

BEYOND THE FOOD DESERT: FINDING WAYS TO SPEAK ABOUT URBAN FOOD SECURITY IN SOUTH AFRICA

by
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ABSTRACT. Urban food security is a significant development challenge in sub-Saharan Africa. However, the field is currently under-researched and under-theorized. Urban food insecurity, where it is considered, has been viewed through a development studies lens that views food insecurity as a household-scale problem. There has been significant focus on food deserts in developed countries as one way of engaging with such insecurity. The food deserts research views food insecurity through a social exclusion and food justice lens. This article introduces the food desert concept to provide a conceptual tool to begin to understand the spatial determinants of urban food insecurity, which are not well captured by the existing framings of food security in the region. Using data from a 2008 household food security survey conducted in Cape Town, the paper highlights gaps in the food deserts approach, most significantly its neglect of non-market sources of food and of household decision-making processes. The paper therefore concludes by suggesting a new approach which takes the household's assets, abilities and decision-making as the starting point and overlays this with the market and non-market foodscapes accessed by these households.

Keywords: food deserts, southern Africa, urban food security

Introduction

Urban food insecurity¹ is increasingly recognized as a key developmental challenge in sub-Saharan Africa. The world's population is now predominantly urban, and sub-Saharan Africa is the most rapidly urbanizing region (UN-Habitat 2009, p. 25). The proportion of the world's poor living in urban areas is increasing, not simply because the poor urbanize faster than the non-poor (Ravallion 2002, p. 442), but also because the conditions in many urban areas drive many existing and new urban residents into poverty (Mehta 2000). These demographic and economic shifts raise a number of pressing development issues, of which food insecurity is one. Lagi *et al.* (2011) present compelling data arguing that the events of the Arab Spring of 2011 may have been triggered by food prices, which sparked protests amongst vulnerable urban populations. Urban food security requires substantial research and policy intervention.

However, because food insecurity has traditionally been conceptualized as a rural development problem, the existing conceptual tools used to understand the challenge and frame the responses are inadequate to address food insecurity in urban areas. The focus remains largely on issues of availability and therefore finds solutions in increased food production through urban agriculture, whereas the challenge of urban food insecurity is primarily one of access. In addition, spatial factors have been largely neglected from analysis of food insecurity. These conceptual framings of the food security challenge have led to a particular set of state and NGO response to the apparent challenge. In this article I argue that by considering a more spatial approach to urban food security informed by household determinants, it is possible to conceive of a broader set of policy responses. In this, I extend the developing research from the useful discussion on different sources of food (Crush and Frayne 2011a), to explicitly raise the issue of the geography of these sources and the interplay between the household and these wider spatial factors in shaping food insecurity. This is essential given the rapid transformation of the food system in the region, which is fundamentally changing how urban populations access food and their diets (Popkin 2003; Weatherspoon and Reardon 2003; Abrahams 2010). This transformation is spatially specific, beginning in particular location types and permeating urban areas more broadly at different rates and interacting with the existing local food environments through a series of contestations and negotiations. The ways in which urban residents engage with this process is as yet poorly understood. This paper seeks to provide a starting point for engagement with the spatial aspects of this process.

Within Anglo-American geography there has been emerging focus on food deserts, highlighting spatial inequities in food retail and raising questions of access. This literature frames urban food security as a form of social exclusion concatenated by the

spatial arrangement of food retail spaces. This article draws on the northern food desert literature as starting point for conceptualizing a geography of urban food insecurity in southern Africa. It then establishes the strengths and weaknesses of this framing in the South and southern African context through use of findings from the 2008 African Food Security Urban Network (AFSUN) Baseline Food Insecurity Survey of Cape Town. The article concludes by suggesting a set of considerations to develop better conceptual models to understand urban food security in both the southern African and, tentatively, the Anglo-American contexts.

Limitations of current conceptualizations of urban food security in South Africa

Food security first attracted global attention with the World Food Conference of 1974. At this conference food security was defined as ‘the availability at all times of adequate basic foodstuffs ... to sustain steady expansion of food consumption ... and to offset fluctuations in production and prices’ (UN 1975 in Maxwell 1996, p. 156). The definition of food security has undergone significant shifts over the past 35 years, acknowledging that food security is not simply a problem of availability, but (in the light of work by Sen 1981 and others) also of access and utilization. The definition of food security used in this article reflects these shifts (Riches 1999, p. 204):

A society or community enjoys food security when all people at all times have physical and economic access to sufficient, safe, and nutritious foods to meet their dietary needs and food preferences for an active healthy life. Food security is a right and includes at a minimum: an available, adequate, dependable and sustainable food supply and an assured ability to acquire nutritious and culturally acceptable foods through normal food distribution channels.

Following the shift from the macro-scale availability focus of food security, northern and southern food security foci have diverged. These divergences reflect the broader theory/development dualism in research on northern and southern cities as described by Jenny Robinson (2002, p. 532) as

the persistence of a split between accounts of cities in countries which have been labelled “third world” and those in the “West”. Put simply, the

segregation is between cities which are captured through the rubric of “developmentalism” (not yet cities) and cities which are thought to produce (un/located) theory.

Within food security research, the northern research has tended to focus on the politics of the food system and the structural determinants of food insecurity. Southern research on the other hand has tended to take a developmentalist, poverty alleviation approach and has shifted focus from the global and national scale to the household scale. As discussed further in the article, this approach has in some ways limited the ways in which food insecurity is imagined and the available policy responses.

The expanded definition of food security allows urban food security to be considered independent of national or rural food security, and yet the dominant understanding of food security in the Global South appears to be bound to the rural and solutions suggested in urban areas tend to be imported from rural areas.

Urban food insecurity has therefore remained largely invisible in the southern African context. Maxwell (1999) argues that this has occurred for three main reasons. First, urban policy-makers and practitioners do not address food insecurity because limited budget and capacity mean that ‘more urgently visible problems’ (Maxwell 1999, p. 1940), such as housing and sanitation take priority. Although historically the growth and form of cities was determined by their food system (Steele 2008), this is no longer the case. With the exception of urban food production, food is rarely on the urban planning agenda. Secondly, Maxwell (1999) argues that urban food insecurity is rendered invisible by how it manifests. Food insecurity in rural areas is often linked to times of famine, in which enter communities experience food insecurity at the same time. Food insecurity in urban areas is not triggered by absolute food shortages, but by failures of households to be able to access food. Food insecurity is therefore experienced at the household scale and households employ a range of localized coping strategies. These idiosyncratic responses render the struggle invisible. Finally, Maxwell (1999) argues that the long established perceptions of food security and poverty being rural problems make policy-makers less likely to see urban food insecurity.

In this article I build on Maxwell’s argument and use data from the African Food Security Urban Network’s baseline survey for Cape Town to demonstrate weaknesses in the current conceptualization

of urban food security in the region. The fundamental framing problem is that urban food security is viewed as secondary to rural food security (Drimie and Ruysenaar 2010, p. 325; Battersby 2011, p. 546; Crush and Frayne 2011b, p. 527). As a result – as will be elaborated in the following section – it has not received adequate attention from academics, policy-makers or development agencies and therefore remains under-conceptualized, often simply adopting frameworks and solutions that were designed for the rural challenge. In a recent blog post, David Satterthwaite (2011) posed the following question:

Why do almost all discussions of food and nutrition in urban areas of Africa and Asia ... stress only urban and peri-urban agriculture as the solution, when in every successful city, the possibility of low income groups getting access to agricultural land and water is very limited?

This article argues that this reliance on the idea of urban agriculture as the only solution to urban food insecurity has its roots in the dominant conceptual framing of food insecurity.

Current conceptual framing

As noted by Maxwell (1999), food insecurity and poverty are still widely perceived to be rural problems. A quick survey of referencing databases (ISI Web of Knowledge, Science Direct and others) conducted in early 2011 revealed significant rural bias in numbers of academic papers published about food security. CSA Illumina, as a typical example, captured 361 papers for the keyword search query “food security AND policy AND urban”, this figure fell 114 when the phrase “NOT rural” was added to the search.

This bias towards the rural in food security is clearly evident in the location of South African food security policy documents. The South African government has an explicit food security focus, having published its Integrated Food Security Strategy (IFSS) document in 2002. This document highlighted five key food security challenges: inadequate safety nets, weak institutional support networks and disaster management systems, inadequate and unstable household food production, lack of purchasing power, and, poor nutritional status (Department of Agriculture 2002). Likewise in the ANC’s 2009 Election Manifesto, food security was listed as one

of the Party’s five priority areas for the next five years (ANC 2009). However, tellingly, the IFSS was housed in the Department of Agriculture and within the Manifesto, food security was placed with the Rural Development theme. Despite the key challenges identified in the IFSS, the document locates the heart of the problem as rural food security and the solution to be increased production, ‘One of the primary objectives ... is to overcome rural food insecurity by increasing the participation of rural food insecure households in productive agriculture sector activities’ (Department of Agriculture 2002, p. 28).

Drimie and Ruysenaar (2010, p. 325) argue that the placement of the IFSS within the Department of Agriculture reflects the continued equation of food security with national scale food security and agricultural production, despite the nuances within the IFSS itself. In this, the issue of food access in both rural and urban areas is subsumed. Although the policy documents themselves allude to problems of food security in urban areas, their institutional placing limits action on urban food insecurity. Since the Department of Agriculture has no city government level equivalent, cities have no mandate to address food insecurity and therefore have limited policy responses to the challenge. The reasons for this continued exclusion of the urban within food security policy are discussed at greater length later in the paper.

Despite the ongoing framing of food insecurity as being primarily a rural problem, a number of studies have identified a sizeable urban food insecure population. A number of large-scale surveys have attempted to capture food insecurity data within South Africa. The 1995 Income and Expenditure Survey found an urban food poverty rate of 27 per cent, compared to the rural rate of 62 per cent (Rose and Charlton 2001, p. 385). The National Food Consumption Survey of 1999, which only captured data on children age 1–9, found levels of urban food insecurity of 42.0 per cent compared with 62.0 per cent in rural areas. By contrast, the South African Social Attitudes Survey of 2008 found just 20.5 per cent of urban households and 33.1 per cent of rural households to be food insecure (Labadarios *et al.* 2011a, p. 893). These large-scale surveys provide some sense of the meta-trends, but they do not provide the range of food-related variables or the spatial differentiation to understand the urban determinants of food insecurity.

For this reason, finer-grained case studies are useful. In a 2000 household survey of food security in

the rural Eastern Cape (Mount Frere), rural Western Cape (Ceres) and Cape Town (Khayelitsha and Nyanga), the rural Eastern Cape households were found to be marginally more food insecure than the Cape Town households (83% and 81% respectively). Those in the rural Western Cape were found to be the least food insecure (69%) (de Swardt 2003 in Hendriks 2005, p. 114). These data begin to illustrate the extent of food insecurity in low-income areas and the need to disaggregate beyond the simple rural:urban binary.

The South African and southern African figures presented highlighting the prevalence of urban food security are supported by research by Ahmed *et al.* (2007), in which they found that in 12 out of 18 sampled low-income developing countries the incidence of food insecurity was the same or higher than in rural areas, despite the higher incomes of urban households. The 2009 joint report by Oxfam GB, Concern Worldwide and CARE International argued that the 'common use of percentage rates over absolute numbers [of malnutrition] is greatly distorting when used for urban slums, as this masks the high numbers ... affected in such densely populated settings' (Oxfam GB *et al.* 2009, p. 14). Given the proportion of sampled urban populations experiencing food insecurity, the absolute numbers of food insecure households in urban areas in South Africa likely outstrip those in rural areas.

Yet, despite this mounting evidence of the extent and severity of the urban food security challenge, the focus of development agencies, policy-makers and academics remains on the rural, with the urban often being added as an afterthought rather than an integral part of the response. I argue that this is the result of three connected factors: residual anti-urban bias, the rural training of development practitioners, and the household-scale focus of development research.

The urban bias theory developed by Lipton (1977), Bates (1981) and others essentially argued that urban classes in developing countries were able to use their economic, political and social power to disproportionately benefit from public policies. The rural poor were therefore systematically disadvantaged. This argument powerfully shaped development practice and its merits and impacts are still debated today (see Jones and Corbridge 2010). One significant outcome of the theory is that urban poverty largely fell off the development agenda, the locus of poverty (and therefore food security) was within rural areas and therefore development focus was also

in rural areas. While the urbanization of poverty is an increasingly recognized phenomenon, there is still considerable drag in shifting policy direction caused by the legacy of urban bias theory. In their 2001 *State of the World's Cities* report, UN-Habitat state that:

Several international development agencies in Africa still have no department specifically in charge of urban development. In several agencies, the ruralist lobby is so strong that urban poverty is hardly recognized as such and "urban development" has to walk in disguise behind the imperatives of health, education, gender, family, micro-enterprise promotion, environment (UN-Habitat 2001, p. 12).

This point is elaborated on by Parnell and Simon (2010, p. 54):

That the urbanization trend is so widely ignored is either a result of negligence on behalf of governments and major players such as the African Development Bank, donors and the UN, or it reflects vested interests (such as those of traditional authorities) that need to be exposed in the wider interests of development.

In the case of South Africa, the ongoing pro-rural focus is rooted in a particular tradition under which the urban was the seat of privilege and power. The urban development agenda has therefore been viewed as endorsing the status quo and doing little to address apartheid inequalities (Turok and Parnell 2009). However, Parnell has argued that the urban poor have been consistently under-counted because of how urban is defined in South Africa. Urban is categorized by political jurisdiction, an historical quirk that has led to many poor areas being defined as rural, when under any standard definition, they would be urban. 'The problem', Parnell (2005, p. 24) notes, 'with these overly "rural" figures is that they feed the myth that the South African poor are predominantly a peasantry whose sole need is land reform'. This is to a large degree, the reason for the on-going rural and productionist approach in food security policy and research in South Africa.

This diminution of urban poverty leads directly to my second factor – the rural training of development practitioners. Most food security research has been conducted through organizations such as IFPRI and the FAO; institutions until recently focussing their attention on rural areas – as per the

assumptions of urban bias theory. Most of their training and practice has therefore been rural based. Furthermore, the approaches developed to assess poverty and shape responses were developed in rural areas. While there is value in these tools, such as Sustainable Livelihoods approaches, they cannot be translocated without interrogation of the differences between rural and urban areas (Farrington *et al.* 2002). Despite Garrett and Ruel's (1999, p. 1972) caution that policy-makers and programme administrators should not just transfer existing food security programmes from rural to urban areas in light of the new urban focus, the underlying assumptions of the causes of and solutions to food insecurity remain profoundly shaped by the rural experiences of researchers and practitioners.

Within the rural areas, food security is not as shaped by market forces as in urban areas. It is viewed as a problem of availability and of limited household and individual entitlements (after Sen 1981). This places the solutions to food security at the household scale, as a 'failure of livelihoods to provide adequate supply at the household level' (Crush *et al.* 2006, p. 18). While this has been a powerful shift, allowing food security to be understood as being impacted by issues of supply, access, choice, health and social organization (Atkinson 1995), this shift down to the household scale has unfortunately largely neglected the spatial determinants of food security and focussed too heavily on household capacities to respond to their vulnerability contexts rather than analysing the contexts themselves.

Within urban areas, households access the majority of their food from market sources, with Maxwell *et al.* (1998) finding that households in Accra purchased 90 per cent of food consumed by the household. Case studies have suggested that the urban poor spend between 60 and 80 per cent of their income on food (Maxwell 1999, p. 1940). This dependence on the market, formal and informal, as a source of food makes households very vulnerable to food price inflation (Watkins and Makgetla 2002; Cohen and Garret 2009) and to reduction of purchasing power through job loss (Drakakis-Smith *et al.* 1995; Potts and Mutambirwa 1998). Yet, despite the clear importance of the location and type of market on food security in urban areas, these are generally neglected in discussions of food insecurity in South Africa. This is the result of the ways in which food security has been framed and the use of tools designed to interpret household food security and poverty in a rural context.

The cumulative impact of the dominant framing is that the policy and programme responses to food insecurity in urban areas have overwhelmingly focussed on advocating urban agriculture as the only policy response. In South Africa at the national level, urban agriculture is included in the White Paper on Agriculture (1995), the White Paper on a National Water Policy for South Africa (1998) and the White Paper on Spatial Policy and Land Use Management (2001) (Thornton 2008). Urban agriculture has also been advocated and supported by Provincial governments, with the Western Cape's Department of Agriculture's Urban Renewal Programme (Provincial Government of the Western Cape 2005) and the Gauteng Agricultural Development Strategy (Rogerson 2011) both facilitating food production in urban areas. The City of Cape Town has an urban agriculture policy (City of Cape Town 2007) and other cities in the country actively supporting urban agriculture projects (Rogerson 2011).

This relatively recent interest in urban agriculture by government marks a shift from the previous repression of the practice in many cities in the region (Smith 1998; Burger *et al.* 2009). It indicates an increasing recognition of urban food insecurity and poverty, and draws on an extensive literature advocating it as the most appropriate solution to the growing challenge (see e.g. May and Rogerson 1995; Simatele and Binns 2008; Rogerson 2010; Mkwambisi *et al.* 2011). In this literature, urban agriculture is argued to have potential to alleviate poverty through subsidizing food expenditure, income generation through sale of produce and working on urban farms, and impacting prices through providing lower cost produce to the market (Kirkland 2008; Mitchell and Leturque 2010). In addition, urban agriculture is argued to provide many wider social benefits (Slater 2001; Marshak 2008; Dunn 2010). To this end, the City of Cape Town's Urban Agriculture Policy aimed not just to establish and support gardens, but also to facilitate access to markets and resource centres and promote partnerships involving NGOs, private sector and other stakeholders (City of Cape Town 2007).

Much of the literature draws inspiration from an oft-cited figure of urban agriculture contributing to the food supply of 800 million urban dwellers (UNDP 1996), but as Zezza and Tasciotti (2010, p. 266) note, the authors of this document indicate that this figure is merely a 'thumbnail sketch' based on the authors' experiences, observations and extrapolations from existing datasets. Other studies, such

as that of the FAO in 1996, suggest far more conservative figures of urban farming participation. The impact of urban agriculture on food security and urban poverty has also been challenged (Tevera 1996; Ellis and Sumberg 1998; Webb 2011). Despite the well-documented success of a few projects, such as Abalimi Bezekhaya (Kirkland 2008), the City of Cape Town has been unable to meet many of the policy objectives listed above.

In the AFSUN baseline survey of poor areas in 11 cities in southern Africa just 22 per cent of the households sampled said that they normally grew some of the food they consumed (Crush *et al.* 2010, p. 15). It seemed that only residents of cities that experienced absolute food shortages, such as Harare, regularly depended on food they had grown themselves (Crush *et al.* 2010, p. 28). Within Cape Town less than 5 per cent of households sampled obtained any food from urban agriculture. Urban agriculture as a livelihood strategy was even lower. Formal markets, particularly supermarkets, are an increasingly source of food for residents of Southern African cities (Weatherspoon and Reardon 2003; Abrahams 2010).

Yet, despite the limited participation in urban agriculture of urban residents and the increasing role of formal markets as sources of food, the imaginations of development agencies, governments and academics remain fixed on an urban peasantry willing and able to meet their food security needs through urban agriculture. Not only do numerous studies show this to be unrealistic for a variety of reasons (e.g. Møller 2005; Mitchell and Leturque 2010; Mkwambisi *et al.* 2011), but this strong advocacy of urban agriculture also overwhelms any other formulations of urban food insecurity. Therefore the City of Cape Town (2007) has an urban agriculture policy, but no wider food security policy.

My particular concern is that this household scale urban agriculture focus obscures structural and spatial drivers of food insecurity.² It removes the urban as an actor in urban food security. There is a lack of attention to spatial dimensions of food insecurity within existing urban food security work in the developing world that by focusing on the household, writes the wider context out.³ For example, within large-scale surveys conducted with the region by state statistical bureaux, food security levels are calculated using a variety of household income poverty proxies such as proportion of income spent on food or counting individuals who miss meals because they are short of money (Battersby 2011, p. 547).

Food insecurity is the result of the interplay between household and extra-household factors. The spatial context impacting food security includes the geographies of food retail and the broader geographies of urban areas, most notably the location of residential areas relative to sources of employment, which impact households' ability to access adequate affordable, nutritious and culturally appropriate food (Turok 2001; Zager 2011).

To conclude this section, I echo Satterthwaite's (2011) sentiment to advocate for a different model for understanding urban food insecurity:

Of course, this does not mean that urban agriculture and peri-urban agriculture are unimportant ... But far more attention needs to be paid to the myriad other ways in which hunger can be reduced and how these can be supported, fast.

An alternative framing: the food desert

Given the importance of the market as a source of food for urban poor and the rapid supermarketization of the food system in South Africa (Weatherspoon and Reardon 2003; Tustin and Strydom 2006), it is useful to consider geographies of food retail as an alternative framing. In the UK and North America there has been a focus on urban food deserts, the term first used in 1995 by Beaumont *et al.* (Wrigley 2002, p. 2030). Although a precise definition of a food desert is elusive, a general definition is that they are:

those areas of inner cities where nutritious food is virtually unobtainable. Car-less residents, unable to reach out-of-town supermarkets, depend on the corner shop where prices are high, products are processed and fresh fruit and vegetables are poor or non-existent (Laurence 1997).

There has been considerable focus on food deserts in both the British (e.g. Whelan *et al.* 2002; Wrigley 2002; Wrigley *et al.* 2002, 2004) and the North American contexts (e.g. Block and Kouba 2006; Zenk *et al.* 2005; Moore and Diez Roux 2006; Bodor *et al.* 2008; Larsen and Gilliland 2008).

This food deserts work has its foundation in a different set of epistemological debates to the developing world urban food security work. While the urban food security work focuses on the food insecurity as a manifestation of poverty at the household scale, the food desert work can be traced back to a

social exclusion understanding of poverty. This approach considers poverty to be a 'process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live' (European Foundation 1995 in Ruggeri Laderchi *et al.* 2003, p. 20). Poverty is viewed as a social process in which groups of people are excluded. As a result, food insecurity is viewed not simply as a household problem, but a matter of structural inequality that has spatial manifestations.

Research on food deserts is therefore part of a wider set of debates on food justice and community food security. The framing of the food problem as food justice rather than food security, according to Wekerle (2004, p. 379):

highlights the focus on systemic change and the necessity for engaging in political and policy processes as well as consciously addressing issues of movement mobilization and strategies. Theoretically, the food justice frame opens up linkages to a wider range of conceptual frameworks drawn from the literature on democracy, citizenship, social movements, and social and environmental justice.

A key element of such food activism has been the call for a localization of the food system,⁴ drawing on elements such as community gardens. While this can be seen, on the surface, to being similar to the call for urban agriculture, this call for community gardens must be viewed less as a household-scale attempt to address food insecurity and more as a bottom-up attempt critique of the dominant neoliberal food system.⁵ Community gardens under this framing are argued to be sites where 'the complexities of power, culture and the economy become clear and where the intersections between food and various other social, economic and environmental issues are revealed' (Baker 2004, p. 306).

The food desert work takes these food justice arguments as its starting point and focuses on the range and price of foods in shops in different areas, arguing the large supermarkets tend to have lower prices and a greater range of healthy foods, but that these shops are often inaccessible to the poor. Supermarkets tend to locate in more profitable, affluent areas, beyond walking distance for the poor. Much of this work is based on overlaying mappings of retail store on maps of census demographic data. This GIS-based approach coupled with data on food pricing and food types provide powerful

and persuasive images of spatial inequalities in food provisioning (see e.g. Zenk *et al.* 2005; Block and Kouba 2006 as exemplars).

However, these generalized findings on food deserts have been contested on the basis of assumptions underpinning the research and the kinds of data used. Cummins and Macintyre (2002), for example, found that food prices in poorer areas of Glasgow were in fact often cheaper, but that many of these foods were the high-fat, high sugar foods. They argue that this finding may reflect a shift in geography of retailing, as discount-oriented food stores move into poorer areas (Cummins and Macintyre 2002, p. 2128). This is a useful intervention as it highlights the need to consider the dynamic nature of the urban environment, and to understand the connection between household food choices and the wider market.

Short *et al.* (2007) argue that the neglect of the role of 'small, full-service retailers that are neither full-scale supermarkets nor nonmainstream alternatives' in the data presented in conventional food desert research has skewed the findings (p. 354) and that it is essential to use a broader framework to understand food security. They therefore use the definition of community food security as accessibility, affordability, nutritional adequacy, cultural acceptability, and quality (p. 355). By using this expanded definition of food security and broadening the data used, they were able to challenge some of assumptions about food deserts and provide scope for furthering the discussion on addressing the food security challenges faced by the urban poor. Raja *et al.* (2008) have extended this work by calling for greater consideration of the range of food retail types, including supermarkets, farmer's markets, grocery stores, convenience stores, restaurants and so forth. This broadening of the range of food sources analysed is a welcome development, but as will be discussed further in the article, why just focus on the retail sources of food?

Zenk *et al.* (2005) suggest that what is mapped and even this mapping as a means of analysis may lead to misleading findings. They suggest that factors such as travel time (instead of distance), social barriers (such as crime) and other non-spatial factors, and individual mobility issues need to be considered (Zenk *et al.* 2005, p. 664). This call for the inclusion of individual resources is an important development as it moves the debate from simply about populations within an area and assuming common challenges, to examining how individual entitlements are mediated by wider socio-spatial

processes. This recognition can be viewed as the starting point for dialogue between the household-scale, development studies approach to food security and the system-centred, food justice approach.

Shaw (2006, p. 241) attempted to develop a theoretical framework for understanding this interplay between individual capacity and socio-spatial processes through this proposition of access being understood as comprising of three inter-connected aspects: ability, assets and attitude. Another attempt to frame this interplay is that of Cannuscio *et al.* (2010) in which they argue not just consideration of food environments, but also of “foodways”. In their work, the food environment includes variables usually considered in food desert papers: structure, type, density and proximity of food outlets. Foodways are far broader and are ‘are the processes involved in the growth, purchase, preparation, consumption, sharing – or absence – of food within communities’ (Cannuscio *et al.* 2010, p. 382). They argue that an understanding of both the food environment and the foodways of a place are essential to understand the healthy (and other impacts) of the urban food system.

This combination of food geography with individual assets and activities provides the start of a framing of food security in the South and southern African contexts. The following section presents data on from the AFSUN baseline survey on food insecurity and food sources in Cape Town to suggest approaches that extend these recent critical reflections on the food desert concept.

Introducing the Cape Town survey

The African Food Security Urban Network was launched in 2008 as an attempt to address the critical gaps in the quantification and understanding of urban food security in the sub-Saharan African context. As noted earlier, a number of surveys have highlighted high levels of food insecurity in urban areas, but there has been little research focussing specifically on urban food security and how it differs from rural food security. In 2008 AFSUN conducted a 6500 household survey in low-income areas of eleven Southern African cities addressing the core question of how the urban poor accessed food. The aim was not simply to quantify the challenge, but to investigate how urban design and management impacted the extent and characteristics of food security in urban areas. The survey was therefore conducted as a series of case study sites, rather than as

a representative sample across the cities, to enable analysis of the interplay between households and their broader spatial and economic environment.

The data presented in this article are drawn from the 1060 households sampled in Cape Town. The survey collected individual and household data on income, expenditure, employment, livelihood strategies, health, lived poverty, food sources, food choices, migration and other variables. Three key measures were used to assess food security: the Household Food Insecurity Access Scale (HFIAS), Dietary Diversity (HDDS) and Months of Adequate Household Food Provisioning (MAHFP). The HFIAS was devised by the Food and Nutrition Technical Assistance Programme (FANTA) of USAID as a universally applicable food insecurity measurement tool (Coates *et al.* 2007). The HDDS and MAHFP measures were similarly devised by FANTA as ‘two strategic objective level indicators of household food access’ (Swindale and Bilinsky 2006, p. 1). The food source data generated from the survey are used within this article in conjunction with food retail characteristics of the field sites and the employment data from the survey to develop a spatial approach to food security.

The survey was conducted in three sites in Cape Town: Ocean View, Ward 34 (Brown’s Farm, Philippi) and Ward 95 (Enkanini and Kuyasa, Khayelitsha). Ocean View is a historically coloured area, associated with small scale and subsistence fishing. It is located some 40 km from the centre of Cape Town and is adjacent to high-income residential areas, which provides opportunities for employment. This site therefore had the highest employment levels (62%) and the highest mean income levels (ZAR 4499 per month).⁶ Ward 34, 25 km from the centre of Cape Town, is a historically black African area located near to both the Philippi Horticultural Area and the Airport Industrial Estate, and is well connected to major transport routes. The area is therefore very densely populated with most formal houses having at least one shack erected in their back or front yards. There are also dense pockets of informal settlement. It is surrounded by other low-income housing areas. Employment levels in the sampled population were low (46%) and the mean household income was ZAR 2197 per month.⁷ Ward 95 is a recently established, predominantly black African area located on the south-eastern periphery of the city 35 km from the centre of Cape Town. Many of the residents of this area are recent migrants from rural areas. The area has limited local

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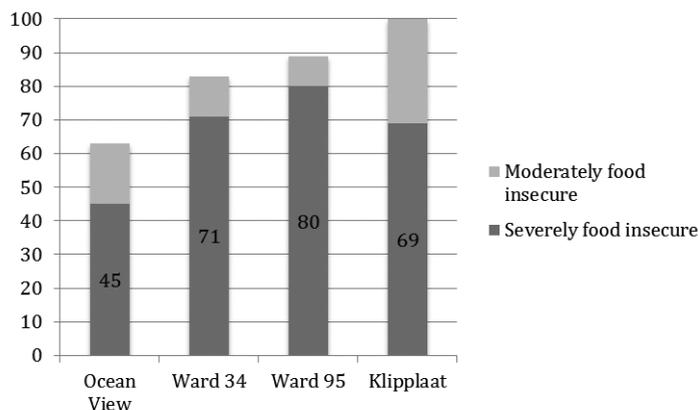


Figure 1. Comparison of food security in Cape Town and Klipplaat. Source: AFSUN survey and Ballantine *et al.* (2008), p. 6.

employment opportunities and the sampled population had employment levels of 47 per cent. The mean household income of sampled households here was ZAR 2126 per month. These areas were selected to capture the diversity of experiences of poverty within the city. The data collection was done by stratified sampling using aerial photographs provided by the City of Cape Town to approximate the number of households in selected areas, as the Census 2001 is now outdated and the City did not hold more accurate figures. Ocean View is under-represented in the sample with just 266 surveys completed. There were 389 surveys completed in Ward 34 and 394 in Ward 95.

The nature of urban food insecurity in Cape Town

Within the Cape Town survey, 80 per cent of households surveyed were either moderately or severely food insecure according to the HFIAS measure. The regional dataset of the eleven sampled cities found

77 per cent of sampled households to be food insecure (Frayne *et al.* 2010, p. 43).⁸

A study of food insecurity amongst rural shoppers in the Klipplaat area of the Eastern Cape using the same food insecurity measures survey found 100 per cent of the sample to be food insecure (Ballantine *et al.* 2008, p. 6). Interestingly, although the extent of food insecurity is greater in Klipplaat, the severity of the food insecurity is higher in the poorer two of the Cape Town field sites (see Figure 1). While 69 per cent of the Klipplaat sample were severely food insecure, 80 per cent of the Ward 95 sample and 71 per cent of the Ward 34 sample were. While these differences are not statistically significant it does suggest that urban food insecurity is a considerable challenge and that food insecure urban households may be more vulnerable to deeper food insecurity than their rural counterparts. Although the extent of urban food insecurity is similar to that of rural areas, the drivers and consequences of this insecurity are different to rural areas and therefore require different conceptual framings and policy responses.

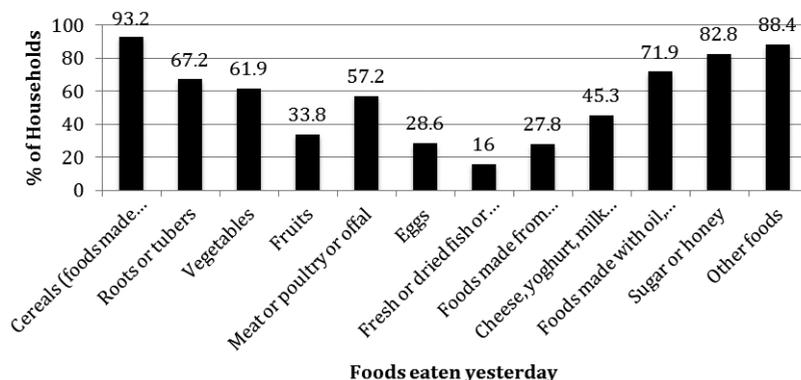


Figure 2. Food types consumed by households in previous 24 hours. Source: AFSUN survey.

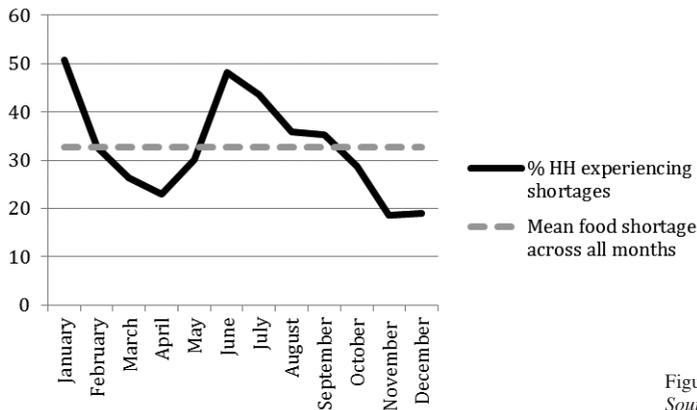


Figure 3. Months of adequate household provisioning.
Source: AFSUN survey.

This difference is evidenced in the dietary diversity of the urban poor and the temporal dimensions of their food insecurity.

The mean household dietary diversity of the sampled households was 6.75 out of 12,⁹ which at first glance does not appear to be too limited. However, Figure 2 indicates that the main food groups consumed are largely non-nutritive. While 93.2 per cent of all households had consumed cereals within the previous 24 hours, the next most commonly consumed foods were “other foods” (usually tea or coffee), “sugar or honey” and “foods made with oil, fat or butter”. The mean dietary diversity score masks therefore the very limited nutrition of many households. These findings reflect those of Labadarios *et al.* (2011b), who found that dietary diversity in South Africa was lowest in tribal areas and informal urban areas, and of Oldewage-Theron and Kruger (2011), working in a low-income peri-urban area.

The differences between rural and urban diets have been extensively researched by Popkin and colleagues (see e.g. Popkin and Bisgrove 1988; Drewnowski and Popkin 1997; Popkin 2003). They note that although there is a general trend in the developing world towards diets higher in fats and caloric sweeteners (sugar, honey, corn syrup, etc.), this trend is more marked in urban areas. This general trend correlates strongly with GNP, but in urban areas the correlation is far weaker. So, for example, caloric sweeteners in their less urban cases ranged from 5 per cent of total energy intake in low GNP areas to 15 per cent in high GNP locations. In their more urban cases, the total energy intake derived from caloric sweeteners was above 15 per cent even in the lowest GNP cases, but this proportion hardly

increased with increased income (Popkin 2003, p. 584).

Drewnowski and Popkin (1997, p. 37) point to one factor in this trend being the mismatch between the “time intensity” of traditional foods and the shift towards foods that take less time and less skill to prepare. Caballero (2005) suggests that the change may be a combination of the availability of cheap, energy-dense foods in urban areas (from street traders) and the higher participation of women in the urban workforce which limits food preparation time. The AFSUN data suggest that the dietary choices of the urban poor are also shaped by issues of financial and spatial access. While all 12 food categories were readily available in the city, households were not consuming them. While some of this may be culturally determined, to a large degree it is the result of financial and physical access problems. Within the Cape Town survey 71 per cent of households indicated that they had gone without types of food because of food prices. In addition, dietary choice is to some extent limited by the sources of food that households are able to access. This geography of food will be discussed further.

As in rural areas there was a strong seasonality to when households went without food, but unlike rural households this was unrelated to fluctuations in food availability. There were two distinct hungry periods during the year: January and the winter months (see Figure 3). The hungry seasons are periods of increased household expenditure and reduced household income. The poorest tercile of the sampled households spent an average of 53 per cent of their income on food. With such a high proportion of income going to food any factor that affects either income or expenditure has a major impact of

BEYOND THE FOOD DESERT

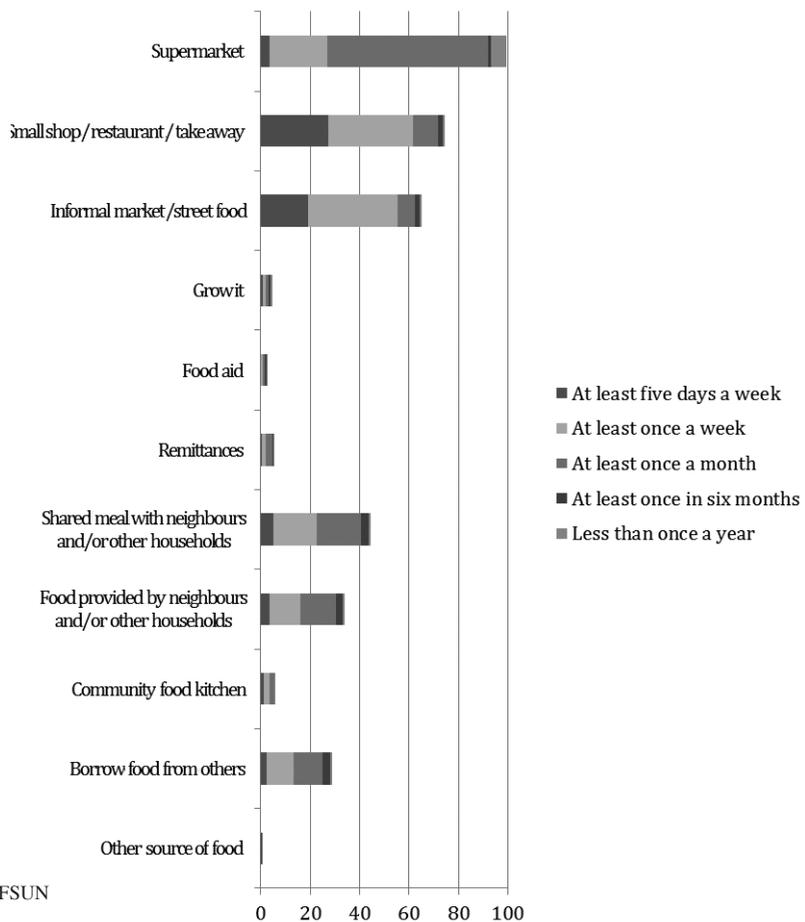


Figure 4. Sources of food. *Source:* AFSUN survey.

household food security. The causes of food insecurity in urban areas are fundamentally different to those in rural areas. Urban food insecurity is caused not by availability problems, but by food markets, employment patterns and the spatial configuration of the city. It therefore needs to be viewed through different theoretical lenses and the solutions need to reflect the urban difference.

Sources of food: a multi-scale challenge

In light of the levels of food insecurity, this section investigates the ways in which the urban poor in Cape Town access food. The survey asked where they acquired food and how then they acquired it from each source. Figure 4 illustrates the main sources of food. These data provide a means to interrogate the dynamics of the urban food system and highlight the importance of the city and neighbourhood scales in

urban food security and begin to highlight important differences between the southern African food system and that of the global North.

Households in Cape Town appear to acquire food from a wider variety of sources than their northern equivalents, ranging from the highly formal supermarkets to the highly informal borrowing of food. There are two main clusters of food sources in Cape Town: food purchased from formal and informal markets, and food received through formal and informal social safety nets. A small proportion (less than 5%) of the sample population obtained any of their food by growing it.

The market: formal and informal

The purchase of food is clearly the most common source of food for the urban poor in Cape Town. The

geographies of food retail are therefore a vital component in understanding urban food insecurity. As such, the existing work on food deserts provides a useful entry point to engage with the food challenges faced by the urban poor in the city. However, there are significant differences between the food retail sectors in the areas where the food desert literature developed and Cape Town, and southern Africa more generally.

The supermarket sector in South Africa is currently less developed than that in the global North. The most recent available data show that supermarkets constitute less than 2 per cent of all food retail outlets in South Africa, but these stores account for more than around 60 per cent for all food sales (Weatherspoon and Reardon 2003, p. 337). The supermarket sector is growing rapidly – increasing from 62 to 68 per cent of the food market from 2008 to 2010 (Planting 2010, p. 34) – making significant inroads into township areas. The recent surge can be attributed both to growing disposable income among African consumers, which has effectively opened new markets to the supermarkets and their subsidiaries (such as Boxer owned by Pick N Pay and Sentra owned by Shoprite) (van Wyk 2004). In addition, the improved infrastructure in many townships has made the presence of large retail businesses feasible (Tustin and Strydom 2006, p. 56). This movement of the larger formal retailers into township areas will clearly impact the informal food market, which has been valued at between ZAR 20 and 30 billion per year (Apps 2004). The African Co-operative for Hawkers and Informal Businesses (Achib) stated that about 150 informal retail stores (spazas) in Soweto alone have been forced out of business in part due to the entry of large retail chains into the township (Bisseker 2006).

Virtually every household sampled in the survey (99.3%) had purchased food at a supermarket at some point in the previous year. However, just 26.8 per cent went to supermarkets once a week or more. Households were far more likely to purchase daily or weekly supplies of food from small shops/restaurants/take aways (mainly spazas) or from informal markets/street foods (61.5% and 55.1% respectively). Supermarkets are generally cheaper per unit purchased than small independent formal shops and spazas. For example, in 1995 the mark up on brown bread in a national supermarket was less than 13 per cent, whereas it was 20 per cent in an independent supermarket and 20–26 per cent in urban cafés and spazas (Benyon 1995 in Watkinson

and Makgetla 2002, p. 6). While South African supermarkets are currently being taken to court over price fixing (Harrison 2009), prices in spaza shops are consistently higher. Not only are prices higher, but local politics in Cape Town is ensuring that prices remain high. In June 2009 spaza shop owners in Gugulethu made local Somali traders raise their prices so that the South African-owned spaza shops could remain competitive on price, thus removing access to cheaper food from the urban poor (Underhill 2009).

Given the lower pricing (and often more reliable quality) of supermarket products, why did respondents use spazas, small shops and restaurants more frequently? There are three connected factors that shape these trends. The first is the disconnect between the economic realities of poor households and the retail strategies of supermarkets. While products are cheaper per unit, the minimum unit size is often too large. Spaza shops will “bulk break” and sell products in small quantities, which although more expensive per unit are more affordable to the urban poor. This could in part be due to problems of bulk food storage particularly for those living in informal housing with limited storage space and refrigeration capacity. In addition, spaza shops will often operate on a system of credit, making it possible to “buy” food without cash in times of shortage (Ligthelm 2005, p. 210). Food insecure households were only half as likely to shop at supermarkets on a weekly basis as food secure households, but were slightly more likely to buy food at informal markets or street food traders on both a weekly and annual basis (Figure 5).

While the choice of food source is to some extent driven by these household scale factors, it is necessary to scale up to the neighbourhood and city scales and engage with the food geography, as discussed in the food desert research. The location of supermarkets makes them less popular as a frequent source of food. Large supermarkets locate where there is likely to be a high profit margin, meaning that poor residents usually need to take public transport to access their nearest supermarket. Many respondents indicated that it was too costly to travel frequently to the supermarkets and that buying in bulk and using taxis was physically difficult, so they bought little and often at the spazas instead.

When supermarkets do locate in low-income areas, they tend to be located on major transport routes to maximize the number of customers. However, in work conducted in Philippi (where Ward 34 is

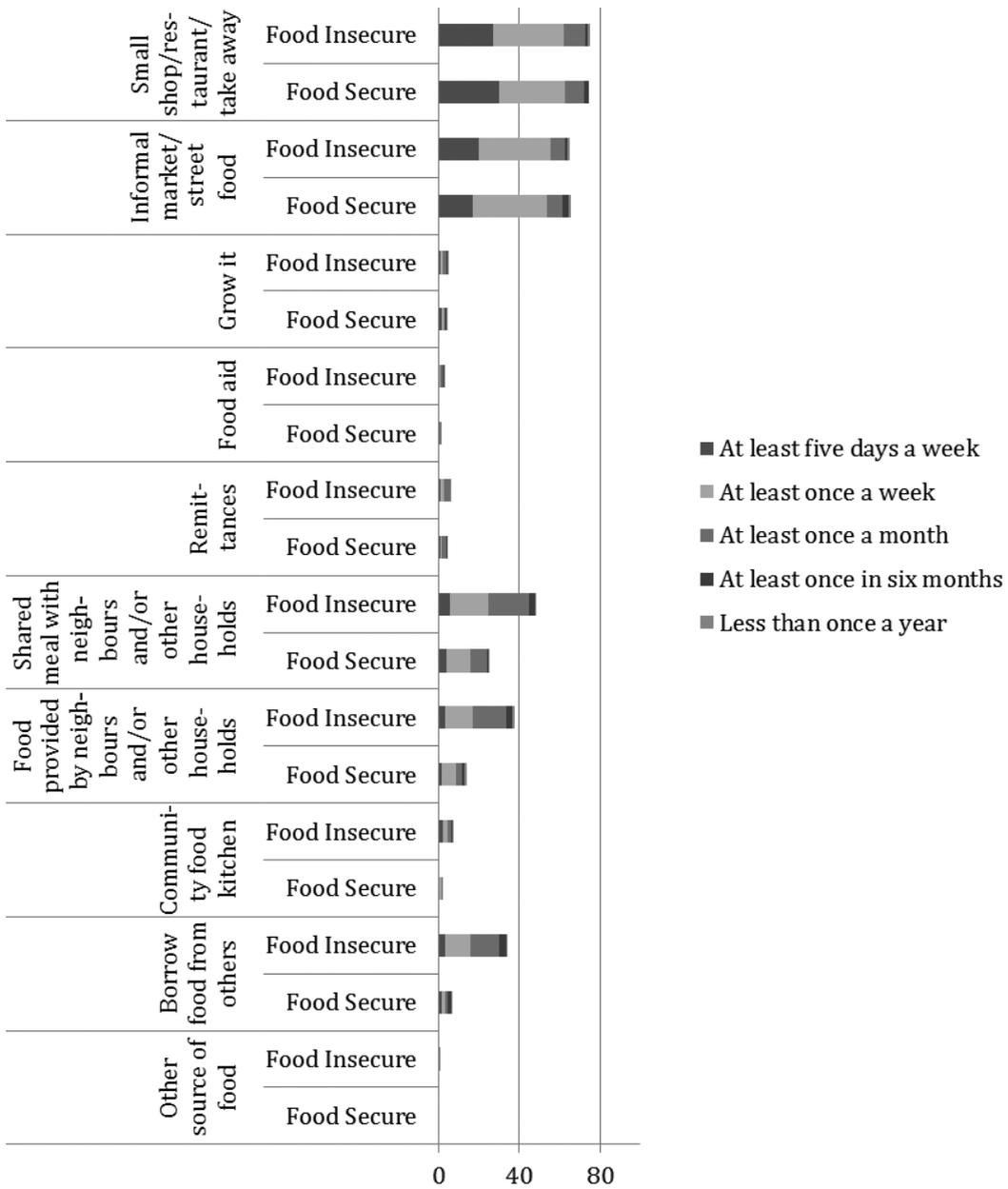


Figure 5. Food sources of food secure and food insecure households. *Source:* AFSUN survey.

located) it was found that residents feel unsafe using the supermarket as the main transport routes are associated with high opportunistic crime (ARG Design 2010). Given that people going to the supermarket are likely to be buying in bulk, they are

presumed to be carrying large amounts of money and are therefore targeted by muggers. The geographies of supermarkets in part shape the decision to shop locally at the more expensive spaza shops, thus reducing potential food security.

Finally, the wider economic geography of the city plays a role in food source choices. Due to the legacy of segregation and fragmentation in the city, many of the urban poor travel long distances using public transport to get to work (Turok 2001, p. 2350). Travel times of over three hours per day are not uncommon. This reduces time to shop and prepare food. Many therefore depend on street food and restaurants for meals clustered near transport hubs, which are often expensive and nutritionally poor. The geography of the city increases household food costs and usually reduces nutritional quality of food intake. The urban form therefore plays a crucial role in household food security.

The interaction of these three factors operating at the household, neighbourhood and city scales begins to highlight the need for a broader analysis than the food desert literature suggests. In addition, as Figure 4 illustrates the market is just one of a range of sources of food in Cape Town

Other sources of food: informal and formal safety nets

While the market, both formal and informal, is the most important source of food for the urban poor, it is clear that the market does not work adequately for the urban poor. Not only are people often buying lower quality foods for higher prices, but many people are also dependent on alternative sources of food. A large proportion of the sample population acquired food from neighbours and other households through sharing meals (44.5% in the last year), eating food provided by others (34.1%) and borrowing food (29.2%). A smaller amount received food as remittances (5.5% in the last year). As Figure 4 illustrates, those households receiving food in this manner tend to receive it from these sources at least once a month. Furthermore, Figure 5 indicates that the more food insecure a household is, the more likely it is to be dependent on these informal sources of food.

While these figures in part suggest strong social capital in action within poor areas of Cape Town, they also indicate that many of the urban poor are unable to access enough food through the markets. In the survey 88.3 per cent of households said that they had gone without food stuffs in the previous six months due to unaffordability of food. The mean number of months of adequate provisioning in the previous 12 months was 9.22, but this fell to 8.08 when the food secure households were excluded.

The sharing and borrowing of food masks the extent of food insecurity amongst the urban poor and obscures the failings of urban food systems (Maxwell 1999). Many poor households are surviving by borrowing from and sharing with their neighbours. The household scale, the food retail geography of the neighbourhood and the neighbourhood characteristics then all become vital considerations in determining food insecurity and developing strategies to address it.

While dependence on informal safety nets is a strategy of households in the sample areas, a very small proportion were accessing food through formal safety nets. Just 5.9 per cent were using community food kitchens per year and 2.6 per cent accessing food aid. It could be argued that the social grant system operates as a form of formal social safety net working towards food security. A significant proportion of the sampled households were grant receiving (42.5%), but most were receiving only a child support grant (ZAR 220 per month at the time of study). The food security profile of the grant-holding households did not vary significantly from the general sample. It therefore appears that the grants in their current form do not constitute an important formal social safety net to ensure food security. Finally, less than 5 per cent of sampled households indicated urban agriculture as a source of food, despite the focus on urban agriculture as the solution to urban food insecurity.

While these findings appear on the surface quite different to the experiences within Anglo-American cities on which the food desert research has been conducted, it is worth noting the increasing role of food pantries and other safety nets as a source of food for residents. According to a survey conducted by Feeding America in 2009 one in eight Americans received emergency food last year from food banks, food pantries soup kitchens and other agencies (Koch 2010). These significant sources of food are omitted from the food deserts research.

Conclusions

The data presented in this article demonstrate the weaknesses in the existing framing of food security in southern cities. The limited take up of urban agriculture and the rapidly changing urban food system demand new conceptual and policy responses. There is a need to move beyond the household and immediate community scales and to develop a more explicitly spatial and structural approach.

This approach must incorporate the geography of food retail (after a food deserts approach) into the framing of urban food security. However, the simple addition of food retail mapping to food security research will not be sufficient, the broader spatial structure of the city needs to be incorporated. The existing, and growing, mismatch between residential and employment locations for the urban poor, and the challenges of transport and mobility also need to be considered in order to develop a broader framing. The structural processes shaping the geography of food in the city are just one manifestation of the overarching rationale of economic functioning of the city.

The food deserts research does provide a useful starting point for considering a re-framing of urban food security in cities like Cape Town, particularly given the shift towards incorporating some household scale factors. However, I am concerned that even in its new forms, it fails to focus enough on how people actually navigate their foodscapes. The food deserts work also fails to recognize the role of other non-formal market sources of food, which are vital sources of food in the southern (and increasingly in the northern) context. In the context of the global economic downturn, greater engagement with how households navigate their expanded foodscapes (including non-market sources of food) would provide powerful insights into the structural inequities in both the food system and in cities. A final weakness of the current food desert research is that it assumes that people shop where they live. The working urban poor in Cape Town, as in most cities, often work many neighbourhoods away from where they live and purchase food from a number of neighbourhoods, making a series of time, cost and quality negotiations to access their food (Zager 2011). This process is largely lost in the existing research.

This article therefore concludes by suggesting that a model for understanding urban food security that begins at the household scale and maps households' actual food geographies would be the most appropriate means to develop a deeper understanding of the spatial and non-spatial determinants of food insecurity. It would allow analysis to be conducted beyond the neighbourhood scale and for connections between food system and other inequities to be acknowledged. This work would be conducted in tandem with conventional food desert mapping research. The result of such a methodology would hopefully build on both the strengths of the

household/livelihoods and food justice approaches. The data generated could therefore ultimately contribute to policy interventions that move beyond simple advocacy of urban agriculture and towards integrated food security strategies responsive to the ever-changing foodscapes of our cities. Finally, it is hoped that this new approach would provide space for further conversations between academics and activists working in the northern and southern urban contexts.

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Notes

1. In this paper urban food security refers to the food security of residents of areas classified as urban by the State. The primary data used in the paper are drawn from three areas within the municipal boundaries of the City of Cape Town.
2. I realize in making this point that the survey data that this paper presents is a household scale survey, though I believe that the work presented in the latter part of this paper on sources of food provides a means to engage beyond the household scale.
3. While Sustainable Livelihoods approaches attempt to write the vulnerability context into frameworks, the impacts of external structural factors, external institutions and spatiality tend to be secondary to household factors.
4. There is considerable debate on the assumptions behind the call for localization, see e.g. Born and Purcell (2006) and Feagan (2007).
5. It is acknowledged that this is a generalization, but this broad framing is reflected in the literature. Pearson *et al.* (2010, p. 7) state that urban agriculture serves different purposes in developed and developing countries, providing 'recreation in the former and food security in the latter'. McClintock (2010) makes a similar point, but notes that in the current global economic downturn the motivation for and discourse around growing food in cities in developed countries is beginning to converge with that of developing countries.
6. USD 1 = approximately ZAR 8.
7. At the time of surveying the City of Cape Town used a household income of ZAR 2800 per month as the threshold for indigent status (Pollack 2008).
8. Households classified as severely or moderately food insecure using the HFAS measurement tool (Coates *et al.* 2007).
9. The Household Dietary Diversity Score data ask respondents to recall the types of food that they or anyone else in their household ate the previous day during the day or night. Respondents are then read the 12 categories of food and are asked to identify whether their household consumed these food types or not (Swindale and Bilinsky 2006, p. 4).

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