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REIMAGINING SOUTH AFRICA'S URBAN FOOD SECURITY AND NUTRITION THROUGH THE LENS OF INFORMAL FOOD SECTOR: THE CASE OF BUFFALO CITY MUNICIPALITY

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ABSTRACT

The African Food Security Urban Network (AFSUN)survey found that over 70% of low-income households in South Africa sourced their food from informal outlets. Despite the importance that the informal food retail sector plays in food security, it remains neglected by policy support and institutional funding. The paper focused on the role of local informal food markets in addressing urban household food security in Buffalo City Municipality (BCM), South Africa. This paper argued that informal food markets including food vendors have a potential to improve household food insecurity levels but face many barriers. The study sought to identify these barriers and make an understanding of how these local food markets adopt coping mechanisms in meeting their basic needs including addressing household food insecurity. A qualitative approach was adopted for this study. Data was collected from 40 food vendors, particualrly street vendors and home-based enterprises in the township of Duncan, through interviews, observations, and archival research. Interviews included semi structured interviews to gather insights from street vendors, while interviews with city officials provided key informant perspectives. This study's findings show that households without access to networked infrastructure use informal food markets as: (i) a food source, (ii) a food kitchen and a cookstove and (iii) a refrigerator, to purchase their foodstuff and other ready-to-eat meals.

KEY WORDS Urban systems, household food and nutrition security, infrastructure systems, local informal food markets, vendors and households, governance practices.

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1. INTRODUCTION AND BACKGROUND STUDY

This paper focused on understanding urban household food security and nutrition needs of the marginalized and low-income urban populations in a poorer neighborhood of Duncan Village, a township under Buffalo City Municipality in the Eastern Cape Province of South Africa. This paper opens its discussion by briefly presenting food systems outcomes and the variance of food insecurity levels globally and per region, country, city, population group, and gender disparities. It highlights the absence of active policy and governance engagement in acknowledging the pivotal role of local informal food markets on urban food security considerations in the current discourse, this is despite the increasingly important role of local food markets including traditional informal food markets in most marginalized and low-income urban populations in the global South cities.

Urbanization, as the poverty and food insecurity rate, is a significant global challenge. In 2022, the global population reached 8 billion people (UNDESA, 2022). Over half of this population (55%) today lives in cities, and this share is projected to increase to 60% by 2030, also increasing the global population to 8.5 billion people by the end of the current decade (UNDESA, 2022; UN-Habitat, 2020). Regionally, most of the urban population growth is taking place in the global South cities of Africa and Asia, where the pace and scale of urbanization far exceed economic growth in these global South cities, especially in sub-Saharan Africa (SSA), contributing to exacerbating levels of urban poverty and inequality (Tefft et al., 2022). Africa is currently one of the least urbanized regions in the world yet urbanizing faster than any other region globally. Africa's urban population has doubled in the last decade (1.152 billion), and this share is expected to double by 2050, thus surpassing 2 billion inhabitants in the region (UNDESA, 2022). Many Southern cities today have high urbanization rates yet little significant industry (Silver, 2023) In the context of South African urbanization, with a population of 62 million people, South Africa has a young, urbanizing population of about 68%, and by 2030, it is projected that over 71% of the country's population will be urbanized (Stats SA, 2022; UN Habitant, 2022). South Africa's urban population has grown rapidly since the 1980s following the abolishment of apartheid influx controls (Turok, 2014). South Africa's urbanization still reflects the legacy of institutionalized racism, urban exclusion, and rural deprivation. Further, it remains a crucial process with far-reaching social, economic, and environmental implications for South Africa (Turok & Borel-Saladin, 2014). Rapid demographic growth puts more significant strain on available resources, including infrastructure and food provision, and the capacity of city planners and managers to manage these large metros (Turok, 2014). Consequently, this has caused a shift in the food insecurity agenda towards urban areas (Crush et al., 2012), putting much pressure on city and local governments to develop strategies and models focused on improving the provision of urban infrastructure and food security (Turok, 2014).

Since 2015, food prices in South Africa have been rising sharply causing volatility in food prices, thus posing challenges of vulnerability to urban residents who are often forced to minimize their expenditure on other infrastructure use to meet their basic food needs (Stats SA,2021). Urban food insecurity in South Africa is mainly depicted by low dietary diversity, malnourishment, and distinct hunger seasons (ASSAf, 2023). With a national unemployment rate of nearly 30%, and over 60% youth unemployment as of 2023, South Africa is sitting on a time bomb (UN Habitat,2020). The Covid-19 pandemic has worsened food insecurity in the country, as evident with a statistical record of 15 % of the 18 million households experiencing inadequate food and, 6% experiencing severe inadequate access to food, particularly in larger cities(metros) of the country (ASSAf, 2023; Stats, SA,2021).

This study was focused on food insecurity levels in the Eastern Cape Province, particularly in a poor township of Duncan Village located under Buffalo City Municipality which is one of the eight major metropolitan cities in South Africa that houses a corridor of urban areas of the port city of East London, King Williams Town (KWT), Bhisho, Dimbaza and big townships like Mdantsane, Zwelitsha and Duncan Village (Masuku, 2023). Stats, SA (2021) shows that Bufalo city recorded 1.6% of the national population of households affected by inadequate access to food. Although these figures at a regional level appear to be very minimal, this study's findings show that food insecurity at household level especially in the metro's townships such as Duncan where data was collected for this study is high.

1.1. Problem statement and research aims

While South Africa is awash with food to feed all residents, there is unequal distribution and access to this food emanating from a deeply systematic inequalities that persist within the country (Masuku,2023). This has translated into many urban dwellers especially marginalized and the poor to experience severe levels of food insecurity (Battersby et al.,2014; Frayne et al., 2018). Since urban populations especially the marginalized have limited and, most often, no land and means to produce their own food, they rely on the retail system to purchase food (Davis,2022). Urban food retail systems are a hybrid mix of formal (supermarkets, retail shops) and informal markets (street vendors, hawkers, traditional open-air markets, home-based food outlets), which play a crucial role in ensuring the availability and accessibility of food supply (Young & Crush, 2020; Skinner, 2019).

South African food system is highly concentrated on food retail market which is dominated by a few monopoly corporations including Shoprite Holdings, pick n Pay Retailers, Spar Group, Massmart, and Woolworths

who can use their financial power and influence to control the market, and effectively shape the playing field in their favour (Greenberg et al., 2017). This liberalization of South Africa's food systems which has resulted to large-scale private sector dominance has minimized government's role to control food markets (Crush & Zhengzhong, 2021). This shifting role of the private sector taking dominance in the food system especially in urban system has taken a political traction in South African cities where government support increasing the presence and expansion of supermarkets (Crush & Zhengzhong, 2021), and this is pushing small, independent and local food markets out of business.

This study comes under the background of a neglect of the informal food sector by urban policy frameworks and government institutions who continue to view informality through the lens of repressive management. During the hard lockdown of 2020, the South African government declared that the informal sector would not be permitted to operate as it was not seen as a sector providing essential services (Masuku,2023). This paper argues that Informal food markets play a crucial role as a driver of household food security and serve as the primary source of income for most poor and marginalized urban populations particularly in Alexandra township. These markets also serve as the primary source of income for those unable to find employment in the formal sector (Adeosun et al., 2023). The African Food Security Urban Network (AFSUN)survey found that over 70% of low-income households in South Africa sourced their food from informal outlets (Frayne et al., 2018). Despite the importance that the informal food markets play in urban food security, it remains neglected by policy support and institutional funding directed towards effective governance, symptomatic of a wider neglect of the livelihoods of those who are engaged in the informal economy to make a livelihood life (Battersby et al., 2016; Skinner & Haysom, 2016).

1.2. Study Aim and Objectives

This paper aims to rethink South Africa's urban household food and nutrition security through the lens of local informal food markets.

This study was guided by its research objectives:

- Identifying and understanding barriers that limit the potential of informal food markets in addressing household food insecurity and poverty related issues in Ducan Village.
- Understanding the missing link in local government intervention mechanisms that aim to capacitate informal markets

This paper is divided into five sections. Section I has outlined the background and context of the study, and the related problem statement, rationale and framing for the study. Section 1 also frames the research aim and objectives that steer this paper. These research objectives are then substantiated by an in-depth discussion within the literature framing this study's theoretical framework. Section II sets out the approach of the study including the study area. Section III focuses on the theoretical framework which is centered on the broader conceptualizations of urban food systems, infrastructure systems and everyday urbanism within the southern urban context. Section IV presents findings and expected impacts. Section V gives a conclusion, study limitations and contributions of this study to the body of knowledge.

2. SECTION II: RESEARCH DESIGN AND CASE STUDY AREA

This research design is informed by the study's research aim and objectives. To enhance the validity and reliability of this study's findings, a qualitative approach, which is alluded to as constructivist, was considered appropriate to understand household food insecurity outcome and barriers faced by households engaged in informal food markets.

Data was collected from low-income households and street food vendors in Duncan Village East and Central. Duncan Village is divided into three sections that form Duncan Village Central, West, and East (Masuku &Nzewi,2021). Duncan is a marginalized township which is a legacy of Apartheid with high rate of informality (i.e informal sector activities and informal dwellings) located within East London, the administrative city of the Buffalo City Metropolitan (Masuku & Nzewi, 2021). The neighborhoods of Duncan East and Central are the most densely populated and sprawled with informal stand alone and backyard dwellings without water, sanitation, and electricity (Masuku &Nzewi,2021). Data was collected through semi-structured interviews with informal food vendors (i., e, e street vendors and home-based food operators), key informant interviews with city officials, observations, and archival research which included policy, and document analysis.

Table1 depicts this.

Table 1: Research Methods

	Method/instrument	Audio and visual techniques	Participant groups
1	Individual interviews included thirty-three semi-structured interviews, and ten key informant interviews were conducted.	Voice recording (visible hand-held or table-top device).	Street vendors, households' community leaders, City officials, and civil society members.
3	Participant observation mainly involved observing food vendors, and households' everyday hustles Notes, pictures and/or audio recordings were only used when consent was granted to analyse and write the research's outputs.	Written hand notes, photographs, Voice recording (visible hand-held or table-top device).	Street food vendors, and households from both formal and informal housing structures
4	Secondary document analysis involved analysing archived documents, including online sources, CoJ IDP documents, and official and media reports.		

Source: Masuku,2024

40 households involved in informal food sector activities, and 10 key informants from relevant offices of BCM including mayor's office dealing with service delivery and managing informal sector and food related activities were interviewed. Table 1 below represents the sample size for this study. Table 2 below illustrates the sample size used.

Table 2: Participant groups: n=50

	Participant group	Detail of participant group	How identified?
a	City officials (8)	2 Ward councilor, 3 senior administrators from the portfolio of Housing and Infrastructure Services, and Economic Development, quasi-governmental actors, which included 1 facility manager, and 2 officials from the Metro Police Department	Some names and portfolios are publicly available, while other contacts were referrals from other government entities.
b	Community leaders (2)	Representatives serving on local structures (Inc. Tata Jobe a Philanthropist and Community Activist)	Community leaders were identified during the pilot study of this PhD research project in the area.
c	Community members (40)	Residents of Duncan Village working in the area and using its public spaces (26 street food vendors and 14 low-income households from both formal and informal dwellings). All were 18 years of age and above.	With the assistance of community leaders and the researcher's own networks in the area.

Source: (Masuku,2024)

Purposive and snowball sampling techniques were used to identify these participants who satisfied the study's criteria. Data saturation was used as a determinant for the sample size. Data saturation refers to situations where additional interviews do not yield any difference in data or themes (Morris, 2015). Thematic content analysis emerged from fieldwork interviews and archival policy documents. The planning and organization of data began in the initial stages of fieldwork where raw data was collated through observation, recording of interviews and taking notes. The interview recordings, notes and texts were critical during data coding which began during fieldwork where the researcher transcribed interview responses.

3. SECTION III: STUDY THEORETICAL AND CONCEPTUAL FRAMEWORK.

3.1. Introduction

The theoretical framework of this study is centered on the Sustainable Livelihood Approach- a people centered approach on progressive thinking about how the poor and vulnerable live their everyday. The sustainable livelihoods approach as a tool that facilitates and links people to their enabling environment and capabilities to that influences and shape the outcomes (i.e., financial resources, infrastructure, social networks, and institutions) of their livelihood strategies (Masuku,2023). The livelihood framework depicts the survival strategies that the poor use to create opportunities using their assets for livelihoods. This framework enables us to understand the vulnerability status of the poor and the impact in which external factors such as policy and economy have in the livelihoods of the poor (Shabalala,2014). The Sustainable Livelihood Approach was imperative for this study to understand the livelihood strategies of the urban poor in Duncan and assess the sustainability and constraints of such livelihood strategies

This study is also underpinned by its conceptual framework centered on the broader conceptualizations of urban food systems and everyday urbanism. This thesis focuses explicitly on southern urban food systems outcomes of the urban poor (vendors and low-income households). This section is structured in two interrelated sections.

Firstly, it elaborates on the literature on Southern urban food systems and the state of Southern food security outcomes, especially at the household level.

Secondly, the chapter discusses the literature on Southern urbanism to understand informality and how it impacts food and urban food systems.

3.2. Food security paradigm

Access to food is a fundamental human right that serves as a legal framework that is crucial for ensuring food security and sustainable food systems (HLPE,2020). The High Level Panel of Experts (HLPE) on Food Security and Nutrition (FSN) and Food and Agriculture Organisation (FAO) have put forward a concept of food security and nutrition that has evolved and transformed over the past five decades to acknowledge the essentiality of (i) agency, (ii) sustainability, together with the four other dimensions of (iii) availability, (iv) accessibility, (v) utilization, and (vi) stability (HLPE,2020; FAO, 2006). Maxwell (1996) argue that the concept of food security began as 'a profusion of ideas that permitted scholarship dialogues and debates. The concept of food security had its genesis in the United States of America (USA) in 1943 after the historic Hot Spring Conference of Food and Agriculture (Tawodzera, 2010). The dialogues and debates that followed the 1943 Hot Spring Conference paved way to the right to food being acknowledged as a key element of a sufficient welfare in the Universal Declaration of Human Rights in 1948 and subsequently the formation of the World Food Programme (WFP) in 1963 (Tawodzera, 2010).

These events marked the cutting edge of food security issues being prioritized in international development work by both governments and other key stakeholders (Tawodzera, 2010). The concept of food security gained its full recognition and consolidation in the mid-1970s during the alarm of global food crisis. This study considered that the food security that was emphasized at the time of inception of the concept of food security was more on regional, national, and global food supplies than at household level. The focus was on mass scale agricultural production to address the supply of food without considering the accessibility of this food by the ordinary majority people. As such household food insecurity was never addressed until the 1980s and 1990s when scholarship that includes Sen (1981), Smith (1998) and Maxwell (1996) began to challenge the concept of food security on mass scale of agricultural production and called for rethinking the concept of food security through the lens of household food security within the urban context.

The work of Amartya Sen in the 1980s played a crucial role in guiding the International Food Conferences and Institutions to carefully plan food security measures with human development at the centre of the concept. As a result of Sen's work, the concept of food security shifted its focus from 'national food availability' to 'food entitlements'. In his work, Sen demonstrated that the availability of food was not the solution to end starvation and achieve food security because most people were not given entitlement to food which resulted to inequalities due to unfair and irregular distribution networks of the food (Sen, 1981). An entitlement is an exclusive right given to a particular individual, group, or class. According to Sen, entitlements were imperative for the access to food resources by people to end hunger and starvation. Since many people had no entitlement to food, they were bound to experience food insecurity at household level.

Sen's work had much significant influence in food policy frameworks and the approaches adopted by key stakeholders (governments, international agencies, business, non-profit organizations, and civil body organizations) in food security agenda. In 1983 a new inclusive and consolidated definition of food security shifted from national scale to household and individual level to include other factors like availability of incomes and affordability of food for households. Here food security was conceptualized as ensuring that all people at all times have both physical and economic access to the basic food that they need was conceptualized by Food and Agricultural Organization (FAO, 1983).

The HLPE report outlines that "Food security is a situation that exists when all people, (agency) at all times, (stability and sustainability) have physical, social

and economic (access) to sufficient, (availability) safe and nutritious food that meets their dietary needs, (utilization) and food preferences for an active and healthy life." (HLPE, 2020:11). This current definition identifies six dimensions of food security and acknowledges that despite food being available, this does not mean everyone has access to it. Availability refers to sufficiency in the quantity and quality of food that is culturally acceptable and meets the dietary needs of individuals. Marrengane and Croese (2021) proclaim that availability goes beyond sufficiency to include the relative balance of necessary infrastructure services needed to furnish nutritious and healthy dietary types of food. Battersby and Haysom (2018) posit that the concept of availability in food access gives rise to the question of food system drivers (i.e, who are the key drivers to produce and furnish these healthy foods needed by the urban consumers?)

Accessibility is the ability (economic, social, and physical) to obtain financial resources to acquire adequate food for a healthy diet. Accessibility should satisfy individual needs and groups, especially the vulnerable, without compromise. Battersby and Watson (2018) assert that access to adequate and nutritious food relies on income available to the household, and on the cost of food, therefore, having insufficient income to buy adequate food consequently lead to food insecurity at household level. Utilization is an act of making full usage of other infrastructures such as clean water, energy, sanitation, and health care to acquire an adequate condition of nutritional well-being that satisfy all physiological needs. Stability is the ability of firmness and consistency in ensuring food security is always met regardless of events of sudden economic, health shocks or climate change. (HLPE, 2020).

The concept of agency in food systems is deeply intertwined to the right to food, hence agency is not just about accessing material resources; it stretches far beyond to empower individuals or groups with the ability to make their own informed decisions that aim to improve their wellbeing. On food systems, agency refers to people's ability to freely make choices about what foods is produced, how the food is produced, processed, and distributed within food value chains, and their capacity to be involved in the processes of governance that shape food system policies (HLPE, 2020: 8). Sustainability refers to the long-term planning invested on food systems to provide adequate and nutritious food that meet and fulfil the present needs of humans in a balanced way that caters for economic, social, and environmental pillars of sustainable development without compromising the future generational needs (HLPE,2020).

Skinner et al., (2018) suggest that accessibility and utilization must consider both economic access and spatial planning in terms of affordability of these nutritious foods and the location of food sources relative to where people work, live and commute. Therefore, given the nature of Southern urbanization, particularly in Africa, informality dominates economic activity and food access, and this has a direct impact on how the foods are purchased, stored, and prepared (Haysom, 2021).

It is worth noting that food in this study was used as a lens to understand township economy, notably informal food vending and households' food security, and how these connect to infrastructure in the locality of Duncan. While the focus of the study was on household food security, informal food markets were used as a lens to understand food security levels in Duncan and how households and vendors describe what being food secure is in their context.

3.3. Southern Urban Informality

Since this study is based on Southern urban food systems, particularly household food and nutrition security in low-income neighborhoods such as Duncan, this paper then introduces informality as a lens through which the marginalized and urban poor, particularly vendors and households, make trade-offs. This study presents the conceptual framework of informality as a center of in-depth analysis by drawing arguments from current studies that present discourse on urban informality, notably, the significance and critique of the informal-formal binary, changing attitudes to informality, and informality as more than just a livelihood strategy for the marginalized people. Informality in this study is multi-faceted and cuts across economic, political, and spatial spheres.

Informality as a concept is presented in much-critiqued dichotomies: on the one hand, it is seen as problematic and characterized by unregulated activities that cause a nuisance to urban planning and governance and must be controlled through regulation; on the other, as a pro-poor economic strategy with potential to generate livelihood incomes to fight poverty and unemployment (Banks et al., 2020; McFarlane, 2012).In this paper informality is presented as local informal food markets of both vendors and households. I also use the concept of informality to refer to everyday hustles of marginalized and urban poor who engage in various practices and actions to access their socio-economic rights including access to infrastructure, food and nutrition security

This paper draws from the work of Roy (2005) who critiques the state's draconian approach of removing informality practices in cities through what she calls un-mapping. The author also argues that informality is a product of misapplied state action and poor and ill-informed policies that result in informality. Roy's work emphasized how informality needs to be understood differently, calling it a new knowledge to planning. Therefore, offers a new perspective that shifts from the traditional view of informal-formal separation in the 1970s-1990s. Her work is crucial to understanding the complexities that characterize the nature of urban formation and urbanization, especially in growing postcolonial cities.

The focus of the study is on informal food vending (IFV) (i., e street food vending and home-based food outlets). The researcher understands that informal food vending is a small component of the informal sector (Skinner & Haysom, 2016). IFV in the global South cities is a largely an integral part of the food culture in society, providing income and some level of financial independence to vendors, while on the other hand providing affordable and convenient hot meals to urban consumers who either hardly have time to cook, or lack the necessary infrastructure and facilities to cook (Scott et al., 2021).

This study also considers Informal food vendors as part of the household unit. Although the activities they are engaged in are practiced outside a household structure, at the end of the day, they still come back to a household and assume their household roles. Hence, vendors and households in this study are intertwined. Just like an informal food vendor, a household unit also plays an equally important role in township economy. The concept of household in this study plays a key role to understanding a variety of inter-related themes and multiplicity issues pertaining to the everyday reality struggles, food insecurity, and infrastructural needs of the urban poor who usually share common struggles, language, and culture.

In the context of this study, A household in this study plays a symbiotic key role in the urban informal food value chain in that (i) becomes a consumer of informal urban foods, and (ii) is a producer of foods and meals sold and consumed both at home (within a household) and by the local community members. This study chose to focus on IFV and households because of their key role in urban household food security, livelihoods of the urban poor, especially in income generation, employment creation, poverty alleviation and contributes to wider urban food systems of not just South Africa township economies but also of the global south cities.

This study acknowledges that there are other segments of the informal sector of the township economy that play an equally imperative role in livelihood earning and urban economies. However, the selected two components of the informal food sector were significant to this research considering the main aim of the study, which was to understand the coping strategies adopted by vendors and households in Duncan Village to heterogeneous infrastructures both formal and informal infrastructure to address household food security needs and raise incomes to improve their standards of living.

4. SECTION IV: KEY STUDY FINDINGS

4.1. Socio-economic Demographics

The demographic data about the socio-economic characteristics of participants discussed in this section include Race, Nationality, Age, Sex, Educational level, household income sources, enterprise registration, income generated by enterprise, household setup and number of household members. Table 3 gives a detailed account of the demographics of participants.

Table 3: Socio-economic Demographics of Participants (n-40)

Demographics	Items	Frequency
Nationality	South African	22
	Non-South African/African migrant	18
Age distribution of participants	18-39	19
	40-60	12
	Above 60	8
Sex of participants	Female	28
	Male	12
Participants' highest level of education	Tertiary education	13
	High school certificate	15
	School dropout	8
	No formal education	4
Type of informal food enterprise	Street Vending	26
	Home-Based Outlets	14
Registration of enterprise	Registered	8
	Unregistered	32
Participants receiving cash grant/social protection	Beneficiaries	22
	Non-beneficiaries	18

Demographics	Items	Frequency
Household monthly income generated from enterprise	Less than $300	21
	Between $300-$400	13
	Above $400	6
Household setup	Female-headed	23
	Male headed	6
	Nuclear	11
Number of household members	Less than 5 members	17
	Between 5-10 members	23

Source: (Masuku,2024)

This study's findings show that informal food markets, particularly street vendors in Alex, are pivotal urban spaces providing access to vital sources of diverse, affordable and convenient food for vulnerable urban populations. These food markets are vibrant hubs for the township economy and South Africa's urban food systems, serving as a primary food source for the marginalized and urban poor, providing livelihoods, employment opportunities, cultural exchange, and social interaction. Yet, they face myriad challenges, including restrictive and harsh regulatory mechanisms such as complex formalization processes and food safety issues (Skinner & Haysom,2016; Battersby et al., 2016).

The 40 households I interviewed in this study are all engaged in the informal food sector, selling as either street vendors or home-based food traders. Thus, vendor and household are symbiotic terms that I use interchangeably. Similarly, infrastructure struggles, including housing or shelter, electricity, water, and sanitation, are commonly shared.

Most of those selling as street vendors used informal structures ranging from a shed made of cardboard and plastics, umbrella or gazebo to protect themselves and their merchandise from bad weather. Only a few (5 out of 40) reported using formal structures of rented food kitchens rented from municipalities or other businesses.

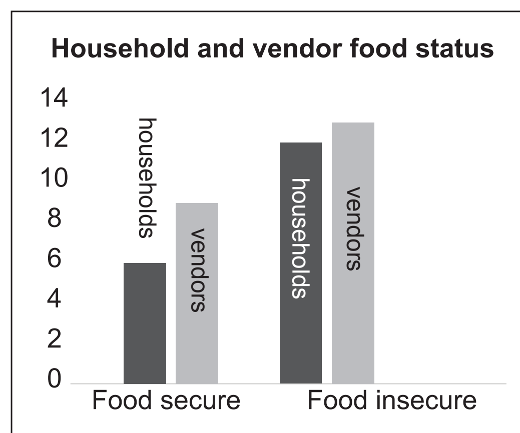
4.2. Food insecurity levels in Duncan

Anele Nkabinde1 is a female street vendor who is among millions of South African workers who lost their jobs during the Covid-19, and for the past three years she had to find coping and survival means to make a living by selling street foods as a street vendor. Her efforts were met with difficulties considering that the informal food sector was not permitted to operate during the lockdown restrictions as it was seen as a "non-essential service provider" and spaces for possible disease transmission.

For a street vendor like *Anele*, household food security is interpreted differently from the actual conceptualization of what food security means. At least in the context of this case study, being food secure for a low-income household is having enough food to eat to suppress hunger.

Research findings from Duncan show that only (15 out of 40) households and vendors are food secure, while most surveyed participants, (25 out of 40), are vulnerable to food insecurity. Most of the surveyed households and vendors in this study were living in acute poverty and had only one proper meal per day. These households indicated affordability issues and food price hikes as their primary challenge. Figure 1 below illustrate food insecurity levels in Duncan.

Figure 1: Households' vulnerability to food insecurity (n=18)



Source: Masuku, 2023

The study found that those households with more members and not engaged in any form of economic activities were more prone to vulnerability of household food insecurity than those with fewer members and engaged in township economic activities

[1] A stage name adopted to safeguard the identity of a street vendor interviewed during the semi structured interviews, Case Study No. 34, 28 December 2022, BCM

such as street trading. The study also found that despite being engaged in food selling, vendors were also food insecure due to food and transport price hikes. Both households and vendors indicated that affordability was their main concern regarding food security.

What this study recorded is that the question of nutrition is not necessarily a prerequisite for the urban poor like Anele in addressing their food security needs. If they have enough of basic food (including mealie meal for making stiff pap and porridge, sugar for tea, cooking oil for preparing a relish dish, and flour for preparing steam bread, or vetkoeks) that they can use until the next month when they get additional income either from government social grants, incomes generated from sales or incomes from general piece jobs.

Findings in this study show that being food secure in the context of low-income households is having extra income to secure adequate energy sources (e.g., LPG gas, wood fuel, charcoal, solar, and electricity) that are used to prepare their daily meals. Lastly being food secure in the perspective of a household is also having extra cash to buy ready to eat street foods which are more often consumed as supplementary meals when households' members spend their time away from their homes, or experiencing energy crisis that obstruct them to prepare their owns meals at home.

The story of *Anele* who in the case of this study represents a food vendor and a low-income household was equally important in this study in understanding vendor and households' food insecurity levels and infrastructure gaps including how they respond to such struggles.

This study results show that informal food markets are most preferred in Duncan because they offer relatively low prices and conveniently accessible food. This study show that economic accessibility was the most determinant factor for households relying on informal food markets for their food needs, which helped them to cut transport costs. Apart from economic accessibility, this study also recorded that product variety, cultural preferences, offering credit options, loose sales, and flexible and longer operating hours were other interrelated factors that made these markets a vital food source for low-income households. Households without access to networked infrastructure use informal food markets as food kitchens to purchase foodstuff and other "ready-to-eat" meals. Similar findings have been made in previous studies that have recorded that traditional food markets remain an essential food source in Sub Sahara Africa (SSA) (Cook et al., 2024; Hannah et al., 2022; Carrara et al., 2021; Joubert et al., 2018).

Although findings in this study also show that supermarkets that have penetrated the township economy of Duncan have a broader competitive advantage, offering a wide variety of products that are perceived to offer superior safety standards, these supermarkets remain less accessible for some of the marginalised and urban poor particularly those in informal dwellings. In contrast with informal food markets, supermarkets offer higher prices, less flexibility, shorter hours of operation and no credit options, which makes these modern markets less preferable to the marginalised and urban poor. There have been concerns that modern markets, including supermarkets and fast-food restaurants, offer highly unhealthy processed foods. This study's findings also recorded that informal food markets are linked to high consumption of unhealthy foods and subscribe to studies from Namibia and Zambia that show both supermarkets and traditional food markets are associated with increased consumption of unhealthy food (Kazembe et al., 2022; Khonje & Qaim, 2019).

4.3. Government initiatives and regulatory frameworks

While findings in this study have shown that local informal food markets in Duncan, such as street vending and home-based food outlets, have the potential to address household food and nutrition security needs for most marginalised and urban poor in Duncan, these markets remain faced with structural barriers including harsh regulatory frameworks. As part of the Township Economic Revitalisation Program which is a national government strategy introduced under the Department of Small Business Development (DSBD) and the National Informal Business Upliftment Strategy (NIBUS) of 2014 which aims to empower township economies through business skills, infrastructure provision, connecting small and medium enterprises to wholesalers and buyers and providing financial support to these local small businesses. These government initiatives that aim to revitalise township economy have partially improved service delivery in some townships and witnessed the increase and expansion of shopping malls and super-marketization in periphery low-income neighbourhoods and townships.

Findings in this study show that some vendors have benefited from food wholesale and supermarkets that have penetrated the township markets by sourcing their merchandise from supermarkets, fresh produce markets, and wholesalers, significantly reducing vendor transport costs. Other vendors have expressed concerns and dissatisfaction with the increased presence of supermarkets in Alex, forcing them to compete with these large markets that sell similar products. Consequently, this forces informal markets to lower their prices and offer credit for their merchandise.

This is evident in the following statement from a narrative by *Nqobile*, a 29-year-old female street vendor selling ready-to-eat meals outside Alex Mall.

"I sell vetkoeks, stiff pap, cooked rice, chicken and beef stew. I have been operating in this space since 2003 and managed to raise my kids with the money I have raised from this business. But today, the presence of supermarkets like Shoprite and Boxer, who also sell cooked meals, have affected us as

street vendors. I have lost most of my customers, who now prefer to buy their lunch from Shoprite. Others complain that I sell cold food, hence supermarkets offer hot and safe meals. This has forced me to lower prices of my meals and even offer credit as a mechanism to retain my customers and avoid heavy losses. Moreover, most of us street vendors who do not have trading permits often face evictions and raids from the city authorities who do not want us to trade in the surroundings of this Alex mall".

This narrative illustrates that not all informal markets in Duncan have benefited positively from the government township revitalization programs that aim to boost small and medium local businesses within township. Evidence in this study shows that there are still restrictive and exclusionary regulations of formalization processes within municipal bylaws that promote crackdowns and evictions to enforce the formalization of the informal sector. The government approaches to promote township economy remain poorly positioned and fail to provide necessary support and protect local informal markets from supermarkets expanding into township economies, limiting the capacity of street vendors who still contribute to household food security and the revitalization of Duncan's economy.

As far as the Bylaws are concerned with compliance, the findings of this study show that food safety and hygiene practices on informal food vending in Duncan is still a huge problem. The findings show that most informal food vendors are not registered, and therefore not authorised to sell ready to eat foods, and their premises often do not meet the standard requirements as stipulated on Food Bylaws. Although informal food vendors agree that most of their foods do not comply with

Food Bylaws in terms of meeting nutrition standards, the respondents argued that their foods are fit for consumption, preferred by many of the public consumers because of easy accessibility, and proximity, cheap and affordable to anyone, sells in small quantities and offers a wide diverse of ready to eat foods that meet cultural values.

One informal food vendor recalls:

It is quite shocking that the municipal officials think that our foods are not safe for consumption, and that we do not have any training on food handling and hygiene issues. Look I am a mother and wife, I have a family that I cook for every day, and I know how to prepare a good meal that can be enjoyed by people. If I can provide a healthy and nutritious meal to my family every day, what will make me and the food that I sell everyday pose danger to the public? I know how to handle, store, prepare and dispose food, and I know how to keep my personal hygiene and environment clean. Telling me that my practice is unhygienic and that my foods are unfit for consumption because they do not meet your standards is an insult and an attack to my livelihood strategy and my human dignity as a person". (Case Study No. 40, 15 November 2022, C-Section. Duncan Village Central).

The above statement demonstrate that most informal food vendors believe their food practices and ready to eat foods are misunderstood by policy and governance practices because the same meals that are sold on the street to the public is the same food they consume at home with their families. This also shows that the enactment of Bylaws does not consult informal food vendors to understand what nutritional standards would mean in their own context, including food handling and food storage.

This study's findings recorded that regardless of their operation outside regulatory and formal business structures, informal food markets engage in quasi-formal engagement with government structures. For instance, some street vendors pay fees for space rental, trading permits and municipal services, which can be considered an economic contribution to local economic development. Despite their contribution, most of these street vendors often operate in precarious conditions without access to infrastructure connectivity and face aggressive and exclusionary practices such as violent evictions, harassment and confiscation of their merchandise from municipal authorities (Smit, 2016; Resnick, 2017; Skinner, 2019).

All these barriers have a significant impact on informal food markets. For example, some street vendors stated that during and after the COVID-19 pandemic, they faced a decrease in sales and footfall, which inhibited them from earning a living. Consequently, this had broader implications on household food and nutrition as household incomes dwindled. Results in this study show that after the pandemic, many informal markets in Alex have not recovered from the shocks, leading many to adopt resilience strategies of product shift, mix, and moonlighting to keep afloat. Similar approaches to exhibiting resilience have been reported in Kenya and Nigeria, where some informal food markets have adopted digital tools such as mobile phones to streamline payments and maintain social connections (GAIN,2012).

This study's findings have demonstrated a potential for the informal food markets in Alex to generate considerable revenue that can benefit both communities and local government to address issues of poverty, hunger and unemployment. However, this will require more support from local government structures to relax exclusionary and restrictive regulatory frameworks that limit the operation of these markets and enhance the infrastructure connectivity supporting street vendors, subsidizing these markets and reducing infrastructure costs and levies, as well and promoting value addition (Sowatey et al., 2018; Wegerif & Kissoly, 2022).

4.4. Infrastructure gaps

An urban low-income household constrained by affordability issues (i.e., lack of availability of adequate incomes) and location to access supermarkets to secure food opts to rely on informal food markets to provide them with

cheap and convenient food. However, for an informal food vendor to be able to provide affordable food to a low-income household, they need to have access first to (i) income to secure stock (merchandise), and ii) have access to networked infrastructure systems (heat energy and appliances) to cook and prepare meals needed by low-income households. Lack of access to such infrastructure will affect the ability of informal food actors to meet the demand for informal food, consequently leading to loss of income and potentially risking a household becoming food insecure.

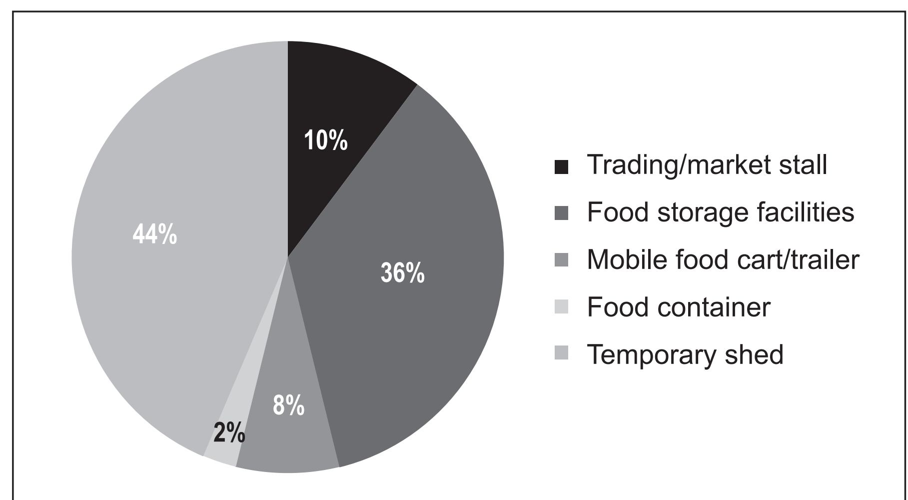
For a street food vendor using an informal structure or a shed to sell their merchandise, there is no access to a networked grid and an inability to use energy appliances. A street vendor selling ready-to-eat meals needs access to a refrigerator to keep refreshments and other perishables cold. A street vendor also requires a food warmer (microwave) to keep the food warm; otherwise, selling cold or spoiled food would drive customers away and negatively impact the enterprise's growth and opportunity to generate profit. This means alternative ways are adopted to facilitate preparing meals that are sold.

The study also discovered that lack of infrastructure access, such as electricity and storage facilities, affected how informal food traders prepare, handle, and store cooked meals. Due to their inability to use a fridge, most street vendors kept their meals in buckets or Tupperware, which often resulted in food spoilage due to poor temperature control. The surveyed vendors and home-based enterprises in this study confessed to keeping some cooked meals for over two days and pre-heating them for reselling to avoid stock and profit loss. Some customers also indicated that food such as fried fish, vetkoeks, and cooked or roasted mealies were among the top meals that were re-cooked and sold by vendors for a few consecutive days if not purchased the first time, hence resulting in loss of original taste and flavor. The findings of this study confirm those of Yusof *et al.,* (2018), who suggest that food handlers must demonstrate adequate food knowledge, and a positive attitude towards food safety and hygiene, which is crucial in controlling incidents related to food-borne diseases.

Street vendors selling hot meals indicated that their energy struggles were one of the main hindrances affecting the operation and productivity of their business. Results in this study further show that most vendors are not static, but mobile. For this reason, vendors prefer to operate on the street in pursuit of these customers. The municipal allocated trading spaces are not favourable to vendors and are always situated in areas with low demand for trade. Hence traders abandon these sites in pursuit of the site of operation of their own choice at that specific time.

The study findings show that trading facilities/shelters are among the leading infrastructure challenges in the informal food sector. Those without proper shelter structures for conducting trade often face the challenges of food storage and displaying their merchandise. As such, they are forced to purchase or stock food or goods in smaller quantities, affecting the cost of transporting those goods they must buy daily or weekly. Lack of storage also exposes traders to the vulnerability of theft and food spoilage. Figure 2 illustrates infrastructures used by vendors in Duncan.

Figure2: Trading facilities/structures for informal food enterprises in Duncan (n=40)



Source: Masuku, 2023

The study findings show that 17 of the surveyed respondents use temporary structures made from corrugated iron, zinc, asbestos, and chipboards to shed from harsh weather conditions and to enable them to conduct business. This form of shelter was most common in home-based enterprises erecting fixed shed structures (e.g., spaza stores) either in their backyards or in front of their homes.

14 respondents reported having access to storage facilities such as a refrigerator to store cold foods, a cooler box or locker rooms they rented for a fee. Only 4 of the respondents were using a market trading stall provided by the municipality to sell their merchandise. Of the surveyed respondents 3 used mobile push carts with an umbrella or gazebo to provide a shed. Some respondents indicated using a food container they rented for a monthly fee. Most informal food enterprises could not afford to rent a container to conduct their enterprises due to affordability constraints. Only those established enterprises making significant profits could afford to rent a container.

The study recorded that male street vendors selling cooked chicken gizzards and chicken feet were more concentrated along the streets, pavements, roadside, notably in Douglas Smith Highway, and big retail shop entrances with more traffic, commuters, and pedestrians. The equipment used by these mobile street vendors included trolleys to store their merchandise and, for mobility purposes, a braai stand often made from a cut metal drum. Street vendors indicated that this type of business is risky as they often operate in unauthorised sites; hence, they are always on the lookout for metro police and had to dodge city officials daily and, in the process, lose their merchandise and equipment.

The study findings also show that vendors using energy fuels to prepare hot meals were often disadvantaged by struggles of infrastructure access. Vendors indicated that city authorities were punitive and harsher to them as they did not allow traders to use wood fuel and charcoal for cooking in public spaces that are not authorized as this often leads to unwelcomed emissions which pollutes the air quality and contributes to climate change. Surveyed respondents stated that city authorities were adamant about addressing foo vendor infrastructure struggles as they kept pushing them in designated markets.

4.5. Financial constraints

This study argues that lack of access to finance is one of the major setbacks to the sustainability and growth of the informal food sector. This study's findings show that most households running informal food outlets (32 out of 40) are unregistered, survivalist, and lack entrepreneurial skills to run a successful business. Hence are unable to approach financial institutions such as banks to access financial credit to fund their enterprises, moreover, banks are unwilling to extend credit to informal enterprises because of the high perceived risks and lack of collateral security associated with these enterprises.

The study recorded that most households rely on informal financial schemes such as stokvels, rotational group savings, and informal loans (omashonisa) to mitigate their food insecurity and socioeconomic inequality. Although such financial schemes have been reported to be beneficial especially to women who are household heads as it provides them with a means of livelihood and sustenance, this study cautions that heavy reliance on such schemes such as informal loans with high interest rates are risky and ties a household to unending suffering and financial exploitation. In addition, such schemes are uninsured and unregulated, and fail to financially uplift beneficiaries from poverty, and achieve sustainable food security at household level.

This study argues that despite informal food markets' significant and pivotal role in township economies and urban communities, understanding their interrelated connections to urban ecosystems, including infrastructure systems and the everyday, remains scant. Research on informal food markets has focused primarily on the potential of these food markets to contribute to economic livelihoods and food security. Although studies have primarily focused on challenges facing this sector, including harsh formal regulatory mechanisms and inadequate infrastructure, they have often looked at these issues in isolation, thus failing to consider the interconnections between urban food systems, infrastructure and everyday urban life.

5. SECTION V: CONCLUSION

This paper identified Duncan Village's socio-economic potential, including the informal food market potential in addressing the urgent food insecurity needs of most marginalised and urban poor people. The paper demonstrated that that local informal food markets play a crucial role in household food and nutrition security in that they (i) serve as food sources to offer accessible and affordable food and meals to household members,(ii) break bulk, sell loose items and even offer their merchandise on credit, (iii) serve as food kitchens and a cookstoves to offer "ready to eat meals" and (iv) a refrigerator, to save households from the complexities of incurring additional costs to secure energy infrastructures and appliances to store and cook various foodstuff. However, this chapter also unpacked barriers that limited the potential of these markets which includes inadequacies in the provisioning and access to infrastructure, funding, and restrictive and suppressive regulatory framework and environment that limit informal markets to grow and feed into larger projects aimed at revitalising township economy. The paper concluded by arguing that despite intervention measures from government and its stakeholders in revitalisation township economy including informal food markets, there are still gaps, and this requires urgent attention of rethinking out approach to Duncan's household food and nutrition security. While informal food markets are crucial and have a potential to address food and nutrition security especially at household level, these markets for them to deliver efficiently need support mechanisms including adequate access and provisioning of infrastructures, and other interrelated factors that connect to both infrastructure and food.

This study suggests that prioritising the interests of those engaged in informal sector activity and considering their specific developmental and livelihood needs is much required. This can be done by applying pragmatism to look for unique solutions to unique challenges of urban informality in South Africa, which can be achieved by integrating infrastructure transition and development that speaks into local economic development to fully involve local communities in the integration and participation in knowledge sharing, decision making and life cycle of project infrastructure implementation, monitoring, and evaluation.

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7. REFERENCES

Academy of Science of South Africa (ASSAf). (2023). World Food Day webinar: Opportunities towards sustainable food security in South African urban settings. https://www.assaf.org.za/2023/10/23/2023-world-food-day-webinar-opportunities-towards-sustainable-food-security-in-south-african-urban-settings/

Adeosun, K. P., Oosterveer, P., & Greene, M. (2023). Informal ready-to-eat food vending governance in urban Nigeria: Formal and informal lenses guiding the practice. PLoS ONE, 18(7), e0288499. https://doi.org/10.1371/journal.pone.0288499

Banks, N., Lombard, M., & Mitlin, D. (2020). Urban Informality as a Site of Critical Analysis. The Journal of Development Studies, 56(2):223–238 doi:10.1080/00220388.2019.1577384

Battersby, J., Marshak, M., & Mngoqibisa, N. (2016). Mapping the invisible: The informal food economy of Cape Town, South Africa. Cape Town: African Food Security Urban Network (AFSUN). https://doi.org/10.13140/RG.2.2.20308.40324

Battersby, J., & Haysom, G. (2018). Linking urban food security, urban food systems, poverty, and urbanisation. In J. Battersby, & V. Watson (Eds.), Urban food systems governance and poverty in African cities (pp. 56-67). Oxon, Routledge.

Battersby, J., & Watson, V. (2018). Addressing food security in African cities. Nature Sustainability, 1(April), 153–155. https://doi.org/10.1038/s41893-018-0051-y

Crush, J., Frayne, B., and Pendleton, W. (2012). "The crisis of food insecurity in African cities". Journal of Hunger & Environmental Nutrition, vol. 7, pp. 271-292.

Crush, J and Zhengzhong, S. (2021). Urban Food Deserts: Perspectives from the Global South. Sustainability, https://doi.org/10.3390/books978-3-0365-1043-9

Davies, J. E. (2022). Urban food system transformations and governance in Sub-Saharan Africa. [Doctoral dissertation]. University of Arizona, Tucson, USA.

FAO. (1983). World food security: A re-appraisal of the concepts and approaches. Director Generals Report. Rome.

FAO. (2006). Food security. Policy Brief, Issue 2. www.fao.org/forestry/13128-0e6f36f27e0091055bec28ebe830f46b3.pdf

Frayne, B., Crush, J., & McCordic, C. (Eds.). (2018). Food and nutrition security in Southern African cities. Routledge. https://doi.org/10.4324/9781315226651

Greenberg, S. (2017). Corporate power in the agro-food system and the consumer food environment in South Africa. The Journal of Peasant Studies, 44(2), 467-496.

HLPE. (2020). Food security and nutrition: building a global narrative towards 2030. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. https://www.fao.org/cfs/cfs-hlpe

Haysom, G. (2021). Integrating food-sensitive planning and urban design into urban governance actions. Urban Forum, 32(3), 289–310. DOI: 10.1007/s12132-021-09417-9.

Marrengane, N., & Croese, S. (2021). Reframing the Urban Challenge in Africa: Knowledge Co-production from the South. New York: Routledge.

Masuku, B. (2023). "Rethinking urban nutritious food through the lens of infrastructure assemblages: the case study of street food vending in Alexandra township, Johannesburg", unpublished

Masuku, B. & Nzewi, O. (2021). The South African informal sector's socio-economic exclusion from basic service provisions: A critique of Buffalo City Metropolitan Municipality's approach to the informal sector. Journal of Energy in Southern Africa, 32(2):59–71. doi.org/10.17159/2413-3051/2021/v32i2a5856

Maxwell, D. (1996). Measuring food insecurity: The frequency and severity of 'coping strategies'. Food Policy, 21(3), 291–303. https://doi.org/10.1016/0306-9192(96)00005-x

McFarlane, C. (2012). Rethinking informality: Politics, crisis, and the city. Planning Theory & Practice, 13:89–108.

Morris, A. (2015). A Practical Introduction to In-depth Interviewing. London, Sage.

Roy, A. (2005). Urban informality: Toward an epistemology of planning. Journal of the American Planning Association, 71(2), 147–58.

Sen, A. (1981). Poverty and Famines: An Essay on Entitlement and Deprivation, Clarendon Press, Oxford.

Silver, J. (2023). The infrastructural South: techno-environments of the third wave of urbanisation. Cambridge, Massachusetts: The MIT Press.

Scott, N., Barnard-Tallier, M., & Batchelor, S. (2021). Losing the energy to cook: An exploration of modern food systems and energy consumption in domestic kitchens. Energies, 14(13), 1-17. DOI: 10.3390/en14134004

Smith, D. W. (1998). Urban food systems and the poor in developing countries. Transactions of the Institute of British Geographers, 23(2), 207–219.

Skinner, C., & Haysom, G. (2016). The informal sector's role in food security: A missing link in policy debates. HCP Discussion Paper, No. 6. Cape Town and Waterloo. https://www.researchgate.net/publication/308368250

Skinner, C., Reed, S.O., & Harvey, J. (2018). "Supporting informal livelihoods in public space: A toolkit for local authorities". Prepared by WIEGO for the Cities Alliance Joint Work Programme for Equitable Economic Growth in Cities. Manchester, UK: WIEGO.

Statistics South Africa (StatsSA). (2022). Income and expenditure survey. Income and expenditure of households 2021/2022. Pretoria: Statistics South Africa.

Stats SA. "General Household Survey (2019), Statistical release P0318." June 2021.

Tawodzera, G. (2010). Vulnerability and resilience in crisis: urban household food insecurity in Harare, Zimbabwe. PhD Thesis, University of Cape Town. https://open.uct.ac.za/handle/11427/10831

Tefft, J., Jonasova, M., Zhang, F. & Zhang, Y. (2020). Urban food systems governance –Current context and future opportunities. Rome, FAO & The World Bank. https://doi.org/10.4060/cb1821en.

Turok, I. (2014). South Africa's tortured urbanisation and the complications of reconstruction. In G. Martine & G. McGranahan (Eds.), Urban growth in emerging economies: Lessons from the BRICS. Routledge, London.

Shabalala, S. (2014). Constraints to Secure Livelihoods in the Informal Sector: The Case of Informal Enterprises in Delft South. Master's thesis. Cape Town. University of Cape Town.

UN-Habitat et al. (2022). Strengthening local fresh food markets for resilient food systems: A collaborative discussion paper.

United Nations, Department of Economic and Social Affairs, Population Division. (2022). World Population Prospects 2022: Summary of Results. UN DESA/POP/2022/TR/NO. 3.

UN-Habitat. "World Cities Report (2020). The Value of Sustainable Urbanization", UN-Habitat, Nairobi. February 2020.

Young, G., & Crush, J. (2020). The urban informal food sector in the Global South. In Handbook on Urban Food Security in the Global South. Edward Elgar Publishing.

Skinner, C. (2019). Contributing yet excluded. Informal food retail in African cities. In: Battersby, J. & Watson, V. (Eds.), Urban food systems governance and poverty in African cities, 128. London & New York: Routledge.