



In spite of its severity, food insecurity in urban areas largely remains invisible to policy makers and planners (see new urban development policy). Awareness of this problem comes to the fore briefly during a food crisis but quickly wanes. Unobserved food insecurity and hunger in urban households is associated with poor health, low productivity, increased crime & truancy amongst the poor with serious and far reaching consequences.

BACKGROUND: Nearly half (44%) of Nairobi residents are under-nourished. Four-fifths of these households are in the lowest income quintile, while 60% and 40% fall in the second and third income quintiles. The severity of the effect of food prices on food security cannot be overemphasized. In urban areas especially, where food is mainly acquired from the market, many poor households are unable to purchase adequate food. Such households are known to reduce the size or/and frequency of their normal meals in order to cope.

Unlike in rural areas where food insecurity is a community-wide phenomenon majorly linked to weather shocks as well as supply side policies, food insecurity in an urban area like Nairobi results from the inability of a household or individual to make enough income to secure sufficient food and other basic necessities. This capacity depends in turn on labour markets and the informal economy. Recognition of this fact has changed the way policymakers view food insecurity. Food insecurity is now understood as a demand concern (the access of poor people to food, based on their entitlements) rather than a supply concern (national availability of food). This paradigm shift embraces concern for a household's ability to obtain food from the market as well as from other sources (e.g. public programmes) to which they are entitled.

OBJECTIVES: The aim of this brief is to explain how food-insecure households in Nairobi adjust their food expenditures and

food budget as hunger deepens. The research assessed the relationship between food security and household expenditure on food.

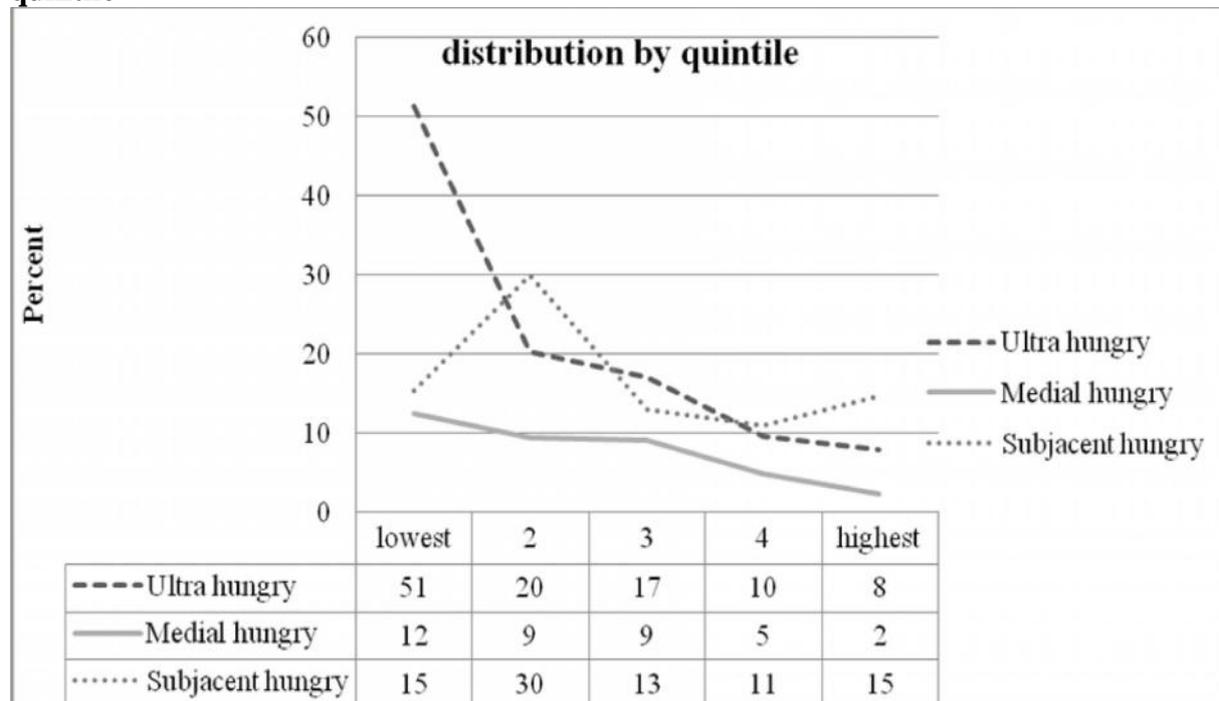
DATA AND METHODS: The relationship between food security and household expenditure on food was explored by regressing the per capita expenditure on food against food insecurity while controlling for individual and household characteristics. The proxy used for household food insecurity is the deficit in daily dietary energy intake, or the depth of hunger. The depth of hunger is how short the estimated per capita energy intake falls from the recommended per capita energy intake. A dietary energy intake of 2,200 kilo calories per adult equivalent (kcal/day/ae (IFPRI, 2010) are the minimum consumption level recommended given body weight, age, gender and activity.

Analysis was based on consumption and expenditure data that were collected in personal interviews with 821 households in November 2009. Households were divided into five quintiles based on their expenditures with the first quintile having the lowest expenditure whilst the fifth quintile had the highest expenditure. The regression was estimated using only the data on food insecure households.

MAIN FINDINGS: Fifty percent (50%) of households in the lowest income group, 20% and 17% in second and third quintiles respectively fell in the ultra hungry category. These households had a daily per

capita dietary energy intake of less than 1,600 kcal (Figure 1).

Figure 1: Distribution (%) of households falling in each hunger category within each quintile



Source: Authors

What is the relationship between hunger, food expenditure and other parameters?

Food expenditure: A 1% increase in food insecurity is associated with a reduction in per capita expenditure on all foods in the following proportions: 0.13% on total food; 0.21% on staples, 0.25% on pulses, 17% on oils, 0.19% on dairy products and 0.12% on fresh fruits and vegetables. This implies that a reduction in households' per capita expenditure on total food or on specific foods is a good indicator of the food security status of households in urban areas like Nairobi.

Poverty level: The households falling within the lower quintiles are more likely to be undernourished. These households were found to have lower per capita expenditure on total foods, fresh fruits and vegetables and high value food groups like meats, dairy products and oils. This implies that the depth of hunger and also

quality of diet deteriorates as income decreases.

Family size and composition: Larger families are highly likely to be energy deficient and have poorer quality diets. A 1% increase in the size of household is associated with 1.8% increase in the odds that a household will suffer deficiency in energy intake. While a 1% increase in family size is associated with an increase in per capita expenditure on staples (0.33%), it is associated with reduced per capita expenditure on total food (0.33), meats and dairy products. Expenditure on other foods like except pulses also increases (not significant). The composition of household also matters. Households with infants are less likely to be undernourished while increasing the number of dependant adults (in the age bracket 15 – 23 yrs) by 1% results in a decline in per capita expenditure on total food (0.07%), staples (0.1%) and fresh fruits and vegetables (0.19%).

Ownership of house: Home ownership is critical for food security of urban households and modern amenities (water, electricity) in a home are a sign of improved food security. Although ownership of dwelling does not reduce the likelihood that a household will be energy deficient, it is associated with 19% higher expenditure on total food and higher per capita expenditure on meats (33%), oils (27%) and on fresh fruits and vegetables (20%). Modern plumbing is associated with greater per capita expenditure on pulses (35%) and dairy products (39%).

Employment: Although not significant, households with a head who is in salaried employment or engaged in business are less likely to have a deficiency in energy intake. However, the kind of employment which energy deficient households are engaged in seems not be adequate to cater for their food needs since employment is associated with lower expenditure on total food (0.19%, & 0.15% respectively).

Gender: It is not clear why male headed households are more likely to be undernourished (up to 44% of male headed households and 36% of female headed households were undernourished). However, among the households with inadequate energy intake, male headed households have a higher expenditure on staples (51%).

Marital Status: Households with both husband and wife are (67%) less likely to be energy deficient compared to those with a single parent probably because of double income (compared with one). Such households have lower food insecurity as evidenced by a higher per capita intake of high value foods especially meats & eggs (54%), oils (27%) and fresh fruits and vegetables (29%).

POLICY RECOMMENDATIONS: A significant proportion of households in Nairobi are under-nourished, but urban food insecurity remains largely invisible to

policy makers. This invisibility, as well as the ineffectiveness of current policies, exacerbates food insecurity of households. Increased sensitization to the hunger or food insecurity in urban areas is vital to attainment of MDGs.

Our findings suggest that:

1. A reduction in per capita expenditure on foods generally or of specific foods is a good indicator of the food security status of households in urban areas like Nairobi.
2. The depth of hunger and also quality of diet deteriorates as income decreases.
3. Larger families have relatively poorer quality diets.
4. Household composition matters. Households with infants are less likely to be undernourished while a higher number of “dependant” adults are associated with decreased per capita expenditure on staples, oils and fresh fruits and vegetables.
5. Home ownership is critical for improved food security while modern amenities in a home are a sign of improved food security
6. The kind of employment which heads of ‘poor’ urban households are engaged in may not be adequate to cater for household food needs
7. Among the poor, male headed households are less food insecure.
8. Compared with single parent households, households with both husband and wife are much less likely to be food insecure. They also have a higher per capita intake of high value foods especially meats & eggs and oils

Tegemeo Institute acknowledges the resources support for its research programmes from key partners including the United States Agency for International Development (USAID), Michigan State University (MSU), and Egerton University, Njoro Kenya.

For the full report: visit www.tegemeo.org

Kamau and Olwande are research fellows at Tegemeo Institute; Githuku is a research assistant at the same Institute.