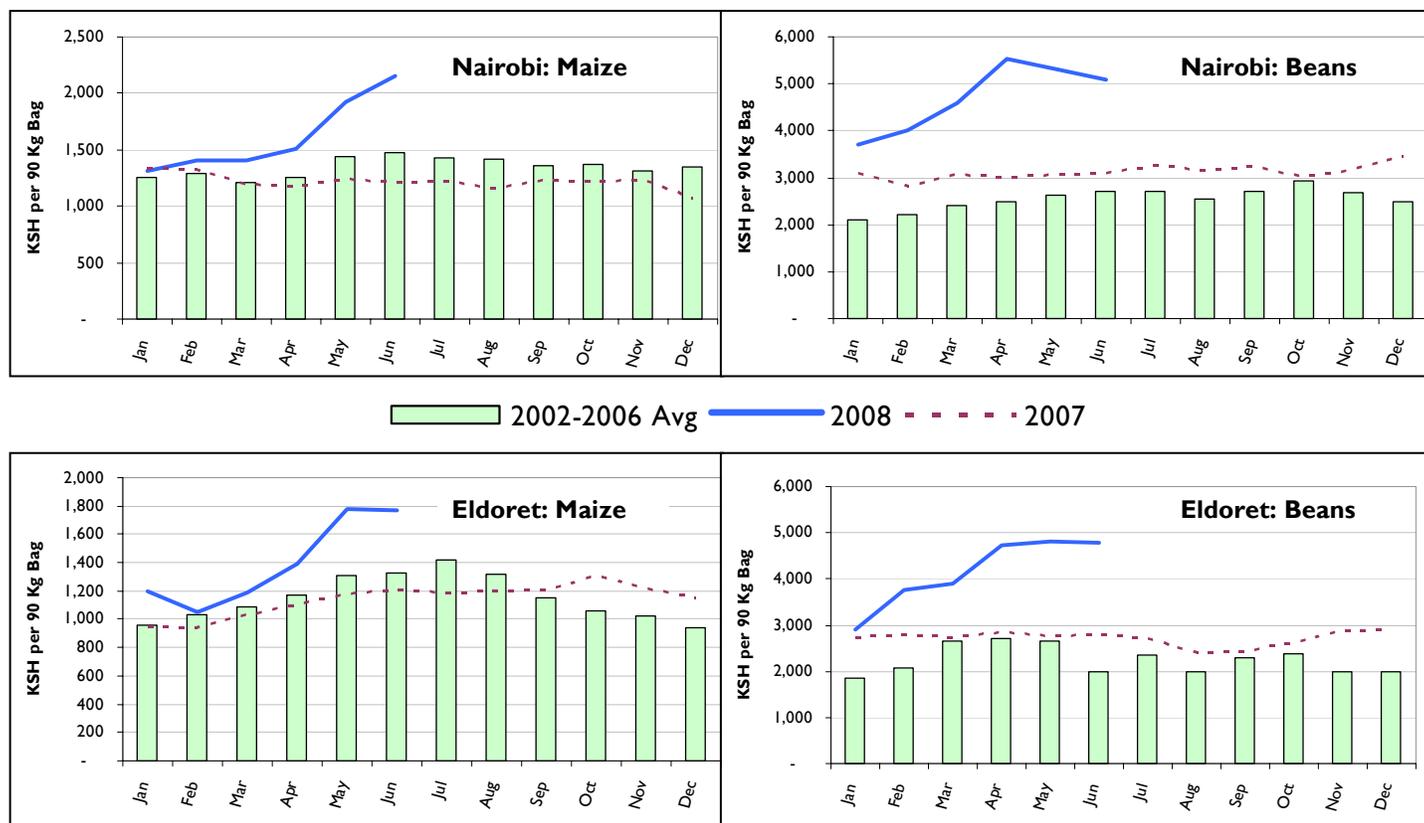
As expected, the volume of bean imports from Rwanda, Uganda and Tanzania, into the country is expected to remain firm, attributed to an exceptionally large structural deficit in Kenya. However, since the exportable surplus of maize from Uganda is unlikely to meet the anticipated demand gap in Kenya, imports from South Africa remain the most viable option. Already the GoK is expected to source 270,000 MT from South Africa's exportable surplus of about 1 million MT. Unfortunately, current high world maize prices suggest that the imports may be priced beyond the reach of the most vulnerable households.

In view of the expected national food gap and the current regional price levels, it is unlikely that domestic prices of cereals will reduce or stabilize quickly. The adverse effects of current high prices on traditionally food insecure households are way above the usual price fluctuations occasioned by seasonal price movements. Food access among market-dependent households will be greatly affected as the income levels required to sustain minimum food access continue to shift upward

### **4.3.3 Trends in Domestic Prices**

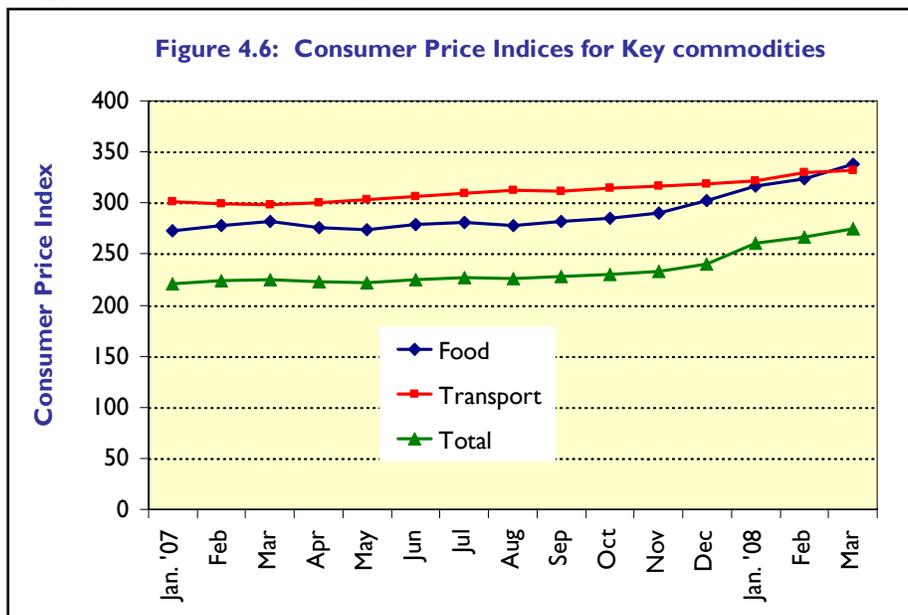
The prices of cereals and pulses across the surplus and deficit livelihoods in Kenya have shown a mixed trend but have been generally below the long term average until the beginning of December of 2007, after which they rose dramatically. See figures 4.5 for prices in two key markets. Nairobi is the key urban market and is also deficit while Eldoret is a rural surplus market situated in the heart of Kenya's grain basket.

**Fig. 4.5: Rising and Well-Above Maize and Bean Price Trends in Nairobi (deficit) and Eldoret (surplus) markets**



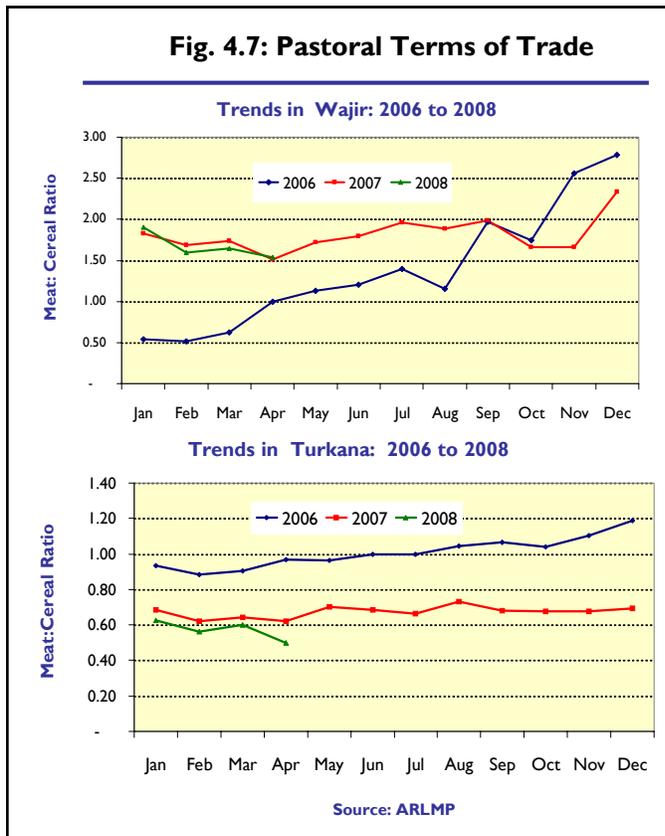
Source of Data: MoA (Market Research and Information)

There is overall inflation in Kenya, estimated at 29.5 percent in June 2008 and the food sector’s consumer price index (CPI) of 29 percent, appears to be one of the major contributors to overall inflationary trends, apart from transportation at 19 percent and fuel and power at 15.6 percent (Kenya National Bureau of Statistics (KNBS). See figure 4.6 for CPI trends. For example, price of a 2-kg packet of maize meal has gone up by 33 percent from Ksh. 45 in mid-December, 2007 to Ksh 60 in June 2008. Similarly, the price of a 2-kg packet of wheat flour has increased by 40 percent from Ksh. 85 to Ksh. 120 during the same period. According to the Short Rains Assessment Report (2008), the price of basic consumer items such as sugar and soap increased by 25 percent and 75 percent respectively, mainly due to inflationary pressures.



Perhaps as one of the most vulnerable groups, pastoralists have also experienced exceptionally high cereal prices which have superseded significant improvements in livestock producer prices.

Apart from the impacts of the rise in local and regional prices, pastoral markets are often poorly integrated fraught with high transactions which have accentuated the current rise in food and non-food prices. Figure 4.7 is an illustration of declining pastoral terms of trade in Wajir and Turkana Districts. The decline is most significant in Turkana district, in particular, in part due to the unprecedented rise in cereal prices.

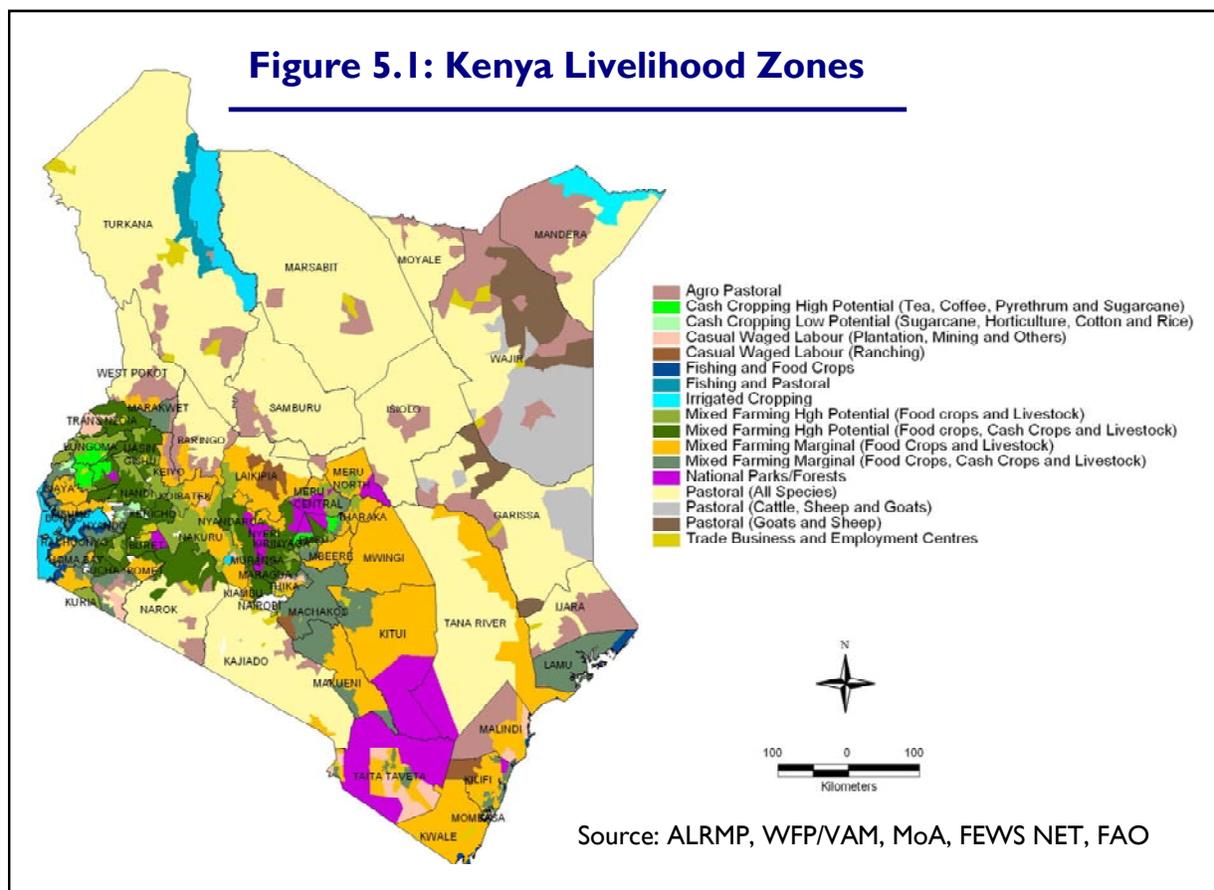


The Arid Lands Resource Management Project (ALRMP) monthly bulletin for March indicated that the price of maize in Turkana, Mandera and Mwingi markets were 53; 35 and 13 percent higher than their respective five year averages. On the contrary, producers – especially small scale farmers with low bargaining power in grain basket, faced depressed farm-gate prices of Ksh. 700 compared to a normal price of Ksh 900, during the same period, mainly due to lag effects of the post-election violence when the surplus markets were inaccessible.

Expected impacts of the illustrated rise in food and non-food prices are closely dependent on the characteristics of key livelihoods coupled with their current food security situation, outlined in the following sections.

## 5.0 Characteristics of key livelihood groups

Kenya has a diverse livelihood zone regime as shown on figure 5.1. However, for the purposes of this study, Kenya's livelihood zones are broadly classified into six main categories, namely: the pastoral; urban; agropastoral; marginal agricultural; high potential mixed farming; and the high potential cereal and dairy. Over to 80 percent of Kenya's 580,000 km<sup>2</sup> land area falls within the pastoralist, agropastoral and marginal agricultural livelihood zones, traditionally the most food insecure zones.



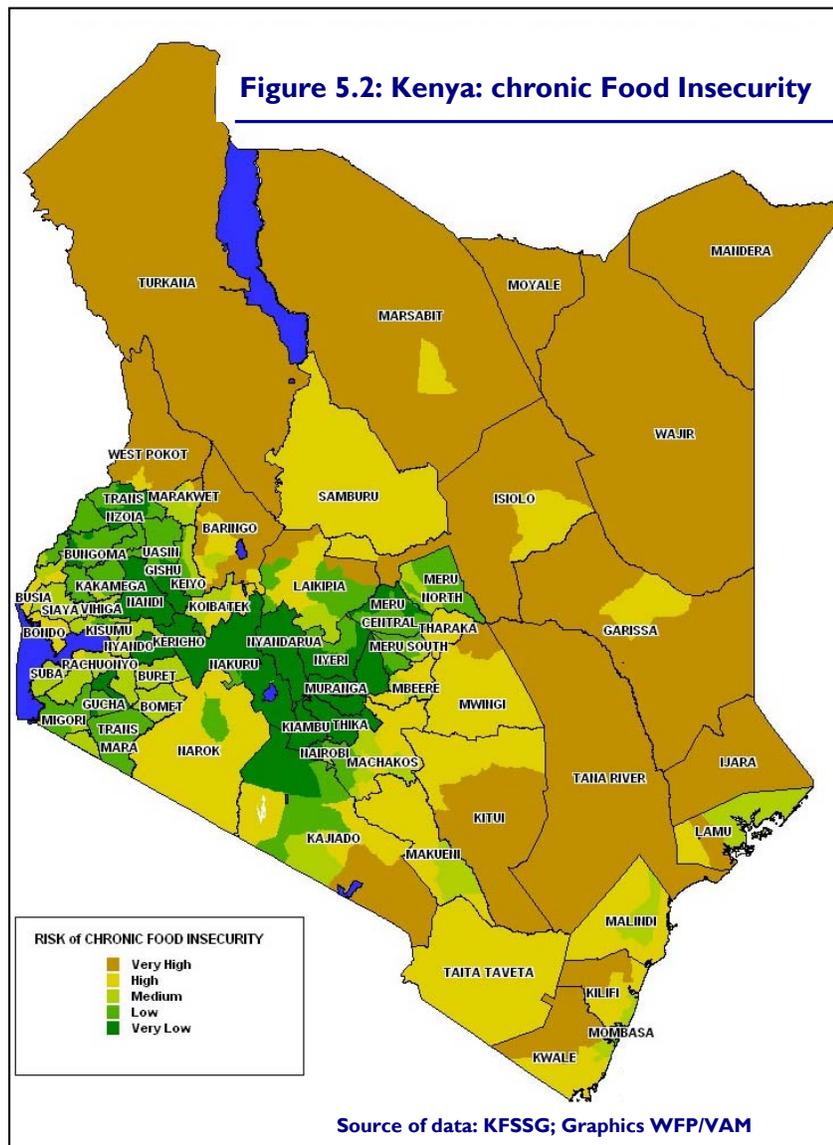
The **pastoral** livelihood, normally considered the most food insecure (see figure 5.2), is characterized by the following key features:

- Highly variable agroclimatic conditions, agroecology characterized by droughts and floods whose duration have become longer and more frequent over the past 10-15 years. Low total annual rainfall ranging between 250-400 mm.
- Overwhelming dependence on livestock as the predominant sole source of food and income – livelihood zone data indicates that about 80<sup>1</sup> percent of pastoralists' income is derived from livestock and products;
- High dependence on poorly integrated markets to trade livestock, purchase cereals and other food and non-food commodities. For example, the average market distance index for pastoral areas ranges

<sup>1</sup> Data on livelihood zone parameters is derived from KFSSG's national livelihood zone database.

between 0.72-0.85 as compared to the high potential mixed farming zone with an index ranging between 0.39 – 0.44. Market purchases account for about 65 percent of household food needs, underlining the impacts of food price fluctuations on household food security;

- Heightened incidents of conflict and livestock raiding that have constrained production and precluded access to markets and pastures in significant areas of Turkana, Marsabit, Samburu;
- Rising chronic food insecurity that has added to the growing numbers of destitute pastoralists estimated to be about 25-30 percent of the pastoral population. Destitution is largely a consequence of incomplete livelihood recovery, after each major hazard such as drought, floods and livestock diseases;
- A fragile and rapidly degrading physical environment, such that a good rainy season is no longer sufficient assurance of improved food security; and
- Rising dependency on relief food over several decades, in the face of increasing chronic food insecurity.



The **Urban** livelihood zone is highly diverse ranging from some of the most food insecure households in the country to highly food secure households. The food insecure urban households are the focus of the urban livelihood, for the purposes of this study. An estimated 35 percent of the Kenyan population

resides in urban areas. Over 40 percent of the urban population fall into the highly food insecure category deriving most of their income from waged labor and petty business. Income from these key sources are expected to meet their household expenditures ranging from food, clothing, housing, healthcare, transport among others. The urban livelihood is considered most vulnerable to price, production and labor shocks because virtually all household food and non food needs are purchased from the market.

The **agropastoral** livelihood bares close semblance to the pastoral livelihood although vulnerability of agropastoralists is often moderated by an alternative source of food and income, namely, crop production. While crop production is a viable option, annual rainfall in the agropastoral livelihood averages between 700-900 mm and is highly variable, leading to frequent crop failure. Livestock production remains the main source of income in the agropastoral livelihood, accounting for over 50 percent of total household income and crop production about 30 percent. See table 5.1 for income contributions for all livelihoods. On-farm crop production accounts for just over 30 percent of food needs, unlike pastoralists where own farm crop production is marginal at best. Food purchases account for close 60 percent of total household food needs. Narok, Marakwet, Baringo, parts of Keiyo, Kajiado and are largely agropastoral districts. The agropastoral livelihood zone is also found within several other districts across the country as shown on below.

**Table 5.1: Proportion of income from various sources by livelihood as a %**

<b>Livelihood</b>	<b>Income from Crop Production</b>	<b>Livestock production</b>	<b>Income from off-farm sources (remittances, petty trade/business, gifts, wages)</b>
<b>Pastoral</b>	<b>5</b>	<b>78</b>	<b>17</b>
<b>Agro-pastoral</b>	<b>31</b> (Cash crops -7; Food crops - 24)	<b>50</b>	<b>19</b>
<b>Marginal Agricultural</b>	<b>41</b> (Cash crops -20; Food crops - 21)	<b>30</b>	<b>29</b>
<b>High potential (mixed farming)</b>	<b>50</b> (Cash crops - 29; Food crops - 21)	<b>31</b>	<b>19</b>
<b>High Potential (Cereal and diary)</b>	<b>60</b> (Cash crops - 50; Food crops - 10)	<b>28</b>	<b>12</b>
<b>Urban (casual wages labor/trading)</b>	<b>9</b>	<b>10</b>	<b>81</b>

While the **marginal agricultural** livelihood is a predominant feature of households in the southeastern; coastal lowlands and lakeshore areas, the livelihood is also found in other localized areas across the country. Production seasons in the marginal agricultural livelihood are characterized by low and poorly distributed rainfall ranging between 800-1,100 mm per year. The livelihood is notoriously drought-prone and the March-May long-rains season is most culpable. The short-rains season is normally the most reliable accounting for close to 70 percent of crop output, particularly in the southeastern lowlands. Crop output is often limited by poor agroclimatic conditions and low application of recommend agronomic practices. Maize is the overwhelming crop grown, accounting for close to 80 percent of the cropped land, in an agroecology more suited to the drought-tolerant sorghum, millets and green grams. The income structure of households in the livelihood shows that about 40 percent of the income is derived from crop production; 30 percent livestock; 30 percent off-farm activities including remittances. One key characteristic of the labour pattern in the marginal agricultural areas is that close to 20 percent of household members are out-migrant labourers engaged in agricultural activities in neighbouring high potential livelihood zones; in the tourism industry or as waged labourers in adjacent urban towns.

Markets in the production epicentres of the marginal agricultural livelihood zones normally report wide price differentials between the harvest and non-harvest periods. A combination of a poor household storage infrastructure; highly variable market integration and a desire to meet other financial obligations has often resulted in farmers selling their produce soon after harvest at floor prices, only to purchase commodities three months later at multiples of the original selling price. While the marginal agricultural farm households rear livestock, the tropical livestock units (TLUs) normally range between 3-5; insufficient to compensate for recurrent losses in crop output. Livestock production is also limited by low productive capacities of indigenous breeds that are nevertheless able to tolerate drought conditions.

The **high potential mixed farming** livelihood zone is characteristic of the central, eastern, western and Nyanza highlands. The livelihood zone is characterized by a high population density and small land holdings of 1-5 acres per household, the lowest holdings are found in Kisii and Vihiga districts. Rainfall ranges between 1,350-1,700 mm per annum and is highly reliable; drought episodes are a rare anomaly.

**Table 5.2: Proportion of food from various sources by livelihood as a %**

<b>Livelihood</b>	<b>Own farm produce</b>	<b>Market Purchase</b>	<b>Hunting and Gathering</b>	<b>Gifts and Food Aid</b>
<b>Pastoral</b>	18	65	9	8
<b>Agropastoral</b>	34	60	3	3
<b>Marginal Agricultural</b>	37	59	1	2
<b>High potential (mixed farming)</b>	42	56	1	1
<b>High Potential (Cereal and dairy)</b>	34	65	0	1
<b>Urban (casual wages labor/trading)</b>	6	91	1	1

However, land sub division is extensive and land holdings range between 1-5 acres per household in many instances limiting the viability of production enterprises. Shrinking land holdings have accelerated the movement of households to less productive land in the marginal agricultural areas. Food security sources are highly diversified in the high potential zone and include food and cash crop production; and livestock production. Off-farm activities are a critical income source, as many of the high potential areas are adjacent to key urban centres. On-farm crop production accounts for 50 percent of household income; livestock production 30 percent and off-farm income about 20 percent. Food purchases represent about 55 percent of total household food basket while crop output provides 42 percent of household food needs. A significant proportion of on-farm food production is consumed within the household. See table 5.2 for an exposition of food sources for all livelihoods.

Markets in the high potential mixed farming livelihood are highly integrated within the zone and with key urban centres, largely due to a fairly sophisticated trade infrastructure. Distances from markets range are relatively low coupled with a considerable number of market participants across the marketing chain, thus minimizing transaction costs. Subsequently, food price fluctuations are fairly low during normal years as compared to variabilities in most other previous livelihood zones. While the high potential mixed farming zone is highly productive, substantial land sub-division may limit the future viability of production units.

The **high potential cereal and dairy** livelihood zone is predominantly a feature of the highlands of the Rift Valley and parts of Bungoma District. The livelihood zone is commonly referred to as Kenya's 'grain basket zone'. Total annual rainfall ranges between 1,200-1,500 mm. Close to 50 percent of total national maize output (and 60 percent of long-rains output) is derived from just seven 'grain-basket' districts, namely; the larger Uasin Gishu, Trans Nzoia, Nandi, Kericho, Bungoma, Nakuru and Bomet. Subsequently, production outcomes in these districts determine to a large extent domestic maize availability and prices. Maize is the predominant crop grown in land holdings that average between 2-15 hectares, while high-yielding improved milking herds are the main livestock reared. Close to 60 percent of household income is derived from crop production; 30 percent from livestock and about 10 percent from off-farm activities. Over 70 percent of household food needs are met by on-farm production; and purchases account for most of the rest of the food needs. Table 5.3 shows the various source of maize for all livelihoods, clearly indicating the disproportionate dependence on the surplus areas by the other livelihoods.

**Table 5.3: Proportion of maize from various sources by livelihood as a %**

<b>Livelihood</b>	<b>Own farm produce</b>	<b>Market Purchase</b>	<b>Gifts and Food Aid</b>
<b>Pastoral</b>	3	80	17
<b>Agropastoral</b>	30	62	9
<b>Marginal Agricultural</b>	38	51	10
<b>High potential (mixed farming)</b>	60	38	2
<b>High Potential (Cereal and dairy)</b>	73	24	4
<b>Urban (casual wages labor/trading)</b>	4	93	3

Although markets are fairly well integrated with key urban centers, a significant proportion of the key maize output is sold to the NCPB soon after harvest' primarily due to ready availability of markets and storage facilities. While NCPB prices are often set above market rates, their stringent quality requirements and late payments for delivered produce tends to encourage robust participation of traders and millers. An estimated 300,000 MT is sold to the NCPB and 600,000 MT to traders and millers during a normal harvest season. Milk is normally delivered to the KCC and other local dairies in a fairly organized and efficient set up. The high potential cereal and dairy livelihood is general one of the most food secure.

Figure 5.3 in the following section details the current food security status of livelihoods across the country, a consequence of or a determinant of the response to price rises.

## 5.1 Current food security status, June 2008

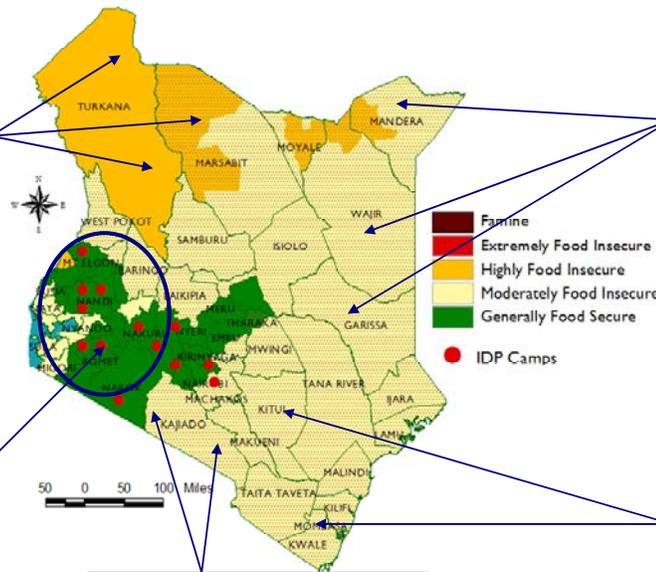
### Figure 5.3: Current Food Security Conditions - July, 2008

#### Northwest pastoralists

Long rains generally below average. Modest improvements in grazing fundamentals. Conflict key factor compounding precarious food security in Turkana, Marsabit, Samburu and Marakwet. Markets, pastures and interventions inaccessible in conflict epicenters; livestock prices low and food prices high in conflict areas. Average cereal prices, more than 80 percent higher than in key markets. PPR could decimate small stock - resulted in 25% livestock mortalities in Turkana in April. GAM rates of up to 29% in spite of about 40 percent of population on relief food. Generally worst affected area.

#### Northeastern pastoralists

Fairly good long rains; improvements in body conditions, birthings and milk. However, prospects dim – cereal prices 50-60 percent higher than key reference markets; sustained high GAM rates over 20 percent; increasingly PPR a threat. Limited livelihood interventions unlikely to sustain recovery process. Good rains insufficient to uphold food security because of unfavorable terms of trade. Imports of maize from Ethiopia may moderate prices around the borders.



#### Kenya's 'grain basket'

About 75% area planted to maize due to prohibitive input prices. Nearly 60 percent of national output derived from the grain basket. However, Over 80 percent of the displacements occurred here; 10% of harvest lost. About 80% of IDPs have returned but facing emergency situation, having lost entire livelihood, homes and productive family members. About 50,000 IDPs in camps vulnerable to water and vector borne diseases. Host families' food security under pressure compromising their production. National food deficit to arise due to lowered production in grain basket'.

#### Maasai rangelands

Moderate long rains and significant improvements in pastoral indicators. Vulnerability to prices moderated by supply from neighboring production areas. Rates of child malnutrition fairly low. Recovery from successive droughts incomplete. PPR remains a threat in Kajiado district.

#### Coastal and southeastern lowlands

Poor long rains harvest expected to compound mediocre critical short rains harvest especially in the southeast. Food prices in southeast have nearly doubled in the past month. Next serious harvest is not until March 2009. Household food security could rapidly deteriorate in 4<sup>th</sup> quarter. Livestock holdings are very low and can not compensate for crop losses. Rains improving prospects in coastal lowlands although the re-planted crop is very young. Tourism, an alternative source of income is also picking up.

## **6.0. Impacts of the rise in food prices on food security of key livelihoods**

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### **6.1 Introduction**

The current rise in prices is one of several compounding factors that have caused current deterioration in food security, especially among the traditionally food insecure livelihood zones, i.e., the pastoral, agropastoral, marginal agricultural and the urban dwellers. Production decisions and shocks that occur in the largely food secure high potential livelihood zones have also accentuated the vulnerability of food insecure households.

Examples of other factors accentuating the impacts of rising prices include:

- Disruption of input and output markets in conflict epicentres in pastoral areas of Marsabit, Turkana, Samburu, Marakwet and West Pokot.
- Reduction in household production and purchasing capacities due to the debilitating impacts of HIV/AIDs among, highest among urban dwellers and marginal agricultural households around the Lake.
- Poorly integrated markets, in part due to heightened transaction costs coupled with limited number of markets participants especially in the pastoral livelihood.
- Overwhelming dependence on maize as the key crop and staple, sometimes grown in an inappropriate agroecology.
- High prices of production inputs that either result in a reduction in area put to maize or sub-optimal application of farm inputs.
- Dramatic rise in fuel prices that has driven upward all other food and non-food prices, while wage rates remain largely stagnant. The impacts of the rise in fuel prices have reverberating across livelihoods.
- Policies such as setting NCPB producer prices above market rates, while close to 70 percent of the Kenya population are net buyers of maize, predominantly in the urban, marginal agricultural, the pastoral and agropastoral livelihoods.

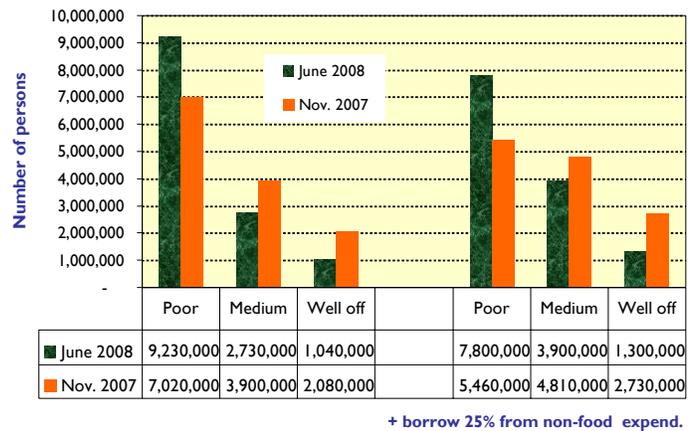
### **6.2 Food Security Prognosis for various livelihood groups**

#### **6.2.1. Urban livelihood zone**

The food security status of urban dwellers that derive most of their income from wage labour and petty business is at a critical precipice; an estimated 7.6 million reside in slums. Income sources and wage rates in particular, have remained static while food and non-food prices have increased by up to 50 percent, within six months. Urban dwellers derive virtually all their food from the market and are therefore fully exposed to the dramatic rise in food prices that started in 2007, and escalated from early 2008 onward. A significant proportion of urban dwellers have lost their livelihoods after businesses failed to reopen or operate at original capacities following the post-election violence. The prognosis for urban dwellers is dire and could lead to civil instability and heightened crime, a situation witnessed in a number of countries, in the event that appropriate measures are not implemented to mitigate a likely emergency situation. It is unlikely that the situation will change significantly even if the long and short rains are favourable in the absence of sustained income enhancing interventions. Over 90 percent of urban dwellers purchase most of their household needs and improved production elsewhere will result in marginal benefits only.

Analysis of the impacts of rising prices, over the past six months or so, produced worrisome results. The population of the food poor category has risen by 31 percent. However, it would rise by a smaller margin of about 11 percent if 25 percent of household food expenditure is borrowed from non-food purchases. Borrowings from non-food expenditures would result in compromising health care, education and transportation needs. Figure 6.1 is an illustration of the decline in food security arising from the price increases. The study underlines the precarious rise in food insecurity since income sources and wage rates remained static during that period while food and non food prices have risen by up to 50 percent in six months. Diet changes are evident with reduction in frequency and composition of meals, which could lead to a precipitous rise in malnutrition and susceptibility to disease, since many of the most vulnerable households purchase water. It is anticipated that a rise in school drop outs could also increase as well as the incidents of food riots and heightened crime.

**Figure 6.1: Urban Livelihood – price impacts**

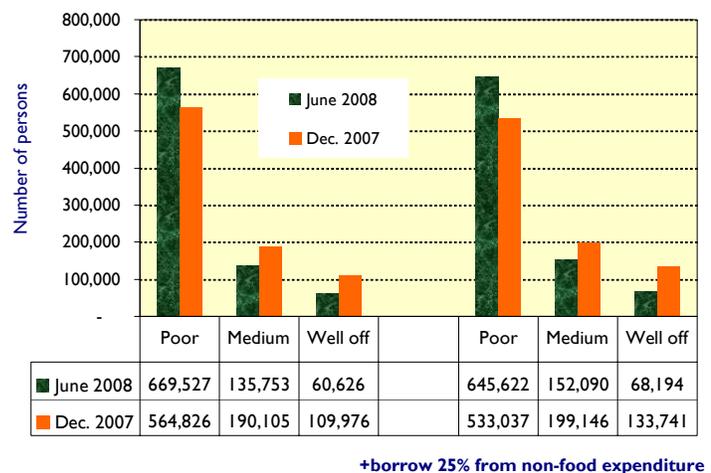


Source: KFSSG

### 6.2.2. The Pastoral Livelihood

Results from the analysis indicate that the population of the poor category has risen by 23 percent due to the rise in prices among northwestern pastoralists. However, the population would rise by a smaller margin of about 19 percent if 25 percent of household food expenditure is borrowed from non-food purchases. Figures 6.2 and 6.3 show the impacts of food prices on the food security of northwestern and northeastern pastoralists, respectively. The population of the poor category among the northeastern pastoralists rose by 18 percent, following the rise in prices and by 14 percent in the event that 25 percent of household food expenditure is borrowed from non-food purchases.

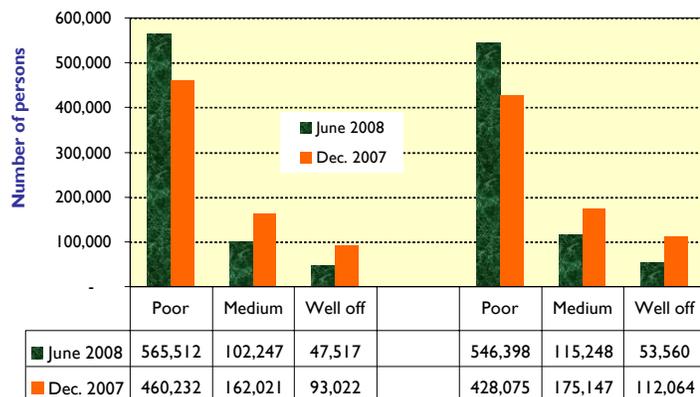
**Figure 6.2: North Western Pastoral Livelihood**



Source: KFSSG

The results indicate a precarious food security situation since close to 75 percent of the pastoral population falls under the food poor category, following the rise in food prices. However, it should be noted that the analysis disaggregated further, the *food poor* category into quartiles for all livelihoods. It is evident that at least 60 percent of the food poor fall in the fourth quartile, close to the medium category. That result suggests that decisive intervention should mitigate a food security crisis among the fourth quartile by pushing the population into or close to the medium category.

**Figure 6.3: North Eastern Pastoral Livelihood**



+ borrow 25% of non-food expenditure

Source: KFSSG

Rates of child malnutrition are above critical thresholds in localized areas of Mandera and Turkana districts with GAM rates of 22 and 29 percent, respectively. A further increase in food and non-food prices, coupled with the reduction in the frequency and composition of meals could further worsen these rates. The proportion of the medium and well-off categories is fairly small and dependency on these two groups may not be sustained. A livelihood crisis is likely to occur should the rise in prices continue unabated and if compounding factors such as the spread of the PPR and conflict are not addressed.

In summary, adverse effects of rising food and non-food prices on the pastoralists in the **northwest** are compounded by a myriad of factors that point to a highly precarious situation. Large areas of the northwest have experienced a poor 2008 long rains season and livestock, the main livelihood, is likely to suffer substantial productivity losses. On-going conflict suggests that the most commonly applied coping strategy, i.e., migration will be redundant. The *peste de petits ruminant* (PPR) has not only heightened small stock mortalities but has also resulted in the closure of markets, resulting lowered livestock prices and steadily rising food and commodity prices amidst eroded purchasing capacities. Expected reduced cereal production in the grain basket, a significant source of supply, will invariably lead to a further escalation in cereal prices which are already more than 100 percent higher than in key reference markets. A failure of the October-December short rains will be a critical tipping point that could lead to a livelihood failure and result in an emergency situation, as long as the compounding factors remain unaddressed.

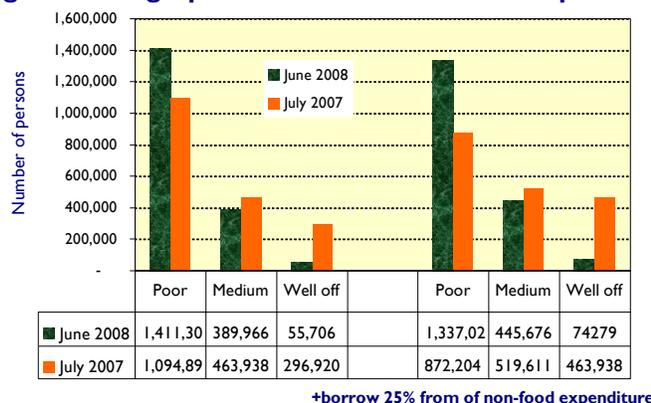
While pastoralists in the **northeast** experienced substantially improved long rains, key food security indicators, most notably rates of child malnutrition remain unacceptably high in some areas, indicative of chronic food insecurity. Markets that are removed from key towns are poorly integrated and improvements in grazing fundamentals are unlikely to significantly benefit pastoralists residing away from key markets. While producer livestock prices have steadily risen since the onset of the long rains, the rise in cereal and commodity prices have superseded the benefits of that rise. Subsequently, terms of trade are progressively skewed against pastoralists. It is likely that distress livestock sales that mirror the normal pastoralists' response during a drought could result, if food and non-food prices continue to rise. Such a response would only reduce livestock holdings, accentuating food insecurity amongst pastoralists by interrupting the recovery process. It is increasingly critical that the trade infrastructure in pastoral areas is facilitative so that benefits accruing from an improved production season are reflected in improved pastoral terms of trade and ultimately food security. However, the prognosis is poor and a failure of the short rains could lead to an Acute Food and Livelihood Crisis, as long as improvements in livestock body conditions do not translate into improved terms of trade for pastoralists.

### 6.2.3. Agropastoral Livelihood

Results from the analysis indicate that the population of the food poor category has risen by 29 percent as a result of the rise in food prices, while 72 percent of agropastoralists fall in the poor category. However, the population would rise by a smaller margin of about 22 percent if 25 percent of household food expenditure is borrowed from non-food purchases.

Rates of child malnutrition remain below critical thresholds but could begin to rise, while school drop out rates and destitution is rising. The immediate food security prognosis for agropastoralists is mixed with the southern Maasai rangelands reporting significantly improved conditions while the north western pastoral areas such as Baringo, parts of West Pokot and Marakwet have had a mediocre season. While crop harvests in the rangelands are normally expected to moderate the impacts of the rise in food prices, harvests are anticipated to be lower than average due to substantial increases in production costs. In addition, limited harvests are anticipated in the northwest as most of the crop is already moisture-stressed and unlikely to recover. Food security for agropastoralists in the northwest is likely to deteriorate faster than normal, following mediocre long rains. However, rates of child malnutrition across the livelihood remain well below critical thresholds.

**Figure 6.4: Agropastoral Livelihood – Price Impacts**



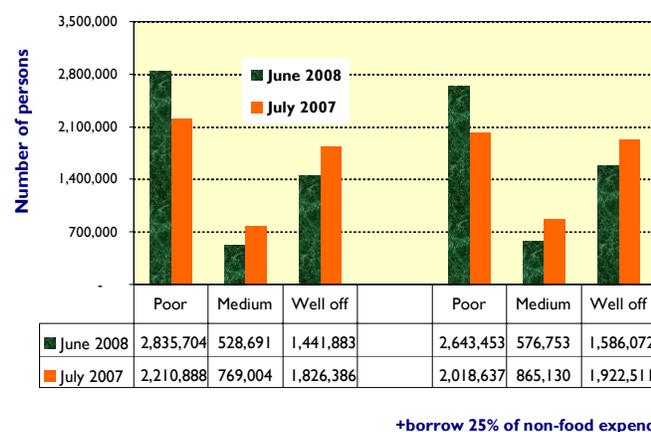
Source: KFSSG

### 6.2.4 Marginal Agricultural Livelihood

Results from the analysis indicate that the population of the poor category has risen by 28 percent, as a result of the rise in food prices. However, the population would rise by a smaller margin of about 20 percent if 25 percent of household food expenditure is borrowed from non-food purchases. About 55 percent of marginal agricultural farmers fall in the poor category.

While the immediate food security status of farm households in the marginal agricultural areas is stable after limited harvests in March, food security could deteriorate rapidly. Traditionally, harvests are sold at low prices soon after harvests and the March-May low prices are deceptive. Underlying the low prices are farm households that have eroded most of their coping capacities as a result of extended droughts and limited off-farm income. The erosion is attributed to a combination of limited labour opportunities in neighbouring high potential areas and the general downturn in the economy during 2008. The food security prognosis for households in the marginal areas is highly unfavourable due to the failure of the current long rains season. The next significant harvest is not expected until March 2009, contingent upon favourable October-December rains. Average livestock

**Figure 6.5: Marginal Agricultural Livelihood**



Source: KFSSG

holdings in the marginal areas are low and are unlikely to support household food security to compensate for crop losses during the long-rains season. Food insecurity could deteriorate from the borderline food insecure category to the Acute Food and Livelihood crisis, in significant areas, toward the fourth quarter, unless mitigation and livelihood interventions are quickly instituted.

### 6.2.5. High Potential Mixed Farmers – Food, Cash Crops and Livestock

Farm households in the high potential areas are likely to experience a downturn in their food security. Land holdings are increasingly smaller and the option of expanded production is limited. Input prices have risen by multiples of their normal levels and unusually, many areas have experienced a poor long-rains season. Stocks from previous production seasons coupled with continued viability of other income sources such as livestock and cash production suggests that while food security is likely to deteriorate, it will not become precarious. Most households are likely to remain food secure but their resilience will shift from high to low resilience because high input prices amidst rises in all other food and non-food commodities represents a structural change in the constitution of their income.

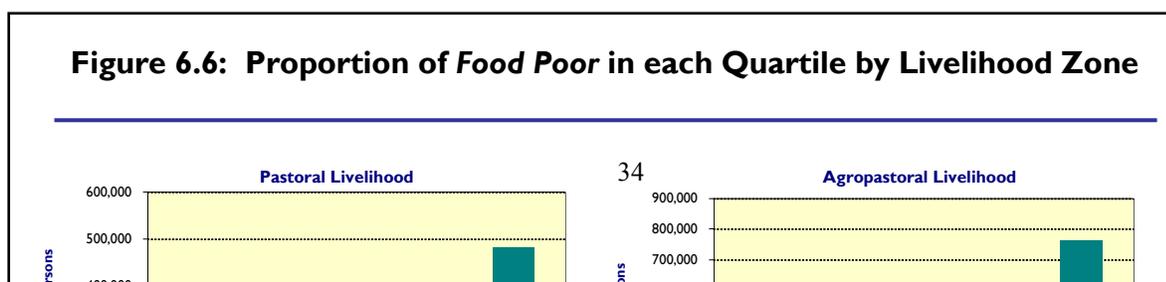
### 6.2.6. High Potential Mixed Farmers – Cereal and dairy

Farmers in the grain basket areas of the country are expected to remain food secure even with the current rise in the cost of agricultural production and the rise in fuel and all other prices. A significant proportion of farmers retained maize stocks from the previous harvest which is now fetching high prices. While current high prices are favourable they will not completely compensate for the increase in the prices of most other commodities. The reduction in long rains maize hectareage will benefit those farmers that have not reduced hectareage because of expected sustained high prices, through the July 2008 - June 2009 marketing year. Farmers in the ‘grain basket’ are expected to report reduced incomes as a result of high production costs but should nevertheless remain food secure. However, the food security of farmers that are now IDPs will remain in the emergency category, even if they return home expeditiously. Many have lost the significant proportion of their livelihood, homes, assets and in unfortunate instances household members. Continued sustained food and livelihood support is critical in returning households closer to former production levels in the medium to longer term.

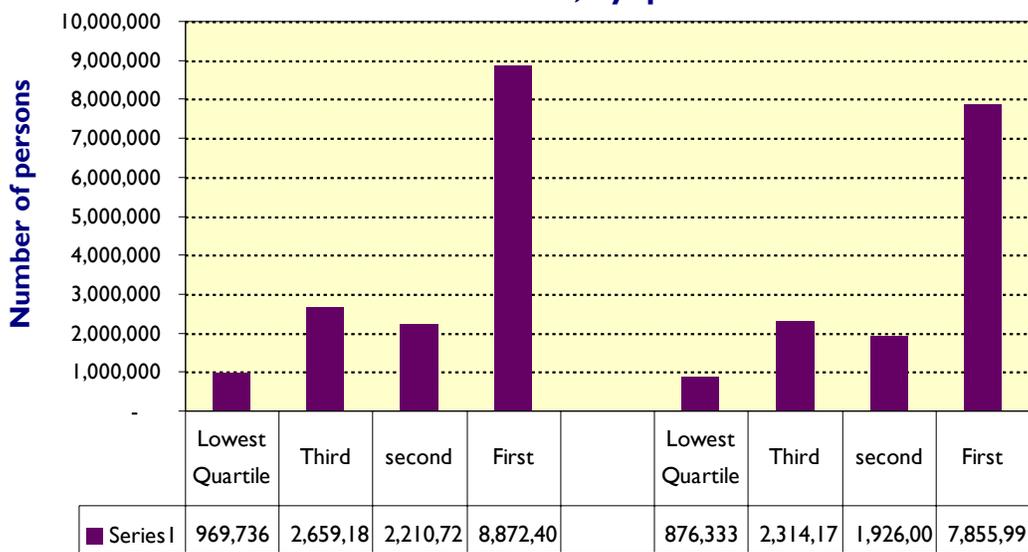
### 6.2.7. Analysis of Food Poor Quartiles

Figures 6.6 and 6.7 are illustrative of the numbers for each quartile of the *food poor* among the most vulnerable livelihoods, namely: the pastoral, agropastoral, marginal agricultural and urban livelihood zones, resulting from the unprecedented rise in food and non-food prices. The first quartile constitutes a population whose food security is close to the medium category and for the purposes of this study is considered largely borderline food insecure. However, the lowest, third and second quartiles constitute a population that is extremely food poor, with virtually no discernable coping capacity.

Borrowings from non-food expenditure have little or no mitigative impact because household expenditure for non-food commodities is already compromised. The total number of the three lowest quartiles among the *food poor* category is estimated to be 5.6 million out of a national population of about 35.6 million. Immediate intervention to mitigate a catastrophic outcome among the 5.6 million is critical. Importantly, proper identification and sharp targeting employing a mix of appropriate interventions is prerequisite to avoiding of an emergency situation.



**Fig. 6.7: Total number of food poor for vulnerable livelihoods, by quartile**



**+ borrow 25% from non-food expend.**

## 7.0 Interventions and Policy Options

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Clearly food security among livelihoods is interwoven and interventions intended to address food insecurity need to be carried out concurrently across livelihoods. It is no exaggeration to state that interventions need to be bold to avert a catastrophe in the short to medium term. A shortfall in household food supply for a majority of people in a given livelihood or geographic location can quickly deteriorate to unintended consequences including food riots, increased crime and worrisome malnutrition, among other likely outcomes. A number of interventions are proposed.

In all fairness, the GoK is committed through a series of sectoral policies and the vision 2030 to implement the millennium development goals in order to reduce significantly, the number of food insecure populations particularly those living in extreme poverty, by providing access to primary education, by reduction in infant and child mortality, by providing access to basic health care, increase access to safe and affordable water, diversification of income sources and reversal of environmental degradation

### 7.1 Immediate Actions

**7.1.1. Trade Policy and Avoidance of Export Bans:** Average maize imports from Tanzania and Uganda has been about 200,000MT in the last three years, just under 10 percent of national production. Importation of maize into the country from the region helps bridge a gap especially between June through September when local supplies are limited. Subsequently, implementation of EAC free trade in agricultural commodities based on agreed EAC commodity specifications should be encouraged including direct delivery of maize to NCPB depots, millers and others, by farmers and traders from the EAC. Export bans during times of shortage in any country only increase the price of cross-border transaction costs but do not stop trade.

**7.1.2. Calm Markets with Market-Regulation of Speculation:** Speculation is a consequence rather than a cause of international and local food price increases, and over-regulation of market functions is counter-productive. However, monitoring speculative capital can help to curb excessive speculation, and strengthened financing of food imports would improve availability and thereby reduce speculation.

**7.1.3. Review the Taxation Regime on Fuel and Production Inputs:** Fuel drives most other production activities and unless addressed, the rise in the price of food and non-food commodities could continue unabated. Currently, less than 40 percent of producers employ recommended agronomic practices with respect to input use due to their high prices. An expansion in that percentage would enhance production levels across sectors.

**7.1.4. Improving Emergency Prediction and Response Capacity:** GoK and partners should ensure that the wealth of existing early warning information systems are well coordinated and adequately resourced to play a relevant role in disaster prediction and preparedness and ensure their involvement in long term solutions.

**7.1.5. Protection of Current Food Assistance Programmes,** to ensure that current emergency food relief operations are able to continue to provide basic food needs to IDPs, refugees, people affected by drought and school feeding programmes.

**7.1.6. Expansion of Relief Food and/or Cash Transfers to Include Urban Households:** The intervention should be undertaken to avert rapid deterioration in food insecurity and other undesirable consequences. The modalities of distribution may be discussed but we remain cognizant that a large proportion of the youth in urban centres are unemployed and their labour could be gainfully engaged in return for cash payments or food rations.

**7.1.7. Labour based safety net interventions:** The intervention is intended to provide or broaden income access options in times of hardship while building local physical and social assets, especially for those in marginal agricultural areas, pastoral and agro pastoral and peri-urban livelihoods. The use of cash or food can be determined on the basis of how well markets are functioning, availability of food in markets and resources available.

**7.1.8. Immediate Interventions to Increase Agricultural Production in 2008/’09:**

- Provision of seed potatoes and other seed for second-season crops, together with subsidised fertilizer to maximise 2008 production.
- NCPB needs to make public and firm commitments that it would promptly make payments, by end of February 2009, for all cereal and pulse deliveries by farmers to allow them have ample resources for land preparation and planting.
- AFC’s credit services should be expanded to include more commercial farmers during 2008 to enable most farmers get credit, for the 2009 season.
- The government, through either KFA or NCPB should organize to import bulk fertilizer at reasonable prices which should be rural outlets by February 2009.
- In the absence of a diesel tax waiver between February and April 2009-the land preparation time, farmers should be sensitized on increasing world fuel prices in 2008 so that they can make informed decisions on their budgets and other farm activities for the 2009 season.
- Institute input subsidies for farmers to enhance production and minimize the structural deficit in the production of key food commodities. The recommendation is emphatic that interventions need to be input-oriented rather than output-oriented. Setting maize producer prices above market rates may enhance production in the short-term but will result in two important undesirable outcomes: i) it encourages inefficient production ensuring that local prices are always above regional prices ii) enhances food insecurity for about 70 percent of Kenyans who are net buyers of maize.

**7.1.9. Livelihood Interventions and Return of IDPs:** The intervention will require concerted and systematic effort, with the objective of blunting the impacts of the IDPs’ loss while restoring livelihoods to pre-election status. Concurrently, co-existence needs to be encouraged through peace and reconciliation efforts.

**7.1.10. Resource support to KFSSG’s Markets’ Group,** to ensure continued analysis of the nexus between current and prospective price movements and their food security impacts.

## **7.2 Medium to Long Term Interventions**

**7.2.1. Transport and Communication:** Isolation and remoteness are a function of poor infrastructure, poor services and lack of access to efficient communication systems. Improvement of small scale infrastructures, including feeder roads and farmer to farmer roads, major links to main markets, will open up a wide range of market opportunities to vulnerable populations in deficit and surplus areas.

**7.2.2. Services:** Improve access to services by bringing them closer to vulnerable isolated communities; including health, education, agricultural services, research and other sectors by combining efforts with locally based institutions, including NGOs and humanitarian agents.

**7.2.3. Agricultural Development Policy:** Gradual substitution and consequent elimination of indirect price support through NCPB with increased investment in agriculture would reduce the cost of production. Increased investment in agricultural science, technology (including land management and disease control), infrastructure (rural roads, input and output markets, extension, water) and market access (including through facilitation of livestock commodity marketing and rural finance) would boost supply at globally competitive prices and reasonable returns to farmers and traders. It should be noted that farmers only lobby for higher prices when costs are high, but would comfortably settle for globally competitive price even the price is low provided the returns are reasonable as a result of a reduction in the cost of production.

**7.2.4. Accelerated Implementation of the Strategy for the Revitalisation of Agriculture (SRA):** The SRA has been developed with many stakeholders and represents the most appropriate strategic framework within which government and its partners can work together to rapidly improve agricultural production.

**7.2.5. Strengthen Market Information and Intelligence:** The institutions involved in information generation and dissemination should be strengthened, for example, RATIN, FEWSNET, ALRMP, and MoA data collection systems.

**7.2.6. Link Market Information to the Needs of Producers:** Create and a market information system directed to the needs of small scale livestock producers, farmers and traders to improve their business practices, to help them plan and reap the benefits of the market.

**7.2.7. Medium to Long Term Investment in Agricultural Production:**

- Expanded public spending for rural infrastructure, services, agricultural research and science and technology. GoK to realise commitment to allocate at least 10 percent of the budget to agriculture.
- Innovative crop and Livestock Insurance mechanisms to be introduced and tested on a large-scale in key crop and livestock production areas.
- GoK should consider investments in agriculture for increased food availability and incomes. In the specific case of Kenya there are three bankable projects prepared under NEPAD and GOK (MoA) , especially the “disease control and facilitation of livestock commodities marketing project; the “water and land management project” and the rural finance project , that could be expanding on "kilimo biashara"). These projects are described in the document for support to NEPAD-CAADP implementation.
- Irrigation. Past irrigation initiatives particularly in the marginal agricultural areas such as in Kibwezi and Taita Taveta have been highly successive in enhancing household production and food security. However, their reach is limited and the management of many schemes suspect. Institution of well managed irrigation facilities in marginal agricultural areas would avert declining food insecurity.
- Invest and promote small scale post harvest value adding practices. This can include improved own farm storage, conservation techniques

**7.2.8. Medium to Long Term Investment in Livestock Sector:** Promotion of private investment in livestock export market and slaughter. Promote local industries processing of livestock products and by-products. Invest in infra-structures that facilitate linkage between primary and terminal markets.

**7.2.9. Conflict Reduction:** Endemic conflict in pastoral areas should be decisively addressed and serious deterrent measures implemented. Conflict epicentres are often synonymous with high rates of child malnutrition, low livestock prices, high cereal prices and general civil instability. Food insecurity in conflict areas is at a critical tipping point as several pastoralists have themselves become IDPs.

**7.2.10. Reduce Malnutrition:** Chronic rates of child malnutrition have persisted in several pastoral livelihoods, most notable in Turkana, Mandera and South-eastern Marsabit, for over ten years. The underlying causes need to be decisively investigated and appropriate and innovative interventions implemented. School and hospital feeding are recommended for averting severe malnutrition. Ensuring adequate access to food does not guarantee nutrition and hence has to be linked to improved health care, nutrition education and safe water supplies.

**7.2.11. Support to Vulnerable Groups:** Vulnerable groups, including the orphaned, the elderly, handicapped, will need external community-based support in view of collapsing of community based coping mechanisms.

**7.2.12. Agricultural interventions should be designed with improved nutrition as a major outcome:** Malnutrition and micronutrient deficiencies should be addressed through these agricultural interventions using technologies such as bio fortification, community and homestead gardening and promoting the production and consumption of indigenous nutrient rich food. Therefore, agricultural interventions contribute to addressing nutrition through focusing on specific nutrient rich crops, use of appropriate agricultural technology and adapting farming systems that are beneficial to low-income households.

**7.2.13. Agricultural interventions should be complemented by nutrition education** and behaviour change to maximize their impact on nutrition, especially among children. These complementary interventions are focused on empowering women to practice appropriate childcare and feeding, and promote health seeking practices, thus contributing to improved nutritional outcomes.

**7.2.14. Promoting increased food production and supply should go hand in hand with promotion of increased demand for these foods:**

A conscious effort must be made to ensure that food being promoted is rich in both quantity (affect energy intakes) and quality (micronutrient intakes). The production of foods that are particularly deficient in selected regions should be included in the promotion strategies to ensure the availability of diverse food commodities.

**Efficient nutrition surveillance systems should provide accurate and specific information on areas with low dietary diversity** and deficits in macronutrient and micronutrient consumption. The information will be used to design and target agricultural interventions that also address nutrient deficits and low dietary diversity in selected areas, thus ensuring early response to livelihood stress before they manifest into population-wide nutrition crisis.

Strategies that have been used to ensure effective implementation of agriculture and nutrition interventions include integrating agriculture and nutrition components at all stages of planning and implementation, production of nutrient dense crops that address both the needs of farmers and preferences of consumers, considered the role of women and constraints they face as farmers, and a strong nutrition education component.

## Some Documents and Information Sources Used in the Study

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- 1 Arid Lands Monthly Early Warning Bulletins.
- 2 Economic Surveys of Kenya.
- 3 FAO technical papers.
- 4 FEWS NET technical reports.
- 5 Food Policy; Integrating Supply, Distribution and Consumption. (J. Price Gittinger, Joanne Leslie).
- 6 Kenya Basic Report on well being in Kenya (KIHBS) , April 2007 KNBS.
- 7 Kenya Position Paper - Multi-Country consultation for elimination of chronic hunger in the Horn of Africa, 2007.
- 8 KFSSG Livelihood Zone Classification 2004/05.
- 9 KFSSG Household Survey Data.
- 10 KFSSG Long Rains Assessment report 2007 and Short Rains Assessment 2008.
- 11 RATIN , Regional Agricultural Trade Intelligence Network reports.
- 12 Review of Trade and Markets Relevant to food Security in The greater Horn of Africa; USAID / FEWSNET, 2007.
- 13 Second Report on poverty in Kenya – Nov 2000.
- 14 Support to NEPAD-CAADP Implementation (Dec 2004, NEPAD, FAO).
- 15 The Elimination of Food Insecurity in the Horn of Africa. Sept 2000, FAO Corporate Document Repository.
- 16 WFP Post Distribution Monitoring Data 2007.
- 17 WFP technical papers.