

The Nairobi Informal Settlements:
An emerging food security emergency within extreme chronic poverty



*A compilation and synthesis of key
food security, livelihood, nutrition and public health data*

Oxfam GB, Concern Worldwide & CARE International in Kenya
April 2009

Executive Summary

In March 2009, Oxfam GB, Concern Worldwide and CARE International in Kenya commissioned a technical review of available data on the status of food security, livelihoods, nutrition and public health in the Nairobi slums/informal settlements. The purpose of the technical review was two-fold: 1) begin a process of consolidating key information on the Nairobi slums for assessing current status and future trends and 2) assess whether a food security emergency was currently occurring in the slums.

On beginning a process of consolidating key information on the current situation of the Nairobi slums, this was done in recognition that there is a lack of disaggregated and long term data on the food security, livelihoods, nutrition and public health situations of residents of these informal settlements, not only in Nairobi but in Kenya as a whole. There is a need for ongoing reliable data collection and synthesis to increase the knowledge base of the current situation in urban slums and ongoing awareness of critical trends.

On assessing whether a food security emergency is occurring, it is clear that there is limited information to fully understand the current situation and the impact of recent shocks, in particular high food prices on the nutrition and health status of the urban poor. For background, on 16 January, President Kibaki formally declared a Kenya food shortage to be a national emergency, with one out of every three Kenyans (10 million) reported to be threatened by starvation. Subsequently, the Kenya Food Security Steering Group Short Rains Assessment (KFSSG SRA 2009) stated, "... at least 4.1 million urban dwellers to be extremely food insecure and have difficulty meeting their food needs on a predictable basis."

The declaration of a national food security emergency was based on a number of critical problems. The KFSSG report noted that the combination of the poor 2008 long and short rain seasons, reduced hectareage planted due to the post election violence, high input costs and resulting sub-optimal application of recommended inputs, resulted in a 2008 annual maize production of 2.34 million MTs, which was 15% below recent years' averages and around 22% below annual national consumption requirements. Exacerbating the shortfall is an expected 60% reduction in cross border imports from Tanzania and Uganda. At the same time, Kenya's national strategic reserve had fallen inappropriately low. The 2009 KFSSG report stated that the country's reserve for the staple maize was at 72,000 MTs, equivalent to slightly over one week's supply for the national annual consumption of 3 million MTs. As maize is the staple food for around 90% of the Kenyan population, and as other staple grains are equally depleted, it is no surprise that the Kenyan Government announced in early 2009 an emergency food security crisis in the country.

The Government's declaration that at least 4.1 million urban dwellers are extremely food insecure was not supported by clear data. As noted above, there is limited information on the status of such key indicators as food security, livelihoods, nutrition and health in the urban slums, and especially limited information on trends. This is especially problematic for the urban poor as they typically reside in slums that are marked by extreme chronic poverty within highly dense populated areas. In such settings, it is not a simple task to differentiate extreme chronic poverty from an emerging emergency situation. So a key purpose of this technical brief was to better specify the current humanitarian situation in the urban slums of Kenya at a time of a declared national food security emergency.

This technical brief, faced with a challenge of limited data sources, primarily referred to the above noted Kenya Food Security Steering Group Short Rains Assessment (KFSSG SRA 2009), two nutrition surveys (Kibera and Mathare 2008), one sentinel site nutrition survey conducted in Mathare slum in January 2009, a 2008 acute malnutrition caseload synthesis from MoH/NCC/Concern and MSF-B and published data from the African Population & Health Research Centre (APHRC)¹.

In order to help differentiate an emerging food security emergency from extreme chronic poverty, the brief has utilised a series of trigger indicators for emergency food insecurity appropriate to an urban setting, as follows:

1. Food availability
 - a. Reduced availability of food in the market for highly market-dependent populations.
2. Food access
 - a. Increasing, high food prices
 - b. Falling or static incomes
 - c. Increasing severe entitlement gap (people not meeting 2,100 kcal/day).
 - d. Increasing reliance on negative coping strategies
3. Food utilisation
 - a. Reduced dietary diversity
 - b. Increasing malnutrition

Food availability (availability of food in the market for highly market-dependent populations):

According to the KFSSG SRA 2009 report, the Nairobi slum residents are highly reliant on the market as they procure virtually all household food (90%) and non-food needs from the market. In Nairobi, there is minimal opportunity for food production; therefore access to food is highly dependent on cash exchange. However, the report found that, despite such high market dependence, food availability did not pose a significant threat to food security in the urban setting. The KFSSG SRA 2009 found that all 17 basic food commodities were available at the time of the survey.

In summary concerning food availability, while the urban slum residents were found to be highly dependent on the market for meeting their daily food needs, the market was found to be adequately functioning in terms of ensuring such availability.

¹ Subsequent to this report, a government report by the National Council for Children's Services (NCCS), looked at the effect of the food crisis on child nutrition and health. The report followed rapid assessments conducted in selected districts hardest hit by hunger, including Kibera and Embakasi, and found that malnutrition rates have increased and school enrolment in most districts has dropped dramatically. (Source Daily Nation March 20th 2009)

Food access (high food prices): The emergency trigger indicator of rising food prices was found to be significantly present. The KFSSG report noted that following price increases from December 2007 to December 2008 based on surveys of the largest Nairobi slums: Kangemi, Kawangware, Kibera, Korogocho, Mathare and Mukuru:

- >133% maize meal
- >99% maize grain
- >96% beans
- >94% rice
- >87% roots and tubers
- >77% oils and fats
- >65% wheat flour
- >56% milk
- >55% vegetables

Food access (increasing, high non food prices): Price spikes of essential non food items such as energy fuels, water and health care have been shown to be exacerbating food insecurity by tightening disposable income from the urban poor at a time of widespread, significant food price spikes. The KFSSG SRA 2009 report noted the following price spikes from December 2007 to December 2008:

Energy:

- >92% other, generally electricity
- >66% charcoal
- >64% gas
- >30% paraffin
- >19% firewood

Water: >114%

Basic health care services:

- The technical review did not acquire information on market dependent health care costs, such as the cost of medicines and visits to private clinics. The review did note that the costs for such government services as antenatal care and immunization increased from 12-23%.

Food access (falling or static incomes): According to the KFSSG SRA report 2009 the incomes of urban slum residents declined between December 2007 and December 2008. The main sources of income were identified as casual wage labour, firewood collection/charcoal burning, formal wage labour (crafts, artisan, local brewing), petty trade and small businesses. All income sources were found to have declined as follows:

- <22% casual labour
- <28% firewood collection/charcoal burning
- <2% formal wage labour, craft artisan
- <23% petty trade
- <27% small business

Food access (severe entitlement gap - people unable to meet 2,100 kcal/day): Faced with declining incomes and rising prices of essential food and non food items, surveys have found reduced intake of meals. According to a KEMRI/CDC nutrition survey in two villages in the Kibera slum, 90% of the urban slum households were reducing meal frequency. According to a January 2009 ACF-USA sentinel site survey in the Mathare slum, 80% of surveyed households had reduced the size of their meals in the last 30 days and more than 60% had skipped meals. The KFSSG SRA 2009 reported the following changes from December 2007 to December 2008:

- <92% in daily meals (2.93 to 1.53)
- <46% in school age meals (3 to 2.05)
- <41% in under five snacks (3.57 to 2.53)

Food access (negative coping strategies): The Oxfam Response to Urban Food Crisis: situation analysis and strategy options identified the following negative coping strategies in Korogocho and Mukuru slums (Heyer and Crosskey 2008):

- Increased engaging in high risk livelihoods (sex work, crime, brewing/selling illegal brews) and child labour. According to observations from focus groups discussions, rates of prostitution have increased by around 30%, whilst rates of scavenging among children increased by around 30%.
- Reduced expenditures on non-food items (water, soap, toilets and education)
- Up to 30% of children taken out of school
- Increased reliance on gifts and credit. (This is supported by the January 2009 ACF-USA sentinel site survey in the Mathare slum where nearly 80% of households reported purchasing food on credit from local vendors.
- Splitting of households

Food utilisation (reduced diet diversity): According to a KEMRI/CDC nutrition survey in two villages in the Kibera slum, 90% of respondents were experiencing food shortages and were coping by eating less expensive foods. The January 2009 ACF-USA sentinel site survey in the Mathare slum found that while diet diversity was being maintained, with a mean score of 6.4 food groups consumed and about 74% consuming more than five food groups, consumption of protein and micronutrient rich foods, such as eggs, fish and meat, was low.

Food utilisation (increasing malnutrition): Based on limited nutrition survey data from two slums, absolute numbers of severely malnourished children under-five living in Nairobi informal settlements at any one time is estimated to be more than 1,000. However, direct data on trends in rates of acute malnutrition is too limited to draw conclusions on whether the situation has deteriorated or not. However, considerable indirect evidence indicates that the majority of urban slum dwellers are adopting negative coping strategies of reducing meal frequency and diversity, which suggests that slow onset increases in malnutrition, in particular micronutrient malnutrition, is likely occurring.

Summary: the above review of trigger indicators of food insecurity presents compelling evidence that an emergency food security crisis is occurring within the extreme chronic poverty of the urban slums of Nairobi and which requires an immediate response. The uncovered trends are disturbing for such dense slum settings whose residents are highly dependence on the market. The current situation is marked by price spikes in essential food and non food items, falling incomes, a severe entitlement gap as people are increasingly unable to meet 2,100 kcal/day, increased reliance on negative coping strategies, reduced dietary diversity and likely increasing malnutrition.

Recommended Emergency Response: Given that the crisis in the urban slums is one of access rather than availability, short term cash rather than in-kind based interventions are most appropriate for reaching the most vulnerable. This can include the following:

- Cash injection to compensate urban poor households for reduced purchasing power and resulting reduced access to food.
- Food subsidies e.g. food stamps to offset the high food prices.

In addition, given the seriousness of the food security crisis, urgent action needs to be taken to maintain and expand therapeutic feeding services that accurately monitor and provide essential support to at-risk malnourished children. This can include the following:

- Continuation and expansion of sentinel site surveillance to monitor the nutrition and food security situation.
- Further decentralisation, improved quality and expansion of integrated management of acute malnutrition (IMAM) at key health facilities serving Nairobi slums.
- Secure pipeline of therapeutic nutrition commodities to provide above intervention for all severely malnourished children, regardless of HIV status.

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	2
TABLE OF CONTENTS.....	7
FIGURES CONTENTS.....	9
TABLES CONTENTS.....	9
ACKNOWLEDGEMENTS.....	9
1. BACKGROUND.....	10
2. INTRODUCTION.....	11
2.1 Urbanisation in Kenya.....	11
2.2 Urban Poor in Kenya.....	11
3. FOOD SECURITY/LIVELIHOODS.....	12
3.1 National food security situation.....	12
3.2 Urban food security situation.....	12
3.3 Availability of food.....	12
3.4 Access to food.....	12
3.4.1 Household Income.....	13
3.4.2 Rising Prices.....	14
3.5 Coping Strategies.....	15
3.6 Summary.....	16
4. NUTRITION.....	17
4.1 Prevalence of acute malnutrition in the informal settlements.....	17
4.2 Current nutrition interventions.....	18
4.3 Chronic malnutrition.....	20
4.3.1 Chronic malnutrition in the informal settlements.....	20
5. PUBLIC HEALTH.....	21
5.1 Mortality.....	21
5.2 Morbidity.....	22
5.3 HIV/TB.....	22
5.4 Factors contributing to poorer health of slum dwellers.....	22
5.5 Water and sanitation.....	23
6. RECOMMENDATIONS.....	23
6.1 Immediate – Food security/livelihoods.....	23
6.2 Immediate - Nutrition.....	23
6.3 Longer-term.....	24
7.0 Concluding comments.....	24
REFERENCES.....	25
APPENDICES	

Appendix 1 UNICEF Causal analysis – conceptual framework for depicting causes of malnutrition and death.....	28
Appendix 2 WHO Decision-making framework for implementation of selective feeding programmes.....	29
Appendix 3 Examples of current nutrition interventions in the informal settlements.....	30
Appendix 4 Extracts of Kenya’s Food Security and Nutrition Policy 2007...	31
Appendix 5 Policies currently being implemented to address the soaring food prices in Kenya.....	32

FIGURES CONTENTS

Figure 1. Percent change in mean prices charged and quantities purchased for basic food commodities, December 2007 – 08	14
Figure 2. Percent change in cost of selected health services in 6 Nairobi slums from December 2007 to December 2008	15
Figure 3. Nairobi OTP Admissions, Exits and Total for 2008 for severe acute malnutrition	19
Figure 4 Monthly numbers in OTP compared to numbers of OTP sites open	19
Figure 5 Infant mortality rates in 2 Nairobi slums compared to Nairobi province and national rates 2003	21

TABLE OF CONTENTS

Table 1 Change in mean income between December 2007 and December 2008, according to income source	13
Table 2 Change in frequency of meal consumption from December 2007 to December 2008	16
Table 3 Summary of results of 2 nutrition surveys plus estimates of absolute numbers affected based on population estimates and malnutrition prevalence rates	17
Table 4 Comparison of outcomes of OTP in Nairobi slums with Sphere Project recommendations	20

ACKNOWLEDGEMENTS:

For sharing of data go to ACF-USA, APHRC, KEMRI/CDC, Concern, Care, Oxfam, Ministry of Public Health & Sanitation, Ministry of Clinical Services, MSF-F, MSF-B, Nairobi City Council, WFP, UNICEF and other key stakeholders and to the members of the Kenya Nutrition Urban Working Group for preliminary consolidation of information to date.

1. BACKGROUND

The Right to Adequate Food is recognised in several instruments under international law². Despite this recognition, globally, half of the almost 10 million children under the age of five who die annually do so from a combination of malnutrition and easily preventable disease. In response, the Right to Food/Fighting Hunger initiative is a key focus of the work of such organisations as Oxfam GB, Concern Worldwide and CARE International in Kenya.

In Kenya, there is increasing appreciation that it is not only the rural drought affected but also the urban poor who are not realising their right to adequate food. Attention has been drawn to the vulnerable situation of the urban poor in the light of the impacts of post election violence coupled with global rising food prices on the already precarious food security situation. The urban poor are an important caseload of vulnerable population that needs to be addressed not least because of a) the proportion of the total population affected – 60% of Nairobi’s population lives in informal settlements and slums and b) urbanisation trends – by late 2008, globally, more people were living in urban than rural areas. In the Kenya National Food and Nutrition Policy 2007 (final draft), the Government of Kenya states its commitment to reducing chronic food insecurity in the urban areas through promoting urban employment and improved access to food (see appendix 4 for more detail).

In January 2009, the Government of Kenya declared a national food security emergency and within an estimated total 10 million people at risk, the largest single group affected are 4.1 million urban dwellers. The data in support of this declaration was not clear and generally, limited information is available on the food security, livelihoods, nutrition and public health situation in the urban slums. Therefore the purpose of this technical brief was to begin a process of consolidating key information on the Nairobi slums for assessing current status and future trends.

As a focus for the consolidation, this brief has used the UNICEF conceptual framework that recognises food insecurity, inadequate care behaviours and poor health/access to health care and water and sanitation as the key underlying and overlapping causes of malnutrition (see appendix 1). For each of these causes, this brief highlights the issues specific to the Nairobi informal settlements and, where possible, describes and discusses the current food security, nutrition and health situation. Based on this analysis of the limited data available, recommendations are made regarding appropriate interventions.

Key contextual issues

a) Limited data available specific to urban slums

A main limitation of this brief is the lack of disaggregated data specific to the urban slum population and, in particular, a lack of longer term trend data against which to interpret the impacts of current staple food price spikes. Much of the existing food security, health and nutrition data is for urban populations as a whole. Due to the range of socioeconomic backgrounds in the urban setting, data reported for the urban setting masks the existence of pockets of poor health indicators and malnutrition within the population.

The key sources of information referred to for this brief are: the Kenya Food Security Steering Group Short Rains Assessment (KFSSG SRA 2009) which surveyed the largest Nairobi slums: Kangemi, Kawangware, Kibera, Korogocho, Mathare and Mukuru; two nutrition surveys (Kibera and Mathare 2008); one sentinel site nutrition survey conducted in Mathare slum in January 2009, a 2008 acute malnutrition caseload synthesis from MoH/NCC/Concern and published data from the African Population & Health Research Centre (APHRC)³.

² Most importantly, the International Covenant on Economics, Social and Cultural Rights which in article 11.1 states parties recognise “the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions”.

³ Subsequent to this report, a government report by the National Council for Children’s Services (NCCS), looked at the effect of the food crisis on child nutrition and health. The report followed rapid assessments conducted in selected districts hardest hit by hunger, including Kibera and Embakasi, and found that malnutrition

b) Thresholds for classifying the severity of the situation

The nutritional status of under-fives is a sensitive indicator of a crisis situation and therefore the prevalence of global acute malnutrition (GAM) is commonly used as a key indicator in the classification of the severity of a humanitarian situation. Different frameworks have been developed to classify emergencies and guide appropriate interventions. These include the WHO Decision-making framework for implementation of selective feeding programmes (WHO 2000 Management of nutrition in major emergencies), the Nutrition Information in Crisis Situations (NICS) nutritional risk classification system and the Integrated Food Security and Humanitarian Phase Classification (IPC). Each framework identifies thresholds of GAM prevalence against which to classify the severity of a particular situation and determine the response. Within each framework, the importance of contextual and trend analysis in interpreting rates of malnutrition is also emphasised.

Arguments exist both for and against the use of thresholds. In their favour they provide a common scale and framework which helps to identify need and guide response. Against – they lack evidence base and can be viewed as inappropriate for a population in a densely populated urban setting where absolute numbers affected relative to the availability of services may be considered more important in determining the need for intervention (Golden 2009).

2. INTRODUCTION

2.1 Urbanisation in Kenya

Urbanisation is increasing in Kenya at a rapid pace. According to Government of Kenya statistics, urban centres have increased from 15.1% (1979) to 34.8% of the total population in 2000. According to UN Habitat (2008), urban growth rate in Kenya is 1.2%. The same report estimated the population of Nairobi in 2008 to be 3,125,000, up from 1,380,000 in 1990, with a city population growth rate of 3.8%. More than 70% of the urban population live in slums with limited access to water and sanitation, housing social services and secure tenure (UN Habitat 2007). In Nairobi specifically, informal urban settlements occupy just 5% of the geographical area, yet house about 60% of the total city's population. According to UNICEF draft press release, the population growth rates in the 18 slums in Nairobi are far higher than the city rate at 6.9%. This figure may reflect migration into the slums as well as births.

2.2 Urban Poor in Kenya

In 1992, the percentage of poor in urban areas was estimated at 29% compared to 42% in rural areas. By 1997, this percentage increased significantly in urban areas to 49% whereas percentage of poor in rural areas increased to 52% (taken from KFSSG SRA 2009). This increase in proportion of poor in urban areas, while significant, does not delineate the concentration of poor amongst those living in informal settlements. Recent surveys have shown that between 70 and 75% of slum dwellers are poor (World Bank 2006⁴, Taylor and Mathaiya 2007 and Grelletty/MSF-F 2008) compared to 46% of the national population as a whole (KIHBS 2005/06).

3. FOOD SECURITY AND LIVELIHOODS

Food security can be defined as “a state where all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life”. The three fundamental components to being food secure are availability, access and utilisation of food. Their contribution to overall food security differs in urban and rural contexts and across urban socio-economic groups.

rates have increased and school enrolment in most districts has dropped dramatically. (Source Daily Nation March 20th 2009)

⁴ The World Bank survey (2006) gives some useful background to the economic and livelihood situation of Nairobi slum dwellers. It was conducted in 2004 and the slum areas surveyed were Dagoretti, Westlands, Pumwani, Central, Makadara, Embakasi, Kasarani and Kibera.

3.1 National food security situation

As mentioned previously, in January 2009, the GoK declared a national food security emergency, estimating up to 10 million people in Kenya at risk of food insecurity. Overall, this situation results from a combination of factors, including: repeated droughts, post election violence affecting the country's grain basket and high inflation. Corruption in the maize and fuel industries, obstructive trade regulations and the global financial, food and fuel crises have aggravated the problem.

3.2 Urban food security situation

4.1 million urban dwellers are estimated to be at risk of food insecurity (KFSSG SRA 2009). This is up from an estimated 3 million in 2007 and represents the largest single group affected. In order to understand the current food insecurity situation of urban poor, this brief will look at the three components of food security: availability and access and utilisation.

3.3 Availability of food

The KFSSG SRA 2009 found that all 17 basic food commodities were available at the time of the survey, demonstrating that reduced food availability is not a source of food insecurity.

3.4 Access of food

Results of the KFSSG SRA 2009 highlight that Nairobi slum residents access the vast majority of their food (90%) and non food items through purchases on the market. As there is minimal opportunity for food production, access to food is dependent on cash exchange. Ability to access food can be looked at in terms of household incomes relative to prices of food and non food items.

3.4.1 Household Income

The main source of income for households in the informal settlements is low paying unstable jobs in the formal and informal sector and petty trade. Job stability depends on economic fluctuations and inclusive employment policy rather than seasonality or climate variability as it does in rural areas. According to a World Bank survey (2006), 49% of adult slum dwellers have regular or casual employment, 19% of households engage in micro enterprise and 26% are unemployed.

In Mukuru at the end of 2008, the average monthly income of 35% of households is less than KES 2,000, while 22% report no monthly income (Katilu and Kabuki 2008). Therefore, at the time of the survey, 55% households were living well below the food poverty line of 1,474 KES/adult/month and overall poverty line of KES 2,913/adult/month, as defined by Kenya Bureau of Statistics. In Mathare slum, mean household monthly income for the reference period in January 2009 was KES 7,108 [95% CI: KES 6,313 to 7,904] which is equivalent to an average daily income per household of KES 237. However, this is higher than normally expected in slum areas and is considerably higher than average income of KES 50 per day reported by Grellety/MSF-F (2008) for Mathare in April 2008.

The KFSSG SRA report 2009 indicates that incomes actually declined between December 2007 and December 2008. The main sources of income were identified as casual wage labour, firewood collection/charcoal burning, formal wage labour (crafts, artisan, local brewing), petty trade and small businesses. The monthly incomes from almost all the sources were much less in December 2008 than in the same period of 2007 and equivalent to an average decline of 21% (see table 1).

Table 1 Change in mean income between December 2007 and 2008, according to income source. (ref KFSSG SRA 2009)

Source of Income	Income (KES) Dec 2007	Income (KES) Dec 2008	Change in income (KES)	Percent reduction in income
Borrowing	1,354	1,061	294	22%
Casual waged labour	4,487	3,240	1,247	28%

Firewood collection/charcoal burning	3,000	2,243	757	25%
Formal waged labour – craft artisan	4,925	4,808	117	2%
Petty trade	3,081	2,396	685	23%
Small business	4,050	2,944	1,106	27%

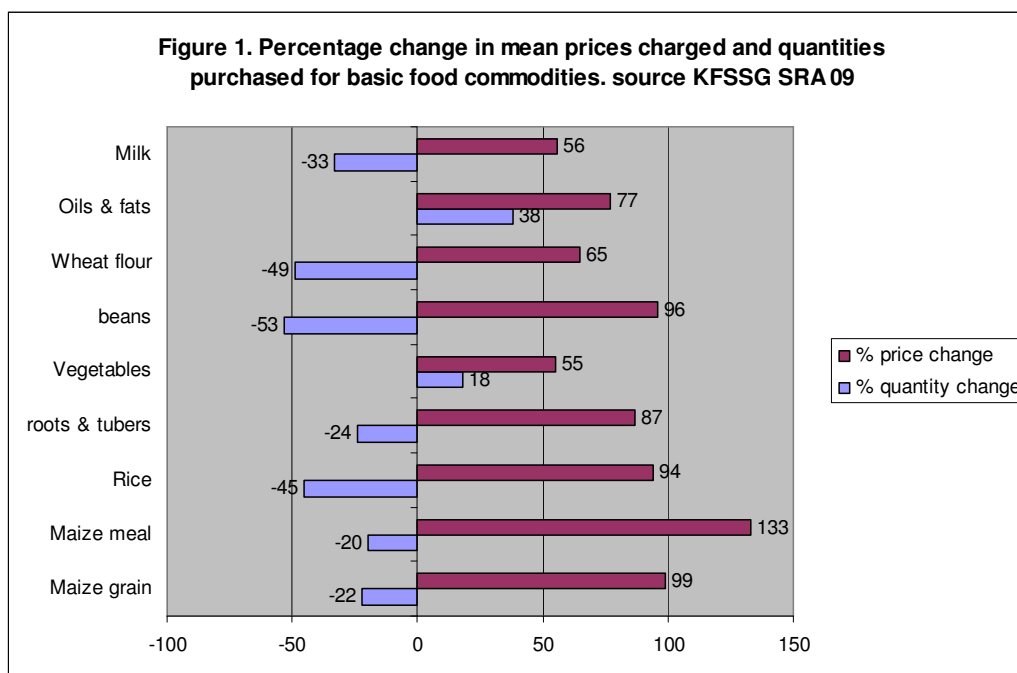
This reduction in income represents a significant reduction in ability to access food, particularly among the urban poor who spend a larger proportion of their income on food (43%) than non poor (37%) (World Bank 2006) and experience greater restrictions to access due to lack of economic means such as steady income, remittances and access to credit.

3.4.2 Increased Prices of essential food and non food items

In January 2009, the national inflation rate was at 21%, up from 12.5% in January 2008. The Kenya Bureau of Statistics shows the Consumer Price Index up 30% from June 2007 to June 2008, with the categories that increased the most being food, non-alcoholic drinks, fuel and power.

a) Food items

According to KFSSG SRA 2009, prices of all major basic food items increased between December 2007 and December 2008 (see figure 1). In particular, in Nairobi, the price of maize grain increased by 99% whilst milled maize increased by a staggering 133%. There have been corresponding reductions in quantities purchased, with the exception of oils/fats and beans.



In general, the price of the staple food maize has risen by 70-80% in the past year while the basic needs basket has increased in price by 63% (Heyer and Crosskey 2008).

b) Non food items

i) Fuel

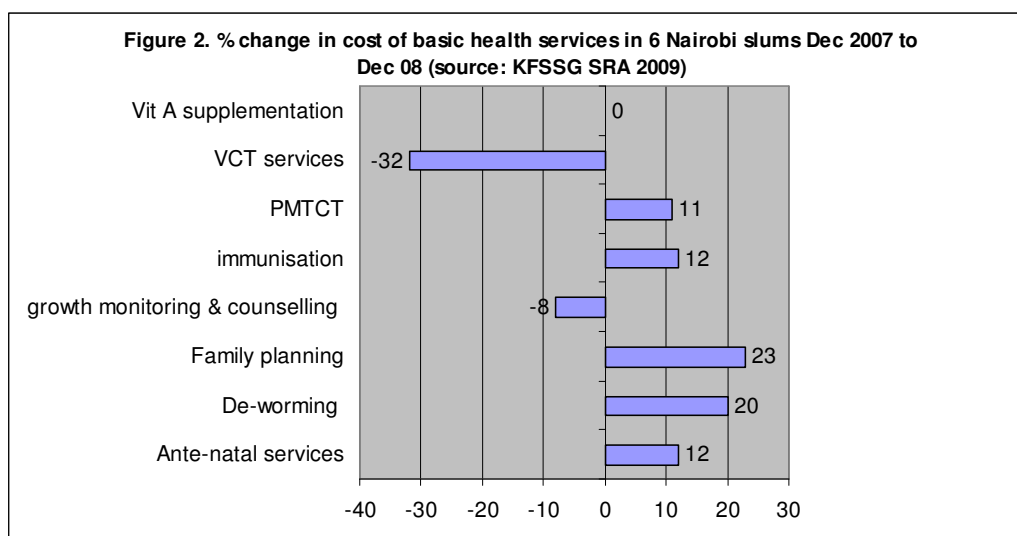
Results of KFSSG SRA 2009 show that the price of energy fuels increased between December 2007 and December 2008. Firewood increased by 13%, paraffin by 30%, gas by 64% charcoal by 66% and other sources in particular electricity increased by 92%. The high cost of cooking fuel has a major influence on patterns of food consumption.

ii) Water

In general, water purchased in the informal settlements from water kiosks is 4-5 times higher per litre than tariffs charged by Nairobi Water and Sewerages Company (Umande Trust 2006). According to KFSSG SRA 2009, the cost of water in Nairobi slums increased by 114%, from KES 1.62 per litre to KES 3.47 per litre, from December 2007 and December 2008.

iii) Basic health care services

In Mukuru 2005, the average cost of treatment was KES 600 (Taylor & Maithya 2007). In Mathare slum 2008, at the most accessible health facility, first consultation cost KES 100 for adults and KES 40 for children under five (Grellety/MSF F April 2008). Results from the urban cluster of KFSSG SRA 2009 indicate that cost of basic health care services has risen between December 2007 and 2008 (see figure 2). The cost of family planning services increased by 23%, while antenatal and immunisation services both increased by 12%.



Information in sections 3.4 above highlights how precarious the food security and livelihood situation of the poor in Nairobi has become. The combination of an “unprecedented and sustained increase in prices of food and non food commodities” (KFSSG SRA 2009) and falling incomes represents a significant reduction in access to food. The price of maize alone has increased by up to 133% in Nairobi, whilst the basic needs basket has increased by 63%. Meanwhile, incomes have fallen on average by 21%. The rising price of maize alone is equivalent to an increase of KES 20,000 a year in food expenses. In Mukuru for example, the average monthly income of 55% households is less than KES 2,000 (Katilu and Kabuki 2008), which is equivalent to an average total annual income of less than KES 24,000. The poor “normally” spend 43% of their income on food (World Bank 2006). However, the increase in maize prices alone represents 83% of their annual income. To make up the shortfall, significant amounts need to be “borrowed” from non food item expenditures resulting in less cash being spent on other basic needs such as health care, water and sanitation and education. Alternatively, other coping strategies must be resorted to.

3.5 Coping Strategies

Traditional coping strategies of the food insecure in rural settings are not necessarily available to affected urban households – for example wild “free” foods are not available. Support from kin, political or religious groups may also be weaker in the urban context due to fragmentation of the population. The role of remittances is unclear as there is little reported on this. The information available highlights that the key coping strategies being adopted involve changes to food utilisation.

i) Reduced size/frequency of meals

According to a KEMRI/CDC nutrition survey in two villages in the Kibera slum, 90% of respondents were experiencing food shortages and as a consequence were reducing the quantity of meals consumed. According to the January 2009 ACF-USA sentinel site survey in the Mathare slum, 80% of respondents had reduced the size of their meals in the last 30 days and more than 60% had skipped meals. Further evidence of a reduction in meal frequency comes from KFSSG SRA 2009 (see table 2).

Table 2. Change in frequency of meal consumption from December 2007 to December 2008 (source KFSSG SRA 2009).

Nairobi slums	Frequency 2007	Frequency 2008	Change
Adult meals	2.93	1.53	-1.4
School age meals	3	2.05	-1.4
Under five snack	3.57	2.53	-1.04

ii) Reduced diet diversity

According to a KEMRI/CDC nutrition survey in two villages in the Kibera slum, 90% of respondents were eating less expensive foods thereby reducing diet diversity in response to food shortage. According to the January 2009 ACF-USA sentinel site survey in the Mathare slum, diet diversity was found to be good with a mean score of 6.4 food groups consumed and about 74% consuming more than five food groups. However, consumption of protein and micronutrient rich foods, such as eggs, fish and meat, was low.

iii) Other negative coping strategies

The Oxfam Response to Urban Food Crisis: situation analysis and strategy options November 2008 identified the following negative coping strategies in Korogocho and Mukuru slums from observations made during focus group discussions (Heyer and Crosskey 2008):

- Income supplementation through engaging in high risk livelihoods (sex work, crime, brewing/selling illegal brews) and child labour. According to observations, rates of prostitution have increased to around 30%, whilst rates of scavenging among children were also reported to have increased to around 30%.
- Reduced expenditures on non-food items (water, soap, toilets)
- Reduced expenditure on education - up to 30% of children have been taken out of school
- Increase reliance on gifts and credit. This is supported by results of ACF Sentinel site survey 2009 whereby nearly 80% of households reported purchasing food on credit from local vendors.
- Split households

3.6 Summary of food security/livelihood findings

A significant number of the urban population are currently at risk of food insecurity. Food is available in the markets as normal but access has been reduced significantly due to increased prices of essential food and non food items concurrent with falling incomes. This is exacerbating an already vulnerable situation of limited access to food experienced by the urban poor. There is increased reliance on negative coping strategies. Reductions in the frequency and quality of meals are widespread, raising the possibility of a rise in micronutrient malnutrition and stunting in later months/years, particularly in the context of high prevalence of HIV and TB, both of which increase dietary requirements⁵. Rising

⁵ Dietary requirements for energy are 10% higher for asymptomatic HIV positive individuals and 20-30% higher for symptomatic HIV positive individual than their HIV negative counterparts

food insecurity has led to food riots, increasing crime rates and increased school dropouts (Kenya Food Security Update FEWS NET January 2009).

4. NUTRITION

The recognition of the importance of nutrition situation of urban slum dwellers is illustrated by the setting up of the Kenya Urban Nutrition Working Group (Slums/Informal Settlements) in 2008 at the request of the Government of Kenya (see appendix 3 for details).

4.1 Prevalence of acute malnutrition in the informal settlements.

Data available on the recent nutrition situation in the informal settlements is limited to results of two nutrition surveys conducted in Kibera (CDC/KEMRI April 2008) and Mathare (ACF-USA, November 2008) and one sentinel site survey in Mathare (ACF-USA, January 2009). Results of the two full surveys are presented in Table 3 and indicate the prevalence of global acute malnutrition (GAM) in the informal settlements is less than 4.0%.

Table 3. Summary of results of 2 nutrition surveys plus estimates of absolute numbers affected based on population estimates and malnutrition prevalence rates

Location	GAM *	SAM* *	Estimated total slum population	Estimated % under- five population ***	Numbers moderately malnourished	Numbers severely mal- nourished
Mathare	3.9% [2.5 – 5.2%]	0.5% [0.0- 1.2%]	423,000**	20%	2,876	423
				17.4%	2,502	368
Kibera – 2 villages	2.6% [1.7- 3.5%]	0.6% [0.1- 1.0%]	600,000 to 1,000,000	20%	2,409 to 4,000	720 to 1,200
				17.4%	2,088 to 3,480	626 to 1,044

* Based on WHO 2006 reference population

**Based on MSF – France socio-economic assessment of Mathare (2008)

*** 20% = GoK planning figure; 17.4% = UN Habitat estimate for slum populations in Kenya

Similar results have been reported from the first quarterly sentinel site survey in Mathare slum by ACF-USA. Based on NCHS/WHO reference population, GAM was 4.0% [0.9 – 7.2%] and SAM 1.0% [0.0 – 2.4%]. Preliminary results from Concern Worldwide baseline survey also indicate similar findings, with GAM of 3.5% [95% CI 1.1 – 5.9%] and SAM at 0.3% [95% CI 0.0 – 0.7] (based on WHO 2006 reference population).

These estimates of the prevalence of GAM are all lower than the national (6%) and urban (5%) prevalence figures from KDHS 2003, although as mentioned before, KDHS figures mask significant variation among socioeconomic groups. The survey results are also lower than the WHO emergency threshold of 15% GAM and 4% SAM. However, the common use of percentage rates over absolute numbers of children is greatly distorting when used for urban slums, as this masks the high numbers of children affected in such densely populated settings.

To illustrate this, estimates of the absolute numbers of children affected have been calculated for two slum areas where nutrition surveys have been conducted and are presented in the table 3 above. Absolute numbers have been calculated based on different estimates on under-five population

available in the literature⁶. For example, based on a slum population of 600,000 inhabitants, with under-fives representing 20% of the population, a GAM of 2.6% and SAM of 0.6%, in Kibera slum alone at the time of the survey, there were over 3,000 malnourished under-fives, of which 720 were severely malnourished and in urgent need of therapeutic feeding. These figures highlight the large number of severe and moderately malnourished under-fives in the slum areas who are in need of immediate intervention, which is not apparent when prevalence rates alone are presented.

Data available is too limited for analysis of trends in prevalence of acute malnutrition. However, there is consistent proof that families are adopting damaging coping strategies of reducing quantity and quality of food intake, which, if prolonged, can have a detrimental effect on nutritional status, resulting in a slow onset crisis and increasing micronutrient malnutrition and stunting in the longer term (AAH 2009).

4.2 Current interventions for acute malnutrition

In 2008, Kenya adopted an integrated management of acute malnutrition (IMAM) response that added to the existing inpatient therapeutic care an outpatient therapeutic programme (OTP) component for uncomplicated cases of severe acute malnutrition and community mobilisation. As a response to the post election violence of late 2007/early 2008, this approach was rapidly scaled up by the Ministry of Health, Nairobi City Council (NCC) and community-based organisations, supported technically and logistically by Concern and by UNICEF with Ready-to-Use Therapeutic Food (RUTF). In 2008, 1,262 children were admitted to OTP services in the 21 centres throughout Nairobi. This underestimates the full caseload as it excludes children admitted to inpatient therapeutic care at hospitals, those treated by agencies including MSF and the private sector. Data compiled to date is presented in Figure 3 below and shows how the total numbers in OTP increased during 2008.

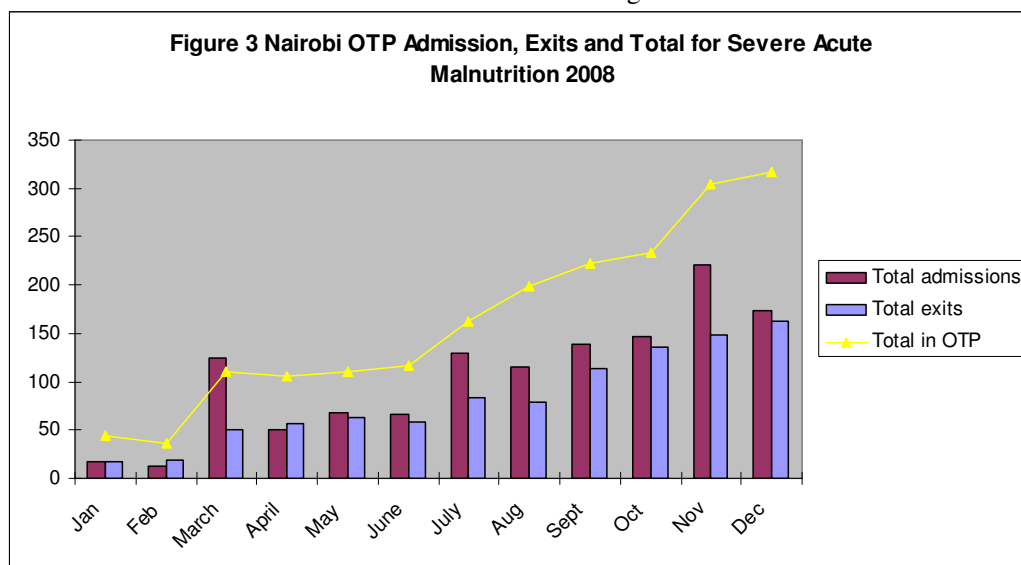


Figure 4 below shows how the increase in numbers in OTP relates to the increasing number of OTP service points, from 4 at the beginning of the year to 21 in December 2008, in addition to considerable community mobilisation. It highlights the importance of decentralising care to improve access and coverage and that, in the absence of the expansion of the services, large numbers of severely malnourished under-fives in the informal settlements would remain untreated and at high risk of death.

⁶ Estimates of the proportion of under-fives in Nairobi slum populations vary from 15.7% (World Bank Survey 2006), 14.7% (Taylor and Maithya 2007) and 17.4% (UN Habitat 2008). These estimates suggest that the population of informal settlements does not follow the accepted population distribution of 20% under fives, probably due to the high proportion of single person households. However, as the GoK still uses 20% for planning purposes, the absolute numbers of under-fives affected have been calculated using 20% and the UN habitat figure of 17.4% as a more conservative estimate.

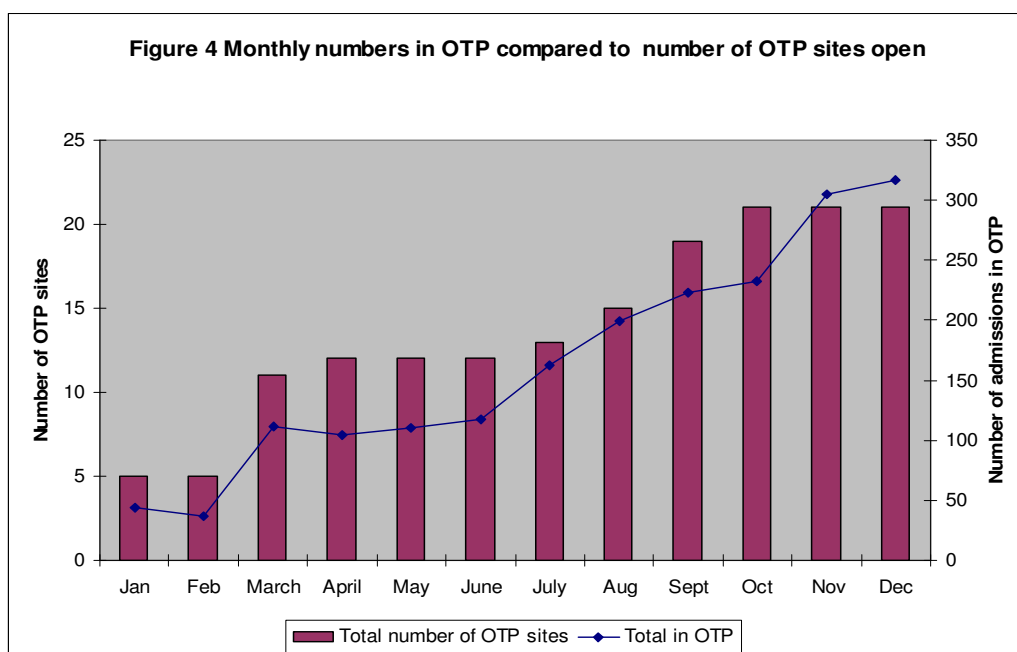


Table 4 below shows that the outcomes of OTP are poorer than recommended rates, with a low cure rate and very high defaulter rate, also noted by MSF-B. It may be assumed that death rate is higher as some of defaulters may have died. Preliminary defaulter tracing indicates very high migration and movement within and out of the slums, lack of supplementary food/family ration, high transport costs for weekly follow up visits, long waiting times and slow recovery, possibly exacerbated by HIV and TB.

Table 4: Comparison of outcomes of OTP in Nairobi slums with Sphere Project recommendations (Sphere Project 2004) based on 859 exits

Indicator	SPHERE	Nairobi OTP rate
Cure rate	>75%	51%
Mortality rate	<10%	5%
Defaulter rate	<15%	42%

Another major problem for the OTP is the lack of secure pipeline of the nutrition commodities for continuation of this intervention for all severely malnourished children. As the situation is not regarded as an emergency, UNICEF is not able to provide support. At the moment, supplies are being provided by NGOs.

Preliminary data from Concern indicates coverage of feeding programmes is around 39%. Therefore, with better coverage, the caseload of malnourished in treatment could be twice as high. In addition, Kenya is currently in the process of adopting the new WHO 2006 growth standards for admission criteria and/or MUAC of <11.5cm which will also significantly increase caseload⁷. This will accentuate the nutrition commodity pipeline problems.

Moderate Acute Malnutrition Services

Services for moderate acute malnutrition vary from only nutritional counselling to provision of fortified flours. In some health facilities, INSTA Food by Prescription (FBP) is available for HIV

⁷ In 2006, new WHO growth standards have been introduced as an alternative reference population to replace the National Centre for Health Statistics (NCHS)/WHO growth reference population. The new standards are based on observation of breastfed children of different origins fed in optimal conditions and measured in a standard way. The new WHO 2006 growth standards classify significantly more children as severely malnourished as the old NCHS standards.

positive vulnerable individuals or moderately malnourished (for example MSF B) and in some, CSB or UNIMIX.

4.3 Chronic malnutrition

Chronic malnutrition is indicated by low height for age and reflects long-term inadequate food intake. It is associated with limiting a child's optimal development, thus affecting long term performance at school and work. There is evidence that after 36 months, stunting is resistant to intervention (Bhutta et al Lancet series 2008). In Kenya as a whole, more than one third (36%) of the population is chronically malnourished (stunted), which is equivalent to 2 million children under five.

4.3.1 Chronic malnutrition in the informal settlements

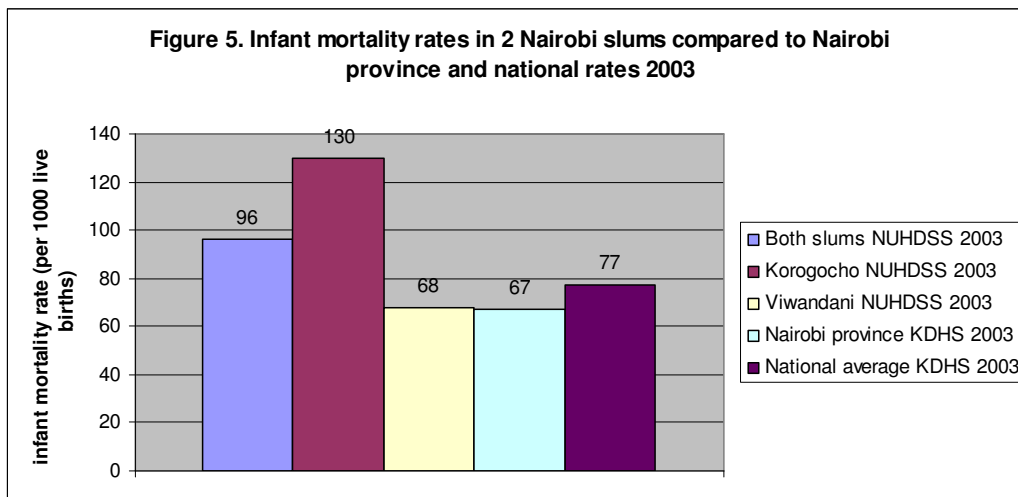
Nutrition survey results indicate the prevalence of stunting in the informal settlements is similar or even higher than nationally. According to a 2008 KEMRI/CDC nutritional survey in Kibera, almost one in two (47%) children under-five are stunted. 23% are severely stunted. In the Mathare ACF-USA nutritional survey, 31.6% [27.8 – 35.4%] under-fives were found to be stunted. Preliminary results from a Concern nutrition baseline survey indicates that 37.9% [95% CI 30.9 – 45.0%] under-fives are stunted. These results highlight the long-term inadequate food intake experienced by the urban slum dwellers as a consequence of chronic food insecurity, a poor health environment and poor care and feeding practices. In relation to this, at the time of writing, limited data on infant and young child feeding (IYCF) and care practices in the informal settlements had been identified.

5.0 PUBLIC HEALTH

The main source of background information on the health of the residents of Nairobi informal settlements is from the Nairobi Urban and Demographic Surveillance System (NUHDSS) run by APHRC. This surveillance work highlights the chronic poor public health situation of the slum dwellers, who experience high rates of morbidity and higher rates of mortality from preventable causes than their rural counterparts and the national averages. The squeeze on household budgets in the face of increasing prices of food and non food items means that there is proportionally less available to spend on health care, water and sanitation. This is likely to exacerbate the chronic problem. However, at the time of writing, very limited data on current trends in the health status of slum dwellers was available to investigate this. It is hoped that in the near future, trend analysis data will be made available from the NUHDSS (APHRC).

5.1 Mortality

Disaggregated data show that infant and under-five mortality rates for the poorest slum residents are often higher than in similar groups in rural areas (APHRC 2002, UN Habitat 2003). Infant mortality rate in Nairobi slums is 96 per 1,000 live births – higher than any other region of Kenya and 25% higher than the national average of 77 (see figure 5). Under-five mortality rates in the slums (151 per 1,000 live births) are more than double the Nairobi average of 62 and greater than for rural Kenya (113 per 1000 live births) (UN-Habitat, 2006; APHRC, 2002).



Limited recent data on mortality is available from an ACF-USA nutrition survey in Mathare slum (November 2008). Total crude retrospective mortality over the last three months per 10,000 per day was 0.31 [0.18 – 0.45] and under five crude retrospective mortality per 10,000 per day was 0.61 [0.23 – 1.00]. Both these figures are similar to baseline reference mortality data for sub-Saharan Africa and are below emergency thresholds of 0.9 and 2.3 respectively recommended by Sphere Project (2004). This indicates that in the three months prior to November 2008, mortality rates were not raised above normal in Mathare slum.

5.2 Morbidity

Survey results indicate morbidity rates among under-two year olds ranges from 25% (KEMRI/CDC nutrition survey March 2008) to 54% (ACF-USA Sentinel site surveillance 2009). The main causes of morbidity are respiratory symptoms, fever and diarrhoea. The high morbidity due to respiratory symptoms corresponds with pneumonia as first cause of death in under-fives. Morbidity rates in 2003 were reported as 33% (Taffa and Chepngeno 2005).

5.3 HIV/TB

According to the Kenya AIDS Indicator Survey (KAIS) 2007, the prevalence of HIV in Nairobi Province (9.3%) is the second highest after Nyanza (15.4%) and higher than the national average (7.8%). Disaggregated data for the slum population is not available. However, the urban poor are significantly more likely than their rural counterparts to have an early sexual debut and a greater incidence of multiple sexual partnerships (Nii-Amoo Dodoo et al 2007). This increased likelihood of engaging in risky sexual behaviour puts the urban poor at greater risk of contracting HIV and, as a consequence, TB.

5.4 Factors contributing to poorer health of slum dwellers

Many factors specific to the informal settlement context contribute to the poorer health of the residents. Environmental factors include i) physical factors that have a direct effect on health – overcrowding, poor water and sanitation and poor hygiene all increase the risk of communicable diseases (see section 5.5 below); and ii) social factors such as alienation, unemployment, ethnic tensions and violence which tend to have a more indirect effect on health.

Access to health care services is restricted as there are a low number of health facilities relatively to population size. Health facilities that are available tend to provide poorer quality of service, often operating without formal licences or standard protocols and with severe shortages of medical equipment and supplies (APHRC 2002). Residents tend to pay more for similar services than in other parts of Nairobi (Taffa and Chepngeno 2005). Slum dwellers tend not to use public health facilities (where treatment is cheaper and in theory free for under-fives and pregnant women) not least because they are not located in the settlements.

Coverage of key child survival interventions is lower in the informal settlements for Nairobi Province and the national average (NUHDSS 2003 and KDHS 2003). However, results from ACF-USA nutrition survey 2008 suggest that coverage of measles vaccination in Mathare slum is high, at 90.5%. Preliminary results from the Concern baseline survey indicates coverage of vitamin A in the last 6 months was 58%, while de-worming was 37%.

5.5 Water and sanitation

The water and sanitation services of the informal settlements in Nairobi are a major public health and livelihood problem. Between 60 and 93% of slum households are dependant on water vendors for their water supply (World Bank 2006, Taylor and Mathaiya 2007, APHRC 2006, KEMRI/CDC 2008). Provision of water is well below Sphere Project recommendations. In Mathare slum, for example, there are 1,200 people per water point compared to Sphere Standards recommending a maximum of 500 people per hand pump based on a flow of 16.6 l/m (Grellety/MSF F 2008). Furthermore, the high cost of water (generally 4-5 times the price per litre charged by Nairobi Water and Sewerages Company, Umamde Trust 2006) restricts the amount of water used by a household, increasing the risk of water borne diseases and poor hygiene standards.

The state of sewerage and human waste disposal in the informal settlements pose a major threat to health. The vast majority of slum dwellers rely on shared toilets or use open areas or plastic bags (“flying toilets”). Many toilets are public facilities often financed by NGOs and managed by community groups. Others are private and operate on a pay-as-use basis. Figures from Mathare (Grellety/MSF F 2008) highlight the inadequate number with a total of four hundred communal latrines representing one latrine for more than 1,000 people; Sphere Standards recommend a maximum of 50 people per communal toilet.

6.0 RECOMMENDATIONS

The immediate recommendations are based on the finding that current food insecurity is due to lack of access to food, which is primarily due to spikes in staple food prices rather than reduced availability. A key assumption is that the spikes will recede once the current country wide deficit in staple foods will be overcome once the long rains’ harvest starts to reach the market this September. An immediate response is required in terms of absolute numbers affected and to prevent further deterioration of an already chronic food security situation into a more acute one.

6.1 Immediate -Food security/livelihoods

Given that the crisis in the urban slums is one of access rather than availability, short term cash rather than in-kind based interventions are most appropriate. This can include the following:

- Cash injection to compensate urban poor households for reduced purchasing power and resulting reduced access to food.
- Food subsidies e.g. food stamps to offset the high food prices.
- Advocacy, including support for the implementation of current policies to address effects of unprecedented and sustained rise in food prices (see appendix 5)

6.2. Immediate - Nutrition

- Further decentralisation and improved quality for integrated management of acute malnutrition (IMAM) at key health facilities serving Nairobi slums.
- Secure pipeline of therapeutic nutrition commodities to provide above intervention for all severely malnourished children, regardless of HIV status.
- Ensure system for moderately malnourished children to help reduce numbers requiring therapeutic services e.g. CSB, UNIMIX, food by prescription.
- Ensuring quality products for all nutrition interventions.
- Better understanding of high defaulter rate of OTPs in order to address the problems and increase cost effectiveness of the strategy
- Continuation of sentinel site surveillance to monitor the nutrition and food security situation.

- Stronger data collection, consolidation and analysis across all slums.

6.3 Longer term

One of the key findings of this report is the chronic poverty and food insecurity situation as indicated by the high rates of chronic malnutrition. It was not the intent of this technical brief to develop comprehensive plans for longer term interventions to address the chronic poverty existing in the urban slums. However, it is important to emphasize that any longer term planning that addresses food security, the strengthening of livelihoods and provision of essential services should also include social safety net mechanisms for providing extended support to the most vulnerable and destitute.

Furthermore, it is worth noting the priorities of the community themselves. According to KFSSG SRA 2009, 24% of respondents said employment was the most important recommended priority intervention, followed by control of food prices (19%), food aid (14%) and business financing (13%). Of other important recommended priority interventions, 17.5% identified security, 12% improved health care and 7% improved water.

7.0 Concluding comments

There is a lack of long term and disaggregated data on the nutrition, health and food security situation of residents of informal settlements in Nairobi and Kenya as a whole. Thus, there is limited information to fully understand the current situation and the impact of recent shocks, in particular high food prices on the nutrition and health status of the urban poor.

There is a need for ongoing reliable data collection and synthesis to increase the knowledge base of the current situation in urban slums and demonstrate any trends. In addition, an appropriate forum for sharing multidisciplinary data and developing a more appropriate set of indicators for evaluating the urban context is required. At the same time a strengthened food and nutrition response should be provided to address the immediate needs already identified.

REFERENCES

- ACF – USA. (2008) Nutritional Anthropometric and Mortality survey Children under five years of age, Mathare and part of Kasarnai divisions, Nairobi November 2008
- ACF – USA. (2009) Sentinel Surveillance report Nairobi Mathare slum. January 2009
- Action Against Hunger (AAH) Briefing Paper January 2009: Feeding, Hunger and Insecurity. The Global Food Price Crisis. A summary of Action Against Hunger research in Ethiopia, Sierra Leone, Central African Republic and Liberia
- African Population and Health Research Centre (APHRC) 2002. Health and Livelihood needs of residents of informal settlements in Nairobi city. Occasional study report 2002
- African Population and Health Research Centre (APHRC) 2006. The Effects of Population Growth on the Achievement of the MDG on Child Mortality in Urban Sub-Saharan Africa. Memorandum submitted to the UK All Party Parliamentary Group on Population, Development and Reproductive Health.
- Bhutta ZA, Ahmed T, Black RE, Cousens S et al. (2008): What works? Interventions for maternal and child under-nutrition and survival. *Lancet* 2008 366: 514-519
- Care International 2009. Internal review of the provision of relief assistance to communities affected by post-election violence project Jan-June 2008, including break down of voucher use and food.
- Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) [Kenya] and ORC Macro 2004. *Kenya Demographic and Health Survey 2003*. Calverton Maryland: CBS MOH, ORC Macro.
- Concern Baseline Nairobi Urban Nutrition Baseline Assessment March 2009 by Lilly Schofield
- Golden M. (2009) web-based nutrition in emergencies discussion forum accessed March 2009 at <http://www.en-net.org.uk/question/40.aspx#lastpost>
- Grellety Bosviel E./ MSF France (2008) Draft Rapid Socio-Economic Assessment in Mathare Slum April 2008.
- Heyer A. and Crosskey A. (2008) Oxfam response to urban food crisis: a situational analysis and strategy options.
- Jaspers S 2007 Review of food aid, cash and nutrition components of DfID funded humanitarian response in Kenya; 2005-06
- Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS et al (2003). How many child deaths can we prevent this year? *Lancet* 2003; 362: 65-71
- Kagure P. (2008) Biocentre User Survey conducted in Gatwekera Village, Kibera.
- Katilu AN. And Kabuki MM (2008) A baseline report on HIV/TB survey conducted at Mukuru Kwa Njenga location, Embakasi District, Nairobi, Kenya. For Medical Missionaries of Mary (MMM)
- KEMRI/CDC (2008) Nutritional status of pre-school children living in informal settlement, Nairobi, Kenya power point presentation Olack B. 2008
- Kenya Food Security Steering Group. The 2008/'09 Short Rains Assessment Report (KFSSG SRA) February 2009

- Kenya Integrated Household Budget Survey (KIHBS) 2005/06. Kenya National Bureau of Statistics
- Kenya National Food Security and Nutrition Policy May 2007, final draft, awaiting signature
- Kyobutungi C, Ziraba AK, Ezech A and Yé Y. (2008) The burden of disease profile of residents of Nairobi slums: Results from a Demographic Surveillance System. *Population Health Metrics* 2008, 6:1
- Kimani-Murage EW and Ngindu AM. Quality of water the slum dwellers use: the case of a Kenyan Slum. *Journal of Urban Health*, June 2007
- Mugisha F. The nature of employment in Nairobi Slums; why it is a precondition for poor health and livelihood outcomes. African Population and Health research Centre, Nairobi, Kenya.
- Mullei K, Wafula F, Goodman C. A case study of Integrated Management of Childhood Illness (IMCI) implementation in Kenya. Consortium for Research on Equitable Health Systems (CREHS) working paper 2008 in partnership with KEMRI Wellcome Trust
- Murphy N (2008) Formative study to understand the effects of post election violence and increased food prices on household food security, household diet diversity and feeding practices of the target population of slum areas where Concern Kenya is supporting Outpatient Therapeutic Programme for children with uncomplicated severe acute malnutrition. Prepared for Concern Worldwide during internship June to September 2008
- National AIDS and STI Control Programme, Ministry of Health, Kenya. July 2008. *Kenya AIDS Indicator Survey 2007: Preliminary Report*. Nairobi, Kenya.
- National Coordinating Agency for Population and Development (NCAPD) [Kenya], Ministry of Health (MOH), Central Bureau of Statistics (CBS), ORC Macro. 2005 *Kenya Service Provision Assessment Survey 2004*. Nairobi, Kenya: NCAPD, MOH, CBS and ORC Macro.
- Nii-Amoo Dodoo F, Zulu EM and Ezech AC (2007): Urban-rural differences in the socioeconomic deprivation-sexual behaviour link in Kenya. *Social Science and Medicine*: 64; 1019-1031
- Ruel MT, Garrett JL, Morris SS, Maxwell D. et al (1998): Urban Challenges to food and nutrition security: a review of food security, health and care-giving in the cities. Food Consumption and Nutrition Division Discussion paper No 51. International Food Policy Research Institute, Washington DC
- Taffa N. and Chephgeno G. (2005) Determinants of health care seeking for childhood illnesses in Nairobi slums. *Tropical Medicine and International Health*: 10 (3); 240-5
- Taylor W. and Maithya H. (2007). Urban families under pressure in Kenya and the impact of HIV/AIDS. Working paper 2., International Development Department, University of Birmingham, UK
- The Sphere Project: Humanitarian Charter and Minimum Standards in Disaster Response. The Sphere Project, Oxfam Publishing, Oxford, UK 2004
- Umande Trust, the Economic and Social Rights Centre (Hakijamii) and Christina Flodmann (2006). From Stakeholders to Shareholders: Enlightening water and sanitation services in Nairobi's Peoples' Settlements.
- UN Habitat (2007) UN Habitat and the Kenya Slum Upgrading Programme. Accessed online at www.unhabitat.org March 2009

UN Habitat 2008: The State of African Cities 2008: A framework for addressing urban challenges in Africa.

UN Human Settlements Programme (2003). The challenges of slums: Global report on Human Settlements.

United Nations Children's Fund. 2007. *Progress for children: A world fit for children statistical review*. New York.

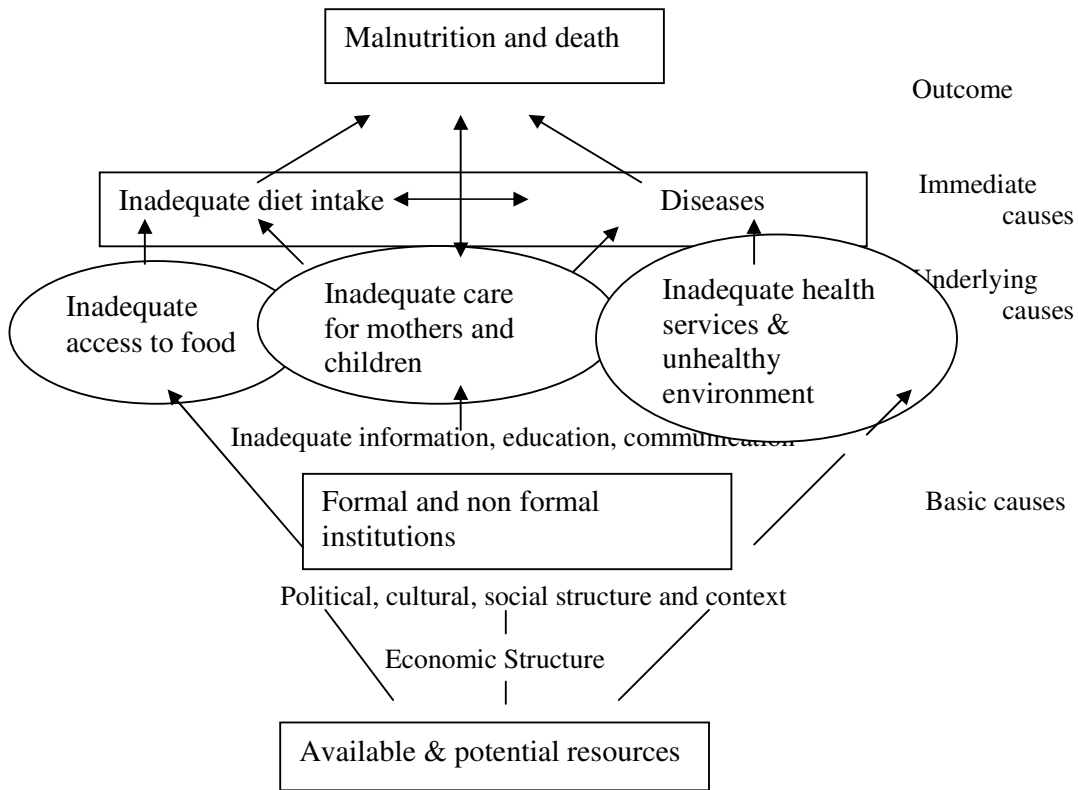
UNICEF 2009 Improving child survival in Nairobi's informal settlements – Kenya. Draft Press Release

United Nations Children's Fund. 2009. *The state of the world's children: Maternal and newborn health*. New York.

World Bank (2006). Kenya Inside Informality: Poverty, Jobs, Housing and Services in Nairobi's Slums. Report No. 36347-KE. Water and Urban Unit 1, Africa region, World Bank May 31 2006

Young H and Jaspers S (2006). The meaning and measurement of acute malnutrition in emergencies: a primer for decision-makers. HPN ODI Briefing paper number 56 November 2006

Appendix 1. UNICEF Causal analysis – conceptual framework for depicting causes of malnutrition and death



Appendix 2. WHO Decision-making framework for implementation of selective feeding programmes (WHO The management of nutrition in major emergencies 2000)

Finding	Action required
Food Availability at household level <2,100kcal per person per day	Unsatisfactory situation: <ul style="list-style-type: none"> • Improve general ration until local food availability and access can be made adequate
Malnutrition rate (GAM) 15% or more or 10-14% with aggravating factors*	Serious situation: <ul style="list-style-type: none"> • General rations (unless situation is limited to vulnerable groups), <i>plus</i> • Supplementary feeding generalised for all members of vulnerable groups, especially children and pregnant and lactating women • Therapeutic feeding for severely malnourished individuals
Malnutrition rate (GAM) 10 – 14% or 5-9% with aggravating factors*	Risky situation <ul style="list-style-type: none"> • No general rations; <i>but</i> • Supplementary feeding targeted to individuals identified as malnourished in vulnerable groups • Therapeutic feeding programme for severely malnourished individuals
Malnutrition rate (GAM) under 10% with no aggravating factors*	Acceptable situation: <ul style="list-style-type: none"> • No need for population interventions • Attention for malnourished individuals through community services

*Aggravating factors defined as: general food ration below the mean energy requirement; crude mortality rate more than 1 per 10,000 per day; epidemic of whooping cough or measles; high incidence of respiratory or diarrhoeal diseases.

Appendix 3. The Kenya Urban Nutrition Working Group and examples of current nutrition interventions in the informal settlements

In 2008, the Kenya Urban Nutrition Working Group (Slums/Informal settlements) was set up with terms of reference to provide a coordination role; to provide technical leadership on urban nutrition issues and to advocate and provide a voice for urban nutrition issues. Members of the group include international Non-governmental organisations (INGOs), national non-governmental organisations, community-based organisations (CBOs), Ministry of Health, UNICEF, WFP and WHO.

Some examples of the nutrition activities ongoing within the slums are summarised below:

- Certain Nairobi slums – school feeding programme⁸,
- Outpatient therapeutic programmes for moderate and severe malnutrition in 21 MoH/NCC/CBO supported health facilities in Nairobi East, West and North and MSF in Kibera 3 sites
- In patient Therapeutic care for severely malnourished with complications
- Mathare –MSF France focus on provision of care, food and drugs to HIV/TB patients, Quarterly nutrition sentinel site surveillance (ACF)
- Kibera – MSF Belgium, provision of primary health care services, TB and HIV services, management of moderate and severe malnutrition, food by prescription, multi-storey gardening
- Riruta/Hurlingham – provision of CCC services, HIV services and food
- Westlands, Lower Kabete, Kawangware – provision of CCC services and food
- All – M&E HMIS UNICEF/MOH

⁸ The current status of WFP support to school feeding in the slums is: Privately funded in Kibera, Kawangware, Mukuru and Kangemi, Mathare (ongoing for 5 years, starting 2009); schools in the regular school feeding programme - Kariobangi (duration 5 years) and schools benefiting from the high food prices funding in Umoja (duration 1 year 2009). Total school feeding caseload in Nairobi is 91,000 in 84 schools.

Appendix 4. Extracts from Kenya's Food Security and Nutrition Policy 2007

In this policy, the Government of Kenya states that it “is strongly committed to reducing hunger and malnutrition. This includes efforts to build up self-reliance to reduce chronic food insecurity as well as measures to assist those in need when emergencies occur”.

In particular, this document highlights the government's commitment to promote urban employment and improved access to food described in. This document includes specific commitment to:

- i) Support and simplify regulatory frameworks governing formal and informal sectors in urban and peri-urban areas and towns with a focus on employment creation and poverty alleviation;
- ii) Support and promote capacity building to enhance urban and peri-urban small business and entrepreneurial skills, including agricultural production;
- iii) Provide suitable zones for the informal sector through provision of workspace for hawkers and other small and medium term businesses.
- iv) Support small business enterprises to access affordable financial resources.
- v) Support activities that enhance income generation capacity of people with special needs or disadvantaged
- vi) Build upon existing urban-rural linkages to increase food security, nutrition and livelihoods to the benefit of both the urban and rural poor.
- vii) Consider special measures to help the poorest and most vulnerable in urban areas meet their minimum food and nutrition requirements.

Appendix 5. Policies currently being implemented to address the soaring food prices in Kenya
(taken from KFSSG SRA 2009)

Consumer targeted policies

- Reduced taxes on food
- Cash transfers
- Food for work
- Food ration vouchers
- Reduction of inflation

Producer/Supplier targeted policies

- Increase supply using grain stocks
- Agricultural input subsidies
- Increase administrative prices for produces
- Incentives for expanding production (e.g. credit)

Trade Policy Measures for food commodities

- Increase supply via imports
- Lower input tariffs
- Export restriction

Trade policy measures for agricultural inputs

- Lower import tariffs for fertilisers