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Food Sensitive Planning and Urban Design – A Blueprint for a Future South African City?

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Food Sensitive Planning and Urban Design – A Blueprint for a Future South African City?

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EXECUTIVE SUMMARY

South Africa's demographic profile is predominantly urban. As a result of our history, South Africa's food system was largely an urban food system before the country's demographic shift to being predominantly urban. It is therefore strange, that one of the key public goods, food, is absent from almost all urban planning and wider urban governance practices and strategic thinking. The food system policy environment sees food security as the domain of the national Department of Agriculture, Rural Development and Land Reform and the provincial Departments of Agriculture. Nutrition questions are the responsibility of the National Department of Health, with provincial Health Departments being the implementers of nationally formulated policies. The South African Constitution mandates all spheres of government to ensure the progressive realisation of the rights contained within the Bill of Rights. However, South Africa's policy architecture works against these obligations. The result is one of inaction on the part of local government in these essential areas of responsibility (food and nutrition). This inaction is not through negligence or avoidance but as a result of a policy architecture that directs resources, both in terms of fiscal resourcing and skills, to areas beyond local government. For local government, food becomes a so-called "unfunded mandate".

While this clearly needs to change, breaking down policy silos, political hierarchies and existing policy architecture is difficult, requires trade-offs and compromises. For a child in utero, whose pregnant mother lives in one of the urban places in South Africa, the nutrition received in the first 1000 days from their inception will determine their development trajectory for the rest of their life. The imperative is to act now, to see the urban food and nutrition crisis as exactly that, a crisis. One that requires immediate proactive responses. Urban managers cannot wait for budgetary shifts and a realignment of ministerial responsibilities. Alternative approaches to governing urban food systems are necessary.

This working paper argues that these alternative pathways already exist. We argue that while the urbanisation of food governance is important, local government have at their disposal constitutionally allocated mandates to proactively govern urban food matters. While there are a number of options open to local governments, one of the most strategic and transversal approaches is through planning and urban design. The working paper draws on the emerging practice of Food Sensitive Planning and Urban Design to tease out what this may mean in South African cities and to enquire into how existing planning and governance legislation, particularly the Spatial Planning and Land Use Management Act (SPLUMA), and the various schedules within the Constitution, provide scope for the adoption of such processes.

The working paper describes Food Sensitive Planning and Urban Design, but expands on the notion of design, elevating this beyond simply the design practice, suggesting that different practices are required. These practices include conceptual practice, analytical practice, organisational practice and only then, design practice. This approach demonstrates that what is required is for local government to understand what urban food governance would mean in their contexts, to gather the necessary data and assess needs, to structure operations and interventions in such a way that could respond to these needs and governance imperatives, and to then design actions and interventions. Central to this approach is the argument that this cannot be about food alone.

The key strategic analytical exercise needs to be one of understanding how the food, urban and other systems intersect. Understanding these intersections, and how these currently fail to deliver on, or act against, positive food system actions, is essential. Local governments face real challenges and to assume that Food Sensitive Planning and Urban Design would automatically solve the urban food and nutrition challenges would be naïve.

The working paper delves deeper into this, offering a critique of the current food and nutrition policy architecture, questioning processes and demonstrating how existing data collection and reporting processes re-enforce and validate the rural bias in policy approaches. Countering these processes requires considerable political will. More than any of our biological needs, food shapes the design and infrastructure of cities (Robert, 2000).

This is a perspective seldom considered today, but one that was well known, and formed part of the design and structuring of early cities. Many street names and locations serve as portals to these earlier design considerations; Market Street, Schaapkraal, Gardens, are just some examples from Cape Town. Modernist design and planning have seen these connections becoming increasingly distant, with shopping malls and fast food restaurants being the current sites of food access, sites that are today conceptualised, planned and approved without any real consideration for their wider urban food system impact.

Internationally there is an emerging trend that seeks to de-scale food issues, with cities seeking ways to re-embed food within their planning and practice. While most examples are from Northern cities, there are a number of exemplars in developing world (or Southern) cities. This working paper reviews these Southern urban interventions in the context of food sensitive planning and urban design.

Given that the infrastructure that is to be built in African cities over the next 20 to 30 years will determine Africa's overall development trajectory for the next 100 years, there is a further imperative to act now, to seek out new ways of planning and governing African and South African cities in ways that avoid the significant challenges that have existed for years. These were dramatically observed during, and are still running, as a result of the recent COVID-19 responses, lockdowns and attributable crises.

This working paper makes six overarching claims that support the need for the adoption of a Food Sensitive Planning and Urban Design approach, particularly, but not exclusively, in cities.

- South Africa is a predominantly urban country with a food system that is largely an urban food system. Yet local government argue that they have no fiscal, and as a result, operational, mandate to engage urban food questions. The absent fiscal allocation is correct, but there are multiple ways in which local government can, and needs to, engage urban food questions. One such way is through Food Sensitive Planning and Urban Design (FSPUD).
- Urban agriculture and poverty relief projects, while responding to the immediate hunger needs of the most vulnerable, are nothing more than projects. Governing urban food issues needs to move well beyond such project-based responses to responses that are strategic and embedded in wider urban governance approaches and strategies. Food Sensitive Planning and Urban Design is one such approach.
- Negative food system outcomes are only in part the result of failures in the food system. Multiple urban systems, from water to energy, from transport to waste, from food access locations, to time poverty, from the gendered nature of household food provisioning to livelihood generation strategies, all intersect to influence the food system outcomes for most urban residents, particularly the poor. Seeing food and nutrition outcomes as separate to these systems is naïve and short sighted. Transversal approaches such as Food Sensitive Planning and Urban Design offer pathways to a more integrated approach to food, and urban, governance.
- Central to ensuring equitable developmental opportunities for all is access to safe, affordable and nutritious food. The current urban system does not provide equitable access, with many having to contend with unequal and unjust food system outcomes. Responding to this inequity is a responsibility

of the state, particularly local government. Current project-driven responses will never facilitate redress. More robust and strategic actions are required. Food Sensitive Planning and Urban Design is one area for such action.

- South Africa’s colonial, apartheid and industrial legacies have shaped our cities and our food systems. The current agrarian approaches to food and nutrition security perpetuate these legacies offering little or no concrete alternatives to these histories, often amplifying the negative outcomes. New governance and policy responses are required. In a predominantly urban society, where local governments have an explicit planning mandate, Food Sensitive Planning and Urban Design is an area where such paradigmatic change can begin.
- Central to proactive engagement in Food Sensitive Planning and Urban Design as a practice of effective urban food governance and action is considering the intersection of multiple key principles, or “senses”, that include the recognition and integration of a sense of history, a sense of limits, a sense of place, a sense of economy, a sense of justice and a sense of equity into all planning and design approaches and actions.

KEYWORDS: Urban food systems; food systems governance; urban food security; food systems planning; public policy

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INTRODUCTION

As Parnell succinctly states, “cities are of the rupture of global change unleashed by demographic, economic or climatic forces that transforms the form of urban life and the way that urbanity is understood” (Parnell, 2014: 74). Cities are where society come together. Southern cities have a small window in which policy innovation and the re-thinking of urban governance can be developed. Speaking of infrastructure specifically, Pieterse et al (2018) suggest that the infrastructure that is developed in African cities in the next 20 years will define the continents future for the next 100 years. The same applies to South African cities and South African development trajectories.

This raises important questions about the urgent need for new forms of urban governance and the processes needed to facilitate access to items of a public good. A key public good is food (May, 2017). Food, the food system and the food system outcomes, food and nutrition security are seen by most urban governance actors in South Africa as an unfunded mandate, something that will either be addressed by the market – the private sector – or another sphere of government, generally national government. Africa’s colonial and later post-independence governance structures and approaches have resulted in a similar perspective being evident in cities across the continent. However, given South Africa’s demographic profile, where over 65 per cent of its population live in areas classified as urban, the rural orientation of the food security agenda contradicts the goals and aspirations (and obligations) set out in the South African Bill of Rights in respect of the Right to Food. The “right to food” is recognised as a right within in the South African Constitution, binding all spheres of government to progressively realise the Right. This falls within Section 27 and 28 of the Bill of Rights which states that:

Section 27. (1) Everyone has the right to have access to:
(a)health care services, including reproductive health care;
(b)sufficient food and water; and
(c)social security, including, if they are unable to support themselves and their dependants, appropriate social assistance.
(2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.”

Section 28. (1) Every child has the right
(c) to basic nutrition, shelter, basic health care services and social services; ...

(RSA, 1996: 11)

Food touches almost every aspect of urban governance, policy and economy. “More than with any other of our biological needs, the choices we make around food affect the shape, style, pulse, smell, look, feel, health, economy, street life and infrastructure of the city” (Roberts, 2001: 4). Given its cross-cutting nature the traditional silos of local government mean that efforts to govern food through a ministry of food, or through a subunit within another department will not deliver of the integrated food system changes necessary to drive a truly urban food agenda. One of the few urban governance departments, or functions, that spans and intersects with all departments is planning. Planning is also by its very nature forward looking as opposed to being reactive. This means that planning is ideally suited to respond to the urban food system challenge in a strategic and long-term manner.

That food needs to be an essential consideration for planners was recently affirmed by the Food and Agricultural Organisation (FAO), a body that generally drives a rural-centric orientation of the food security discourse. The position argued that “with the majority of people already living in urban areas – not only in large metropolitan areas, but also in secondary cities and small towns – a greater focus on urban planning as a way of influencing food systems development will be critically important” (Stamoulis et al, 2018: v). This perspective confirms both the primacy of cities in the wider food system, but also the need for cities to pay far greater attention to food and the food system. Cities are also being seen as an essential point from which to challenge wider food system related issues and concerns.

To date, the varied responses to urban food concerns have resulted in different food system and urban food system governance related processes. As a concept and practice, urban food system governance encompasses multiple framings of both the urban food system and governance (Smit, 2016) One of the most prominent governance approaches connecting food system related challenges and cities is embedded in the New Urban Agenda (NUA) of Habitat III (UN-Habitat, 2017). The NUA is the internationally agreed urban development blueprint for the next 20 years, a strategic urban development master plan, ratified in Quito in 2017.

Within the NUA food is seen as part of the city in how it identifies access to safe, nutrition and affordable food as part of the basic physical and social infrastructure of the city along with the usual urban functions such as safe drinking water, waste disposal, housing (paragraph 34). This is one of the first times that such a perspective has been offered by a global governance institution.

However, the food system and urban food systems governance articulation within the NUA is largely framed in accordance with the City Region Food System (CRFS) discourse (Battersby and Watson, 2019b).

As a form of territorial planning – which emerged in the 1990s (Rondinelli, 1990) - CRFS thinking is subject to the same criticisms and shortfalls associated with territorial planning (Battersby and Watson, 2019b). Regrettably the regional framing accentuates a rural-centric framing, one that is embedded in dominant ways in the City Region Food System discourse (See Battersby and Watson, 2019b). Here the food vision is predominantly rural, and production oriented, but somehow connected to the city through a more regional approach to food and city governance.

These perspectives, despite their problematic framings, do serve to support greater attention to food at the urban scale. It is only through cities engaging in urban food issues that effective, and contextually relevant responses will emerge. These responses do however need to be strategic and cannot be consigned to projects that run for a budget cycle and then stop. Central to the application of a food governance approach needs to be a focus on the immediate needs of the urban area, not region first and urban second. Planning offers the essential entry point to engage the food system, from the city scale, and for effective planning and governance processes to emerge.

Nascent urban food governance actions sit within a growing set of urban food related research and positions. These perspectives are being rapidly mainstreamed. Some of the more prominent urban food perspectives include urban-rural linkages (Vorley and Lançon 2016), the City Region Food System (CRFS) (Blay-Palmer et al. 2018), the supermarketisation processes (Reardon et al. 2003), the nutrition transition and urbanisation's impact on this transition (Drewnowski and Popkin 1997; Popkin and Slining, 2013). A number of these debates drove the embedding of food within the New Urban Agenda (Battersby and Watson, 2019b).

However, this does not denote a universal urbanisation of the food question. The absence of urban food issues within the Sustainable Development Goals, across all goals, but specifically the urban goal (SDG 11) and the hunger goal (SDG 2) (Battersby, 2017) confirms this. In South Africa, planning is both implicated in the emergence of unsustainable and unhealthy urban food system patterns and there is a need for adequate and comprehensive responses. However, planning remains largely ignorant of its deep impacts on the food system (Battersby, 2017).

This paper draws on the work on a general transition to Urban Food Planning proposed by Rositsa Ilieva (Ilieva, 2016). While Ilieva's work references mostly Northern planning shifts, the conceptual framework used offers both a practical way of seeing the challenge, but in doing so, also informs the structure of this paper. Ilieva suggests that there are four essential practices evident in food system planning. These include conceptual practice, analytical practice, organisational practice and the design practice.

This is important for the reason that when used as an organising and urban governance tool, integrating food governance and planning can be seen as being disproportionately aligned to the design component of planning and other essential components are lost. Understanding the full extent of the urban food system challenge, assuming responsibility for these issues at the urban scale in the first place, and also carefully considering the organisational and governance considerations needed to support sustained and equitable food system change is key to the concept of Food Sensitive Design and Planning (FSPUD). These different practices are expanded on in Table 1 and represented as an integrated process in Figure 1.

Urban food system planning and design practices	Key practice related questions
Conceptual	Why should we care? - What is our obligation (eg: Right to Food)?
Analytical	What is the problem? - What is the specific urban problem?
Organisational	Who is in charge? Who has powers? How are powers assigned?
Design	How do we solve it?

Table 1: Urban Food Planning As A Field Of Conceptual, Analytical, Design, And Organizational Practices (Source: Adapted From Ilieva, 2016: 16)

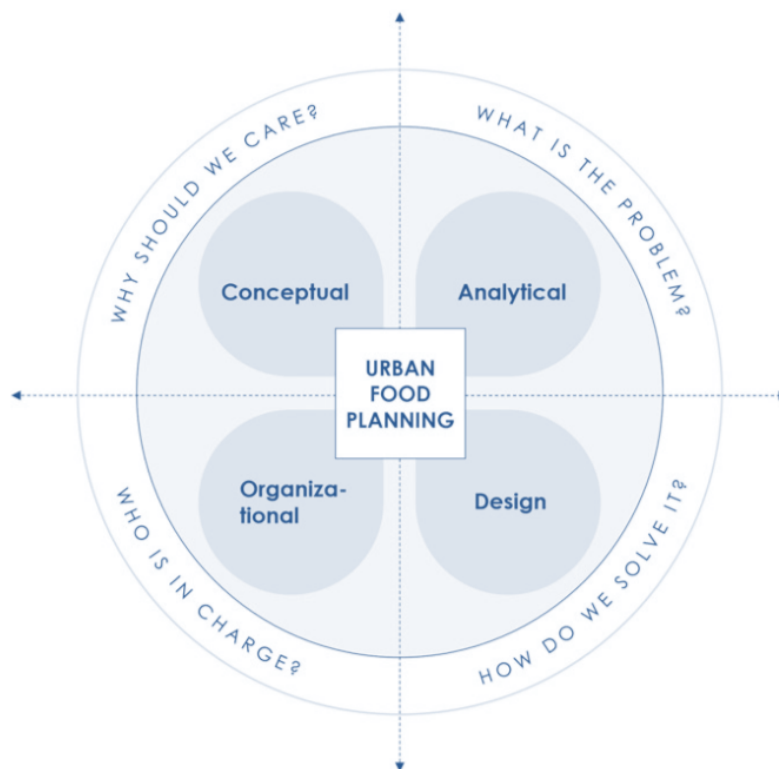


Figure 1: Urban food planning as a field of conceptual, analytical, design, and organizational practices (Source: Ilieva, 2016: 16)

After a brief contextual discussion, first setting out key urban food system considerations, and then a brief discussion on the governance architecture of the South African food system, the paper then provides an overview of the current state of knowledge on urban food systems and urban food insecurity. Given the South African focus of the paper, we then detail the state of food insecurity in South Africa, and briefly engage the understood governance mandates of different spheres of government. The paper then focuses on the origins of the concept of food sensitive design, its birthing out of the concept of water sensitive design, as well as engaging other concepts that link design and planning to food. Drawing on this background the paper then engages specific South African planning and governance initiatives that provide space for a more nuanced engagement in food security at the urban scale.

The paper then diverges slightly to consider food system functions at the household scale and the drivers of negative food system outcomes. This detour is important as it opens up space for a later discussion on the need for far more integrated approaches to food systems planning.

The section that follows draws on the introductory perspectives and critique of the current system and approaches to food security to discuss food systems planning approaches being adopted elsewhere. Here in-depth interview responses from case study cities, proactively engaging food system-related planning, are discussed. These cases intersect with the accounts of the South African challenge. These are then drawn on to present a number of possible strategies that could be applied in attempting to embed robust food system planning practices into the governance regimes in South African cities through the concept of Food Sensitive Planning and Urban Design.

CONCEPTUAL – WHY SHOULD WE CARE?

Setting the scene: The South African urban food system - a brief history

The urban food system is finally garnering greater attention, specifically in the context of the intersection between negative urban food system-related outcomes, such as food insecurity, hunger, escalations in non-communicable diseases and persistent wasting, and urban function and form (Battersby and Watson, 2019a). Despite the constitutional obligations placed on all of government, the current policy and governance landscape in South Africa does not explicitly see food as being an immediate responsibility of local government, arguing rather that this is an “unfunded” mandate. A similar view pervades most cities and regions. Despite this current absence in urban food considerations, cities and the food system have always been connected.

There is debate as to whether “modern” agriculture led to the development of cities or whether the desire to live in collective ways (early urban) led to the domestication of agriculture (see Pacione, 2009; Beall and Fox, 2009). However, while this debate may be productive from a historical perspective, in the context of a modern urban food system the reality is that this is a false debate. Whichever came first is less important than the overriding fact that it is the relationship between cities and food systems that has enabled some cities to grow and flourish, while others have not (Steel, 2008). Cities and the food system are connected.

Reviews of texts such as the “A Pattern Language” (Alexander, 1979) provide insight into these connections with early towns and cities serving as the marketplaces for produce arriving from the rural hinterland.¹ These relationships had a direct impact on how the city grew and the shape and form of these cities. Cities are however always growing, changing and evolving. No place is ever in stasis. Cities grow and adapt to a variety of forces that shift the relationships between function and form. Responses to the changing food system needs precipitate significant changes in urban function and perhaps even form.

The processes of globalisation have altered the relationship between cities and food. The relationship between cities and the state has also changed. These changes are an important area of focus in the urban governance discourse (Healey 2004; Macleod and Goodwin, 1999; Jessop, 1998; 2002). With this shift being described as a “move from the Fordist-oriented approaches of the 1960s to forms of aligning to a liberalised ideology of entrepreneurialism” (Harvey, 1989: 4). The governance shift from a system where the state was seen as the enabler of access to items considered to be of the public good, such as food (see May 2017), to one where the private sector serves this function, is a dominant trend evident in the urban food system across cities and contexts.

Increasingly private sector actors determine and construct the food systems of cities. The expansion of shopping malls in Cape Town is a prime example (Peyton et al, 2016; Battersby and Peyton, 2014). In the Cape Town case, when asked, city officials could not provide a listing of the location or type of supermarkets but rather only the planning applications received for shopping malls (See Battersby et al, 2014), demonstrating that despite a clear constitutional mandate to ensure the progressive realisation of the right to food, decisions about one of the dominant food access points to most Capetonians, about the distribution, ease of access, density of such outlets, all planning decisions, are in fact being made, not by the city, but by private sector developers and their retail partners.

¹ This quote is used with due appreciation of the critique of this text and the associated limitations (see: Dawes, and Ostwald 2017). It is used here for its historical reference and not as an endorsement of the positions argued in the text.

The process of urbanisation has also played an important role in the changing relationship between food and cities. In a time when the rural demographic environment dominated and most of society lived in, and many relied on, the rural environment for nutrition and livelihoods, or parts thereof, there were clear and understood links between food security and agriculture. As society has urbanised, policies and governance mandates have not kept up with these changing demographics.

South Africa is a particular case in point where the National Department of Agriculture, Rural Development and Land Reform (DALRRD) still retains the overall mandate for food security. Policy located within a department whose primary mandate is one of food production, results in a particular view of food security needs, but also a predominant perception of where the food insecure may reside, in this case, the rural areas of the country. See Drimie and Ruysenaar (2010) for a detailed critique of this positioning and governance process.

This perspective is further reinforced by how policies emanating from such a department are birthed. Here food security related processes are strategically organised to reinforce the rural mandate. The ways in which food systems data are assessed perpetuate a rural and production-oriented view of both the causes and drivers of food security that then cascade into governance-related actions (Drimie and Ruysenaar, 2010; Battersby, 2012). These processes reinforce a rural-centric view of both the location of the food insecurity challenge, as well as the resultant response strategies.

Rural food security remains a concern, one that requires attention and an effective policy response. However, the predominance of exclusively rural views of the food security challenge are inappropriate in a country that is over 65 per cent urbanised (UN-DESA, 2018). Two additional systemic processes require that governance actors directly challenge the espoused and dominant rural and production-oriented solutions to food insecurity.

Firstly, despite imaginations of rural production by smallholders and notions of empowerment through land reform (Van Schalkwyk, et al. 2012), the colonial and apartheid era processes of dispossession and the destruction of a black farmer class means that the urban food system has in fact dominated the South African food landscape since the early 1900s (See Wolpe, 1972; Bundy, 1972). This was further reinforced as part of an industrial strategy, designed to keep urban wages low, through a system that saw cheap staple foods being accessible in these urban areas (Wolpe, 1972). Secondly, South Africa was an early adopter of the supermarket revolution (Weatherspoon and Reardon, 2003; das Nair, 2018).

The resultant consolidation and downstream food system changes, across almost all value chains, was facilitated by the structural changes within the South African food system that stemmed from the combined industrial policy and later Apartheid state enabled (White) farmer support structures. These deliberate apartheid and colonial dispossession and spatial management processes enabled an accelerated industrial food system transition. Today, this means that the majority of South Africans (both urban and rural) are fed by large consolidated corporate entities (Greenberg, 2016). Ironically this process was accelerated following the transition to democracy through the liberalisation of the South African food system (Greenberg, 2017).

Central to this discussion is the notion that despite the private sector dominance of the current food system, this dominance has been enabled by a particular governance trajectory. This trajectory originated from a need for cheap labour, hence dispossession and associated laws and taxes to enable this (Bundy, 1972), but also a re-structuring of the agricultural economy to privilege one class of farmer (Wolpe, 1972). These foundations then oiled the transition to the liberalised South African food system of today (Greenberg, 2017). Ironically, it is argued that despite the deeply unequal and unjust ideologies informing governance processes, the governance approach of the South African food system of the early 1900s was in fact dominated by an urban orientation.

Examples of this remain present in today's cities, from municipal commonage areas, to fresh produce markets, to abattoirs, all planning interventions designed to serve a growing urban population. Importantly one of the key determinants of this process was to use the state supported structures, such as markets and abattoirs, to subsidise the price of food, whilst at the same time offering the farmer a reasonable price. This levelling has receded as the use and distribution of these state supported facilities has declined. A central reason for this levelling in food prices was to ensure that despite cheap labour, the urban populous, particularly the labour classes, remained passive, avoiding the possible implications associated with the idea that "a hungry man [and woman] is an angry man [and woman]"².

Other examples of how the food system remained predominantly urban can be seen in how remittances were channelled through trading stores, connecting rural families to more formal (and urban) food systems. Central to this was a measure of control imposed by the state where entry to markets, abattoirs, and the like were also controlled, often along racial lines. Controls were also instituted to prevent these state-controlled entities being circumvented through laws controlling sales and the introduction of product boards.

² Quote drawn from Bob Marley and The Wailers - Them Belly Full (But We Hungry), album *Natty Dread*. Online: <https://www.youtube.com/watch?v=no5YWKY6eOs>

In urban areas these controls were activated through bylaws restricting raw milk sales, informal food vending, slaughter, waste removal, etc. It is argued that these interventions constituted a form of centralised but also decentralised food system planning, focusing on the urban scale as the primary access point, depicting a historical appreciation for the need for urban food planning and governance, despite the prejudicial nature of these processes.

Given this history it seems somewhat strange that the current food security, and wider food system governance perspectives fixate on a rural orientation. This may be ideological but it is dangerous to ignore the fact that South Africa is predominantly urban, that poverty is increasingly urbanised, and that food security is as much of a challenge in cities as it is in rural areas.

From a food security measurement perspective, these facts are not unknown. In fact, the most recent detailed nationwide assessment of the state of food security, the South African National Health and Nutrition Examination Survey (SANHANES) found that

The largest percentage of participants who experienced hunger (food insecurity) was in urban informal (32.4%) and in rural formal (37.0%) localities. The highest prevalence of being at risk of hunger was in the urban informal (36.1%) and rural informal (32.8%) areas

(Shisana et al, 2013: 10)

A different approach to food security is required, one that engages in and responds to the everyday challenges of access to nutritious food encountered by many urban residents in South Africa (Crush and Frayne, 2010; PMBEJD, 2019). For many South Africans “historical injustices of people in South Africa remain geographically, socially and economically isolated from the conversation the country is having about healthy food options.” (Mbalati, 2019).³ These perspectives require further engagement in the state, location and nature of food security in South Africa.

Without understanding both where we are and how we got here, it is difficult to appreciate what is needed for change to take place. This problem statement will be engaged in greater detail as a specific area of discussion in this paper, but suffice to say, South Africa’s colonial, apartheid and transitional economic systems all require further analysis as these have a direct impact on the nature and form of the urban food system in South Africa.

³ See: <https://health-e.org.za/2019/05/20/food-justice-is-a-pipe-dream-without-tackling-industry/?fbclid=IwAR1fwvN76HLS7Wu1MQr1p3my39qN1WGrXHX1DULPksk00ZMytiEUQN2YCXs>

ORGANISATIONAL – WHO IS IN CHARGE?

Food security governance in South Africa

Rights to Food and Nutrition are enshrined within the South African Constitution in Section 27.1.b. The South African constitution obligates on all state entities to ensure the progressive realisation of the right to food (RSA, 1996). This obligation does not rest solely on national and provincial governments, it also applies to, and binds local government. This food security, and by extension food system, obligation is further reinforced by the food system related obligations placed on urban areas, or local government, through Schedules 4 and 5 of the same constitution (see de Visser, 2019; RSA, 1996).

Despite this, food security remains a so called “unfunded mandate” in the eyes of most local government actors (see Battersby et al, 2014). However, despite this, the South African National Development Plan (NDP) is the medium to long term blueprint setting out a broad range of targets and positions for South African development until 2030 (NDP, 2012). The NDP recognizes the difference between national and household food security, and calls for policy focus on both (NDP 2012, 230). The NDP is less clear on the rural and urban divide, however.

The disregard, or at worst, disavowing, of responsibility to engage urban food insecurity questions implies a governance position that either food insecurity is not an urban issue, or that a food security response is a rural responsibility, and so by implication, that more food needs to be produced, on the assumption that this will bring prices down for the poor. This view raises an important set of questions about the broader framing of food security and urban food insecurity in particular. Here the Food and Agriculture Organisation (FAO) definition of food security offers a useful counter.

The FAO defines food security as being a situation in which all people, at all times, have physical, *social and economic access* to sufficient, safe and nutritious food which *meets their dietary needs and food preferences for an active and healthy life* (FAO, 1996).

This definition suggests that food security involves the intersection of four food system dimensions; ensuring that sufficient food is produced (availability) – the production question, but also that the food produced can be consumed, bought or traded (access), that the food can be consumed in a manner that is socially appropriate and in a manner that enables optimal nutrition and health (utilisation) and that consumers are able to adequately plan and budget their food provisioning (stability) (See Haysom, 2015). Others have framed the dimensions differently, for example, Ingram et al (2011) see stability as being the stability of availability, access and utilisation over time.

This tension between long and short term stability was recently also engaged through the Food and Agricultural Organisation High Level Panel of Experts (FAO HLPE) who suggested an expansion of the food security to include Sustainability – accommodating questions of stability over a longer time frame, but also, and importantly for this discussion, the question of Agency as a further dimension of food security (HLPE, 2020). As argued recently, this is important because, “the inclusion of agency requires that food security be considered within a rights-based framework and interrogates issues of power and equity in food systems” (Moseley and Battersby, 2020: 450).

The current prevailing policy orientation towards food security, one in which food security policy is focussing primarily on rural areas, reflects deep ignorance of what food security entails. It assumes that food security is about production only, or at best assumes increased access with increased availability. While this production-dominated view may have been the norm in the post-second world war era (see Maxwell, 2002), since the late 1980s the perspective has been far more nuanced, thanks largely to perspectives and policy suggestions introduced by the likes of Sen (Sen, 1981) and de Waal (de Waal, 1989).

These views shifted the FAO position on food security in the 1990s, informed food security responses following the 2008 food crises (see IAASTD, 2008; Lang and Barling, 2012), and is informing current theorisation on urban food security in Southern cities (Battersby, 2011; Battersby 2013; Hunter-Adams et al, 2018; HLPE, 2020). South Africa experiences high levels of urban food insecurity. Recent data presented by DAFF (before the name change to DARDLR) show how food security in urban areas is in fact more extreme than in rural areas (Moeng, 2019).

Despite this, and the growth of South African urban areas (UN-DESA, 2018), with the associated migration of poverty to urban areas (Shifa and Liebbrandt, 2017), there is little or no policy engagement, across the spheres of government, to address the urban food security issue. Others have engaged in this policy (and political) oversight (see Battersby, 2018; May, 2017; Crush and Frayne, 2010; Battersby, 2011) in great detail and such a critique is beyond the scope of this paper. These critiques do however call for different approaches to the urban food security challenge in South Africa.

This working paper draws on emerging, but different, bodies of work that seek to (re)connect the urban food challenge to existing urban functions and governance and management processes. It specifically draws on emerging work around the concepts of Water Sensitive Design and Integrated Planning for Development to specifically engage questions of nascent urban food governance approaches discussed here under the broad rubric of Food Sensitive Planning and Urban Design (FSPUD).

The working paper however takes a broader view of who plans and designs the food system and specifically seeks to engage how urban residents navigate the current food system. The paper draws on a variety of literature sources, from different disciplines, to build an argument for a greater sensitivity to design (in a variety of forms) in responding to the urban food system challenges.

ANALYTICAL – WHAT IS THE PROBLEM?

The state of agriculture, food security, the food system and urbanisation in South Africa

In her seminal work, *Hungry City*, Carolyn Steel makes the point that “in order to understand cities properly, we need to look at them through food” (Steel, 2008: 10). However, while useful as a short sound bite that gains attention, this statement prompts further questions about the relationship between cities and their food systems. This quote is followed in the book by another statement, one that has equal relevance to this working paper, a position that forces us to ask questions about why the food system looks and behaves in a way that it does. “[We need to] use food to take a fresh look at how we build cities, feed them and dwell in them... in order to do that we need to understand how we got here in the first place ...” (Steel, 2008: 10).

Food insecurity has been described as an “invisible crisis” in that food insecurity of urban populations has remained a marginal concern at all levels of government, despite clear evidence of rapid urbanisation taking place in the South, and in South Africa (Crush and Frayne 2010). Earlier work on the subject of food security by Maxwell (1998: 155) suggested that “food security has become, it seems, a cornucopia of ideas” with different perspectives and approaches. Maxwell pays very little attention to importance of urban food security, but links his comments to questions of access (Maxwell, 1996).

Very little attention is paid to the urbanisation trajectory playing out in the global South or in Africa. The number of Africa’s urban dwellers is projected to increase from 471 million (40%) in 2015 to 1.3 billion in 2050 and Africa is projected to pass the 50 per cent urban tipping point around 2035. (United Nations, Department of Economic and Social Affairs (UN DESA), 2014, p. xxi).

This demographic reality, that an increasingly large proportion of the world’s urban population lives in Africa, is also driving a southern (re)thinking of cities that makes African urbanists more central to the collective act of urban theorizing than they may have been in the past (Pieterse et al, 2018). Food insecurity and specifically urban food insecurity has been absent from discussions on this African (and by extension, South African) urbanisation trajectory.

One reason for this is that at the global scale, programmatic responses to urbanisation and the urban challenge were largely defined by the “urban consensus” at the time, linked primarily to questions of slum eradication that was the consensus emerging from Habitat II in 1996 (Pieterse et al, 2018). This residual consequence of this perspective is clearly evident and serves as one of the fundamental tenets of South Africa’s urban policy. While service delivery remains a key challenge in urban areas in South Africa, the overriding politics remains a question of housing. While housing and urban shelter remain of critical importance and form part of the wider basket of socio-economic rights, this urban consensus arguably masks adequate focus on other, equally important, urban challenges.

Urban food security and food systems management remain one such issue, this despite the fact that the NUA does list food as basic physical and social infrastructure. Globally these rural-centred food security concerns and somewhat myopic urbanisation perspectives meant that questions of urban hunger and urban food insecurity were absent from the wider developmental remit that emerged in the Millennium Development Goals (MDGs). Effectively, as suggested by Fukuda-Parr and Orr (2014), reducing the concept of food security to the problem of rural hunger. As a result, the development challenges of urban poverty and food insecurity (even when considered as separate development concerns) were inadequately addressed by the MDGs (Battersby 2017).

This conceptual flaw meant that any consideration of the issues of food insecurity and urbanisation as interconnected was lost. The MDG processes resulted in a retreat in action relating to urban food security, despite the urban food security concerns that had emerged in the 1990s (Maxwell 1999, Ruel et al 1998, Smith 1998). The South African policy landscape also shifted as a result of the MDGs, albeit indirectly, and urban food security was also lost to the rural perspective, further empowering departments such as the then Department of Agriculture and its later incarnations of DAFF and DARDLR. While the wider development challenges and targets set out in the Millennium Development Goals (MDGs) clearly imagined cities of the South as sites of development need, an explicit urban framing was absent from the food component of the MDGs.

The introduction of the Sustainable Development Goals (SDGs) saw an explicit urban goal being included in the SDGs, SDG 11 (Sustainable cities and communities). However, while the explicit inclusion of cities in the wider SDG project is of significant importance, the operationalisation of this and how SDG 11 connects to other SDGs remains a work in progress. Linked directly to the focus of this report, namely food, the framing of the “hunger goal”, SDG 2 and operational actions, driven through its 2030 targets, raise critical concerns about how these different SDGs intersect with one another, how the targets of the different goals support one another and how these can be aligned.

SDG 2 is a particular case in point where the targets arguably re-enforce a rural and generally productionist view of the food systems challenge. A brief summary of the targets of SDG 2 assist in clarifying this point. These targets are: to end hunger and ensure food access by all people; end all forms of malnutrition; both particularly applicable to urban and rural populations, but then the targets shift to a desire to: double the agricultural productivity and incomes of small-scale food producers; ensure sustainable food production systems and implement resilient agricultural practices; maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals; increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services; technology development and plant and livestock gene banks; correct and prevent trade restrictions and distortions in world agricultural markets; and to adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

Clearly the transversal integration with the Urban Goal is not clear, arguably demonstrating a retreat from a broader conceptualisation of the food issues across scales and in contexts outside the traditional rural and generally production oriented view. This urban food policy and action retreat followed on from a trend following on from the poorly focused responses to the 2008 food crises (Lang and Barling, 2012) which saw a return to production dominated responses.

In the South African context, an earlier but similar suppression of integrated policy and programming responses emerged. In the democratic transition period of the early 1990s and the rush to formulate new policy responses to undo past spatial and racial injustices, policy responses from the state (and its emerging liberal economic position) and capital dominated how a wide collection of economic policies were conceptualised and framed. The restructuring of the agricultural sector was a key area of focus.

The relationship between the key policy actor, the Development Bank of Southern Africa (DBSA) and the Urban Foundation (UF)⁴, effectively meant that communities were excluded from the emergent policy responses (Swilling, 1990). More specifically the 1993 Urban Development Strategy (UDS) aligned more to the needs of capital and missed an opportunity to embed processes that dismantled the structural and spatial inequalities associated with South African cities and towns (Bond et al, 1996).

⁴ The depiction of the UF as a representative of late apartheid capital is drawn from comments by Bond (2000: 95-124) who argued "The agents most responsible for introducing the late-apartheid regime's neoliberal housing policy were a group of academics, advocates and deal-makers located within and around the Urban Foundation (UF), the privately-funded think-tank and housing developer set up by the Anglo American Corporation in the immediate wake of the 1976 Soweto riots." And Swilling (1993) who framed the UF directly as the voice of capital.

The end result was a perpetuation of the spatial legacy of apartheid, this despite the best intentions of the Reconstruction and Development Programme (RDP) (see also Bond et al, 1996). In South Africa, food security and food systems policy experienced similar processes.

South Africa's food security policy and approach was (and remains) directly linked to its agricultural policy environment. In 2009 Vink and van Rooyen (2009: 16) suggested that

Since 1994, the strategic direction of the agricultural sector has been shaped by three main policy documents: the White Paper on Agricultural Policy; the Agricultural Policy in South Africa discussion document; and the Strategic Plan for South African Agriculture. More recently [2004], the Accelerated and Shared Growth Initiative for South Africa (ASGISA)⁵ identified a critical role for the agricultural sector in stimulating employment and building the second economy.

As a result of these framings, South Africa's engagement in food security issues remained an agricultural one. Yet, as noted above, food security is not the outcome of agricultural policy alone. Addressing food insecurity requires an integrated approach between policies, However, the siloed structure of the South African policy system means that different policy champions, engage their own specific policy approaches from the somewhat self-centred perspective of their own departmental or ministerial mandates. Food security has remained directly aligned to the agricultural mandate.

The end result is that food security policy lacked both policy integration across different food related policy environments – so health and the rise in NCDs were a Health Department concern, school feeding programmes were the concern of the Department of Education (and later Basic Education), and trade policies as these pertained to food were the domain of the Department of Trade and Industry (DTI) and the (then) Department of Agriculture (DoA). All departments and ministries act independently of the Department of Agriculture's food security strategy.

While an attempt at integration was made in the Integrated Food Security Strategy of 2002 (IFSS), a disregard, or perhaps naivety, for how different departments, ministries and structures within the state (otherwise silos) functioned meant that integration did not take place (DoA, 2002). This meant that while on paper the IFSS policy appeared plausible, in practice this failed (see Drimie and Ruysenaar, 2010).

⁵ The central objective of ASGISA was to halve poverty between 2004 and 2014.

While the National Development Plan (NDP) espousing a South African vision for 2030, provides a more nuanced interpretation of the required food security approach (NDP, 2012), the reality is that it is the policy environment, one dominated by the Agricultural sector, that has effectively ‘hard wired’ a particular policy architecture in place. As a result, South African urban policy makers, have in the past, and continue, to pay very little attention to food security and food planning issues. This remains the case with the most recent national urban policy approach, the Integrated Urban Development Framework (IUDF) of 2016 in which food is framed solely in relation to it being a flow from rural to urban areas.

The IUDF frames local urban government’s food role as being one of protecting peri-urban agricultural land. It makes no mention at all of the urban food system of markets (formal and informal) wastes, health issues, food systems infrastructure, etc. (IUDF, 2016). Effectively the rural and production-oriented food security perspective dominates the IUDF. These limitations were compounded by a lack of appreciation for the urbanisation trajectory in South Africa.

The introductory claims that suggest that the South African food system is largely an urban system, demonstrate a dissonance between policy processes of the past, the current understanding of the food system, the actual nature of the South African food system and the food security policy environment. The assumption remains one that food security is a rural concern and one that requires addressing through increased production with a slight nuance, introduced in the IUDF and NDP, that of connecting larger towns and cities to rural areas.

The distinct rural bias in South Africa’s food security policy and governance perspectives remains deeply entrenched. The most recent national food security policy, the National Policy on Food and Nutrition Security (NPFNS) of 2014 sets out six critical considerations that the policy aimed to address (DAFF, 2014). Two of these considerations speak to earlier failed processes linked to early warning and systems, with a distinct food availability orientation, being that:

“There are inadequate safety nets and food emergency management systems to provide for all those who are unable to meet their immediate food needs or to mitigate the impact of natural and non-natural disasters on food security” ... and that “There is not adequate, timely and relevant information on food security”.

(NPFNS, 2014: 4)

Most alarming in the above is the inability to appreciate the systemic drivers of food insecurity in South Africa, and to programme responses to address these systemic challenges.

Next within the NPFNS are three of the considerations, all demonstrating a distinctly agricultural orientation within the policy where:

“In cases where productive land is available, it is not always optimally utilised for food production” ... that “climate change and altered patterns of land use pose a threat to domestic production” ... and that there is a structural challenge in that there is “limited access to processing facilities or markets for small-scale primary producers, including farmers, fishers and foresters”

(NPFNS, 2014: 4)

The final point implies an ignorance on the part of the South African food insecure consumer suggesting that:

citizens have inadequate access to knowledge and resources to make optimal choices for nutritious and safe diets

(NPFNS, 2014: 4)

Read collectively, and as the policy document that not only sets out how responses are planned by the state, it also links directly to how responses are resourced, this demonstrates a distinct absence for an appreciation of the actual demographic structure of the country, as well as an appreciation for the state of food insecurity in South Africa. The nature of food insecurity is changing. Food insecure households continue to be malnourished in terms of essential nutrients for health and development, but they are also now characterised by increasing obesity, diabetes and hypertension (Battersby et al, 2014).

Food insecurity is not just about sufficient availability of food, as the policy articulates, it is about the inter-relationship between all four dimensions of food security, enacted in a specific place. This rural and production-oriented policy perspective is similar to the earlier national Food Security policy, the Integrated Food Security Strategy (IFSS). Embedded within the IFSS was the statement that “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” (DoA, 2002, 28).

Despite demographic shifts since 2002, this view remains in the NPFNS which uses the language of the four dimensions of food security but then articulates the policy response to be a production and supply question suggesting that the key actions would be:

the utilisation of existing food supplies at a household level, with a view to addressing the short-term concerns of hunger and malnutrition, or increasing the overall supply of food through improved production, as well as various market interventions, with a view to ensuring a sufficient and sustainable supply of food for the country as a whole.

(NPFNS, 2014: 20)

These pronouncements need to be read in the context of the levels of food security. While different measures are used to define food security in South Africa, this working paper draws on two sources to highlight the state of food insecurity in South Africa. The first is the 2019 Statistics South Africa (StatsSA) report *Towards measuring food security in South Africa: An examination of hunger and food inadequacy* which, informed by the regular General Household Survey (GHS), and despite contradictory conclusions, offers a sense of household hunger.

The second report, from 2013, is the South African National Health and Nutrition Examination Survey (SANHANES-1) which offers a far more in-depth analysis of the state of both food insecurity and nutritional outcomes of South Africa. At this time (2020) there is no other comparable national survey offering insights into food insecurity, stunting, wasting, obesity and other related non communicable disease outcomes. There is, however, clearly a very serious challenge, one made abundantly clear during the COVID-19 pandemic (Battersby, 2020)

The Statistics South Africa (StatsSA) report recognises South Africa's urbanisation profile, arguing that "urbanization is also another force that places more demand on food. ... Two thirds of the South African population reside in urban areas" (StatsSA, 2019: 21).

But rather than considering the issues relating to food access and the links between infrastructure, spatial inequality and informality (issues associated with urbanisation with associated data within the GHS), the primary reason provided for the increased food security challenge in urban areas, is argued that "as people urbanise fewer are directly involved in agricultural production" (StatsSA, 2019: 21). The Statistics South Africa report uses poverty as a direct proxy for food insecurity, using the Food Poverty Line (FPL) as a measure of poverty.

The FPL is suggested, in the definition provided in the Statistics South Africa report, to refer to the amount of money that an individual will need to afford the minimum required daily energy intake. This is also commonly referred to as the "extreme" poverty line (StatsSA, 2019). The Statistics South Africa 2019 food security report uses the 2015 FPL of ZAR 441,00 in its calculations reporting that more than a quarter (25,2%) of the population was living below a food poverty line (StatsSA, 2019).

However, other organisations use more current measures to determine possible food security challenges. For example, the Pietermaritzburg Economic Justice and Dignity (PMBEJD) organisation's Household Affordability Index uses the 2018 figure of ZAR 547,00 (PMBEJD, 2019: 1).⁶ Many factors beyond those of just income poverty, contribute to food insecurity and impact food access. When considering food alone, the cost of a "basic nutrition food basket" for a family of four is calculated to cost significantly higher than the food poverty line would indicate, at an estimated ZAR 2 326,21 per month (PMBEJD, 2019: 1) and even if the Food poverty line was multiplied by four.

When associated household costs are considered, including transport to and from work, insurances, school fees, related services costs (flat rate for water), hygiene products, etc. the required household income for a family of four who could afford a basic nutritionally adequate diet is R7 624,13 (PMBEJD, 2019: 11). Clearly poverty as a proxy for food security offers some insight into the possible instances of food insecurity. To fully understand food security, a far more encompassing approach is required, one that is also correlated to place – where food insecurity and the subsequent multi-dimensional drivers of food insecurity are experienced.

The limited "poverty equals possible food insecurity" lens has far more problematic implications as the poverty focus obscures any realistic consideration of the wider systemic factors that impact food security. Over and above the limitations associated with using poverty as a means to measure food insecurity, self-reporting on "food security" presents further limitations. The Statistics South Africa report on food security makes the statement that there was "a decline in the proportion of households' experiencing hunger between 2002 and 2017" (StatsSA, 2019: 22) and that "in 2002 there were 13,5 million South Africans who experienced hunger and this number dropped to 6,8 million in 2017. Households that experienced hunger also decreased from 2,7 million to 1,7 million households [of the 16,2 million households in South Africa] within the same period" (StatsSA, 2019: 8). Out of the 16,2 million households in South Africa, 1,7 million households were vulnerable to hunger in 2017 and that constituted 10,5 per cent of all South African households (StatsSA, 2019: 18).

There are only two questions in the GHS that relate to hunger and inform these statistics. These self-reported hunger figures are however different to the actual food security status. Statistics South Africa uses an abridged version of the Household Food Insecurity Access Scale (HFIAS), a scale that normally asks nine questions about food security and each of these questions has three components (so a score of 27 would mean extreme food insecurity).

⁶ The 2019 Food Poverty Line is R561 (using April 2019 prices) per person per month, from R547 in the 2018 year. That is about R18.70 a day.

Statistics South Africa uses four questions, each supported by a secondary question that asks about the occurrence of an issue “more than five times in the past 30 days”.⁷ According to Statistics South Africa, 12,7 million (78,7%) households reported that they have adequate access to food, about 2,5 million (15,8%) reported that their food access is inadequate and almost 0,9 million (5,5 %) of households described their food access as severely inadequate (StatsSA, 2019: 14).

These figures indicate that slightly over 21 per cent of South Africa’s 16,2 million households experience food insecurity. This figure needs to be read in context. This is an average figure for the whole of South Africa. It is also significantly lower than city specific food insecurity reporting in poor areas identified in the African Food Security Urban Network (AFSUN) in 2008 (Frayne et al, 2009; Battersby, 2011; Rudolf et al, 2012) but also significantly lower than more recent (2013) city scale food security surveys (see Crush et al, 2018).

These discrepancies raise important questions about measurement and the locations in which food insecurity is most pronounced. When considering hunger (and not food security), Statistics South Africa reported that “in terms of type of settlement, in 2017 two thirds (63,4%) of households that reported experiencing hunger were located in the urban areas” (StatsSA, 2019: 19) and that of this grouping, “those who were living in informal dwellings had the highest proportion (17,3%) of those who reported the experience of hunger in their households” (StatsSA, 2019: 21). The report continued pointing out that while “Gauteng is one of the richest provinces in South Africa, but it had the largest percentage (25,2%) of households that experienced hunger” (StatsSA, 2019; 24). The fact that Gauteng is one of the most urbanised of the provinces reinforces the need to consider questions about the actual, but also changing nature, of food insecurity (and hunger) in South Africa, in very different ways, specifically the urbanisation of hunger and food insecurity.

The South African National Health and Nutrition Examination Survey (SANHANES) paints a picture that aligns more to the AFSUN data than the Statistics South Africa figures. The SANHANES report found that only 46 per cent of the country’s population were deemed food secure. Another 28 per cent were at risk of hunger while 26 per cent experienced hunger and were food insecure (Shisana et al., 2013). Some researchers have raised questions about the SANHANES findings but these have been in the form of comments rather than detailed alternative suggestions.⁸

⁷ These four questions were: 1) Did your household run out of money to buy food during the past 12 months? 2) Did you cut the size of meals during the past 12 months because there was not enough food in the house? 3) Did you skip any meals during the past 12 months because there was not enough food in the house? 4) Did you eat a smaller variety of foods during the past 12 months than you would have liked to, ...?

⁸ This critique emerged during a discussion on the Right to Food hosted by the Legal Resources Centre in Johannesburg 25 and 26 March 2019.

Any dispute is effectively a moot point in reality. In most instances the disagreements seem to stem from sampling strategies and measurement tools used. It is argued here that these challenges can always be made (See Haysom and Tawodzera, 2018) as there is significant disagreement over the most appropriate measurement tools to assess and understand food insecurity, particularly urban food security.

The fact remains that there is a large group of the population that experience food insecurity and the question is how to respond appropriately to this food insecurity. A second and as important focus of enquiry needs to be a definitive understanding of where that food insecurity is experienced and to understand the associated food insecurity drivers. Food insecurity in South Africa is experienced in both the rural and the urban areas. The SANHANES data contest the rural food insecure perspective that dominates policy. “The largest percentage of participants who experienced hunger (food insecurity) were in urban informal (32.4%) and in rural formal (37.0%) localities. The highest prevalence of being at risk of hunger was in the urban informal (36.1%) areas” (Shisana et al., 2013: 10). The residents of these areas are mainly of low economic status who are largely unemployed, or if not, earn low incomes and struggle to provide the basic necessities.

Food insecurity is not simply vulnerability to hunger, but also consumption of nutritionally deficient diets. The SANHANES Survey indicated that about 27 per cent of boys and 26 per cent of girls from zero to three years of age are chronically malnourished (Shisana et al. 2013). And while malnutrition persists, overweight, obesity and diet-related non-communicable diseases, such as diabetes, are on the increase. According to the SANHANES and other national studies, over 50 per cent of women and 30 per cent of men are overweight or obese (Puoane et al. 2005; Shisana et al. 2013).

Anaemia is a public health problem of moderate significance among adult women in South Africa at 22 per cent, and iron deficiency anaemia among women of reproductive age at 9.7 per cent (Shisana et al. 2013). Vitamin A deficiency among this group (13.3 per cent) is also a moderate public health problem.

Combined, these food insecurity outcomes present a significant public health challenge, one that requires a targeted programmatic response. Retreating to past policy and ideological positions will not address these issues, issues that are escalating, particularly in poor urban communities, but not exclusively so. Table 2 presents the urban demographic growth since 1950 (earliest UNDESA reported figure) but reflects the net numbers, aligned to what this figure represented as a percentage of the total South African population.

Importantly even as far back as the 1950s South Africa had a sizable urban population in proportional terms. This urban profile is particularly important as it reinforces the notion that South Africa has a large urban population and one that despite apartheid legislation, and the non-urban status ascribed to many non-white South Africans, retains a distinctly urban typology. Given the non-urban status of many non-white South African's it can also be assumed that the stated figures may in fact underrepresent the actual urban figures.

South Africa's Urban Population		
Year	Population	Percentage
1950	5 755 262	42,2
1960	8 138 204	46,6
1970	10 919 359	47,8
1980	14 411 610	48,4
1990	19 545 369	52,0
2000	26 015 136	56,9
2010	32 094 811	62,2
2015	35 844 349	64,8

Table 2: South African Urban Demographic Profile (Source: UNDESA, 2018)

Table 3 presents the current demographic breakdown, in net numbers, highlighting the difference between urban and rural populations, as per UNDESA (2018).

Country	Urban	Rural	Total	Percentage Urban
South Africa	38 087 000	19 312 000	57 398 000	66,4%

Table 3: South African Demographic Breakdown (Source: UNDESA, 2018)

Table 4 provides information on the urban populations per province in South Africa. These figures are of importance given that many food insecurity figures are presented as percentages of a particular province. For example, a Statistics South Africa report from 2013 reported the absolute number of individuals experiencing food access problems in the Western Cape (842 814), which was higher than Mpumalanga (802 834) or the Northern Cape (284 333) (Statistics South Africa, 2013, 42). However, when used in policy documents, such as the NPSNS, these net figures are not stated but the proportions were provided, giving the impression that the need was greater in the Northern Cape (24,5%) versus only 14 per cent in the Western Cape (using 2013 figures). The focus on proportions and not actual numbers further reinforces a rural imagination of the site of the food security challenge.

The case of the Western Cape is used as an example here specifically because the province's official level of urbanisation was estimated to be 70 per cent in 2016 (Van Zyl, 2017) with some estimates placing this closer to 80 per cent.

	Population estimate	% of total population
Eastern Cape	6 712 276	11,4
Free State	2 887 465	4,9
Gauteng	15 176 116	25,8
KwaZulu-Natal	11 289 086	19,2
Limpopo	5 982 584	10,2
Mpumalanga	4 592 187	7,8
Northern Cape	1 263 875	2,2
North West	4 027 160	6,9
Western Cape	6 844 272	11,6
Total	58 775 022	100

Table 4: Mid-Year Population Estimates By Province, 2019 (Source: Statistics South Africa, 2019)

When considering South Africa’s demographic profile, it is also important to consider where population growth is taking place. Populist politics (from all political parties) often focuses on migrants moving from one province to another. Often missed in the populist rhetoric of inter-provincial migration is the scale of endogenous growth within cities (See Turok, 2012). It is not just the key South African cities that are growing.

Table 5 provides insight into the distribution of the population across different typologies of cities and rural formations. This is important because it offers insight into the importance of the so-called secondary cities, a fact raised by Borraine et al, as far back as 2006. Evident in Table 5 is the scale of increase in urban residents between 2011 and 2016 (10,4%) which is far greater than the increase in rural residents (0,9%). Whether this is driven by rural-urban migration or endogenous growth is irrelevant.

Urban areas are expanding and dominate the South African demographic profile. The legacies of policy documents such as the New Growth Path (EDD, 2010) with its distinct rural bias remain embedded in policy structures and systems, so much so that the National Policy for Food and Nutrition Security (NPFNS) authors argued during the consultation phase before the adoption of the policy that the policies main purpose was one of rural development:

“Yes, intention to reverse migration – people are moving to the city looking for a livelihood ... and this creates the challenge – if you could fix the rural community then people will leave the cities and return to the rural areas”

(Ndimande, S. at Food Security round table, 11 Sept 2015)

	Gauteng metros	Coastal metros	Secondary cities	Commercial farming	Mostly former Bantustan
2001	7 790 054	6 986 652	6 959 327	8 729 250	14 303 404
2011	10 535 183	8 332 283	8 961 386	9 601 388	14 340 321
2016	11 626 385	8 781 707	10 321 573	9 727 756	14 437 645
2011 – 16 movement	+1 091 202	+449 424	+1 360 187	+126 368	+97 324

Table 5: Spatial distribution of population of years by spatial typology (Source: Abrahams et al, 2018)

The pre-2010 agricultural policies were followed by the National Development Plan (NDP, 2012) which reinforced an agricultural orientation to food security seeing this as important to enable integrated and inclusive rural economies, sustainable agricultural growth of smallholder farmers and as something important to harnessing the potential of the demographic dividend. However, the NDP does engage food security in greater depth stressing engaging issues of utilisation and food access and points out that “malnutrition is the direct outcome of food insecurity.

In South Africa, many infants and one in five young children experience stunted growth” (NDP, 2012: 230). The NDP goes further also, pointing out that food security is principally about food access and not availability. This perspective appears to indicate a reorientation in food policy and food security approaches to a more nuanced view of food security. However, this potential is later undermined by the return to the rural orientation where it is stated that in order to address food access (as opposed to availability) “food insecurity at household and individual level in *rural areas* is best addressed by job creation and agricultural productivity (NDP, 2012: 230 - emphasis added).

This rural orientation to the food security challenge was then further reinforced in later documents and policies, specifically the National Policy on Food and Nutrition Security (NPFNS, 2014) despite numerous articles detailing significant food system related challenges in urban areas (Frayne et al, 2009; Battersby, 2011; Temple and Steyn, 2011; Myers et al, 2017; Kroll et al, 2019). And as Crush and Riley (2017: 1) argue

Although researchers have begun to press for the urban to be included in the food security agenda, and food to be included in the urban agenda, there has been limited policy uptake to date at the international level and very little at the municipal level.

The rural bias in food security policy, planning and programming, and the apparent reluctance from policy makers to actively engage in the urban food system challenge raises questions about how and where food and urban governance intersect?

What are the drivers that could enable greater urban food system attention? Given the urban demographic profile in South Africa, and the reluctance from National government to engage this issue, how can local government respond to the urban food security crises faced in South African cities? What are the levers that would enable legitimate and meaningful action on the part of local government? The next section considers the urban food challenge in the city, not from an ideological perspective, nor from a policy making perspective, but asks more direct questions about the intersection between food and the city.

DESIGN – HOW DO WE SOLVE IT?

Connecting cities and their food systems

More than with any other of our biological needs, the choices we make about food affect the shape, style, pulse, smell, look, feel, health, economy, street life and infrastructure of our city ... One way or another, these choices account for about 20% of all retail sales, 20% of all service jobs, 10% of industrial jobs, 20% of all car trips, 20% of chronic diseases, 25% of fossil fuel energy and air pollution, 40% of all garbage, 80% of sewage ... the list goes on. Given the overarching importance of food in urban life, planners need to put food closer to the top of their planning menu.

(Roberts 2001: 7)

The above quote by Wayne Roberts, while speaking of a Canadian city, offers an insight into the intersection between food and cities. Both are intrinsically connected. It is worth restating the earlier point made by Steel, that historically, cities were shaped by food access considerations (Steel, 2008). The South African policy landscape offers city managers, politicians and bureaucrats opportunities to engage urban food questions far more deliberately than they do at present. As de Visser (2019: 25) suggests:

the Constitution allocates many functions to local government that offer points of leverage for municipalities to make meaningful contributions to the realisation of the right of access to food.

Central to de Visser's argument is the role of planning in creating an environment in which local government can enact proactive food system related responses pointing out that:

'Municipal planning' is one of the most critical local government powers. It is the power of municipalities to plan and manage the use of land, which is commonly referred to as 'town planning'.

(de Visser, 2019: 14)

de Visser goes further to articulate specific jurisprudence that provides weight to this argument, drawn specifically on the multi-dimensional nature of food security and citing other legal judgements, specifically those relating to judgements made in the context of the realisation of specific entitlements enshrined within the South African Bill of Rights. This perspective raises two questions, the first is perhaps answered in the preceding text, but a critical question is why have South African local governments not been more proactive in their engagement with the issues of food and nutrition security? While the rural bias has been detailed at length, the points made by de Visser are important because local government has in the past challenged the role played by National, and even Provincial, government in encroaching on the right to govern at the local scale.

The fact that this has not been contested in respect of food and food system governance is driven by a number of factors, factors that include a view that food is not an urban governance mandate⁹, that food and nutrition mandates fall to national and provincial departments (NPFNS, 2014), the current structuring of departments, and the associated fiscal allocations¹⁰, capacity and skills issues at local government, a general discourse, informed by earlier mentioned reporting factors, that the greatest proportion of food insecure are in rural areas (StatsSA, 2019), and ideological and political view of food security issues and drivers (Drimie and Ruysenaar, 2010; Drimie et al, 2020), roles played by external development agencies such as the FAO which re-enforce a particular position on food security¹¹, and measurement approaches, as discussed, that do not necessarily provide the requisite data, a point confirmed in the recent rapid fall into hunger as a result of COVID-19 (Battersby, 2020).

Central to these challenges remain the siloed operating structures of all spheres of government, particularly local government. These siloed structures are in fact further reinforced by the food system related obligations set out in Schedules 4b and 5b of the Constitution. This fragmented governance arrangement has resulted in small piecemeal engagement in food system issues where different departments follow their own mandates and political objectives and, in the process, the interconnections, or the multi-dimensionality of the food system challenge is fragmented, often resulting in structures and approaches that contradict one another.

⁹ This point was clearly re-enforced by Mayor Patricia de Lille in 2014, who in a meeting on wider urban food system questions in Cape Town, expressly stated that food was not an urban mandate.

¹⁰ See: <https://www.bizcommunity.com/Article/196/358/206626.html#more>

¹¹ In a SAVAC meeting chaired by the Food Security directorate of the DARDLR (then still DAFF) in 2018 where the South African reporting on the SDGs was being planned, the regional FAO lobbied, and gained agreement, for the unification of measurement across certain southern African countries, proposing a rural and production focus in the approach to measurement and reporting on the SDGs, this despite the Nutrition directorate of the NDoH asking for a more encompassing approach.

Evidence of this is seen in Cape Town where spatial planning and business support departments approve the development of shopping malls but seldom engage departments who are responsible for managing the informal retail environments. These informal vendor opportunities are often destroyed as a result of these development plans (Battersby, 2019).

Similarly, the absence of integration between taxi services (overseen by Spatial Planning and the then Transit Oriented Development Department or TOD) and informal trader environments (Urban Management) is a further example (Park-Ross, 2017). Additionally, the Environmental Health department is responsible for the issuing of certificates of acceptability for food producing enterprises, and the inspections thereof, but has no information of what is being produced, where this food is sold or the impact of these diverse and plentiful food businesses on the wider city food system.

Facilities such as the Cape Town Fresh Produce Market, a key food system asset in Cape Town, originally the responsibility of local government, as is the case in all most other South African cities, is now managed by Property Services who oversee their lease agreement, again making no connection to the wider urban food system understanding. These departments are all complying with their Schedule 4 and 5 obligations, but such a bureaucratic approach to these obligations means that opportunities for systemic food system engagement, development and strategic management are missed.

Drawing on de Visser's (2019) argument, this paper argues that the key tool that city holds is through its planning regulations, specifically given that this is a direct local government competence, but also given the integrated vision of the current planning processes. Linking planning and urban food system governance is, however, not new. Planning focused academics have been considering for some time the intersection between food, the urban food system and planning - specifically the role that planners play (or don't) in the urban food system (see Pothukuchi and Kaufman, 1999; Morgan and Sonnino, 2010; Morgan, 2013; MacRae and Donahue, 2013).

Planning plays a far greater role than may be assumed in the functions of an urban food system. The absence of effective food system planning is not benign, as Pothukuchi (2000) argued, "inaction in the food planning environment does not have neutral consequences, but often generates negative outcomes". More recently, the intersections between urban planning and urban food systems has borne out in other ways, applying a broader approach to urban planning. A particular emerging trend is that of place-based governance, often extra-governmental.

Through this focus on place planning forms a key area of action. In a review of 176 such place-based governance initiatives in the United States, Haysom (2015) found that planning was one of the key tools applied at the local scale. While this draws on the US response to wider urban food system challenges where the societal concerns rested predominantly on questions of greening and sustainability, local food security, food access and health and nutrition questions at the local scale do also dominate.

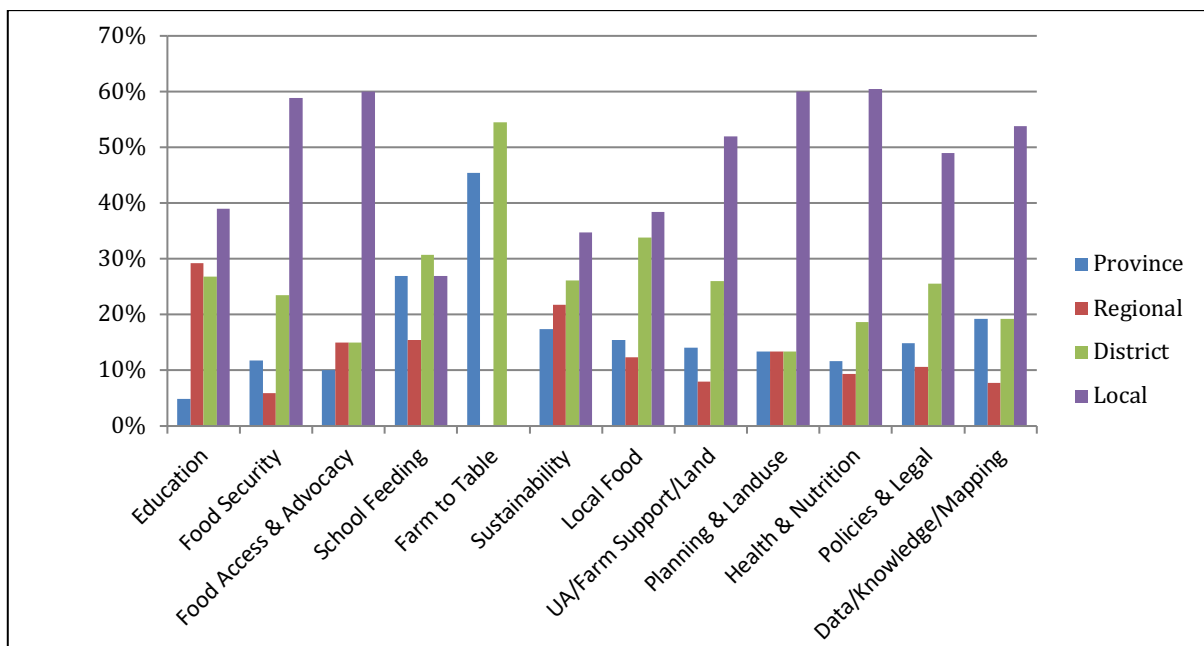


Figure 2: Place Based Food Systems Governance Initiatives As Of 2013 – Community Food Security Coalition (CFSC) (N=176) (Source: Haysom, 2015)

The challenge with the US example presented above (Figure 2) is that despite offering insight as to how local scale actors are responding to converging food system issues the context in which these organisations are created and operate reflect very different governance formations to those found in most South African cities. An area where these local food system engagements emerged, and the resultant programmatic responses to these issues within the city, has been through the notion of urban food system governance. Urban Food System Governance (UFSG), as a concept, encompasses multiple framings of both the food system and governance (Smit, 2016).

Very different forms of urban food systems governance exist. Urban food system governance entails proactive steps taken to drive a particular outcome from the urban food system. Such actions may include the deliberate embargoes or rules applied to certain types of food system actors, like fast food outlets. Others UFSG actions may seek to legalise or legitimise actions such as urban agriculture. In others, the UFSG aim has been to reclaim the local food system, to stimulate alternative local food markets.

These activities generally represent civic led processes where local citizen actors enact some form of governance, either in partnership with the state, or at times separate to the state, to achieve a certain local food system outcome. There are multiple other examples and categorisations of urban governance approaches (see Andrée et al. 2019) including urban food policy programmes (Hatfield, 2012), urban food strategies (Moragues et al, 2013), food policy entrepreneurship (MacRae and Donahue, 2013), and food policy councils (Harper et al, 2009). All encompass a diversity of foci, governance and actors, but all engaged in the question of local food system governance. Central to these aspects is a level of agency enabled at the local scale.

The governance typology or approach applied in most urban food system governance structures is broadly described as a *pluralistic* governance typology (Koc and Bas, 2012). While the weighting between total state control and complete civil society control may shift (see MacRae and Donahue, 2013), the primary governance approach of pluralistic urban food governance structures is to engage across both the state and non-state spectrum (Harper et al, 2009). This pluralistic, state/society governance model has served these nascent urban food governance structures well. It has enabled engagement with the private sector, brought food system and other governance actors together, brought different skills together, and enabled new ways of acting in a governance and policy space. These structures and processes create space of innovative planning interventions and approaches.

Speaking specifically of planning, Morgan makes the broad statement that “the planning community is now beginning to play an important role in trying to fashion a new and more sustainable food system, one that is better aligned with societal goals of public health, ecological integrity and social justice” (Morgan, 2013: 1). While this operational shift in the processes and actions of planners is laudable, the sentiment expressed holds a distinctly Northern orientation. It is argued here that for cities in the South, and particularly in South Africa, urban planners, both private sector actors and government officials, are obsessed with rigid Northern-derived planning approaches that imagine the cities in which their plans will operate to be located in contexts far beyond the reality of the day to day hustle of the African and South African city (see Watson, 2014).

Conventional urban planning approaches are being challenged with some planners actively considering the intersection between food and urban planning (Pothukuchi and Kaufman, 1999; Pothukuchi, 2000; Sonnino, 2009; Morgan, 2009; Morgan and Sonnino, 2010). These approaches include approaches such as food sensitive planning (see Donovan et al, 2011) and work referred to as Food Sensitive Planning and Urban Design (FSPUD).

Not only is the design of the current South African food system driving food insecurity, the obsession with outdated (and often colonial informed) planning rules and ordinances, and the enforcement thereof, often turn many urban citizens, those trying to eke out a living in the absence of formal employment, into criminals, through the enactment of laws and by-laws that criminalised activities. This is particularly the case with informal traders, but spans the entire food system. The obsession with the “formal” generally means that the “informal” becomes illegal. Roy’s articulation of this tension encapsulates this effectively:

The planning and legal apparatus of the state has the power to determine when to enact the suspension of legality, to determine what is informal and what is not, and to determine which forms of informality will thrive and which will disappear. State power is reproduced through the capacity to construct and reconstruct categories of legitimacy and illegitimacy.... To deal with informality therefore partly means confronting how the apparatus of planning produces the unplanned and unplannable.

(Roy, 2005: 155 – 156)

It is the planning system that creates such binaries, not deviant, criminal elements seeking to avoid legislation, taxes and compliance. How planners move beyond the obsession with a euro-centric type city, to embrace the complexities of the South African city, but at the same time, proactively seek out ways to use the planning tools at their disposal to enable positive urban and social development outcomes is at the heart of the concept of food sensitive planning and urban design. In general, the governance of urban food systems in African [and South African] cities still happens in an uncoordinated and unintegrated way, and urban planning is often used as a tool for clamping down on informality rather than promoting livelihoods and food security (Smit, 2019: 100). Discussions on citizen led governance interventions in the urban food system to enact some sort of food system change offer insights into the possibilities that exist in urban food system transformation. Finding spaces where civic actions connect with possible transitions in the understanding of the roles of planners also offers possibility.

However, it is worth returning to the earlier discussion on the state of food insecurity in South Africa and the high levels of hunger faced by many South Africans. Given these high levels of food insecurity, would Southern urbanites not see utility in these sorts of governance arrangements? These are not present and appear to not offer the utility that they represent to those advocating for such in the Global North. One explanation could be that food poverty (hunger and food insecurity) has been part of urban life for so long in South Africa, part of the structural dismantling of production and society described by Wolpe (1972) earlier, that hunger has in fact been normalised (see also Duminy, 2019 for an examination of similar colonial processes in eastern Africa).

This normalisation of hunger has resulted in the absence of any forms of civic agency to respond to and address food system inadequacies. Food poverty is also low on the agenda of many of the poor who are engaged in struggle of the everyday, making highly strategic decisions that impact the work/life/wellness/satiation/networked/cultural nexus in which poverty is located. Given the normalisation of food poverty and the absence of agency, coupled with the limited nationally assigned political weight to poor neighbourhoods in urban areas, compounded by resource constraints, food system governance responses birthed in some form of local agency are not going to materialise.

Expecting citizens to come together around urban food issues with a commensurate response from the state, will not take place. However, more recently, the COVID-19 crisis has created new dialogic spaces and connections (the EDP Food Forum is one example of this), but how sustainable these activities are remains unknown. Following the 2008 food crisis, systems and structures put in place at the time lost momentum, or funding stopped once the political moment of the crisis dissipated.¹² Instead, urban governance activities need to be viewed as something that connects to wider urban development challenges.

Food system change in South African cities is about something very different to what Northern pluralistic governance structures espouse. In the South African context infrastructure deficits and factors external to the food system provide insight into the challenges faced by urban residents in their attempts to access affordable, safe and nutritious food. One area where strategic urban scale developmental responses are perhaps possible is through urban planning. In South Africa, as de Visser has argued (2019), a key to this is an interpretation of planning, and town planning in particular, with the Spatial Planning and Land Use Management Act (SPLUMA)¹³ being a key resource to urban managers.

There is a clear intersection between food access and urban planning. Understanding the urban food system in greater detail enables insights into wider urban system functions and processes. Ignoring these systems has severe consequences. The high levels of measured food insecurity in many South African cities (Frayne et al 2010; Crush et al, 2018) is a direct result of this governance omission – the unintended, but negative, outcome of a disconnect between planning and food system functioning.

¹² This was evident in the context of food where the DBSA convened a food security working group, of which the authors were a part, that initiated a number of processes. Some, like the Southern African FoodLab continue, but others, such as the convening work of the DBSA ended.

¹³ Act 16 of 2013 (SPLUMA).

The links between food system functioning, something that is largely seen as a market responsibility in Southern cities, and planning, a city or state led function, are seldom considered. Many decisions are being made about planning where food system outcomes are not considered, but these have significant implications for the urban food system. When planning and the food system are considered as combined different views of food emerge.

The Right to Food is enshrined in the South African Constitution argued (de Visser, 2019), food is also a public good (See May, 2017). Such a description invokes notions of a duty of care and state centred obligations that require action from state actors, coupled with processes within policy and governance that enable the fulfilment of this public good. The right to food places an obligation on the state and society to enable the progressive realisation of the right to food. Conceptually linking food systems and urban planning appear plausible.

However, engagement with city officials often remind one that despite plausibility, it is only evidence that offers a measure of defence that then legitimates a policy response. Is there evidence to support the claim that there is a connection between current urban food system failures, specifically aspects, such as the increase in food insecurity or NCDs, and urban planning? One way to understand these intersections is to consider the case of infrastructure provision.

A Hungry Cities Partnership household survey conducted in Cape Town, across income categories, in 2013, included a multi-dimensional poverty component. The reason for this was twofold: First was to test the extent of income poverty and its role in food insecurity, and the second, was to try to understand the household needs within the context of the wider urban system.

Figure 3 presents the results drawn from the multi-dimensional tool used, the Lived Poverty Index (LPI), and includes all income categories. The LPI highlights the fact that access to income is a challenge. This is however not the only limitation faced by these households. Over and above income poverty, the LPI provides insights into other drivers of poverty, drivers that have a direct impact on food security.

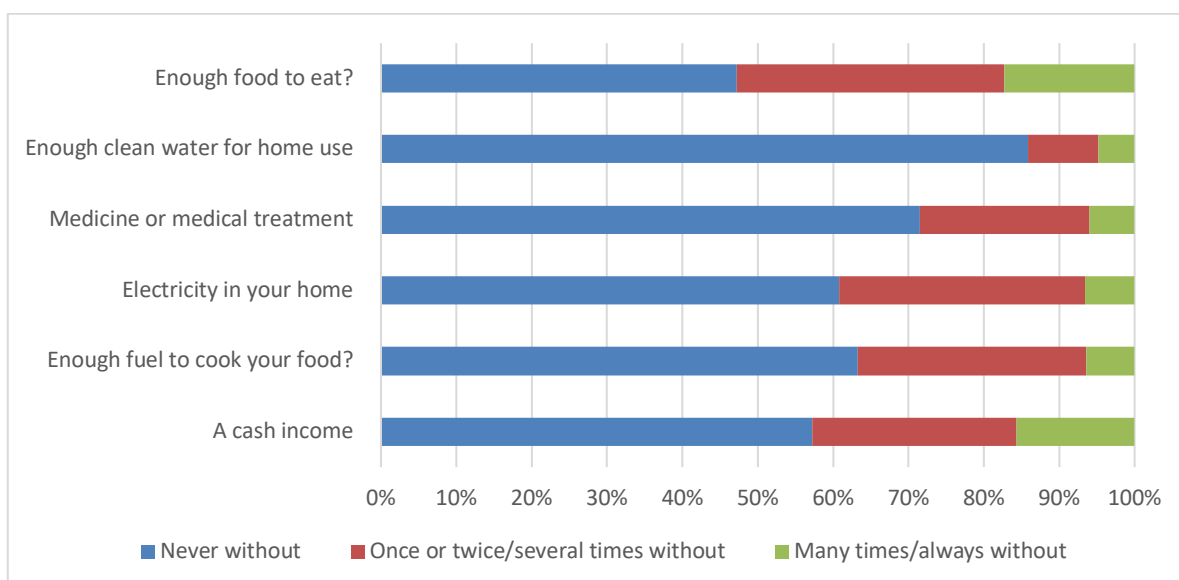


Figure 3: Lived Poverty Index Results, Cape Town, 2013 (Source: Crush et al, 2019)

Access to clean water is essential in providing safe and nutritious food (the utilisation dimension of food security). While many respondents stated that they “never went without” water, over 15 per cent of respondents encountered a challenge. Research emerging from poor settlements in Cape Town following the 2017/18 drought indicates that water is accessible but regular access is constrained as a result of the “choke” system that was introduced as a water use control measure during the drought. Households also reported high levels of inadequate access to food. These are markedly higher than the official Statistics South Africa (2019) figures.

While over 42 per cent of respondents reported inadequate incomes, this figure needs to be read in the context that despite income and food deficiencies, households also experienced deficiencies in access to electricity in the home (with 32,6 per cent reporting some disruptions and a further 6,6 per cent reporting frequent lack of access). But food is not cooked using electricity alone. In the Cape Town 2013 survey, just under 37 per cent of respondents reported some form of limited access to energy to cook their food (Crush et al, 2018). These infrastructure aspects, all reported at the household scale, all impact directly on household food related outcomes.

Constrained access to energy, both electricity and the different forms of cooking fuel, mean that households make strategic decisions on the types of foods prepared, often resorting to more processes and faster cooking food types. A further essential consideration relating to electricity access is its role in food preservation. Without electricity refrigeration is absent. This means that households strategically orientate their food purchases around such limitations. As a result, foods purchased often include processed foods and foods that have a longer life (such as processed staples).

These processes show two clear consequences; first as a result of the processed nature of the food, there is often an increase in food costs and second, there is a potential reduction in nutrient value of that food. Without access to refrigeration, the imagined benefits of the modern supermarket - be these bulk discounts, food safety and variety – cannot materialise.

Alone the electricity related infrastructure deficit has a profound impact on the food system of the households. When considering the wider food system, if traders and neighbourhood retailers do not have access to electricity, water, even toilet facilities, this impacts their operating, stocking and daily work practices and supply cycles. It also impacts the types of food stocked. This impacts on many factors including costs, hygiene and supply chain processes. A question seldom asked in the debates around the nutrition transition and rise of NCDs in Africa is what role energy, water and other infrastructure access plays in this transition?

In South African cities particular attention needs to be given to the relationship between city form, function and the food system. Cities, citizens and the food system connect at urban infrastructure. Focusing on infrastructure, both food system and the wider urban infrastructure outcomes, and the role that appropriate infrastructures could play in delivering positive urban food system outcomes means that the overriding design and the way in which citizens and infrastructure connect need to be considered more directly. Such considerations emanate from urban planning and the processes that dictate both the form and governance of an area.

Planning

Food is central to urban health, urban economies and urban form. Roberts's point made earlier requires restating, that "more than with any other of our biological needs, the choices we make around food affect the shape, style, pulse, smell, look, feel, health, economy, street life and infrastructure of the city" (2001: 4). During the last decade the understanding of food within the urban context has shifted. Early efforts simply sought to get food insecurity in urban areas acknowledged by policy makers and funders.

More recently, a far more complex research agenda has emerged, one that situates household food insecurity within its wider food system context (Battersby and Watson, 2019a: 3). Within the urban context, this situatedness requires an engagement across scales, one that understands the wider food system drivers of the urban food experience, but also, one that considers how the urban form, processes and structures impact that same food system and how it functions. Engaging the intersections between the food system, the urban system and the wider governance considerations is finding traction in a number of areas.

However, to claim that this is a new trend in urban management and planning would be incorrect. Historically food and cities have always been connected (Steel, 2008). Cities and their food systems were traditionally planned and managed in ways that sought to ensure ease of food access into cities, safety and alignment to wider urban processes and functions, all aspects of urban planning (Lewis, 1954; 1955; Beall and Fox, 2009). In the seminal works by Christopher Alexander and others, *The Timeless Way of Building* (1979) and *A Pattern Language* (1977), the notion of the gate and the kernel of a place are often interpreted to be a recognition of the flows of produce, mostly food, from the adjoining peri-urban and rural areas, to the economic core of that place.

In the later 1800s at the height of industrialisation in Europe, Ebenezer Howard proposed *Garden Cities of Tomorrow*, his work, published in 1902¹⁴, spurred the Garden City Movement, a movement and approach in which urban food, place, space and design were all connected and a utopian manner. Internationally and locally there is a history of different urban food and planning projects with the overly utopian Garden City Movement being one such engagement.

Food and urban planning was a key occupation of colonial planners and administrators. The location and roles of markets in colonial cities was directly informed by the imperative of managing land, food and the urban economy (Battersby and Muwowo, 2019). Building on these approaches, Apartheid planning connected (protected White) farmers to urban markets through significant investment in urban infrastructure, as seen in the large scale municipal Fresh Produce Markets that remain in most South African metropolitan areas to this day. Less evident were state-funded abattoirs, packaging facilities, and even support for the industrialisation of the food system to feed the urban labour force.

These all represent a purposive and strategic approach to connect planning, urban design and the food system. One of the dominant trends emerging in this regard is in fact a retreat to earlier concepts of territorial planning, of which the Garden City Movement was an earlier iteration. The territorial food system is one concept receiving much attention. This attention has seen inclusion in global governance approaches and documents, most prominent being the New Urban Agenda (NUA). The concept of a food system designed to meet the food security needs of urban residents in the NUA is informed by a normative vision of a territorial food system based on the concepts of the food shed, the bio-region and place-making (Blay-Palmer *et al.* 2018).

¹⁴ This was a revised and more widely considered version of his earlier work, [To-Morrow: A Peaceful Path to Real Reform](#) (1898)

Within the NUA the territorial food system position commits to supporting “the implementation of integrated, polycentric and balanced territorial development policies and plans, encouraging cooperation and mutual support among different scales of cities and human settlements” (UN-Habitat 2016). However, informed by on-going work in many African and Southern cities, Battersby and Watson challenge this commitment stressing that “while urban–rural linkages are undoubtedly important, the territorial or City Region Food System (CRFS) is a normative concept in danger of being treated by policy makers as objective reality” (Battersby and Watson, 2019b: 3).

Battersby and Watson (2019b), taking a more deliberate urban food system perspective, offer a resolute caution to this normative conceptualisation, a warning borne out of evidence from other simplistic normative views of urban food system governance, one example being urban agriculture, often championed as the panacea to urban food security issues (See Battersby, 2016). These normative positions raise significant concerns about current urban food governance accountability and contextually informed approaches.

The call for food system planning at a territorial scale also provides a rationale for local government to neglect food system planning, particularly with regards to spatial planning, within municipal boundaries. It is also largely apolitical and ignores the power of multiple stakeholders, including large-scale private-sector actors, donor agencies, global trade agreements and other actors in shaping food system conditions.

(Battersby and Watson, 2019b: 4)

This critique of CRFS approaches, with its specific articulation of a need to engage the grittiness of contextually informed needs, politics, compromises and governance, speaks more directly to the governance challenges in South African cities. This challenge is further layered with the need to also see food as being more than just food, but an urban function that it connects (or doesn't) to a variety of other urban processes and governance domains.

Responding to urban food security requires not just policy attention and appropriately scaled policy, but also consideration of a number of urban management activities, from health to urban planning, to transport and infrastructure planning

(Battersby and Haysom, 2019: 65).

Battersby and Watson (2019a) highlight the scaler challenges, but at the same time, make it clear that these need to be engaged from the perspective of the local context.

This is not an exclusive “local” agenda, popularised in much of the urban food discourse, but a view of context that has been appropriately challenged by others calling for an “avoidance of the local trap” (Born and Purcell, 2006).

When considering contextual dissonance between northern popular mantras of local, green, artisanal and organic, and the extreme food poverty of African and South African cities, Drimie (2018) speaking of researchers in different contexts provides a useful compromise, asking:

How do different city researchers reconcile major global challenges and is agreement necessary? Where there is considerable food poverty in one area is it appropriate to call for local and organic foods? However, where there are resources and a real will to engage the significant climatic challenges faced by society why could this not also be a vehemently held principled position? Both have relevance, and both are essential considerations. The objective, even responsibility, of a nested researcher, in particular context is to prioritise according to the urgency of need in that specific city.

(Drimie, 2018)

Drimie’s above comments directed at researchers equally apply to government officials, officials who often have distinct local knowledge and insight. This also serves as a warning. While the North versus South binary is counter-productive and mutual learnings can facilitate great change, there is a real risk of over-valourising certain approaches and actions that hold little or no relevance to the needs required in a specific context. Given the multiple contextual drivers that impact a specific food system, including physical, environmental, locational and cultural considerations, food system governance requires far greater attention to context.

However, contextual processes are contingent on processes playing out at different scales. These scalar considerations are also important.

If effective food security interventions are to be developed, it is critical to understand the governance processes that shape the food system and the experience of food insecurity at global, national and municipal scales. This requires serious consideration of context, and of an empirically driven understanding of the local food systems and their intersections with urban form and function.

(Battersby and Watson, 2019a: 4)

Morgan affirms Battersby and Watsons’ position when he stresses that focusing on “a purely needs-based conception cannot possibly do justice to the kaleidoscopic character of the food system and the multiple prisms - social, economic, ecological, cultural, political, psychological, sexual -through which food is viewed, valued and used in society” (Morgan, 2015: 1380).

Demonstrating the “importance of understanding the embedded nature of food insecurity in relation to the socio-economic and cultural setting in which it occurs” (Park-Ross, 2017: 14). At the heart of addressing urban form and function is urban planning. Engaging in and responding to the embedded nature of food insecurity within the social, economic and cultural dynamics of place further highlight the centrality of urban planning in food system function. Given the suggested inadequacies of the City Region Food System approach, what does food-centric planning at the urban scale resemble, what are the essential components and have cities, if unintentionally, engaged in this practice already?

Food Sensitive Planning and Urban Design (FSPUD) is one of a number of such approaches. However, FSPUD originated from earlier iterations of integrated planning and design attempts. A number of overriding principles serve to frame how the integration between planning and urban food system governance would locate within the planning agenda. A central consideration is the need to ensure that planners and urban governance actors ensure that the planning of settlements and food systems consider:

- Residents have to access an adequate, healthy and appropriate diet
- Settlements are socially inclusive
- Settlements are equitable
- Settlements are more resource efficient
- Settlements are sustainable
- Cater to cultural difference

(Park-Ross, 2019: 5)

These needs are essential because “Improved access to and utilisation of food is essential to current and future generations. With cities at the centre of our civilisation, it will become increasingly critical for food to be centrally reflected in the planning of urban areas” (Stamoulis et al., 2018: vi). Importantly, as Pothukuchi argued, the absence of a deliberate planning focus does not necessarily ensure neutral outcomes.

Despite the lack of consideration for food within the planning field, urban planners unknowingly already play a central role in almost every component of the urban food system, as well as the wider regional food system, directly influencing the flows and a variety of other systemic activities that intersect with the food system. The impact of such planning decisions are often negative given that “decisions that impact the food system are made without consideration of the food system consequences” (Park-Ross, 2019: 6). Cities are increasingly the sites of food system change (Steel, 2008).

Three food system trends dominate current scholarly discussions: an increasing role played by supermarkets; nutrition changes taking place, particularly those aligned to urbanisation, and the so-called Big Food transition. These are all linked and intersect with one another in ways that we do not fully understand. These interrelated processes are affecting the nature of food systems and food insecurity in South Africa (Haysom, 2015).

Supermarkets in particular play not only a dominant role in the supply chain, but they are also changing the food retail landscape of cities (Reardon et al., 2003; Reardon et al., 2015; Tschirley et al., 2013; Peyton et al., 2015). In addition, supermarkets are important sites of property transactions and development, which can often undermine other food retail livelihoods in urban areas (Teppo and Houssay-Holzschuch, 2013). Changes in food consumption are associated with how urban space is used in terms of travel time constraints leading to dietary changes, driving a nutrition transition (Popkin, 1998; Popkin, 2002; Kennedy et al., 2004).

The “Big Food transition” is linked to the preceding transitions, and to wider agro-food system changes (Igumbor et al., 2012; Monteiro and Cannon, 2012), suggested by Hawkes (2006: 1) to be “the convergence towards poor quality obesogenic diets”. The forces of urbanisation collide with rapid changes taking place within the food system. The urban poor and food insecure have to navigate these changes. As the market is the primary source of food access, developmental interventions designed to mitigate food insecurity, such as cash transfers, come into direct contact with these rapidly changing systems.

These changing food system processes and outcomes are increasingly informed by decisions being made at the urban scale, that cascade into other systems, be this distribution, transport networks, packaging and processing facilities, health outcomes, etc. It is no longer the case that what flows from farm to fork drives the food system structure and agenda. The market, and specifically the urban food market, is dictating the nature and utility of the modern food system. The fulcrum of this market is located in cities.

All food system actions are planned and facilitated through a planning regime, with little direct regard for the actual food security and pro-poor outcomes of these actions, but these planning and governance decisions have a direct impact on the outcomes of such a system. Planning and food are therefore directly connected and mutually dependant. Arguing that food and planning are co-dependant implies that planning and food system processes could align to generate positive societal outcomes. While this may be true, exactly how this is programmed is yet to be fully understood.

As discussed, some academics have started arguing for greater food system engagement within the planning field (such as Pothukuchi, Kaufman, Sonnino and Morgan) and while conceptually relevant, practically, very little change is evident in both the urban governance and urban planning and design fields. The application of design principles as a tool to address wider societal issues is not unique to the food system.

Other systems have sought to engage planning and design as a means in which to drive systemic change around issues where conventional approaches (and practice) was becoming increasingly redundant. One such example is Water Sensitive Design. It is worth engaging the processes associated with the adoption of Water Sensitive Design as this offers clues as to the possibilities, limitations and “red flags” that require consideration before wholesale adoption of any new concept.

Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) as a concept was first devised in 1990s in Australia and arose as a response to the challenge of how to design for resilience to the impacts of population growth and climate change, specifically in relation to the need for sustainable urban water resource management and the protection of water habitats and environments (Brown and Wong, 2009). This was in the context of severe water quality, quantity and drainage challenges in Western Australia (Gluckman, 2017).

The conceptual entry point was the assertion that the overall water system, and its complexity, had been disregarded in favour of a disproportionate focus on perfecting efficiency of only one dimension of the system, around water supply (Brown and Wong, 2009).

This supply focus manifested in institutional (responsibility for service provision, operation and maintenance) and physical (infrastructure) compartmentalisation which as a result produced sub-optimal outcomes. This compartmentalisation has traditionally been: sewerage/sanitation, storm water/ drainage and water supply (Brown and Wong, 2009).

The central considerations of WSUD included three aspects, all of which, by their very nature reject compartmentalisation. These include:

- A holistic approach to total water cycle management with specific focus on ‘fit for purpose’ water systems and optimising existing resources.
- Considerations for the water-food-energy nexus.
- Engagement with the drivers, consequences and threats posed by climate change

The concept was quickly adopted by American and European cities. A large-scale European Union (EU) commission, titled SWITCH, was launched in 2006 to develop water visions for twelve diverse cities across the world (Accra, Alexandria, Beijing, Belo Horizonte, Birmingham, Bogota, Cali, Hamburg, Lima, Lodz, Tel Aviv and Zaragoza) which further accelerated uptake of such concepts. WSUD positions water as the driver for the planning of ecologically sustainable cities and aims to optimise the synergy between the urban built environment and the urban water cycle. Water Sensitive Urban Design, when implemented, assists in the development of a so-called Water Sensitive City. While there are no clear examples of Water Sensitive Cities as yet, this remains an ideal. Brown and Wong (2009) suggest three pillars for a water sensitive city:

1. Cities as Water Supply Catchments: access to a diversity of water sources underpinned by a diversity of centralised and decentralised infrastructure.
2. Cities Providing Ecosystem Services: provision of ecosystem services for the built and natural environment.
3. Cities Comprising Water Sensitive Communities: socio-political capital for sustainability and water sensitive decision making and behaviours.

Given the recent physical, infrastructural and societal changes inserted into the Cape Town water system following the drought, Cape Town may be argued to be a water sensitive city. However, the significant further infrastructure requirements, to enable water access equity, the, at times overlooked, ecosystem services mean that it would take some while, despite the emergence of water sensitive communities (despite the poor always being water sensitive), before Cape Town is truly water sensitive. Additionally, the key litmus test as to whether Cape Town is in fact a water sensitive city would be how city officials and communities respond to water access once current restrictions are lifted?

WSUD comprises two principle functions that should be considered simultaneously, urban water infrastructure, and design and planning processes associated with the infrastructure (Armitage et al, 2014). The design and planning processes are essential, given the normative and often technical nature of the infrastructure component. Here ensuring that infrastructure is equitably distributed, and that the spatial orientation promotes wider sustainability considerations component (Armitage et al, 2014). Clearly WSUD is far more than a technical exercise. It requires significant levels of integration and a significant redistributive component, specifically in ensuring an equitable distribution of services, but also, the quality and efficiency of that distribution.

At the urban scale, however, the operationalization of such principles requires far greater interrogation. A central feature of WSUD is a flexible institutional regime enabled through a diverse range of infrastructure types and uses.

This variation challenges both the institutional reductionism of siloed government departments, but also the drive for single delivery modes. The assumed community support for the implementation of such actions assumes simplistic, and arguably engineered, solutions, ones that are particularly difficult to deliver in the politicised communities in which many service delivery protests play out.

Equally, in the privileged and entitled communities who expect services (or at least supply) that run contrary to the wider sustainable development aspirations (a full bath every day of the week in Cape Town, as an example). Elements identified as conditions for success in the implementation of WSUD are a perhaps obvious, but include a supportive regulatory framework, effective assessment and costing, appropriate technology and design and community acceptance and governance (Wong, 2006). To date, most Water Sensitive Urban Design initiatives have been driven by governments (or large donor funder organisations) and as a result, most of the drivers identified are institutional ones.

Despite the challenges that may be levelled at the concept, the central features of WSUD include an appreciation for diverse operating systems, a bottom up approach to problem identification and solution finding, integration between a variety of different systems, structures and governance arrangements, and an explicit engagement with the different scales at which the urban water system functions. In this way, there are clues to where these aspirations intersect with the urban food system and its challenges.

Before launching into an aligned set of assumptions about what Food Sensitive Urban Design may entail, it is necessary to take a step back to reflect on the current South African policy landscape and how policy could support possible Food Sensitive Planning and Urban Design. This approach takes its cue from the WSUD concept which recognises institutional structures as central to ensuring the effective roll out of such a concept.

Planning in South Africa: policies and principles

The institutional framework for an appropriate governance response to food has been stated, specifically the obligation of the state to ensure the progressive realisation of the right to food. Further other working papers in this series have engaged the legal and jurisprudence of this in great detail, specifically de Visser (2019). However, when considering FSPUD a real opportunity lies in both the imagined policy environment and the espoused values that underpin the current dominant planning policy regime, specifically through the Spatial Planning and Land Use Management Act (SPLUMA) of 2013. Before a detailed engagement in SPLUMA and its objectives and the policy environment that it presupposes, some reflection on the different roles and responsibilities of different spheres of government are required.

An evolving legislative planning context

Starting in 2012 the legislative context and planning regime saw a marked shift driven by attempts to rationalise the highly fragmented planning system which encompassed a variety of overlapping documents and mandates, redundant and conflicting legislative documents and processes, some of which pre-dated the 1994 transition. A very necessary overhaul was required of the Apartheid era planning regime, which had somehow persisted through various different legislative changes. A foundational principle of this shift, at times reinforced through court action, was the emphasis of the autonomous mandate of municipalities over municipal planning (CoCT, 2017). For the City of Cape Town, this transition came into full operational practice in 2015. The same applies to many other municipalities across South Africa, driven by the introduction of new planning legislation. The update in the planning regime was also necessary to align with of the allocation of powers, across the different spheres of government, outlined in the South African Constitution. This shift has been brought about by new legislation at all levels of government.

- National: Spatial Planning and Land Use Management Act (SPLUMA), 2013
- Provincial: Western Cape Land Use Planning Act (LUPA), 2014
- Local: City of Cape Town's Municipal Planning By-Law (MPB-L), 2015

In accordance with the South African Constitution, regional planning and development and urban and regional development are concurrent national and provincial legislative competencies (outlined in Part A of Schedule 4 of the Constitution). Section 155 (7) of the Constitution provides that the national government, and the provincial government have the legislative and executive authority to see to the effective performance by municipalities of their functions, by regulating the exercise by municipalities of their executive authority.

Provincial government also has the power to monitor and support municipalities and promote the development of municipal capacity to perform their functions and manage their own affairs. Importantly though, this does not mean that the national and provincial spheres of government can dictate how local government operate. Given this allocation of planning powers, it is extremely difficult from a practical perspective to enact powers specifically between provincial and municipal spheres of government in a way that does not infringe on the powers and functions of the other sphere.

There is some uncertainty of the meaning and interpretation of terminology not defined in the Constitution, including terms such as 'monitoring', 'support' and 'regulation', which left room for differing interpretations across the spheres. SPLUMA, LUPA and MPB-L attempt to deal with this issue but issues still persist. In a number of cases, it has been left to the courts to make determinations and set precedents for how these terms can be applied.

This leads to confusion over competencies. A case in point is the current dispute around the roles and responsibilities to make planning-oriented decisions about a specific area, here the case in point is the Philippi Horticultural Area. However, a central feature pertaining to planning and urban design is that the local government sphere holds significant planning authority.

The allocation of planning powers, as detailed in the South African Constitution, are detailed in Table 6. From a food sensitive planning perspective three challenges are immediately evident. The first is that it could be very easy for local governments to abdicate any food related mandate to national or provincial government given the regional planning and development mandate.

Here the City Region Food System discourse can serve to reinforce this assumed regional, rather than local mandate. However, as de Visser (2019) articulated specifically referencing the Grootboom housing case (Box 1), this abdication of responsibility on the part of local government is contrary to the mandates set out for local government in the constitution and as such, a far greater level of engagement is required.

The Grootboom case set a precedent for how the rights articulated within the Bill of Rights within the South African Constitution are currently approached, even made justiciable. The second challenge then is to question whether the responsibilities as set out for local municipal planning in Part B of Schedules 4 and 5 provide sufficient clarity as to the food system responsibilities for local government.

Finally, the third challenge effectively holds all spheres of government accountable for the effective delivery of food (and the subsequent progressive realisation of the right to food) which then demands structures and systems to enable mandates that cross spheres and facilitate integrated planning. Where authority rests in these integrated processes is unclear. This is no easy task, specifically given the challenges already encountered in other integration exercises in food policy (see Drimie and Ruysenaar, 2010 as an example).

The Grootboom Case - Government of the Republic of South Africa v Grootboom (October 2000)

In Grootboom case, a community was evicted from their informal homes situated on private land earmarked for formal low-cost housing. They sued the government (national, provincial, and local government) for violating their right to section 26(1) of the Constitution. The duty on the state is not to provide the house itself but to ensure an enabling environment where individuals are empowered to access resources such as available land, finances, and basic services. However, the state is under a greater obligation to assist people in vulnerable groups that are unable to acquire adequate housing in circumstances of desperate need. In such circumstances, the state's responsibility is concerned with 'unlocking the system, providing access to housing stock and a legislative framework to facilitate self-built houses through planning laws and access to finance'. The court found the housing programme unreasonable insofar as it failed to provide housing assistance for people in desperate need such as evictions and ordered the state to remedy this situation.

Therefore, if the approach of the court is applied to the right to access to sufficient food in section 27(1)(b) of the Constitution it means the duty primarily falls on the individual. The state is not responsible to provide food itself but must ensure an enabling environment where individuals are empowered to access resources such as available land, finances, and basic services. A legislative framework must be developed to facilitate self-help measures through planning laws and access to finance to secure the right to food.

Drawn from Johnson (2019) citing also Brand (2005).

BOX 1: THE GROOTBOOM CASE AND ITS INTERPRETATION IN THE CONTEXT OF THE RIGHT TO FOOD

		National Government	Provincial Government	Local Government
Allocation of authority via:		SPLUMA	LUPA	By-Law (M-PBL)
Constitution	Part A of Schedule 4	Regional Planning and Development Urban and Rural Development		
	Part A of Schedule 5	S 44(2)	Provincial Planning	
	Part B of Schedule 4	Subject to 115 (7)	Subject to 115 (6) (a) and (7)	Municipal Planning
	Section 155 (7) Section 155 (6) (a) and (7)	Regulating the exercise by a Municipality of their executive authority	Monitoring, support, capacity building. And regulation of Municipality	

Table 6: Separation of planning powers as informed by the South African Constitution

A further factor worth considering is the ability to resource activities. National government can attract resources through National Treasury, aimed at resourcing designated activities. Local government has the ability to raise funds through local property taxes (rates and taxes) and the charges levied for the provision of certain local-competence services, such as water and sanitation and energy sales.

Currently municipalities have to carefully balance their income generation, and resultant maintenance of services, with the concurrent provision of essential services to those who attract subsidies and certain free basic services. The responsibilities set out in Table 6 require further expansion and clarification. It is also worth noting that these shifts are all relatively new. Given the institutional inertia within the state, different spheres of government have endeavoured to engage these new policy systems but this remains a work in progress.

Below is a brief outline of the described responsibilities of the different spheres of government, enabled through different legislation, aligned to the Constitution, to give effect to a more robust and strategic planning regime in South Africa.

The national legislative framework: SPLUMA provides a national framework for planning in South Africa focused on providing principles and minimum requirements to guide decision-making, procedures and timeframes in the manner in which SPLUMA:

1. Provides normative spatial development principles for decision-making and norms and standards for all spheres. These are: spatial justice, spatial sustainability, efficiency, spatial resilience, good administration
2. Sets out the spatial planning system for South Africa

3. Sets the process and content requirements for Spatial Development Frameworks (SDFs) for all three spheres of government and provides five years for the drafting of these.
4. Provides certainty to the roles of the three spheres of government, describing the functions of municipal, provincial and national planning by categorising planning.
5. Sets minimum standards for Land Use Management (zoning schemes)
6. Sets purpose, content and minimum standards for Land Development Management which includes procedures for making applications and decision making, process and criteria for amendment, status and enforcement. It also includes the authorisation of Municipal Planning Tribunals and Authorised Officials as decision makers to take decisions on categorised application.
7. Under circumstances where the application has a specific nationally relevant impact SPLUMA provides clarity on National Government's power to "call in" an application to take a decision or to comment specifically in the "National Interest".
8. Sets out the requirements and responsibilities for the provision of engineering services

While the provision of a broad framework with key principles allows flexibility to provincial and local government to perform their functions, it is as of yet unclear if this kind of framework is sufficient to ensure equitable and sustainable development. Recently there have been many issues with implementing SPLUMA. As one example, SPLUMA requires a close link between SDFs (spatial planning) and zoning schemes (development management).

SPLUMA is also criticised for being too idealistic to ever be implementable. Provincial Planning Functions: The provincial framework includes a number of different processes. Here the Western Cape processes have been used as this relates most directly to later discussions on the potential for food-based planning interventions.

These processes include:

- Provincial SDF (WC PSDF, 2014).
- Regional SDF (Greater Cape Metro Regional Spatial Implementation Framework, 2016)
- Provincial planning role.
- Monitoring and support for municipalities.
- Providing norms and standards for effective municipal development management (effectively minimum requirements for processes and contents of municipal planning documents).
- Decision making on certain land use applications (Province can take a decision on an application which will have a substantial effect on the WC region).

The preceding sections have sought to demonstrate the state of food insecurity in South Africa and to highlight the absent urban food security focus in both policy and wider governance responses. It has also sought to locate responsibility for food security across all spheres of government, but with an explicit attempt to question the absence of city scale responses to food insecurity and wider food system derived deficits. This paper then sought to clarify what roles and responsibilities the different spheres of government held, but with a specific planning orientation.

Despite the absence of any urban scale governance of food, non-food actions by local government actors play a significant, albeit indirect, role on the urban food system. The paper then sought to enquire and direct attention to processes, systems and legislation available to local government to enact food system change. Birthed from earlier work on water sensitive design, the links between design and a particularly urban challenge, food and food security, were introduced. Given the design and planning focus, the paper then revisited the policy framework to assess what planning (and associated governance) systems were in place to enable proactive local government interventions into food systems planning and urban governance.

The next section of this paper will engage the concept of food sensitive planning and urban design in greater detail, drawing on emerging theory and concepts pertaining to this and discussing processes to bring such concepts to fruition in other cities.

Food sensitive planning and urban design

One of the core texts setting out the concept of food-sensitive planning and urban design engages the current urban challenge as one where cities are facing unprecedented change, across multiple governance domains.

Donavan et al (2011) articulated this as the converging and mutually compounding threats of climate change, vulnerability to peak oil, loss of land and resource scarcity, but sought to respond to these through the concept and principles embedded within the aligned practices of urban planning and governance.

Their work is novel and is applicable across cities of the North and South and attempts to set out new ways of “tackling issues, providing a suite of ideas and innovations that cities should now embrace. It tackles a topic that has little precedent as an agenda for the planning of cities” (Donovan et al., 2011: 2). From this the claim is made that “[t]his approach will not only improve the liveability of our cities, but will also deliver a more sustainable food system” (Donovan et al., 2011: 2).

These perspectives speak to wider assertions made about urbanisation, urban governance and the food system, such as Andree et al (2019) pointing out that “as global food systems face multiple threats and challenges there is an opportunity for [urban] social movements and civil society to play a more active role in building social justice and ecological sustainability” (Andrée et al. 2019: i). These views speak to the increasing perceived importance in cities in responding to broader societal needs.

However, as in the academic literature, these views and perspectives retain a distinctly Northern orientation, focusing on issues of resource constraints and sustainability but occlude wider challenges associated with poverty, inequality, food insecurity, nutritional poverty and associated developmental challenges. Despite these limitations, the principles and overarching concepts within the FSPUD approach offer a useful starting point to engage what this may entail in the South African context. Food sensitive planning and urban design concepts can be reconciled with the other aspirations of planning and urban design, such as:

- making sure we can enjoy attractive, liveable surroundings.
- facilitating a strong and competitive economy.
- facilitating major reductions in the environmental footprint of our settlements.
- providing opportunities for stronger community interactions.
- ensuring better shared spaces.
- supporting fair access to the appropriate goods and services people need.
- supportive environments for active living making sure these qualities can be provided indefinitely and are resilient to challenges such as peak oil and climate change.

(Donovan et al., 2011:11)

Most fundamental to the FSPUD concept is that food is embedded in planning and urban design. This may seem obvious, but it represents a fundamentally different entry point to other urban food discourses which seek to create a distinct food structure at the urban scale. Many food policy councils and other such pluralistic governance structures position themselves as stand-alone entities within the city governance space.

Inserting food and food system considerations into the urban planning and design agenda, is fundamentally different. It suggests the inclusion of an additional layer within an existing urban competence, planning and urban design. FSPUD provides opportunities for planners and urban designers to consider food in the decisions they make. However, it is important to appreciate that the transition to a planning and design regime is not as simple as flipping a switch and suddenly the governance and planning regime changes to incorporate food as a key consideration.

As detailed in Table 1, there are a number of processes and practices before the actual design and system change takes place. This is an emergent process. Many of the inputs provided by researchers engaging in the practice of FSPUD, discussed later, articulate the processes that are forming, rather than the final approach. Here the phasing of Food Sensitive Planning and Urban Design requires greater consideration. Arguably a key to the success of any FSPUD processes would be paying attention to the phasing and how these different phases integrate the practices detailed in Figure 1 into the final FSPUD approach in a specific context. Figure 4 offers some insight into this phased approach. This approach may evolve intuitively or may be deliberately scheduled, with the latter offering far greater systematic engagement and integration potential.

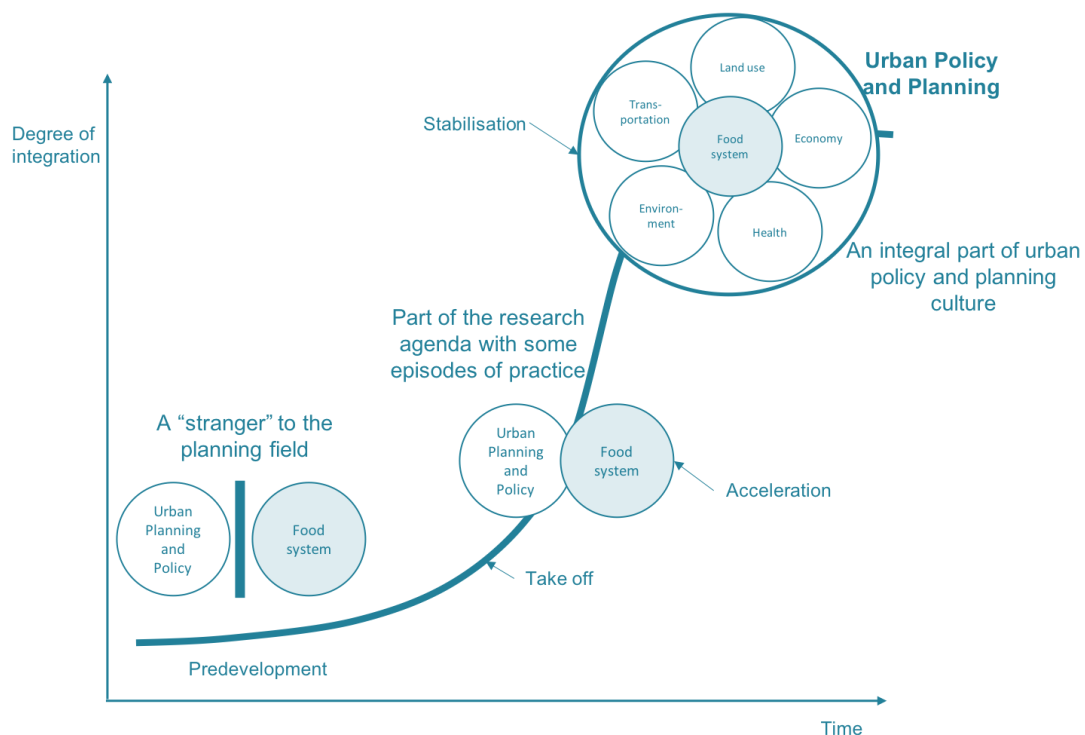


Figure 4: The Phases Of Transition Toward A Food-Sensitive Urban Policy And Planning (Source: Ilieva, 2016: 10)

FSPUD can be woven into decision-making processes, enabling informed consideration on critical urban food system challenges (Donovan et al., 2011:page). As with Ilieva (2016) and the stabilised urban planning and policy depiction in Figure 4, Donovan et al (2011) position FSPUD within a wider set of urban food system considerations and processes. These are detailed in Figure 5, demonstrating the multiple urban planning (and governance) considerations that intersect with food.

Figure 5 further demonstrates the Northern dominance in the conceptualisation of these issues. Missing in this are questions of food poverty, food insecurity, retail governance, inequality and due consideration for the negative health related outcomes of the current urban food system.

While it could be argued that these may be embedded within the concepts of ‘health and fairness’, ‘livelihoods and opportunity’ and ‘consumer access and utilisation’, for this to hold true transformative power a South African urban context, explicit mandates and activities are required.

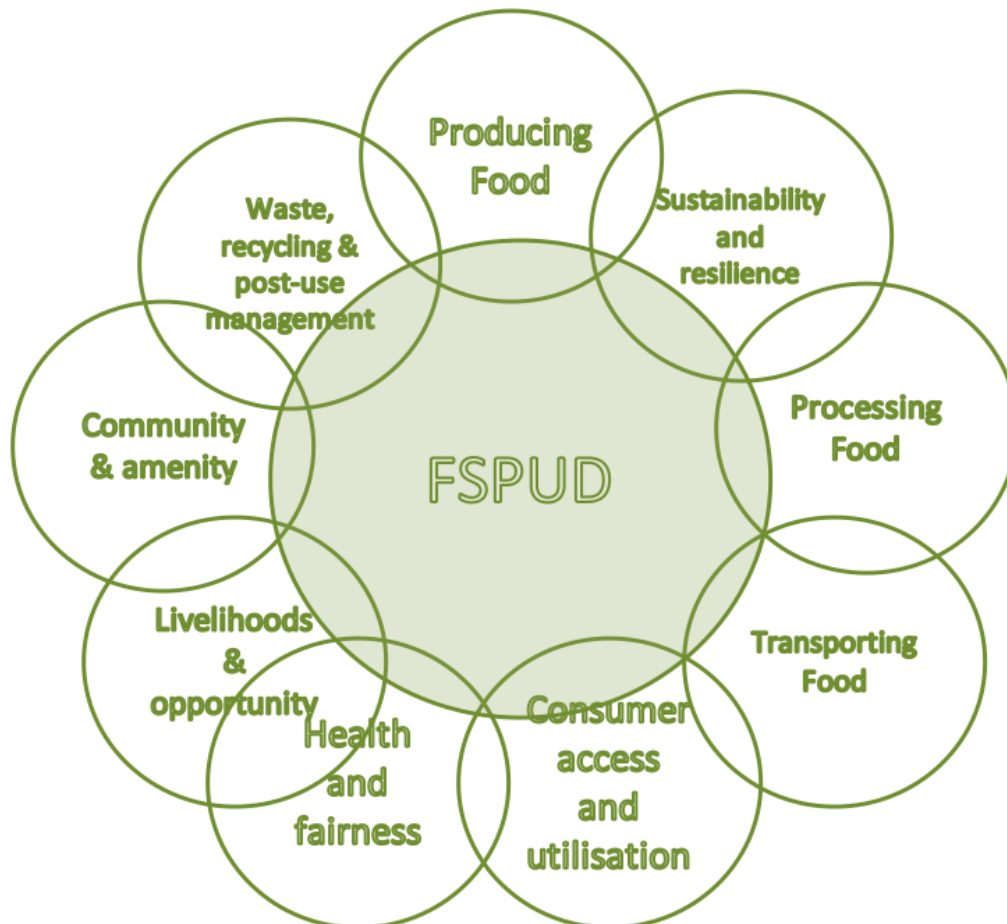


Figure 5: Urban specific planning and governance activities (Source: adapted from Donovan et al., 2011: 12)

In South Africa, Battersby (2019) argues that there are three broad opportunities for planners to proactively support the food system to promote food and nutrition security:

- *Direct food system interventions:*
These interventions should aim to support access to food for urban residents, especially the urban poor. Examples of this include urban planners investing in urban produce markets that support the livelihoods of producers while at the same time supporting urban access to fresh produce
- *Embedding food considerations into planning decisions:*
This would involve planners embedding food system considerations into the decisions and actions that they are making in their existing roles such as urban planners considering the impact of a development on the surrounding food environment as part of the criteria of a development application

- *Supporting the existing channels and systems that support food access:*
In all cities there are already channels and systems in place that support access to food, particularly for the urban poor. It is important that these channels are actively supported, rather than undermined by planning decisions that do not value their role in supporting food access.

When considering an example of how these three actions intersect, the most obvious is informal trade. Figure 6, drawn from the household survey carried out by the Hungry Cities Partnership research in Cape Town in 2013, demonstrates the manner in which different income groups use the food system.

The informal sector is clearly central to the food access strategies of the poor. The absence of a definitive, pro-active, integrated and pro-poor strategy focusing explicitly on the informal sector in Cape Town is a key example of the absence of deliberated food system planning, but also where opportunities for a more inclusive food system planning agenda lie, where the integration of direct food system interventions, the embedding of food considerations into planning decisions and support for existing channels and systems that support food access are clearly evident.

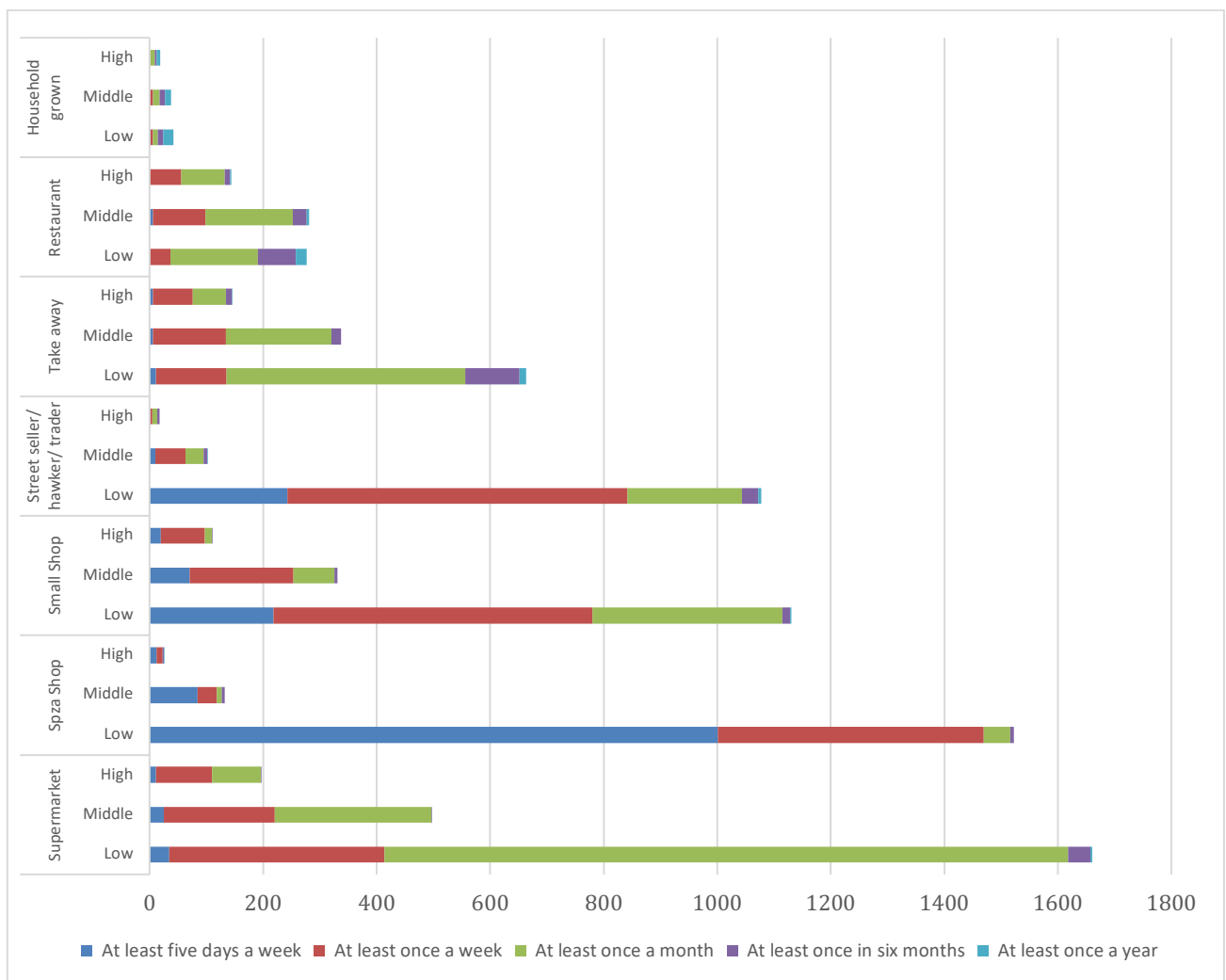


Figure 6: Household food access strategies by income tercile – Cape Town (Source: Crush et al, 2018)(n=2504)

The central food security intervention at the urban government scale in Cape Town has been through urban agriculture. There are a multitude of policies and frameworks that further govern the informal food sector, but very few that effectively direct the manner and form that formal food retail takes. Ironically, on asking the City of Cape Town for a listing of supermarket locations, this could not be provided, only detail on zoning applications was available (Battersby et al, 2014).

In addition to this the Environmental Health Department could not detail what food system activities were being carried out at the businesses that had applied for food related health permits. The paucity of data raised fundamental questions about the information that is being used to inform planning decisions.

Additionally, given the focus on urban agriculture as the food security response adopted by the City, it is worth engaging the HCP 2013 data further to assess if in fact this is an appropriate response?

Using the HCP data of respondents reported engagement in any form of urban agricultural, be this horticulture or livestock, Figure 7 shows that in fact it is not the poor or food insecure that are the predominant urban farmers, engaging in urban agriculture, but the wealthier segments of society.

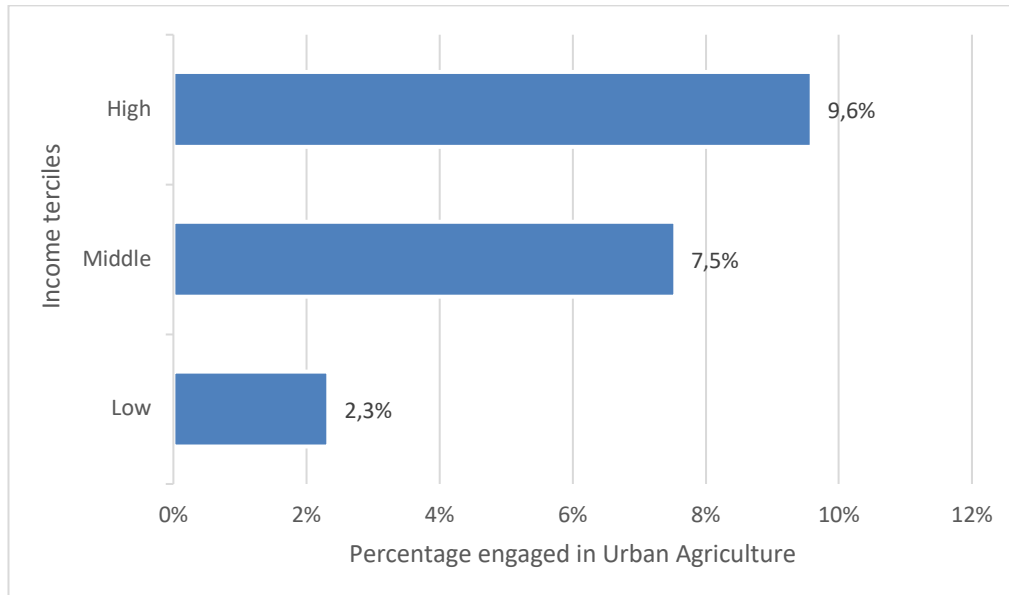


Figure 7: Percentage of tertile engaged in any form of urban agriculture (Source: Crush et al, 2018) (n=2504)

Discussions pertaining to food system planning run the risk of being seen to be about the physical space and integrating a food consciousness into planners when making determinations about the use of space. The physical space is just one component of the wider Food Sensitive Planning and Urban Design approach. The key challenge is that even if there is an effective use of space that may be equitable and align with wider spatial imperatives, this needs to be further supported through policies and by-laws that then enable the effective realisation of the spatial imaginations.

In addition to this, the management and utilisation of this space then needs to be effectively considered. Referring to Cape Town again, the Cape Town Fresh Produce market is a case in point, one built (physical space) to enable food access to the city. The City has subsequently delegated the governance of this space to private actors who then determine the use parameters of the space. While this may still deliver on the public good, this is not guaranteed and there are constant tensions between the operators and the City as to their lease, their importance to the city and their actual mandate and obligations. Further, the market operators argue that their viability is often challenged by the absence of effective governance of the roads outside the market where informal traders operate. At the same time, these informal operators have been in this site for many years and depend on the symbiotic relationship with the CTFPM and so, removing them would not deliver on beneficial food system outcomes.

This example demonstrates two essential considerations pertaining to food sensitive planning and urban design. The first is that this requires the intersection of a number of governance principles that extend beyond just physical spatial management and decision making. Included within the concept are issues of resourcing, policy formulation and integrative governance, the likes of which are not necessarily possible within the current compartmentalised city management structures.

Secondly, given the scalar dynamics of the food system and its governance, a further governance challenge is evident in that a number of the laws (governance instruments) that serve to ensure affordable food sales through the CTFPM is in fact national legislation (the Agricultural Produce Agents Act [Act 12 of 1992 and the amendment Act, No. 47 of 2003], the rules in respect of Fresh Produce Agents, R1818 of 1983, and the activities of the Agricultural Produce Agents Council). These are laws and the tools through which equitable food access is facilitated. These social benefits and pro-poor systems are not the principles embedded in the lease agreement with the actual landlord of the site, the City of Cape Town. This points to wider scalar considerations that work in this instance but may be challenged given the different governance mandates and needs.

In the South African context, planning and the deliberate formulation of spaces that impact on health and nutrition outcomes are not the exclusive domain of planners. Other actors directly influence the food system outcomes but pay no attention to this. The next section considers how other systems impact food system outcomes. Here direct and indirect design activities are considered.

Household design and the role of the household in determining food system outcomes

By design the lowest income households continue to be located on the peripheries of the cities. This urban geography influences food insecurity in several ways. Firstly, it shapes economic opportunities and the potential to earn income for residents of low-income areas. In a market economy, income is a major driver of food security. Low-income earners, living long distances from jobs and facing inadequate public transport, have lengthy commutes and spend a large proportion of their incomes on transport, leaving less money to buy food. With limited time, and rising energy costs, households choose to cook foods that require less preparation and use more processed and prepared foods. These foods are often more expensive per unit and less nutritionally dense than more traditional foods. Food choice is therefore not simply a matter of personal choice, but also of urban design.

(Battersby and McLachlan, 2013: 716)

The above quote succinctly articulates the challenge faced by many poor households in South Africa and Cape Town. The quote also demonstrates the integration between income poverty and spatial, and time poverty. This working paper seeks to engage the notion of the periphery as being more than just “on the outskirts” but also peripheral settlements, specifically informal settlements and backyards. These peripheral places of residence play a similar role in undermining food system outcomes. Battersby (2011) and more recently Jonah and May (2019) have pointed out that when comparisons are made between households with the same income, those living in informal structures were more food insecure than those in formal housing.

This point further scales the discussion on design, from the neighbourhood to the household. While there is a risk in focusing on the household scale as this has the consequence of de-scaling responsibility to the household and means the government can abdicate direct responsibility for systemic failures in food system governance, arguing that it is not their place to interfere in free choice of the individual (or household).

The logical end point to this position is that it is in fact the ignorance of households and not a failure of the state that precipitates negative food system outcomes. This perspective is directly stated in the South African National Policy on Food and Nutrition Security (NPFNS, 2014) which states that:

The provision of nutrition education is therefore crucial to the efficient use of food resources. Nutrition education should assist individuals to improve their meal planning, Interpretation of product nutritional indices and correct preparation methodologies to prevent food nutrient loss before consumption.

(NPFNS, 2014: 19)

However, understanding household dynamics and how these impact food insecurity and negative food system outcomes does require further investigation and analysis. From a planning and design point of view, the various departments of housing have a direct role to play in determining the food system outcomes at the household scale, if even in terms of greater understanding of the needs at that scale and how the physical home structure connects to other services, such as water and sanitation.

Additionally, while informality may be deemed outside the mandate of government, there are leverage points where cities can play a role in supporting more positive food system outcomes at the scale of the informal dwelling. These dynamics are clearly articulated by Battersby and McLachlan who point to nutritional outcomes specifically. These concerns could equally apply to wider health and sanitation concerns.

At the household level, regular and stable income is necessary for food security, but other aspects of the household asset base are also important. For example, limited food storage capacity and refrigeration mean that households are less able to store fresh produce or take advantage of bulk buying, thus limiting dietary diversity. Limited cooking technology means that households tend to buy more processed and prepared foods.

(Battersby and McLachlan, 2013: 717)

Figure 8 offers some insight into the mechanics of the above quote. This image, taken of new recipients of a government subsidy home, provides a sense of some of the food system related issues. Importantly, the household does not have refrigeration as they were still waiting for the activation of electrical connections, but also detailed affordability concerns specifically in purchasing certain appliances.



Figure 8: Government subsidy household food purchase record for one week (Source: Metelerkamp, L. 2008 – with permission from Peter Menzel and Faith D’Alusio)

Conceptually understanding specific food system outcomes at the household scale has been the product of significant theorisation, originating with Sen (1981) and the entitlements theory but more recently, UNICEF sought to engage the scaled causes of negative nutrition outcomes. Regardless of critiques, this framework is particularly useful when considering planning and design related consideration.

There is no evidence that this has been directly connected to city scale food system planning and design approaches. Despite the rural dominance in this conceptualisation, it does clearly locate a number of the basic causes of undernutrition at the household scale, driven by resource access. However, these basic causes intersect directly with other planning related considerations, specifically those that are undermined through a lack of effective planning.

Figure 9 also demonstrates the interconnection between disease and dietary intake, demonstrating short term, long term and inter-generational consequences. When read in the context of the Constitutional imperative of the progressive realisation of the right to food, this demonstrates how the different socio-economic rights issues (right to food, right to health, right to shelter, etc) are interconnected. If meaningful realisation of these rights is to be addressed, these need to be connected and new conceptualisations, such as that in Figure 8 offer insights into where actions made be targets, and where policy and progressive state-led action is required.

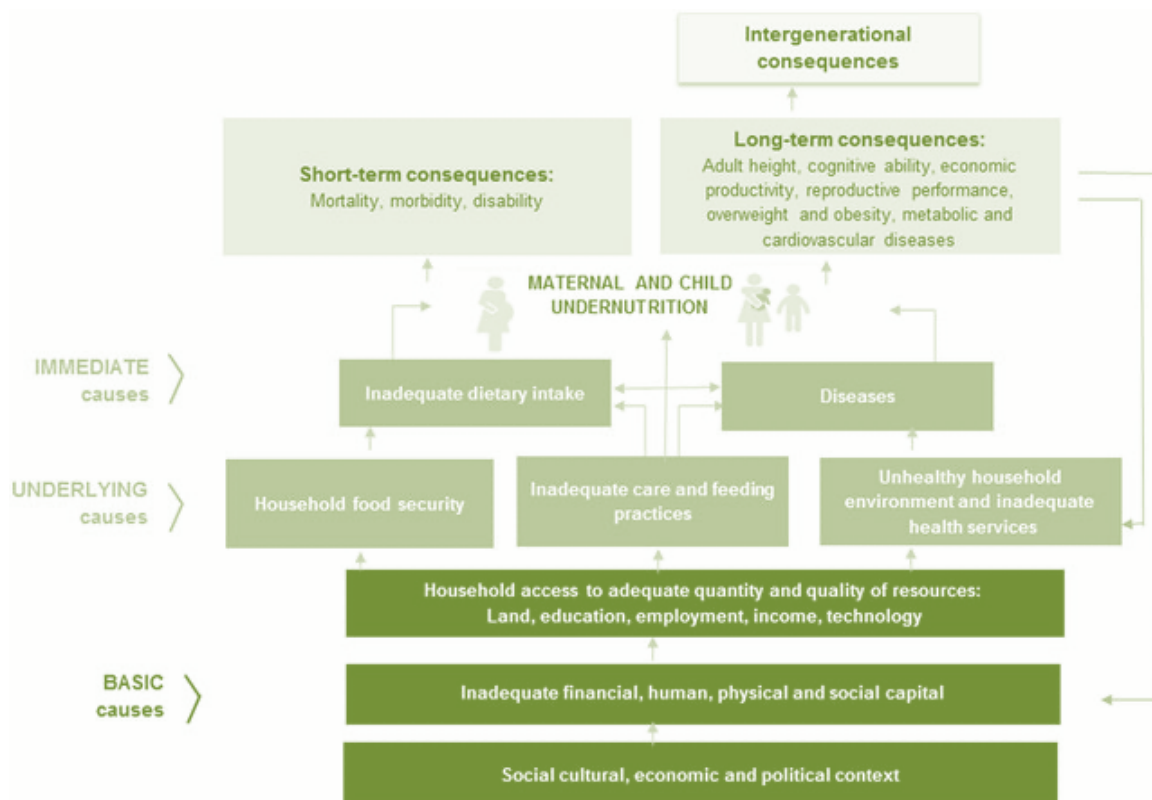


Figure 9: The UNICEF conceptual framework of undernutrition is shown.(Source: UNICEF. Improving Child Nutrition: The achievable imperative for global progress. United Nations Children’s Fund; 2013: 4)

Planning and design for food therefore extend from the household to the neighbourhood to the city and beyond to the regional, national and even international scale. Exactly where influence lies for city officials and planners is determined by contextual realities, all of which influence the specific approaches to urban food system planning and design. These actions are not only physical in nature but include legislative, governance and even process related considerations. Decisions need to engage the tension between economic activity and welfare, but in ways that ensure pro-poor and developmental outcomes. There is a risk that this shopping list of needs and intervention areas only serve to over complicate an attempt at Food Sensitive Planning and Urban Design. It is useful then to consider what other cities have done in their attempts to embrace different forms of food systems design and governance. The next section considers a selection of case studies, reflecting on cities who have engaged the food system through a broadly defined FSPUD approach.

Case studies in food sensitive planning and urban design

The following section presents information drawn from a number of cities that have pro-actively engaged in some sort of food systems planning and governance. This is in no way an exhaustive list, but cities have been selected as their interventions reflect the diversity of approaches that have been applied. Attempts have been made to select as many Southern cities as possible. Importantly, the cases demonstrate how context plays an important role in determining the form that food sensitive planning takes.

This is an important consideration. An example of this cautionary note is in the context of the first case study, Belo Horizonte. Belo Horizonte is lauded internationally for its integrated approach to food governance and planning (see Rocha and Lessa, 2012). This acclaim saw different donor agencies attempting to replicate this approach in other cities. One such city was Windhoek, Namibia.

The reality, as will be discussed in more detail later, was that the physical context, governance environment and needs were so different that only a portion of the Belo Horizonte approach was eventually applied in Windhoek. While the intention was systemic intervention, ultimately all that emerged was a single project.

Case studies do however offer useful entry points to identify the opportunities that other cities have exploited in their efforts to integrate food into their urban planning and wider governance remit. These case studies draw on earlier work by Park-Ross (2017) and have been mapped according to the Food-Sensitive Planning and Urban Design (FSPUD) matrix (which includes food systems components and the FSPUD principles), the spatial scale of the case and the actors involved in the planning and implementation of the case.

Belo Horizonte

In the 1990s, as a response to rapid urbanisation and urban sprawl, the Brazilian city of Belo Horizonte created a municipal secretariat for food supply, security and nutrition (Secretaria Municipal Adjunta de Abastecimento – SMAAB) with a mandate for implementing the Belo Horizonte Food Security Program (BHFSP). The holistic program, with a strong spatial planning frame, has received global recognition for increasing equitable access to healthy food.

This program was rooted in the political recognition of the role of the state in realising citizens' right to food (Delago, 2018; Donovan et al, 2011). The program focuses on a 'short food circuit' that connects locally produced fresh produce to consumers; a system in which planning has been able to move between permanent and non-permanent, as well as formal and informal elements of the food system. The program also included innovative processes such as participatory municipal budgeting (Delago, 2018).

An important consideration of this case study is that many of the elements of the program had taken root long before the 1990s, with the first popular restaurant being opened in 1943. This meant that the task of supporting food systems planning for Belo Horizonte was partly around institutionalising existing initiatives and making a holistic program building on the existing elements (Delago, 2018). This also meant that many years of innovation and experimentation in this area have been the foundation of success for Belo Horizonte.

The Programme involved a number of components:

Food Policy Council: the forming of a municipal secretariat for food supply, security and nutrition (SMAAB) to consult on the design and implementation of the programme consisting of representatives from various civic formations including church representatives, business leaders, worker organisations and citizens groups.

Municipal support: Increasing access to nutritious and healthy food and other basic services through municipal support for a range of food access areas in order to respond to the range of food and grocery needs of residents:

- Popular Restaurant: Five subsidised popular restaurants across the city supported by the municipality to provide nutritious meals at affordable prices.
- Popular Big Basket: City also sells subsidized non-perishable food items - restricted to low-income families who must be included in a registry
- School Meals (Merenda Escolar) Program
- Preventing and Fighting Malnutrition Program: addresses groups at risk
- 'Food Bank' (Banco de Alimentos)

- ‘Abastecer’ (‘To Supply’) Programme: A municipal food distribution centre that supplies municipal programmes such as the popular restaurants, shelters, school kitchens and more.
- ‘Worker’s Convoy’ (Comboio do Trabalhador) programme
- ‘Straight from the Country’ (Direto da Roca) programme and ‘The Country Store’ (Armazém da Roca) programme: Aimed at facilitating direct interaction between small rural producers and urban consumers: Opening public land across the city for lease to private traders for food stores that sell a range of 70 SMAAB regulated fresh products. 20 of these products had to be sold at SMAAB defined affordable rates.
- ‘Basic Basket Research’ (Pesquisa da Cesta Básica) provides a weekly list of prices for 45 basic household consumption items (36 food items, five personal hygiene products, and four household cleaners) found in 60 supermarkets around the city.

The key elements of success included:

- Collaborative planning approach and strong intersectoral collaboration: the inclusion of civil society organisations and strong civil society engagement through channels such as a municipal council in charge of advocacy around food security issues. This allowed for public policies to be supported by stakeholder advocacy.
- Central overseeing body bringing together different actors: institutional design approach that incorporated a wide range of actors, including civil society, private sector entrepreneurs and key decision makers, into the food policy planning.
- Holistic and comprehensive nature of the programme: while the programme focused on integrating food accessibility and food distribution into municipal planning, it has been argued that the success of the programme was based on the municipalities’ understanding of the entire food system (Delago, 2018; Donovan et al, 2011).
- Sustained political will: long-term political commitment to supporting food security provided the foundation for the program to be sustained.
- Assessment and monitoring: essential for learning and improvement (the flow between planning and practice), this was done through tools such as the urban life quality index, an important planning tool to identify where to direct resources through measuring a set of dimensions and providing a spatial image of access to services across the 80 urban planning areas. The food dimension is measured by the number of food outlets per 1000 inhabitants. While neglecting informal food outlets as well as social context, this provides a picture of physical access to food. This is an important demonstration of the role of data and research in both directing food systems planning, as well as in being able to understand the impact that it has had (Delago, 2018).

- Fiscal smartness: SMAAB's budget has never been more than 2 per cent of the overall city's budget (Rocha and Lessa, 2009).

Other considerations:

- Partnership with the Federal Government: The 'Fome Zero' Strategy
- Despite these pressing issues, there are indications that SMAAB has not yet been successful in its goal of mainstreaming food policy on a permanent basis.
- Most of SMAAB's programmes are implemented in partnerships.

Warwick Junction Urban Renewal Project

This case study is important to consider as it was not conducted as a food planning initiative, but rather focused on the urban regeneration and urban livelihoods. As many of the traders are food traders and they service the vast number of commuters travelling through the city's main transportation node, collective action that benefits the traders and the state of the trading environment by default has a positive impact on the food environment.

This example is included to demonstrate how closely related food planning is to existing planning activities and functions, as well as to demonstrate the importance of collaborative processes. This case demonstrates how common gains can be secured through collective action. When the project was set up in 1995, the community of stake-holders was highly fractured and there was a high degree of mistrust, largely rooted in a history of violence and hatred.

This mistrust existed between traders and trader associations, but also between trader associations and the City Council due to the perception of constant failure and lack of delivery. A collaborative approach was taken to the urban renewal project which centred on the inclusion of traders in the urban plans for the area (Dobson et al., 2009).

The Programme involved a number of components:

Urban design solutions:

- Major infrastructural changes, as well as smaller-scale changes including trader tables, sites and shelters, were addressed through design solutions.
- Urban design and management solutions were used to tackle the high level of crime and ensure a greater degree of safety for customers, commuters and traders.

Cooperative management efforts

- Services and infrastructure such as water points are managed by traders and operations of bathroom facilities are managed by taxi associations.

- Keeping Warwick clean happens through the annual deep clean by the municipal team in correspondence with weekly cleaning by volunteer cleaners, mainly female traders.

Supportive services

- Providing supportive services to traders, such as childcare during working hours (Dobson et al., 2009).

The key elements of success included:

- Inter-departmental team: an area-based team of officials located in different departments fixed coordination issues and allowed for increased connection between planning and implementation.
- Area-based project: local contextualities were deeply understood and the delineation of the space allowed for a range of officials to be present and engaging in the space on a daily basis.
- Deep commitment to consultation and participation: the commitment of all stakeholders, including project staff from the council, as well as traders and other stakeholders in the area. The long-term, incremental trust building between stakeholders was a crucial component to the success of the project (Dobson et al., 2009).

Nanjing Urban Food Planning Policy

Relatively convenient and equal access for all households to food retail options, including wet markets and supermarkets, has been achieved through Nanjing's food planning system. It includes food infrastructure development planning, mixed land use that requires the concurrent development of appropriate food outlets as development expands across the city. This means that food outlets penetrate all areas of the city. The city also plays an active role in the regulation of the private sector through a mix of controls and incentives. Residents of Nanjing have a high level of physical access to food as a result of the spatially dense and diverse food retail network, which is dominated mainly by wet markets, supermarkets and small food stores (Zhong et al., 2018). Despite the spread of supermarkets since the 1990s, the wet markets remain important outlets due to the affordability and freshness of the produce they stock, playing a vital role in people's daily access to food (Zhong et al., 2018). Most residents still purchase fresh produce, mostly green, on a daily basis.

Despite China being categorised by the World Bank as an upper middle income country, in the same categorisation as South Africa, according to the HFIAP scale, 79 per cent of Nanjing households were found to be food secure (Si and Zhong, 2018), while in Cape Town, only 45 per cent of households were food secure (Crush et al, 2018).

In 1988 the Chinese central government launched a system mandating food issues to mayors. Responsibilities include securing non-grain food supplies for cities, as well as promoting the production of food (Zhong et al., 2018). In 2008 the Municipal Government issued the Development Plan for Vegetable Basket Project (2008-2012), strengthening the role of wet markets in the city and driving their continued construction.

The Programme involved a number of components:

Land use planning

- Ensuring the spread of wet markets into residential areas through regulating the distribution of wet markets: Since 2011 city government has mandated and ensured the distribution of a wet market for every 25 000 urban residents in an area of over 2000 m². This has been referred to in a direct translation as the “crawling peg” system but demonstrates that as development moves and land use changes, conditions are imposed on the ‘developers’ who have to ensure that the requisite food outlets are included in that process.

Urban food infrastructure planning

- Food infrastructure in the form of wet markets is an embedded requirement of new residential developments.
- Regulations on wet market planning and construction have been in place since 2003.
Food infrastructure policies such as the Plan of Commercial Network ensure physical access to markets.
- The district-level government selects the management body for the market (either state-owned or private company).

An active subsidy system to facilitate small business development and facilitate affordable food access

- This is a process of ‘spatial levelling’ through subsidizing affordable food stores or zones. These include affordable food stores (AFS) or affordable food zones (AFZ) , both of which are financially subsidized by municipal government.
- AFS are located within residential neighbourhoods and AFZ are located within supermarkets.
- Affordable Food Stores are subsidized by government. The subsidies include subsidy for operations and subsidy for business establishment. In exchange for the subsidy, stores must sell no less than 10 food items with price 15 per cent lower than the mean price and other items may not be priced at higher than its nearby markets.
- In May 2019 there were 153 affordable food stores and 52 affordable food zones in business in Nanjing.

Regulation of private sector

- The “fresh produce zones” supermarkets policy outlines a minimum percentage of supermarket area to be dedicated to fresh produce.

The key elements of success included:

- Strong state resources and commitment: clearly mandated from the central government, the Nanjing municipal government has clear purview over this area, as well as corresponding resources that allow for sustained and consistent efforts.
- Responding to cultural preference: research has shown that Chinese consumers prefer to buy small amounts of fresh vegetables on a daily basis based on a cultural valuing of the freshness of the produce (Zhong et al., 2018). By supporting the wet markets, the state is also supporting culturally preferential food access.
- Coordinating different elements of planning: using land use regulations to ensure wet markets are built where they are needed as the city grows in correspondence with infrastructure planning that is responsive to these regulations, providing appropriate facilities for the markets.
- Subsidies do impact fiscal resourcing but an independent review of the subsidy processes found that while the state has spent no more than US\$ 1.4 million between 2015 and 2019, it was estimated that residents had saved about US\$ 5,5 million over the same period (Zhong, 2019¹⁵).

While very different to the African context, the case study of Nanjing highlights the importance of mixed land use that allows for food outlets in residential area. It also shows how incorporating food markets into urban infrastructure and development planning can be beneficial for urban food security.

(Zhong et al., 2018).

The above case studies are not the only cities that have engaged in some or other form of food system planning. As mentioned, some of these take a broader governance approach, one where planning is often a core component of the wider urban food system change agenda. In Northern countries the pluralistic governance model of the food policy council dominates but urban food planning is not unique to this approach. It is worth reflecting on different approaches and localities in which food planning and governance have emerged. Figure 2 demonstrated the focus areas of pluralistic governance structure across the US. When city governments have engaged in some form of food system planning or governance, the motivations and locations (or departments) in which these are programmes, projects or initiatives are managed offer insight into the diversity of governance approaches applied.

¹⁵ From HCP Maputo presentation

These are demonstrated in Figure 10, drawn from a detailed analysis of all urban food governance activities in the US in 2011. A key lesson from this is that many of these are located in departments or governance domains that reflect the multi-dimensional nature of urban food governance. This is particularly evident in the sustainability and planning departments. This is further reinforced in the locating within mayors' offices, but also speaks to a further consideration, that of leadership and the ability for a particular political actor to drive a specific agenda or change.

While this is potentially useful and can facilitate significant traction, the risk lies when that politician's tenure ends. The key challenge needs to be the embedding of these projects and initiatives in wider urban governance and planning processes.

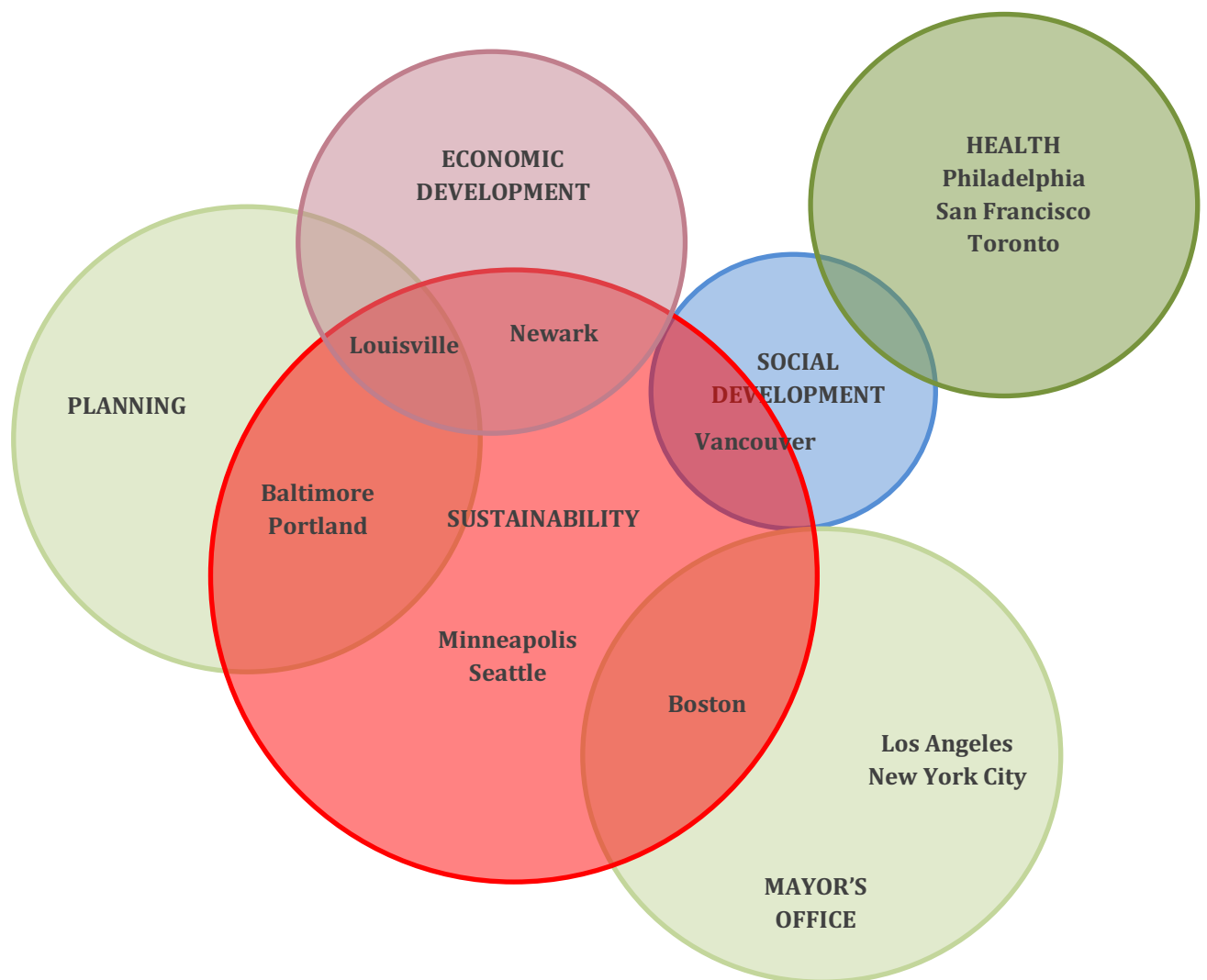


Figure 10: Bureaucratic Location of Food Policy Programs (Source: Hatfield, 2012: 16)

Embedding food sensitive planning and urban design into the South African urban governance and planning agenda

The preceding sections have demonstrated that while there is emerging impetus to use local government planning and governance processes to integrate food related considerations and challenges into urban management, the approaches remain project focused (as part of a new development) or issue focussed (such as the urban agriculture examples) and are generally in the pre acceleration phase (see Ilieva, 2016).

Additionally, many of the examples cited are drawn from cities and contexts that may face nutritional and access related challenges similar to those of South African cities, but their histories, economies, governance and even civic relationships, are very different to the African and South African context. This does not discount the importance of FSPUD as a new and emerging area of intervention. In many respects, it is a pro-active tool to engage the contemporary governance challenges faced by South African cities.

FSPUD provides a tool to apply a systemic response to the urbanisation of food security and food system challenges and the governance thereof governance, connecting food to urban management and functions. There are a number of processes and mandates (and responsibilities) of local governance into which food can be inserted and FSPUD facilitates the inclusion of other components, in this instance, informed by the likes of SPLUMA and other land use governance dictates. Figure 11, drawn from emerging work by Görgens and Petersen offers a schematic representation of how Food Sensitive Planning and Urban Design could be incorporated into the current planning and governance processes of the Western Cape, inserting food planning into certain existing mandates, while adding additional areas of focus. The use of the domains of “local – space”, “locale – point of interaction” and “sense of place – culture” provides significantly more depth and nuance to how FSPUD is framed.

It is worth reflecting on the potential impact that this could have on the local food system though. The primary challenge for the provincial sphere of government, in accordance with SPLUMA and other emerging planning processes and statues is that the role is restricted to an advisory role only. As such, it could be argued that while Figure 11 is suitably detailed and provides an essential point of departure for local government to act on the food system challenge. The impetus to act is seen as less important, a nice to have, not an obligation – an “unfunded mandate”. Other pressures are required to get governments to act and engage the challenges detailed in terms of food insecurity and significant public health challenges.

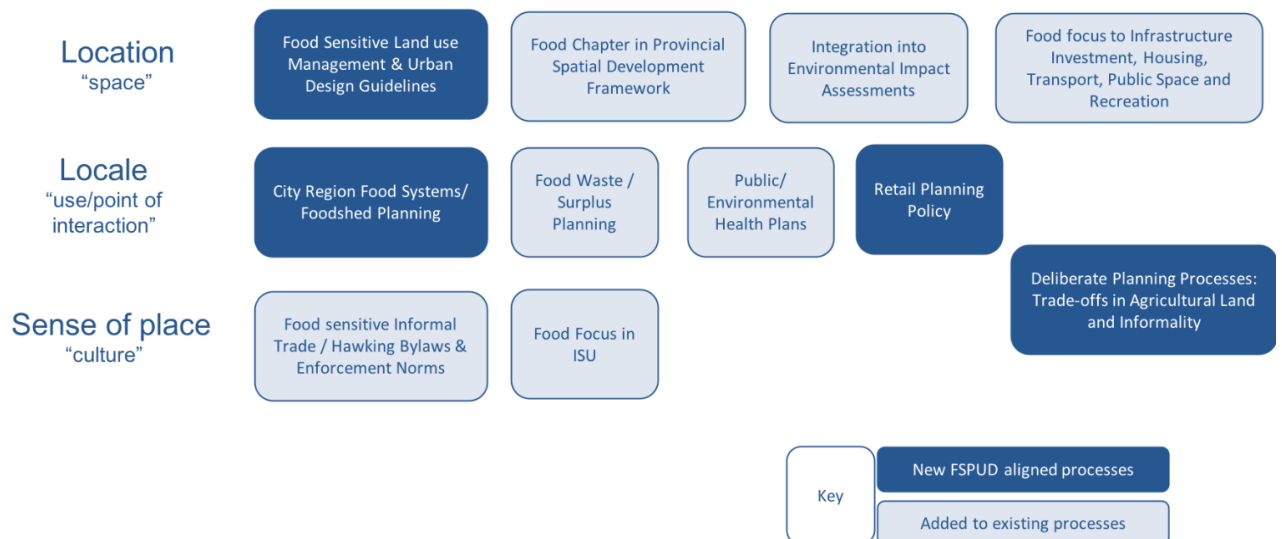


Figure 11: Inserting Food Sensitive Planning and Urban Design into the Western Cape planning and governance processes (Source: Gørgens and Petersen, 2018)

These processes and detailed planning and governance processes all assume formal planning systems and processes. This is a somewhat conceited position.

As Bayat (2000), Satterthwaite (2006) and others have clearly pointed out, significant parts of cities of the south are being planned, but not by planners in the official sense, not by formally appointed city planners, but rather, by citizens themselves. To assume formal planning processes ultimately determine the nature and function of the city is problematic.

Herein lies one of the central challenges in the current framing of the FSPUD process. Not only has it originated from developed world cities and contexts, it assumes a certain governance mandate, and a form of respect, and benevolence of that mandate. For many urban residents, formal planning not only excludes them, it often turns them into criminals or at best, beggars, dependant on the largess of city officials or other gatekeepers.

For FSPUD to hold any viability in Southern and South African cities, it needs to serve both the formal and informal elements of the food system and food system functioning. As Figure 6 demonstrated, for many of the poorer households in Cape Town, the informal food retail sector is an essential point of food access. Represented in an admittedly linear manner, and accepting that the divide between the formal and informal binary is seldom clear cut, Table 7 offers a sense of the extreme differences between formal and informal planning.



'Formal' processes	Planning/development stages	'Informal' processes
	Planning	
	Servicing	
	Construction	
	Occupancy	

Table 7: Formal versus informal planning trajectories and processes (Source: Görgens and Petersen, 2018)

Table 7 demonstrates the potential extremes in the difference between formal and informal planning, what Vanessa Watson has described as “Conflicting Rationalities” (Watson, 2003; de Satgé and Watson, 2018). It also demonstrates how formalised planning may allow for some certainty and systemic engagement but given the significant role that informal “planning” plays in the food system, this demands very different forms of engagement and planning. This presents a real operational challenge to planners and other urban governance actors.

Response to these differences range from attempts at inclusion, often through other non-state agents – an example here being the VPUU role played in association with the city in the case of informal housing, or city partnerships with organisations such as the Federation of the Urban Poor and their collaboration with government officials. These collaborations are often borne out of lengthy periods of struggle around key service delivery challenge – in the case of the examples, housing.

From the perspective of informal food retailers, as Skinner and Haysom (2016) have argued, engagement ranges from a planning and “policy environment for informal operators is at best benign neglect and at worst actively destructive” (Skinner and Haysom, 2016: 1). When considering the state’s role and the intersection with formality, it is useful to detail where the state has a role and where the reach of the state is less direct, and at times largely absent.

Planning still needs to consider these areas and here the work of Görgens and Petersen (2018) offers a useful way in which to plot where different forms of governance, planning and even engagement are required. These are detailed in Figure 12 and expand the discussion providing greater nuance to the formal/informal binary set out in Table 7.

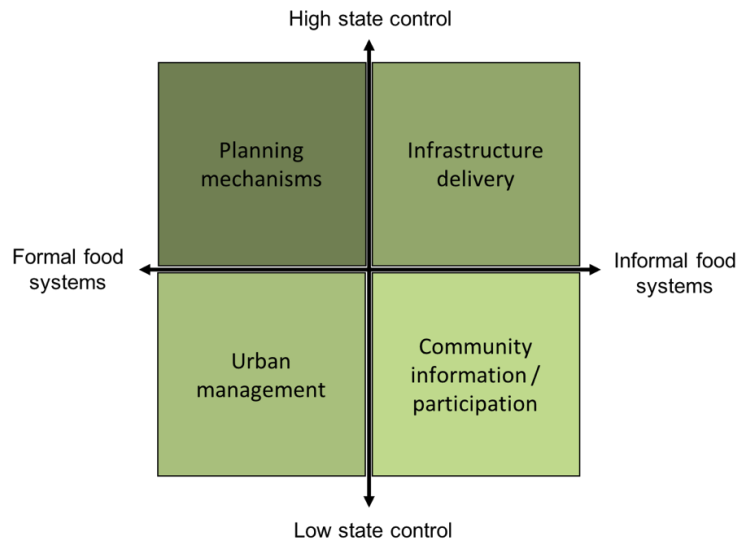


Figure 12: Modalities of state influence on different aspects of the food system (Source: Görgens and Petersen, 2018)

One of the central challenges for food sensitive planning and urban design in South African cities is the need to be both strategic and rigorous in terms of plans and processes to support FSPUD processes, but at the same time, to be nimble and adaptive. Finding ways to engage the fluidity of the food system in contemporary African and South African cities requires an approach to planning and design that does not necessarily align with some of the more normative approaches applied by planning professionals. This point raises a second challenge.

Given the informal nature of much of the food system and the frequent clashes and contestations between formal and informal food system operators and systems, officials and planners can retreat and abdicate responsibility, arguing that due to the fluidity, formal planning and governance processes are made redundant, or alternatively to revert to strict bureaucratic rule-based approaches. These responses need to be cautioned against as they re-enforce conventional, formal top down approaches that fail to activate place and space, do nothing to stimulate interaction and culture (Figure 11), and ultimately constrain potential positive food system outcomes.

The end result being similar to the processes warned against by Pothukuchi, namely that the absence of planning does not have a neutral outcome, but often negative outcomes (2000). It is also instructive to note that in the food system, formal and informal operations often work in collaborative ways with clear overlap and collaboration taking place between these different entities. In reality, what is evident in the urban food system of South African and African cities is not the clear binary between formal and informal food systems but rather a continuum across the food system. FSPUD needs to be able to engage that entire continuum.

Engaging in food system planning and urban design in Southern cities thus requires both formal and structured food system planning and design, but also other less formal, more iterative and responsive planning processes. The question is how these align? How can planning and design processes integrate with the food system continuum, which also operates across scales, from the international to the local scale?

This means that while clear operating strategies can be set out, what is perhaps required is for these operating principles to be embedded within a set of value-based positions or principles, principles that guide actions and approaches to Food Sensitive Planning and Urban Design. Here the concept of a 'sense of place' depicted in Figure 11 offers a possible principled position that could serve to inform a South African food planning approach.

Borrowing from Kelbaugh's 1997 book "Common Place" we provide a number of design senses as possible principles that could inform Food Sensitive Planning and Urban Design. While Kelbaugh's concept of "New Urbanism" may not have achieved the traction imagined, and has been subject to critique, the approach suggested by Kelbaugh that sees a set of principles that underpin specific so-called "senses", a sense of place, a sense of limits, a sense of equity, as examples, offer possible entry points to inform a Food Sensitive Planning and Urban Design approach in South African cities.

It is appreciated that principles are often less binding than hard deliverables and are generally subjective. However, there is a risk that hard deliverables and planning directives could disenfranchise certain food system actors and as a result ultimately undermine the possibilities presented by FSPUD. In this paper we expand on the senses suggested by Kelbaugh, proposing six senses: a sense of place, a sense of economy, a sense of limits, a sense of history, adding, a sense of justice and a sense of equity. Figure 13 demonstrates the interconnected application of the six senses within the wider FSPUD concept.

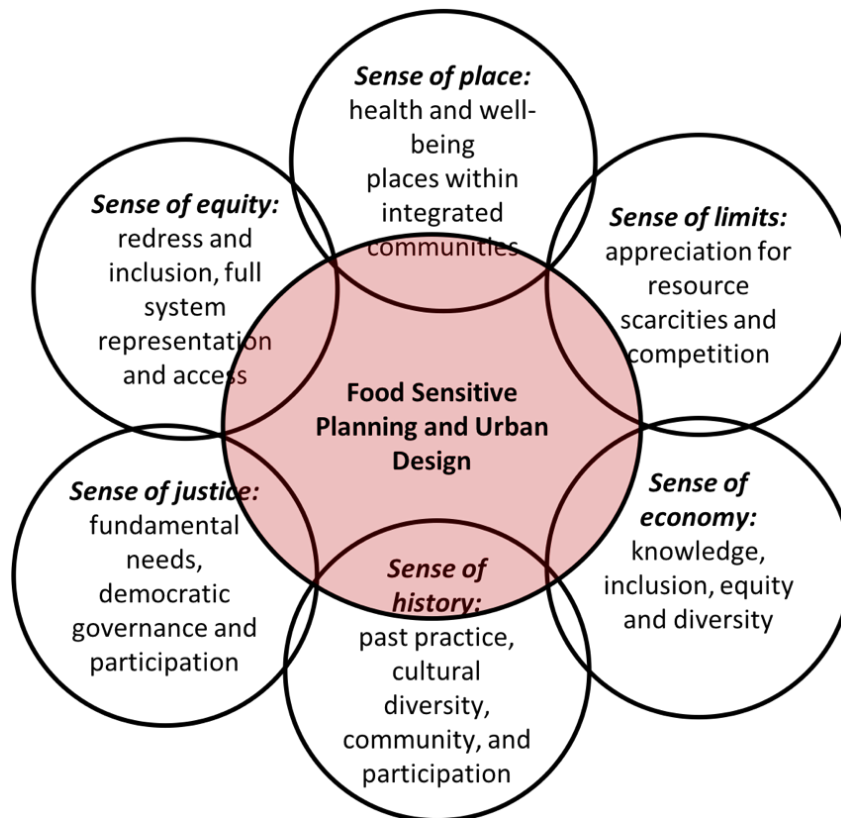


Figure 13: Seven senses guiding Food Sensitive Planning and Urban Design (Source: adapted from Kelbaugh, 1997)

While these six principles offer the overriding framework in which FSPUD actions and interventions need to be applied, a number of processes are required to integrate FSPUD into the current planning and governance activities at the different spheres of government. These need to be considered from the principled perspective as set out in Figure 13, but due recognition also needs to be given to where the specific FSPUD intervention may locate in terms of the state's influence (Figure 12). These include the following:

- The establishment of a designated food planning mandate within city and provincial and other related planning agendas.
- To insert food system and food security impact as a key question in all planning applications (in a similar manner to how Environmental impact Assessments and Heritage Impact Assessments are required for many planning applications).
- To articulate food as a public good or public utility and to then call for the consideration of food as being similar to water, health, etc. as an essential service. This has two outcomes
 - All planning needs to consider food as a key component of all activities (like the above two points)
 - Cities need to actively work to support access to this public good and in so doing protect citizens when access to this is denied or constrained.

- To establish a process whereby FSPUD is embedded in specific city led projects, and development processes – like development nodes (more project focused where FSPUD is informed by project needs and not wider principles).
- To initiate processes where FSPUD itself starts setting out direct rules and conditions that facilitate the above – here the case of Nanjing is instructive, so examples of the legislated number of food outlets (and the type) needed for all housing developments, etc.
- Deliberate liaison, and conditionalities applied, with other spheres of government to insert FSPUD into things like subsidy housing design, transport plans, land reform, etc.

While these interventions may provide a sense of how and where to engage, different tools and incentives need due consideration and integration into the overarching FSPUD process. Below is a preliminary list but these need to be expanded on, and customised to adhere to the specific needs of a planned project, process or initiative, while at the same time being cognisant of the nature of authority, be this departmentally or in accordance with the legislative powers set out by the Constitution of through SPLUMA. These also need to be read in the context of the modalities of state influence, as detailed in Figure 12, where nuance and difference is facilitated, as opposed to generic regulations. These tools and incentives include:

Regulatory tools

Production

- Zoning and other regulations to support food production using Overlay Zones to permit food production and processing in urban areas.
- Incentivising urban agriculture in planned neighbourhoods.
- Favourable vacant non-housing or community service type land reuse policies for urban food production.
- Appropriate ordinances and bylaws permitting livestock in urban areas.
- Processing Zoning regulation that accommodates food processing, manufacturing and distribution.

Retail

- Permitting the sale of produce from urban agriculture in residential areas.
- Regulatory incentives to encourage the sale of healthy foods.
- Farmers markets as ‘permitted use’ within particular zoning districts.
- Trading plans for all neighbourhoods and townships.
- Preferential trading sites for traders of healthy foods and food from local production.
- Regulating the food environment through zoning that restricts the number of fast food restaurants within specific areas.
- Zoning that bans fast food restaurants (For example, for a 2km radius around schools)

Consumption

- Healthy eating and obesity prevention resolutions.
- Proactive disposal and redistribution of foods and wastes.
- Using municipal bylaws to support composting and recycling.

Developmental

- Systems and processes to counter the negative externalities emerging from the current food system.
- Alternative conditions placed on those who disproportionately benefit from the current planning and regulatory system.
- Incentivisation of processes and practices that serve the public good.

Fiscal incentives

Production

- Grants, levies and reduced rates to support urban agriculture, driven from the city scale but contingent on effective monitoring and evaluation.
- Fiscal mechanisms or incentives to secure, protect and ensure viability of peri-urban agricultural land.

Retail

- Reducing or waiving fees or taxes for developments and food retail businesses that support access to healthy foods.
- Fresh food incentivisation: providing incentives to informal retailers or other qualifying food sales entities (such as markets) to provide more and better-quality fresh produce or through the reimbursement or waiving of municipal-levied costs.
- Programmes to assist in supporting food access retailers during the start-up phase.
- Integration of other infrastructure services into retail areas, including WASH facilities and localised service provision, such as storage and refrigeration.
- Alternative taxation regimes to counter those profiting or disproportionately benefiting from existing infrastructure and state funded services.¹⁶

As Porter *et al.* (2007: 116) suggest, there are complex processes and rules shaping food systems in Africa, and “we need to know more about how these formal and informal regulatory systems operate if we are to improve access to markets and thus enhance urban food supplies and also secure income and livelihoods.”

¹⁶ This point specifically applies to developments that disproportionately absorb services and infrastructure delivery and result in other delivery to needy communities and sites being delayed. When this infrastructure then enables profit maximization and benefit to one type of food system actor over others, those disproportionality benefiting need to be taxed or penalized and funds raised appropriately distributed. Examples here are mall developments that displace other food system actors.

For this reason, no Food Sensitive Planning and Urban Design approach would be viable without constant review and reflection. Central to this is the development of a knowledge bank, a resource that ensures that suitable knowledge is generated and that this knowledge is applied in rational ways so as to inform planning and design decisions and processes. While it is appreciated that planners will always argue that planning is rational, experience have shown that despite their best intentions, planners (not just formal city planners, but all actors who are planning cities) come up against both the competing rationalities of the everyday urban struggles (for more on this see Watson, 2003), but also the competing rationalities and agendas of politicians.

Exactly how these significant disruptors are overcome or circumvented remains a challenge but here planners have specific tools, frameworks and legislation that can serve as a counter to non-food sensitive directives. These include the various planning laws and specifically the Constitution. However, the reality of working within the highly politicised environments of government does pose challenges that should not be discounted.

CONCLUSION

It would be incorrect to say that Food Sensitive Planning and Urban Design is a new trend embraced by the planning profession. As evident from most of the cases cited in this working paper, and the absence of any real strategic engagement in food by planners and urban managers, FSPUD is still in its infancy, emerging as a new way in which to de-scale and integrate food into local government planning and design.

Most of the initiatives discussed in this paper are projects and while these projects have been able to integrate their work into the wider planning regimes in their contexts, FSPUD is far from the notion of stabilisation described by Ilieva (2016) in her review of FSPUD, locating most projects in the pre-development or launch phase (See Figure 4) . Of the cases detailed here, the two Southern (or developing world) cities, Belo Horizonte and Nanjing provide the most concrete evidence of embedded city scale strategic engagement if food system issues for the attainment of the broader public good.

These two cities offer insights into how systemic and strategic planning, across both departmental divides and spheres of government have enabled public benefits in a short period of time.¹⁷

¹⁷ In a recent food systems site visit in Maputo, Mozambique, a senior food system researcher from Nanjing commented on the fact that the challenges, nutritional, structural, political and economically, seen in Maputo were exactly the same as those he observed as an undergraduate student in Nanjing 30 years prior (Zhong, 2019). Also, it is important to note that as a result of political changes in Brazil, funding and resourcing of the urban food work has been significantly reduced with uncertain outcomes.

These cities reflect vastly different contexts but both have sought to improve the general health and well-being of their citizens through an integrated and coordinated systematic response to food insecurity, hunger, food related illnesses and broader developmental challenges. These are challenges that every South African city faces.

Perhaps the overriding challenge faced by South African cities, specifically the food insecure and hungry residents of these cities is the fact that cities feel that they have no mandate to govern food system related activities. This is a false perception and this working paper has demonstrated the multiple avenues through which cities can pro-actively engage in food system planning and governance.

It is suggested that the Constitution and other planning directives following from the Constitution in fact make a proactive (or progressive) engagement in such food system activities an obligation for local and provincial governments. Initiating urban agriculture projects will no longer be deemed appropriate. In fact, it is argued here that unless such projects form part of a detailed strategic food system planning at the urban scale, they serve as nothing more than politicking and a dereliction of city official's and politician's obligation to society.

Cities have strategic planning tools and mechanisms which include amongst other things, the Integrated Development Plans (IDP) and Spatial Development Frameworks (SDF), both of which need to engage with the urban food system in significantly more detail. A scan of most of these city scale planning documents notes that city scale strategic engagement in the food system is largely absent from these, bar some mention of urban agriculture projects or the "formalisation" of hawkers and traders.

City government is admittedly hamstrung by the silo-ed operating structures and systems that have been designed to ensure efficiency in formal environments, but these are woefully inadequate in South African cities. Planning, and urban planning specifically, offers a measure of integration. By its very nature planning needs to engage across the silos of government. Food and the urban food system span multiple city functions and areas of responsibility. Integrating food and planning makes sense and enables different approaches to both, and wider city scale engagement in the food systems challenges faced in South African cities.

Importantly, cities, particularly the larger metropolitan areas, are currently engaging multiple contemporary challenges, restructuring operating systems and processes to engage these challenges. Many of these challenges also demand greater integration and coordination. By their very nature they require that city officials and politicians find ways to connect disparate initiatives and governance fragmentation. Food systems planning forms part of a new type of urban governance.

These processes and new ways of governing offer both tools and insights into how food can be integrated into urban governance and planning, to ensure that city governments deliver on their Constitutional mandates.

This working paper engaged in a detailed historical reflection. The purpose of this was to demonstrate that for over 100 years, South Africa's food system has in fact been designed and managed as an urban food system. The need to provide cheap food to placate an urban workforce was a central strategy of both the colonial and apartheid governments. By privatising most food system functions following the 1994 transition, the post-apartheid state continued with the same sort of industrial policy. A key development opportunity was missed.

The challenge, however, is that the food policy of the past 140 years has meant that food poverty has been normalised, with highly problematic outcomes., outcomes that will only serve to constrain development and the transition to a more equitable and just society. The current food system will externalise its flaws to the public health system, and the general wellness of society. Proactive steps are needed now.

Despite the nefarious intentions of previous South African urban food policy orientations, the cases cited here demonstrate that it is possible to govern the food system and the food system processes in such a way as to facilitate strategic outcomes – at the urban scale. Given South Africa's urban demographic, locating all food security responsibility with national government, and the department of agriculture is both inappropriate and counterproductive.

Cities need to engage the food system and the related food system outcomes in a dramatically different way. Transferring rural approaches to urban areas is both inadequate and naïve. Required are for more systematic engagements, engagements that integrate food system governance and planning into the existing city functions and obligations.

Food System Planning and Urban Design is one such approach. Despite this being a new and emerging area of food systems work, the role and impact of food on the urban system means that to have a city that “works for all” food and planning need to be integrated and aligned in ways that are very different to current approaches. FSPUD is one such approach.

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