

**Patterns of Urban Food Consumption and Expenditure in Zambia:
An Overview Report Based on the CSO/MACO/FSRP Food Consumption Survey in
Urban Areas of Lusaka, Kitwe, Mansa and Kasama, 2007-2008**

EXECUTIVE SUMMARY

Introduction: Policies to promote demand-driven smallholder agriculture and improved urban food marketing system performance in Sub-Saharan Africa (SSA) need to be informed by careful food demand analysis, especially given the rapid rate of urbanization in many SSA countries. Governments, donors, and other policymakers require an up-to-date understanding of urban consumption patterns because these are among the main drivers of many of the opportunities available to small-scale farmers and because such information can help identify key leverage points to improve urban marketing system performance. It is also important to understand better the extent of, and constraints to, urban agriculture for household consumption as well as for cash income generation.

Up-to-date information on urban consumers' food production and consumption behavior in Zambia is lacking and thus, the Central Statistical Office (CSO) conducted the Zambia Urban Consumption Survey (UCS) in August 2007 and February 2008 in cities of Lusaka, Kitwe, Kasama and Mansa. This was done in collaboration with the Ministry of Agriculture and Cooperatives and the Zambia Food Security Research Project (FSRP). Lusaka and Kitwe are metropolitan cities (Lusaka is the country's capital city and Kitwe is the biggest city on the Copperbelt) while Mansa and Kasama can be referred to as rural cities situated in the northern parts of the country where cassava is a very important staple food. Though Mansa and Kasama are Provincial capital cities (Luapula and Northern Province respectively) they have relatively less industrial activities with agriculture playing a more prominent role than in the more urbanized cities of Lusaka and Kitwe.

The primary objective of this study is to develop a detailed understanding of the food and other consumption and expenditure behavior of households in key urban areas of Zambia. Key aspects of this behavior analyzed are consumer food budget or expenditure shares across different food groups and specific food items. Analysis also examines urban agriculture as well as the market share of different types of retail food outlets, such as open air markets, street vendors, shops, supermarkets, and other retail formats.

This report covers the general findings of all sections of the survey instrument used in the study, presenting results using tables and figures. Interpretation of the findings is covered in bullet point form with some explanations/discussions where necessary. Using this basic survey information, additional studies on detailed topic and value-chain (such as staples, horticulture, etc) issues will further analyze findings and draw conclusions about urban production and consumption behavior, and related marketing policy issues.

Methodology: The survey was designed to cover 140 Standard Enumeration Areas (SEAs) across the 8 strata that were defined to cover areas and households in Lusaka, Kitwe, Kasama and Mansa. This corresponds to a probability sample of about 2, 800 non-institutionalized private households residing in the target urban areas. This sample is urban area wise efficient and is expected to yield reliable estimates at urban area and stratum levels. No national estimates were to be generated from the data.

In order to improve the quality of the data as well as capture seasonality of expenditure and consumption, the survey was done in two phases: the first phased covered the six month period between August to January, 2007, and the second phase covered the six months from February to July 2008. During these same periods, prices of selected commodities and

selected units of measure were also collected for use in further analyses, such as converting consumption from expenditure to actual physical quantities for estimating price elasticity of demand. Data collection was conducted by way of personal interviews using 1 semi-structured questionnaire to collect general consumption data pertaining to the household being enumerated. In addition to the household data collection instrument, a listing form was initially used to list all households in the selected SEA. The same panel of households visited in the first phase was followed during the second round of the survey. The number of households was over sampled in the first round to accommodate for the possibility of non-contact households in the second round. The data from the UCS survey was entered in CSPro computer application and cleaned and analyzed using the Statistical Package for Social Sciences (SPSS) software.

Summary of Findings

Characteristics of sample households: One fifth of the households in the urban areas of Lusaka, Kitwe and Kasama and one quarter of those in Mansa are headed by females. Two thirds of the household heads in these areas are married. Household heads in the more urbanized areas of Lusaka and Kitwe are relatively more educated while those in the less urbanized areas of Mansa and Kasama are less likely to have no source of livelihoods and are more likely to engage in informal livelihood activities. The incidence of prime-age adult mortality in households is high in all urban areas except Kasama where under-5 children mortality predominates. The most important causes of prime-age mortality declared by household representatives in the sampled urban areas were tuberculosis, malaria, anemia, stomach diseases and HIV/AIDS. Other sudden deaths and accidents were also quite common in Kitwe, Kasama and Mansa. Prime-age mortality due to malaria was more common in the wetter urban areas of Kitwe, Mansa and Kasama while that from diabetes was more common in the more affluent Lusaka. Stomach diseases and/or chronic diarrhea were more common in the less urbanized and poorer Mansa and Kasama.

Overall household expenditures: In the analysis, we will be using household total adult expenditure terciles as proxies for household income levels or affluence. As per common knowledge, the share of total household expenditure that is spent on food is higher among households in lower total expenditure terciles or groups. Similarly, the overall expenditure share allocated to food was lowest in Lusaka, the most affluent urban area, followed by Kitwe then Mansa and Kasama (the rural less affluent cities). Female headship of households did not seem to be a distinguishing factor in these shares. A clear pattern in analysis results is that the food share is relatively high among the low income households (low expenditure terciles). Food consumed at home generally followed this same pattern. However, the share of food bought and consumed away from home increased with increasing income. The total expenditure share of alcohol and tobacco was highest among the low income households, male headed households, and households in low cost residential areas, and this was particularly so in Mansa.

Household food expenditure - broad food categories: Cereals and staples are the most consumed food in the sample urban areas. Their expenditure shares as a portion of total food consumption was 24-28%. Meat and eggs followed with shares ranging from 13% to 17%, and vegetables are third with shares ranging from 11% to 15%. The expenditure shares of these food categories, including legumes and sugar/oils, are higher among low income households. The expenditure shares of dairy products, meat and eggs, and food bought and consumed away from home, on the other hand, are higher among households in the high income bracket. The share of vegetables and legumes is higher among female headed households, and that of meat and eggs among their male headed counterparts

Household food expenditure for staples: Maize is the most consumed staple (with an average food share of 10-12%) However wheat products have also become quite important in all sample urban area, especially Lusaka and Kitwe (the share is about 10% in these 2 urban areas, and about 5% in Mansa and Kasama). The expenditure share of wheat ranks higher than that of cassava in Kasama (4.8% compared to 3.4%). At the same time, cassava is especially important in Mansa (5.7% expenditure share) and Kasama. The share of expenditure on maize is highest in the low expenditure terciles while rice is lowest in this tercile in all sample urban areas except Kasama where it is very high in the low expenditure tercile. There is quite some local production of rice and imports through Nakonde to Kasama. The expenditure share of wheat is higher in the medium and high expenditure terciles in Lusaka and Kitwe, but only in the high ones in Mansa and Kasama. The expenditure share of cassava is 5 to 7 times higher in the low than high expenditure terciles in Mansa and Kasama. Its share is also higher among female than male headed households in all sample urban areas except Lusaka.

Overall the informal/traditional market system's share of staples purchases is high, ranging from 60% in Lusaka to 79% in Kasama. In contrast, the retail share for these retailers for commercially manufactured maize meal, including re-packaged products, is much lower (1% in Mansa to 31% in Lusaka). The market share of supermarkets (including mini-marts) of maize meal purchases is low in low expenditure terciles (about 2% compared to 20% in higher terciles). Female headed households are more likely to use the informal/traditional market system outlets for the purchase of maize meal in Mansa and Kasama, while they are less likely to do so in Lusaka. There are no gender differences in these patterns in Kitwe.

Household food expenditure for fruit and vegetables: Rape, tomato, onion and local leaves are the most consumed vegetables in the sample urban areas. Local leaves, especially cassava leaves, are very important in Mansa. The main fruit consumed are bananas, oranges/tangerines and apples. With minor variations in the ranking of expenditure shares, all vegetable expenditure shares are higher in the low than the high expenditure terciles. The shares of bananas, oranges/tangerines and apples are higher in the high expenditure terciles while those of other fruits (taken together as mangoes, avocados, water melons, guavas, and lemons) are higher among households in the low expenditure terciles. The shares of expenditure of the vegetables are higher among female than male headed households. The dominance of the traditional/informal system in the marketing (purchases) of fruits and vegetables is overwhelming (over 95%). Although the share of formal system retail outlets (grocers, mini-marts and supermarkets) is 6-10 times higher in the high than low expenditure tercile, the traditional/informal system still predominates (over 90% share).

Household food expenditure for food bought and consumed away from home: Nshima with relish is the most common food bought and consumed outside the home (at least 30% share in all urban areas except Kasama). The expenditure share of alcoholic beverages is also high, coming second to nshima and relish in Lusaka, Kitwe and Mansa but was first in Kasama, over and above nshima and relish which came in second position. Nshima with relish, cassava, sweet potatoes and fresh produce is more commonly consumed by households in the low income group, while rice with relish, and chicken and chips are more consumed by households in the high income group. Alcoholic beverages are more consumed by households in the low income brackets in Mansa and Kasama, while their expenditure share does not differ with income/expenditure levels in the more urbanized areas of Lusaka and Kitwe. Nshima or rice with relish tends to be more bought and consumed away from home by male than female headed households. The opposite is true for chips, and chicken and chips.

Urban agriculture - households' involvement in crop production: A significant proportion of urban households grow either field or horticultural crops (41% in Lusaka, 79% in Kitwe and 92-93% in Kasama and Mansa). Most households have gardens rather than fields.

Vegetables and fruit are the most commonly grown crops by urban households, and are followed by cassava in Mansa, and maize in the other sample urban areas. Households in both the low and high income groups (expenditure terciles) are engaged in gardening, but those that have a field are predominantly in the low income bracket. A higher proportion of households in the low expenditure tercile grow maize (except in Mansa where the opposite is true). In addition, maize is generally more grown by male headed households. However more female headed households grow the crop within town (excluding plantings outside town). Sweet potato and cassava are more grown by female headed households in Lusaka and Kitwe, while the opposite is true in the less urbanized Mansa and Kasama. Slightly more female headed households grow vegetables than male headed ones. Most of the land used for crop cultivation is based outside of town for Lusaka and Mansa (69% and 64% respectively), but is quite low in Kitwe and Kasama (22% and 36% respectively). A higher proportion of households growing maize outside of town sell some of the maize they produce, as compared to those that grow it within town. However, a higher proportion of the maize grown within town is sold as compared to that grown outside of town. For instance, in Lusaka, only a quarter of maize planted is planted within town but it accounts for 36% of production and 60% of sales. The average area planted to maize per household is larger among households in the high expenditure tercile groups, but total area planted and production is higher in the low income (expenditure tercile) groups. The average area planted to maize per households including total area, production and sales tend to be higher among male as compared to female headed households. Prices households received for sales of their maize are generally higher among the low income group (except in Mansa) and among male headed households.

Urban agriculture - households' use of fertilizer on maize, fruit and vegetables: More urban households use inorganic fertilizers on their fruits and vegetables than on maize crops. Cash purchases are the most important means of acquiring fertilizers by urban households both in terms of the proportion of households using this method to acquire the fertilizer, as well as the actual quantity acquired through this means. The Fertilizer Support Program (FSP) is second in importance, but it accounted for only minor amounts of the fertilizer households acquired, especially in the more urbanized Lusaka and Kitwe. The fertilizer acquired through cash purchases was 16 to 22 times that acquired through the FSP in Lusaka and Kitwe, but only 2 to 3 times in Mansa and Kitwe. Commercial loans or credit as a source of fertilizer was also relatively more significant in Mansa and Kasama. Even in these urban areas the amounts were small compared to fertilizer acquired through the FSP. The FSP fertilizer was 5-8 times more than that acquired from commercial loans or credit.

Urban agriculture - reasons households did not grow field or horticultural crops: The main reasons households did not grow field or horticultural crops differed by type of crop and urban area. The main reasons for not cultivating were: 1) failure to acquire a plot; 2) Lack of space at the homestead; 3) poor access to water; 4) lack of adequate time or labor; 5) lack of interest; 6) previously used fields no longer available; and 7) long distance to available plots.

Urban agriculture - households' ownership of livestock and poultry: Across Zambia a considerable proportion of urban households keep livestock and poultry. This is higher among households in the less urbanized areas of Mansa and Kasama as about 67% and 84% of the households in these urban areas respectively keep livestock and poultry, while only 20% and 33% in Lusaka and Kitwe do so. Chickens are the most commonly kept in all sample urban areas and are followed in importance by other poultry and then goats/pigs. In Lusaka the importance of cows ranks higher than goats/pigs. The variety of animals kept is greater in Lusaka than the other urban areas (13 types compared to 8-9). Chickens are kept more by households in the high income groups in the less urbanized Mansa and Kasama, while the difference between households in the low and high income groups is not pronounced in Lusaka and Kitwe. Chickens are also more likely to be owned by female headed households while the opposite is true for other types of poultry. Goats and cattle are

more likely to be owned in the medium and high income categories. Eggs are the most commonly produced livestock product, and egg production is much higher in Mansa and Kasama. Lusaka has the least proportion of egg producers but the highest proportion of urban egg sellers, while there are hardly any sellers in Mansa and Kasama. Eggs sales are mostly done by households in the high income group and those that are female headed. The proportion of households producing milk is highest in Lusaka but none of the producers reported selling any. Fish harvesting and selling is more pronounced in Kasama. Both milk and fish production and sales are mostly done by male headed households.

Household assets - ownership patterns: The most commonly owned assets by urban households in these four cities are the charcoal brazier, mobile phones, radio, television (color, and black and white units), refrigerator and/or freezer, and bicycles. Bicycles are particularly common in the less urbanized Mansa and Kasama. The electric cooker, radio, mobile phone, color television, refrigerator and/or freezer, regular landline, electric hot plate and motor bike are more common among households in the high expenditure tercile. The charcoal brazier is more common among the low income households in all sample urban areas. The black and white television is more common among the low income households in Lusaka and Kitwe, but among the high income ones in Mansa and Kasama. Bicycle ownership is more or less the same among all income groups in Lusaka, but is higher among the low income group in Kitwe, and high income ones in Mansa and Kasama. Farms/smallholdings are more commonly owned among the high income group in Lusaka and Kitwe, and the low income group in Mansa and Kasama.

Household assets - use of charcoal: Charcoal is widely used for cooking in all cities and among all households. Likewise, all households in the low income group in Lusaka and Kitwe use charcoal and/or wood regardless of whether they have an electric cooker, gas cooker, electric hot plate, charcoal brazier or an improved charcoal brazier. As the ownership of these assets (except the braziers) increases, the use of charcoal and wood decreases with an increase in the household expenditure levels (terciles).

Household assets - housing characteristics: Home ownership among urban households tends to increase with decreasing urbanization of the sample urban areas. It is as low as 30% in Lusaka and as high as 67% in Kasama, followed by Mansa (60%) and Kitwe (51%). The opposite is true for accommodation provided for free by friends, employers or relatives (63% in Lusaka, 42% in Kitwe, 29% in Mansa and 22% in Kasama). Household home ownership is higher among households in the low than high expenditure terciles in all the sample urban areas while the opposite is true for free accommodation. With regard to gender, home ownership is higher among female than male headed households in Lusaka and Kitwe (1.4 times) but is more or less the same in Mansa and Kasama. Free accommodation is more or less the same among both types of households in Lusaka but is higher among male headed ones in the rest of the sample urban areas. The incident of rented accommodation is higher among the female headed households in Lusaka and Kitwe while the opposite is true in Mansa and Kasama. The incident of renting is highest in the high cost residences in all the sample urban areas. The level of household amenities in terms of electricity, running water, and sewerage is higher in the more urbanized sample urban areas. The level of amenities is much higher among households in the high income group. About two and half times more households in the high than low income groups have electricity in their main house in Lusaka and Kitwe; 12 times more in Mansa and 18 times more in Kasama. The high income group also has seven times more running water and sewerage in Lusaka, 2.4 times in Kitwe, 5 times in Mansa and 68 times in Kasama. The house space (square meters of living space) is 1.5 to 2.0 times higher among households in the high income group.

Household links with rural areas - households sending cash, goods or both to rural areas: The proportion of urban households sending cash or goods or both to rural areas is highest in

the less urbanized Mansa and Kasama (65% and 54% respectively compared to 46% and 40% for Lusaka and Kitwe respectively). The proportion of those that send only cash is least in Mansa (25% compared to 49% to 65% elsewhere). The proportion of households sending goods only is higher in Mansa and Kasama (21% and 30% respectively compared to 15% and 11% in Lusaka and Kitwe respectively). The proportion of those that send both cash and goods is highest in Mansa (54% compared to 21-34% elsewhere). The proportion of households sending cash, goods or both to rural relatives is higher among the high than low income groups, except in Mansa where it is same among all income groups. Sending of goods only is highest among the low income group, being 3-7 times higher than those among the high income group. The average value of the cash and goods sent is higher in the more urbanized Lusaka and Kitwe (about K420,000 to K540,000 compared to K209,000 to K260,000 elsewhere).

Household links with rural areas - households receiving cash or goods from rural relatives:

The proportion of households receiving cash or goods from rural relatives is higher in Mansa and Kasama (42-44% compared to 17-27% in the other cities). The receipt of farm products is higher in these less urbanized sample urban areas as compared to Lusaka and Kitwe. It is higher among households in the high and medium income groups. The main farm products received by urban households from rural relatives are groundnuts, maize, cassava, other field crops and vegetables. Maize is mostly received by households in the low income group in all sample urban areas except for Lusaka where it is the same for both high and low income households. Cassava is mostly received by households in the low income group in Kitwe and the high group in Kasama. Its receipt is the same among these income groups in Lusaka and Mansa. Groundnuts, vegetables, fruits and poultry tend to be more received among high income households with a few exceptions: groundnuts, vegetables and fruit are more received by low income households in Mansa. Poultry tends to be received more by low income households in Kasama.

Household self assessed food security status: Households' declared ability to consume the ideal number of main meals a day in the sample urban areas was about 90% except in Mansa where it was lower at 82%. This and other household food security indicators showed a higher rating (more favorable) for households in the high, followed by those in the medium and low income groups in all sample urban areas. The average number of days in the past 30 days that a meal was skipped was lowest in Lusaka (1.4 compared to 2.1-2.4 in other cities). Skipped meals were higher among households falling into the lower income groups. The score for all the other food security parameters was more favorable to households in the high rather than lower income groups. The lower the income group the greater the number of days that a household employed any particular coping strategy. In addition, the enumerators' qualitative assessments of the household security status at the end of the interview tended to be higher, the higher the income expenditure tercile of households interviewed.