
Qualitative-Quantitative Integrated Analysis for
Kenya:

WELL-BEING IN THE CONTEXT OF FOOD PRICE VOLATILITY

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List of Abbreviations

APHRC	African Population and Health Research Council
ASAL	Arid and Semi-Arid Lands
BMI	Body Mass Index
CPI	Consumer Price Index
CV	Coefficient of Variation
DHS	Demographic and Health Survey
FAO	Food and Agriculture Organisation
FCS	Food Consumption Score
FEWS NET	Famine Early Warning System Network
FHH	Female Headed Household
FPV	Food Price Volatility
HSNP	Hunger Safety Net Programme
IDSUE	Indicator Development for Surveillance of Urban Emergencies
IPC	Integrated Phase Classification
KFSSG	Kenya Food Security Steering Group
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Census
MDER	Minimum Dietary Energy Requirement
MUAC	Mid Upper Arm Circumference
NCPB	National Cereals and Produce Board
NDMA	National Drought Management Authority
NUHDSS	Nairobi Urban Health and Demographic Surveillance System
OPM	Oxford Policy Management
OVC	Orphans and Vulnerable Children
Q²	Qualitative-Quantitative
VAT	Value Added Tax
WFP	World Food Programme

EXECUTIVE SUMMARY

This report aims to provide a national-level analysis of changes in food security and well-being in Kenya, using secondary quantitative and qualitative information, and focussing on the periods before and after the 2008 food price rises. There are no directly comparable national-level data sets to enable exact comparison of the two time periods, and therefore a variety of sources are used.

For the period pre-2008, the 2005/6 Kenya Integrated Household Budget Survey (KIHBS) provides detailed analysis of poverty and food poverty rates. The overall rural poverty rate was 49.1% and the food poverty rate was 47.2%. Urban poverty rates and food poverty rates were lower, at 33.7% and 40.5% respectively. There were substantial spatial variations in these rates however: for example North Eastern Province had a poverty rate of 73.9%, compared to 30.4% in Central Province. In urban centres, the poverty rate in Nairobi was 21.3% but was 50.2% in Nakuru. Poverty rates also varied by socio-economic characteristics: rates were higher for female-headed households compared with male-headed households, the difference being larger in urban areas. Other factors associated with high poverty rates included family size, age of household head, and education level.

The KIHBS also found that about 62% of mean expenditure in rural areas was on food, while this was almost reversed in urban areas (60% spent on non-food items). In all rural Provinces and in urban centres, more than 50% of food consumed was purchased from the market, indicating the potential vulnerability of households to rising food prices. In terms dietary adequacy, 51% of the population had calorie intakes less than the minimum dietary energy requirement, and this rose to 99% for the bottom quintile (compared to less than 1% for the top quintile).

Analysis of price trends shows that wholesale prices of maize (the main staple) rose higher and with more volatility in 2011 than they did in 2008. Although prices fell somewhat in 2012, average retail prices of maize grain and flour were higher in 2012 than in 2011, and food price inflation continued in 2013 for a variety of reasons, including the imposition of VAT on some basic food commodities.

In analysing the food security situation in Kenya, it is important to use disaggregated analysis, given the major variations in agro-ecology, in livelihood systems, and in income distribution. An analysis was undertaken of four counties, each in one of the livelihood zones most prone to food insecurity. In Turkana and Mandera counties (both with significant pastoralist populations) maize prices rose for most of the 2007-13 period: even though 2008 and 2011 saw the largest peaks in national prices, in these areas average prices were higher in 2012 and 2013 than in the earlier years. Prices of goats, which some pastoralist households sell to buy grain, also increased strongly, such that it is difficult to draw conclusions about real income and food security changes over the time period. Malnutrition is a significant problem, the risk of child under-nutrition generally varying over the range 15-25%.

In West Pokot and Kilifi counties, which including more agricultural and agro-pastoral households, maize prices also tended to rise over the 2007-13 period, and were higher in 2012 than in 2011 on average. In West Pokot, there was a very clear pattern of prices rising in the pre-harvest months, which creates problems for food-deficit households who have to buy from the market at that time. In West Pokot, too, sample data on stunting rates appears to show very high stunting rates of over 40%. In Kilifi county, on average about 50% of household income is obtained from casual labour, which is also an indication of the generally low levels of agricultural productivity in the area.

Price volatility and rising retail prices of maize and other basic commodities also have major detrimental impacts on low-income urban populations. Sample surveys conducted in Nairobi's slum areas generally found high food insecurity rates, for example rates reaching almost 90% in the Korogocho informal settlement in 2006-8, and 60-70% in 2011. There is a tendency towards spatial clustering of the poorest households in the informal settlements. Poor households have had to use a

range of “negative coping strategies” to deal with rising food prices: these include removing children from school, reducing food intake, stealing, sending family members away or begging.

The evidence from low-income, food-insecure populations in both rural and urban areas is that many households have continued to face rising prices over the last few years, and that this is having negative livelihood consequences: a high proportion of the Kenyan population are vulnerable. However, responses from the Government of Kenya until recently have been rather piecemeal and under-resourced. Social protection measures have been confined to particular sub-groups of the vulnerable population, while in rural areas, there continues to be a focus on addressing food crises in the short term. The Hunger Safety Net Programme, operating in four northern counties, appears to have been effective as a safety net, in the sense that it has prevented households from slipping further into poverty, but its coverage is relatively limited, albeit increasing.

Given these conditions, it will be important for Government and the donor community to strengthen, and better resource, social protection measures, and to design them to take into account often significant seasonal variations in prices, incomes, and access to food. Other potential interventions include additional investment in agriculture to boost production, the enhancement and proper management of the Strategic Grain Reserve, reduction of barriers restricting Regional trade in maize and other food crops, and a focus on addressing powerful interests operating in grain markets which prevent prices from falling. It is also important to undertake a repeat survey of the KIHBS, to provide updated national and disaggregated information on current food security status.

1 INTRODUCTION AND AIMS OF STUDY

This report forms one of the research outputs from the four year collective research project “Life in a Time of Food Price Volatility”, conducted in 10 countries over the period 2012-15. The aim of the overall research project is to contribute to improving the food security prospects of poor and vulnerable people in developing countries who are exposed to food price volatility (FPV), by improving knowledge of how people’s lives are affected by FPV. The key research question the project addresses is:

“How do high and unpredictable food prices affect overall well-being and development in poor or vulnerable communities?”

The overall research has three main components:

- 1) National food security and FPV data collection
- 2) Community case studies
- 3) Integrated quantitative-qualitative research (Q²).

The purpose of the Q² work is to embed the qualitative data collected in component two within a broader quantitative framework at national level. Each component of the research should inform the other over the life cycle of the project.

2 QUANTITATIVE-QUALITATIVE RESEARCH IN KENYA

The objective of the research in Kenya is to provide a national-level picture of changes in food security and well-being for the period before the major food price rises in 2008, and the period after 2008. This research is intended to complement the in-depth community-level qualitative research conducted at two locations in Kenya, the Mukuru informal settlement in Nairobi, and Lango Baya, a rural community in the coastal belt of east Kenya¹.

One relatively straightforward approach to carrying out such research would be to compare results of two comparable national-level data sets collected pre- and post-2008. However, in Kenya such data sets do not currently exist, meaning that exact comparisons cannot be drawn. Detailed analysis for the pre-2008 period is available, particularly from the 2005/6 Kenya Integrated Household Budget Survey (KIHBS) conducted by the Kenya National Bureau of Statistics (KNBS). This provides a good baseline for analysing poverty and food security status at that time. There are also a number of other surveys, particularly the 2008/9 Demographic and Health Survey (DHS), which provide additional information on some variables of interest. However, as pointed out by a number of authors and agencies (e.g. World Bank 2013), there has been no recent repeat survey which would allow accurate assessment of how poverty and food security have changed at national level. Therefore assessment of the current situation has to be done using a variety of different sources, which can provide a disaggregated overview of recent trends but without allowing for direct comparison with the pre-2008 period.

The approach adopted in this research is, therefore, to provide an overview of the pre-2008 situation based on the KIHBS and DHS in particular, and then build a picture of changes since 2008 upto 2013, making use of a variety of sources. In following this approach, the diversity of conditions in Kenya quickly becomes apparent, in some respects reinforcing the importance of conducting disaggregated analyses.

¹ Lango Baya is in Coast Province and, in terms of livelihood classification, it falls within the Coastal Marginal Agricultural Cluster. It is about 50 km from the coastal town of Malindi.

3 MEASURES OF POVERTY, FOOD INSECURITY AND WELL-BEING PRE-2008

3.1 Poverty and Food Insecurity

The most representative source of information on levels of poverty and food insecurity before the 2008 food price crisis is the Kenya Integrated Household Budget Survey (KIHBS), 2005/06 (Kenya National Bureau of Statistics [KNBS] 2007). This was a comprehensive survey with national coverage with a total sample size of 13,340 households.

Some of the key findings of the survey are discussed here, based on KNBS (2007) and KNBS (2008). Poverty lines were derived from the survey results based on the cost of meeting a basic needs basket. In adult equivalent terms, the monthly cost for a rural household was Ksh 1,562, and for an urban household it was Ksh 2,913 (KNBS 2007, World Bank 2013). The equivalent food poverty lines were Ksh 988 and Ksh 1,474 for rural and urban households respectively, where the food poverty line was estimated as the cost of consuming 2,250 kilocalories per adult equivalent per day.²

The main findings with regard to overall poverty were that national absolute poverty stood at 45.9% of the population in 2005/6; this compared with a level of 52.3% in the previous poverty survey, the 1997 Welfare Monitoring Survey. Poverty in rural areas stood at 49.1% (compared to 52.9% in 1997), while urban poverty was 33.7% in 2005/6 (49.2% in 1997) (KNBS 2007). On average, therefore, headcount poverty rates declined over the 1997-2005/6 period, although they increased in Coast and North Eastern Provinces.

With regard to food poverty, this stood at 45.8% in 2005/6 (48.3% in 1997). In rural areas food poverty was 47.2% (50.7% in 1997), while in urban areas food poverty was 40.5% (38.3% in 1997). It is not clear why urban food poverty rates increased over the time period while overall urban poverty rates declined quite substantially.

There was substantial variation in poverty rates across the country however. Table 1 shows rural overall and food poverty rates by Province, and Table 2 shows urban rates.

Table 1. Rural Overall Poverty and Food Poverty Rates, 2005/6, by Province

Province	Overall Poverty Rate (%)	Food Poverty Rate (%)
Central	30.4	31.4
Coast	69.7	63.5
Eastern	50.9	45.2
North Eastern	73.9	66.0
Nyanza	47.6	46.0
Rift Valley	49.0	49.5
Western	52.2	51.1
Total Rural	49.1	47.2

Source: KNBS, 2007

Table 2. Urban Overall Poverty and Food Poverty Rates, 2005/6

Urban Centre	Overall Poverty Rate (%)	Food Poverty Rate (%)
Nairobi	21.3	29.5
Mombasa	37.6	50.4
Kisumu	43.4	46.8

² 2,250 kilocalories per AE per day was taken as the calorie requirement for good nutrition, based on FAO recommendations (KNBS, 2007).

Nakuru	50.2	49.3
Other Urban	42.3	46.8
Total Urban	33.7	40.5

Source: KNBS, 2007

Urban overall poverty and food poverty rates, 2005/6

In rural areas, Central Province clearly had the lowest rates of overall and food poverty, while Coast and North Eastern Provinces had the highest rates. Furthermore, poverty rates were growing in Coast rural and North Eastern rural over successive poverty surveys (KNBS, 2007). In urban areas, poverty rates in Nairobi were significantly lower than in other urban areas.

High poverty rates particularly in the north and north east of Kenya are partly a reflection of their arid/semi-arid nature, which limits agricultural potential, and their historic neglect (World Bank 2013). Population densities in these areas are relatively low however, and the highest actual numbers of poor people are concentrated in areas where land is relatively fertile, including Western Kenya around Lake Victoria, the central highlands, and the coast near Mombasa. Medium-high potential agricultural areas comprise only 20% of land, but 80% of total population (World Bank 2013).

The KIHBS disaggregates poverty by socio-economic grouping: poverty rates were higher with increasing family size and with age of household head, and lower as education levels increased. Poverty rates were higher for female-headed households (FHH): 50% for rural FHH and 46.2% for urban FHH, compared with 48.8% and 30% respectively for male-headed households.

The impact on poverty and well-being of changes in food prices varies depending on the share of food expenditure in total expenditure. This share also varies both by income group and by rural-urban population distribution. Table 3 shows mean monthly food and non-food expenditure per adult equivalent by Region and by urban-rural, and the shares of food and non-food expenditure in total expenditure.

Table 3. Mean Monthly Food and Non-Food Expenditure per adult equivalent

Region	Mean Expenditure (Ksh)			Shares (%)	
	Food	Non-Food	Total	Food	Non-Food
Total Kenya	1,754	1,678	3,432	51.1	48.9
Total Rural	1,453	878	2,331	62.3	37.7
Central	1,696	1,263	2,959	57.3	42.7
Coast	1,179	552	1,731	68.1	31.9
Eastern	1,425	806	2,231	63.9	36.1
North Eastern	1,204	374	1,578	76.3	23.7
Nyanza	1,476	786	2,262	65.2	34.8
Rift Valley	1,474	984	2,457	60.0	40.0
Western	1,300	665	1,965	66.2	33.8
Total Urban	2,642	4,032	6,673	39.6	60.4
Nairobi	3,010	5,696	8,706	34.6	65.4
Mombasa	2,285	3,218	5,503	41.5	58.5
Kisumu	2,172	3,539	5,711	38.0	62.0
Nakuru	2,302	1,708	4,010	57.4	42.6

Source: KNBS 2007

A number of patterns stand out. First, total expenditure is higher in urban areas than rural areas. Second, there is a substantial difference in the ratio of food to non-food expenditures between rural and urban areas (in fact the ratios are almost reversed: 62.3%:37.7% in rural areas, and 39.6%:60.4% in urban areas). Third, and relatedly, the share of food to non-food expenditures declines as total expenditure (taken as a proxy for income) increases³. The poorest areas in expenditure terms (North

³ The correlation coefficient for total expenditure against share of expenditure on food is -0.94.

Eastern) have the highest share of expenditure on food (76.3%), and vice-versa (Nairobi, on average the richest area, has an expenditure share of 34.6% on food).

In broad terms, increased food prices are likely to have the greatest impact on households with the highest expenditure shares on food. However, it is also important to consider whether households are net consumers or net producers of food; and the Region-wide picture presented in Table 3 needs to be further disaggregated to take into account large income inequalities, not least in Nairobi.

Table 4 disaggregates food consumption by source and by Region.

Table 4. Total Food Consumption Shares by Source (%)

Region	Purchases	Own Produce	Own Stock	Gifts	Total
Total Rural	53.9	26.8	8.4	10.9	100.0
Central	56.8	29.7	8.5	5.0	100.0
Coast	53.6	21.7	9.0	15.8	100.0
Eastern	51.0	27.6	8.1	13.3	100.0
North Eastern	58.5	9.5	2.2	29.8	100.0
Nyanza	56.8	23.5	7.4	12.3	100.0
Rift Valley	52.5	29.7	11.0	6.8	100.0
Western	53.9	28.2	5.4	12.6	100.0
Total Urban	79.9	4.3	12.0	3.9	100.0
Nairobi	70.7	1.1	26.3	1.9	100.0
Mombasa	84.8	0.7	13.3	1.2	100.0
Kisumu	74.5	1.4	20.8	3.3	100.0
Nakuru	84.1	3.7	7.4	4.8	100.0
Other Urban	82.2	5.5	7.6	4.7	100.0

Source: KNBS 2007

There is, unsurprisingly, a clear difference between rural and urban areas in the proportion of food consumption met from purchases and own production respectively, but it is notable that even in rural areas over half (53.9%) of all food consumed is purchased from the market, meaning that rural households' consumption patterns are also vulnerable to market fluctuations. In urban areas almost 80% of food consumed is purchased, but when stocks are included, this rises to 92%. Almost 30% of total food consumption in North Eastern is from "gifts", which includes food aid.

The proportion of food consumption derived from purchases varies by commodity. The key cereal crop and source of dietary energy is maize. In rural areas the percentage share of maize consumption purchased varies from a high of 58.7% in North Eastern to a low of 40.8% in Nyanza. Beans are a key source of protein in Kenyan diets: the percentage share of beans consumption from purchases varies from a high of 65.3% in Coast to a low of 40.5% in Nyanza. Another key source of protein and fat is milk: the percentage share of milk consumption from purchases varies from a high of 68.4% in North Eastern to a low of 29.7% in Rift Valley.

Kenya has high levels of income inequality, particularly in urban areas, and therefore broad Province-level or urban centre-level data do not provide a complete picture of the extent to which different sectors of the population are vulnerable to food price rises. The Gini coefficient of rural expenditure per adult equivalent was 0.38, while the urban coefficient was 0.447 (KNBS 2007). Average per adult equivalent expenditures among the bottom 10% of households were Ksh 466 and Ksh 1,110 in rural and urban areas respectively, compared with expenditures for the top 10% of Ksh 5,741 and Ksh 22,823 in rural and urban areas respectively: in urban areas, therefore, per adult equivalent expenditures of the top 10% were twenty times greater than those of the bottom 10% (World Bank 2013).

A more disaggregated analysis of food insecurity and food poverty based on the KIHBS is developed in KNBS (2008), which uses FAO measures of dietary adequacy to assess food availability for

different sections of the population. Overall, 51% of the population had food consumption levels below the Minimum Dietary Energy Requirement (MDER)⁴: almost all (99%) of the bottom quintile of the population fell below the minimum level, compared to less than 1% of the top quintile (KNBS 2008). The depth of hunger was considerable: the average dietary intake of those below the MDER threshold was only 1,261 Kcal/person.

Table 5 shows the rate of food poverty measured by the MDER, and shows the food poverty rate measured by the food poverty line for comparison. In terms of geographical and rural-urban distribution, 57% of the rural population had food consumption levels below the MDER, compared with 39% of the urban population (15% in Nairobi). There are marked differences in a number of Provinces between food poverty rates measured by the food poverty line compared with measurement by MDER. Since the food poverty line is calculated on the basis of a higher calorie intake than the MDER (2,250 kilocalories compared to 1,683), it would be expected that food poverty rates measured by the food poverty line would be higher. The opposite is the case in Central, Nyanza, Rift Valley and Western Provinces, however. While the explanation for this difference is not obvious, it may be partly linked to high population densities (and therefore small land sizes) in these Provinces, resulting in a concentration on maize production, much of which is sold to meet household needs, further leading to inadequate calorie intake.

Table 5. Food Poverty Rates by Province, by Food Poverty Line and MDER, 2005/6

Province	Food Poverty Rate by poverty line (%)	Food Poverty Rate by MDER (%)
Central	31.4	35
Coast	63.5	39
Eastern	45.2	27
North Eastern	66.0	66
Nyanza	46.0	68
Rift Valley	49.5	63
Western	51.1	70
Total Rural	47.2	57

Sources: KNBS 2007; KNBS 2008

Table 3 reported food consumption by Region: higher-income Regions spent more on food per capita than poorer Regions, but less as a proportion of total expenditure. As household income increases, the proportion of income spent on food tends to decline (an income elasticity of less than one) and the quality and diversity of foods consumed tends to increase. In terms of dietary energy, cereals are generally the cheapest sources of calorific intake and are therefore favoured particularly by poorer people: therefore, if cereal prices rise more than the prices of other food groups, this is likely to disproportionately affect poorer households. KNBS (2008) discusses this issue. Daily average dietary energy consumption was 1,800 kcal/person, ranging from 918 kcal for people in the lowest income decile, to 3,330 kcal for people in the top income decile. Since richer households spend proportionately more on higher quality, more expensive foods, it cost on average Ksh 34.50 for an average household in the top quintile to acquire 1,000 kcal, compared with a cost of Ksh 15.90 for an average household in the lowest quintile (KNBS 2008). The cost of acquiring 1,000 kcal was Ksh 42 in Nairobi, compared with Ksh 17 in Eastern Province (the lowest amount).

⁴ The MDER was taken as the minimum dietary energy needed to maintain body-weight and perform sedentary light physical activity, taking into account age and sex. The national MDER was calculated at 1,683 kcal/person/day (KNBS 2008). It should be noted that the published FAO MDER for Kenya calculated for the period 2006-8 was 1,760 kcal/person/day.

3.2 Other Measures of Well-being

The most comprehensive source of data and analysis on other measures of well-being is the Demographic and Health Survey (DHS) of 2008-09 (KNBS 2010). Data collection for the DHS took place in late 2008-early 2009, after the onset of the food price crisis, and therefore it is difficult to take these data as being perfectly representative of the pre-food crisis situation. However, it is unlikely that most of the relevant indicators (e.g. infant and child mortality rates, nutritional status of children and mothers, women's empowerment) would have adjusted substantially in the immediate aftermath of the crisis, and therefore the data can approximate to the pre-food crisis situation, with some caveats.

Data on infant and child mortality rates in the 2008-09 DHS show considerable improvements when compared with the previous DHS conducted in 2003. Infant mortality declined from 77 deaths per 1,000 in 2003 to 52 deaths per 1,000 in 2008-09, while child mortality rates fell from 115 deaths per 1,000 to 74 deaths per 1,000 over the same time period (KNBS 2010). The highest rates of both infant and child mortality were found in Nyanza Province (95 and 149 deaths per 1,000, respectively); the lowest rate of infant mortality was 39 deaths per 1,000 in Eastern Province, and the lowest rate of child mortality was 51 deaths per 1,000 in Central Province.

The DHS measured nutritional status amongst children under age 5, and some nutritional indicators for women age 15-49. The average stunting rate for children was 35.3%, the wasting rate was 6.7%, and under-weight rate was 16.1%⁵. Stunting rates were lowest in Nairobi (28.5%) and highest in Eastern Province (41.9%). Notably, there was substantial variation in wasting rates by Province: the lowest rate was 2.3% in Western Province, while the highest was 19.5% in North Eastern Province. There was a clear gradient in both stunting and wasting rates by income/wealth quintile: the lowest quintile had stunting rates of 44.4% and wasting rates of 11.3%, while the highest quintile had rates of 24.5% and 3.8% respectively (KNBS 2010).

Women's nutritional status was measured by Body Mass Index (BMI). At national level, 12.3% of women were measured as "thin": this varied from a low level of 3.2% in Nairobi to a maximum of 26.4% in North Eastern Province. A total of 3.8% of women were measured as "moderately and severely thin", ranging from 0.3% in Nairobi to 11.5% in North Eastern.

The DHS also measured a number of indicators of women's participation and empowerment. In principle these indicators could be influenced by changes in food prices, in both positive and negative ways: for example, higher prices of commodities marketed by women could give them more income and greater power within the household. Conversely, higher prices could "push" women into unfavourable and insecure occupations, as well as possibly having detrimental effects on children's care. Two-thirds of women in the age range 15-49 had been employed at some time over the previous 12 months, compared with almost 100% of men. In terms of control over a woman's cash earnings, overall 42% of women said that they mainly decided on how to use their cash earnings; 48.8% said decisions were made jointly by them and their husbands, and 8.8% said decisions were made mainly by their husband. With regard to participation in decision making, this varies according to the decision. For purchase of daily household needs, 50.4% of women said they were the main decision makers, and this figure rose to 83.1% for decisions on what food to cook each day. For major household purchases, 13.9% of women said they were the main decision-maker, compared to 52.9% joint decisions, and 32.8% mainly the husband (KNBS 2010).

⁵ Stunting is measured by height-for-age, and is an indicator of chronic (long-term) under-nourishment. Wasting is measured by weight-for-height, and is an indicator of acute under-nourishment: this indicator is therefore more sensitive to changes in food consumption due e.g. to rising food prices. Under-weight is a composite indicator measured by weight-for-age.

4 FOOD AVAILABILITY AND PRICE TRENDS PRE- AND POST-2008

4.1 Food Availability

Food availability is determined primarily by domestic production and the balance of imports and exports, supplemented by food aid in food-insecure areas.⁶ Food prices are closely linked to availability. Maize is the predominant staple crop for most Kenyans, and the availability and price of maize are key determinants of food security status. Table 6 shows maize production over the period 2004-2012. Production fluctuated over the period, determined predominantly by the incidence and distribution of rainfall, although the production shortfall in 2008 was also linked to the disruption resulting from the 2007 post-election violence. Production levels were also low in 2009, but increased during the period 2010-12. Wholesale prices have tended to fluctuate in line with production levels, i.e. increased production resulted in lower average wholesale prices and vice-versa.

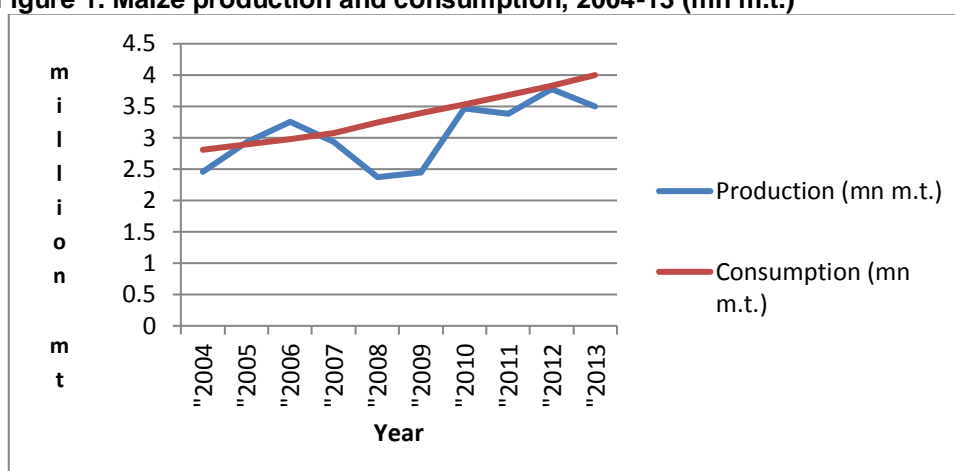
Figure 1 shows trends in production and consumption over the 2004-13 time period. With the exception of 2005 and 2006, estimated consumption exceeded production in all years, resulting in a need for imports, particularly in 2008 and 2009.

Table 6. Maize Production Statistics, 2004-12

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Area (mn ha)	1.82	1.76	1.89	1.62	1.79	1.89	2.01	2.13	2.16
Prod - mn mt	2.45	2.92	3.25	2.93	2.37	2.44	3.46	3.38	3.77
Av. Yield (m.t./ha)	1.35	1.62	1.71	1.8	1.35	1.26	1.71	1.62	1.89
Price/90 kg bag	1,482	1,363	1,300	1,200	2,500	2,614	1,619	2,341	3,020
Price/kg	16.47	15.14	14.44	13.33	27.78	29.04	17.99	26.01	33.56

Source: Ministry of Agriculture, various years.

Figure 1. Maize production and consumption, 2004-13 (mn m.t.)



Source: Ministry of Agriculture, various years; KNBS 2014. Note: consumption data for 2009-12 calculated by linear extrapolation from 2008 and 2013 data.

⁶ The Government of Kenya, through the National Cereals and Produce Board (NCPB), also maintains a Strategic Grain Reserve, but this has rarely been kept at adequate levels. The current target is to maintain a reserve of 8 million 90-kilogram bags of maize, equivalent to about 2 months' consumption.

The Rift Valley is by far the major area of maize production. In 2012 1.9 million m.t. were produced in the Rift Valley, slightly over 50% of total production. Other significant production areas are Eastern, Nyanza and Western Provinces.

4.2 Price Trends in the Pre- and Post-2008 Periods

This section examines trends in food prices over the pre- and post-2008 period.

Figure 2 shows trends in maize wholesale prices over the period 2006-14, for Eldoret (a surplus-producing area), Mombasa (a major consuming city and importer) and Nairobi (the main urban consuming area). There is relatively little variation in prices between the three areas. It is clear that prices started to rise considerably in 2008, but by far the biggest rise was during the severe drought period of 2011: between January and July 2011 prices almost quadrupled in Eldoret, and almost tripled in Mombasa and Nairobi, although they later partially fell back. Over the entire period from January 2006 to the present (June 2014), prices rose almost three-fold in Eldoret, and more than doubled in Mombasa and Nairobi. From the perspective of low-income households, steadily rising prices threaten their livelihoods as much as or more than price volatility per se.

Figure 2. Maize wholesale prices, 2006-2014, Eldoret, Mombasa and Nairobi (Ksh/kg)



Source: FAO GIEWS, 2014

Table 7 shows the coefficient of variation (CV)⁷ for the three areas, for the whole period 2006-14, as well as for 2008 and 2011. The CV in 2011 is substantially greater than for 2008.

Table 7. Coefficient of variation in wholesale maize prices, various years

Location	2006-14	2008	2011
Eldoret	0.38	0.13	0.31
Mombasa	0.39	0.19	0.24
Nairobi	0.35	0.21	0.27

Source: FAO GIEWS, 2014

Figure 3 shows trends in beans wholesale prices over the period 2006-14. The trends broadly follow those of maize, but at a lower rate and with less volatility. The CV of prices during the entire 2006-14

⁷ The coefficient of variation is commonly used to measure price volatility. It is calculated as the standard deviation from the mean of prices over the period of interest, divided by the average price over the same time period.

period was 0.30 for Eldoret and 0.24 for Nairobi. In 2008 the CV was 0.12 and 0.10 respectively, and the respective figures for 2011 were 0.14 and 0.15. As with maize prices, beans prices reached a peak in mid-2011 and then partially declined; however, over the entire period (January 2006 – June 2014) beans prices doubled in both areas.

Figure 3. Beans wholesale prices, 2006-2014, Eldoret and Nairobi (Ksh/kg)



Source: FAO GIEWS, 2014

Table 8 shows annual average retail prices for some key food items during 2006-2012. In broad terms retail price trends mirror the trends in wholesale prices, showing a doubling of prices of many food commodities over the period 2006-12; however, it is also notable that, on average, most retail prices were higher in 2012 than in 2011, even though peak prices were reached in mid-2011. Data from the Kenya Bureau of National Statistics also show that overall inflation⁸ and food price inflation were low in 2012 compared to 2011, but increased again the following year: the overall inflation rate between December 2012 and December 2013 was 7.15%, and food price inflation was 10.41% over the same time period (KNBS 2013). The imposition of VAT on many essential food items in August 2013 was one of the contributory factors behind this increase in inflation.

The qualitative research conducted in Mukuru and Lango Baya in 2012 and 2013 also found that prices of most essential foods increased during 2012-13. The price of maize flour (*unga*) had increased by between about 20-60% (exact prices were not uniform across all respondents); the price of a half-litre of milk was Ksh 35 in 2012 and increased to Ksh 45-55 in 2013. In some cases (e.g. sukuma wiki or kale, and cooking fat/oil), the price stayed unchanged but the quantity was reduced (Gatimu 2014).

There are a number of reasons for increased prices. As noted above, lower maize production tends to result in higher prices: production in 2013 was lower than in 2012 due to erratic rainfall, delays in receiving Government-subsidised fertiliser, and other factors (Gatimu, *ibid*). The introduction of the VAT Act in September 2013 resulted in a direct increase in price of milk and other food commodities: originally VAT was also to be applied to maize flour, but after protests by many civil society organisations it was zero-rated, and milk was also zero-rated when the law was amended (Gatimu, *ibid*).

The qualitative research found differences between Mukuru and Lango Baya in terms of their vulnerability to maize price increases: since Lango Baya is an agricultural area and produces maize (although at low levels of productivity), for a few months of the year households in Lango Baya are generally more insulated from price effects, since they can consume their own production, and since prices tend to drop around harvest time (Gatimu, *ibid*). As discussed later in this report, however, this

⁸ As measured by the Consumer Price Index.

insulating effect does not last long for small-scale producers: once they have consumed/sold their stocks, they then have to buy in the market at higher prices.

Table 8. Annual Average Retail Prices of Selected Food Items, Kenya, 2006-2012 (Ksh)

Commodity/unit	2006	2007	2008	2009	2010	2011	2012
Maize grain (kg)	20.9	19.04	26.45	27.53	25.05	37.92	41.65
Maize flour (kg)	27.19	24.2	35.24	44.05	38.44	54.34	56.65
Beans (kg)	46.72	45.64	68.16	76.12	76.23	86.86	92.15
Beef with bones (kg)	161.35	170.24	202.81	229.92	248.46	284.98	322.95
Bread (400 gm loaf)	24.13	27.32	33.53	34.7	35.55	41.32	46.08
Milk pack (0.5 ltr)	29.17	28.6	32.86	33.23	34.79	39.06	43.18
Sugar (kg)	65.45	73.39	70.6	86.43	95.85	127.23	119.92
Wheat flour (2 kg)	74.14	92.6	115.6	110.97	111.95	134.2	134.93
Rice grade 2 (kg)	44.31	45.97	66.82	71.88	73.01	89.95	98.04
Kale – sukuma wiki (kg)	35.79	21.79	28.56	27.4	28.87	36.09	36.27

Source: KNBS, 2014

The impact of food price increases on households varies with income and other factors. Low income households spend proportionately more of their (limited) income on food than better-off households, and their diet tends to be less varied. Table 9 shows trends in the food and overall CPI for 2011 and 2012, for different income groups (% change between 2011 and 2012 shown in brackets). Compared with the base period of February 2009, food and other prices on average increased more rapidly for low-income households in Nairobi than for other groups, although these households have the least capacity to cope with rising prices. Between 2011 and 2012 food prices increased at 9% for low and high income groups, and 10.5% for middle income groups. Over the same period the overall CPI for low income groups increased at a higher rate (9.5%) for lower income groups than for other income groups.

The qualitative research also found that poor households in both communities have a limited diet, and in many cases cope with poverty and higher prices by restricting consumption. Bread and meat are regarded as luxury items, rarely consumed. *Ugali* (maize porridge) and vegetables are the staple diet for most households. A number of households were found to skip breakfast or lunch (Gatimu, *ibid*).

The research also pointed to the importance of other essential non-food costs: particularly in Mukuru, rent, water and toilet facilities are essential costs, all of which had risen in 2013 compared to 2012, without any improvement in services (Gatimu, *ibid*). The increase in these costs exacerbates the effect of rising food prices and makes it more likely that households will restrict consumption, and/or resort to borrowing to meet essential needs. Respondents in Mukuru talked about the monotony of always eating the same foods; and of eating smaller portions, skipping meals, substituting cheaper foods for more expensive ones, and just doing without certain foods. Similar responses were found in Lango Baya (Gatimu, *ibid*).

Table 9. Food and Overall CPI for Nairobi income groups, 2011-2012 (% change in brackets) (Base Feb 2009=100)

	Lower income group		Middle income group		Upper income group	
	Food CPI	Overall CPI	Food CPI	Overall CPI	Food CPI	Overall CPI
2011	134.03	123.63	122.83	113.87	115.90	117.87
2012	146.11(9%)	135.35 (9.5%)	135.75 (10.5%)	122.70 (7.8%)	126.30 (9%)	124.73 (5.8%)

Source: KNBS, 2013

5 CHANGES IN FOOD SECURITY AND WELL-BEING IN THE POST-2008 PERIOD: NEED FOR DISAGGREGATED ANALYSIS

As already noted, there are no national-level data sets which would enable a direct comparison of food security and well-being status in the pre- and post- food price crisis periods. It is therefore necessary to take a more indirect approach, analysing data from a variety of sources for the post-2008 period to build a picture of current trends in food security status and well-being. Kenya has very diverse agro-ecological and livelihood conditions, therefore disaggregated analyses are a necessity to understand some of the current trends. The following sections undertake disaggregated analysis based on livelihood zones, as well as synthesising specific analyses which have been conducted in informal settlements in Nairobi. In terms of analysis of trends in rural areas, the focus in this analysis is on the typically food-insecure areas, for which data are available from the food security assessments conducted by the Kenya Food Security Steering Group (KFSSG) and the National Drought Management Authority (NDMA). First, the section below gives a brief overview of the current food security situation.

5.1 Current Food Security Situation

The current national food security situation (as of early 2014) is analysed in the assessment conducted by the Kenya Food Security Steering Group (KFSSG). This assessment covers the October-December 2013 short rains season (KFSSG, Feb 2014), and some of the key elements of the assessment are briefly discussed here.

Due to relatively poor short rains, maize availability in early-mid 2014 was projected to be 30% below the 5-year average (2008-12) of 2.9 million m.t. Stocks were expected to last until June 2014, after which imports would be needed. Wholesale maize prices therefore started to rise from January 2014 (see Figure 2), whereas in “normal” years prices tend to rise from March onwards. At the start of 2014 wholesale prices were 22% above the 5-year average: it is worth recalling that the previous five years included the two price “shocks” of 2008/9 and 2011. Retail prices are expected to follow suit. However, the terms of trade in pastoral and agro-pastoral areas (amount of maize which can be purchased from the sale of one goat) are also above their 5-year averages, meaning that the effects of maize price rises are mitigated to some extent for some households.

The food security situation in most of the Arid and Semi-Arid Lands (ASAL) counties was classified as Stressed (IPC⁹ Phase 2). KFSSG (ibid) state that poor rains, conflicts and increased market dependency are some of the factors responsible for this situation. Food consumption scores showed a decline in food consumption and in dietary diversity during August-December 2013. In some pastoralist areas (central Turkana and western Marsabit) food insecurity had worsened to Crisis (IPC Phase 3): conflict and poor pasture condition resulting in early migration were some of the key factors involved.

Below-average short rains and resulting increased food prices resulted in an increase in the population facing food shortages, from 0.85 million to 1.3 million: this excludes those facing long-term chronic food insecurity. Food insecurity is widespread in the pastoralist and agro-pastoralist areas in the north west and north east. KFSSG (ibid) also suggest that agro-pastoral areas are relatively more

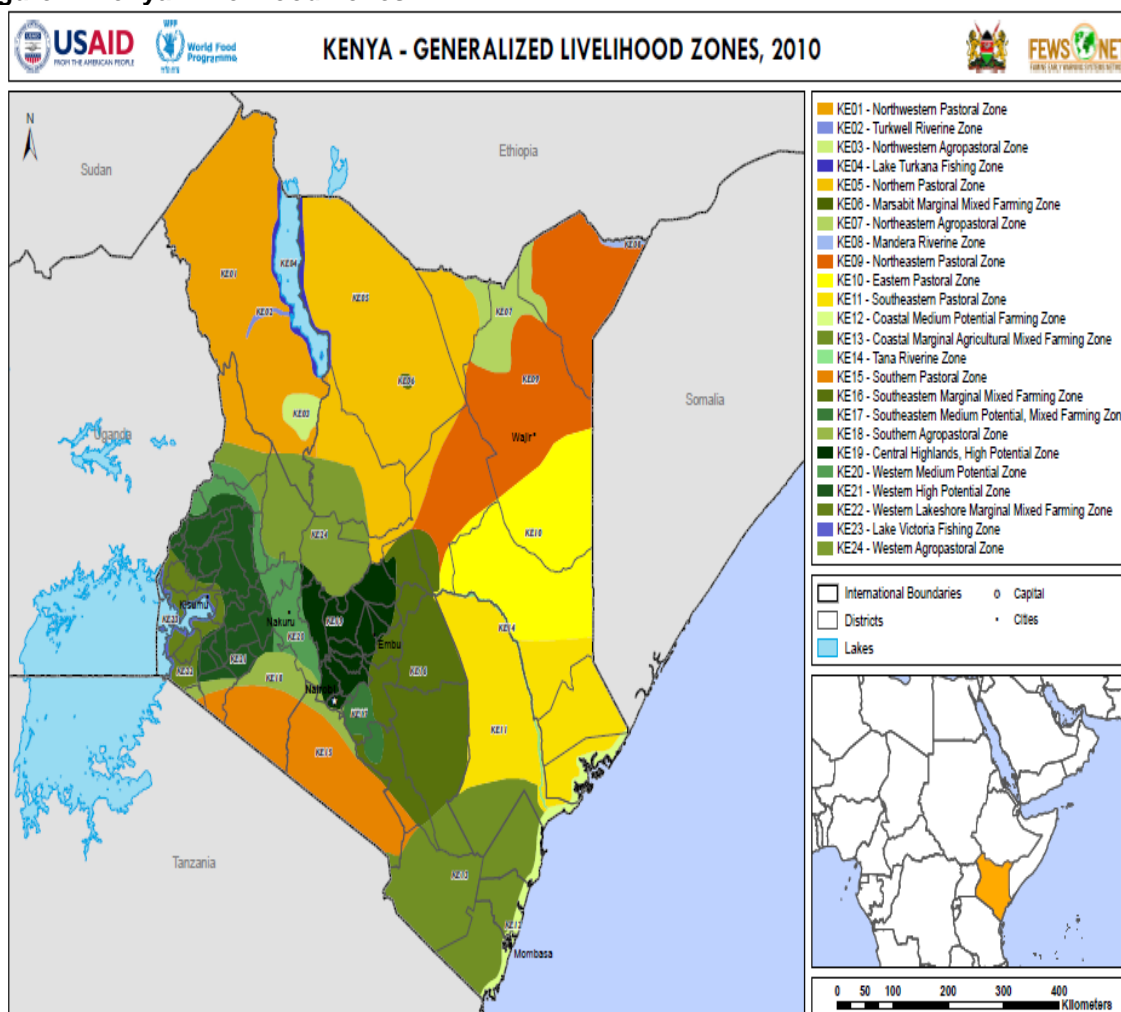
⁹ Integrated Food Security Phase Classification.

vulnerable to shocks compared to pastoral livelihoods, partly because of their greater exposure to reduced crop (especially maize) production, and to higher maize retail prices.¹⁰

5.2 Livelihood Zones and Rural Prices

Kenya has diverse agro-ecological conditions, as well as considerable variety in livelihoods. For food security assessments, 24 livelihood zones have been identified, and these fall into six major categories: pastoral, agro-pastoral, marginal agricultural, urban, high potential mixed farming, and high potential cereal and dairy (FEWS NET 2013). The field sites for the qualitative research, Mukuru and Lango Baya, fall within the urban and marginal agricultural categories, respectively. Figure 4 shows the livelihood zones.

Figure 4. Kenya: Livelihood Zones



Source: FEWS NET, 2013

The most food insecure areas generally fall within the pastoral, agro-pastoral and marginal agricultural livelihood zones, which cover about 80% of Kenya's land area, but where only about 20% of the population lives (KFSSG 2014; FEWS NET 2013). Out of 47 counties created in Kenya under the recent devolution programme, 23 counties fall within these food-insecure livelihood zones: these

¹⁰ Pastoralists are also highly exposed to increased grain prices, but if the terms of trade between livestock and grain are favourable, they may be better able to protect themselves from the impact of increased grain prices than other households.

counties comprise the Arid and Semi-Arid Lands (ASAL) which are the focus of most food security activities, and fall within the mandate of the National Drought Management Authority (NDMA).

These livelihood zones have different livelihood systems, varied crop and livestock mixes, variations in the extent to which they depend on agriculture or off-farm/non-farm activities to meet their livelihood needs; and therefore differences in the extent and ways in which they are affected by changes in food prices. Variations in sources of income and food by livelihood zone are shown in Tables 10 and 11 respectively¹¹.

Table 10. Percentage of income among different livelihood clusters, by source

Livelihood Cluster	Crop Production	Livestock Production	Off-farm sources
Pastoral	3	81	17
Agro-Pastoral	31	50	19
Marginal Agricultural	41	30	29
High Potential Mixed	50	31	19
High Potential Cereal + Dairy	60	28	12
Urban (informal)	9	10	81

Source: FEWS NET, 2013

Table 11. Percentage of food among different livelihood clusters, by source

Livelihood Cluster	Own farm produce	Market purchase	Hunting & gathering	Gifts & Food aid
Pastoral	12	65	9	14
Agro-Pastoral	25	60	3	12
Marginal Agricultural	30	59	1	10
High Potential Mixed	42	56	1	1
High Potential Cereal + Dairy	65	34	0	1
Urban (informal)	6	91	1	1

Source: FEWS NET, 2013

A number of points stand out from these tables. Table 10 shows the very high degree of reliance of pastoralists on livestock production for their income; the terms of trade between livestock and other food groups (particularly cereals) are therefore fundamental to their livelihood status. Households in the marginal agricultural areas have a relatively high reliance on off-farm sources, which also indicates the low productivity of agriculture in those areas. Table 11 shows the high level of reliance of all livelihood groups on market purchases. Both tables taken together show that the high potential cereal and dairy group derive the highest proportion of income from crop production, and also get the highest proportion of their food needs from own production. Most of this category are farmers situated in the highlands of the Rift Valley, known as Kenya's "grain basket" (FEWS NET, 2013), who produce about 50% of national maize output. This includes a number of large surplus-producing farmers.

In order to provide an overview of the variety of livelihood and food security conditions, and thereby to provide an initial analysis of the actual and potential effects of food price changes in the absence of any recent national-level analysis, one county was selected from each of the main food-insecure livelihood clusters for more detailed assessment. Data for this analysis were derived from the Kenya Food Security Steering Group (KFSSG) and the National Drought Management Authority (NDMA).

¹¹ The data in these tables are based on analysis by KFSSG (2008). The proportions may therefore have changed in more recent years, but are unlikely to have changed significantly.

Table 12 shows the counties selected for further analysis, their livelihood cluster, and headcount poverty rates¹². Lango Baya, one of the sites for the qualitative research, is located in Kilifi County.

Table 12. Counties by livelihood cluster and poverty rate

Livelihood cluster	County	Poverty Rate (%)
Pastoral North West	Turkana	87.5
Pastoral North East	Mandera	85.8
Agro Pastoral	West Pokot	66.3
Marginal Agricultural	Kilifi	58.4

5.2.1 Pastoral North West: Turkana County

Turkana County is a predominantly pastoralist area with very limited cereal production. Poverty rates are very high (87.5% according to KNBS (2014)). Given the livelihood system, the price of cereals and the terms of trade between cereals and livestock are critical to food security status.

Table 13 and Figure 5 show retail maize prices for the period 2007-13. Prices jumped significantly in 2008 compared with 2006-07, and were then relatively stable in 2009 and 2010, before jumping again in 2011. It is notable that, on average, prices continued to rise during 2012 and 2013, such that average prices in 2013 were 31% above average levels in 2011, which was regarded as a crisis year. In nominal terms, average prices in 2013 were 168% above those in 2007. There is no obvious seasonal trend in prices; this is an indication of the limited maize production in the county, and the effect of other factors such as transport and other trader-related costs.

The impact of such price rises on livelihoods depends largely on the extent to which incomes also change. In a pastoralist economy, as noted above, income is mostly derived from livestock production, therefore the terms of trade between cereals and livestock is one indicator of what is happening to real incomes. Figure 6 shows movements in the maize/goat terms of trade over 2007-13. There is no obvious trend, although there is some evidence of relative improvements in the terms of trade in more recent years: this is indicative of goat prices increasing along with maize prices, although there is variability within each year.

Even where terms of trade are relatively favourable to livestock producers, the extent to which households can actually benefit depends on their livestock holdings: households who lack such assets will be most affected by rising maize prices.

Another indicator of food security status is the nutritional status of children under age 5¹³. Table 14 shows trends in proportion of children at risk of under-nutrition¹⁴ over the period 2007-13. Although there were high levels recorded in the latter months of 2008, higher levels were recorded for much of 2009, and again in 2011. High maize prices are likely to have been one factor influencing the level of risk of under-nutrition amongst children.

Stunting is an indicator of long-term chronic under-nutrition. Data for sample sites in Turkana indicate stunting rates varying between 22.4% - 29.5% in 2012, and 18.3% - 30.1% in 2013 (UNICEF 2014). The national stunting rate in 2008 was 35% but it is not clear how the rate has changed in recent years. These data are not necessarily indicative of trends since it is not clear if the same sample sites/households were used in the two years.

¹² Poverty rates taken from KNBS (2014): poverty rates were derived using small area estimation based on updating the 2005-06 Kenya Integrated Household Budget Survey (KIHBS) with census data taken from the 2009 Kenya Population and Housing Census (KPHC). The data are therefore estimates of poverty levels as of 2009.

¹³ Children are considered at risk of under-nutrition if they have a measured MUAC of < 135 mm.

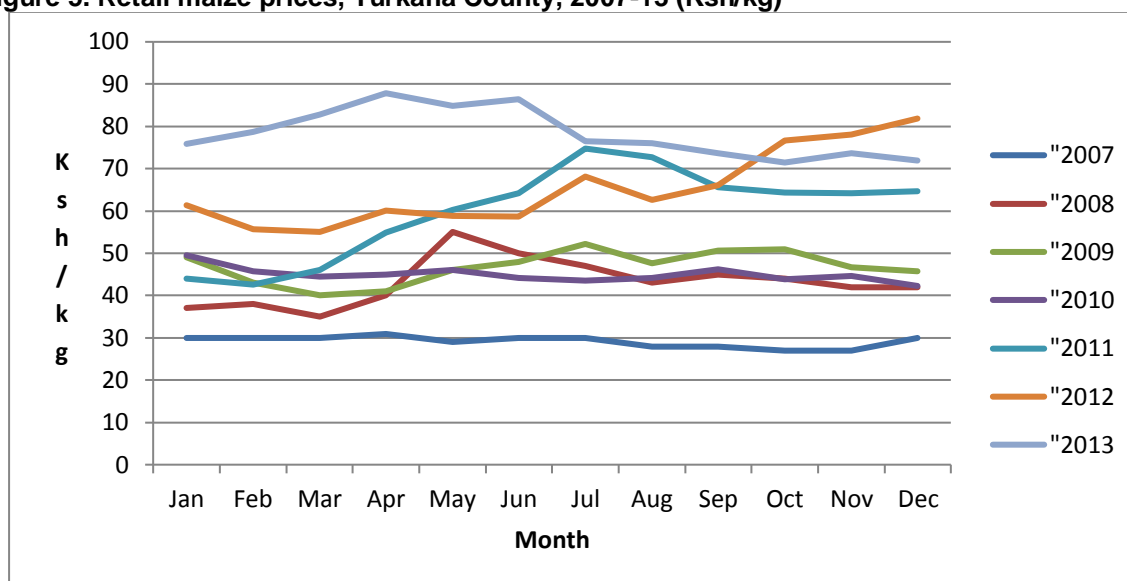
¹⁴ A MUAC measure of <135 mm indicates that a child is at risk of acute under-nutrition (wasting).

Table 13. Retail maize prices, Turkana County, 2007-13 (Ksh/kg)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	30	30	30	31	29	30	30	28	28	27	27	30	29.17
2008	37	38	35	40	55	50	47	43	45	44	42	42	43.17
2009	49	43	40	41	46	48	52	48	51	51	47	46	46.83
2010	49.6	45.7	44.5	45	46	44.21	43.61	44.16	46.29	43.89	44.68	42.29	45.00
2011	44.03	42.62	46.07	54.87	60.17	64.2	74.8	72.7	65.55	64.3	64.23	64.58	59.84
2012	61	56	55	60	59	59	68	62.55	66	76.62	78.02	81.83	65.25
2013	75.8	78.75	82.7	87.83	84.75	86.35	76.5	76.04	73.63	71.47	73.7	71.93	78.29

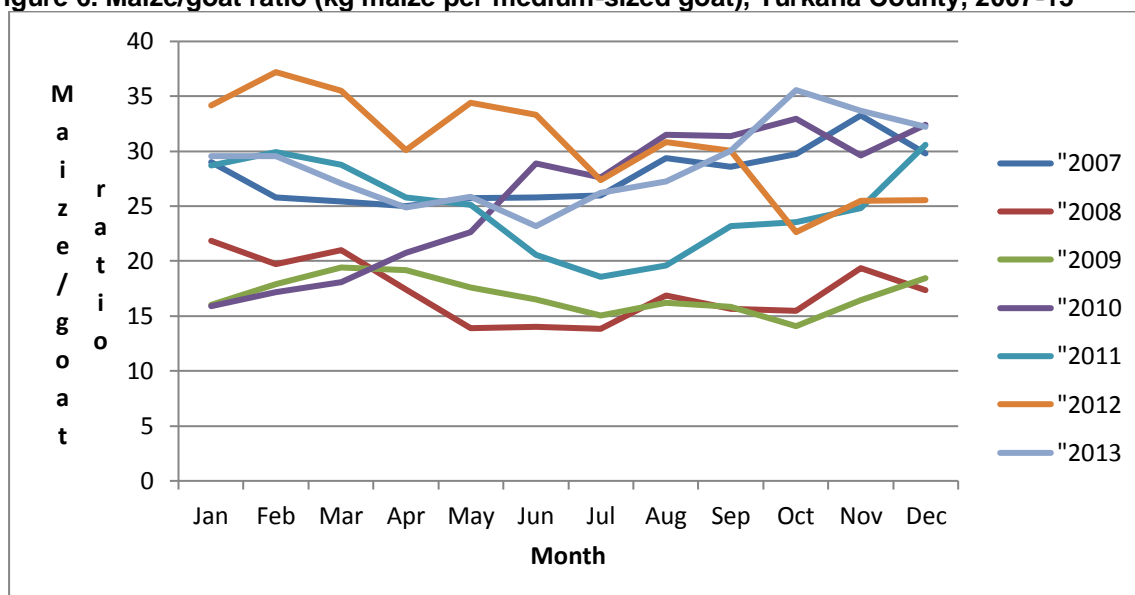
Source: KFSSG, 2014

Figure 5. Retail maize prices, Turkana County, 2007-13 (Ksh/kg)



Source: KFSSG, 2014

Figure 6. Maize/goat ratio (kg maize per medium-sized goat), Turkana County, 2007-13



Source: Based on KFSSG, 2014

Table 14. Turkana County: Percentage of children under age 5 at risk of under-nutrition (MUAC <135 mm), 2007-13

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	23.5	15.8	15.4	16.1	16.1	16.9	16.6	15.7	12.3	13.6	14.2	14.7	15.91
2008	16.3	19.1	20.2	20.3	18.9	20.6	16.3	20.2	25.9	27.1	21.4	20.6	20.57
2009	21.6	24.4	23.8	25.1	24.7	25.9	25.5	28.2	28.0	28.4	26.4	25.7	25.64
2010	26.4	25.5	22.5	22.8	20.1	21.4	19.3	18.2	17.9	17.7	17.7	17.7	20.60
2011	23.2	25.8	29.55	30.02	28.18	28.68	26.85	25.8	23.78	24.62	21.8	21.5	25.81
2012	20	21	19	18	15	18	18	18.37	17.62	18.25	17.38	20.5	18.54
2013	17.77	16.43	17.8	18.95	14.27	16.17	14.19	17.22	17.92	19.37	20.5	20.6	17.60

Source: KFSSG 2014, NDMA 2013

5.2.2 Pastoral North East: Mandera County

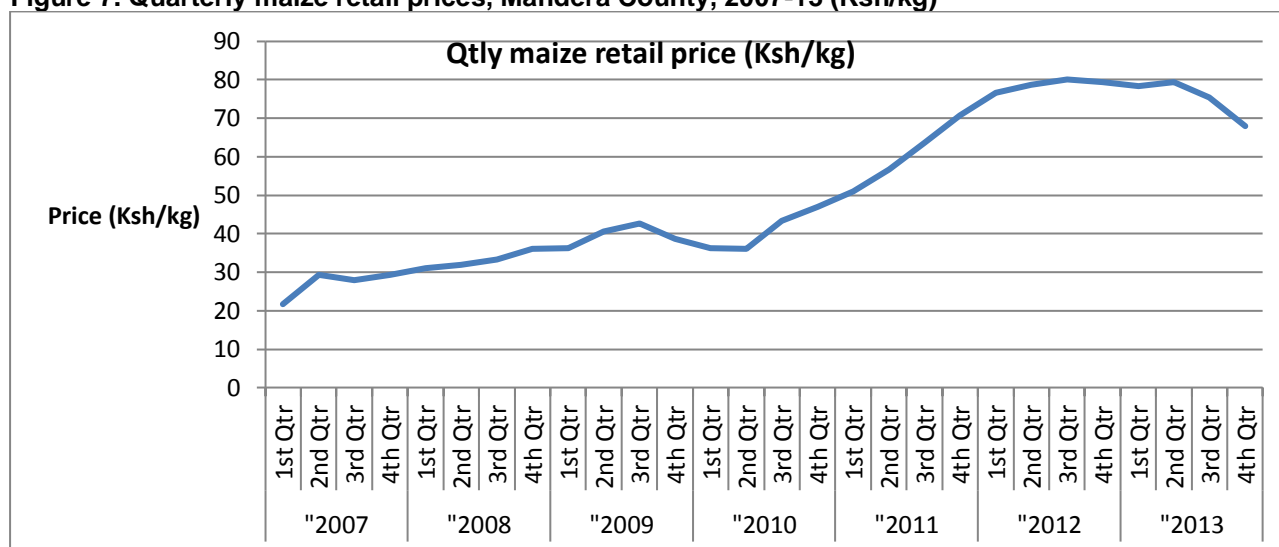
Mandera County combines pastoral, agro-pastoral and farming (including irrigated farming) livelihoods. Table 15 and Figure 7 show retail maize prices in Mandera County for the period 2007-13. As with Turkana County, prices increased substantially over the time period and were on average 177% higher in 2013 than in 2007 in nominal terms. Although prices jumped by about 50% in 2011 compared to 2010, they then jumped again in 2012, continuing at high levels until mid-2013 before partially falling back.

Table 15. Retail maize prices, Mandera County, 2007-13 (Ksh/kg)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	20	23	22	26	33	29	25	30	29	31	26	31	27
2008	31	29	33	31	34	31	32	34	34	35	36	37	33
2009	37	35	37	39	40	43	44	44	40	41	39	36	40
2010	36	39	34	33	36	39	41	44	45	45	47	49	41
2011	50	51	52	54	57	59	63	63	65	67	71	74	61
2012	76	76	78	78	79	79	80	80	80	79	79	80	79
2013	78	78	79	80	80	78	83	76	67	67	68	69	75

Source: KFSSG 2014, NDMA 2013

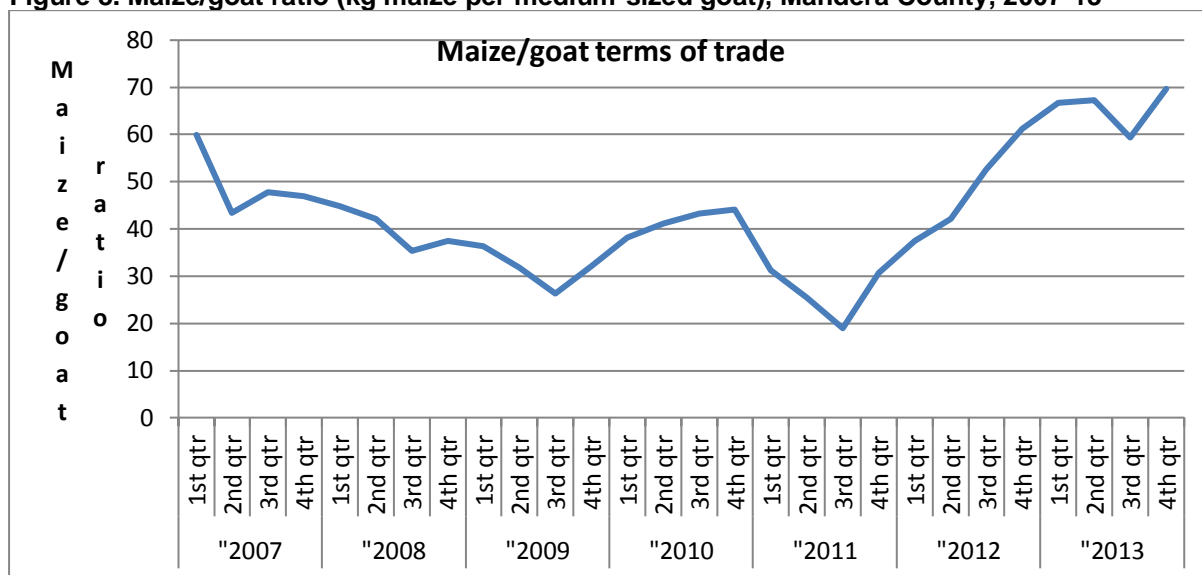
Figure 7. Quarterly maize retail prices, Mandera County, 2007-13 (Ksh/kg)



Source: KFSSG 2014, NDMA 2013

Figure 8 shows the trend in the terms of trade between goats (a key short-term asset for pastoralist households) and maize (kg of maize which can be purchased per medium-sized goat). The trend was clearly downwards for most of the period 2007-11, but has increased substantially during 2012 and 2013. This provides some indication that the impact of rising maize prices in the latter two years may have been partially ameliorated, at least for some households, by higher livestock prices. However for most of the period the terms of trade were below those which prevailed at the start of the period in 2007.

Figure 8. Maize/goat ratio (kg maize per medium-sized goat), Mandera County, 2007-13



Source: Based on KFSSG 2014, NDMA 2013

Table 16 shows the percentage of children at risk of acute under-nutrition (as measured by MUAC). Rates of under-nutrition clearly increased during the drought conditions of 2011, and continued for much of 2012, but have returned to their pre-2011 rates during 2013.

Data on stunting rates from sample sites in Mandera County show rates varying between 19.6% - 30.4% in 2012, and 20.2% - 24.4% in 2013 (UNICEF 2014). As noted earlier for Turkana, these are not necessarily indicative of trends since it is not clear if the same sample sites/households were used in the two years.

Table 16. Mandera County: Percentage of children under age 5 at risk of under-nutrition, (MUAC <135 mm), 2007-13

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	40.0	32.0	30.0	21.0	26.0	23.0	22.9	21.2	16.0	15.2	15.6	15.6	23.21
2008	15.0	15.3	15.0	15.8	19.3	16.5	17.0	17.0	16.4	15.6	15.5	15.5	19.39
2009	16.1	16.4	16.8	17.4	17.6	18.0	18.5	18.7	19.4	19.9	18.0	21.0	18.15
2010	17.7	18.6	16.7	16.4	16.0	16.7	17.5	18.5	18.9	19.5	19.7	21.8	18.17
2011	22	22.3	24.1	24.7	24.9	25.3	28	28.5	28.8	29.5	29.7	31.4	26.6
2012	32	32	32	31	29	29	28	26.4	25.3	23.6	20.3	19.5	27.34
2013	19.1	18.6	18.3	18.1	17.7	18.5	19	20.6	15.9	19.8	16.9	15.8	18.19

Source: KFSSG 2014, NDMA 2013

5.2.3 Agro Pastoral: West Pokot County

The agro-pastoral livelihood cluster is located in the south west of Kenya and is characterised by varying combinations of mixed farming, pastoralism, agro-pastoralism and off-farm activities. On average livestock production provides about 50% of household income (see Table 10), compared with crop production (31%) and off-farm activities (19%). About 60% of food is obtained from market purchases (Table 11).

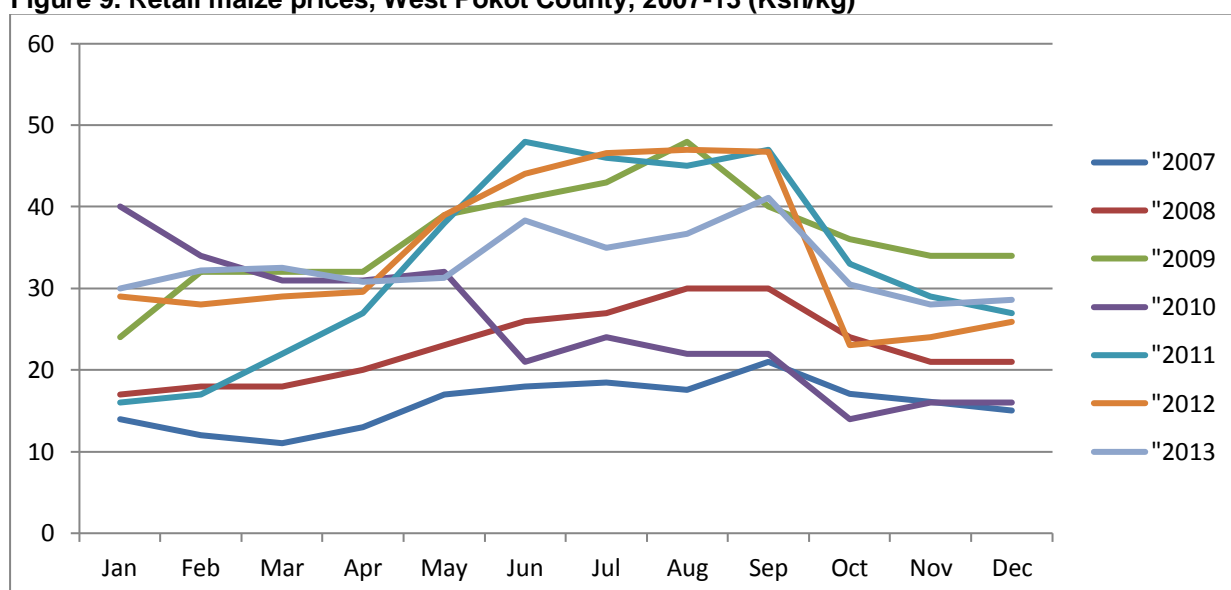
Table 17 and Figure 9 show trends in maize prices in West Pokot county over the period 2007-13. Prices rose substantially in 2009, and again in 2011 and 2012. There is a very clear pattern of within-year variation, where prices reach a peak around July-September and then start to fall back as the long rains harvest takes place. This pattern of within-year price variation will clearly have an impact on food-insecure households whose stocks are depleted by the time prices rise. The seasonal variation also highlights the importance of other income sources. The main source of income in the County is livestock sales, comprising on average over 40% of all income (NDMA, 2013). Income from livestock sales in 2013 peaked in September 2013, before the long rains harvest, at 47%. Income from crop sales increased to 10% in October-November 2013 at harvest time, but in the period March-July income from crop sales averaged only 5% of all income sources, indicating that many households exhaust their stocks of maize within a few months after the main harvest. Income from casual labour fluctuates from about 15-19% of all income sources, varying mostly with labour demand in agriculture.

Table 17. Retail maize prices, West Pokot County, 2007-13 (Ksh/kg)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	14	12	11	13	17	18	19	18	21	17	16	15	15.92
2008	17	18	18	20	23	26	27	30	30	24	21	21	22.92
2009	24	32	32	32	39	41	43	48	40	36	34	34	36.25
2010	40	34	31	31	32	21	24	22	22	14	16	16	25.25
2011	16	17	22	27	38	48	46	45	47	33	29	27	32.92
2012	29	28	29	29.6	39	44	46.6	47	46.7	23	24	25.89	34.32
2013	30	32.2	32.5	30.8	31.3	38.3	35	36.7	41.1	30.5	28	28.6	32.92

Source: KFSSG 2014, NDMA 2013

Figure 9. Retail maize prices, West Pokot County, 2007-13 (Ksh/kg)



Source: KFSSG 2014, NDMA 2013

Table 18 shows children at risk of under-nutrition. There is no discernible link between under-nutrition rates and the rise in maize prices; in some years under-nutrition rates rise in November-December, shortly after the long rains harvest: it is not clear why this is the case.

Stunting rates appear to be very high in West Pokot. Data from sample sites indicate a stunting rate of 43.2% in 2012 and 46.6% in 2013 (UNICEF 2014). High stunting rates combined with relatively low rates of wasting suggest that health and/or care-related factors may be influencing nutritional status in this area.

Table 18. West Pokot County: Percentage of children under age 5 at risk of under-nutrition (MUAC <135 mm), 2007-13

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	4.2	7.3	7	10	10	10	9.4	6.1	2.6	4.9	5.8	6.6	7.0
2008	7.6	8.5	8.1	4.6	9.1	6.4	4.8	8.0	5.9	6.0	6.0	7.3	6.86
2009	9.3	9.1	8.8	11.4	8.5	8.9	8.8	7.1	8.0	6.8	9.7	14.8	9.27
2010	12.5	13.9	12.7	12.1	12	10	8	8	7.3	7.7	11.2	11.4	10.57
2011	9	11	14	10	9	13	8.1	7.6	6.6	6.6	12.6	7.2	9.56
2012	7.7	7.3	7.2	4.12	6.7	5.4	9.7	7.7	7.2	5.33	5.33	4.63	6.53
2013	6.4	7.4	8.4	5.9	5.8	4.3	5.8	7.6	7.7	8.1	10.3	12.9	7.55

Source: KFSSG 2014, NDMA 2013

5.2.4 Coastal Marginal Agricultural: Kilifi County

The coastal marginal agricultural livelihood cluster is characterised by mixed farming, generally low agricultural productivity, and relatively high dependence on off-farm income sources. Almost 60% of food consumption comes from market purchases (see Table 10). The marginal agricultural areas vary in the extent to which they rely on the short rains or long rains for crop (particularly maize) production: Kilifi has a bi-modal rainfall distribution allowing for double cropping, and therefore within-year maize price variations might be less than in areas with a single rainy season. Lango Baya, one of the qualitative research sites, falls within this livelihood cluster and within Kilifi County.

Table 19 and Figure 10 show monthly retail maize prices for the period 2007-13, and Figure 11 shows quarterly trends in maize prices over the same period. On average prices increased over the time period, except during 2010; they peaked in July 2011 and then partially fell back: however average prices in 2013 were almost twice those in 2007 in nominal terms. There is some indication in 2011, 2012 and 2013 of prices rising mid-year, a few months after harvest, briefly declining around the long rains harvest period (September-October), but then rising again until the short rains harvest in February/March. In such circumstances smallholder farmers who are net buyers of maize are likely to be negatively affected by high prices.

There is therefore some evidence that maize prices are influenced by local harvest conditions to some extent. The qualitative research provides some support for this view. One respondent notes that:

“The price of maize flour varies with the harvests. When the harvests are good here, the price of maize flour goes down. On the other hand, I don’t understand what happens when the harvests are bad because the price automatically rises. We think that the shopkeepers and suppliers often know that the harvests are not good, and that people will buy maize flour at any price.”

Respondent quoted in Gatimu (2014).

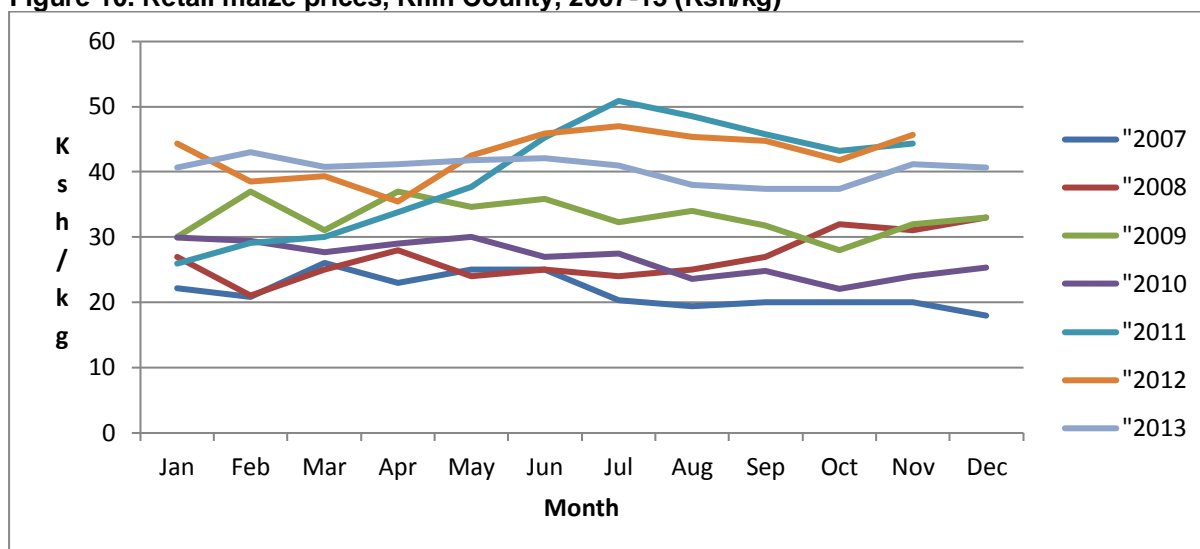
Table 19. Retail maize prices, Kilifi County (Ksh/kg)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

2007	22	21	26	23	25	25	20	19	20	20	20	18	21.64
2008	27	21	25	28	24	25	24	25	27	32	31	33	26.83
2009	30	37	31	37	35	36	32	34	32	28	32	33	33.04
2010	29.9	29.4	27.7	29	30	27	27.5	23.6	24.8	22	24	25.3	26.68
2011	25.9	29.1	30	33.8	37.7	45.2	50.9	48.5	45.8	43.2	44.3	n.a.	36.20
2012	44	39	39	35	43	46	47	45.4	44.7	41.8	45.7	n.a.	39.21
2013	40.7	43	40.8	41.2	41.8	42.1	41	38	37.4	37.4	41.18	40.6	40.43

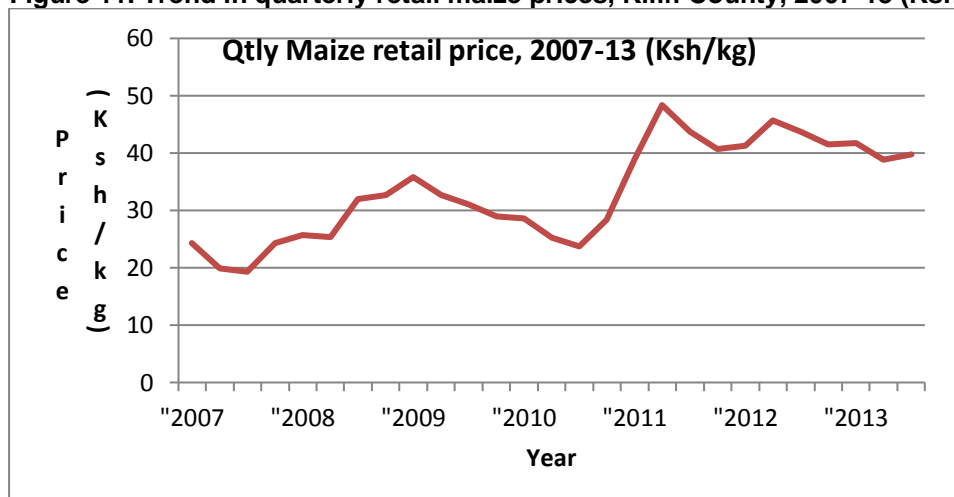
Source: KFSSG 2014, NDMA 2013

Figure 10. Retail maize prices, Kilifi County, 2007-13 (Ksh/kg)



Source: KFSSG 2014, NDMA 2013

Figure 11. Trend in quarterly retail maize prices, Kilifi County, 2007-13 (Ksh/kg)



Source: KFSSG 2014, NDMA 2013

Table 20 shows the percentage of children under age 5 at risk of under-nutrition (data on stunting are not available). Generally rates are highest during the months before the short rains harvest, when food stocks are likely to be low. Trends in under-nutrition are also likely to be linked to a household's capacity to buy food on the market, which in turn depends largely on its sources of income. Generally in Kilifi County, about 50% of income is derived from casual labour, and a relatively high percentage (about 15-20%) is derived from selling charcoal (NDMA, 2013). Wage rates fluctuate according to labour supply and demand, but the lowest wage rates occur around October-December, which is when under-nutrition rates also start to rise.

Table 20. Kilifi County: Percentage of children under age 5 at risk of under-nutrition (MUAC <135 mm), 2007-13

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
2007	9.4	8.5	8.2	6.7	7.1	6.6	5.4	5.7	5.8	6.1	8.8	10.1	7.37
2008	9.4	9.8	11.5	8.8	7.5	6.6	6.6	5.6	5.4	4.5	5.3	5.9	7.24
2009	6.8	6.9	6.7	6.3	6.5	6.2	7.3	6.4	4.5	5.0	8.3	10.2	6.76
2010	9.4	9.8	9.4	8.9	8.5	8.5	9.3	9.6	9.1	10.5	9.8	9.5	9.36
2011	10.6	7.2	7	7.25	7.38	7.58	6.58	6.4	6.3	6.3	5.6		7.11
2012	6	7	8	7	7	6	7	6.63	7.4	6.03	5.95		6.73
2013	6.75	4.65	5.75	5.8	3.88	3.83	3.6	3.45	3.58	3.06	4.0		4.40

Source: KFSSG 2014, NDMA 2013

5.3 Food Insecurity in Nairobi's Informal Settlements

Nairobi is by far the largest population centre in Kenya with a population of about 3 million in 2009 and a poverty rate of about 22% (KNBS 2014). About 60% of Nairobi's population, and most of the poor, live in informal settlements.

Given that urban populations obtain almost all their food needs from the market, and that poor people spend a higher proportion of their (lower) income on food than other income groups, it can be expected that increasing food prices will have a disproportionate effect on the poor. Since poor people also spend proportionately more on staple foods than other income groups, if prices of staples are rising at a faster rate than prices of other food items, they will again be affected more than other groups.

There are a number of sample surveys which provide insights into the changing food security and well-being status of poor households in Nairobi, particularly in the informal settlements. Most of the available information is based on longitudinal surveys undertaken by the African Population and Health Research Centre (APHRC) in a number of informal settlements. The APHRC has been conducting the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) in two slum areas, Korogocho and Viwandani, since 2003. The APHRC and Concern Worldwide have more recently been involved in the IDSUE (Indicator Development for Surveillance of Urban Emergencies) project, to develop early warning indicators for slow-onset emergencies in urban areas. This initially started in the same two slum areas, but has since expanded to two further areas in Nairobi, Mukuru (one of the sites of the qualitative research in the FPV project) and Dandora, and two slums in Kisumu city (Amendah et al, 2014).

There are two further surveys which provide insights into food security status in Nairobi: a survey of 821 households conducted by the Tegemeo Institute at Egerton University (Kamau et al, 2011), and a survey of Urban Food Security and Nutrition Assessment conducted in 2010 by WFP (Nzuma, 2011).

Some key findings from the surveys conducted in informal settlements are briefly discussed here, taken chronologically. Faye et al (2011), analysing data from the APHRC longitudinal surveys conducted during 2006-08 in Korogocho and Viwandani, found that 79.4% of households were food insecure: 88.7% of households in Korogocho and 66.1% of households in Viwandani. Between 2006 and 2008 conditions had deteriorated: in 2006 36% of sample households in Korogocho stated they did not have enough to eat, but by 2008 this had increased to 55%. The equivalent figures for Viwandani were 24% and 41%.

Schofield et al (2013) analysed NUHDSS data for three time periods, "pre-emergency" (January-December 2007), "emergency" (January 2008 – June 2009), and "post-emergency" (July 2009 –

October 2010).¹⁵ Household total expenditures and food expenditures increased in the emergency and post-emergency periods, a necessity in the context of food price increases: Table 21 shows the changes in total and food expenditures, and changes in income, over the three periods. Expenditures on food averaged 57% of total expenditures across the three periods. On average, incomes were less than expenditure in the pre-emergency period, approximately equivalent to expenditure in the emergency period, and slightly (6%) above expenditure in the post-emergency period. The increase in incomes during the crisis period may have been explained by increased remittances and donations (Schofield et al, 2013).

Table 21. Changes in Expenditure and Income in Nairobi slum areas (Ksh)

	Pre-emergency	Emergency	Post-emergency
Av. Monthly hh expenditure	7,451	8,354	8,566
Av. Monthly hh food expenditure	4,293	4,796	4,900
Av. Monthly hh income	6,641	8,479	9,082

Source: Schofield et al, 2013

During the period, food insecurity, as measured by a food security index, increased: the proportion of households classified in the poorest category increased from 31.6% in the pre-emergency phase, to 34.2% in the emergency phase and 35.1% in the post-emergency phase (Schofield et al, 2013), although the increase was not found to be statistically significant.

Moving to 2011 data, Schofield et al (ibid) found a high proportion of households were severely food insecure, particularly in Korogocho, where food insecurity rates ranged from 60-70% over the four survey rounds conducted in 2011, compared with 30-40% in Viwandani. Over 70% of households engaged in at least one negative coping strategy over the month preceding each of these rounds as a means of making ends meet: such coping strategies include “*removing a child from school, reducing food intake, stealing, sending family members away or begging*” (Schofield et al (ibid)).

Amendah et al (2014) analysed IDSUE data for 2012, and estimated average monthly household income of Ksh 11,274, and average monthly expenditure of Ksh 13,957. Food expenditures comprised Ksh 5,892: 52% of average household income, and 42% of average expenditure. The next most significant expenditures were on education (13% and 10% of income and expenditure respectively), and rent (12% and 9%).

Although the data from these different sources are not totally comparable, comparison of income data for 2008/9 (the “emergency” period) and 2012 show a nominal increase in average monthly household income of 33%. During the same period, the overall CPI for low-income households in Nairobi increased by about 35%, suggesting, on average, no change in real incomes.

However, these average data hide substantial income and expenditure differences within and between slum areas, and therefore do not fully convey the impact of food price increases on the poorest. Kagima (2014) presents data from the 2012-2013 IDSUE surveys, showing that the lowest quintile of households spend almost all their income on food. Median monthly household income for the bottom quintile is estimated at only Ksh 2,400 in Korogocho, compared with Ksh 4,800 in Mukuru and Viwandani; the equivalent income figures for the top quintile are Ksh 15,000, Ksh 22,000, and Ksh 20,000 respectively.

Female-headed households comprise a relatively high percentage of households in the informal settlements, reaching about 40% in the bottom quintile of households in the five IDSUE slum areas (3

¹⁵ “Emergency” here refers to the combination of events and shocks which took place around that period, particularly the post-election violence in 2007 and the food price shocks beginning in 2008.

in Nairobi, 2 in Kisumu). They also make up a high percentage of breadwinners: about 50% in the bottom quintile of households.

In general, food insecurity is high in the slum areas, and a number of negative coping strategies have to be employed. Kagima (2014) states that 22% of households took children out of school due to the cost of school fees; 46% of households purchased food on credit; households had to adjust their diets: for example, amongst the bottom quintile of households, children were fed on average 2.5 meals per day in Korogocho, 2.07 meals in Mukuru, and 3.16 in Viwandani. Given a situation where the bottom 20% of households spend almost all their income on food, it is clear that rising food prices have a detrimental effect on livelihoods.

The qualitative research in Mukuru provides further insights into how people were living and eating in 2013. Gatimu (2014) cites a number of respondents in this regard, for example:

“The high prices of commodities have meant that we live on the same meals. We cannot change...Last year, if I had a thousand shillings, I would buy many things. Currently a thousand shillings is nothing.”

“We are not eating well because we have very little food during our meals. We do not get satisfied; we eat very little food to ensure that everyone gets something to eat. We have even reduced the amount of food that we buy.”

“I cannot afford to buy a balanced diet so my concern is to fill the stomach. Bread has become so expensive that I would rather boil rice and take it with tea...”

The other available surveys of food security status in Nairobi were conducted in 2009 and 2010. These surveys were based on random samples across the population and are not restricted to informal settlements. Kamau et al (2011) estimate household total and food expenditure by quintile: these data are shown in Table 22.

Table 22. Household Monthly Total and Food Expenditure, by expenditure quintile (Ksh), 2009

Quintile	Total Expenditure	Food Expenditure	Food exp as % of total	Exp. on staples as % of total food exp.
Q1	13,979	6,876	49	32
Q2	19,117	8,467	44	30
Q3	25,231	10,256	41	29
Q4	40,712	13,964	34	25
Q5	140,828	21,934	16	22
Average	37,830	11,155	29	27

Source: Kamau et al, 2011

Average monthly total expenditure for the bottom quintile in 2009 was almost Ksh 14,000: this compares with average household expenditure of Ksh 8,566 for the “post-emergency” period (mid-2009 – late 2010) in Nairobi’s slum areas, according to IDSUE data (see Table 21). Although the data sets are not directly comparable, it is reasonable to conclude that a high proportion of all households in the slum areas fall within the bottom quintile of all households in Nairobi. The data in Table 22 do confirm, in line with Engel’s Law, that the proportion of expenditure on food declines as total expenditure (and income) increase; they also confirm that expenditure on staple foods declines as a proportion of total food expenditure as total expenditure and income increase. Therefore price increases on staple crops disproportionately affect the poor in urban contexts. It is also notable that, within expenditure on staples, households in the bottom quintile spend more on maize than other staple products, while households in the top quintile spend more on wheat products (Kamau et al, 2011).

Nzuma (2011) reports on a WFP survey of urban food security and nutrition assessment conducted in 2010. The average monthly total household expenditure for sample Nairobi households was Ksh 13,819, of which 44% was spent on food. Food consumption was classified as “acceptable”¹⁶ for 84% of sample households (based on an estimated Food Consumption Score); however 44.5% of households were consuming less than 1,575 kcal per person per day, indicating food intake below minimum dietary energy requirements, and 61.4% were consuming less than 2,100 kcal.

5.4 Earnings

It was noted earlier that retail prices of many food commodities doubled in nominal terms over the period 2006-12. Retail prices in the sample counties discussed in section 6 doubled over the period 2007-13 in two counties, and almost tripled in the pastoral counties of Turkana and Mandera.

It is not clear what has happened to real incomes, however, since detailed income and expenditure data are not available for the current period. Some data are available on earnings in the formal sector (both public and private). Table 23 shows changes in average earnings in the waged employment sectors for the period 2006-13, in nominal and real terms.

Table 23. Changes in Wage Employment, Prices, and Real Earnings, 2006-13

	2006	2007	2008	2009	2010	2011	2012	2013
Wage employment	2.5	2.8	1.8	2.8	2.9	3.4	3.4	5.1
Av earnings (current prices)	7.5	8.7	5.8	4.5	3.1	4.6	6.6	13.0
CPI inflation rate	3.2	4	17.8	9.9	3.5	14.5	10	4.9
Real average earnings	3.4	4.5	-10.2	-4.9	-0.4	-8.6	-3.1	7.7

Source: KNBS, 2011, 2014 [Note: 2013 data provisional; inflation rates are mid-year rates.]

It is clear from these data that, over the entire period, but particularly from 2008, real average earnings of formal employees declined, although there was some improvement in 2013 due to pay increases¹⁷ and some reduction in inflation.¹⁸

Total employment in the formal sector in 2013 was about 2.27 million. However, about 11.17 million people are engaged in the informal sector (KNBS 2014) and there are no accurate income data available for this substantial section of the population. About 60% of the population are engaged in agriculture, the majority as small producers: as noted in section 5, it is difficult to assess what has happened to real incomes of smallholders due to the diversity of livelihoods, variations in the extent to which they are net producers or consumers, and variations in the terms of trade of commodities relevant to them.

¹⁶ A Food Consumption Score (FCS) of >35, according to WFP methodology (WFP 2008). The FCS approach measures consumption of different food groups over a 7-day period: it is essentially a measure of dietary diversity weighted by food frequency. However, it does not measure food quantities.

¹⁷ The gazetted monthly basic minimum wage in Nairobi for a general labourer was increased from Ksh 13,471 in 2012 to Ksh 15,357 in 2013. The minimum wage for an unskilled employee in the agricultural sector was increased from Ksh 4,258 in 2012 to Ksh 4,854 in 2013 (KNBS 2014). It is not clear to what extent these minimum wages are adhered to.

¹⁸ The year-on-year inflation rate for December 2012 – December 2013 was however 7.15%, and food price inflation was 10.41%, i.e. a higher rate than the mid-year rate indicated.

6 SOCIAL PROTECTION / CASH TRANSFERS

In Kenya over 10 million people suffer from chronic food insecurity and poor nutrition, and in any one year 2-4 million people might be in need of assistance to access food¹⁹ (Government of Kenya 2011a). Table 24 shows deliveries of food assistance to Kenya during 2004-12, showing there has been a consistent requirement for substantial quantities of food aid to address emergency needs. The main response to such food deficits has been emergency relief, particularly in the form of food aid. To some extent this continues to be the case, although there is now a National Food and Nutrition Security Policy which aims to take a more holistic approach based on addressing the fundamental issues of availability, access, utilisation and stability. The National Drought Management Authority (NDMA) also has a key role in promoting long-term development in the ASAL counties.

Table 24. Deliveries of food aid, 2004-12 (m.t. cereal-equivalent)

Year	m.t.
2004	136263.2
2005	148159.1
2006	370509.9
2007	261074.4
2008	245226.7
2009	307826.8
2010	259993.1
2011	368096.5
2012	202329.4

Source: WFP Food Aid Information System (wfp.org/fais)

Social protection programmes are a key approach to addressing continued high levels of poverty, food insecurity and vulnerability to shocks. In Kenya different elements of social protection have developed in a rather piecemeal manner. In 2011 the Government of Kenya published its National Social Protection Policy (Government of Kenya, 2011b) and this was approved in Parliament in May 2012. The Policy aims to develop a more coherent approach to the provision of social protection, through actions in the three broad categories of social assistance, social security and health insurance. In February 2014 the Jubilee Government launched the expanded cash transfer programme (*Inua Jami*²⁰): the number of beneficiaries targeted by the programme is about 450,000, and the Government has allocated Ksh 12 billion towards implementation (Gatimu 2014).

However it is still too early for the policy to have significantly influenced implementation, so current programmes remain relatively limited in coverage and targeted to specific groups. In terms of social assistance through cash transfers, the main groups targeted are Orphans and Vulnerable Children (OVC), Older Persons and people living with severe disabilities. In addition, an Urban Food Subsidy programme has been developed in Mombasa and more recently in the Kibera slum area of Nairobi, and a donor-funded Hunger Safety Net programme (HSNP) has been developed for four of the most food-insecure Northern Counties. The expanded cash transfer programme targets the same groups.

The HSNP has been recently evaluated (Oxford Policy Management et al, 2013) and some of the key findings are briefly discussed here. The programme is an unconditional cash transfer programme

¹⁹ Government of Kenya (2011), National Food and Nutrition Security Policy.

²⁰ Translated as "a programme that uplifts the lives of families" (Gatimu 2014).

operating in Turkana, Mandera, Marsabit and Wajir counties²¹, all counties with high levels of food insecurity and poverty (on average, over 80% of the population are under the poverty line). The programme provides predictable cash transfers every two months to a target population of about 300,000 individuals (60,000 households), identified by community-based targeting as being among the poorest and most vulnerable. The initial value of the transfer was Ksh 2,150 per beneficiary household; this was raised in 2012 to Ksh 3,500 per household, and was recently raised again to Ksh 4,000 per household at the start of phase 2 of the project, which now targets about 100,000 households.

The baseline assessment for the project²² found that overall monthly consumption expenditure per adult equivalent was Ksh 1,903, and the mean value of the HSNP transfer was Ksh 233 (12%). However, for the poorest quintile of households, overall consumption expenditure was Ksh 846, and the transfer was 28% of total expenditure, and 47% of total food consumption expenditure (OPM et al, 2013). Therefore, particularly for poor households, the transfer was a significant addition to very limited household resources. Most of the transfer was spent on food.

The first-round assessment was conducted in late 2011, which was a year of extreme drought and food insecurity; the evaluation found that the cash transfers had played an important safety net role in stabilising the income and food situation of beneficiary households in comparison with “control” (non-beneficiary) households, whose situation had on average deteriorated. The second-round assessment found a continuation of these effects and a positive impact on poverty, with beneficiary households about 10% less likely to fall under the national poverty line. The poverty gap and poverty severity also decreased for beneficiary households, and increased for control households. The positive impact appeared to be particularly significant for poorer households (OPM et al, *ibid*). The evaluation also found beneficial impacts on food consumption expenditure, although these were more in terms of stabilising food consumption for beneficiary households, compared to a decline for non-beneficiary households.²³

There appeared to be no significant impacts of the programme on child nutrition or on education; there did appear to be small positive impacts of the programme in supporting households to protect assets, particularly small livestock.

There also appear to be positive impacts on women’s empowerment: 70% of named beneficiaries are women, and the person who normally decides how the HSNP transfers are spent is female for 63% of HSNP households (*ibid*). This appeared to be having some positive impact on women’s decision-making power over household resources as a whole, as well as providing some resources to support women’s income-generating activities.

In overall terms the HSNP cash transfers do seem to provide a safety net to mitigate against the impact of shocks; but they do not in themselves provide sufficient resources to promote long-term development in a way that will substantially reduce chronic poverty in the pastoralist areas.

²¹ The combined population of the four counties in the 2009 census was about 2.5 million.

²² Data collection was conducted during 2009-12: baseline data collection was completed in November 2010, a first-round follow-up survey completed in November 2011, and a second-round survey in November 2012.

²³ Average monthly food consumption expenditure per AE for beneficiary households was Ksh 1,537 after round two, compared to Ksh 1,263 for non-beneficiary households.

7 DISCUSSION

The foregoing has presented an overview of key indicators of trends in food insecurity and well-being for a number of the poorest areas in Kenya. In the absence of a repeat of the KIHBS or similar survey which would give current data on incomes and expenditure, it is not possible to draw definitive conclusions on overall trends in food insecurity, poverty and well-being. Instead, the focus has been on indicators such as price trends and nutritional status which allow some more tentative conclusions to be drawn.

In this report the need for disaggregated analyses has been emphasised. First, any analysis of trends in food insecurity, poverty and well-being needs to take cognisance of the diversity of agro-ecological conditions and livelihood zones in Kenya, and the geographical distribution of population, both in terms of the much higher population densities in the highland areas, and the rural-urban divide.

Second, the impact of income inequality also needs to be taken into account in assessing trends. In 2005 Kenya had a high Gini coefficient of 0.47 (World Bank 2013): it is not clear what has happened to income inequality since 2005, but there are no obvious reasons why it might have declined. Positive average economic growth rates therefore may not translate into poverty reduction.

Third, a major factor in Kenya is the strong dependence on markets for food purchases, including in rural areas. This means that trends in food prices have a very immediate impact on people's food security. The impacts are likely to be greater for resource-poor households who are less able to engage in market exchanges on favourable terms.

Accepting the limitations of the data in terms of drawing clear conclusions for the pre- and post-2008 period, what patterns nonetheless emerge?

First, there is a clear trend of rising food prices for most of the period. In Kenya, the most substantial price rises were not in 2008, but rather in 2011. Whereas the increases in food prices in 2008 may have been more linked to international trends, in 2011 prices were more influenced by the serious drought conditions which hit the Horn of Africa Region in that year. Generally, prices of key food commodities, particularly maize, are strongly influenced by local production and trade conditions.

Second, it can be argued that price volatility per se is less important than what happens to average prices over the year since this is what influences households' purchasing power²⁴. For example, although the peak (in nominal terms) of maize wholesale prices was reached in July 2011, wholesale prices averaged over the whole year were higher in 2012 than in 2011. Table 8 also indicates that average retail prices of most basic food items were higher in 2012 than in 2011. Average wholesale maize prices did decline in 2013 relative to 2012; however, overall price inflation during the period December 2012 and December 2013 was 7.15%, and food price inflation was 10.41% over the same time period (KNBS 2013). The imposition of VAT on many essential food items in August 2013 was one of the contributory factors behind this increase in inflation. In the first six months of 2014 wholesale maize prices have risen again back towards 2011-12 levels.

Third, seasonal price trends clearly affect food security as well as nutritional status. In rural areas these price trends are linked with food availability as well as factors such as distribution costs (which are also connected with other factors such as the degree of trader influence on food distribution systems). Seasonal patterns therefore vary depending on the livelihood zone. Within each livelihood zone, the impact of high food prices again varies depending on the households' circumstances: in broad terms, resource-poor households are less likely to benefit from higher prices since they are net

²⁴ It is possible to envisage a situation of high price volatility where the average price does not change much (if price increases are more or less matched by price decreases over the time period); or a situation of lower volatility where the average price increases more. Other things being equal, household expenditure would be required to increase more in the latter scenario.

consumers. This is where price volatility can have a specific impact: the greater the within-year price variation, the greater the probable negative impact on resource-poor households who have to sell when prices are low (harvest time) and buy back when prices are high (when stocks are low). However, this impact also depends on the extent to which households have alternative sources of income²⁵ and the relative prices of such sources. For example, the disaggregated analysis of Turkana and Mandera counties found that goat prices had recently risen more rapidly than maize prices, potentially resulting in increased real incomes for some households. In other livelihood systems where agricultural labour is the main alternative source of income, wage rates increase with peak agricultural labour demand, but this generally does not coincide with periods of high food prices.

Therefore, fourth, it is not possible to come to a conclusion about overall trends in rural food security, poverty and well-being, since they are so varied. However, on the basis of the county-level analysis, it is clear that maize prices have risen substantially since the pre-2008 period. Child under-nutrition rates have varied, peaking in some counties in 2011 and then declining. The available data tend to suggest continued high levels of chronic vulnerability, punctuated by crises.

Fifth, some analyses of living conditions in informal settlements in Nairobi point to substantial variations in incomes of households. Kagima (2014) provides evidence of clustering of income cohorts in particular neighbourhoods within settlements. In the context of rising prices of food and other basic commodities, and data showing such prices increasing at a faster rate for lower-income than for other households (see Table 9), a high proportion of the poorest households have to resort to “negative” coping strategies such as taking children out of school and purchasing food on credit, which is likely to be at unfavourable terms. It is again difficult to draw overall conclusions on what has happened to well-being, but some of the more qualitative data collected under the IDSUE project, as well as the qualitative research in Mukuru under the FPV project, suggest a deterioration in conditions for the poorest households, a high proportion of whom are female-headed.

Sixth, given continued high rates of poverty and food insecurity, there are strong grounds for developing a comprehensive system of social protection following the increasing number of best-practice examples from other countries which combine protective with productive functions. However, although Kenya has recently developed a National Social Protection Policy, the existing programmes are relatively limited in scope, particularly outside the formal employment sector. The HSNP, being implemented in four northern counties with very high poverty rates, appears to be having some positive impact in providing a safety net which at least may prevent households from slipping further into poverty. However, the scope of the programme is relatively limited (although expanding with increased Government of Kenya resources), and its impact on household asset-building is again relatively modest.

²⁵ And food, if they are growing “traditional” staple crops which can be substituted for maize.

8 CONCLUSIONS

This report has set out to provide a national context to the in-depth qualitative research being conducted in Mukuru and Lango Baya over a four-year time period. The qualitative research (see Gatimu 2014, and Lubaale 2013) has clearly shown the difficulties faced by poor households in coping with rising food and other prices, and documented how they have adapted – generally in ways that imply a deteriorating quality of life. In this report, some of the wider trends in food prices, food production, earnings, and other key indicators have been outlined and examined. It is clear that food price rises have been the norm for the majority of the population in the last few years; that generally such price rises are detrimental for most people, particularly for the poor; and that domestic factors have a substantial influence on what happens to prices.

The qualitative research highlights a number of factors important for any detailed analysis of the impacts of food price volatility. These include the need to also take into account trends in prices of other, essential, non-food commodities, such as water, fuel, and rent; the focus on how people cope, for example by eating less, or by borrowing; the awareness of seasonal variability, perhaps particularly in rural areas, linked to price fluctuations associated with the availability of maize; and the recognition that people are engaged in a variety of livelihood activities which equip them, to varying degrees, with the means to adapt to price changes.

This report has provided more detail on some of the livelihood conditions prevailing in different parts of Kenya, and examined the likely impact of food price changes in each case. The report has also focussed to some extent on trends in maize production, and on social protection policy. It seems clear that shortfalls in maize production create conditions where prices are likely to increase, but the extent of such increases is also linked with the maize marketing environment, including the role of powerful traders. Agricultural programmes which significantly boost maize production, and/or a more liberalised Regional trade environment, could provide some of the solution to rising prices, as could a properly resourced and well managed Strategic Grain Reserve.

With respect to social protection policy and programmes, this has been piecemeal and narrowly targeted until now; there remains a predominant focus in rural areas on addressing emergency food needs and acute under-nutrition, compared with a more integrated social protection policy which could combine protection with increasing production.

This report has also highlighted the importance of seasonality, both in terms of changes in food prices and in terms of income from different livelihood activities. As pointed out in “Squeezed”, the first annual report from the FPV project (Hossain et al, 2013), there is a need to tailor social protection measures to the realities of when households are most under pressure from rising prices and/or falling incomes. There is of course also a need to promote other development interventions that have the effect of smoothing (and increasing) household consumption.

“Squeezed” also called for improved monitoring of prices, of what people are eating, and of trends in real wages and earnings. In-depth longitudinal surveys such as those conducted in the qualitative research and in the NUHDSS/IDSUE surveys in urban informal settlements are of great value to provide rich insights into how people’s lives are affected by rising food prices (and other phenomena). The monthly reports of the NDMA in the ASAL counties also have value in this respect. However, there is also an urgent need to undertake a repeat national-level survey of the KIHBS to provide comparable national data on trends in poverty and food security status.

While the emphasis in the qualitative FPV work has been on in-depth investigation of household-level impacts of and responses to changes in food prices, it might be useful to address some of the broader livelihoods issues in more detail. These issues include detailed information on changes in work, wages, and earnings during the year (i.e. to what extent, and how, do people make up for the loss of real incomes associated with rising prices, and are there any trade-offs involved, e.g. in relation to

care of children); understanding the seasonal dynamics and impacts of price changes, particularly in rural areas (i.e. when do resource-poor farmers sell food and when do they purchase, and what are the prevailing prices in each time period); and understanding some of the forces and actors involved in price-setting (e.g. the role of traders). A greater understanding of these issues can contribute to improved design of social protection and other development interventions aimed at enhancing the resilience of poor households in the face of rising and volatile food prices.

This report has not focussed in detail on the range of relevant Government policies and programmes currently being developed and implemented in Kenya, nor on issues related to the “political economy” of the food system, which clearly are important in an overall assessment of the extent to which Kenyan citizens can realise a “right to food”. Even in the absence of such a political economy perspective, it is clear that there are many basic socio-economic and structural factors that constrain people’s ability to meet their food and nutrition security needs, and that require a sustained and enhanced focus of development resources to address them.

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