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# **The Crisis of Food Insecurity in African Cities**

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## **Abstract**

Rapid urbanization and increasing urban poverty are shifting the historical locus of food insecurity from the rural areas to the cities of Africa. This paper uses data from the African Food Security Urban Network (AFSUN) baseline survey carried out in eleven cities in nine Southern African countries in 2008-9 to demonstrate the existence of extremely high levels of urban food insecurity. The lack of access to food is primarily the result of household poverty, high unemployment and limited income generating opportunities, rather than any absolute food shortages. The paper also shows the growing importance of supermarkets, and the relative insignificance of urban agriculture, in the food sourcing strategies of the urban poor.

Urban  
Food security  
Southern Africa  
Poverty  
Hunger  
Supermarkets  
Informal Food Economy

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## INTRODUCTION

Over the last decade, a new global consensus has emerged that food insecurity in Africa is primarily a rural problem.<sup>1</sup> The proposed solution to the crisis of food insecurity is an Indian-style "Green Revolution" which would see massive increases in food production by small farmers.<sup>2-7</sup> Yet, in many countries, more than enough food is already being produced. South Africa, for example, produces sufficient food to guarantee an adequate diet for all. Why, then, is the prevalence of under-nutrition shockingly high in that country?<sup>8-9</sup> And why do governments, international agencies and foreign donors insist that increasing agricultural production by small farmers will solve food insecurity in Africa, even in countries like South Africa where two-thirds of the population is already urbanised?<sup>10</sup> These questions are particularly relevant in a continent undergoing rapid urbanization, where increasing numbers of people are leaving the countryside and relocating to urban areas.<sup>11</sup>

UN-HABITAT predicts that in 2025 Africa will have more people living in urban than rural areas for the first time in its history.<sup>12</sup> Southern African is urbanizing faster than any other region on the continent. Urban growth rates in most countries are 3-5% per annum while rural population growth rates are generally less than 1%. Two Southern African countries (Botswana and South Africa) are already over 60% urbanized. Given current rates of growth, they will be over 70% urbanized by 2030, as will Angola. By then another five Southern African countries (Mozambique, Zimbabwe, Namibia, Mauritius and the Seychelles) will be over 50% urbanized and another four (Zambia, Lesotho, Madagascar and the Democratic Republic of the Congo or DRC) will be over 40% urbanized. Even in predominantly rural countries such as Swaziland, Tanzania and Malawi, over a third of the population will be urbanized by 2030. By 2050, every country in the region is projected to be over 50% urbanized and some (Angola, Botswana and

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South Africa) will be over 80% urbanized. Many new urban residents maintain close links with rural areas.<sup>13</sup> but the overall trend is towards more and more people living in urban areas for progressively longer periods. The majority of Africa's newer urbanites live and survive in what Saunders (2010) has called "arrival cities" – over-crowded, low income, informal settlements where rates of poverty and formal unemployment are extremely high.<sup>14</sup> A central development question is how Africa's arrival cities, and rapidly growing urban populations more generally, will be fed.<sup>15-16</sup>

Governments, donors, philanthropic foundations (such as the Bill & Melinda Gates Foundation) and some researchers currently advocate three main strategies for increasing the supply of food in Africa. The first is the small farmer "Green Revolution" which will supposedly provide bountiful supplies of cheap food for all.<sup>17-19,5,20-21</sup> All are avidly promoting technical inputs to small-scale agriculture in Africa in an effort to achieve the kind of post-colonial "rural development" transformation that was widely reckoned to have failed only twenty years ago. Even in South Africa, where any chance of smallholder agriculture meeting the food needs of the rural (let alone the urban) poor are extremely remote, this solution is being advocated.<sup>22-23</sup> Others are more sceptical, arguing that the idea of a Green Revolution is misplaced and that it will not feed the rural or urban poor.<sup>24-28</sup>

Secondly, some suggest that the future of urban food security in Africa does not lie in smallholder agriculture but in large-scale commercial agriculture and the modern agri-food supply chains that already feed the rest of the urbanized world.<sup>29-33</sup> Collier (2008), citing the Brazilian case, argues that the smallholder orthodoxy is misguided because it ignores the potential of agri-business to effect the kinds of production and productivity increases that would

help feed Africa's growing cities. Supermarket expansion is already changing the nature of urban food supply systems in Africa, a trend that is likely to accelerate in the future.<sup>34-36</sup> Modern supermarket chains are increasing their control of food supply chains in the urban areas of Southern Africa.<sup>37-39</sup> Whether or not these modern supply chains will provide significant opportunities for small farmers is a matter of some dispute.<sup>40-42</sup>

Thirdly, there is a widespread notion that urban agriculture will resolve the crisis of urban food insecurity in the 21st century.<sup>43-49</sup> Contemporary policy debates are dominated by the idea that food insecurity among poor households can be mitigated by urban agriculture.<sup>50-52</sup> This argument has recently been treated with scepticism by some researchers who argue that the means and motivation of the urban poor to grow their own food and derive income from its sale are greatly exaggerated.<sup>53-54</sup> African city governments are themselves far from convinced that urban land should be used for food production. They either adopt a laissez-faire attitude to the presence of fields and livestock in cities or actively oppose their presence in the urban environment.<sup>55-57</sup>

For all the differences of emphasis and policy prescription, these three approaches share a flawed "productionist" assumption that the answer to overcoming food insecurity and under-nutrition in Africa is to increase agricultural output. Much of the current debate on food security in Africa focuses on food production, without any systematic consideration of the other dimensions of food security. In the urban context, this is especially problematic. In most cities in Africa, food production and supply are not the key determinants of food insecurity. Rather, it is whether households can access the food that is available. The vast majority of urban households purchase the bulk of their food. The poorer the household, the greater the proportion of income that is

spent on food and the poorer the quality of the diet. In Africa's urban areas, it is the type and success of the strategies that households adopt to access food that are critical to their level of food insecurity.

This paper explores the issue of urban food access in the Southern African region of Africa. The paper presents and discusses the findings of a household survey conducted simultaneously in eleven major cities in nine countries in 2008-9 by the African Food Security Urban Network (AFSUN). The AFSUN data base is a rich source of information on the dimensions and causes of urban food insecurity. The paper begins with a discussion of the methodology used in the AFSUN survey and then presents the main findings on the following issues: (a) the levels of food insecurity amongst poor urban households; (b) the quality and diversity of urban diets; (c) the relationship between poverty and food insecurity and (d) the determinants of urban household food insecurity. The AFSUN data also provide an important opportunity to see where poor urban households actually get their food. How important are commercial farming and supermarket supply chains? Do households rely on urban agriculture for food and income? What role does the informal food economy play in food access? And is social protection a hedge against food insecurity?

## **METHODOLOGY**

The AFSUN Urban Food Security Baseline Survey was conducted in late 2008 and early 2009 in eleven cities in nine countries: Blantyre (Malawi), Cape Town (South Africa), Gaborone (Botswana), Harare (Zimbabwe), Johannesburg (South Africa), Lusaka (Zambia), Maputo (Mozambique), Manzini (Swaziland), Maseru (Lesotho), Msunduzi (South Africa) and



Windhoek (Namibia). The surveyed cities represent a mix of primary and secondary cities; large and small cities; cities in crisis, in transition and those on a strong developmental path; and a range of local governance structures and capacities as well as natural environments. These particular cities were selected on the basis of local research expertise, expressed interest and engagement from policy makers, and the fact that they collectively offer a wide platform from which to address the pressing issues of urban food security.

The survey used a standardized household questionnaire developed collaboratively by the AFSUN city partners at a workshop in Gaborone, Botswana. The main objective was to understand the challenges of food access faced in poor urban neighbourhoods. In each city, one or more representative communities was chosen for study. In the larger cities such as Cape Town and Johannesburg, different types of formal and informal urban neighbourhoods were selected. Within city neighbourhoods, households were chosen for interview using a systematic random sampling technique. Maps of the areas to be surveyed were prepared and used in the field for household selection. At the household level, the household head or another responsible adult were selected to answer the questions on the survey. In all cities, AFSUN held a fieldwork training course for undergraduate students as part of its commitment to local capacity-building, and to ensure consistency across the survey sites. The fieldwork was supervised by senior faculty members in each city.

Field supervisors and/or city partners checked the completed questionnaires. To minimize errors and to standardize data cleaning, all data was entered by the same team at the University of Namibia in Windhoek. The resulting AFSUN Urban Food Security Database contains information on 6,453 households and 28,772 individuals across the 11 cities. Statistical

significance for nominal/nominal variable tables was established by running a chi square test and a contingency coefficient (cc). With a valid chi square test, contingency coefficient values greater than 0.300 would indicate a statistically significance difference between food secure and insecure households. For nominal and ordinal level variables, eta measures the strength of association and values greater than 0.300 indicate a statistical difference between secure and insecure households.

**Table 1: Sample Population for AFSUN Urban Food Security Study**

City	No. of Households Surveyed	No. of Individuals in Surveyed Households
Blantyre, Malawi	431	2,230
Cape Town, South Africa	1,026	4,177
Gaborone, Botswana	391	1,237
Harare, Zimbabwe	454	2,572
Johannesburg, South Africa	976	3,762
Lusaka, Zambia	386	1,978
Manzini, Swaziland	489	2,112
Maputo, Mozambique	389	2,737
Maseru, Lesotho	795	3,248
Msunduzi, South Africa	548	2,871
Windhoek, Namibia	442	1,848
Total	6,453	28,772

There is considerable debate in the literature on how to measure the dimensions of household food insecurity in Africa.<sup>58-62</sup> Standard measures of food insecurity at the household level include proxies such as income and caloric adequacy. However, there is no simple and direct correlation between household income and food security, since there are many intervening variables including the price of food, the cost of other necessities, household size and so on. Caloric data are a more direct measure but are often technically difficult and costly to collect. For ongoing evaluation and monitoring of the food security situation of the urban poor in African cities, a simpler but methodologically rigorous set of indicators of household food insecurity is needed.

After consideration of various alternatives, AFSUN selected the robust food security assessment methodology developed by the Food and Nutrition Technical Assistance (FANTA) project.<sup>63-64</sup> FANTA has conducted a series of studies exploring and testing alternative measures of household food insecurity in a variety of geographical and cultural contexts and developed various indicators and scales to measure aspects of food insecurity. These measures have previously been successfully used by other researchers in a variety of settings in Africa and elsewhere.<sup>65-69</sup> Four FANTA scales and indicators for measuring food insecurity were used.

### **LEVELS OF FOOD INSECURITY IN POOR URBAN NEIGHBOURHOODS**

The Household Food Insecurity Access Scale (HFIAS) is a continuous measure of the degree of food insecurity in a household.<sup>70</sup> An HFIAS score was calculated for each household based on answers to nine ‘frequency-of-occurrence’ questions with a minimum score of 0 and a maximum of 27. The higher the score, the more food insecurity the household experiences. Households were categorized as increasingly food insecure as they responded affirmatively to more severe

conditions and/or experienced those conditions more frequently. The mean score for all urban households in the survey was 10.0. However, there was considerable inter-city variation: the lowest mean score was in Johannesburg (4.7) and the highest in Manzini (14.9) with Harare not far behind (14.7) (Table 2). At the time of the survey, Harare was experiencing particularly acute food shortages as a consequence of economic crisis in Zimbabwe.<sup>71</sup> Swaziland too is in the grip of a major economic crisis and many households have been devastated by the HIV and AIDS epidemic. Johannesburg's median score of only 1.5 indicates substantial variation in food security status across the sample, reflecting the diversity between the three study areas sampled (Orange Farm, Alexandra and the Inner City).<sup>72</sup> With the exception of Johannesburg, the other South African cities do not differ significantly from non-South African cities, suggesting that poorer urban communities in South Africa are no more food secure than those in other countries.

**Table 2: Household Food Insecurity Access Scale (HFIAS)**

City	HFIAS Mean	HFIAS Mode
Manzini	14.9	14.0
Harare	14.7	16.0
Maseru	12.8	13.0
Lusaka	11.5	11.0
Msunduzi	11.3	11.0
Gaborone	10.8	11.0
Cape Town	10.7	11.0
Maputo	10.4	10.0
Windhoek	9.3	9.0
Blantyre	5.3	4.0
Johannesburg	4.7	1.5

The Household Food Insecurity Access Prevalence Indicator (HFIAP) allocates all households to one of four food security categories according to their HFIAS score. Table 3 shows the distribution of households in the survey between the four HFIAP food security categories for all 11 cities. More than half of the households (57%) were ‘severely food insecure’ with another 19% being ‘moderately food insecure.’ Only 17% of households were food secure. In other words, over 80% of poor urban households across the region experience some degree of food insecurity. In nine of the eleven cities over 60% of households were severely food insecure. The inter-city differences evident in the HFIAS recur in the HFIAP. For example, the proportion of households who were severely food insecure ranged from a low of 21% in Blantyre to a high of 79% in Manzini. In all but two of the cities (Blantyre and Johannesburg) less than 20% of households were food secure. The figure was extremely low in Msunduzi (7%), Manzini (6%), Maseru (5%), Lusaka (4%) and Harare (2%).

**Table 3: Extent of Urban Food Insecurity**

City	Severely Food Insecure (%)	Moderately Food Insecure (%)	Mildly Food Insecure (%)	Food Secure (%)
Manzini	79	12	3	6
Harare	72	23	3	2
Lusaka	69	24	3	4
Cape Town	68	12	5	15
Maseru	65	25	5	5
Gaborone	63	19	6	12
Windhoek	63	14	5	18
Msunduzi	60	27	6	7

Maputo	54	32	9	5
Johannesburg	27	15	14	44
Blantyre	21	31	14	34
Total	57	19	7	17

In the larger cities such as Cape Town and Johannesburg, three contrasting poor communities were surveyed. There was considerable variation in the HFIAP scores within both cities.<sup>73,72</sup> In Johannesburg for example, the proportion of severely food insecure households ranged from 21% in Alexandra (an older established former black township close to wealthy middle-class suburbs) to 34% in Orange Farm (a large peripheral informal settlement) (Table 4). Similarly, there was a difference in the proportion of food secure households: 54% in Alexandra and 40% in Orange Farm. However, the Inner City of Johannesburg had fewer food secure households than either of the other two areas (at 39%). In Cape Town, the proportion of severely food insecure households varied from a high of 80% in the informal areas of Khayelitsha to a low of 45% in the older, more-established area of Ocean View. The proportion of food secure households varied from a low of 8% in Khayelitsha to a high of 31% in Ocean View. In addition to considerable intra-city variation, the data reveal considerable inter-city differences. Contrary to expectations, levels of food insecurity in Cape Town were much higher than in Johannesburg. While this could be a function of the fact that the sampled neighbourhoods are not identical in each city, it is instructive to compare the informal settlements in both cities. In Orange Farm in Johannesburg, for example, 40% of households were food secure, compared to only 8% in Khayelitsha and 11% in Philippi in Cape Town. In other words, even when seemingly comparable neighbourhoods in the two cities are analysed, Cape Town is significantly more food insecure.

**Table 4: Levels of Household Food Insecurity in Cape Town and Johannesburg**

	Food Secure (%)	Mildly Food Insecure (%)	Moderately Food Insecure (%)	Severely Food Insecure (%)
<b>JOHANNESBURG</b>				
Orange Farm	40	13	13	34
Inner City	39	14	21	26
Alexandra	54	13	12	21
Total	44	14	15	27
<b>CAPE TOWN</b>				
Ocean View	31	7	17	45
Philippi	11	5	12	71
Khayelitsha	8	3	9	80
Total	15	5	12	68

For ease of statistical analysis, all households were recoded into two overall categories: food insecure (severe/moderate insecurity on the HFIAP, or 76% of households) and food secure (mild insecurity/secure, or 24% of households). Recoding the data from four to two food security categories over-represents the overall levels of food security but usefully simplifies the presentation of the data without significantly changing the regional urban food security picture. Using the two computed categories of ‘food secure’ and ‘food insecure’ households, the difference between insecure and secure households is statistically significant ( $p < 0.001$ ,  $cc = 0.392$ ). Nine of the eleven cities have levels of food insecurity in excess of 76% (Table 5).

**Table 5: Levels of Food Insecurity by City**

City	Food Insecure (% of Households)	Food Secure (% of Households)
Harare	95	5
Manzini	92	8

Lusaka	92	8
Maseru	90	10
Msunduzi	87	13
Maputo	86	14
Gaborone	82	18
Cape Town	80	20
Windhoek	77	23
Blantyre	52	48
Johannesburg	42	58
Total	76	24

A third dimension of food insecurity relates to the quality of the urban diet. The FANTA Household Dietary Diversity Scale (HDDS) attempts to measure the quality and variety of food eaten within a household.<sup>74</sup> In general, any increase in household dietary diversity reflects an improvement in the household's diet and reduced food insecurity. The scale is based on the number of food groups consumed within the household over a given period (in this case, the previous 24 hours). The number of food groups in the HDDS is 12 (derived from the FAO Food Composition Table for Africa).<sup>74</sup> They include: 1. Cereals and grain products; 2. Roots and tubers; 3. Vegetables; 4. Fruits; 5. Meat, poultry and offal; 6. Eggs; 7. Fish and seafood; 8. Pulses, legumes and nuts; 9. Milk and milk products; 10. Oils and fats; 11. Sugar and honey; and 12. Miscellaneous (e.g. beverages such as coffee, tea). Under the HDDS, each household is therefore allocated a score between 0 and 12.



The HDDS shows that dietary diversity is low in most households, with an average value of six (indicating that food from only six different food groups was consumed). When the non-nutritive food items of sugar and beverages (Groups 11 and 12) are removed from the dietary intake of the sample, the mean dietary diversity score drops to four. Only 3% of the households have an HDD score of 12 (Table 6). Over 60% of the households scored 6 or less, and nearly a quarter scored 3 or less. The median HDDS for food secure households is 8 and for food insecure households it is 5, a statistically significant difference ( $p < 0.001$ ,  $\eta^2 = 0.399$ ). This suggests that there is a strong relationship between food security (as measured by the HFIAP) and dietary diversity. In other words, as food insecurity increases, dietary diversity declines.

**Table 6: Dietary Diversity Scores**

Number of Food Groups	% of Households	Cumulative %
1	2	2
2	11	13
3	10	23
4	11	34
5	14	48
6	13	61
7	12	73
8	10	83
9	7	90
10	4	94
11	3	97
12	3	100
Total	100	

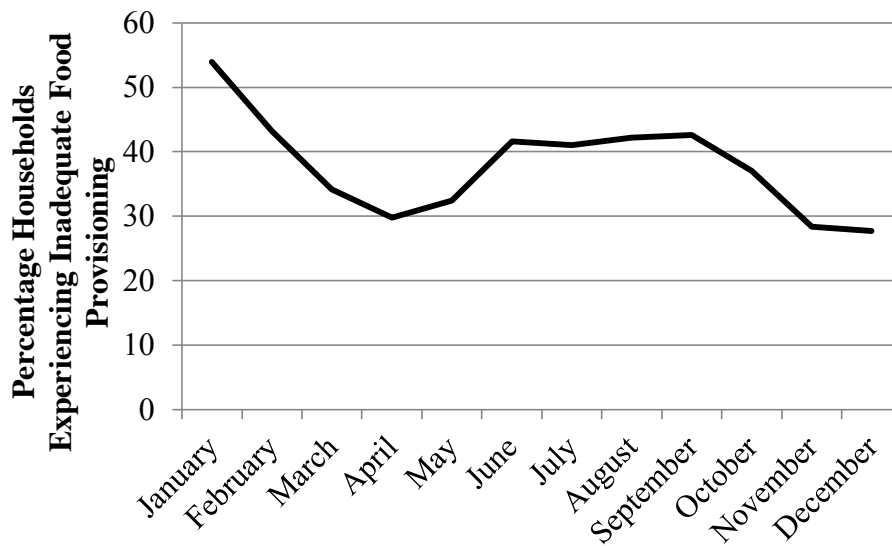
N = 6,453

Finally, FANTA's Months of Adequate Household Food Provisioning Indicator (MAHFP) captures changes in levels of food security over the course of a year.<sup>75</sup> Households identified the months (in the previous twelve) that they did not have access to sufficient food to meet their

needs. In many rural areas, food insecurity has a clear seasonal dimension with communities experiencing ‘hungry seasons’ before the new crop is harvested. Since urban food supply systems are generally able to overcome seasonality through diversification, and because urban households purchase most of their food, it was assumed that urban food provisioning would be non-seasonal. The survey found, however, that levels of food security do vary throughout the year in these cities.

There was marked variation over the course of the calendar year in food access (Figure 1). The annual period of lowest urban food shortages coincides with the harvest and post-harvest period in agricultural areas, from March to May. Thereafter, through the dry and unproductive winter months, the levels of inadequate food provisioning rise once again, as in the rural areas. Part of the explanation for the similarity between rural and urban cycles may lie in the fact that urban agriculture too has a seasonal dimension. More important, is the fact that many urban households receive food direct from rural family during the harvest and post-harvest season when there are likely to be disposable surpluses. Nearly one third of all households surveyed said they receive food direct from rural households.<sup>76</sup> In cities such as Windhoek and Lusaka, the proportion was as high as 47% and 44% respectively.

**Figure 1: Seasonal Variations in Urban Food Insecurity**

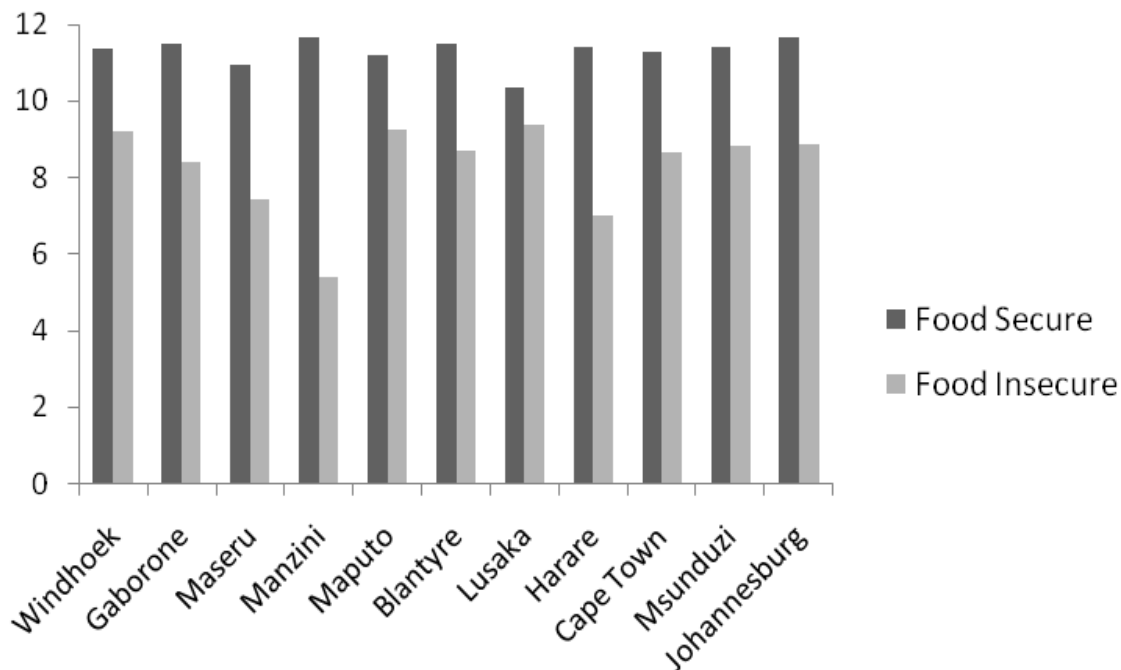


The timing of the urban cycle also differs from the rural. For example, a second improvement in urban food security occurs in what are normally lean months in the rural areas – from September to December. This may be related to increases in spending on food towards the end-of-year holiday season and the payment of annual bonuses for those in employment. Also, the final quarter of the year is when many urbanites return home to rural areas for their annual holiday, in turn reducing the number of mouths to feed in the urban household. The worst levels of urban food insecurity occur directly after the holiday period, in January, right after the high levels of spending during the festive season. The decline in the prevalence of food insecurity begins almost immediately, with the situation improving each month. This is different to the rural areas where the pre-harvest season is often the hungriest.

Food secure households experience almost 12 months a year of adequate food access. Food insecure urban households, on the other hand, go without adequate food for an average of four months of the year (Figure 2). There is a statistically significant relationship between food

security status and months of adequate provisioning ( $P>0.001$ ,  $\eta^2=0.369$ ). In all cities, food insecure households experience at least 3 months of inadequate provisioning in the year. In some cases, such as Manzini (7 months) and Harare and Maseru (5 months), the situation was even more dire for food insecure households.

**Figure 2: Months of Adequate Food Provisioning by Food Security Status**

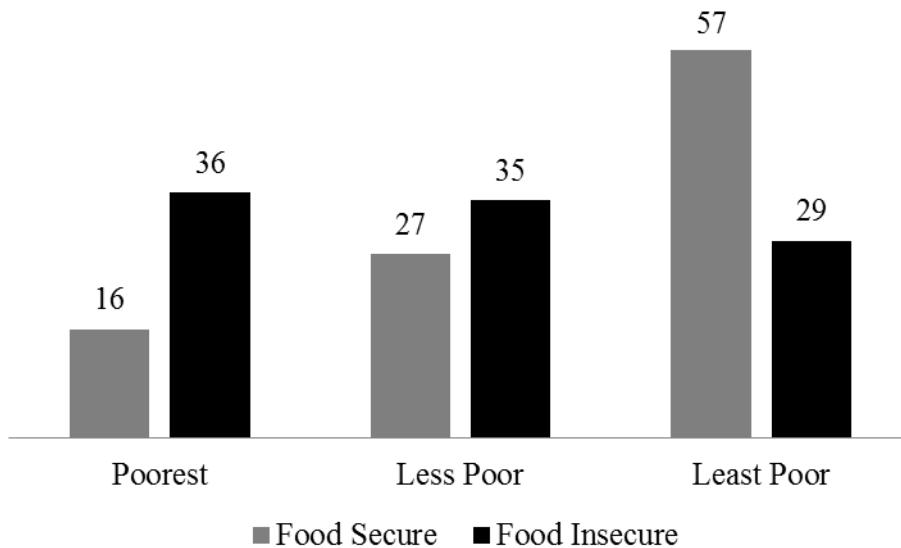


### INCOMES AND FOOD ACCESS

In African cities, households purchase the majority of their food. A strong association between food security and levels of household income can therefore be predicted. The survey confirmed that the two variables are closely related, with the lowest-income households experiencing the highest levels of food insecurity. The level of food security increases with income across all types of households, a relationship that is statistically significant ( $p<0.001$ ,  $cc=0.250$ ). In addition, when income terciles are computed against food security status, households with the

lowest incomes show the greatest levels of food insecurity (Figure 3). More than half (57%) of all food secure households are in the highest income category, while the greatest proportion of food insecure households (36%) are in the poorest income tercile. Blantyre has the strongest correlation between income and food security status ( $p < 0.001$ ,  $cc = 0.406$ ); and Harare the weakest ( $p < 0.023$ ,  $cc = 0.132$ ), a reflection of the collapse of the Zimbabwean economy, high unemployment and poor real income.

**Figure 3: Household Income Terciles by Food Security Status**



The relationship between the work status of household members and household food security was statistically significant ( $p < 0.001$ ), although the strength of the relationship was weak ( $cc = 0.141$ ). When a household has a member(s) in full-time wage work, there is a positive correlation with levels of food security. However, while 46% of food secure households have a wage earner, so do 35% of food insecure households. This suggests that a wage earner in the household is not in itself a guarantee of food security, presumably because formal sector wages in many urban sectors are so low. There was no statistically significant relationship between

food security and other sources of household income, although casual work is associated more with food insecurity.

A strong relationship between poverty levels and food insecurity was anticipated. Poverty, of course, is variously defined. The most common global statistical measures of poverty are the \$1/day (extremely poor) and \$2/day (moderately poor) lines of the World Bank. The mean monthly household income for the study sample was US\$193 in the previous year. This translates into a daily per capita income of US\$1.29. In only three of the 11 cities (Johannesburg, Windhoek and Gaborone) were mean per capita incomes above US\$1/day. At the aggregate level, 66% of households live at or below the US\$1/day poverty line, and 76% live at or below the US\$2/day poverty line. Given the high cost of food in African cities, it is clear that an income of US\$1/day is insufficient to meet basic needs. For example, a loaf of bread in South Africa cost approximately US\$1 in 2008-9, a purchase that would leave the person with no other disposable income, yet with all their other basic needs unmet.

Given that food costs approximately 30% more in urban than in rural areas, income measures may therefore not be a completely accurate proxy for poverty.<sup>77</sup> The study therefore also used a supplementary non income-related measure of poverty known as the Lived Poverty Index (LPI), a subjective experiential index of ‘lived poverty’.<sup>78</sup> The LPI has proven to be a reliable, self-reported, multi-dimensional measure of deprivation and is based on how often a household reports being unable to secure a basket of basic necessities: food, clean water, medicine/medical treatment, cooking oil and a cash income. Responses are grouped together into a single household index on a scale that ranges from 0 (never going without) to 4 (always going without); the higher the LPI value, the greater the degree of ‘lived poverty.’

An LPI score was calculated for each household and cross-tabulated with its food security status. More than 90% of food secure households have an LPI score of 0-1 (never/seldom going without) (Figure 5). In contrast, 60% of food insecure households do 'go without' (LPI score of 1.01-4.0). The relationship between LPI and food security status proved to be statistically significant ( $p < 0.001$ ), with a moderately strong correlation ( $cc = 0.395$ ). The cities in which this poverty-food security status relationship was strongest were Blantyre ( $p < 0.001$ ,  $cc = 0.503$ ) and Gaborone ( $p < 0.001$ ,  $cc = 0.405$ ).

## **FOOD SOURCING**

The final section of this paper returns to a question posed at the outset: where do poor urban households obtain their food? The survey clearly showed that modern supermarket agri-food supply chains play a critical role in provisioning poor communities in the region's cities. South Africa's four major supermarket chains dominate food retailing in that country and have expanded aggressively over the last two decades.<sup>37,39</sup> Supermarket penetration of the urban food supply system has proceeded further in some countries than others. The majority of the supermarkets (85%) were in South Africa itself but all of the countries in this study had at least some: Zimbabwe (129), Namibia (103), Botswana (66), Swaziland (23), Zambia (21), Malawi (5) and Mozambique (5).

Given the association of supermarkets with middle-class urban consumers, it is striking that a high proportion of poor urban households (over 70%) also source food from supermarkets (Table 7). The relative importance of supermarket sourcing did vary from city to city, however, depending on the degree of supermarket penetration. In seven of the cities (in South Africa,

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Botswana, Lesotho, Swaziland and Namibia), over 80% of households purchased some of their food direct from supermarkets. In Lusaka, the figure was only 16%, followed by Maputo (23%), Harare (30%) and Blantyre (53%). Most households tend to patronise supermarkets on a weekly or monthly basis for the bulk purchase of food staples. Food prices are also generally lower in supermarkets than in other food outlets. Emongor, for example, found that in both Botswana and Zambia, staples such as maize flour, bread, milk, rice and sugar, as well as fresh fruit and vegetables, were consistently cheaper in supermarkets than in small grocery stores. The primary disadvantage of supermarkets is their accessibility although there has been a recent trend to locate new stores within or close to poorer areas in cities.<sup>79</sup>

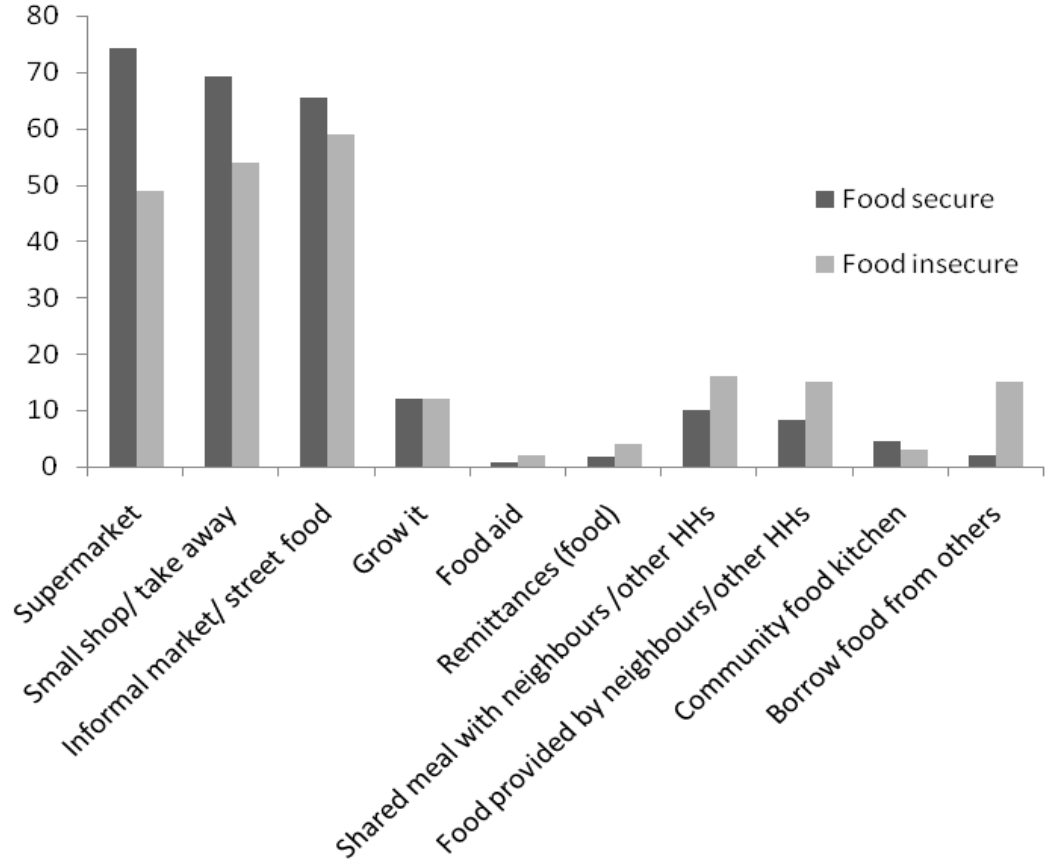
**Table 7: Major Sources of Food for Poor Urban Households (% of Households)**

	Supermarkets	Informal Economy	Small Formal Outlets
Windhoek	97	76	84
Gaborone	97	29	56
Msunduzi	97	42	40
Johannesburg	96	85	80
Cape Town	94	66	75
Manzini	90	48	49
Maseru	84	49	48
Blantyre	53	99	69
Harare	30	98	17
Maputo	23	98	78
Lusaka	16	100	68
Total	79	70	68



Seventy four per cent of food secure households source food from supermarkets, compared to only 48% of food insecure households (Figure 4). The correlation between supermarket use and food security status is statistically significant ( $p < 0.001$ ,  $cc = 0.214$ ). The more food insecure a household is, the more it relies on informal food sources.

**Figure 4: Household Food Security Status By Sources of Food**



Most African cities also have very dynamic informal food economies.<sup>39,80</sup> While a smaller overall proportion of surveyed households said they purchase food from informal vendors (70%), they tend to patronise them far more frequently for vegetables, cooked and processed food. In the cities with lower supermarket penetration, patronage of the informal food economy is very high (100% of households in Lusaka, 99% in Blantyre, and 98% in Maputo and Harare).

Patronage is also significant in Johannesburg (85%) and Windhoek (76%) but rather less so in some of the other cities with significant supermarket penetration (Maseru, Manzini, Msunduzi and Gaborone all less than 50%). Clearly, this pattern could change over time as competition between the formal and informal food economies intensifies. The other major source of food purchase is small formal sector outlets such as groceries, corner-stores and fast food chains. While the overall patronage figure was 68%, these sources are especially important for the urban poor in Windhoek (84%), Johannesburg and Lusaka (80%), Maputo (78%) and Cape Town (75%).

The distinction between formal and informal food sources is far from absolute. Few, if any, informal food suppliers have their own supply chains and many source their food for sale either from supermarkets, wholesalers or fresh produce markets. In South African cities, the fresh produce markets are supplied almost entirely by large commercial farmers. In other cities with produce markets, such as Lusaka and Maputo, it is clear that small scale producers are able to sell their produce to urban consumers. The markets and informal vendors in the poorer areas of Maputo sell a complex mix of Mozambican rural produce, commercially-produced and imported South African fresh and processed food, and foodstuffs from the global market.

Urban agriculture proved to be far less important to poor households in the surveyed cities than anticipated (Table 8).<sup>39</sup> Around 80% of households did not grow any of their own food at all and only 3% obtained any income from the sale of home produce. Only cities such as Blantyre and Harare had a significant number of households engaged in urban agriculture. Around three-quarters of the households that engage in urban agriculture are also food insecure, suggesting a strong association between the practice of urban agriculture and household levels of food

poverty. The correlation between the practice of urban agriculture and food security status is statistically weak, however ( $p < .004$ ;  $cc = .036$ ). While a minority of urban households produce any food, a much larger number depend on informal food transfers from their rural homes (Frayne, 2010). These food transfers play a very significant role in cities such as Windhoek (72%) and Gaborone (70%), Manzini (53%) and Maseru (49%). Only in the three South African cities are informal rural to urban transfers of little importance.

**Table 8: Urban Agriculture and Rural-Urban Food Transfers (% of Households)**

	Urban Agriculture	Rural-Urban Transfers of Food
Windhoek	3	72
Gaborone	5	70
Msunduzi	30	15
Johannesburg	8	24
Cape Town	4	14
Manzini	9	53
Maseru	47	49
Blantyre	63	38
Harare	60	37
Maputo	22	23
Lusaka	3	39

## CONCLUSION

In August 2010, the city of Maputo was rocked by ‘bread riots’ after a threefold increase in the price of bread, a staple food for most poor urban households. The government quickly reversed the increase but the violence was a timely reminder of the vulnerability of the urban poor to food insecurity. The AFSUN survey of poor urban households in 11 different cities highlights the strong links between urban poverty and levels of food insecurity at the household level, with 77 per cent of poor urban households reporting conditions of moderate or severe food insecurity. The survey demonstrates that chronic food insecurity is pervasive in poor urban communities across the rapidly-urbanizing Southern African region.

Urban agriculture is so limited in most of these cities and communities that it is far from being the panacea that its advocates suggest. The vast majority of households purchase the bulk of their food from supermarkets and the informal food economy. This means that a regular and sufficient cash income is the key to food security and improved health outcomes. It also means that households are particularly vulnerable to food price increases. The survey was conducted in late 2008 and early 2009, towards the end of a period of significant global and local food price inflation. The findings of the survey made it clear that this had had a significant impact on many households. As Cohen and Garrett point out, poor urban households are much more badly affected by price increases than their rural counterparts.<sup>81</sup> Although food prices stabilised somewhat in 2009, they did not return to pre-2008 levels.

In light of these findings about the crisis of urban food insecurity, the current policy commitment to improving the productivity of small scale farmers needs re-examination.<sup>5</sup> Unless the strategy

leads to bountiful supplies of cheap food for the cities, a fanciful scenario at best in most of Southern Africa, it will have no impact on urban food security. Urbanization rates in Africa are almost twice that of the global average and cities are fast becoming epicentres of the food security challenge in Africa.<sup>82</sup> Projections for Southern Africa estimate the urban population of the region could be as high as 80% by mid-century, which is very close to the projections for the developed world.<sup>83</sup> Much of this growth will be the result of the continued rural-urban migration of the region's small farmers, who are – and will continue – moving into cities where already about half of the economically active population are unemployed or chronically underemployed.<sup>84-85</sup>

The immediate threat to food security for poor urban households in the region is not food *availability*, but rather *accessibility*. In an urban, cash-intensive environment, income is the most important means of accessing food. We therefore argue for a new food security agenda that takes account of rapid urbanization and acknowledges that urban food security is the key challenge in the future. The issue of feeding the cities will become the defining development policy challenge for Africa in the coming decades.

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