

# The Dimensions of Urban Food Insecurity in Gaborone, Botswana

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**Abstract** Research on food security in Botswana has mainly focused on the country's rural areas. Much less is known about the extent and nature of food insecurity in the country's cities and towns. This makes it difficult for development practitioners and policymakers to quantify the challenge and to make plans to reduce the food gap that exists in urban areas. In an effort to understand the extent and determinants of food insecurity in Gaborone, African Food Security Urban Network (AFSUN)'s local partner, the University of Botswana, undertook a baseline study of 400 households drawn from Old Naledi, White City/Bontleng and Broadhurst. Levels of food insecurity in these areas of Gaborone were high and, despite the economic health of Botswana compared to other Southern African Development Community (SADC) countries, no better than in many other cities. Only 12 % of households were completely food secure, while 62 % were severely food insecure. Food insecurity is endemic in the poorer parts of Gaborone, and Botswana's 'economic miracle' is clearly not reaching many of these households.

**Keywords** Food insecurity · Botswana · Gaborone · Urban · Rural

## Introduction

Botswana has had high and sustained rates of economic growth for the past five decades and is generally considered to be one the best economic performers in Sub-

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Saharan Africa (IMF 2012). The last decade has seen a significant fall in the incidence of poverty, with the absolute number of persons living below the poverty line declining from 500,000 in 2002/3 to about 373,000 in 2009/10. Despite these positive economic indicators, unemployment levels have remained stubbornly high, the incidence of urban poverty has increased over the last decade and income inequality is growing (Selolwane 2012). This paper examines how Botswana's record of economic growth and growing inequality has affected the food security of the urban poor.

Much of the research on food security in Botswana has focused on the country's rural areas. In contrast, little is known about the extent and nature of food insecurity in the country's cities and towns. This makes it difficult for development practitioners and policymakers to quantify the challenge and to make plans to reduce the food gap that exists in urban areas. Botswana is one of the most rapidly urbanizing countries in Africa (Cavrić and Keiner 2006; Ritsema 2010; Gwebu 2012). Between independence in 1966 and 2011, the proportion of the population living in urban areas increased from 5 to 61 % (Table 1). The percentage of the national population residing in Gaborone and its adjacent satellite communities grew from 15 % in 1981 to 25 % in 2011.

Gaborone has witnessed extensive public and private investment in the last decade, which has resulted in opportunities for wage employment and a modern lifestyle, with shopping malls, business districts, service industries and other facilities. The city's rapid growth stems largely from migration from rural areas where harsh agrarian conditions, recurrent drought and agricultural failure have caused people to depend increasingly on remittances for survival (Campbell 2008, 2010). One in every four persons in Botswana now resides within the Gaborone subsystem of settlements. In the same period, agriculture dropped from being the primary contributor to GDP to current levels of under 3 %. In Botswana, recurring droughts and changes in rain patterns believed to be caused by climate change, coupled with low productivity of the subsistence farming sector, have contributed to large cereal/food deficits. Botswana depends heavily on neighbouring South Africa for food imports, making the purchase of foodstuffs inevitable. The question of whether economic growth and rapid urbanization are leading to greater or reduced food insecurity is therefore a critical one.

## Survey Methodology

In an effort to understand the extent and determinants of food insecurity in Gaborone, the African Food Security Urban Network (AFSUN) undertook a baseline study in

**Table 1** Growth of population in urban settlements: 1964–2001

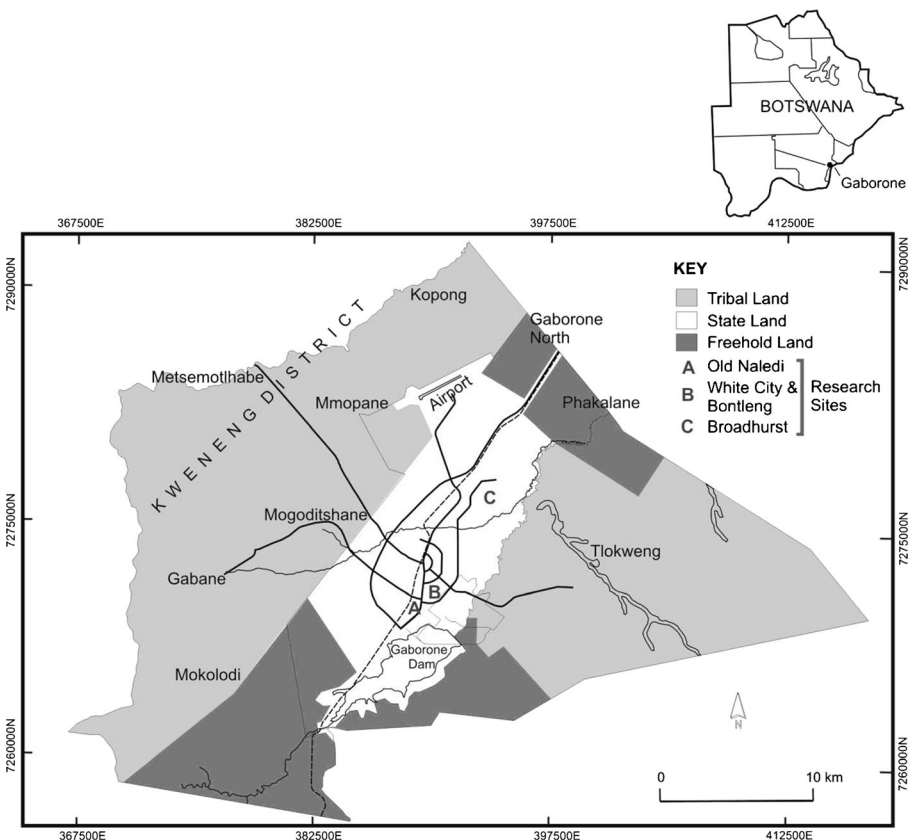
	1964	1971	1981	1991	2001	2011
No. of urban places	3	5	8	25	34	n/a
Total urban	20,989	54,300	166,400	600,100	909,800	1,243,320
Total population	57,494	596,900	941,000	1,326,800	1,680,900	2,038,228
% urban	3.8	9.1	17.7	45.2	54.1	61.0

Source: Central Statistics Office

October 2008 of a sample of 400 households drawn from three of Gaborone’s poorer areas: Old Naledi (150 households), White City/Bontleg (125 households) and Broadhurst (125 households) (Fig. 1). Old Naledi is a low-income ‘congested, overcrowded settlement’ located south of the city adjacent to the north-south railway line. The White City/Bontleg area is immediately south of the city and was planned as low- and medium-income areas with running water, tarred/gravel roads and a sewer system. Following upgrading, the areas have also received the excess population from Old Naledi. Broadhurst is located to the north of the city and has similar characteristics to Bontleg/White City with a mix of low-income households and some medium-income households. Systematic random sampling was used to select households for interviews in each site.

**Household Profile**

The average size of the surveyed households was only 3.0. The 2006 Botswana Demographic Survey found that the average size of Gaborone households was 3.3 (and the national average was 4.2) (CSO Central Statistics Office 2009). In other words, poor urban households in Gaborone tend to be smaller than average. Second, these



**Fig. 1** Location of survey sites, Gaborone

poorer areas of Gaborone have a large proportion of female-centred households (47 %) and male-centred households (23 %) and much smaller numbers of nuclear and extended family households. Most of the heads of male- and female-centred households were single. The low rates of marriage are consistent with broader trends in Botswana; marriage rates have been steadily declining in recent decades, and only 31 % of all household heads in the country were married in 2001 (Mookodi 2004). The total population of the sampled households was relatively young, with 23 % under the age of 15 and 64 % under the age of 30. This may reflect the practice in Botswana of parents working in the urban areas and leaving their children in the care of grandparents and other relatives in the rural areas. However, the number of children in the sample was still relatively high.

The educational levels of the sampled population were generally low. For example, 61 % of adult household members only had a primary school education or lower. Another 12 % had completed high school and 9 % had a post-secondary qualification. The generally low educational attainment of the population tends to relegate them to lower-skilled, lower-paying jobs or to unemployment. The survey found that 62 % of adults in these poorer areas of Gaborone were unemployed (Table 2). Among the samples, 26 % were in full-time employment, and 11 % were employed part-time. Unemployment was higher among women than men (at 69 and 57 %, respectively). Just over half of the surveyed households (51 %) receive income from wage work and 24 % from casual work (Table 3). Other minor sources of income include rent (10 %), informal business (8 %), formal business (8 %) and social grants (6 %). Remittances (from household members working on Botswana's diamond mines) are received by 8 % of households. A proportion of households that receive income from the sale of urban farm products are less than 1 %.

The majority of the household residents were internal migrants. Only 28 % of the household members were born in urban areas (23 % in Gaborone itself and 5 % in another urban area). Gaborone had the highest number of migrant households (that is, households in which every member was born outside the city) at 67 %, and the lowest number of non-migrant households (5 %) of all cities was surveyed by AFSUN

The most important finding from a food security perspective is that 80 % of nuclear households earn wage income compared with 56 % of male-centred households and only 43 % of female-centred households (Table 3). More nuclear households are also involved in formal and informal businesses, usually run by the female spouse or partner (28 versus 16 % of female-centred households). As a result, nuclear households have the highest average incomes (at P 2,813 per month), followed by extended family households (P 2,733 per month) and male-centred households (P 2,403 per month). Female-centred households earn considerably less on average than the other types of household (P 1,674 per month).

**Table 2** Employment status by sex

	Male (%)	Female (%)	Total (%)
Working full-time	32	21	26
Working part-time/casual	12	10	11
Not working-looking	13	19	15
Not working-not looking	44	50	47

**Table 3** Sources of income by household type

	All (% of households)	Female-centred (% of households)	Male-centred (% of households)	Nuclear (% of households)	Extended (% of households)
Wage work	51	43	56	80	45
Casual work	24	25	22	24	15
Rent	10	9	8	13	15
Formal business	8	9	6	9	12
Informal business	8	7	7	15	3
Remittances	8	10	7	4	15
Social grants	6	8	2	3	6
Gifts	5	8	6	1	3
Aid	2	4	2	1	9
Urban agriculture	<1	<1	0	0	0
<i>N</i>	379	188	90	78	33
Average monthly income		P 1,674	P 2,403	P 2,813	P 2,733

### Levels of Food Insecurity

Levels of food insecurity in Gaborone were high and, despite the economic health of Botswana compared to other Southern African Development Community (SADC) countries, no better than in many other cities. The household food insecurity access score (HFIAS) for Gaborone was 10.8, which is comparable to the poorer areas of Cape Town, but higher (indicating greater levels of food insecurity) than that in cities such as Maputo, Windhoek, Blantyre and Johannesburg. The household food insecurity access prevalence (HFIAP) indicator found that only 12 % of households were completely food secure, with 7 % mildly food insecure, 19 % moderately food insecure and 62 % severely food insecure (Table 4). Food insecurity therefore appears to be endemic in the poorer parts of Gaborone. Botswana's 'economic miracle' is clearly not reaching many of these households.

Female-centred households were not significantly more food insecure than other types of household, as they are in many other SADC cities (Dodson et al. 2012). Given the lower rates of participation in the formal economy, the relegation of many women to the lower end of the labour market and the fact that the average incomes of these

**Table 4** Levels of food insecurity by type of household

	Female-centred (%)	Male-centred (%)	Nuclear (%)	Extended (%)	Total (%)
Food secure	13	12	13	3	12
Mildly food insecure	4	4	15	7	7
Moderately food insecure	13	22	15	24	19
Severely food insecure	64	61	57	66	62

households are well below those of other types of household, this was a surprising finding. There are two possible explanations: first, the food-secure female-centred households could be headed by white-collar workers with a regular wage. For example, the maximum household income among the female-centred household group was P 12,050 per month, which is more than five times the average. A second explanation is that female heads of households prioritize food expenditures and therefore spend a greater proportion of their income on food. There is some evidence from the survey to support this proposition. For example, in female-centred households, 39 % of total household expenditure is on food, compared with 32 % in male-centred households and 27 % in extended households.

Several recent studies of nutrition and dietary diversity among the elderly and youth in urban and rural settings in Botswana have shown a recurrent pattern of poor dietary diversity among the most vulnerable groups in society (Clausen et al. 2005; Maruapula and Chapman-Novakofski 2006; Maruapula et al. 2011). Specific studies of groups of urban poor in Gaborone confirm that dietary diversity is extremely low with negative nutritional outcomes. For example, one study of 522 young children in Gaborone found that 11 % were stunted and 14 % were wasted. Stunting and wasting ranged from 9 and 4 % in middle- and high-income neighbourhoods to 18 and 21 % in low-income neighbourhoods, respectively (Nnyepi 2007).

The mean household dietary diversity score (HDDS) for the Gaborone households was 6.5 out of 12. This indicates a relatively low dietary diversity, although there is some variation. For example, while 32 % had a score of 5 or lower, 37 % scored 7 or more. The composition of household dietary scores is also important to note as the most popular food groups included cereals (consumed by 97 % of households); other foods such as tea, coffee and condiments (76 %); sugar or honey (73 %); animal protein (66 %); vegetables (65 %); and foods made with oil, fat or butter (63 %). Compared with other cities surveyed by AFSUN, there was a relatively high consumption of meat and vegetables which is attributable to the traditional Botswana staple meal of maize meal, vegetable relish and beef. Particularly concerning the high consumption of sugar and oil which, when combined with high cereal and beef consumption, this could explain why nearly 40 % of the population is overweight, 16 % is obese and 16 % has raised blood pressure (Botswana Ministry of Health 2007).

## Urban Food Sources

Botswana's proximity to South Africa has meant that it is increasingly integrated into the supermarket-driven food supply chains that dominate that country's food retail sector. Southern Africa's 'supermarket revolution' has transformed the way in which urban (and rural) residents of Botswana source their food (Crush and Frayne 2011). Supermarkets have expanded in Botswana over the past 30 years, a growth driven by a rapidly increasing urban population, a growing middle class and a favourable economic and political climate for investment including trade liberalization and stable democracy (Emongor and Kirsten 2009). Supermarkets handle around 50–60 % of food retail in cities and major urban villages in Botswana. Within Gaborone, supermarkets are scattered around the city and are accessible to most urban consumers. There are two main types of supermarkets: first, there are the major South African supermarket chains

(such as Shoprite, Spar and Woolworths) that have become increasingly well established in Gaborone's urban food market, and second, there are smaller, locally owned supermarkets that tend to target poorer areas of the city. Some Gaborone-based supermarket chains have been expanding to towns outside the capital. In a recent reversal of the trend of supermarket expansion from South Africa to other African countries, one of these chains (Choppies) has been opening stores in South Africa.

Supermarkets sell a variety of perishable and non-perishable products, including maize meal, sugar, flour and milk, at significantly lower costs than most other food outlets within Gaborone (Lane et al. 2012). Low-income households take an advantage of the central role that supermarkets play in the food system, using them to purchase large quantities of staple foods. Supermarkets have also increased the availability of highly processed foods, which poses dietary concerns, especially given growing evidence of a nutrition transition and the coexistence of diet-related disease and obesity. The AFSUN survey found that supermarkets are easily the most important food source for the urban poor in Gaborone (Table 5), with 92 % of households using them as a normal food source. As many as 73 % of households had also purchased food at supermarkets in the week prior to the survey. One third of the households said that they buy from supermarkets at least once per week. Another two thirds shop there at least once per month. Only 4 % of households never shop at supermarkets. Supermarkets are a more important food source in Gaborone than in any other city in the AFSUN survey, including the three South African cities (Crush and Frayne 2011).

According to the Central Statistics Office, the informal economy in Gaborone has been expanding quickly in recent years (CSO Central Statistics Office 2009). The CSO's Informal Sector Survey estimated the total number of informal enterprises in Botswana at 44,000 in 2007, an increase of 54 % since the 1999 survey. Gaborone had a larger share of the enterprises than any other part of the country (around 11,000 or 23 % of the total). On the other hand, another study has suggested that the presence of South African supermarkets and the absence of a supportive policy environment mean that the informal economy in Botswana is neither large nor flourishing (Obasi et al. 2008).

**Table 5** Sources of food

	Normal source (% of households)	In previous week (% of households)
Supermarkets	92	73
Small outlets	54	52
Informal food economy	29	23
Urban agriculture	5	2
Food aid	5	5
Food remittances	4	4
Sharing meals with neighbours/other households	21	16
Food from neighbours/ other households	21	18
Borrow food from others	4	3

The AFSUN survey found that the informal food economy is relatively unimportant for the majority of poor urban households. Only 29 % of the households said that they normally obtained food from informal sources, and just 23 % had done so in the previous week. Most of this is consumption of cooked street food during the day. As many as 71 % of the households never obtain food from informal sources. The informal food economy and small retail outlets were far less important in Gaborone than in most other cities. Around half of the households obtained food from this source on a regular basis, compared with a regional average of 68 %. As many as 43 % of Gaborone households never obtain food from small outlets.

The Botswana Ministry of Agriculture encourages urban and peri-urban agriculture initiatives as a policy strategy for ensuring urban food security in an era of rapid urbanization, economic decline, urban poverty and HIV and AIDS (Madisa and Assefa 2011). Empirical studies from Gaborone have highlighted the challenging environmental conditions that limit agricultural production, with urban and peri-urban agriculture offering limited prospects for the urban poor (Hovorka 2006). On the other hand, well-educated middle-income entrepreneurs involved mainly in poultry farming do generate foodstuffs for the urban market (Hovorka 2004). These entrepreneurs are adept at taking advantage of government funding schemes and land tenure policy in Gaborone, creating productive agricultural ventures. The potential for urban agriculture to address food insecurity can be overemphasized, given its limited share in income and overall agricultural production. The insignificance of urban agriculture as an income source for Gaborone's urban poor is clear. Urban agriculture is also unimportant as a household food source for the urban poor. Only 4 % of households consume some home-grown products during the course of the year.

The AFSUN survey found that rural-urban food transfers are not particularly significant in Gaborone and, certainly, nowhere near as important as in cities such as Windhoek, Harare and Lusaka (Frayne 2010). Three quarters of the households never receive food transfers from outside Gaborone. However, food transfers do assist a minority of households to deal with the challenge of food insecurity. A total of 16 % of households regularly receive transfers from rural areas, 4 % receive food from other urban centres and 3 % receive food from both. Nuclear households tend to have the strongest link in terms of rural-urban transfers (29 %) and female-centred households the weakest (16 %). The most common types of food transferred are peas, beans and nuts, cereals and vegetables.

A minority rely on other households to meet some of their food needs. For example, 21 % said that they share meals with, or receive food from, neighbours and/or relatives. Just over 15 % had done so in the week prior to the survey. However, nearly 80 % of households never obtain food in this way. Food borrowing, food aid and food remittances contribute to less than 5 % of households.

## Conclusion

The survey results show that not everyone is benefitting from Botswana's strong and growing economy and that many of the urban poor in Gaborone experience extremely high levels of food insecurity. The survey collected data on a broad range of issues that affects household food insecurity and illustrates how in Gaborone, a relatively wealthy



city, a high number of households are food insecure. Approximately four out of five households in the survey reported severe or moderate food insecurity. In contrast, only 18 % was either food secure or mildly food insecure. Income level is a particularly important determinant of food insecurity, as most households access food from the marketplace rather than grow their own. The data show a significant correlation between household income and food security, with the poorest households being most severely affected by food insecurity.

The pace of urbanization in Botswana is unlikely to decline, particularly in view of the country's post-independence history of temporary and semi-permanent movement off the land and given the continued expansion of the formal sector economy. People will continue to migrate to towns in increasing numbers. The short- and long-term impacts of chronic food insecurity on Gaborone's population are likely to be considerable unless this problem is urgently addressed. The problem is largely invisible because there appears to be no shortage of food in the shops and on the streets of this booming city. The challenge is not one of food supply, but food accessibility and food quality. Around Gaborone, all neighbourhoods (both high and low income) are well serviced with food access points. Malls have become a defining characteristic of the city, and most of these include several supermarkets. Complementing the supermarkets are general provision stores (cash and carry), stores at filling stations, fast-food chains, restaurants and street vendors. While sufficient food is available at these diverse access points, the major issue is affordability and, more specifically, affordability of nutritious foods.

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