

Urban food security in Gaborone, Botswana

by

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ABSTRACT

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Life in urban Africa is often mired in crisis, thus researchers and practitioners usually pay attention to the multiple urban development challenges and sometimes interpret the activities and actions of urban dwellers as their means to survive in these cities. Urban food security research has reemerged in recent years as a major development agenda in sub-Saharan Africa (SSA), especially following the food price crisis of 2007/08, which translated into violent protest in many African cities. There is increased recognition that the issue of urban food insecurity encompasses more than just an availability crisis, yet there is limited attention paid to the multiscalar and multifaceted political-economic, social-cultural and environmental factors that drive food insecurity in cities. This research examines the multifaceted factors that shape food insecurity among urban dwellers in Gaborone, Botswana, by assessing household food access and choice/consumption patterns. Gaborone, the capital of Botswana, like many African cities, has experienced rapid urban growth since independence, however, with low subsistence agricultural production, Botswana depends largely on South Africa for food imports.

Using in-depth analysis and research techniques, including participant observation, food diaries and discussions with 40 households, this study examines urban dwellers' complex food experiences. The data from Gaborone show that changing urban food system, food prices, income status and people's lifestyle influences urban residents' ability to access appropriate foods. The research highlights the poor quality of urban diets in Gaborone among the survey population. The high consumption recorded of processed foods; sugars and oils are major contributory factors to the so-called 'double burden' of disease, where food insecurity and malnutrition coexist with obesity, a situation that is increasingly prevalent in low-income societies. Drawing on an easy-to-use analytical

tool, the Household Dietary Diversity Score, while combining it with a political ecology approach to provide more contexts, this study highlights the political-economic, socio-cultural and ecological factors that drive urban dietary diversity. The research, therefore, contributes to the methodological debate around measures of food access, while providing empirical details on the case of urban food insecurity in Botswana. Further inquiries on the factors influencing people's food choices and consumption patterns reveals that multiple interacting factors, including cost, convenience, commercials, culture and class influence the decision around which foodstuff households consume and that food consumption patterns within Gaborone are fluid, dynamic and hybridized. Thus, food consumption in SSA matters in its own right and by illustrating that consumption patterns in Gaborone are heterogeneous and fluid this research helps us better understand and contest the idea that globally food consumption patterns are becoming increasingly homogeneous and predictable. By providing a conceptually holistic and methodologically in-depth assessment of food experiences in Gaborone, this research calls for increased attention towards urban dwellers' agency and the complexity, dynamism and hybridity of urban processes in SSA cities.

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1. Introduction / Food in Gaborone, Botswana

Urban food insecurity: Problem and Rationale

As the market price of imported rice and wheat rose in 2007/08, social unrest and food riots hit several cities in the global south, including Conakry, Guinea in January 2008, Douala, Cameroon and Bobo Dioulasso, Burkina Faso in February 2008, and Dakar, Senegal in March 2008 (Bush, 2010; Moseley, 2011; Wodon and Zaman, 2010). Though there were no reports of crop failure and decreased agricultural production in sub-Saharan Africa, the food price hikes in 2008 forced households to reduce their quality and quantity of food consumed (Brinkman et al., 2009). The global food system, on which many Africans had become increasingly dependent, simply became inaccessible (Webb, 2010). As Moseley (2011) notes, by the early 2000s, the West African region, for example, was importing 40% of the rice that it consumed. Cheap rice imports from Asia, facilitated by World Bank-imposed tariff reductions in West Africa, had become an inexpensive source of calories for the West African urban dwellers (Moseley, 2011). The 2008 food crisis was not the first time countries in the global south were being affected by food insecurity; however, this new phase of food insecurity was specifically urban.

Cities have become central in our understanding of contemporary global food insecurity and as Steel (2009) puts it, the feeding of cities remains arguably the greatest influence on civilization. It is projected that by 2025, there will be more urban dwellers in the world, who unlike rural dweller often demand rather than produce their own foods (Satterthwaite et al., 2010). Thus, an in-depth understanding of how we feed cities will provide added insight to the current conceptualization of food security. It also follows that “in order to understand cities properly, we need to look at them through food” (Steel, 2009: 10). As Morgan and Sinnino (2010) note, the dense politically combustible population in cities tends to be extremely sensitive to food scarcities. Furthermore, cities are highly obesogenic spaces, with a high presence of energy-dense foods accompanied by limited opportunities for physical mobility (Morgan and Sonnino, 2010). Despite these intricate interrelationships between food, food security and urban spaces, there have

rarely been investigations that examined them together, especially in sub-Saharan Africa. Food studies and food security research are often linked to agrarian livelihoods, while urban research often explores many other interconnected issues, including high rates of unemployment, lack of infrastructure and informality, that make living within African cities daunting (Frayne et al., 2010; Lindell, 2008; Simone, 2001). The focus on urban pathologies in African cities has been deeply contested, as these dystopia representations limit our ability to theoretically and practically investigate people's differential experiences within contemporary African cities (Dodson, 2000; Hovorka, 2004; Nuttall and Mbembe, 2005). This research, therefore, seeks to integrate insights from food consumption studies, food security research and African urban studies, simultaneously using food to understand urban processes, while exploring food in cities to provide added insights into food insecurity in SSA.

The overall objective of this study is to examine the multifaceted factors that shape food insecurity among urban dwellers in Gaborone, Botswana, by assessing household food access and choice/consumption patterns. It is important to understand food security in terms of households' ability to obtain appropriate food, based on their purchasing power relative to food prices, market mechanisms governing when, where, and how households can obtain food and the socio-cultural norms and values that influence the demand for certain types of foodstuffs (Bohle et al., 1994; Maxwell and Smith, 1992). The overall objective of this research will be achieved through the following three outcomes:

- Analysis of the conceptual and analytical limitations of crisis narratives on urban African research and a proposal of opportunities for more holistic assessments of urban food insecurity.
- Development of a framework to assess urban household food security using a synthesis of a standardized analytical tool, the household dietary diversity score, and a political ecology approach.
- Assessment of urban household food choice and consumption by investigating the factors and dynamics that influence people's food decisions and consumption practices.

Research context

Food security is defined as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”(FAO, 2002). Atkinson (1995) and Maxwell (1999) note that rapid urbanization and complexity of urban livelihoods, food supply, access, choice, health and social organization are making the whole food experience within African urban spaces multifaceted. Furthermore, the lack of appropriate policies and state interventions intended for the urban context means that individuals and households tend to cope with the incidence of food insecurity by assembling complex livelihood strategies, which as Maxwell (1999) notes is poorly understood within the urban African context. However, Stage et al. (2010) caution that the concerns around the effects of urbanization on food insecurity cannot be easily resolved by curbing urbanization; rather, it is essential to understand the factors and dynamics that shape urban food insecurity. These concerns are different from those that shape rural food insecurity, including decline in food supplies and agricultural productivity, and therefore there is a strong need to break away from stereotypes of what food insecurity has often been seen as in Africa (Crush and Frayne, 2009; Crush et al., 2011b; Frayne et al., 2010; Frayne et al., 2009).

One could start by drawing from and building upon Amartya Sen’s analysis, that stresses the importance of understanding people’s ability to acquire food, as food crisis can occur amidst plenty (Sen, 1981). Jarosz (2004) proposes the use of political ecology to challenge stereotypes and engage in alternative explanations about poverty and hunger. A political ecology approach can enhance understanding of the “interdependent and intertwined power relations” that shape unequal access to food within cities (Heynen et al., 2006: 3). For example, urbanization implies a large portion of the population is dependent on markets for food, spending a large share of household income on food purchases. It also often means that people’s dietary patterns change to accommodate their urban lifestyle (Crush and Frayne, 2009; Ruel et al., 2008a; Ruel et al., 2010a; Stage et al., 2010). However urban lifestyle in African cities is little understood because as Garth Myers notes, urbanism in Africa is undergoing deep, rapid and dazzling complex, political, economic and social changes that challenge most urban theories (Myers, 2010).

Akin Mabogunje's take on urbanization however helps us to begin to come to terms with urbanism in sub-Saharan Africa. He defines urbanization as a "process whereby human beings congregate in relatively large number at one particular spot of the earth's surface" (Mabogunje, 1968: 33). This definition, as Mabogunje (1968) insists, is deliberately vague, because the process of urbanization differs considerably across time and space. For example, cities in sub-Saharan Africa have been subject to dramatic external interventions and influences ranging from multiple conquests, slavery, colonization, cultural and religious imperialism of Arabs and Europeans, and contemporary trends of modernization and capitalist consumerism (Simon, 1997). These have all contributed in defining the distinct historical, economic, political, spatial, social and cultural development of contemporary African cities. Although annual growth rates are not uniform across sub-Saharan Africa, it is estimated that 40% of the total population were urban dwellers in 2010 and expected to grow to 61.8% by 2050 (UN-Habitat, 2010). This silent urban transition driven by migration, natural growth and the reclassification of rural areas to urban areas, is going almost unnoticed (Annez et al., 2010; Kessides, 2007; Parnell and Walawege, 2011). Furthermore unlike other regions which have experienced a similar pace of urbanisation, African cities are growing within a context of severe constraints (Kessides, 2007). There is general concern that urbanization has frequently not been complemented by economic growth and that rapid urbanization is the cause of multiple developmental and environmental problems (Pieterse, 2011b). Food insecurity especially in terms of access to healthy diets has featured as one of the multiple developmental concerns related to the negative experience of urbanization in sub-Saharan Africa.

In order to develop effective public policies and interventions to promote healthier eating habits, it is essential to understand the factors that influence consumer food choices (Renata et al., 2011). Food choice and food consumption experiences within African cities should therefore be of significant importance in urban food insecurity research and practice. Yet there is limited research aimed at understanding food insecurity through an assessment of consumption practices; rather, research has largely focused on food poverty, survival and the need to enhance sustainable agricultural production (Abrahams, 2007b). In order to capture how people's experiences and

understandings interrelate to shape their food choices, some studies have proposed the use of a constructionist approach (Bisogni et al., 2002; Sobal et al., 2006; Sobal and Bisogni, 2009). This approach investigates food choice using a holistic perspective with an emphasis on understanding and describing how people construct food decisions (Bisogni et al., 2002). The constructionist approach illuminates how “food choice decisions are frequent, multifaceted, situational, dynamic, and complex” (Sobal and Bisogni, 2009: 37).

However the constructionist approach and other literature on food consumption and choice within geography, has largely been based on empirical cases from the global North (Kneale and Dwyer, 2004b). This research will demonstrate how similar factors are at play in cities in sub-Saharan Africa.

Food consumption debates are generally linked to debates on globalization, westernization, the cultural and ethical politics of consumption and identities (Bell and Valentine, 1997). In the global north it is noted that there has been a transition from first the 1980s and the 1990s when rapid globalization brought to light concerns about the simultaneous process of standardization (globalization) of foods, where food choices followed global trends, rather than local production systems or seasons (Morgan et al., 2006). This changed in the late 1990s, with a renewed localization of foods, as concerns about food safety and growing affluence produced a new age of politically, ethically and environmentally conscious consumers (Goodman and DuPuis, 2002; Murdoch and Miele, 1999). It is evident that the simple production-consumption systems, where people’s consumption and choices were shaped by what their environment could provide, has transitioned to a system where global economic relations and commodity chains have bridged the restrictions imposed by seasonality. Consumption and food choices are also said to be shaped by a myriad network of information from producers, retailers, media, environmental and ethical groups which form a commodity’s story as it moves from farm to fork (Atkins and Bowler, 2001). At the same time food consumption is intensely personal and social with factors including gender, age, social class/framework, income level/resources and ideas gathered along people’s life course shaping their food choices (Furst et al., 1996b; Lockie, 2008). Witttenberg’s work on correlates of body mass in South Africa (Witttenberg, 2011) and the work by Fouéré et al., (2000) on household

dietary study in Brazzaville, Congo and Dakar, Senegal highlight similar complexity of food consumption and food choice in sub-Saharan Africa. They note that food choices are based on evolving social conditions, long-standing economic constraints, cultural values and the way households view their current situation and plan to deal with future challenges, with these factors changing with time as the households progressively acquire experience in dealing with varied circumstances (Fouéré et al., 2000; Wittenberg, 2011). Black South Africans for example prefer higher body mass, perceived as heavier and not over weight because thinness signifies illness; as such increase in economic well being amongst this sub-population correlates with an increase in body mass (Wittenberg, 2011). Therefore, there is little reason to believe that structural challenges such as poverty and illiteracy in sub-Saharan Africa precludes choices as further explored in this research. Especially given the information deficit about the spatial and historical dynamics of food consumption in sub-Saharan Africa (Freidberg, 2003). This research will assess what shapes food choice and consumption within Gaborone through an intensive social enquiry using ethnographic techniques, such as food diaries and participant observation, to produce in depth analysis of people's experiences with and understanding of their food. Food then becomes the lens through which we understand the complexity and fluidity of urbanization and urban processes in African cities such as Gaborone. This research will further bring together detailed knowledge of what shapes food choice and consumption within Gaborone, providing an opportunity to enhance current theoretical and practical understanding of food insecurity. This will also expose the complex dynamics and factors that drive food insecurity.

Research Design

Study site

Cities in sub-Saharan Africa are often studied through a development framework within which they are measured based on Western indicators and placed on a continuum between modernity and development (Myers, 2011; Robinson, 2006). Gaborone, Botswana's capital (Figure 1.1) tends to be one African city that is often placed on the modernity end of the spectrum, termed a success-case and couched within an exceptionality discuss that often clouds our understanding of the complexity of urbanism

and urban process in this city. Botswana's diamond based economy has fuelled the growth of Gaborone as a well-ordered civil society, with fairly high levels of income and education with the absence of obvious urban slums (Kent and Ikgopoleng, 2011). This positive image intersects with the ravaging effect of HIV/AIDS, the scarcity of affordable housing, political and economic inequality, high levels of food urban food insecurity and heavy dependence on the global (food) economy (AFSUN, 2009; Crush et al., 2011b; Emongor and Kirsten, 2009a; Kent and Ikgopoleng, 2011). Expressing this intersecting reality in terms of food, in Gaborone food is mainly sourced from modern supermarkets with a complete absence of "traditional African markets", yet diets are still made up in part by traditional staples and wild foods. Gaborone obviously problematizes the predominant narratives about African cities.

Gaborone, thus presents an ideal site to explore the dynamics of rapid urbanization, food consumption and the complexity of food insecurity in sub-Saharan Africa. Botswana has experienced one of the fastest rates of urbanization in Africa, from 3.1% of Botswana being urban residents in 1960 to 53.2% in 2000, and 61.1% in 2010 (UN, 2009). While this transition is sustained by natural urban population growth, low-level rural investment, rural agricultural problems and recurrent droughts push rural Botswana towards cities, where they seek opportunities in waged employment, services and facilities, and 'modern' lifestyles (Hovorka, 2008). Based on the 2011 population census, Gaborone hosts a total of 11.2 % (227,333 persons) of the national population of 2,038,228 (Central Statistics Office, 2011a). Gaborone is the primary destination for most urban-ward migrants, with many people ending up in the neighbouring villages (Mogoditshane, Metsimothlabe, Tlokweng, Gabane and Mmopane), from where they commute to the capital in search of economic opportunities (Central Statistics Office, 2009). As Arntzen et al. (2004) note, urbanisation brings about changes in consumption patterns, which results in fresh challenges in the food provision system. The specifics about these changes in Gaborone, as in much of Southern Africa, have not yet been well documented (Arntzen et al., 2004).

Within Gaborone, in order to identify an appropriate geographical location to carry out household data collection, it was essential to investigate and understand the spatial and temporal development of the city. It was clear from the review of several

published materials on the urban growth of Gaborone that the city was built from uninhabited lands with no indigenous community (Mosha, 1996; Moswete et al., 2008). This opinion was also confirmed in a detailed discussion with key informants, including a professor of urban planning at the University of Botswana and a senior urban planner at the Government of Botswana's Department of Town and Regional Planning. Although the city had been segregated according to socio-economic class at its inception, the city council had since worked toward producing mixed neighbourhoods as the ideal Gaborone. Old Naledi was noted as the lone area, which could be termed a low-income settlement. However, increased government investment in sanitation, water provision and waste collection has improved the state of this neighbourhood such that it is not uncommon to find middle income households there today. After repeated visits to several neighbourhoods, it became clear that Broadhurst (see Figure 1.2) presented a suitable location to carry out the household studies. Broadhurst, was developed from an agricultural holding previously know as Broadhurst Farms some 20 years ago to become what is now a vibrant urban residential, industrial and commercial area. The Broadhurst neighbourhood was chosen because it hosted over 28% of Gaborone's population. Broadhurst is also very mixed in terms of hosting a wide range of people of diverse household structures and socio-economic status living next door to each other.



Figure 1.1 Map of Botswana (Kent and Ikgopoleng, 2011)

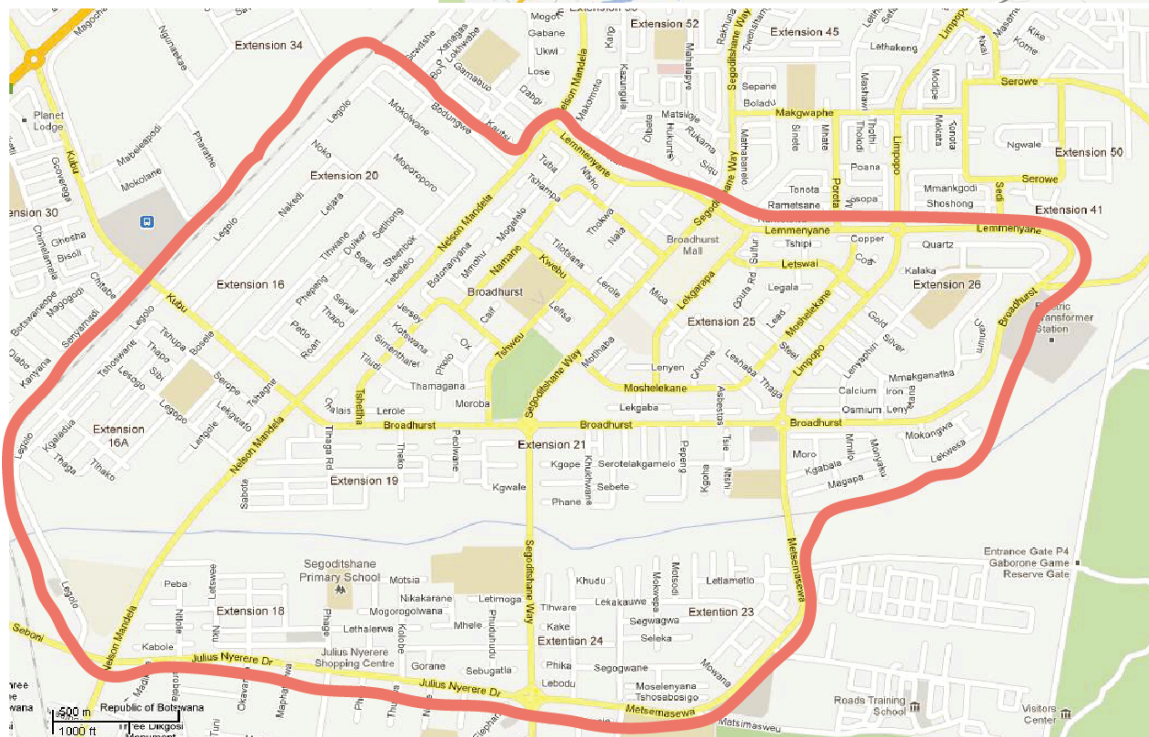


Figure 1.2. Map of Gaborone showing area of study Broadhurst (Google Maps, 2011)

Overview of methods

Urban food insecurity and food consumption in Gaborone were investigated through a mixed data collection and analysis approach, largely inspired by literature from food security, food consumption studies and African urban studies. The rationale for using both quantitative and qualitative methods was based on the need to provide a more robust analysis, as both are insufficient by themselves, to capture the trends and details of a situation (Creswell, 2009; Ivankova et al., 2006). Thus mixed methods research, goes beyond merely collecting several forms of qualitative evidence such as observations and interviews or quantitative evidence such as surveys (Klassen et al., 2012). Rather there is an “intentional collection of both quantitative and qualitative data and the combination of the strengths of each to answer research questions” (Klassen et al., 2012: 2). While the specifics of the methods used have been detailed in Manuscripts One, Two and Three, this summary serves as an overview of the methodology of the entire research project.

The research largely draws on ethnographic methods from human geography, which emphasises that experiences should not be treated as assemblages of measurable variables, but rather they need to be explored “as localised, holistic cultures which could be made sense of only through in-depth observation, in situ” (Cook and Crang, 1995: 5). The ethnographic methods used in this research include a seven-day food consumption diary, in-depth discussions with participants and participant observation. The diaries ensured that daily meals were recorded accurately, while discussions and participant observation provided an opportunity for long-term and close engagement, essential to understanding people’s food experiences. Discussions were focused on Botswana food culture, food choices, urban food experiences, availability and access. Observations were carried out for half an hour to four hours in a variety of settings including homes, grocery stores, restaurants and fast food eateries. To uncover people’s interpretation of events, their food security situation and their food decision making process, it was useful to participate and engage in conversations with them while they prepared meals, ate or during their grocery shopping. As recommended for ethnographic methodologies, the thoughts, ideas and emerging trends were often traced back to books, to newspaper stories, and popular discussions to make sense of the whole process (Cook and Crang, 1995). These data were triangulated with survey data that collected information on

household structure, household income and expenditure and a standardized household dietary survey. More detailed accounts of household food experiences were obtained by integrating these diverse methods that sought to capture both subjective interpretations, based on people's discursive accounts and objective explanations based on the diaries and survey.

The sampling process was typically ethnographic as it did not seek to attain any statistical representativeness of the urban population, rather preference was given to the "quality and positionality" (Cook and Crang, 1995: 12) of the information that could be obtained. A purposive sample of 40 households, were involved in the study, including 20 low-income households further stratified into 10 male headed and 10 female headed households, and 20 middle-income households further stratified into 10 male headed and 10 female headed households. The analysis presented in the rest of this dissertation treats the 40 households in aggregate and thus engages in an in-depth understanding of the patterns common amongst the 40 households. Income and gender of the household head are used as categories to contextualize the patterns, however, the behaviors and experiences of individual household members are not explored. This is in part because of the way the data was collected, where the head or a member each household volunteered to respond to the research questions on behalf of the household, because it was logistically challenging to engage with each member within the 40 households. Nevertheless, it is worth acknowledging intra- and inter-household patterns that may be further explored in future research. First, within households there is the issue of hierarchy of consumption whereby women, despite being responsible for food preparation, often ensure that other members of the households are fed before they eat. In particular, male family members are given priority over female members. This pattern is based on the assumption that women, unlike men, are socialized into food preparation activities; women can cook for themselves should a meal become insufficient for the entire household. Second, among the household heads, different age groups experience varying food security and choice/consumption patterns. For example, those household heads over forty years of age with opportunities for higher education have enjoyed an era in Botswana when employment opportunities were abundant. They have attained financial security with which to purchase and select foodstuffs, thus yielding more secure access to

food as compared to those household heads under forty, even those who have attained higher education. Also in terms of choice and consumption, the older generation often romanticized traditional meals as most of them grew up in the rural area and only migrated to Gaborone for education and employment. The younger generation, on the other hand were less attached to traditional Setswana meals, especially those that were energy and time intensive to prepare, and were more open to consuming modern diets and hybrid meals. These intra- and inter- household patterns offer rich avenues for future research.

Key assumptions

It is worth acknowledging that the decisions around the research objectives and the study design are shaped by my philosophical stance and positionality as an emerging African postcolonial development geographer. Inspired by postcolonial development geography literature (McEwan, 2001; McFarlane, 2006a, b; Nash, 2002; Noxolo, 2006; Noxolo et al., 2008; Raghuram and Madge, 2006; Sidaway, 2000), I seek to remain alert to the spatially unequal experience of food consumption by combining “culturally specific analysis with an awareness of uneven (neoliberal and globalizing) political economies”(Radcliffe, 2005: 296). In a typical postcolonial development geography approach, I engage in deconstructing the languages of development (Radcliffe, 2005). Specifically I examine how the issue of African cities as spaces of survival and crisis has become embedded in development research. I problematize simplistic (albeit useful) measurement tools. I also problematize how the idea that dietary patterns within sub-Saharan African are transitioning towards a hegemonic western dietary pattern needs more careful examination. While I seek to appreciate diversity and difference, I remained conscious that my analysis did not essentialize the marginality of people’s food habits and values, a critique often levelled on postcolonial theorists (Kapoor, 2008).

By acknowledging who I am as a researcher I am not seeking to validate any insider position, wherein as an African I can produce knowledge about and speak for other Africans. Rather as Anyidoho (2010) notes, “we appear to be in a moment when notions of ‘cosmopolitanism’ and ‘universalism’ make nonsense of any attempt to ground

scholarship in complex and shifting identities”. I negotiate a hybrid identity of an African, who is permanently resident in Canada. My positionality as an African male, non-Batswana researcher was often difficult to explain, as some urban dwellers could not comprehend why another African (foreigner) was the researcher not the researched. At the same time, I was not an ‘African resident’ and as much as I empathised with the participants there was a psychological comfort that I was going to eventually return to my life in Canada. The relationship between the participants and me as the researcher was therefore complex. England (1994) notes that the relationship between the researcher and the research can be reciprocal, asymmetrical, or exploitative while the researcher’s stance can be intimidating, ingratiating, self-promoting, or supplicating. I favoured the role adopted by most feminists; researcher-as-suppliant, seeking mutual relationships based on empathy and respect, and often shared knowledge and findings with the research participants. I was also highly dependent on the participants for information and guidance as it was only through them that I could get insight into the subtle nuances or factors that structure and shape everyday food experiences in Botswana. Through this approach there was a huge power shift to the participants with an obvious acceptance that the knowledge of the participants, especially with regard to the food consumption patterns was greater than mine. In order to gain access to participants, I used a gatekeeper or cultural guide, who often helped in introducing me to households and translated in some instances when the participant felt more confident expressing an idea in Setswana. It was also essential to build a rapport and trust with the gatekeeper before data collection began. As Nind (2009) puts it, gatekeepers are more likely to help if they are convinced of the benefits of a research to the people they hold access to.

Organisation of the thesis

The thesis is made up of this introduction, three manuscripts and a conclusion. The introductory chapter has outlined the problem context for the work, highlighting the research as a timely contribution to the debate on urban food insecurity in Botswana, Southern African and sub-Saharan Africa. The first manuscript, explores the broader scholarship on urbanisation and food insecurity in Africa. It argues that the predominant

crisis narrative within food security and African urbanism literatures often leads to conceptual and analytical elements that potentially fail to fully capture local dynamics and experiences. The paper draws from a critique of literature on urban agriculture and informality, to identify the challenges with the dominant focus on crisis and survival. The literature also proposes some opportunities to improve current analysis of African urban development issues. The paper then turns onto food security literature and empirical data from the case study in Gaborone, Botswana to explore how the dominant focus on food crisis and food supply does not capture the differential experiences of food insecurity amongst urban dwellers' in Africa. The paper concludes that an enhanced conceptual understanding of food insecurity and robust analysis of how it manifests at the local level is essential in order to subvert the dominant crisis narrative. This paper was developed for an Africanist audience and will be submitted to the *Journal of Contemporary African Studies*.

Following up on the need for more fine-grained analysis, the second manuscript suggests that more robust food insecurity assessment can be done by combining a mainstream measure of food security, the household dietary diversity score (HDDS) and a political ecology approach. Data on household food insecurity in Gaborone was collected and analysed through a combined HDDS-PE approach. HDDS exposes differential food access, illustrated by varying household dietary diversity scores and commonly accessed food groups, while a political ecology approach helps explain why and how households lack access to certain food groups. The results highlight the fact that political-economic, socio-cultural and ecological factors interact to influence urban dietary diversity. Analysis also reveals concerning trends in urban diets, as participants consumed unhealthy diets, made up of processed foods, sugars and oils, which could lead to a double burden of food insecurity and obesity (and related diseases). This paper was written to serve as a practical and methodological contribution to the emerging urban food security field and has been submitted to *Development in Practice*.

The third manuscript further engages with the issue of urban food security, in terms of the factors influencing people's food choices and consumption patterns. The paper questions the idea that food choice in sub-Saharan Africa is predominantly based on cost, and that traditional diets are being replaced by westernized diets made of more

processed, low nutrition foodstuffs. Drawing on an interdisciplinary review of literature from geography, food, nutrition and consumer studies, the paper develops a framework to investigate food decision-making practices in Gaborone. The paper draws on data from the seven-day food consumption diaries and discussions with household heads to give a background to people's diets, while explaining how and why they make the choices they do. An in-depth engagement with households in Gaborone reveals that multiple interacting factors influence the decisions around which foodstuffs households consume. The paper details how cost, convenience, culture, commercials, and class shape food choices in Gaborone and illustrate the dynamic ways in which people draw on these factors. The paper also demonstrates that food consumption practices within urban Africa are fluid, dynamic, material, symbolic and hybridized, a much more complex perspective than the idea that African diets are transitioning. This paper was written for a geographic audience with an interdisciplinary bent and submitted to the journal *Geoforum*.

The concluding arguments in the final chapter outline the principal findings of the entire research effort. The conclusion focuses on how the findings presented in the three manuscripts tie together to address the overall research objective: to provide an in-depth understanding of food consumption in Gaborone by explaining how city dwellers make their food choices, while providing useful details that could inform the broader food security debate within African cities.

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2. Exploring the “crisis” narrative in African cities: Some insights on food security in Gaborone, Botswana

Abstract

This paper argues that investigations on African urbanism are couched within crisis and this leads to conceptual and analytical elements, which potentially fail to capture local dynamics and experiences holistically. To develop this argument, this paper draws on literature on urban agriculture (UA) and informality in sub-Saharan African (SSA) to illustrate that the dominant crisis framing does not capture people’s differential experience of UA and informality. It applies lessons learnt and critiques from UA and informality literature on urban food security studies from SSA, then illustrates how food insecurity manifest without a state of crisis using empirical data from a case study in Gaborone, Botswana. The paper shows that the dominant focus on food crisis and the need to improve food supply do not capture the differential experience of food insecurity among urban dwellers’ in sub-Saharan Africa. Analysis shows that urban food insecurity in Gaborone as much of urban Africa is about the accessibility and consumption of healthy, nutritious foodstuffs. The paper highlights that an enhanced conceptual understanding of food insecurity and how it manifests at the local level is essential for effective analysis that improves the dominant crisis narrative.

Introduction

Urban development research in sub-Saharan has long been couched within a crisis discourse. There is a substantial focus on the wave of development problems, including impoverishment, pollution, anarchy, overcrowding, unemployment, and disorder, that accompany rapid urbanization in Africa (Boadi et al., 2005; Hovorka, 2004; Myers, 2011; Myers and Murray, 2007; Pieterse, 2011a). This paper argues that scholarship and development research frames urban Africa with crisis in mind; thus conceptual and analytical elements are limiting, which potentially leads to research that misses key elements and dynamics, as well as people’s (possibly non-crisis) experiences. To develop this argument, the paper draws on literature on the case of urban agriculture and

informality to illustrate how the crisis focus of investigations fails to acknowledge other aspects of these fields. Lessons drawn from the work on urban agriculture (Crush et al., 2011b; Hovorka, 2006; Hovorka, 2004) and informality (Myers, 2011; Myers, 2010) shall be used to explore the challenges and opportunities within the re-emergent field of urban food security in sub-Saharan Africa. This will provide us an opportunity to develop an academically robust understanding of urban food insecurity, while developing useful insights for policy-makers. Our intentional focus on the field of urban food insecurity will extend the emerging agenda and contribute to a holistic conceptualization of food availability, access and consumption in cities.

The paper applies the critique of literature on the crisis narrative and food insecurity in sub-Saharan Africa on a case study in Gaborone, Botswana in order to expose avenues for enhanced urban food security assessment. Botswana has experienced one of the highest rates of urbanization in Africa, with the urban population growing from 3.1% in 1960 to 53.2% in 2000, and 61.1% in 2010 (UN, 2009). As Kent and Ikgopoleng (2011: 478) note Gaborone “provides an opportunity to reconsider the range of contemporary ideas on cities in the context of the developing world”. Gaborone is one of the fastest growing cities in sub-Saharan Africa and has often been presented as a success case, where urbanization as been accompanied by socioeconomic growth (Bryceson, 2006a; Kent and Ikgopoleng, 2011). However, Gaborone has a small city population by international standards thus its urban resource problems resulting from rapid growth though often similar in kind are not similar in magnitude to those of larger cities (Batisani and Yarnal, 2011). Botswana also has a high dependency on food imports, making household food insecurity experiences expose to multi-scalar factors (household-national-regional-global). The recent boom in publication on urban food insecurity following the 2008-food crisis has largely ignored Gaborone and other cities in Botswana; an occurrence that one could assume is related to both the lack of visible signs of food crisis in urban Botswana, and the fact that Botswana might have fared better than most SSA countries. This study will seek to fill this knowledge gap by exploring food insecurity in urban Botswana.

Primary and secondary data on the context of urban food insecurity in Botswana were collected from key informants and households during fieldwork, which took place

in 2009-10 for a period of 10 months. A total 40 households participated in an in-depth research process, including completing a baseline survey, keeping food consumption diaries, and participating in discussions and observations on their daily food experiences. Among the 40 households, there were 20 middle-income households (10 male headed and 10 female headed) and 20 low-income households (10 male headed and 10 female headed). The small purposive sample was achieved by attaining qualitative saturation. The small sample enhanced prolonged contact between the researchers and the participants and proved useful as different aspects of household food experiences were explored. Thus, it was possible to unravel the varied contexts within which food insecurity manifest at the urban household level. Empirical evidence illustrates how urban food insecurity manifests in Gaborone without any visible sign of crisis (hunger and food supply shortage). Urban food insecurity experiences at the household level are linked to changing food consumption patterns rather than a visible crisis of food availability or supply shortage. In the conclusion, the paper suggests opportunities for further research on urban food security, which engage a more broadly conceived understanding of food experience in sub-Saharan African cities.

The impact of “crisis” narratives in urban Agriculture and informality studies in SSA

A diverse literature on cities in sub-Saharan Africa has grown especially in the last two decades, as there is increased recognition that this region once considered to be largely rural will be more urban than rural by 2030. Academics and practitioners alike have focused on the variety of urban development challenges facing African cities, investigating why urbanization in the region has not resulted in socio-economic growth. The challenging realities of life in African cities impart an urgency to inquiries in urban Africa, with researchers aspiring to contribute solutions to the ‘African crisis’ (Abrahamsen, 2003). Nevertheless, there is a need for theoretical scrutiny on the pervasive crisis narrative within which African urbanism has been couched. Below we

draw on literature on urban agriculture and informality to examine some effects of the urban crisis narrative and explore some opportunities for improved analysis.

Urban agriculture was once believed to be the panacea for urban food insecurity and poverty, today the field of urban agriculture is swamped with claims and counter claims about the potential of this activity to contribute to positive urban experiences in SSA. It is important to recognize that the continuous emphasis on conceptualizing urban agriculture in terms of its potential or lack thereof, to contribute to the resolution of the African urban crisis leads to two main shortcomings. First, the crisis discourse eclipses our understanding of other forms of the practice including entrepreneurial urban agriculture (Hovorka, 2004). Second, it leads to a misrepresentation of the effectiveness of urban agriculture in addressing urban Africa's food insecurity and poverty challenges (Crush et al., 2011b).

The production of food within cities in sub-Saharan Africa is noted as possibly “a dynamic, viable and largely sustainable bright spot providing jobs and food for the cities”(Drechsel and Dongus, 2010: 77). For example, Hampwaye (2007) notes that urban agriculture in Lusaka, Zambia is a key aspect of urban survival and urban landscapes despite ambivalent official policy and the lack of adequately support and integration in urban planning. The lack of institutional support has also been noted as what is potentially limiting the possibility of maximizing the benefit of urban agriculture in South Africa (Rogerson, 2010). Despite the challenges, urban agriculture is seen as a means for the urban poor to enhance their food security while gaining “additional income, and reduce vulnerability to economic shocks, environmental degradation and chronic instability in access to basic resources” (Karanja et al., 2010: 40). However as further detailed in Hovorka (2004) the crisis-framed inquiry on urban agriculture simultaneously enlightens and eclipses understanding of this phenomenon. That is, while the crisis analysis highlights urban agriculture as an important urban activity that enhances household food security, the focus on urban agriculture as a survivalist activity does not capture perspectives on the broader and local context, in which urban agriculture unfolds (Hovorka, 2004). It is essential to understand the conditions under which different individuals become involved in urban agriculture (Hovorka, 2004). For example, empirical evidence from Botswana and Zimbabwe showed that urban agriculture plays a

multi-faceted role as an activity through which women not only sustain their daily household food needs but also attain social and economic empowerment over time (Hovorka, 2006). Hovorka (2006) and Lee-Smith (2010) note that better-off households currently benefit more from urban agriculture than poorer households as they are better able to take advantage of on the ground conditions that enhance the potential of urban agriculture. What has developed in the case of Gaborone is a distinctly, under-explored entrepreneurial form of urban agriculture, fuelled by “numerous interrelated enabling structural conditions that have intersected with the socio-cultural circumstances and agency of urban dwellers” (Hovorka, 2004: 832). Urban Gaborone can therefore be seen as a site of opportunity, where people take advantage of “government financial incentives and accommodative land-use planning” to establish entrepreneurial urban agricultural schemes (Hovorka, 2004: 381).

Urban agriculture also tends to be overly praised for its ability to alleviate urban poverty and urban food insecurity. However, there has been some caution about the uncritical advocacy for urban agriculture as a solution for the urban poverty and food insecurity in sub-Saharan Africa (Crush et al., 2011b; Lee-Smith, 2010; Webb, 2011). Zezza and Tasciotti (2010) note that the potential for urban agriculture to address food insecurity should not be overemphasized, as its share in income and overall agricultural production is often quite limited. In Accra, Ghana, Ruel, (2003a) notes that although urban residents engage in urban and periurban agriculture, households still purchase well over 90% of their food which represents 60% of the total budgets in low income households. Webb (2011) cautions that urban agriculture studies should not exist in parallel fields of advocacy and criticism since it hampers progressive debate with negative effects on both the field of urban agriculture and urban poor. However, continued advocacy for urban agriculture despite disconfirming evidence is illogical (Webb, 2011). Crush et al., (2011b) therefore, note that contemporary researchers need to increasingly grapple with the diverse factors, beyond urban food production, that affect urban food access and food insecurity. Furthermore, urban food production should be contextualized within the urban food provisioning system, including processing, distribution and marketing of food by examining how to incorporate small urban producers into increasingly modern urban food supply chains (Crush and Frayne, 2011a).

Urban agriculture should also be discussed in relevance to other crosscutting issues such as gender or the role of women in urban food production; the use of child labour in urban food production; and concerns around environmental health including contamination and agricultural waste (Crush et al., 2011b).

Turning our attention towards informality another central feature of contemporary African cities, it is also important to illustrate how, similar to urban agriculture, it has received conflicting attention for its potential to contribute to urban economic growth. This leads to, first, a dualistic conceptualization of formal versus informal with activities classified as one or the other with little understanding of how activities are often hybridized. Second, the literature tends to be contradictory as informality is simultaneously celebrated as a solution to urban poverty and condemned as a part of the cause of urban decadence.

Keith Hart (Hart, 1973) is often credited for proposing the term ‘informal economy’ to refer to small-scale or family owned enterprises, operating outside of administrative regulations and characterized by easy entry, high turn over and reliance on local resources (Myers and Murray, 2007). Early research on the informal sector by both neo-liberal and Marxist theorists of economic development grow out of a marginalized view of the informal sector with three basic assumptions (Meagher, 1995). First, that the informal sector is transitory and bound to be eventually transformed through the advancement of modern capitalism; second activities and incomes within the informal sector only remain at subsistence-level; and third, the informal sector is a characteristic of peripheral economies as such will disappear with capitalist development (Meagher, 1995). Thus, the informal sector includes those socioeconomic activities that “are unlicensed, operate with low levels of capitalization, function outside existing juridical and legal sanctions, and take place outside statutory regulative frameworks” while the formal sector includes activities within state regulations (Myers and Murray, 2007: 14). The result of this broad conceptualization is that the formal-informal binary is frequently confused with other dualisms, including, “state-non state, large-small firms, rigid-flexible norms, Western origin-‘traditional’, written-unwritten rules, impersonal-personal and efficient-inefficient enforcement” (Potts, 2008; Sindzingre, 2006: 3). This dualistic conceptualization as Deborah Potts puts it obscures our understanding on the “underlying

structural forces that affect both the informal and the formal sector and their interconnections” (Potts, 2008: 164). Socioeconomic activities and regulatory frameworks within African cities tend to spill over or weave back and forth between informality and formality (Myers and Murray, 2007). Therefore, rather than couching scholarship within the formal-informal dualism, there seems to be promise in seeking to understand the interwoven way in which the informal and formal manifest in African cities (Myers, 2011). Myers, therefore, proposes that there might be need for a new language to capture the hybrid and underlying dynamic, fluid and changing characteristics of informality in African cities (Myers, 2011; Myers, 2008).

Scholarship on informality also tends to be contradictory; where on one hand informality in African cities is celebrated as an outlet for urban resident to survive the urban crisis while at the same time there is criticism of the challenging labour conditions and potentially negative social impact of the informal sector. The informal urban economy has been praise for its potential to alleviate urban poverty because it has grown in urban Africa, providing employment for the large population of unemployed youths and adults (Bryceson, 2006b; Lee-Smith and Stren, 1991; Lindell, 2010a, b; UN-Habitat, 2010). People within the informal sector are not only generating income for survival rather they can be seen as social entrepreneurs, innovators and employers who are creating real social and economic value for their communities (Minard, 2009; Williams, 2010). Crush and Frayne (2011a) also note that the informal food economy, including, informal food production (UA), informal markets, street traders, food vendors and informal shops, plays a vital role in supplying foodstuffs to urban households, especially the urban poor. Despite the celebrated potential of the informal sector, there exist some political discomfort and determination to eradicate this sector, which is often seen as dysfunctional and linked to criminality (Joseph, 2010). Hence the proclaimed need to formalize the informal sector (Myers, 2008; Simon and Birch, 1992). As Lince (2011) puts it, some emerging development policies follow the logic that formalization provides greater legal securities and increases the involvement of local people in decisions affecting them. However, as illustrated through a case study of Uganda's open-air markets formalization scheme, formalization results in greater loss of control over livelihood options and risk-management strategies than those encountered in

the informal sector (Lince, 2011). The solution to such a situation may not necessarily be to encourage informality. Rather as Myers notes a more participatory and emancipatory approach will be to encourage or work towards hybrid governance, within which there is mutual acceptance of informality and formality (Myers, 2011: 103).

Literature on urban agriculture and informality as briefly explored above and further detailed in Hovorka (2004) and Myers (2011) exposes the limitations of crisis discourse, wherein the focus on survival and marginality overshadows entrepreneurial urban agriculture and hybridized (in)formality. Both cases also highlight the need to refrain from unilinear approaches, wherein for example; urban agriculture is often explored as a practice, for and by the poor. Rather, by exploring alternative explanations we can generate a more holistic understanding of the issues as they manifest within dynamic, generative and challenging African urban spaces (Pieterse, 2011a, b). This call for alternative approaches and explanation of urban process, does not seek to undermine the gravity of urban development challenges in African cities. Nevertheless, as illustrated above there is a constant need to probe how scholars and practitioners frame and understand these development challenges, in order to verify that current conceptualizations fully capture how urban residents experience them. A similar analysis of urban food security literature that investigates its current framing is therefore essential.

The impact of “crisis” narratives on food insecurity studies in urban SSA

This section aims to use a brief evaluation of recent urban food security research to highlight the fact that urban food insecurity within a framework of crisis leads to the privileging of certain conceptual and methodological focus, with potential limitations for food security assessment. Conceptually, significant attention is given towards food availability, specifically the need to improve urban food supplies, with limited consideration for issues around food access and consumption. Concerns around financial access to foodstuff and the high cost of nutritious foodstuffs often dominate, while there is limited consideration for food access and consumption. Methodologically, there is a focus on quantitative measures of levels of food insecurity rather than qualitative assessment of people’s differential experience of food insecurity. This section also

suggests a more multifaceted conceptualization of urban food security and summaries some analytical opportunities for more robust urban food security assessment.

As the brief assessment of the fields of urban agriculture and informality above has shown, it is important to emphasize that urban food security research in SSA should acknowledge the distinct way in which food insecurity manifest in cities. At the same time, it is worth reflecting on why decades of urban food security research have still not translated into real and tangible improvement in the region. Food insecurity has recently resurge as a major urban development challenge in sub-Saharan Africa with scholars seeking to explore the causes, its effect on the poor and possible policy solutions (Cohen and Garrett, 2009; Compton et al., 2010; Frayne, 2010; Mason et al., 2011; Moseley et al., 2010b). This has been precipitated by the convergence of two key dynamics: 1) the ongoing urban transition of the global population, especially in the developing world, and 2) the food price crises of 2008, which led to food riots in many cities in the world and has given urban food security unprecedented political visibility (Frayne et al., 2009). Research and policy interest around urban food insecurity has historically been linked to crisis from the economic crisis of the late 1970s, 1980s and early 1990s to the more recent food and fuel price crisis of 2007/08. Though Maxwell (1999: 1950) notes that since “the 1990s, urban food insecurity in sub-Saharan Africa, has become a chronic problem experienced mainly by the poor, rather than a series of short-term acute crises”, the short-term acute problems seem to be what generates political interest and instigates research activities. The result is that despite a lengthy history of urban food security research, there still exist significant scarcity of information, with the research community unable to adequately advise “program implementers and policy makers regarding who and where are the most vulnerable populations and what the global policy response should be” (Ruel et al., 2010a: 175).

One major challenge that contributes to the lack of progress in the field of urban food security noted above is the ambiguity around the distinct determinants and experience of urban food insecurity. Food security in general is often conceptualized as three main intersecting concepts, availability, access and consumption (Hoddinott and Yohannes, 2002). Availability describes the amount of food that is, and will be, physically present within a particular space and time; access captures people’s ability to

obtain the available food; and consumption gauges the nutritional sufficiency of the foodstuff available and accessed (Barrett, 2010; Hoddinott and Yohannes, 2002). Yngve et al.,(2009a) note that urban food insecurity has a distinct character because of two main reasons. First, at the city level inadequate purchasing power drives urban food insecurity rather than food availability, as is the case in rural communities dependent on fragile subsistence farming systems. Second, food insecurity in cities is as “much about quality (malnutrition) as it is about quantity (undernutrition)” as more urban food insecure are currently vulnerable to obesity, diabetes and other diet related diseases (Yngve et al., 2009a: 1971). In eastern and southern Africa for example, staple food price rise has been noted as a major issue that affects urban food insecurity and the welfare of poor urban households, because food purchases accounts for half to two-thirds of total monthly expenditures (Mason et al., 2011). Urban dwellers depend on markets for their food supplies, which make them particularly exposed to food prices’ fluctuation (Ruel et al., 2008a; Zezza and Tasciotti, 2010). It is therefore recommended for governments to implement food policies and programs that enhance food affordability among low-income households (Mason et al., 2011). Potential pathways to improve food supplies at the urban and household level include urban agriculture and adopting neoliberal policies, especially those that reduce taxes of food grains (Lee-Smith, 2010; Wodon and Zaman, 2010). Yet, there has been some caution that there is hardly a linear path between increased urban agriculture and poverty alleviation or improved food security for poor households (Crush et al., 2011b; Lee-Smith, 2010; Webb, 2011) nor between reduced food grains’ taxes and poor household food security (Moseley et al., 2010a). On the one hand, higher income households often have access to land and as such are able to farm more easily and efficiently than poor households (Lee-Smith, 2010). On the other hand, neoliberal policies have opened up African markets to increased food imports, undercutting local production and livelihoods (Moseley et al., 2010a).

As illustrated above and further detailed in Battersby (2011) the urban access problem is not simply limited to a question of financial resources or inadequate purchasing power. For example, in South Africa the current research and policy focus on increasing food production and household interventions, including food aid or public safety nets, should not overshadow consideration for other aspects of the broader urban

food system, such as where food outlets are located and what foodstuffs to stock (Battersby, 2011). Similarly, concerns around the increased consumption of unhealthy diets should be discussed beyond the present focus on the economic accessibility. For example, it is noted that the limited availability and access to healthy foodstuffs, leads to the consumption of cheaper, less nutritious, and high-calorie foods, which drives the so-called double burden of food insecurity and obesity (Chaput et al., 2007; Popkin, 2009; Ruel et al., 2008a). However, as Charlton et al., (2004) notes in a study carried out in Western Cape and Gauteng provinces in South Africa, multiple factors, including taste, family preferences, and price influence food choice. For example, the consumption of sugar and sugar-containing foods is linked to their taste or the sensation of sweetness generated when sugar or sweetener interacts with chemoreceptors on the tongue, and the pleasure response generated by their ingestion (Charlton et al., 2004). The palatability of food is therefore, of significant importance along with other factors, which combined with availability and affordability to shape daily food choices. Though it is challenging, it is important to be able to determine whether people will choose to consume healthful foods that they can afford or will choose to eat nutritionally inferior ones (Barrett, 2010).

The fact that food insecurity research tends to be driven by the urgency of food crisis seems to lead to the privileging standardized quantitative measure with low time nor resource demand, and request only basic technical skills to operate. Becquey (2010a) for example, suggests the use of household food insecurity access scale (HFIAS) and an index-member's dietary diversity score (IDDS) as cost effective ways to measure urban food insecurity. Household food insecurity access scale was developed by the USAID-funded Food and Nutrition Technical Assistance (FANTA) project, collaborating with Cornell and Tufts University and Africare and World Vision (Swindale and Bilinsky, 2006a). HFIAS is a continuous measure of the degree of food insecurity (access) in a household during the previous month (Coates et al., 2007). Household HFIAS scores can be obtained based on answers to nine 'frequency-of-occurrence' questions. The minimum score is Zero (0), and the maximum is 27. The higher the score, the more food insecurity the household experienced. The lower the score, the less food insecurity the household experienced.

The Index-member's Dietary Diversity Score (IDDS) is the number of different

food groups consumed over a specific reference period (24hrs/48hrs/7days). The IDDS can be constructed according to FAO recommendations based on 14 food groups and attributing a score of one (1) for each group consumed in the previous 24 hours. For each individual, the IDDS is the sum of these points and score can range from 0 (no food intake in the previous 24 hours) to 14 (maximum dietary diversity) (Becquey et al., 2010a). An increase in the average number of different food groups consumed provided a quantifiable measure of improved food access (Swindale and Bilinsky, 2006b). It can also provide insights in to household nutritional security based on the quality of household diets represented by the food groups that makes up households' dietary diversity score. There are several variants to these measures, including Household Hunger Scale (HHS) and Household Dietary Diversity Score (HDDS), which have been tested and proven to be informative and relatively comparable across different cities in different countries (Battersby, 2011; Frayne et al., 2010; Karanja et al., 2010; Maes et al., 2009; Tawodzera, 2011). However, dietary score indexes suffer some limitations including the challenge to capture and categorize snacks, which are a common part of urban consumption patterns. Also, some food groups such as cereals include a range of foods such as rice, millet, maize or sorghum that may vary in terms of their dietary quality and social-cultural preference. Such limitations must be acknowledged when utilizing these indexes to explore food security.

Though the above quantitative measures have been found to be informative indicators of urban food insecurity, which hold huge promise for evaluation and monitoring, they tend not to be suitable for household targeting because of their insufficient predictive power (Becquey et al., 2010a). In order to predict and prevent dramatic losses due to a food crisis, it is essential to identify people's coping strategies and "use them as early warning indicators, rather than waiting until measurable impacts on poverty, food insecurity, and malnutrition are observed" (Ruel et al., 2010a: 175S). This will entail drawing on qualitative research which provides insights into households organization and resources management (Lemke et al., 2003). Tolossa (2010) also suggests the use of a qualitative and participatory methodology based on a sustainable livelihood framework, as effective, to generate information on the multiple factors that drive food urban food insecurity and to assess households' coping strategies in Addis

Ababa. The food security analysis that ensues from the sustainable livelihoods approach is more people focused, multifaceted and with many actors, giving consideration to intra-household issues, gender, farming systems and governance (Swift and Hamilton, 2001; Tolossa, 2010). However, livelihood research in general tends to focus on societies' vulnerability and the fact that poor people 'adapt' rather than complex ways in which people fight back or lobby for political action. Political ecologists have been able to include the views of disadvantaged groups and critical insights on environmental marginalization processes, thus problematize narratives, social constructed by different stakeholders (Véron, 2006, 2010). In order to provide robust and policy-relevant analysis for urban food insecurity we can draw on political ecology to give explicit consideration to people and places and the broader ecological, political and economic contexts in which livelihoods are nested (Batterbury and Baro, 2005; Bebbington and Batterbury, 2001). In sum, food insecurity studies have been noted to improve in accuracy and validity of assessment through the combination of both quantitative and qualitative indicators (Baro and Deubel, 2006). Hence, there is great value and promise in exploring ways of enhancing integrated qualitative-quantitative measures.

In summary, urban food security as in the case of urban agriculture and informality explored earlier in the paper has been understood within crisis-shaped one-dimensional investigations with little room for alternative approaches. Thus, as UA tends to be often framed as an urban survival strategy practiced by the poor and unemployed, so to has the narrative of food security as an availability issue resolved by increased production been transposed from the rural context to the urban. It is essential to acknowledge that, "urban food security does not easily lend itself to the small farmer prognostications of the international food security agenda. Nor is urban agriculture the panacea it was once thought to be"(Crush and Frayne, 2011b: 540). Urban food security literature also fits within the critique around informality that analytic categorizations of urban features developed under specific historical and spatial conditions are only specific within particular time frames and ultimately fails to accommodate the unpredictable nature of present-day urban growth (Myers and Murray, 2007: 9). Thus, urban researchers need to continuously engage with and explore the different ways in which urban dwellers conceive and experience the food insecurity as well as other urban

development issues. The rest of this paper will focus more on illustrating how the experience of urban food insecurity in Gaborone goes beyond concerns around food availability and supply issues. Drawing from the literature above, we present a holistic view of food security as a synergy of availability, access and consumption. The case study illustrates what Maxwell (1999), Ruel et al., (2010a) and Crush and Frayne (2011b), note as the need for urban food security research to engage with issues of access and dietary diversity and quality.

Urban food insecurity in Gaborone, Botswana

A recent urban food security baseline survey by African Food Security Urban Network (AFSUN) in 2008, quantified the prevailing urban food insecurity conditions in 11 Southern African cities, including Gaborone showing concerning results (AFSUN, 2009). In Gaborone, approximately 82% of the 400 households surveyed from three poorer neighbourhoods, including Broadhurst, reported being food insecure, with female-headed households found to be more food insecure compared to their male counterparts. Poor households with less than 850 BWP were found to be the most severely affected by food insecurity (84%). Thus, gender of the household head and household income were major determinants of food insecurity levels. Furthermore, household diets in Gaborone were also found to be especially poor with only 5% of households fully enjoying a balanced diet (AFSUN, 2009). Our analysis largely complements those of AFSUN and makes clear three important issues that need to be considered in understanding urban food security in Gaborone. First, food availability is not a major issue despite low national agricultural production due to fluid imports from South Africa. Second, food access is influenced by income, though limited access in Gaborone does not necessarily result in people starving. Third our analysis highlights consumption concerns and calls for greater attention around the nutritional sufficiency of what people choose to eat.

First, in terms of availability, Botswana's semi-arid environment and repeated droughts significantly affect food availability. Nevertheless, considerable government effort has been geared toward improving agricultural production. After three decades of government determination to improve agricultural production, with the investment of a substantial amount of capital and the development and implementation of several

agricultural support programs, Botswana has still not significantly improved its food production situation (Botswana Ministry of Agriculture, 2009). For example between 1985-1991 the government implement the Accelerated Rainfed Arable Programme (ARAP), aimed at providing all farmers with ploughing and planting grants, to increase basic cereal production to attain self-sufficiency. However, under ARAP it cost the country at least twice as much to produce a tonne of maize as to import it (Lado, 2001). The Botswana Agricultural Marketing Board (BAMB) has noted, the national demand for cereals, estimated at 300,000 tonnes, largely outweighs the average annual production about 46,000 tonnes (Botswana Gazette online, 2008). National agriculture production meets just about 20 percent of the staple food requirements, thus Botswana is a net importer of food (Kachale, 2009). At the same time, the government is firm on improving agriculture as a way of ensuring food security and rural livelihoods (Presidential Task Group, 2011).

Limited concerns around urban food insecurity emphasize the need for increased urban agricultural production. Botswana Ministry of Agriculture still largely encourages urban and periurban agriculture (UPA) initiatives as a policy strategy of ensuring urban food security in an era of rapid urbanization, economic decline, urban poverty and HIV/AIDS (Keboneilwe and Madisa, 2005). Empirical studies from Gaborone have highlighted that the challenging environmental conditions limit agricultural production, with UPA having limited prospect for the urban poor (Crush et al., 2011b; Hovorka, 2004; Mosha, 1999). Rather, well-educated middle-income entrepreneurs involved mainly in poultry farming have been generating foodstuffs for the urban market (Hovorka, 2004). The use of urban agriculture among the 40 households surveyed was low as just four households were involved in urban or periurban agriculture and only one household reported using this as a means to ensure food security. While policy makers acknowledge that urban agriculture in Botswana is hardly comparable in scale to what occurs in other developing countries, they remain resolute that urban agriculture can contribute to employment, income generation and food security.

Second, on the issue of access, this can be understood in terms of spatial accessibility (location/proximity of food outlets) and economic accessibility (affordability). Large public and private investment in Gaborone has led to the

proliferation of shopping malls, with supermarkets and cash-and-carries at close proximity to residential neighbourhoods. The city's transportation system also supports fluid mobility such that it is easy for residents to move all around the city to purchase food from different sources. Participants reported sourcing most of their foods from supermarkets, which accounts for about 80% of food retail in Botswana. The rapid expansion of supermarkets in Botswana stems from an increasing demand for packaged products and higher quality foodstuff by a large middle-class urban population (Emongor and Kirsten, 2009b). The expansion is also enhanced by the structure of the market place characterized by political stability, trade liberalization, and regional (Southern Africa) economic integration (Jayne et al., 2006). The increasing participation of supermarkets in the food chain does not imply the exclusion of other food retail outlets. Households also source food from other retail outlets such as cash-and-carries, street hawkers/vendors, small neighbourhood stores/shops (truck shops), direct farm sales/urban agriculture and also from gifts/rural remittance. Though all households mainly source from supermarkets, urban dwellers obtained some small, daily provisions from other sources including street vendors and truck shops within their neighbourhoods. Much of the foodstuffs retailed in Botswana are imported from South Africa, with a well-developed agricultural system that supplies Botswana with a wide variety of foods all year round. In sum, there were few concerns around limited spatial accessibility as most households were close to food outlets and while Gaborone/Botswana as a whole has stable access to South African agri-food markets.

The purchase of food in Gaborone as much of Botswana is inevitable and urban food insecurity is largely discussed as being influenced by household income. Data collected showed that the mean household monthly expenditure on food was 569.25 BWP, found to be 55.4% of the reported mean income of low-income households. Kabelo, a low-income household head noted that there is always food on the supermarket shelves but the problem is having money to access the food. In spite of the repeated emphasis on the importance of having regular income and high food prices, only 12.5% of households interviewed (all low income), said they had often gone without food in the last year. While 22.5% said they had experienced food shortage just once or twice, 65% said they had never experienced periods of not having enough food. Similarly, of the 400

households involved in the AFSUN survey in Gaborone a low 11.2% reported they had often gone without food, 58.7% said they had experienced food shortage just once or twice, while 30.1% said they had never experienced periods of not having enough food. These results could be read to imply that most households surveyed had secure food access. However, Polena a low-income female household head summed what households surveyed repeated. She noted that that even though they (households) often could not afford everything they needed, they did not go without the basic foods such as maize meal, sugar, cooking oil and sorghum meal to satisfy immediate hunger.

Third, the issue of consumption, which relates to the above issue of economic accessibility, as often, affordable meals were unhealthy such as the frequent consumption of bread as a meal or processed, packaged soups. Analysis show that among the 40 households surveyed the most frequently consumed foodstuffs included maize meal, sugar, coffee/tea, vegetable oil and meat, which has been associated with the increase prevalence of obesity and other chronic non-communicable disease in other developing countries (Rosen and Shapouri, 2008). The need to access nutritious food is important to all but particularly so for a significant proportion of the population affected by HIV/AIDS. The onslaught of HIV/AIDS has negative impacts of food security in Gaborone and Botswana, especially since it reduces the active work force/farm-hands, while increasing the demand for and need to adopt, healthy/nutritious diets. Healthy productive adults especially in the rural areas, previously dedicated to agricultural activities, need to stay at home as care givers for either the sick or the resultant orphans (Central Statistics Office, 2009). Although the government provides food aid to those who have tested HIV positive, an assessment of the economic situation of individuals is done and food basket is only provided to those who cannot afford to buy healthy meal and nutritious foods such as vegetables, fruits, meat and cereals. Antiretroviral drugs (ARV) can only work efficiently with a healthy diet, and so the government is forced to provide both if the scheme has to be effective. James, who operates an AIDS group noted that Botswana government's provision of free ARV for those tested positive is a huge and applauded effort and should be complemented by individual dedication to living a positive life style which includes adopting healthy/nutritious dietary patterns. This is a challenging task, as both key informants and households noted, the urban lifestyle in

Gaborone predisposes them to consume food that is often highly processed and low in nutritional value. Gaborone provides a modern urban lifestyle with western standard malls and supermarkets coupled with high food prices and limited household agricultural practice, such as backyard gardens. Urban residents are largely engaged in income generating activities and can only afford limited time for food preparation, thus eating out and eating fast foods/convenience meals is common practice in Gaborone.

In sum, urbanization is influencing how people feed themselves in African cities such as Gaborone. Though there is no report of food crisis (extreme hunger and food shortage) in Gaborone, the food insecurity situation is concerning and in need of further investigation. Our findings highlight concerns around urban diets, a potential area for further analysis, as it is essential to understand the factors shaping individual and household diets in the urban context. The urban food insecurity challenge will be even further compounded if in trying to feed themselves urban dwellers are being exposed to obesity and other accompanying non-communicable diseases. High consumption of processed foods, sugars and oils are major contributory factors to the so-called ‘double burden’ of disease, where food insecurity and malnutrition co-exist with obesity, a situation which is increasingly prevalent in low-income societies (Harpham, 2009; Ruel et al., 2008b; Sverdlik, 2011). Household insecurity in Gaborone is therefore not about food supply or hunger rather it was an issue of access to nutritious foods that meets household dietary needs. The invisible urban food insecurity in Gaborone leads people to adopt cost effect dietary patterns, explored above.

Households also ensured food security by adopting other coping strategies including, diversifying household income sources whereby household owned and operated a roadside business even though the household head has a regular job. Another strategy to boost household resources that female headed households and adult female members in male headed households reported, was the use of *motshelo* or “money groups”. This often involves a group of women coming together to make regular monthly contributions (savings), which members can lend at a low interest rate. The entire capital and interest are then redistributed at the end of the year in cash or as bulk supply of food/household basic items. This strategy confirms the critique in the literature on urban food security above that emphasis on the need to understand factors that enhance food

access (access to cash) over the often over emphasized need for urban food production. The gender dimension of this strategy highlights the fact that gender should be integrated more intentionally into the analysis of food insecurity within urban households along with commonly used variables, including socio-economic class, employment, environment, Health and education. The individual ingenuity behind this strategy speaks to what has been noted within urban food security literature as the “the lack of formal safety nets, and the shifting of responsibility for coping with food insecurity away from the state towards the individual and household level” (Maxwell, 1999: 1939).

Conclusion

Scholarship on African urbanism is currently at vital junction with increasing calls for researchers to refrain from reductionist accounts of the material challenges of urban livelihoods. This paper has argued that urban African studies are often carried out with crises in mind, giving it much-needed urgency though the search for a quick policy-fix could lead to conceptual and analytical tools, which might not capture the full complexity of urban circumstances and experiences. Drawing on literature on urban agriculture, informality and urban food security, the paper illustrates the effects of crisis-shaped investigations and highlights the need to rethink the way food insecurity is researched in cities. This paper highlights that urban food insecurity goes beyond hunger and malnutrition stemming from inadequate supply to cover the inability of individuals and households to access healthy, nutritious foodstuffs within cities. Analyses show that in Gaborone, as in many other African cities, food insecurity is rooted in the inability of the urban poor to access food markets due to their low purchasing power and inadequate accessibility of nutritious foods (Frayne et al., 2010; Frayne et al., 2009; Ruel et al., 2010a; Yngve et al., 2009a). Thus, policy makers and practitioners need to integrate issues influencing food access and urban food consumption patterns to the predominant policy and research focus on agricultural production and supply.

The literature assessed, and empirical data analyzed highlights concerns around urban food insecurity in Gaborone without framing it as a crisis, opening the issue up for further investigation. The case study illustrates that agricultural production was not a major strategy to ensure food security, as household joined “money groups”, diversifying

their income sources and bought cheaper foodstuffs. The findings imply that attempts to assess levels of individual/household food insecurity in Gaborone should explore analytical tools, that capture the factors enhancing or restricting accessibility of nutritive and socially acceptable diets. Measures such as the dietary diversity score index, explored in the literature review around methodology above could prove to be a useful measure of levels of urban food security in Africa in terms of access to and consumption of nutritive foods and should be further explored. The usefulness of dietary score measures lies in their capacity to measure households' ability to access more expensive non-staple food groups and to capture household/individual dietary quality, including micronutrient adequacy (Hoddinott and Yohannes, 2002; Ruel, 2003b). Complementing dietary scores with the sustainable livelihood approach or a political ecology approach would enhance our ability to capture multifaceted context-specific information on household food experiences. We are confident that the views presented in this paper will contribute to the scholarship on urban food security in Africa and the growing literature on alternative perspectives on urban development challenges within African studies.

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3. Assessing food security in African cities: the case of Gaborone, Botswana

Note: This version has been slightly modified; specifically it has more references than the version that was submitted to *Development in Practice*, because *Development in Practice* has a limit of 15 references.

Abstract

The search for appropriate tools to assess food and nutrition insecurity is a major preoccupation for development practitioners. This paper explores the potential of complementing a mainstream measure of food security, the Household Dietary Diversity Score (HDDS) with a political ecology approach, using a case study from Gaborone, Botswana. HDDS exposes differential food access, illustrated by varying household dietary diversity scores and commonly accessed food groups, while a political ecology approach helps explain how and why households lack access to certain food groups. HDDS enriched with political ecology analysis will provide more useful conclusions to practitioners and policy makers.

Keywords: Food security; Dietary diversity; Political ecology; Urban; Botswana

Introduction

When the issue of food security recently caught global media attention in April 2008, researchers and analysts reported that poor urban dwellers would be most vulnerable to the food price and financial crises (Ruel et al., 2010b). This is because these individuals are generally net food buyers who rely on income for their food security, spend large proportions of household budget on food, and have little access to other safety nets such as agriculture or land to ensure food access in times of crisis (Ruel et al., 2010b). The increasing vulnerability of urban dwellers is further compounded by rapid rates of urbanization globally. Even Africa, which has traditionally been considered mostly rural, is increasingly an urban continent, recording the highest average annual

urban growth rate in the world of 3.3 per cent between 1990 and 2000 (Frayne et al., 2010; Pieterse, 2010). Urban food security in Africa is therefore an urgent development concern, however, there is limited theoretical and empirical investigation on factors generating urban food insecurity and political action to address them (Frayne et al., 2010).

Researchers, development agencies and governments are currently faced with the problem of assessing urban food security, developing relevant interventions and measuring intervention impact on households with varying levels of food insecurity. Several measures have been developed to accurately reflect how households access food (Webb et al., 2006). These measures often focus on gathering information about nutrition and socioeconomic welfare through simple, brief and low cost questionnaires or through more elaborate country surveys which involve more time, effort and expense. Household dietary diversity has proven popular as a measure of food security amongst practitioners because its data requirements are fairly easy to collect and analyse (Thorne-Lyman et al., 2010). Household dietary diversity score (HDDS) determines the number of different foodstuffs or food groups consumed over a given reference period, such as the last 24 or 48 hours or the last 7 or 14 days. Although the FAO and World Food Programme use different data collection methods and analytical strategies, both organisations use information on dietary diversity as a key element to inform food security analysis (Kennedy et al., 2010). HDDS has been validated in different countries as a proxy measure of household per capita energy intake and a tool for monitoring household economic access to food, dietary patterns and the consumption of specific foods (Kennedy et al., 2010).

A major limitation to the HDDS tool is that it lacks a universal cut-off point for defining varying levels of food security because variations in dietary patterns and food systems across countries and regions may impact the interpretations of dietary scores (Kennedy et al., 2010; Ruel, 2003c). Also the dietary diversity measure does not expose the context-specific causes of consumption deterioration, such as prices or self-production (FAO, 2009). Hence the FAO and Food and Nutrition Technical Assistance Project by USAID, strongly recommend that the HDDS measure should not be utilized as a stand-alone tool. Rather HDDS should be complemented with other food related

evidence to obtain a holistic representation of the food and nutrition security situation in a community (FAO, 2007). Political ecology offers one such complementary option. At its core, political ecology helps unravel the complex and interrelated political-economic, social-cultural, and ecological processes that shape highly uneven landscapes (Heynen, 2008; Robbins, 2004; Swyngedouw and Heynen, 2003). It can provide nuanced, contextualized evidence to establish the significance and meaning behind quantitative trends generated through HDDS. It can assist in ordering households along a continuum based on food insecurity levels as grounded in empirical household experiences (Coates et al., 2006b; Webb et al., 2006). Combined with political ecology then, HDDS stands to more holistically and robustly identify factors influencing dietary scores, changes in dietary patterns and differential food access. As such, relevant decisions can be made on cut-off or target scores as well as appropriate interventions to improve food access hence improve households' macro- and micronutrients.

The objective of this paper is to combine HDDS with political ecology analysis as a means of generating robust and multi-faceted insights on urban food security. By doing so, the paper offers a methodological resource to guide researchers and practitioners, as well as to inform policy and programmatic planning in food security realms. The structure of the paper is as follows. First, it provides a brief methodological overview of the Gaborone, Botswana case study. Second, it reviews the use of HDDS as a food security indicator, and presents dietary diversity score findings from Gaborone. Third, it outlines the political ecology approach, and details empirically the political-economic, socio-cultural, and ecological processes found influencing food security in Gaborone. Fourth, it concludes with a discussion on how a combined HDDS and political ecology approach can advance both understanding of and interventions on food security in urban Africa.

Methodology

Botswana presents an important site in which to explore urban food security in Africa as it has experienced rapid urban growth since its independence with some 61 per cent of Botswana (Botswana citizens) now urban residents (Central Statistics Office, 2011b). This demographic shift is driven by a combination of recurrent droughts causing rural agricultural problems and urban opportunities, services and lifestyle emerging from

huge private and public investments in Gaborone. Agriculture in Botswana is stagnant, with low domestic food grain production such that more than two-thirds of the annual requirement is imported (Hovorka, 2004). The purchase of food in Gaborone is therefore inevitable, and the absence or scarcity of informal markets means that even low income urban residents are dependent on western standard supermarkets for food purchases (Kruger, 1998). At the same time, a portion of the Batswana diet comes from wild and traditional food as well as through rural-urban remittances.

Gaborone, the capital city, remains the principal destination of many Batswana moving from rural areas and hosts the largest portion of the total nation population (186,007 or 11.07 per cent) (Central Statistics Office, 2011b). Literature on food security in Gaborone is minimal, since the issue of food security within Botswana is generally associated with analysis of cumulative rainfalls, rural crop production and the timely arrival of cereal imports. There is limited agricultural production within the city and, as Hovorka (2004) notes, existing urban and peri-urban agriculture in the greater Gaborone area is a result of dynamic entrepreneurial endeavour rather than response to food crisis. People living in Gaborone generally obtain their foodstuffs from several food access points including supermarkets, general provision stores (cash and carry), stores at filling stations, fast food chains, restaurants and street vendors (Frayne et al., 2010).

This study was designed as an in-depth case study using a purposive sample in order to explain trends found in a broad statistically representative survey of HDDS in Gaborone, carried out by the African Food Security Urban Network (AFSUN). The AFSUN food security study in Gaborone, including 400 households totalling 1237 people, from three neighbourhoods, (Old Naledi, Broadhurst, White City/Bontleng), notes that food secure households had more diversified diets (Acquah, 2010). The case study presented in this paper goes further by engaging an in-depth mixed-methodology and engaging a complementary HDDS and political ecology assessment to document how and why households in Gaborone are food insecure. Although dietary diversity studies generally engage in quantitative techniques that emphasise statistically significant samples, this study aimed at interpreting the context of and providing more depth to dietary scores. Thus a smaller purposive sample (n=40) based on achieving qualitative saturation was used. We make no claim that data from our case study are representative

of the wider population in Gaborone, nor does it provide an estimate of the rate of food insecurity in the city. Rather the case study offers a useful example for how a complementary HDDS and political ecology assessment could be operationalized in a particular context.

The sample was stratified based on household-head gender and socio-economic status because these subpopulations have been noted as particularly relevant in food security research. Specifically, the broad AFSUN research found gender along with income to be important variables in understanding urban food insecurity in Southern African cities (Frayne et al., 2010). Households were selected from Broadhurst, a vibrant urban residential, industrial and commercial area, which was developed from an agricultural holding previously known as Broadhurst Farms. According to the last official census of 2001 Broadhurst was home to about 28.9 per cent (53,677 people) of the city's total population of 186,007 (Central Statistics Office, 2011b). Broadhurst was found to be mixed in terms of hosting a wide range of people of diverse household structures and socio-economic status, thus suitable for this study. Using a street map of Broadhurst obtained from the department of surveys and mapping, Gaborone, Botswana, five residential blocks/neighbourhoods, known commonly in Gaborone as *extensions*, were randomly selected. From each extension, four streets were randomly selected. The process of theoretical sampling, which is typical of ethnographic studies, was used in the selection of households. That is in place of random sampling the entire street or neighbourhood; this approach identified appropriate households (e.g. low income/middle income, female headed/male headed households) and asked them to participate in the study. On each street, the first house was selected, if they declined to participate, the next house was selected, then the fourth, with a maximum of two households selected on each street. The data were collected with the help of a Setswana-speaking research assistant, who acted as cultural guide and translator in cases where respondents felt more comfortable speaking in their local language.

Households were classified into low or middle income categories based on a composite assessment of the material circumstance of the household, the occupation of household members, and their reported income. Low income houses had a pit latrines, were often in a state of structural degradation and they were often not linked to the city

electric grid. The household head was employed part time or full time with a monthly income of less than P1500 (P=Botswana Pula). Middle income houses were linked to the city sewage system and city electric grid, often fenced around with electric gates or guard dogs for security. The household head was employed full time with a monthly income of more than P1500.

The information used to assess dietary diversity scores (see HDDS questionnaire: Appendix A) was collected using the previous 24-hour period as a reference to ensure accuracy of information collected. The head of household or a delegated person willing and knowledgeable to do so completed the questionnaire. The characteristics of urban food practices, including consuming food out-of-home, easy-to-prepare and processed foods and snacking represent a significant portion of daily energy intake as such should be included when assessing urban dietary diversity (Becquey and Martin-Prevel, 2010). All types of foods consumed as part of daily energy intake from all source were recorded. Collection of dietary diversity data was complemented with discussions with households about the factors that determined their dietary patterns. Saturation was achieved while engaging with the sixth household in all the different strata, which were under investigation. At that point, in the research process, the range of arguments/information gathered was becoming recurrent. Food types consumed, consumption patterns, and reasons for food choice were similar and repetitive. Another four households in each category were selected to see if there would be any new trends and to ensure an adequate number of households in each category.

The heavy reliance on self-reporting presented an obvious limitation for this study and was addressed through data triangulation. For example, through repeat visits and discussions via telephone, participants were regularly engaged in the research process that sought to understand their diets. Key informant interviews and several secondary sources including government publications and research papers were also exploited to contextualise dietary scores. These discussions, observations, interviews, and secondary sources, generated empirical data essential to explore the context-specificity of urban diets.

Using HDDS to measure urban food security

HDDS overview

In Southern Africa despite generally adequate city level food supply, households lack universal access to sufficient food, thus citizens tend to consume highly processed non-nutritive foods (Frayne et al., 2010). This results in what emerging urban food security literature highlights as the so-called ‘double burden’ of disease, where food insecurity and malnutrition co-exist with obesity, a situation, which is increasingly prevalent in low-income societies. While the poor lack the means to maintain their energy intake and dietary quality, wealthier households, substitute the loss of dietary quality by consuming excess energy (Ruel et al., 2010b). It is therefore important to assess food insecurity by gauging what types of foodstuffs households have access to. HDDS has been suggested as a useful indicator of food security as it has been shown to have strong association per capita consumption and energy availability, thus it exposes whether households have access to sufficient, safe and nutritious food to meet their dietary needs (Ruel, 2003b).

Obtaining data for HDDS analysis is relatively straightforward. Field experience indicates that training field staff to obtain information on dietary diversity is not complicated, and that respondents find such questions relatively straightforward to answer, not especially intrusive/burdensome. Asking these questions typically takes less than 10 minutes per respondent (Hoddinott and Yohannes, 2002; Swindale and Bilinsky, 2006b). Swindale and Bilinsky (2006b) suggests the use of a set of 12 food groups for the calculation of dietary diversity scores, based on an FAO Food Composition Table for Africa. They include (a) Cereals (b) Roots or tubers (c) Vegetables (d) Fruits (e) Meat, poultry and offal (f) Eggs (g) Fish/shellfish (h) Pulses/legumes/nuts (i) Milk and milk products (j) Oil/fat (k) Sugar/ honey (l) Miscellaneous (Coffee/tea/condiments). The calculations involved in determining dietary scores are simple.

$$HDDS = \sum (a + b + c + d + e + f + g + h + i + j + k + l)$$

Values for *a* through *l* will be either zero “0” or one “1”, so HDDS will be a value between 0 and 12, which represent the total number of food groups consumed by

members of the household. It has been proposed that target scores be established using the mean diversity of the 33 per cent of households with the highest diversity (Swindale and Bilinsky, 2006b). It therefore follows that low dietary diversity (lower third) will be the mean diversity of the 33 per cent of the households with the lowest diversity, while the average is in between. This is useful for monitoring purposes as any increase in household dietary diversity reflects an improvement in the household diet (Swindale and Bilinsky, 2006b), which can be observed as a move from the lowest third towards the highest. As mentioned earlier, since diets tend to be context-specific it is difficult to compare scores, thus it is difficult to establish what could be a universally accepted dietary diversity target scores from which broad-scale policies could be developed. This study will therefore focus on exposing the context-specific issues that enhance or limit access to certain food groups rather than seek to establish statistical levels of food insecurity.

HDDS in Gaborone

As noted above the case study sample consisted of 40 households. Twenty (20) were low income further stratified into 10 male and 10 female headed household, and 20 were middle income also further stratified into 10 male and 10 female headed household. The mean household size was 4.4, with the smallest households having just one member and the largest having eight members. The mean age of the household head was 44.8, with the youngest being 20 and the oldest being 65. Some 20 per cent of the household heads had no formal education, 50 per cent had primary education, while 10 per cent and 20 per cent had secondary and tertiary education respectively. Most household heads had some form of full time employment (70 per cent), while 15 per cent reported being employed on part time basis, and 5 per cent were unemployed (and on government aid), pensioners or students. The mean household monthly expenditure on food was P569.25, with the minimum noted at P150 and the Maximum P2000. All 40 households purchased foodstuffs mainly from the supermarkets, with 65 per cent of them obtaining some foodstuffs from relatives in the rural areas, while 10 per cent engage in some form of urban or peri-urban agriculture.

The broader AFSUN survey found that HDDS was higher in food secure households with the difference between the HDDS scores in food secure and insecure

households, statistically significant ($p < 0.001$, $\eta^2 = 0.399$). More diversified diet also highly correlates with household income, with the median score for low income (income < 850 BWP) households was found to be 5 while the median score of higher income (income > 1900 BWP) households found to be 8. Though median score for the entire sample was high, 7, when non-nutritive food items such as sugar and beverages were removed from the dietary intake of the sample, the dietary diversity score dropped to three (Acquah, 2010). In terms of gender of household head, there was no statistically significant relation between HDDS and gender of household head and only minor difference in the average HDDS (HDDS of male head households = 6.25 and HDDS of female headed household = 6.75). In terms of the specific food groups that people consumed, the most frequently consumed foods were grains 97.2 per cent, then sugar/honey at 73 per cent, beef, poultry and offal at 66.5 per cent while fish/shellfish was the least consumed at 12.8 per cent, eggs at 23.6 per cent and beans, peas, lentils or nuts at 27.4 per cent.

The results of our case study reflect similar HDDS trends of the larger AFSUN Gaborone sample. Household dietary diversity scores, on 12 food groups, ranged from 4 to 12, with a mean score of 7. Low income households had dietary diversity scores ranging from 4 to 9, with a mean of 6, while middle income households had dietary diversity scores ranging from 4 to 12, with a mean of 8. Female headed households had dietary diversity scores ranging from 4 to 11 with a mean of 7, while male headed households had dietary diversity scores ranging from 4 to 12 with a mean of 7. In terms of a detailed analysis of how the different food groups scored amongst the 40 households cereals, sugar, oil and tea/coffee were consumed by more households while fish, pulse/legumes/nut, and eggs were amongst the least consumed foodstuffs. More middle-income households consumed eggs, meat/poultry/offal, fruits, and potatoes than low income households. In terms of gender, the consumption of potatoes was noticeably higher in male headed households, though it is worth noting that this was only true for middle income male headed households. Income was noted as a stronger determinant for potato consumption than gender.

The small sample size of this case study makes it appropriate to use linear correlation to test the significance in the relationship between dietary diversity score and

socioeconomic indicators. There is clear difference in the mean HDDS when comparing low income versus middle income households, yet there is no difference when comparing the mean HDDS of male versus female headed households. These analyses suggest that household dietary diversity assessment exhibits association with an often-used indicator of food security, namely household socioeconomic status. This case study is similar to previous studies suggesting strong correlation between dietary diversity and socioeconomic status (Thorne-Lyman et al., 2010). Determining target scores can therefore present an appropriate avenue for policy makers to find out what portion of a population requires intervention and assess the impact of the intervention. There should be an observable improvement of people dietary diversity from the determined lowest third towards the highest third.

It is often noted that that poorer households' low dietary diversity is typified by low consumption of non-staples and proteins. In the case of Gaborone, drawing on both the larger survey and our case study, while this statement is true for foods like eggs, fruits and tubers (potatoes), it is not true for milk and milk products, oils/fats, sugar/honey, and tea/coffee. The fact that some non-nutritive food stuffs (oils/fats, sugar/honey, and tea/coffee), were often present in the HDDS score of low income household, could lead to misinterpretations of the high HDDS score for these households. That is, the tendency to equating the high scores to the fact that they are food secured. It is worth further unravelling why these foods were often present in households' diets. Also more than half (12) of the low income households reported that they had consumed some form of meat in the last 24 hours, while the consumption of fish was equally low for both low and middle income households. These discrepancies can only be resolved by seeking further information about the context within which these households obtain these varying dietary diversity scores. In the next section, we draw on political ecology as a useful framework to contextualize HDDS measures.

Using political ecology to contextualize urban food security

Political ecology overview

The field of political ecology encompasses research dating back to the late 1960s and early 1970s aimed at analysing the forces at work in ecological struggles while

presenting livelihood alternatives in the face of change (Robbins, 2004). Political ecologists have sought to answer how and why environmental changes occur; who has access to resources and why; why conservation efforts fail and how political/economic exclusion occurs; and who instigates political upheaval, where and how (Robbins, 2004). Political ecology has been described as an approach to the complex metabolism between nature and society (Robbins, 2004; Watts, 2009). We propose political ecology as an appropriate tool to complement the HDDS measure given its insightfulness on nature-society relationships. Indeed the relationship between humans and their food, that determines how much food humans consume and the nutritional quality of the food, is a central nature-society relationship (Heynen, 2006; Zimmerer and Bassett, 2003).

Most political ecology themes have been explored within agrarian societies in rainforest and savannas ecosystems, however, a more recent trend is the growing body of literature on urban nature or the political ecology of cities (Heynen, 2006, 2008; Keil, 2002; Swyngedouw, 1996, 1997, 2006). While these studies still examine the dialectical relationship between nature and society, they have taken a specifically urban focus, dealing with issues of environmental injustice as seen through for instance urban hunger, water scarcity, energy or waste management. Urban political ecology provides detailed analysis of the “dense networks of interwoven socio-ecological processes that are simultaneously human and physical, discursive, cultural, material and organic” within cities (Swyngedouw, 2006: 21). Emphasis is not on the city as a geographical entity but rather as a site of human-environmental dynamics and political struggles that produce and reproduce the urban landscape.

Nik Heynen’s (2006) work on urban hunger is particularly relevant, to urban food security research as it illustrates that hunger is both a natural biochemical process and a social process forged by power relations that determine who eats what and how much and who goes hungry. Using urban political ecology approaches in the analysis of urban diets in Gaborone necessitates detailed assessment and historical analysis of how and why political-economic structures, social-cultural norms, and ecological systems shape household dietary diversity. The HDDS results presented above can benefit from further explanation on why certain subgroups have less diverse diets and are food insecure. This

in turn presents an opportunity to develop appropriate policy, blending household observation within broader scale dynamics.

Political ecology of Gaborone

Political and economic structure influences dietary diversity scores in Gaborone as it shapes the types of foodstuff available, the ease of access to these foodstuffs and to some extent the utilization of these foodstuffs. Key informant interviews revealed that, in terms of food availability, the government of Botswana prioritises the mining industry over other industries, including agriculture, leading to a high dependence on food imports from South Africa. Government and private investments in agriculture generally have been aimed at beef production for export to the European market leaving crop production wanting. Furthermore, the government measures food availability in terms of cereal availability. Cereals (especially maize and sorghum) are therefore affordable and a component of the HDDS of all households surveyed as cereal cost then to be lower than other foodstuffs, in a market system that is not stratified for varying socioeconomic status. There are no niche markets for low income urbanites and prices are not negotiable across the board within supermarkets, cash-and-carry, general provision stores, or street hawkers. Thus, income or access to cash employment is a major determinant of people's dietary diversity and food security.

In terms of food utilization, while the government of Botswana subsidises access to clean water and medical care, electricity for refrigeration and cooking and cooking gas (propane) are expensive making food storage and preparation a challenge for many low income urbanites. For example, 14 out of 20 low income households involved in this study had no access to electricity while the other 6 reported often going without electricity. The high costs of energy (propane or electricity) for cooking causes households to often abstain from what they claim are nutritious, traditional Batswana meals, including beef *seswaa* (pounded meat), *setampa* (samp –cracked/husked maize kernels) and *dikgope* (samp and beans). These generally take a long time to cook. The cost of cooking energy is reflected in the low count of pulses/legumes/nuts in the makeup of HDDS, although they remained a valuable part of the popular traditional cuisine in Botswana. Thus, HDDS can be understood as the outcome of political and economic structures beyond yet manifested at the household level.

Social-cultural structure influences dietary diversity scores in Gaborone given that people generally have emotional and symbolic attachments to their food and seek complex means of sustaining or modifying diet within existing societal structures. In the case of Botswana, there is strong attachment to traditional meat based diet such that low income households in Gaborone will substitute costly, high quality meat from grocery stores or butcher shops with affordable animal products, including chicken feet, offal, rather than going without. While HDDS reflects the popularity of meat in Gaborone, it does not offer an explanation as to why meat is popular and how people are seeking substitutes to their preferred diet. The popularity of a meat-based diet in Botswana is a traditional not a contemporary trend of urbanisation and globalisation led increase in high protein consumption. Contemporary urban trends include shifts to high consumption of oil and sugar as they are readily available through imports on grocery store shelves and have become important components of the food basket of all the households studied. Within most of the Gaborone households studied with a dietary diversity score of 4, oil, sugar, and cereal were combined with any other food group. As one respondent puts it, “...we always have the basic food in the house, oil, sugar and maize meal, if we do not have any *morogo* (vegetable) or meat we can just make *motogo* (soft maize meal porridge) with sugar and eat and that fills the stomach...” Given that there is no traditional Botswana replacement to oil and sugar, one can rightly conclude, as several respondents did, that these are foodstuffs that people grow accustomed to while living in the city.

The modern foodscape in Gaborone provides many fast food chains, restaurants, and street food vendors to satisfy the modern eating-out lifestyle, which many Botswana seek. There was repeated reference to the fact that beyond the convenience of eating out, urban dwellers want to be seen eating at certain locations as it is prestigious; others eat out to avoid incurring the cost of feeding other household members with whom they share no direct family relationship. Because urban residents practice less food-sharing, an important safety net, the urban food insecure and destitute have to rely on government sponsored social programs, which have very strict criteria to assess potential beneficiaries. The government provides beneficiaries with a coupon to make food purchases or a food basket consisting of maize meal, sorghum meal, bread flour, white

sugar, beans, cooking oil, beef, iodised salt, pre-packaged soup, baking powder, matches, milk and tea (Ministry of Local Government, 2002). As people seek to obtain food from similar outlets such as specific grocery stores, fast food, street vendors, and restaurants, their HDDS as the analysis shows is bound to be determined largely by how much income they have to buy food. Also, this results in the noticeable similarity of food groups consumed within all strata of the sample.

The impact of seasons quickly comes to mind when discussing the influence of the ecological system on dietary diversity scores. In Gaborone, people highly depend on grocery stores, which source more than 80 per cent of their stock from South Africa. The Republic of South Africa takes advantage of its diverse and well developed agricultural systems to bridge seasonality, supplying grocery stores in Botswana adequate variety of foodstuffs all year round. All households in the case study noted that they do not experience seasonal food shortages or seasonal variation in diets on account of this. Some households obtain food from rural remittances, particularly during the harvest season (melon, maize, beans) in March to May or during the mopane worm season in November to December and in February to March. It is worth noting that food remittances supplement rather than substitute the normal diet and foodstuffs that these urban households acquire from supermarkets.

It is also worth highlighting that ecological and cultural factors blend to influence the frequency of occurrence of certain foodstuffs as a component of HDDS. For example, ecological conditions in Botswana favour animal rearing and production of maize and sorghum, thus influencing the high consumption of meat and cereal. Also, low consumption of fish in Botswana, with largely non-nationals and Botswana from the Eastern region bordering Zimbabwe eating fish, is understandable given the semi-arid landlocked environment. Most often ecological factors, including aridity and low rainfall, are blamed for low agricultural production and thus limited interest in crop production. This environmental narrative is often as one of the reasons why there is the continuous trend toward rural-to-urban migration, of people without essential skills to enter the job market in Gaborone and other urban. However such environmental narratives should not be served as an excuse to direct investment toward other structures or industries, as its impact could be socially detrimental. Rather, the potential impacts of environmental as

well as other political-economic and social-cultural narratives should be considered to produce political and economic policies that are socially and environmentally just. This political ecology analysis has presented useful details to complement the HDDS results and to improve our understanding of the multifaceted and interrelated processes that drive uneven food access in Gaborone.

Conclusion

This paper engages with an urgent issue, urban food insecurity in Africa, by exploring the potential of complementing household dietary diversity scores with a political ecology approach to establish a robust and appropriate tool for food insecurity assessment. Dietary diversity can play an important role in monitoring changes within a population and in evaluating the impact of interventions and policies. The result from statistical analysis of household dietary diversity score in Gaborone in the study carried out by the African Food Security Urban Network indicates that there is a positive significant association between dietary diversity and household income (Acquah, 2010). This study arrives at the same conclusions whereby households with high dietary diversity scores (above the mean of 7) tend to have more income to ensure better access to a wide range of food stuffs which will include more non-staples (e.g. potatoes, fruits, eggs). However, in addition, we have illustrated that income level is only one factor amidst the complex, interrelated political-economic, social-cultural, and ecological processes that shape uneven food access and varying dietary scores in Gaborone.

Using political ecology to interpret dietary diversity scores presents an opportunity to assess more thoroughly the profile of the food insecure. City dwellers in Gaborone like many parts of the world usually rely on markets for food, including basic staples, which are usually imported, rather than being grown locally. Though food is available in Gaborone, largely through foreign imports, households need income from cash employment to purchase essential foodstuffs. Due to rapid urbanization and migration to the Gaborone area, employment opportunities to improve income are low while alternative safety nets are difficult to access. In other Sub-Saharan African countries, the popular solution is usually to grow more, however, political-economic and ecological factors limit agriculture potential within Botswana. These constraints shape people's access to adequate amounts of healthy foodstuffs in the city. Thus urban

dwellers consume processed foods, rich in fats and sugar and low in essential nutrients, which could lead to an increased occurrence of obesity, diabetes, and other chronic conditions amongst the urban poor. The HDDS measure enriched with political ecology analysis provides better understanding of household food access. HDDS exposes the levels of dietary diversity and the food group that constitute the varying levels, while a political ecology approach helps explain why and how households come to lack access to certain food groups as identified by their HDDS.

This study suggests that food security policy should go beyond concerns around food supply and agricultural production discussions into questioning what shapes the availability and accessibility of the foodstuffs that make up household daily food baskets. For example, although Botswana's urban food relief scheme for the destitute has shifted from providing a fixed set of food items to providing coupons, which can be used to purchase food, some recipients noted that they can only purchase specific food types (e.g. maize meal, sorghum meal, meat, oil, sugar) under the scheme. Thus, their dietary quality has hardly improved. An increase in accessibility of beef, fruits, vegetables, and potatoes will be a welcome relief to many households. Beyond food specifically there is need for electricity and cooking fuel to be more accessible to low income households to facilitate food utilization. These political actions can be further enhanced by analysis from studies that complement quantitative food security measures with approaches such as political ecology, to provide a robust understanding of the multifaceted and dynamic factors that shape food experiences in Africa.

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HOUSEHOLD DIETARY DIVERSITY SCORE (HDDS)		
<p>Now I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day and at night. (Read the list of foods. Circle yes in the box if anyone in the household ate the food in question, circle no if no one in the household ate the food)</p>		
Types of food	Yes	No
a. Any (INSERT ANY LOCAL FOODS), bread, rice noodles, biscuits or any other foods made from millet, sorghum, maize, rice, wheat, or (INSERT ANY OTHER LOCALLY AVAILABLE GRAIN)?	1	0
b. Any potatoes, yams, manioc, cassava or any other foods made from roots or tubers?	1	0
c. Any vegetables?	1	0
d. Any fruits?	1	0
e. Any beef, pork, lamb, goat, rabbit, wild game, chicken, duck, other birds, liver, kidney, heart, or other organ meats?	1	0
f. Any eggs?	1	0
g. Any fresh or dried fish or shellfish?	1	0
h. Any foods made from beans, peas, lentils, or nuts?	1	0
i. Any cheese, yoghurt, milk or other milk products?	1	0
j. Any foods made with oil, fat, or butter?	1	0
k. Any sugar or honey?	1	0
l. Any other foods, such as condiments, coffee, tea?	1	0

4. Food consumption in African cities: Decision making in Gaborone, Botswana

Abstract

Food consumption dynamics and experiences remain largely unexplored in urban Africa despite mounting concerns around dietary changes. This paper discusses food choices and consumption patterns of urban dwellers in Gaborone, Botswana as a way to assess the growing concern around dietary transition in the global south. Specifically, this paper questions the idea that food choice in sub-Saharan Africa is predominantly based on cost, and the idea that traditional diets are being replaced by modern diets made of more processed, low nutrition foodstuffs. The paper draws on a survey of literature on food choice and consumption to identify diverse factors and dynamics that shape food consumption practices. Using empirical data drawn from food diaries, discussions with 40 households, and key informants interviews in Gaborone, the paper examines how food decisions are constructed and the types of foodstuffs households consume. Analysis reveals multiple interacting factors that influence the decision around which foodstuffs households consume and illustrates instances that some of these factors trump cost. It also reveals that the idea that African diets are in a transition towards a hegemonic modern diet is overly simplistic and fails to capture the current dynamic, material, symbolic and hybrid food cultures that exist. The findings contribute to the limited literature on urban food consumption in African cities.

Introduction

Information regarding urban food choice and consumption practice in Africa is limited and often simplified. We know little regarding individual decisions of which

foods to consume, why, when and how, and regarding consumption practices of African societies as a whole. While it is acknowledged that cultural and social factors influence food choice, cost is often noted as the most critical determinant of choice in urban Africa (Crush et al., 2011a). For example, it is noted that due to low incomes and high food prices, urban households have inadequate purchasing power to access nutritious foods causing them to consume “high-calorie junk” which are usually the most available and affordable foods (Yngve et al., 2009b). In Cape Town, South Africa, the cost of healthy foods has been noted as the reason why low-income people consume nutritionally inferior diets (Temple et al., 2010). However, food scholarship emphasizes that food choice is a complex human behaviour influenced by several factors (Bisogni et al., 2002; Jaeger et al., 2011). Hunger or the need for energy balance, the search for stimulation, culture, tradition, social status, cost, advertisement, time constraints, amongst others, have been explored as potential factors that influence people’s daily food choices (Koster, 2009). It is important to engage in a critical assessment of peoples’ food choices in urban Africa in order to problematize the assumption that cost is the most critical determinant of choice in urban Africa.

Further, the consumption of unhealthy diets is noted in literature on food and nutritional security in sub-Saharan Africa and is often linked to the modernization¹ of food consumption patterns in Africa. Consumption practices in the global south are said to be in a transitional state, with a progressive shifts towards modern diets high in saturated fats and sugar (Popkin, 2009; Sodjinou et al., 2008). Increased socioeconomic development, urbanization, acculturation and people’s desire for westernized lifestyles are said to be driving changes in diets (Vorster et al., 2011). However, Freidberg (2003) notes that the oversimplification, wherein consumption patterns in Africa are said to be modernizing, does not capture the complex spatial and historical dynamics of food consumption changes that have occurred. Food choice and consumption practices in urban Africa are potentially complex, as Becquey et al., (2010b) note in urban Ouagadougou, Burkina Faso where people combine modern foods, rich in fats and carbohydrates with traditional ones made of cereals, tubers and green, leafy vegetables. Modern foods add more variety to the urban foodscape rather than replace traditional

ones. Specific reasons why city dwellers consume how they do therefore remain debatable, necessitating more research on food choice and consumption practices.

It is critical to explore food choice and consumption in Africa using in-depth studies that provide a more nuanced interpretation of local experiences. In this paper we argue that food choice in urban Africa must be understood beyond its economic framing, and that food consumption patterns must be understood as hybridized rather than absolute transition from traditional to modern diets. To develop the paper's argument we draw on an interdisciplinary survey of literature and data from an in-depth investigation in Gaborone, Botswana that unpacks consumption by examining what shapes household food choice, and the types of foodstuffs households consumed. First, we explore the complexity of food choice and food consumption in an interdisciplinary literature review. Drawing largely from nutritional sciences and consumption geographies we develop a framework, which we use to identify diverse factors and dynamics that shape daily food decision-making. The literature explored also illustrates that food consumption is material, symbolic and often hybridized. Though consumption research has focused on the global north, the review highlights the heterogeneous nature of consumption in sub-Saharan Africa. Second, we detail data collection and analysis protocols used to explore household food decision-making. Third, we present research findings in terms of factors shaping food decision-making and household food consumption patterns in Gaborone. Finally, we conclude by restating the intricacies and importance of household food choice and consumption studies within urban Africa.

Exploring food choice and consumption

Understanding food choices and consumption patterns matters, as there is increasing acknowledgement of the material and symbolic importance of contemporary consumption practices. Consuming certain foods affects human health, for example, food with high content of fat and sugar linked to obesity and chronic health problems such as hypertension, stroke and type 2 diabetes mellitus (Ziraba et al., 2009). Consumption also influences agricultural production and retail systems as it drives demand, necessitating production and increases employment in the food sector (Marshall, 1995). Food choice and consumption

patterns are potent signifiers of ethnicity, culture, personal politics and ethic, wealth and deprivation (Jones, 2007; Probyn, 2004). For example consumers express their personal politics by the choice of fair trade or organic foods (Jackson et al., 2009), while consuming meat has been associated with masculinity and values such as dominance and power (Abrahamse et al., 2009). Social scientists from a range of disciplines from nutritional sciences to geography have contributed significantly to the understanding of food choice and food consumption practices. For several decades now, consumption practices have been at the centre of food research in the global north, where the literature emphasizes choice, agency and activism (Grunert, 2002; Kneale and Dwyer, 2004a). Conceptual models to examine the multiple factors that come together to influence consumer food choice have largely been developed using empirical insights from the global north and explored in “post-industrial Western societies” (Sobal et al., 2006 :14). There is still an underlying assumption that only the better-off sections of the community in the developed world enjoy choices (Marshall, 1995). Though consumption research has largely focus on the north, Dodson(2000) notes that due to the global extent of social, economic and cultural exchanges there is need for researchers to engage in consumption research in Africa. Some food geographers working in sub-Saharan Africa have shown that food choice and consumption patterns are socio-culturally embedded, practical and symbolic (Abrahams, 2007a). Below we explore food choice and consumption scholarship further, highlighting theoretical and conceptual elements useful in explaining complex and heterogeneous food cultures in urban Africa.

In terms of food choice, multiple interacting and dynamic factors from biological, psychological, health, social, and cultural to anthropologic influence how individuals develop and maintain their food choices(Nestle et al., 1998; Shepherd, 2005). Food choice studies seek to answer the question “why do individuals eat the food they do?” a rather basic question, which one would think can be answered with the simple statement “because it is available” (Conner and Armitage, 2006). Often the answer is more complex. Bisogni et al., (2002) suggest a constructionist approach as most appropriate to explore food choice because it emphasizes a holistic perspective with a detailed description of the context of all aspects of food choices, and it understands food choice from the point of view of study participants. Drawing on a constructionist approach, Furst

et al., (1996a) and Sobal et al., (2006) developed a model that represents food choice as a reflexive and an automatic process, and assumes that consumers exercise agency as they experience, interpret, manage, and negotiate their food decisions. The model has three main components, namely life course, influences and personal system. Life course includes the events and experiences, which a person had previously been exposed to and anticipated future possibilities, which forms the basis for the operation of five core interacting influences including ideals, personal factors, resources, social factors and contexts (Sobal and Bisogni, 2009). Sobal et al., (2006) define ideals as the beliefs and standards by which people evaluate food choice, while personal factors are the food needs and preferences based upon physiological and psychological characteristics. Resources include the tangible and intangible factors involved in acquiring food while social factors represent the interpersonal relationships (families, networks and communities) and social roles that shape the construction of eating relationships and food choice. Finally food context is the physical surroundings and cultural environment of the food choice setting (Sobal et al., 2006). These influences change over people life course to shape and develop an individual's personal system for making daily food choices. Personal System is a value negotiation process that is weighing and accommodating of identifiable values salient to a person in a given food choice situation. Some of the most apparent values include Sensory Perceptions (taste), Monetary Considerations (cost), Convenience, Health/Nutrition, Managing Relationships, and Quality (Sobal et al., 2006). Repeated value negotiations in food decisions results, in the emergence of strategies, or regular patterns that make certain food choices more habitual. As Sobal et al. (2006) note the above model may require adaptation to serve in different places other than western societies, yet the extent to which the constructionist model maps on to urban Africa is still to be explored. This kind of conceptual framework for food choice illuminates a more-than-economic approach to understanding what people eat, how and why and is a useful tool to explore food choice in urban Africa.

In terms of food consumption patterns, research in this area largely stems from concerns around the process of homogenization of consumption trends fueled by the capitalist mechanism of industrialization and globalization (Morgan et al., 2006). However contemporary consumption research tends to contest the over generalized

account of globalization or the idea that global consumption patterns will inevitably become homogenously modern (Jackson, 2004). This literature largely draws on commodity chain analysis inspired by David Harvey (Harvey, 1984, 1989) and Daniel Miller (Miller, 1995a, b, 2002) to analyze consumption practices. Emphasis is placed on the idea that global forms of consumption will adopt to local contexts as there is increasing evidence that local consumption cultures are resilient (Jackson, 2004; Miller, 2002). For example, global fast food giant, McDonalds has adjusted to local cultures by incorporating local cuisines, culture and taste such as curry potato pie in Hong Kong, *halal* burgers in Malaysia and Singapore and McLaks (grilled salmon sandwich) in Norway (Turner, 2003; Vignali, 2001). Also consumption literature considers western consumers to be reflexive as they pay attention to multiple factors including claims from institutions (public and private experts, media, medical) and activists (DuPuis, 2000). The meanings manufactured along the commodity chain as food travels from farm to fork as well as consumer desire to drive progressive social change shape consumption patterns (Clarke, 2008; Jackson, 2010). For example, by consuming fair trade foods, western consumers seek to make a difference in the world, by standing in solidarity with, and speak out for, social justice through fair labour and exchange practices for third world producer communities (Bryant and Goodman, 2004). Therefore it is agreed that places and people are not passive recipients of foreign consumer cultures, rather places, people and things interact producing heterogeneous consumption patterns (Mansvelt, 2005).

Several paradigms have been used to explain heterogeneous changes of consumer practices including creolization, transnationalism and hybridity. These paradigms emphasize the fluid and dynamic nature of consumer cultures. Creolization often focuses on the mixing of cultures where an indigenous culture constructs hybrid consumer cultures as it selectively appropriates elements of an imported culture (Mansvelt, 2005). The creolized culture is, therefore, a mix of several sources, rather than a creation of a new culture thus consumers are still seen as passive by scholars using creolization (Mansvelt, 2005). Transnationalism proposes an alternative understanding of hybrid cultures as transcultural convergence and is credited to have a proven potential to correct the “overgeneralized accounts of cultural globalization and displacement” (Crang et al., 2003 :440). Transnationalism, has been explored to analyze immigrant settlement as a

dynamic interaction of cultures rather than a process of linear assimilation or resistance (Collins, 2009; Waldinger, 2008). However, transnationalism as a geographical concept has been noted to be most appropriate in understanding diasporic and migrant people, institutions and communities (Crang et al., 2003). Hybridity, often associated with postcolonial theorist Homi Bhabha, offers a possible explanation for the meeting and intermingling of different food cultures in urban Africa (Bhabha, 1994; Rutherford, 1990). Bhabha's hybridity theory proposes the notion of a "third space", a productive and ambivalent space where cultures come in contact and within which people construct identities that are unsettled (Bhabha, 1988). Hybridity paradigm holds that new hybrid cultures are not half-way cultures on transition or end products rather they are always changing and diverse (Bhabha, 1994; Rigg, 2007). Instead of conceiving food in Africa in binary terms of traditional versus modern, we can draw on the concept of hybridity to explore the unstable, unpredictable and changing hybrid forms produced as both food cultures continue to interact.

Emerging food choice and consumption scholarship from the African context specifically draws attention to the diversity factors of that influence food decisions and the hybrid nature consumption patterns. Caryn Abrahams' study on alternative food systems in Johannesburg, South Africa, is one example that has highlighted such complexity in food decision-making within urban Africa (Abrahams, 2007a). She notes that poor urban dwellers often preferred consuming Indian vegetables, cultural foods or *halal* poultry and livestock, which they purchased from neighbourhood farmers and local vendors at close to double the price of an equivalent quantity of foodstuff they could get from distant retail outlets or supermarkets (Abrahams, 2007a). These food choices were closely related to socioeconomic circumstances (e.g. lack of transport services to visit distant retail outlets) and peoples' preference for food sources that adhere to certain religious and cultural food standards. Abrahams' study is noteworthy because South Africa more so than other countries within Sub-Saharan Africa is an advanced consumer society, yet food choice was not summarily noted as modern. At the same time, the cost of the food was not the only reason why people decided to consume foodstuff. Similarly, in Susanne Freidberg's work, in Bobo-Dioulasso, Burkina Faso, she notes that although the region has been exposed to nontraditional foods since 1903, serving as a colonial

production site, local people still eat traditional staples/dishes, alongside modern French café au lait, baguettes or potatoes (Freidberg, 2003). The complexity of individual food choice process, as proposed by constructionist model and exemplified in Johannesburg and Bobo-Dioulasso, enables us to question the assumption that urban Africans are passively receptive to the process of modernization. Modern and traditional diets are interacting within African foodscapes producing hybrid consumer cultures. Drawing upon these conceptual and empirical insights from existing scholarship, we now turn to an illustration of how food choices and consumption practices in Gaborone, Botswana are multifaceted and hybridized.

Methodology

Empirical data on consumption in Gaborone were collected through an in-depth qualitative methodology that explored consumer practice and food decision-making process within Gaborone. Gaborone, Botswana's capital is an appropriate site to explore food consumption. A recent assessment of food security in Gaborone shows that urban residents consume highly processed foods and devoid of healthful nutrition (Frayne et al., 2010). Botswana has an urban population of 61%, with 50% of the national population living within a 100km radius around Gaborone (Moswete et al., 2008; UN, 2009). Due to low domestic food grain production Botswana imports more than two-thirds of the annual grain requirement is imported (Kruger, 1998). Thus the purchase of food in Gaborone is, inevitable; while the absence or scarcity of petty markets means that even low income urban residents are dependent on western-style supermarkets for food purchase (Kruger, 1998). Yet at the same time a portion of the Botswana diet comes from wild and traditional food (Denbow and Thebe, 2006), as well as through rural-urban remittances. More in-depth investigation is essential, to unpack consumption in Gaborone by examining what shapes household food choice, and the types of foodstuffs households consume.

Data were collected from households, key informants including Government officials, researchers and NGOs, as well as from government reports and other publications. In total, 40 households were involved in the study: 10 low income male headed household and 10 low income female headed households, and 10 middle income male headed household and 10 middle income female headed households. This small

purposive sample was based on achieving qualitative saturation, while the sample stratification based on household-head gender and socioeconomic status was carried out because these subpopulations have been noted as particularly relevant in food security research. Household food security is usually influenced not only by total household income; the proportion of income controlled by women has a positive and significant influence on household caloric intake (Kennedy and Peters, 1992). Households were selected from Broadhurst, a vibrant urban residential, industrial and commercial area, which was developed from an agricultural holding previously known as Broadhurst Farms. According to the last official census of 2001, Broadhurst was home to about 28.9 percent (53,677 people) of the city's total population of 186,007 (Central Statistics Office, 2002). Broadhurst was found to be very mixed in terms of hosting a wide range of people of diverse household structures and socioeconomic status, thus suitable for this study.

Households were classified into low- or middle-income categories based on a composite assessment of the material circumstance of the household, the occupation of household members and their reported income. Low-income houses were often in a state of structural degradation with a pit latrine by the home, and were often not linked to the city electric grid. The household head or breadwinner was employed part time or full time with a monthly income of less than P1500 (P=Botswana Pula). Middle income (to high income) houses were linked to the city sewage system and the city electric grid. They were usually fenced around with electric gates or guard dogs for security. There was usually a car in the yard or signs of car ownership. The household head or breadwinner was employed full time with a monthly income of more than P1500.

This characterization was followed by the collection of baseline information, (income, household size, educational level, gender structure, access to clean water, electricity, etc.) from the head of the household or a delegated person who was willing and knowledgeable to do so. Data used to explore food choice and consumption in Gaborone was collected through a seven-day consumption diary. The food diary technique aimed at reducing recall errors in reporting food consumption practices. It is likely to capture more information about the food experience in a household through this method than in 24 or 48 hour recall food surveys because there is no preselected list of foodstuffs or staple meals to choose from and daily recording can reduce memory errors.

Households were asked what they consumed during breakfast, lunch and supper. Notes were taken on snacking, eating out, cultural meaning of foodstuffs, intra-household consumption dynamic, choices, habits or rituals (e.g. cooking together or eating with family and neighbours). Participants were visited at least twice during the seven days and were called daily for seven days to ensure that diaries were well kept and to make them feel fully involved in the research process. Households were also visited after they completed the diaries to discuss the whole exercise and reflect on why households made various food choices.

Transcripts from discussions with households and food diaries were read and coded for emergent themes, related to participants' food choice for every meal and consumption patterns. To gain an in-depth understanding of these themes it was essential to draw upon and relate the emergent themes to those within food choice and consumption literature. Using an iterative process of analyzing the emergent themes from the data collected and relating it to reviewed literature; it was possible to come up with some key factors that shape food choice in Gaborone. In addition, we interpreted personal food stories as negotiations and relations between people, structures, events, plants and animals within the food system in Botswana. The quality of the data and analysis were enhanced by the lengthy and close engagement with participants.

The mean household size was four, with the smallest households having one member and the largest having eight members. The mean age of the household head was 44.8, with the youngest being 20 and the oldest being 65. Some 20 percent of the household heads had no formal education, 50 percent had primary education, while 10 percent and 20 percent had secondary and tertiary education respectively. Most household heads had some form of full-time employment (70 percent), while 15 percent reported being employed on a part time basis, and five percent were unemployed (and on government aid), pensioners and students respectively. The mean household monthly expenditure on food (in Botswana Pula) was P570, with the minimum noted at P150 and the Maximum P2000. Although this study was done in one neighborhood, participants noted that spatial location had no major impact on food choice given that Gaborone has so many food retail stores including more than ten western-style grocery stores such as *Choppies, OK Foods, Woolworths, Pick 'n Pay, SPAR, Payless, and Shoprite-Checkers,*

located all around the city. Mobility around the city via public transport was noted to be fairly easy, which could be seen as the main reason why spatial location did not affect food choice as participants could move around easily to access food from anywhere in the city.

Exploring Food Choice & Consumption Patterns in Gaborone

Household food choice

Our research reveals that participants' urban food choice as exemplified in the diaries, Table 1 below, is diverse and shaped by multiple influences including cost, convenience, culture, commercials, and class. These influences are often wrapped up with the particular socioeconomic structure and domestic routine of different households and often overlap in some times indistinguishable combinations.

Cost of food and associated economic factors such as household income were recurrent themes when participants talked about what shaped their food choices. Pedra, Modise, Miram and Karabo, all recalled that Botswana was not spared from the food price hikes in 2008. Pedra, who owned a catering service, noted that the most dramatic of the price changes included the doubling of the 500g-pasta pack, which went from P3.5 to P7 and the more than doubling of cooking oil (2L) from P16 to P40. Botswana Central Statistics office also noted that there was a 24.9 percent increase in food and nonalcoholic beverage prices between December 2007 and December 2008, with bread/cereal and oils/fats recording the most dramatic changes at 36.1 percent and 65.4 percent (CSO, 2010). Mariam, an unemployed single mother of one, agreed that since eating is a biological necessity her household would adjust all other household expenditures before adjusting their food budgets. For example, Mariam used candles for lighting to save on high electricity prices while cooking once a day to save on energy. Modise, a factory worker, also noted that although he noticed price changes, his household hardly went without food. Rather they have had to go without certain foodstuffs notably fruits and milk/milk products. They also sometimes substituted beef at over P40/kg with chicken, by buying a 2kg braai (grill) pack of frozen assorted chicken pieces at P49 in the grocery stores.

Income, relative to the price of foodstuffs, affects food choices in multiple ways. For instance, participants noted that as their income grew higher the set of potential food purchases expanded. Pedra, for example, who had access to high income from her business, spoke about accessing and cooking a variety of foodstuffs and meals each week. Modise, on the other hand, noted that his household often consumed maize meal, beef or chicken and vegetables, except when there was a cause for celebration, and then they would have salads and soft drinks. Income, therefore, affected the quality and diversity of household diets in Gaborone as the low income households consumed foodstuffs that were affordable including maize and sorghum meal and bread, in combination with vegetables, meats and commercial preprocessed soups/source. Molefe a low income household head noted that the income he got from his road-side Chibuku (traditional beer) business and that his wife brought in from her job as a maid was not enough for them to afford fruits and juices, so they eat what satisfy them most, often phalaletshe (maize meal). Molefe's meals and that of most low-income household were repetitive with little variety, made up mainly of bread and tea or soft porridge (Motogo) for breakfast and phalaletshe or rice and beef or vegetables or soup for lunch or dinner (see diaries below, Table 1).

Table 1: Example of food diary

Extract for food diaries from four Households					
(FL stands for female-headed low income; FM for female-headed middle income; MM for male-headed middle income; ML for male-headed low income.)					
Day	Meal	Marea -FL	Masego -FM	Mashaba -ML	Naledi -MM
Day 1	Breakfast	Nothing	Cereals	Tea	Soft Porridge
	Lunch	Rice + Beef	Juice	<i>Nothing</i>	<i>Nothing</i>
	Dinner	Porridge + Merogo	Mosuthwane (sorghum+beans)	Porridge + Morogo	Macaroni + Beef
Day 2	Breakfast	Fat cakes + Drink	Bread + Tea	Tea + Bread	Tea +Bread
	Lunch	Phaletshe + Fish	Mosuthwane (sorghum+beans)	<i>Nothing</i>	<i>Nothing</i>
	Dinner	<i>Nothing</i>	Ice cream	Porridge + beef	Porridge + Soup+Beef
Day 3	Breakfast	Tea + Bread	Soft Porridge	Tea + Bread	Tea +Bread
	Lunch	Phaletshe + Rape	Mango	Rice + Chicken	Porridge + Soup+Beef
	Dinner	Rice +Beef	Chicken+Rice / cake+salad	Tea + Bread	Rice + Beef
Day 4	Breakfast	Tea + Bread	Cereal	Tea + Bread	Tea + Bread
	Lunch	Phaletshe + Rape	Drink+snacks	Sour Milk + Porridge	<i>Nothing</i>
	Dinner	Rice + Beef	Rice + Beef +salad	Porridge +Beef	Porridge + Soup+Beef
Day 5	Breakfast	Tea	Tea + Bread	Tea + Bread	Soft Porridge
	Lunch	Rice + Beef	Mango	<i>Nothing</i>	<i>Nothing</i>
	Dinner	Phaletshe+Chicken liver	Rice + Beef + Cabbage	Rice + Beef	Rice +Beef
Day 6	Breakfast	Soft Porridge	Bread + Mixed Vegetable	Soft Porridge	Soft Porridge
	Lunch	<i>Nothing</i>	Rice + Beef	<i>Nothing</i>	<i>Nothing</i>
	Dinner	Phaletshe +Rape	<i>Nothing</i>	Porridge + Beef	Fresh chips, Bread + Tea
Day 7	Breakfast	Tea + Bread	Tea + Bread	Tea + Bread	Bread+Tea
	Lunch	Rice + Cabbage	Rice + Chicken	Rice + chicken	Biscuits
	Dinner	Soft Porridge	Tea + Bread	<i>Nothing</i>	Phaletshe+Rape+ Chicken

Convenience is another key issue that influences food choice and was often linked to the lack of time to prepare food at home on account of income-generating activities and food preparation skills. Income-generating activities tended to consume a substantial amount of time, leaving little time for food preparation. The economic demands of living

in the city, leads adult females members of households who usually ensure food preparation to get involved in income generating activities away from home. However, this time factor was influenced by other household dynamics. For example, Pedra noted that her children (teenage and adult) and maid helped her in food preparation, which was particularly helpful as sometimes her working days could be extremely demanding. For those in demanding professions, without children or maids, there was little time for food preparation, as Karabo a young medical doctor noted. Karabo recently completed medical school and was trying hard to gain experience while meeting the demand for his services at Princess Marina Hospital, which he described as Gaborone's most congested hospital. His busy work schedule was the main reason why he frequently consumed convenience foods and food away from home. His seven-day diary reveals Karabo bought all his lunches at grocery stores, hot food counters and fast food restaurants, including traditional meals such as phaletshe and beef and more modern meals such as chicken and chips. There is a strong relationship between the culinary ability of individuals, gender and the frequency (convenience) of eating out. Those who attain food preparation skills will tend to cook at home more often. Culinary activities in Botswana are gender related. While the female Motswana is responsible for general household food preparation, the male occasionally prepares beef and animal products usually during traditional ceremonies. Karabo admitted being unable to cook certain foodstuffs thus he often consumed convenience foods even when he was not busy at work, while Mavis a petty-trader noted that all her household meals were prepared at home including baking her own bread for breakfast. She noted that she prepared breakfast and dinner for her husband every day because it was both cheaper and part of her marital duties.

Other factors also influence the choice of convenience foods as Silvia, a university student, noted that she hardly had time to cook because she was busy at school so she either bought cooked food from street vendors, restaurants and grocery stores or she skipped lunch altogether. Participants also noted that most often offices did not have storage and heating facilities for food. Thus for Balekeledi, a civil servant, she had no other choice but to buy her lunches out, although she would have preferred to bring her own food from home. What we have so far highlighted is convenience foods away-from-home, which in Gaborone could extend from a more modern fried/grilled chicken and

chips, pizza, and pies to traditional Batswana cuisine such as phaletshe and beef/vegetable, beef seswaa (pounded cooked beef), bogobe jwa mabele (sorghum porridge) and others. However, some participants highlighted that convenience should be further contextualised, in terms of what foodstuffs are convenient foods to prepare at home. For example, Polena, a tailor and female head of a household of four, found rice to be a convenient food choice because it could easily be consumed with any factory-made or homemade sauce. Thus, having rice at home, although it was more expensive than maize meal (P52.50 for 5kg rice versus P14.95 for 5kg maize meal), was to her a convenient way to make sure no one went to bed hungry. This emphasizes the fact that a detailed understanding of household situations and household definitions of what convenience food means needs to be explored.

The search for convenience foods was not the only instance where cost (price of food) was not the primary reason behind choice. Culture or traditional taste also often trumped cost and is pertinent in understanding food decision-making, in Gaborone. Based on the seven-day diaries, every household consumed some form of traditional Batswana meal, from Mosuthwane (sorghum+beans), Phaletshe, beef stew, motogo, Mabele, to setampa (crack maize). This confirms what has been noted in food literature that cuisines of origin are particularly important emotional and symbolic markers. Thus, people tend to be particularly unwilling to give up the food taste developed during their childhood. Mesago, a female entrepreneur, whose diet and lifestyle was particularly western (see diaries below, Table 1) because of her extended stay in England, noted that she had neither forgotten how to cook traditional meals nor stopped craving for them. She also noted that she had raised her children to like Batswana cuisine. Other cultural factors include, the high consumption of beef in Botswana as related to the local identity. Although, participants noted that beef was expensive (P40/kg) in Gaborone they still consumed beef an average of four times a week within all 40 households. Mpho an unemployed mother of three noted that sometimes when they were not able to afford fresh meat from the butchers' they eat Digwapa (dried meat) that they get from relatives in the rural areas. The case of beef consumption in Botswana particularly counters explanations given by contemporary food studies for the global increase in beef (high protein) consumption. It is generally suggested that beef consumption is a novel and

growing practice amongst an increasing middle-income urban population in the global south. However, in Botswana beef consumption was not shaped by income status, but an adherence to traditional taste, such that while chicken was cheaper than beef, beef was still more frequently consumed, as shown in the diaries above.

Commercials, specifically pricing strategies and advertising used by the food retail industry in Gaborone, is another key factor that influences food choice. Food outlets in Gaborone practiced a pricing strategy that involved a significant reduction in prices running from the last week of one month to the first week of the next month. This pricing strategy known as “Month-end-special” coincide with the monthly payout system predominant in Botswana. Ester, a bank teller, noted that she, as many other Batswana, was a savvy shopper as she considered prices in many different shops before buying. She explained that buying in bulk at the end of the month was common practice because shops reduced food prices. She therefore, usually stocked up on non-perishables like rice, maize meal, cooking oil and sugar, while she would buy other foodstuffs such as beef, chicken and vegetable on daily or weekly bases. Tupane, a retired civil servant and entrepreneur, confirmed Ester’s remark of Batswana being savvy shoppers. She noted the she was keen to find deals at various food outlets, through weekly flyers, which are available at the shop entrance and a weekly free magazine The Botswana Advertiser, a popular periodical in Gaborone. Competing shops claimed to provide the best deals and go further to attract consumers with promises of better quality with slogans like “The fresh food people”. Flyers obtained from two different grocery shops covering the month-end special of June-July 2010 showed a significant difference in prices and justified why people were keen to read advertisements. Some of the price differences included the following:

Foodstuff	Price at <i>Payless</i>	Price at <i>Choppies</i>
5kg pack of Maize meal	P16.50	P14.95
10kg bag of Rice	P102.95	P98.95
12.5kg white bread flour	P55.50	P50.95
5kg of sugar	P31.50	P28.95

Tupane also noted that though she lived in Broadhurst, she would go by public transport to different parts of the city to take advantage of cost saving deals.

Class is another factor that influences food choice in Gaborone. Though we have illustrated that many Batswana search of cost saving deals for foodstuffs, there are others who try to establish or maintain certain class identities in the process of consumption. Where individuals eat, that is the type and location of specific restaurants and what foodstuffs individuals consume can be read as an expression of their class. Mesago, for example, noted that she sometimes does grocery shopping at the prestigious *Woolworths* at *Riverwalk* Mall. She admitted that it was quite expensive to buy food at this location, but noted that the quality of the food was superior. *Woolworths*, as the other two grocery shops and several restaurants located at *Riverwalk* Mall, were the places to go to if one was of a certain class. This class was not purely economic or material, but also symbolic. As Kabelo, a university student explained, though these and many other such restaurants and shops in the city were expensive, going there was a way to buy into a certain prestigious class identity. He noted that to attain this identity it was essential to be seen eating at these places which were often highly expensive and usually frequented by expatriates. Kabelo explained that this choice of place was similar to the choice of or preference towards phaletshe - the “whitish and attractive” maize meal over bogobe jwa mabele - the “brownish and unattractive” sorghum porridge. While the latter was popular in rural areas, urban residents did not receive it as well. Khumo, a key informant and veteran researcher at the Botswana Ministry of Agriculture, agreed with Kabelo’s opinion on why maize meal has become more popular in Botswana, though he noted that the mechanization of maize production and processing too helped to drive the change.

Inspired by the constructionist food choice process model (Sobal et al., 2006; Sobal and Bisogni, 2009) we have examined food choice as a constructed activity. Past experiences in people’s life course and current contexts forms the basis for evaluating diverse influences (cost, convenience, culture, commercials, and class) and incorporating them into habitual systems of food choice and consumption. For example the experiences growing up in a rural Botswana and learning how to cook traditional staples form the basis for people to note that their food choices were influenced by culture. What remains

uncertain is the unpredictable way in which different influences are valued and translated into actual food choices. The constructionist model has also helped us illustrate how food decisions are “multiscalar, multicomponent, change in personal and historical time, and may be situation-specific” (Sobal and Bisogni, 2009 :44). For example maize meal is a national staple choice in Botswana however we have also shown how its esthetical appeal influences its consumption in the cities, while within household cultural taste, cost and convenience shapes the daily decision to eat maize meal. We now turn our attention to the diverse meal combinations that make up consumption patterns in Gaborone; in other words the results of how people translate diverse influences into habitual food consumption practices.

Household food consumption

Our analysis reveals that modern diets, that is processed foods and foods rich in salts, fats and sugars (Gracia-Arnaiz, 2010; Popkin, 2009) are common in urban Botswana, but they have not erased traditional diets. Adopting language from Bhabha’s hybridity theory (1990), there is a third form of new and mixed meals consumed by urban dwellers, product of a hybridization process. Table 2, below shows 50 varied meal combinations, which were recorded in the food diaries, arranged by frequency of occurrence in the diaries and meal types.

There were 15 meals categorized as modern. Only two meal combinations, rice with soup and bread with Tea/coffee, appeared more than 15 times in the diary. Modern meals included foreign or imported cuisines such as breakfast cereal, wheat bread, rice, potato chips and pastas. Socio-economic class largely influenced the consumption of more expensive modern meals, for example, middle income households consume cereals (cornflakes and Weetabix) for breakfast. Other modern meals resulted from a combination of convenience and taste acquired while living in the global north such as ice cream or vegetable salad for dinner. Some modern meals had gradually become part of city diets, for example, bread and tea/coffee, or rice and prepackaged soup, an affordable and quick to prepare sauce to accompany rice. It is worth noting that fresh tomatoes and other vegetable essential for preparing homemade soups are expensive

hence the popularity of packaged soups. Cost and convenience therefore influenced the frequent appearance of these meals in food diaries.

Traditional meals were most popular, as there were 22 meals recorded. Also seven of these traditional meals occurred more than 15 times in the diaries, including the very popular phaletshe, beef and vegetable relish. Participants identified traditional meals, as local Botswana cuisine including phaletshe (maize meal) or Mabele (sorghum meal), beef and other animal products, vegetable relishes (morogo -wild spinach, rape, chomolia) and Phane (mopane worms) amongst others. Participants were accustomed to traditional meals because they eat these foods when growing up; therefore, sometimes they have a sentimental attachment to these foods. Culture can therefore be seen as the main influence of such consumption patterns, a good example of which is Masego's lunch of Mosuthwane (sorghum+beans), which is an extremely demanding Botswana cuisine in terms of the fuel and time needed to preparation. Yet she took pleasure in preparing and consuming Mosuthwane in the city because it reconnects her to the memories and joys of growing up in the rural area. However culture did not influence the consumption of some traditional diets, and not all traditional meals had such sentimental value attached to them. Cost in terms of the affordability of maize meal (phaletshe), for example, made it by far the most popular choice for lunch or dinner and was largely seen as a Botswana staple rather than sentimental fare.

Finally, there were 13 hybrid meals recorded. Five of these hybrid meals appeared more than 15 times in the diary, thus hybrid meals were more regularly consumed than modern meals. Hybrid meals were products of the active merging of the above two cuisines to produce meals such as lunch made of bread, beef stew or morogo (vegetable relish) and macaroni. These new and changing hybrid meals were sometimes spontaneous culinary creations such as the combination of rice, egg and pumpkin, constituted from foodstuffs available at home (rice and eggs) and the desire to eat a traditional delicacy (pumpkin). This example illustrates how influences combine. In this case, culture-in terms of traditional taste, coupling with cost and convenience in terms of making use of what is available. Other hybrid meals were more popular and frequently consumed such as phaletshe and prepackaged soup, common amongst low-income households and macaroni and beef stew, popular in all households and at food vendors. In the former cost

and convenience influenced low income households' food choice, while in the latter convenience-easy to prepare macaroni and culture-beef as traditional Batswana staple, influenced food choice.

By exploring the wide range of foodstuffs that households consumed we can attest that participant households creatively blend traditional and modern foodstuffs and lifestyles. We, therefore, question the notion that African foodscapes are simply transitioning towards a homogenously modern state. Food consumption practice in Gaborone can be read as other forms of cultural encounters that are explored using hybridity paradigm. We have illustrated how participants households experimentation with new modern foodstuffs, (re)produce familiar traditional food cultures, and create hybrid meals base on people's new life styles, the availability of new foodstuffs in the city and people's ability to access different foodstuffs.

Table 2: Household Meals

Frequency of occurrence	Meal Types		
	Modern	Traditional	Hybrid
>15	<ul style="list-style-type: none"> •Rice & soup •Bread & Tea/coffee 	<ul style="list-style-type: none"> •Phaletshe & bones •Phaletshe & chicken •Samp & beans •Phaletshe & Beef •Phaletshe & vegetable relish •Phaletshe, beef & vegetable relish •Soft porridge 	<ul style="list-style-type: none"> •Macaroni & chicken •Macaroni & vegetable relish •Phaletshe & Soup(prepackaged) •Macaroni & beef stew •Rice & Beef stew
5 - 15	<ul style="list-style-type: none"> •Bread & mixed vegetables •Fresh chips •Bread & eggs •Fried chicken & fresh chips •Rice & fried chicken •Macaroni & Soup(prepackaged) •Bread & Juice 	<ul style="list-style-type: none"> •Chakalaka (vegetable stir-fry) •Phaletshe & chicken liver •Phaletshe & madila (sour milk) •Phaletshe & mogodu (tripe) •Peanuts samp & beans •Phaletshe & phane •Mabele & vegetable relish •Mabele & chicken stew •Mabele & beef stew 	<ul style="list-style-type: none"> •Bread & Vegetable relish •Rice & vegetable relish •Fat cake & tea/coffee •Fat cake & Juice
< 5	<ul style="list-style-type: none"> •Ice cream •Hotdog & Juice •Rice & Tomato ketchup •Cornflakes/Weetabix •Vegetable Salad/beets •Snacks (biscuits, chips) 	<ul style="list-style-type: none"> •Mosuthwane (sorghum & beans) •Phaletshe & digwapa (dried meat) •Fruits (Mango, apple) •Mmedi (maize cob) & pumpkins •Fried fish & Phaletshe •Beef (braai) 	<ul style="list-style-type: none"> •Rice, eggs & pumpkins •Rice & liver •Macaroni & fish •Rice & fish

Conclusion

We have shown that the way consumers make food choices are extremely diverse and complex. Adopting language from a constructionist food choice model, we analyzed several influences including cost, convenience, culture, commercials and class. We illustrated how people's prior experiences and current situational context (e.g. income, culinary ability) shaped how these influences were translated into actual choices and habitual consumption patterns. Resultant food choices led consumers to develop food cultures that were more fluid and hybridized than the idea that diets are in transition towards modern forms currently suggest. Gaborone's foodscape therefore provides a clear example of how global influences are reworked in local spaces, an ideal opportunity therefore to challenge oversimplified and uncritical discourse that promotes the hegemony of modern diets in African urban spaces. We wish to emphasize that we are not seeking to essentialize an authentic African food culture rather we recognize the changes occurring, and the factors interplaying to produce these changes. Urban African foodscapes should be understood as a space within which a hybridization process is unfolding as consumers draw on modern and traditional diets to produce new heterogeneous and ambivalent diets.

Through our disaggregated sample, we have shown how food choice and consumption is intensely personal and social with differences in identifying factors including gender, social class/framework, income level/resources and ideas gathered along people's life course shaping their food choices (Furst et al., 1996a; Lockie, 2001). For example, the female Motswana is socialized into a gender role as housewife responsible for food preparation thus they attain cooking skills that enable them prepare a variety of foodstuffs at home. We have also noted how low income households generally have a repetitive menu often made of phalaletshe, merogo, beef, rice, bread and soft porridge. Our analysis shows that the research approaches and models used in the global north, such as the constructionist food choice model, can also be explored to capture the dynamic and fluid nature of food choice and consumption in African cities. This study has direct relevance to food studies, especially the concerns raised in the introduction around the potential increase in the consumption of high calorie foods in developing countries. We call on food researchers to recognize the active role people in urban Africa

play in resisting and reworking modern diets and to acknowledge the potentially complex set of influences that translate into food decisions or meal combinations. For example, we have illustrated that in Botswana the taste for beef despite its cost, is a cultural taste, which should not be confused as a move towards high valued foods. We hope this paper will promote a discussion on how we as food researchers conceptualize food consumption in urban Africa and encourage more food researchers and social scientist to explore consumer practices within Africa as fluid, dynamic, material, symbolic and hybridized.

Notes

1. We choose to use the term modern in this paper because modernity as a concept describes the polycentric transformation of traditional cultures. The term modern is not fixed to any geohistorical locations, unlike the alternative term western, also often used to discuss cultural transformation, which is spatially fixed and relate to culture of societies in Western Europe and North America.

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5. Conclusion

This chapter outlines the principal findings, and major contributions of the entire research effort as contained in the preceding manuscripts. It exposes how the findings presented in the three manuscripts tie together to address the overall research objective. That is, to provide an in-depth understanding of the multifaceted factors that shape food insecurity among urban dwellers in Gaborone, Botswana, by assessing household food access and choice/consumption patterns. This chapter also outlines some opportunities for future research.

Key findings

Food research is seeing a shift in site from rural to urban, with urban planners increasingly confronted with the challenge to ensure equitable access, fair distribution, food safety and opportunities for urban production. Coupled with interest in the urban as a study site, there is also growing interest within social sciences around the embodied and material practice of food consumption, whereby what, where and how much people eat is extremely political. Through an in-depth exploration of people's food experiences in Gaborone, this study has used food to examine the complexity of urban SSA, while it has also drawn on evidence around food in cities to provide added insights on global food security research. The ethnography in this thesis takes the reader to Gaborone and exposes the intricate relationship urban dwellers have with their food. As Cook (2006) notes, contemporary food geography should engage with the lives of people, their food stories and the foods, producing engaging ethnographies that help readers (academic consumers) to empathize with the actors, agents and relationships within these new emerging literatures.

By examining food experiences in Gaborone, this study has been able to argue against the continuous focus on crisis narratives and on African urban dwellers' lifestyles and modes of interaction in cities within survivalist logic. Though the crisis-framed inquiry provides urgency to research, giving it the necessary attention, there is often little room for alternative explanations that capture the complex and often invisible reality of

life within African cities. Often, in seeking to understand African cities in terms of the shared negative characteristics of informality, anarchy and impoverishment, researchers focus on the production of causal knowledge presented in the form of variables to be manipulated by policy makers as an instrument (Nustad and Sending, 2000). The result is that investigations fail to acknowledge people's differential and potentially non-crisis experiences in urban SSA. In terms of food security specifically and drawing on data from Gaborone, the study illustrates the potentially complex, non-crisis nature of urban food insecurity. Despite evidently adequate food supply and availability in Gaborone, due to fluid imports from South Africa, and huge government investment in local agriculture, food insecurity still exists. Evidence from field studies in Gaborone concurs with the limited literature on urban food security in Africa, and illustrates how urban food insecurity is rooted in the inability of some urban dwellers to access food markets due to their low purchasing power and inadequate availability and/or the high cost of nutritious foods (Frayne et al., 2010; Frayne et al., 2009; Ruel et al., 2010b; Yngve et al., 2009a).

Evidence from Gaborone illustrates that urban food insecurity does not necessarily always follow the logic of supply crisis that results in people going hungry; rather it is an issues of differential access to healthy diets driving changes in urban food choices and consumption patterns. Of major concern is the fact that urban households often consume unhealthy diets, made up of processed foods, sugars and oils, which could lead to a double burden of food insecurity and obesity (and related diseases). However, as the study highlights, income from cash employment is just part of the complex set of political-economic, socio-cultural and ecological factors which interact to shape urban diets. For example, while Botswana's semi-arid climate is unfavourable for crop production, it is favourable for livestock production especially cattle rearing, which is not only an economically viable activity but also a symbol of social status in Tswana societies and communities. National agricultural policy therefore supports the growth of the beef industry. As a result, the predominantly beef based diet in Botswana is a product of interacting political-economic, socio-cultural and ecological factors.

At the household level, multiple interacting factors influence the decision-making around households' daily meals. These include food prices and household income; time and energy savings, yearning for traditional food tastes, pricing strategies and

advertisements by food stores, and real or desired socio-economic class. Individuals and households draw on these factors in sometimes spontaneous and indistinguishable combinations to make food choices, which were identified as traditional, modern or traditional-modern hybrids. For example, the choice to consume *phaletshe* (maize meal), largely considered a traditional staple, is grounded in the fact that it is an affordable high-energy content food, which is not energy or time consuming to prepare. Also, the whitish porridge tends to be more attractive to consumers than the brownish flour, produced when sorghum is milled and a brownish-sour porridge produced when it is cooked into the traditional *bogobe*. Also, although traditionally *phaletshe* is consumed with vegetable relishes and beef, increasingly low income households consume their *phaletshe* with packaged soups. This example is just one of several instances wherein food consumption practices within Gaborone was found to be fluid, dynamic and hybridized.

Implication for food security policy

Urban food security research has gained momentum in recent years, gaining unprecedented political visibility, given the recognition that soon there will be more urban than rural residents in the World and following the food price crisis of 2008, that hit many cities (Frayne et al., 2009). As interest in urban food insecurity in SSA grows, with increased theoretical and empirical investigation of factors driving the insecurity, it is essential that the results of these analyses be translated into policy and practice. Maxwell (2001) summarizes the fluctuating policy phases which have accompanied temporal and conceptual understanding of food security. He notes the first era to be the post 1974 World Food Conference, when food policies were geared towards establishing sufficient international food supply while ensuring that all countries can acquire food. The idea that food insecurity could be resolved by increased food supply, was a challenge in the second era, with Sen's seminal work on entitlement, which saw the introduction of consideration for access, coupled with production and food supply. This era was however short-lived, since it coincided with the beginning of the structural adjustment era wherein debt management, fiscal balance, macroeconomic stability and trade liberalization took precedence over any poverty alleviation ventures. The occurrence of famine in Africa in the mid 1980s began what Maxwell (2001) terms the golden age of food security. With

increased academic and international interest, this period saw the strongest emphasis on the need to help people secure long-term entitlement to food and to the provision of safety nets against shocks. Unfortunately this was not long lived as the nature of famine in Africa changed in the early 1990, with wars and political crisis being the major cause of hunger, suffering and death and not drought and production failure. Poverty assessment and reduction, relief, rehabilitation and development in war-affected areas became the major policy focus during this period. By the mid 1990s food price hikes renewed interest in food security and the World Food Summit of 1996 saw the acknowledgement of food as a human right.

The fluctuation between interest and disinterest in food security has remained a strong maker of the history of food security not only between the 1970s to 1996, as vividly described by Maxwell (2001), but also till date. In the United Nations Millennium Development Goals adopted in 2000, Governments committed to the eradication of poverty and hunger with a specific target set to halve the proportion of people who suffer from hunger between 1990 and 2015. To achieve this, emphasis was placed on the development of progressive policy actions that increase agricultural production, while boosting incomes and alleviating poverty in rural areas where most of the poor live (Rosegrant and Cline, 2003). Shenggen and Brzeska (2010) note that for developing countries to achieve the millennium goal, they need to prioritize public spending on agricultural research and development, rural roads, and education, and reduce input and output subsidies as the most direct way of promoting agricultural growth and poverty reduction. They also need to improve smallholder access to input and output markets, improve farmers to markets roads, support private sector investment in value chains and scale up productive social safety nets while protecting the poor from risk and vulnerability (Shenggen and Brzeska, 2010).

The public policies outlined above are for the most part linked to poverty alleviation, securing rural livelihoods and improving agricultural productivity. However, when food prices spiked in 2008, the most vivid evidence of food insecurity was seen from urban areas around the globe. The high commodity prices caused increased costs to consumers in developed and developing countries, with the FAO noting a resultant increase in the number of undernourished people by 75 million (Beddington, 2010). This

certainly illustrates that people globally are reliant on markets rather than their own production for daily food supply and questions the continuous policy focus on agrarian systems. Food policies need to incorporate the multifaceted nature of food insecurity, which is simultaneously local as it manifests at the individual, household and community level and global as it is influenced by macroeconomic and global market trends. Evidence presented in the preceding chapters also highlights the need to incorporate issues around what foodstuffs household are accessing, in terms of food safety and nutritious content. There is a real opportunity to engage policy makers in Botswana around the determinants and dimensions of urban food insecurity, drawing on recent evidence. Current policy is still largely focused on agriculture and rural livelihoods, as noted in this quote from Botswana Presidential Task Group;

“Agriculture: The greatest challenge facing Botswana is to improve food security and rural employment and incomes under semi-arid and marginal environments. This will require the efficient use of human resources and management skills.” (Presidential Task Group, 2011: 19)

Though food insecurity as an urban development concern in Botswana has received only limited political attention, specifically its policy on urban and periurban agriculture lunched in 2004 (Hovorka, 2004; Keboneilwe and Madisa, 2005). Botswana’s semi-arid environment and repeated droughts is often noted as the main challenge to national food security. There is huge public and private investment aimed at improving national agricultural production, with success in the case of the beef and poultry industry, but limited success in crop production. Botswana therefore seem to generally agree that importing food owing to the unfavourable physical, economic and environmental circumstances that plague arable farming “is not a failure on the part of the government, but a rational, logical and pragmatic decision that promotes the long-term interest of the country” (Lado, 2001: 161). The current discourse around food insecurity is often rooted in what Hausmann (2001) describes as “bad latitude”, wherein as a landlocked semi-arid country, there is little hope to ensure sufficient national availability through own production.

This study by no means trivialises the importance of national level food production. However, it has repeatedly drawn on the broader food security literature to highlight the need for food security discourse in Botswana and sub-Saharan Africa to acknowledge food access and consumption challenges. For example, participants noted that food was always available at grocery stores; the challenge for them was having cash income to purchase, store and cook the food. Electricity was often only accessible to the middle income households, as such food storage, by refrigeration was a huge challenge for low income households who had no access to electricity. In the urban setting, food preparation is often done using propane cookers. Cooking fuel was noted to be expensive though unlike electricity it was not possible to go without cooking fuel, hence participants often prepared meals that were not energy intensive. It is therefore important to reshape the food insecurity narrative in Botswana, using recent evidence that explores how food security manifests at the national, city and household level.

Conceptual and Methodological Contributions

This study broadly draws on and seeks to contribute to the geography of food. More than two decades ago P J Atkins called for agricultural geography to be redefined as the geography of food, noting that a focus on food issues will increase the attention given to non-farm elements of the food system and the spatial and temporal scope of the evolution of the world food system (Atkins, 1988). Geographers have since been interested in integrating the ecological, ethical and technical conditions of production and the relationship between food consumption culture and socially constructed ideals of bodily nature, with consideration given to issues of gender, class and race (Freidberg, 2003). One major thread within this sub-discipline is the argument around whether the world food system and food consumption patterns are becoming increasingly homogeneous and predictable or heterogeneous and fluid. Most often these studies have drawn on empirical case studies from the global North. There has been a focus on urban dwellers as conscientious consumers, whose food choices are shaped by multiple factors, providing a space of resistance against the homogenous capitalist driven global food system. Concerns around food scares (salmonella, listeria, e-coli), the growing rate of obesity, the genetic modification of staple crops, fair trade and ethical and ecological production for example, have been shown to drive and sustain alternative food systems

and consumption patterns (Bryant and Goodman, 2004; Whatmore, 2002). This study has drawn on a case study in the global South and given careful attention to the broad range of foodstuffs that households consume, to, although in different ways, illustrate an equally heterogeneous system where multiple, interacting factors including cost, convenience, culture, commercials, and class shape daily food choices. This problematizes the notion that African foodscapes are homogenously ‘modernizing’ and the idea that due to structural poverty, food choice in SSA is mainly influenced by cost. Field evidence illustrates how participant households were actively blending modern and traditional foodstuffs. This study illustrates that the global South can contribute in the progressive growth of the field of food geography, beyond its current role as the space for food production and food insecurity.

Research on food security within sub-Saharan African cities in general and Botswana in particular is also short in supply and this study contributes to filling the gap in understanding how people experience food insecurity in SSA cities. The study recognises that the issue of food insecurity goes beyond hunger, which can be defined as exhaustion and the uneasy sensation resulting from the want of food (Smith et al., 2006). Food security is defined as a situation where “all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996). Thus this research has specifically focused on understanding what shapes people’s food choices and how this in turn affects people’s ability to acquire adequate amounts of appropriate, affordable, and healthy foodstuffs. This study has contributed to the existing literature that views food security as more than an issue of food supply by exploring factors and dynamics that shape food access and consumption. Food security as a question of access to has for long been recognized as extremely important, however investigations on the factors influencing household food access are limited (Barrett, 2010). Drawing on urban political ecology as an analytical framework we have shown that food access in urban Botswana is shaped by political-economic structures, socio-cultural norms and ecology factors.

Beyond gaining a rigorous understanding of people’s differential food experiences it is important, practically, to develop appropriate indicators and methods to assess food insecurity. This could potentially present a suitable starting point to ensure

that efforts by the global community to improve current food insecurity actually results in change at the household level (Coates et al., 2006a). This study has developed a framework that combines a mainstream easy-to-use quantitative measure for food insecurity, household dietary diversity score (HDDS) with a political ecology approach that enriches HDDS with an in-depth qualitative understanding of household differential food security experience. This study has also developed a protocol for assessing food choice and consumption, through an intense social enquiry using ethnographic techniques, including food diaries, in-depth discussions and participant observation, to produce detailed analysis of people's experiences with their food. By observing, participating and engaging in conversations with participants during food related activities including meal preparation, eating or grocery shopping, I gained a deeper understanding of their food security situation and their food decision making process. Observations were carried out for half an hour to four hours in a variety of settings including homes, grocery stores, restaurants and fast food eateries. The study also uses an interdisciplinary approach that integrates a constructionist approach to acknowledge and illuminate complexities (Furst et al., 1996b) and consumption geographies to illustrate the fluid, contextual and uneven nature of consumption process (Mansvelt, 2005). Detailed knowledge on what shapes food choice and consumption within Gaborone presented an excellent avenue to explore the complex dynamic and factors that influence food insecurity.

Limitations

This research has some limitations. By giving preference to quality and depth, with an emphasis on understanding people's differential food experiences, I ended up with a small sample size (n=40). The result of this is, while I can present very detailed accounts of people's food experiences in the city, it is challenging to utilize some standardized mainstream quantitative measures of food insecurity. As Becquey et al., (2010a: 2239) suggest, when utilizing food insecurity measures such as the household's food insecurity Access Scale (HFIAS) and the index-member's dietary diversity score (IDDS) "particular attention should be paid to sample size, which must be large enough to ensure a stable estimation at the population level". Thus, while the results of some of

the assessments that I carried out were informative, they can be regarded as statistically limiting as the sample size was not large enough or statistically representative. For example, the results from the household's food insecurity Access Scale (HFIAS) questionnaire that was carried out upon recruitment of the participants, was not utilized in this thesis. Analysis of the HFIAS questionnaire could easily be misinterpreted to mean that the majority of households had secure food access.

Another limitation, which is not necessarily particular to this research alone, is the fact that data was self-reported. This was specifically concerning when it came to attesting to the validity of household monthly income and expenditure data. For example, often, especially in low income households, the expenditure outweighed the reported income while some middle income households, were initially unwilling to reveal their income. To resolve this challenge, it became more effective to assess household socioeconomic status based on a composite of reported income, household material circumstance and occupations of adult members. Also following repeated and close contact with participants, I could obtain detailed and useful information about their household socioeconomic status, however this would not have been possible in a large household survey research.

Opportunities for future research

It is essential to initiate productive communication between policy makers and researchers/scientists. Edgar Pieterse, cautions against the insistence on a 'policy-fix' for African urban development crisis that is built on assumptions and inadequate knowledge (Pieterse, 2010). It is in the translation of evidence to the policy realm that I see the biggest opportunity for future research. There is a need to explore the conditions that facilitate and limit the uptake of social science research by policy makers in sub-Saharan Africa (SSA) in order to develop strategies to bridge research and policy. Knowledge (evidence) is utilized by policy makers as instruments directly in decision-making; as concepts or new ideas/hypotheses about facts framing decision-making; or as a way to legitimize their views (Landry et al., 2001). Using urban food security in Botswana as a case study, future research will explore the current process of knowledge utilization and develop a protocol for using research results in formulating food policy with the Botswana Ministry of Agriculture.

Knowledge utilization is a vital and timely issue in the African context given perceived and actual gaps between scholarship and practice. Knowledge utilization is a complex process of translating research evidence into practice to achieve progress in diverse human services (health, education) (Backer, 1991; Blake and Ottoson, 2009). The concept of knowledge utilization is often linked to the modern rational mission, which assumes that researchers can produce knowledge that is neutral or apolitical through which the best policy option can be identified and that policy-makers will be persuaded by these scientifically plausible options (Hall, 1993; Head, 2008; Stone et al., 2001). However, there are non-rational aspects of human social behaviour, values, culture and skills, which make policy-makers, engage in policy making as a compromise of varying scientific, political and social positions. Often, as Parsons (2002) suggests, policy makers muddle-through the process of policy making. Policy makers are usually pragmatists aiming to ensure that governments can function with marginal alterations, while coping with pressure group demands, and dealing with crises as they arise (Albaek, 1995). Also as Hall (1993) notes, policy makers often develop a common episteme, characterized by protracted incremental change, interspersed by brief periods of major alteration. Researchers provide the fundamentals to drive change, while socio-economic and political factors influence whether knowledge is acceptable or used (Howlett, 1994). Therefore, the path between the availability of relevant research, data and analyses, and the production of policies is not linear. Still, it is important to explore opportunities to translate empirical social research into useful data for governments and to develop and monitor evidence-based policies (Woolfrey, 2009).

Scholarship on public policy in SSA argues that countries in this region are often passive recipients of development policies and choiceless in policy decisions because of the role of the international donor community and international organizations (Mkandawire, 2001). Conteh and Ohemeng (2009) note that while it is difficult to disprove this argument, there is need for more evidence-based discussion on the complexities of policy-making in developing countries. Drawing on the case of Botswana and Ghana, they illustrate that the adoption of public policies in SSA may emanate from both external and internal sources, depending on several factors, including the current economic situation and the political system (Conteh and Ohemeng, 2009). Woolfrey

(2009) notes that several factors hinder knowledge utilization for policy-making in SSA, including: the inability of policy-makers to understand academic publications produced for peer-reviewed journals rather than for public policy review; the lack of technical skills amongst policy makers to utilize sound research for decision-making; and the absence of meaningful dialogue between policy-makers, researchers and donor agencies. Future research will explore these and other challenges and opportunities for evidence-based policy-making in Botswana, specifically in the realm of urban food security.

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