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The contribution of cart traders to fresh produce accessibility in Soshanguve township, South Africa

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Abstract

Mobile cart traders are a vital component of the 'informal' food sector and urban food systems in South Africa and beyond. Yet, their contribution to food security remains poorly understood, largely due to limited data on their operations—what they sell, when and where they trade, and how they organize their work. This knowledge gap has led to their exclusion from policymaking and urban planning. This article uses a qualitative case study approach to examine the role of mobile cart traders selling fresh produce in improving access to nutritious and affordable food. Drawing on existing literature on street trading, the study argues that cart traders are integral to the (informal) food economy. They play a crucial role in making fresh, nutrient-rich produce accessible, which is essential for balanced diets and better health outcomes. The research is grounded in multi-sited ethnographic fieldwork conducted primarily in Soshanguve township, complemented by interviews and observations in other low-income urban areas across Gauteng Province, South Africa. The study explores how cart traders organize themselves to make fresh produce available to the urban poor. Findings show that most traders—predominantly immigrants from Southern Africa—entered the trade due to limited opportunities in the formal job market. Their businesses rely on socially embedded networks and informal economic practices that build trust and reciprocity among customers and peers. By meeting essential food needs, creating livelihoods, and mitigating the effects of supermarket-driven "food deserts," these traders make a significant contribution to urban food security. Their earnings also circulate locally, generating wider economic benefits within the communities where they live and trade. These findings underscore the need for inclusive policies and urban planning frameworks that recognize and support the role of mobile cart traders in sustaining urban food systems.

Keywords Cart traders, Informal sector, Food security, Food systems, Social embeddedness, South Africa

1 Introduction: cart traders in the context of street trading

Selling food from mobile carts has a long history in South Africa, closely intertwined with the growth of major urban centers. Dawood [22] documents how Indian, African,

and Coloured[1]hawkers used pushcarts and horse-drawn carts to sell fresh produce in Cape Town and its surrounding white suburbs from the early 1900 s to the late 1980s. Similarly, Vahed [79] describes how Indian migrants in Durban, after relinquishing indentured labor contracts, turned to hawking between 1910 and 1948, sourcing produce from Indian markets and reselling it on busy streets using carts. Rogerson [62] highlights the rise and decline of coffee cart traders in early 20th-century Johannesburg, who sold inexpensive refreshments to Black industrial workers using carts constructed from industrial scrap.

Despite its long-standing presence in South Africa, a lingering question remains: to what extent does this form of trade contribute to food and nutrition security today? The FAO defines food security as "the situation in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life" [29: 177]. It further adds that the achievement of food security rests on six interrelated dimensions that extend beyond the traditionally recognized four, namely 'food availability,' 'food accessibility,' 'food utilization,' and 'stability,' with the more recently acknowledged dimensions of 'agency' and 'sustainability' now widely accepted as integral to a comprehensive understanding of food security [29, 39].

Cart traders are generally 'informal' traders who sell a variety of goods—ranging from fresh produce to snacks and household items—using mobile carts they push or pull through streets and neighborhoods. Other studies have explored this trade as a livelihood and source of income for many low-income urban populations in Sub-Saharan Africa. For instance, a study on mobile food service practices in Kumba, Cameroon, found that it is a survival strategy dominated by women that enables them to support their families' education, health, and overall well-being [1].

Globally, studies such as the research on "Green Carts" in New York City have shown that cart traders provide a crucial source of fresh produce for low-income urban communities [46]. In South Africa, there is growing recognition of the role of informal traders in improving food access [8, 10], however, cart traders remain largely underexplored in academic literature. Recent studies on street trading [85] and municipal fresh produce markets [49, 50, 75] acknowledge the significant presence of cart traders and their important role in the operation of municipal markets. Yet, these studies provide limited detail on the cart traders' actual operations. Similarly, mobile food traders are often overlooked in global food security research [47].

Overall, the role of informal traders in enhancing food security remains contested and subject to ongoing debate. For example, scholars such as Battersby [6] caution against over-reliance on informal food sources in low-income urban areas. She argues that while informal traders may enhance immediate food access, they often lack the capacity to secure food security at scale. This limitation stems from constrained product diversity, inadequate infrastructure such as refrigeration, and heightened vulnerability to external shocks.

[1] We acknowledge that this official ethnic classification/categorisation used in South Africa and other former settler colonial countries of Southern Africa (e.g. Zimbabwe) may be offensive to readers in other parts of the world. Similar to other former settler colonial nations, race in South Africa carries a heavy historical burden, no racial label is neutral or merely descriptive. Under apartheid, the Population Registration Act classified people into four groups: African, Indian, White, and Coloured (mixed descent). In South Africa, these categories persist in everyday and academic use, though since the end of apartheid, '*Black*' often refers collectively to Africans, Coloureds, and Indians.

This article addresses a critical gap in food security literature by examining how mobile cart traders improve access to fresh produce in low-income areas. Fresh produce is essential for healthy diets [25] and overall well-being [26]. However, most studies on fresh produce street traders tended to focus on those operating from stationary locations, paying limited attention to mobile traders, especially those using carts to sell. Understanding the role of cart traders is therefore crucial for promoting safe, affordable, and nutritious diets for growing urban populations [27]. This need is particularly urgent as urban diets are often dominated by highly processed, unhealthy foods, while access to nutritious options remains limited [28]. These challenges are further compounded by urban 'food deserts,' where affordable, nutritious food is scarce due to the distant location of supermarkets [7].

The following section of this article explains the qualitative research methodology, which combines ethnography, interviews, fieldwork, and participatory observations, supported by the "ride and walk along" method. This is followed by an overview of street trading, with particular attention to the nexus between street trade and informality, to contextualize the sector within which the studied cart traders are widely said to operate. The literature further explains the role of street traders—especially those selling fresh produce—in relation to food security and their contribution to both the informal and formal economies.

The article then presents the empirical findings on how cart traders contribute to improving access to fresh produce. From these findings, we derive lessons on their contribution to food and nutrition security. In this analysis, we apply the six widely recognized dimensions of food security, with specific attention to 'accessibility' and 'agency.' Additionally, we also highlight the socioeconomic contributions of cart traders, particularly their role in stimulating market demand for local farmers' produce and fostering more equitable and dynamic local economies. The conclusion revisits and synthesizes the key lessons drawn from the research.

2 Methods: a qualitative mixed methods approach

The study employed a qualitative, mixed-methods research design, incorporating literature reviews, secondary data analysis, interviews, participant observation, the 'walk and ride along' method, and systematic price tracking within a case study framework [12, 24, 78, 82]. The study formed part of the broader research project on 'Urban Food Systems' undertaken and supported by the Department of Science, Technology and Innovation - National Research Foundation Centre of Excellence in Food Security (DSTI-NRF CoE-FS).

Empirical findings are drawn from ethnographic fieldwork conducted in Block L, a section of Soshanguve township, where a small cohort of fresh produce cart traders were studied between March 2023 and March 2024 [80]. The study incorporates selected elements of Gillian Hart's [34] relational comparison method to enhance the analysis. Accordingly, insights from Soshanguve were complemented and enriched by additional interviews and observations with cart traders at four other sites, such as, Marabastad on the outskirts of Pretoria's Central Business District (CBD), Pretoria CBD, Johannesburg CBD, and Ivory Park township outside Johannesburg all located in the Gauteng Province, South Africa (Fig. 1).

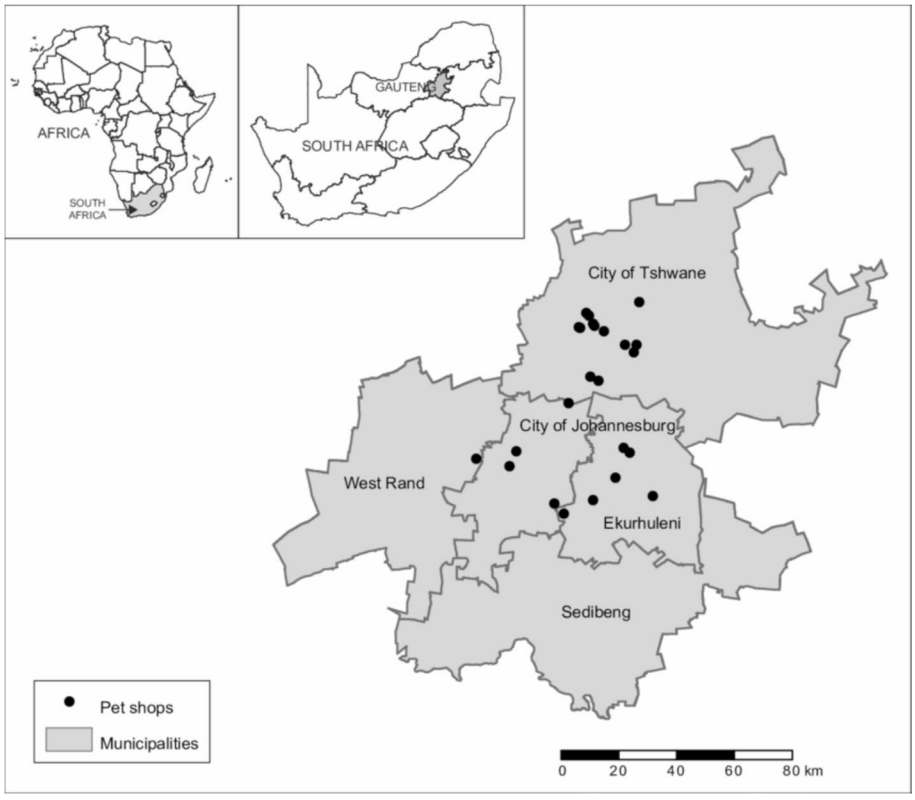

Fig. 1 Gauteng Province in South Africa where the study was conducted (Source: Google Pictures)

2.1 Case study: Soshanguve township, and other low-income (peri)urban neighbourhoods

Soshanguve was strategically selected as the case study site for several reasons, including its methodological suitability, known attributes, convenience, and intrinsic merits [24]. Both authors are familiar with the township, and the corresponding author resided there full-time during the research. This enabled deep immersion in the field, extensive engagement with cart traders, and first-hand experience of the township's social fabric, daily life, and community dynamics. Such insider knowledge provided unique insights into traders' practices, relationships, and challenges—experiences that an outsider might have struggled to capture—thereby adding significant depth to the ethnography (Fig. 2).

Soshanguve is a typical South African township which reflects the spatial, social, and economic characteristics of other low-income townships in Gauteng and across the country. This makes it an instructive site for examining broader patterns in peri-urban food systems, food security, and informal trade. Its peri-urban location also positions it at the rural–urban interface, offering a vantage point to study how mobile street traders link smallholder and local farmers with urban consumers—a dynamic increasingly visible in South Africa's evolving food system.

Living in Soshanguve further allowed the corresponding author to directly experience the community's food insecurity and coping strategies. Research shows that 12.3% of households are mildly food insecure, while another 12.3% are severely food insecure. Although 50.3% of households are food secure in Soshanguve (Akinboade et al. [2]: 13), which is higher than the national average of 36.5% [66: 16]—this relative advantage reflects the community's resilience and adaptive strategies, which include cart trading.

Fig. 2 Soshanguve township under the City of Tshwane Metropolitan Municipality (Source: Mavink.com)

Importantly, Soshanguve has a dynamic food retail sector that incorporates both formal and informal systems. Within the township, the largest formal retail node is Soshanguve Crossing Mall, complemented by several public shopping centers anchored by major supermarket chains. Alongside this, a vibrant informal food economy thrives—comprising spaza-shops[2] scattered throughout the township, clusters of street traders around malls and public markets, and ubiquitous cart traders providing door-to-door services.

Soshanguve itself is a fast-growing township located in the northern part of the City of Tshwane Metropolitan Municipality. Established in 1974 under apartheid spatial settlement policies, the township was designated for Black South Africans who worked in Pretoria's city center, industrial zones, and white residential suburbs. The township remains on the periphery of Tshwane, approximately 30 km north of Pretoria, which continues to function as the municipality's economic hub.

Today, Soshanguve is home to nearly one million residents living in diverse housing types. These range from government-subsidized four-room houses for low-income earners—built under the Reconstruction and Development Programme (RDP) and popularly known as RDP houses in South Africa—to larger middle-class dwellings and extensive informal settlements. Unemployment remains notably high, particularly among youth, with estimates exceeding 50% [52]. This socio-economic marginalization is strongly linked to the persistent poverty, rising crime, and widespread food insecurity within the township.

[2] A spaza shop is a small, informal convenience store typically operated from a house or small structure in a township or residential area in South Africa, selling everyday household items to the local community.

2.2 Sample: fresh produce cart traders

While we observed other mobile cart traders in the study area(s) selling prepared food (e.g., 'magwinya', fat-cakes), processed foods (e.g., ice-cream), and household items (e.g., wooden spoons, stirring paddles), our analysis deliberately focused on those trading in fresh produce. Fresh produce cart traders were chosen as the focus of this study because of their ubiquity across the research sites and the central role of fresh produce in promoting balanced diets [25]. A total of 23 cart traders were identified and selected through purposive sampling [72, 74]. To capture the broader networks that enable their operations, an additional 16 food system actors with whom they collaborate in making fresh produce accessible were selected through convenience sampling [72, 74]. The overall sample comprised 10 women and 29 men, including a cart-manufacturing welder, two produce transporters, a market manager, a market porter from whom they source produce, a shopkeeper, a restaurant worker, two fellow street traders, and five regular customers. These participants offered valuable insights into the cart traders' embeddedness within the wider urban food system.

Of the 23 cart traders interviewed, 13 were based in Soshanguve and served as the core research participants. To expand the geographical scope and analytical depth of the study, supplementary interviews were conducted with traders in other urban locations: 2 in Marabastad, 5 in Pretoria CBD, 2 in Johannesburg CBD, and 1 in Ivory Park township outside central Johannesburg. Notably, all cart traders interviewed across the study sites were men, as no women cart traders were identified during data collection.

The traders were purposively selected to capture diversity in their operations, including distinctions between employed and self-employed traders, degrees of mobility (itinerant versus semi-stationary), scale of enterprise (ranging from single-cart owners to those managing multiple carts), and nationality. Within the primary site of Block L in Soshanguve, participants were interviewed across different residential streets and sections. The four supplementary sites—Johannesburg, Pretoria, Ivory Park, and Marabastad—were strategically chosen to represent varied urban settings, ranging from major metropolitan centers and residential townships to busy commercial hubs.

2.3 Data collection methods

Primary data was collected through interviews, fieldwork, and participatory observations, supported by the "walk and ride along" approach. Face-to-face interviews were conducted at traders' selling sites using a structured questionnaire to capture their backgrounds, life histories, and operational practices, including pathways into trading, challenges, and successes. A central method employed was the "walk and ride along" technique, which entailed extended engagement with traders while accompanying them to sell in the streets and when going to purchase and repurchase stock at the market [12, 82]. Repeat visits, particularly in Soshanguve, enabled in-depth follow-up interviews, while informal conversations with customers provided additional insights [73]. Participant observation further enriched the data, with the corresponding author working alongside traders by pushing carts, selling produce, sharing meals, and visiting markets [40].

Price data for eight commonly traded vegetables (Table 1) was systematically collected from cart traders in Soshanguve and compared with prices at a local Shoprite[3] supermarket in Soshanguve Crossing Mall over an eight-month period (August 2023–March 2024). Shoprite was chosen as the comparator given its status as South Africa's largest supermarket chain and its reputation for affordability, reflected in its slogan: *"Lower prices you can trust, always"* [65: 7]. Each item was purchased twice per month—once in the three days preceding mid-month and again in the three days preceding month-end. All items were weighed to standardize unit price comparisons across cart traders, Shoprite, and official Consumer Price Index (CPI) data from Statistics South Africa [71].

Secondary data complemented the primary research through an extensive literature review conducted via academic databases, including Google Scholar, PubMed, JSTOR, ResearchGate, and the University of Pretoria library. The review covered both recent and foundational studies on mobile street traders, food security, urban food systems, and the informal economy. In addition, CPI data from Statistics South Africa [70] was retrieved to strengthen price comparisons with cart traders.

2.4 Data analysis: thematic data analysis

Thematic analysis was employed to analyse the interview transcripts, field notes, and reflective memos [76]. Using inductive empirical analysis, themes were derived directly from the data since we did not impose any pre-existing theories on the field. Reflective memos were written after each interview and fieldwork session, and all interviews were transcribed to facilitate in-depth analysis. This process was guided by constant comparison with existing literature broadly on street traders [43].

Insights from the field shaped subsequent rounds of data collection and post-coding, while simultaneously prompting deeper engagement with relevant theoretical and empirical literature. For example, initial data collection through interviews and observations revealed that cart traders often extended interest-free credit to trusted customers. This empirical insight was then situated within existing literature documenting similar practices among street traders, where credit provision serves both as a livelihood strategy and a means of fostering long-term customer relationships. Engaging with

Table 1 Comparison of cart traders and Shoprite average prices over eight months from Aug 2023 to March 2024 (Source: Author's calculations based on field data collected through price checks)

	Cart trader average price per Kg	Shoprite average price per Kg	Difference in Rands	Percentage difference	Stats SA CPI average per Kg[a]
Butternut/pumpkin[a]	R13.35	R13.78	R0.42	3.2%	R19.97
Cabbage	R4.98	R10.57	R5.60	112.5%	–
Carrots	R10.36	R13.10	R2.74	26.4%	R14.44
Onions	R12.95	R16.67	R3.72	28.7%	R23.09
Peppers	R27.87	R51.27	R23.39	83.9%	R55.40
Potatoes	R10.65	R20.18	R9.52	89.4%	R21.58
Spinach	R9.00	R16.07	R7.07	78.5%	-
Tomatoes	R14.49	R22.46	R7.97	55.0%	R26.73

[a]Source is Stats S.A. (2024). Stats S.A do not provide a per kg price for cabbage and spinach

[a]Butternuts and pumpkins were purchased interchangeably as most customers also treat them in this way, cooking them in the same ways for the same types of meals, and their per kilo prices remained similar

[3] Shoprite Holdings Limited is the largest supermarket retailer in South Africa and Africa, known for providing affordable groceries and household goods.

the literature in this way strengthened the post-coding process by grounding emerging themes in both lived experience and scholarly evidence [67].

The same iterative approach was applied to other themes that surfaced from the data, ensuring that the analysis remained firmly embedded in empirical realities while dialoguing with broader theoretical and empirical debates. This iterative process ensured a dynamic interaction between data and theory, enabling the continual refinement of emerging concepts. To maintain analytical clarity, data from the study area were carefully distinguished from those of other contexts.

In addition, 'path' analysis [41] was employed to trace the relationship between cart trading and food security, with particular attention to food accessibility. Finally, price data were analyzed in Microsoft Excel to calculate unit prices and compare costs across cart traders, Shoprite, and CPI benchmarks.

2.5 Ethics and limitations

Ethical clearance for this research was granted by the Research Ethics Committee of the Faculty of Humanities at the University of Pretoria. The approval covered the methodological approach, including interviews, observations, price tracking, and the procedures for obtaining informed consent from participants.

A principal limitation of this study was the relatively short duration of systematic price tracking, which was confined to eight months—the maximum timeframe allowed within the project. In addition, the case study approach, based on a small number of cart traders, limits the extent to which the findings can be generalized beyond the study site. While this approach yielded rich, context-specific insights into traders' practices and lived experiences, the restricted sample size constrains external validity, as variations in socio-economic conditions, governance, and market dynamics elsewhere may produce different outcomes.

Despite these limitations, the study's strengths lie in its sustained, immersive engagement with cart traders, offering novel and contextually grounded insights into their lived realities and highlighting their critical contributions to food and nutrition security.

3 Overview of street trade in South Africa

3.1 Street trade: filling the gaps in formal retail

Despite the rapid expansion of supermarkets across Southern Africa, driven by the 'supermarket revolution' [21], millions still depend on street trading for their livelihoods. This is particularly evident in South Africa, with street traders selling a wide range of goods, from fresh produce and clothing to traditional medicines, furniture, and household items [68]. The country's retail structure is a tip of the iceberg surfacing a highly racialized dual food system. On one side is a regulated, commercialized sector dominated by corporate and largely white-owned supermarkets, and on the other side is a subordinated, inconsistently regulated small-scale informal sector that operates on the periphery but remains closely linked to the formal economy [33, 44]. This dualism mirrors South Africa's entrenched socio-economic divisions, rooted in the legacies of colonialism and apartheid [32, 33].

Globally, grocery retail is highly consolidated [19]. In South Africa, the top five retailers account for about 64% of formal food sales [64]. These supermarket chains include Shoprite, Pick 'n Pay, Spar, Woolworths, and Massmart [32]. Some of these enterprises

are rapidly extending their operations across multiple countries in Sub-Saharan Africa [56, 70]. Comparable levels of concentration exist elsewhere in other countries. In Canada, the five largest grocery chains control over 80% of the market, while in Australia, just two firms—Coles Group and Woolworths Group—each hold roughly 30% of the A$90 billion food retail sector [19: 48].

This concentration often drives food prices beyond the reach of the poor, reinforcing food as a commodity for profit rather than a human right [83]. Weak regulation and limited price oversight further entrench this problem. Rising food inflation is now a global concern and, according to the 2025 State of Food Security and Nutrition report, has become one of the leading drivers of hunger worldwide—surpassing fears related to crime, violence, and poverty [29].

Parallel to the corporate sector is South Africa's vibrant 'informal,' or rather non-corporate, food economy. It plays a vital role in improving food access for low-income households [8, 10, 85]. This sector includes street traders, spaza shops, hawkers, and bakkie[4] traders and is believed to employ more people than the formal food retail sector [10, 83]. Informal traders supply affordable, often nutritious food in marginalized communities, making them indispensable yet overlooked actors in the food system [50, 75].

Although there is no comprehensive national data on the size of the informal sector in South Africa, estimates suggest that about 67% of street traders sell food [10: 2], and the informal food economy is thought to account for 40–50% of national food sales, valued at roughly R360 billion (US$20 billion) [83: 797].

Most street trading operations are owner-run, though some employ assistants [85]. Traders operate from fixed stalls, designated spaces, or public areas, while others are mobile. Mobile traders include hawkers, bakkie traders sourcing from farms or wholesalers, and cart traders—which are the focus of this study.

3.2 Street trade and informality

Street traders are commonly known to operate under what Keith Hart, popularized as the 'informal economy,' or 'informal sector'— defined as small-scale economic activity outside formal state regulation [35, 36].

Chen [16] categorized debates on informality into four schools of thought: dualist, structuralist, legalist, and voluntarist. Tokman [77] and Chen [15] emphasized the interconnectedness of the formal and informal economies, showing that these linkages are often mutually beneficial. In South Africa, Dawson [23] highlighted how informal entrepreneurship in low-income Johannesburg is embedded in social networks of trust, reciprocity, and support—mechanisms that sustain livelihoods amid uncertainty.

This view aligns with Granovetter's [31] concept of 'social embeddedness,' which argues that economic action is shaped by enduring social relationships rather than pure self-interest. However, Hinrichs [37], in her analysis of agricultural markets, challenged the notion of embeddedness by arguing that market forces, such as price competition and individual self-interest, continue to exert significant influence.

[4] Bakkie is a South African term for a small, normally one-ton capacity, pickup truck used to carry light goods (e.g. on farms and small businesses) as well as people in cases where public transport is in short supply.

3.3 Street trade and immigration nexus

Street trade in South Africa and globally is closely linked to immigration due to its low barriers to entry [4]. Since the mid-1990s, an increasing number of immigrants have entered South African cities, particularly urban areas, working as informal traders [51, 69]. This includes, among others, Ethiopian nationals, who have come to dominate the spaza shop industry across South Africa [54, 87]. Arias [4] found that many street traders in Johannesburg originate from neighboring countries—Lesotho, Malawi, Mozambique, Nigeria, Tanzania, and Zimbabwe—or from rural South African regions, including KwaZulu-Natal, Limpopo, and Mpumalanga. A similar trend was observed in a study of street trading in Pretoria CBD, where among 30 interviewed traders, 63% were South African, followed by immigrants from Pakistan (10%), Zimbabwe (10%), Nigeria (7%), Ghana (7%), and Cameroon (3%) [57:133].

Street trade has persisted across historical periods, reflecting immigrants' resilience, adaptability, and ability to shape local economies. Studies conducted in Johannesburg [4] and Durban [51] similarly shows that migrants often enter the informal sector to sustain their livelihoods. Migrant traders frequently rely on networks of mutual support for security and social cohesion [51]. Migrant traders are often targets of xenophobic violence, including verbal and physical abuse, and sometimes murder, which can leave victims traumatized and fearful [51, 53]. Despite these risks, migrant entrepreneurship continues to thrive, as reflected in this study's participants.

3.4 Street trade and food security

A growing body of research underscores the role of informal and street traders in improving food security in low-income urban and peri-urban communities [8, 10, 14, 63, 70, 85]. With approximately 60% of South Africans now living in urban and peri-urban areas, food access depends increasingly on income rather than local production, even in rural areas (Kushitor et al. [42]). The SERI [64] report identifies economic access—the ability to purchase food—as the main barrier to food security.

Studies consistently show that informal traders improve food access by selling near where people live, work, and commute; offering small, affordable quantities; providing credit; operating extended hours; and assisting those in need [8, 10, 14, 63, 70, 85].

In many South African townships, like Soshanguve, street traders operate alongside a growing presence of supermarkets [45]. This coexistence reflects broader trends in household food sourcing documented in food security studies in other parts of the country. For example, a recent study in low-income urban areas of Johannesburg found that 90% of the studied households bought from supermarkets, but most doing so only once a month, whereas 85% of them often purchased from local small shops, and 35% relied on informal markets or street traders who they bought from more often as compared to supermarkets [63:53]. Battersby-Lennard et al. [9: 32] made similar findings in Cape Town, with 94% of those surveyed using supermarkets, but they shopped more frequently from informal traders.

The expansion of supermarkets into low-income areas has raised concerns about the displacement of street traders through competition and spatial exclusion tactics [14]. Battersby et al. [10] question the long-term viability of informal food trading under these conditions, particularly as supermarkets penetrate further into marginalized urban spaces. Nevertheless, evidence from the African Food Security Urban Network (AFSUN)

suggests that over 70% of households in some low-income areas in South Africa continue to rely primarily on informal food retailers [20:799], [70: 5], [83: 797].

3.5 Fresh produce traders

At the apex of the informal food sector are fresh produce street traders selling fruits and vegetables. Their frequent bulk purchases from municipal fresh produce markets support both market operations and the farmers who supply them [18]. At the Johannesburg Fresh Produce Market—Africa's largest fresh produce market—informal traders contributed R8.45 billion ($563 million USD) in turnover in 2021 [49, 75]. Similarly, at the Tshwane Fresh Produce Market, the informal sector, including street traders, accounted for 35% of the monthly turnover in 2009 [48: 42], and they still significantly contribute to its estimated R3.5 billion ($193 million USD) annual turnover [3]. Other studies have identified cases where some street traders source their produce directly from small-scale Black farmers [84]. Thus, helping reduce transport costs and create reliable markets for these producers [84, 85].

These street traders, like many in the informal (food) sector, face numerous operational challenges [55, 86]. In urban areas, limited access to trading space is a persistent issue [4, 13]. Traders are frequently subjected to "operation clean sweeps," involving forced evictions, harassment by law enforcement, and the confiscation of goods [13, 69, 81]. These actions are often accompanied by fines and demands for bribes to reclaim confiscated items [17]. In response, many traders engage in what Bayat [11] termed "quiet encroachment"—a silent, persistent occupation of public space as a means of survival and livelihood improvement amid exclusion and marginalization.

3.6 Mobile street food traders

Mobile street traders are a key feature of urban life [5]. Defined as home-based enterprises operating from makeshift stalls or carts along streets, mobile food traders provide essential nutritional goods to urban populations, often while in transit between locations [1, 47]. These traders encompass a variety of operations, including fruit and vegetable carts [46], bakkie traders [85], coffee carts [62], bicycle and basket hawkers [79], and truck- or stall-based vendors [47]. While all are mobile, this study focuses on those who trade on foot using carts [5].

Empirical studies indicate that mobile traders typically cluster in densely populated areas, serving disadvantaged neighborhoods [46, 47, 60]. Their operations are highly fluid, often shifting locations daily to maximize pedestrian and vehicular footfall, and are influenced by traffic patterns and weather conditions [47]. Regulatory challenges, including harassment by police and municipal authorities, are common across contexts such as New York City [47], Johannesburg [62], Cape Town [22], and Bangalore [59].

Operational characteristics from empirical studies show that mobile traders often use easily transportable setups, work long hours across weekdays and weekends, and experience seasonal and weather-related fluctuations in sales [47]. Licensing and permits are limited, with many operating informally or temporarily absent from their trading locations, highlighting the challenges of regulating and studying this sector [47].

Gender dynamics vary across regions. While all cart traders in this study were men, studies in Cameroon and Johannesburg indicate that women are often predominant in mobile street trading [1, 62].

4 Findings: cart trading in soshanguve and beyond

4.1 Socio-demographic profile of cart traders

All cart traders interviewed across Soshanguve and other research sites were men. In Soshanguve, their ages ranged from 21 to 51 years. The majority were in their twenties (n = 7) and thirties (n = 5), with only one older trader, Charles[5] (51), who continued to work actively, underscoring the physical demands of the trade. Comparable age distributions were recorded in the other study sites, where most traders were in their twenties (n = 8) and a smaller number in their thirties (n = 2).

Marital status varied across participants. In Soshanguve, close to two-thirds (n = 8) were single, while five reported being married or living in customary/common-law unions.

A notable finding was the strong association between cart trading and migrant status. In Soshanguve, most participants were foreign nationals, predominantly from Zimbabwe (n = 8) and Mozambique (n = 3), with only two South Africans. This trend was mirrored in the other research sites, where traders were mainly from Mozambique (n = 7) and Malawi (n = 2), again with just one South African participant.

Educational attainment among traders was generally low. Of the 13 interviewed in Soshanguve, four had left school during the primary years, eight had dropped out before completing secondary school, and only one had completed Grade 12.

Cart trading was the sole source of livelihood for the majority of respondents in Soshanguve (n = 8). The remaining five combined trading with other income-generating activities, including operating stationary produce stalls (n = 3), providing local transport services, engaging in casual employment, relying on the Social Relief of Distress (SRD) grant, or participating in informal sports betting.

4.2 Types of cart traders

In Soshanguve, our fieldwork revealed two distinct categories of cart traders, differentiated by nationality and work patterns. The first group consisted mainly of foreign nationals who worked full-time and moved door-to-door selling produce. The second group was made up of South African traders who engaged in trading part-time, usually on weekends. We also observed several traders who combined mobile trading with other models: for example, Romeo (a foreign national) supplemented his door-to-door sales with a roadside stall during the week, while Emmanuel, another foreign trader, adopted a hybrid approach by selling from a fixed location to passing motorists and pedestrians instead of moving door-to-door.

Comparable patterns emerged in other sites. In residential areas such as Ivory Park, traders were consistently observed selling vegetables door-to-door, while in busier urban hubs—particularly around transport nodes—traders focused on fruit sales from fixed, informal public spaces.

A further distinction was observed between owner-operated traders and those working as assistants. In Soshanguve, six of the 13 traders we interviewed were employed as assistants, while seven owned and operated their own carts. This division was mirrored in Ivory Park. A recurring trajectory noted in the field was that many owner-operators had begun as assistants. For instance, Romeo described starting out as an assistant

[5] Charles is a research participant being referred to with the use of a pseudonym, as are all other such people referred to in this way.

before becoming self-employed; he now employs two assistants, both of whom expressed aspirations to become independent traders themselves. In contrast, traders operating in city centers were generally self-employed from the outset.

Experience levels among cart traders also varied across sites. In Soshanguve, three traders had been working for less than a year, six had been trading between two and five years, and four—including Charles, with nine years of experience—had been in the trade for over five years. Across interviews, a recurring explanation for entering the trade was limited access to formal employment. Immigration status was repeatedly cited as a major barrier. Trymore, for example, explained that his inability to secure formal work stemmed from lacking legal documentation.

Despite these constraints, many traders brought diverse prior work experiences into cart trading. We heard accounts of traders with backgrounds in bricklaying, shopkeeping, family farming, and casual labor. Ernest's trajectory exemplifies this mobility: after working as a bricklayer in Mozambique and later assisting at his sister's bottle store in Thembisa, he returned to South Africa in 2023. His sister introduced him to Thomas, a Zimbabwean trader with over 12 years' experience, under whom Ernest is now employed as an assistant.

4.3 Common spending habits of the cart traders

Our research found a consistent spending patterns among immigrant cart traders in Soshanguve and across the other study sites. Traders reported using their daily earnings to purchase groceries, with shopping spread across both formal supermarkets and local informal food retailers such as spaza-shops. Rent and utility payments were recurring monthly expenses, while many also spent money on street food during the day. We regularly observed this practice in the field, as several traders stopped at local spaza-shops/eateries for lunch while working.

By contrast, the two South African traders in Soshanguve reported different habits. They either brought food from home or skipped lunch entirely, since they often had shorter working hours (typically between 9 am and 2 pm) compared to their migrant counterparts who worked for longer stretches.

One of the most prominent financial practices among migrant traders was the regular remittance of income to families in their countries of origin. Many emphasized that this obligation accounted for a significant share of their earnings. For instance, Romeo, a Zimbabwean trader, explained that he sends home about $100 (roughly R1,800) every month. He detailed how this money supports his parents and pays two cattle herders—each earning $30 (about R600)—while his parents keep $40 (about R800) for their own needs.

We also noted differences in the platforms used for sending money. Zimbabwean traders commonly relied on Mukuru[6] for remittances, while Mozambican traders consistently mentioned using M-Pesa.[7]

[6] Mukuru is a financial services company that allows people, especially migrant workers and immigrants in Southern Africa, to send money (remittances) across borders quickly and affordably.

[7] M-Pesa is a mobile money transfer and financial services platform that allows users to send, receive, and store money using a mobile phone, without needing a bank account.

4.4 Business operations

4.4.1 Low barriers to entry

Our fieldwork consistently showed that cart trading is a livelihood with remarkably low barriers to entry, both in terms of financial capital and required skills. What we heard repeatedly in interviews, and observed in the field, was that most cart traders had started with very little. Entry into the business often followed a pathway from assistantship to self-employment. Working as an assistant to an established trader not only provided an immediate source of income but also served as an informal apprenticeship where newcomers learned where to buy produce, how to price and package it, and how to negotiate with customers.

Raymond's story illustrates this common trajectory. He explained that he spent four years working for Brian, a successful Zimbabwean cart trader in Soshanguve. While Brian focused on stock purchases and packaging, Raymond was sent out to sell directly on the streets, gaining practical experience in engaging with customers and managing daily earnings. Over time, he saved R1,500 (around $83), which he used to purchase a cart from a local welder, buy his first stock, and pay for transport fares. Raymond also spoke of the mentorship he received from Charles, another experienced cart trader who participated in this research, who accompanied him to the Tshwane Fresh Produce Market and showed him how to identify good quality produce at competitive prices.

We encountered similar accounts in other sites. In central Johannesburg, Mike told us that when he first arrived in South Africa, he had almost no capital. A friend helped him sell his mobile phone, and with the proceeds he bought a cart for R500 (about $28) from a Zimbabwean cart maker near Johannesburg Mall. He then purchased his first stock for R600 (around $34) at the Joburg Market. As Mike put it, "My friend helped me sell my phone, and I used that money to buy a trolley and stock. That is how I started."

Such accounts highlight how accessible cart trading is for those with limited resources. At the same time, they underline the importance of social networks, informal mentorship, and resourcefulness in shaping traders' entry into the business. The trade is sustained not simply by individual effort, but through webs of support and knowledge-sharing that circulate among migrants, fellow traders, and even family members.

4.4.2 Access to public space and the role of social networks

In the field, we witnessed cart traders operating in open urban public spaces like streets, pavements, and roadside verges, often without paying rental fees. This use of "free" public space allows them to avoid the overhead costs that formal retailers typically face. Traders repeatedly emphasized that this spatial informality is what makes the business viable, especially for newcomers who start with very limited resources. We also observed how traders reduced costs further by pooling resources. For example, in Soshanguve, groups of traders regularly combined funds to hire a single vehicle for stock transport from the Tshwane Fresh Produce Market, thereby lowering individual expenses.

Social networks were consistently described by traders as critical to both entering and sustaining the business. Many explained that they had entered cart trading through informal, apprentice-style arrangements, often mediated by kinship ties or shared nationality. Charles, for instance, recounted that he began working under the guidance of his uncle, Mr. Magwenzi (a successful cart trader who also employs three traders that participated in this research), before gradually establishing himself as an independent

trader. Similar accounts were common across sites, with traders stressing that without these personal connections, entering the trade would have been far more difficult.

We also heard stories that highlighted how solidarity and reciprocity shape everyday practices within the trade. Romeo, a Zimbabwean trader who has become relatively successful in Soshanguve, explained how he took on two assistants from Mozambique. As he put it, "They approached me while I was selling and said they were struggling without jobs, food, or anything else. They asked if I could provide them with trolleys so they could assist me." Romeo agreed, providing them with carts and daily work opportunities. We observed these men accompanying him during his rounds, helping with sales and deliveries.

Such instances reveal that cart trading is not only an economic activity but also a socially embedded livelihood, sustained through networks of trust, mentorship, and shared struggle. These relational dynamics illustrate how migrants and community members alike mobilize collective strategies to secure work and mutual survival in contexts where formal employment remains scarce.

4.4.3 Social cohesion and mutual support in cart trading

Our field observations showed that cart traders work within tightly knit and interdependent social networks, marked by mutual trust, collaboration, and a strong sense of solidarity. This was especially pronounced among immigrant traders, who often described their relationships in brotherhood-like terms, grounded in shared struggles and the daily realities of navigating precarious livelihoods in the informal economy.

In Soshanguve, this sense of cohesion was most visible among door-to-door hawkers. On their rounds, we saw traders regularly exchanging greetings, calling each other "brother" or "friend." These greetings were more than pleasantries; they reflected familiarity, solidarity, and mutual recognition of the challenges of the work. Social bonds extended beyond the act of trading itself and spilled into everyday routines. For example, lunch breaks often turned into communal gatherings. During fieldwork, we regularly shared meals with three traders—Charles, Tinashe, and Raymond—who bought *kotas*[8] (quarter-loaf sandwiches filled with chips, fish, or polony) from a nearby spaza shop. They would pool money to buy soft drinks, and on weekends they often opted for more substantial meals such as pap or rice with beef stew or chicken at a local eatery.

These meals served more than nutritional purposes. We observed how lunch breaks became informal spaces for knowledge exchange and emotional support. Traders discussed sales strategies, shared information about better suppliers, and sometimes engaged in small-scale bartering. As Tinashe explained: "We exchange products; if I'm short on potatoes, I take a packet from Charles and replace it with sweet potatoes, as long as the prices match." Such reciprocal exchanges were not limited to the streets. At the fresh produce markets where they sourced stock, traders often ate breakfast together, pooled money for bulk purchases, and assisted one another with loading and unloading produce onto shared transport.

These practices highlight how cart trading is embedded within social relations that go well beyond economic exchange. Mutual support and shared meals reinforce solidarity,

[8] Kota (also popular known as Sphatlo) is a popular South African snack consisting of a quarter loaf of bread that has been hollowed out and stuffed with ingredients such as polony, egg, achar, chips, tomatoes, lettuce, ketchup, and cheese.

while networks of reciprocity and collaboration provide a buffer against the uncertainties of informal work. The result is a system of social cohesion that sustains both livelihoods and morale in an often hostile economic environment.

4.4.4 Trading practices and working patterns

In the field, we observed that cart traders in Soshanguve and other study sites primarily sold fresh produce door-to-door, moving through residential streets and pavements. Their presence was signaled by loud vocal calls or distinctive auditory cues—handbells, hooters, or short rhythmic shouts. These calls often carried vernacular words such as "Zambané" (potato) or "aie" (onion), reflecting both their cultural embeddedness and their adaptation to local linguistic contexts. Customers usually came out of their homes when they heard these signals, negotiating purchases at their gates or in the street.

This pattern contrasted with traders in city centers, who tended to remain in fixed locations near transport nodes or busy walkways, only shifting when business was slow. Residential-based traders, by necessity, covered wider territories, navigating dispersed households to build their customer base.

Weekend trading emerged as the most lucrative period in residential areas like Soshanguve and Ivory Park. All interviewed traders in Soshanguve reported working on Saturdays, while eleven also traded on Sundays. Demand was closely linked to cultural food practices, particularly the preparation of traditional Sunday meals of meat, rice, and assorted salads. As Trymore explained: "The best-selling days are Saturday and Sunday. On weekdays, I make up to R400, but on weekends up to R700." This pattern was echoed by others, who reported weekday earnings between R300 and R500 (~$17–28 USD), often doubling over weekends. Tuesdays were also noted as strong trading days, since many traders rested on Mondays. Indeed, twelve of the Soshanguve traders reported not working on Mondays, using the day for rest or stock replenishment.

Stock procurement practices followed this rhythm. Owner-operators bought directly for their own carts, while employer-traders purchased for both themselves and their assistants. We observed that traders typically acquired smaller volumes early in the week and then stocked heavily on Thursdays or Fridays ahead of the weekend rush. Romeo described this cycle: "On Tuesday, I buy stock for R3500, and on Friday I spend R5000 for a variety of vegetables for Sunday kos [meals]." In contrast, city-center traders purchased stock almost daily, given their proximity to fresh produce markets and the steady weekday flow of commuting customers.

Working hours were shaped by a mix of seasonal, climatic, and religious factors. In Soshanguve, traders typically began at 7:00 am in summer, but in winter we observed later starts (8:00–9:00 am) as cold mornings kept both traders and customers indoors. Religious practices also influenced schedules. For example, Moosah in Soshanguve and Abdul in Johannesburg—both Muslim—delayed work on Fridays, only beginning their rounds after attending Jum'ah prayers. Thursdays also started later for many, following early morning market runs for stock replenishment.

Lunch breaks usually occurred between 13:00 and 16:00. In summer, traders often extended these breaks to avoid the midday heat, resuming later in the afternoon and continuing into the evening. In winter, cooler conditions allowed for more continuous trading, but shorter days and safety concerns led to earlier closures. Most traders in Soshanguve reported ending between 17:30 and 19:00, with earlier finishes in winter.

Tinashe emphasized the risk of robbery as a reason for avoiding late-evening sales, while Raymond explained that he often finished as soon as his stock sold out—especially on weekends.

Work rhythms varied significantly across sites. In Ivory Park, Raul described starting his day at 4:00 am to source produce from wholesalers in Swazi Inn (who themselves purchased from Johannesburg and Tshwane markets), before trading from 8:00 am until 7:00 pm. In central Johannesburg, we saw traders collecting stock as early as 5:00 am, selling from mid-morning until 8:00 pm to capitalize on the commuter rush. In these urban hubs, the heavier police presence in the evenings also provided an added sense of safety for late trading.

Despite these variations, most traders in Soshanguve described their trade as relatively stable throughout the year, with the exception of December and January. During this festive period, sales dropped as many customers shifted to barbecued meat-based meals, while university students—an important customer base—left the township for the holidays. This seasonal dip was also shaped by the mobility of immigrant traders themselves, many of whom returned to their home countries to visit family before resuming business in the new year.

4.4.5 Widely used carts and dress codes

In Soshanguve, the commonly used carts are wide two-wheeled steel carts that we saw daily being pushed along pavements and township roads (Fig. 3). All eleven immigrant traders relied on these carts, which are welded together by local artisans and fitted with second-hand wheelchair wheels obtained from local households. When standing close to them, the carts smelled faintly of rusted iron and rubber, their metallic frames worn smooth from constant handling. Their width gives traders space to pile up tomatoes, cabbages, onions, and spinach in neat, visible layers, with extra plastic bags of vegetables hooked onto the sides, swaying as the carts moved from house to house. This simple but ingenious design transforms the cart into both transport and mobile display, allowing customers to see, smell, and touch the produce as the trader passes.

We also saw how the design mattered for the terrain. The large inflated wheels absorbed the bumps of unpaved streets, rolling more steadily than the old supermarket

Fig. 3 The widely used carts in Soshanguve (Pic: Oscar Sithole)

trolleys used by the two South African traders we shadowed in Soshanguve and by all traders in the city centres. The difference was striking: supermarket carts rattled loudly over stones and often got stuck in potholes or patches of loose sand, while the steel carts glided more smoothly, making them more practical for the informal, rugged spaces where most traders worked. Traders told us they valued this durability, even if it meant an initial investment, because the carts could carry heavier loads without breaking down.

Dress codes among traders were also noticeable in the field. We learned in Soshanguve that dress was never accidental; it was part of how traders prepared their bodies for the grind of the day. Most of the cart traders we shadowed stepped out in overall-type work suits, their fabric already faded and stiffened from sweat and dust. Many wore them zipped up to the chest, with wide-brimmed hats shielding their faces from the unforgiving township sun. The deep side pockets of these work suits were never empty—we often saw hands slip inside to pull out folded notes, a basic cellphone buzzing with customer calls, or a small notebook where debts and credits were jotted down in smudged ink. Safety boots, heavy and scuffed, carried them across long stretches of uneven ground: over potholes, loose gravel, and patches of broken glass that littered some of the streets. The boots made a distinct thud on tar and a crunch on sand, reminding us of just how much ground these men covered every day.

We noticed the same pattern in Ivory Park, where groups of traders in work suits and hats clustered together before dispersing into the neighbourhood. The dress was not only practical but almost uniform in its logic—protection, endurance, and readiness for a trade that demanded both.

Yet, not all dressed this way. In Soshanguve, Moosah and Peter stood out. We often found them pushing their carts in casual jeans and light T-shirts, sometimes with sneakers instead of boots. Their choice mirrored what we saw more frequently in the city centre, where cart traders preferred lighter, casual clothing. In the concrete heat of town, comfort and quick movement seemed to matter more than the sturdy protection valued in the townships.

These small but telling differences in clothing spoke volumes. They revealed how traders negotiated their environment—the sun, the dust, the long walks, or the dense heat of the city—but also reflected individual taste and cultural preference. Dress, in this sense, was both a shield and a statement, a way of embodying the work.

4.4.6 Types of produce sold

The interviewed cart traders often explained to us that what they chose to sell depended on "what people here want to cook" and "what brings money today." In the residential streets of Soshanguve, we repeatedly saw carts piled with vegetables central to daily meals: bright red tomatoes placed carefully on top, earthy potatoes, sweet potatoes, and round green cabbages stacked like stones at the base of the cart. We also encountered butternut, pumpkin, carrots, onions, peppers, beetroot, cucumbers, green beans, lettuce, broccoli, and the occasional handful of chilies. One trader told us: "Spinach and tomatoes—these ones go fast. People can't cook without them."

We often bought from the carts ourselves, and the produce was fresh and of good quality (Fig. 4). When cooked, the spinach stayed fresh and flavourful, while the tomatoes were juicy and sweet, confirming what traders claimed about the quality of their

Fig. 4 Fresh produce bought from one of the cart traders in Soshanguve (Pic: Oscar Sithole)

Fig. 5 Less fresh spinach at a local Shoprite supermarket in Soshanguve Crossing Mall (Pic: Oscar Sithole)

produce. Still, we sometimes noticed the toll of long hours in the sun. Spinach leaves wilted at the edges, tomatoes softened, and carrots dried out a little. Traders openly acknowledged this. One explained, while offering us a discount on soft tomatoes: "These ones are not so strong anymore, but still good for stew." Such produce past its peak was either sold cheaply, given to neighbours or loyal customers, or taken home by traders to cook for their families.

What stood out during our fieldwork was that this challenge was not unique to street traders. Even at the air-conditioned Shoprite in Soshanguve, we came across spinach with yellowing leaves (Fig. 5) and peppers showing the same softness we had seen on the carts (Fig. 6). Observing and tasting produce across both from sites reinforced that cart

Fig. 6 Less fresh green pepper in a Shoprite supermarket in Soshanguve Crossing Mall (Pic: Oscar Sithole)

traders, despite working under tougher conditions, often managed to supply food that was just as fresh—and sometimes fresher—than what was found in formal retail outlets.

4.4.7 Fresh produce and fresh produce sources

In Johannesburg, we noticed how most of the cart traders sell just a single apple or banana at a time—quick snacks aimed at passers-by who want something to eat on the spot. The scene in Marabastad and central Pretoria was different. There, traders carried a mix of fruits and vegetables. We often saw commuters buying a few items after work, stocking up before heading home.

In Soshanguve, the picture became clearer through our conversations with twelve cart traders. They told us—and we saw it ourselves—that most of their stock comes from the Tshwane Fresh Produce Market. All the owner-operated trader went on their own, while assistants reported that it is only their employers who go to purchase the stock at the market. The owner-operaters explained that the market is cheaper and the produce fresher. Traders explained leave in the early hours, sometimes as early as 3 am, and we joined them on trips in bakkies or shared Toyota Quantums ('taxis'), driving the 39 km to make it to the gates before the market officially opens at 5 am. Arriving early meant they could deposit money into their market accounts—a rule everyone complained about but had to follow—and grab the best stock before prices rose or shelves emptied.

Marabastad and Pretoria traders did not face the same strain. Being closer to the Tshwane Fresh Produce Market, they told us they could go almost daily and didn't need to leave home in the middle of the night. In Johannesburg, meanwhile, traders relied on the Joburg Fresh Produce Market, which was closer and easier to reach.

Transport arrangements also differed. We heard immigrant traders in Soshanguve talking about how they shared bakkies to cut costs, while South African traders like Peter and Thabang described how they squeezed into taxis, often paying for extra seats for their crates of vegetables. Others across Soshanguve, Marabastad, and Pretoria mentioned topping up from the smaller Marabi Market (official name is Evergreen

Market) in Marabastad, especially after 10 am when Tshwane Market closed. This practice seemed to be an important back-up strategy.

Spinach was a special case. We often saw one trader, Emanuel, buying it from mobile bakkie sellers who had driven in from Brits, about 54 km away. Traders like Emmanuel told us this was one of their most reliable channels, linking them to small-scale Black farmers outside the city.

Ivory Park showed us something different altogether. Traders like Raul explained how they sourced their stock not from the big municipal markets but from local informal wholesalers in Swazi Inn. These wholesalers filled a crucial gap, especially since Ivory Park sits far from both Johannesburg and Tshwane markets. They offered a cheaper, more convenient supply line. By contrast, in Soshanguve we never found similar informal wholesale networks. Despite being just as far from Tshwane Market as Ivory Park is from Johannesburg, Soshanguve lacked that entrepreneurial and logistical layer—something many traders pointed out as a challenge.

4.4.8 Constraints and risks: lived realities of the cart traders

During our fieldwork in Soshanguve, Johannesburg, and Ivory Park, it became clear that cart traders navigate a daily landscape full of risks and constraints that threaten both their livelihoods and the informal food networks they sustain. Conversations with traders, combined with our observations of their routines, revealed a complex mix of environmental, economic, and social pressures shaping their work.

Environmental conditions were a constant challenge. Traders frequently spoke about how intense heat or sudden heavy rains could cut short trading hours. Many pointed out that prolonged sun or rain not only made it hard to sell but also led to spoiled fruits and vegetables, eating into already thin profit margins. We observed baskets of spinach and tomatoes turning soft or discolored after exposure to the elements, confirming what traders repeatedly told us: weather can make or break a day's earnings.

Safety was another major concern. Charles, a trader from Soshanguve, recounted being mugged at 2 am while heading to Tshwane Market: "The criminals took almost everything—my money, my clothes, and my belongings." Traders like him highlighted how vulnerable they feel on early-morning market trips and on the streets of township neighborhoods, operating without any formal protection.

Financial precarity came up in nearly every interview. Romeo described how he had been tricked by local youths paying with counterfeit notes, losing real money in exchange. Traders also talked about fluctuating prices at Tshwane Market, which made it difficult to plan purchases. They often could not raise their prices to cover rising costs, because customers—often themselves struggling financially—could not afford to pay more. Several traders said they sometimes had to buy less or skip certain products altogether during price spikes, showing how narrow margins force constant adaptation.

Immigrant traders described another layer of difficulty: xenophobic abuse. In Soshanguve and Ivory Park, traders from other countries frequently faced verbal harassment and exclusionary comments from local residents. This was not just anecdotal; it was a recurring pattern that made daily operations stressful, adding social tension to the economic pressures they already faced.

Storage was another practical problem. Many traders described how they lacked commercial refrigeration or secure storage. We saw perishable goods stored in personal

fridges or crowded living spaces, which was clearly insufficient for preserving stock, especially during hot or wet periods. This often resulted in financial losses by the end of the week.

Basic trading infrastructure was limited as well. A number of traders mentioned that they could not afford large umbrellas or canopies, leaving them—and their produce—exposed to sun and rain. We observed how smaller umbrellas barely protected vegetables, limiting trading hours and contributing to spoilage.

The Covid-19 pandemic had intensified all these vulnerabilities. Traders reported that unlike formal businesses, they received no government relief. Tinashe, a trader from Zimbabwe, said: "The only thing we got from the government during Covid was being chased away." The pandemic highlighted their invisibility to the state, and many recounted enforcement encounters where they were fined or harassed for operating during lockdown periods.

Operational challenges also included logistical disruptions. Broken carts forced traders to pause their work for days while arranging repairs. Charles shared how a taxi collided with his cart, damaging both his vehicle and produce; although the driver later helped him, the incident illustrated the dangers of moving and selling goods in busy urban corridors.

Overall, our observations and interviews painted a picture of traders constantly balancing multiple risks—from weather, crime, and financial volatility to social hostility and infrastructural gaps—while trying to sustain their livelihoods and keep nutritious food flowing to township communities.

5 Lessons about the contributions of cart traders to food and nutrition security

5.1 Selling in convenient locations

One of the clearest ways cart traders contribute to food security is by selling fresh produce in locations that are convenient for their customers. During our walks and rides with traders in Soshanguve and Ivory Park, we observed how they moved through residential streets, stopping at houses and, in some cases, entering homes to serve elderly or disabled residents. Traders like Emmanuel told us that for many customers, this door-to-door service was a lifeline.

Customers explained that reaching supermarkets could be expensive and physically demanding. Many in Soshanguve reported spending at least R17 (around $0.95 USD) on transport each way to the nearest shopping mall, followed by a walk from the taxi stop to their homes while carrying groceries. By bringing produce directly to the doorstep, traders not only eased this financial and physical burden but also ensured that households could access fresh vegetables and fruits more regularly. We often saw passers-by and motorists stopping Emmanuel mid-route to buy spinach or other vegetables, showing how traders also served people on the move.

In city centers like Johannesburg and Pretoria, the pattern was slightly different but equally strategic. Traders positioned their carts near taxi ranks, bus stops, and other busy pedestrian areas, deliberately placing themselves where foot traffic was high. During our observations, it was evident that this approach allowed them to reach people who were already out running errands, catching public transport, or commuting, turning these everyday movements into opportunities for purchasing fresh produce.

Across all locations, it became clear that cart traders play a crucial role in improving both the physical accessibility and affordability of nutritious food, particularly for low-income households who might otherwise face barriers to obtaining fresh produce.

5.2 Offering lower prices

Price tracking revealed that cart traders consistently offer fresh produce at significantly lower prices than local supermarkets like Shoprite. Across the eight items we monitored, traders' prices were cheaper, with savings ranging from as little as R0.42 ($0.02 USD) per kilogram for butternut to as much as R23.39 ($1.35 USD) per kilogram for peppers (Table 1). For staples such as cabbage, potatoes, onions, and tomatoes—items central to many low-income households—Shoprite's prices were between 28.7 per cent and 112.3 per cent higher than those offered by cart traders. Comparing these prices to national averages compiled by Statistics South Africa showed that cart traders were even more affordable relative to the formal sector.

What stood out during interviews was how cart traders structured sales to suit the budgets of their customers. We observed traders repeatedly selling small portions—a quarter of a cabbage, a R5 packet of potatoes, or single carrots—to ensure that households with limited funds could still access fresh vegetables. In contrast, supermarkets often provide cheaper per-kilogram rates only for larger bulk purchases, a practice Tinashe described as "regressive pricing" that excludes people who cannot afford or store larger quantities.

Tinashe explained that keeping produce affordable is central to their work: "Most of my customers rely on social grants. I try not to raise prices too quickly, and I always tell them if prices change." Traders echoed this across Soshanguve, noting that even in times of rising inflation, they deliberately absorb costs or adjust sales quantities to ensure that fresh produce remains accessible. It was clear that this pricing strategy strengthens food security by allowing households to buy what they need, when they need it, without being forced into bulk purchases or expensive trips to distant supermarkets.

5.3 Granting interest-free credit

Many cart traders in Soshanguve and other sites told us they make food more accessible by giving regular customers interest-free credit. Unlike supermarkets such as Shoprite, which do not offer credit to their large scale and anonymous clientele, the cart traders said they rely on trust and personal relationships within residential areas.

We observed this firsthand: one afternoon, a grandmother bought a packet of potatoes and onions on credit from a trader named Charles, promising to pay after receiving her pension. Charles handed over the vegetables immediately and carefully recorded the transaction in his notebook. Traders explained that students are usually excluded from credit because they move frequently and are seen as unreliable. Some assistants, like Trymore, are permitted to grant their customers credit, with any unpaid amounts deducted from their weekly wages and returned when the customer pays. Traders emphasized that offering credit is an act of trust that helps vulnerable households and maintains long-term customer loyalty.

5.4 Selling in small and flexible quantities

Almost all cart traders interviewed sell fresh produce in small, flexible quantities that correspond to the limited purchasing power of their low-income customers. In Soshanguve, packets of onions, tomatoes, or potatoes were frequently sold for R5–R10 ($0.28 USD—$0.57 USD), allowing customers to purchase only what they could afford at the time. Traders also employed bundling strategies, combining ingredients for common meals, such as half a cabbage with a few carrots and half a pepper for coleslaw. In addition, value-added services—such as cutting or washing spinach on request—were commonly provided at no extra cost. These practices suggest that cart traders are attentive to the daily needs and constraints of customers, many of whom face financial precarity and limited kitchen access or time for food preparation.

5.5 Philanthropy

A significant number of owner-operated cart traders in Soshanguve and other sites reported setting aside slightly spoiled but still edible produce for community members in need. Severely spoiled items were discarded, but produce nearing the end of its shelf life was often redistributed rather than wasted. Traders acknowledged potential food safety risks but expressed confidence in the community's ability to handle the produce safely. For instance, Tinashe noted that many elderly women—often grandmothers—who collect this produce are skilled at sorting, cleaning, and cooking it for safe consumption.

Observations and interviews further illustrated this practice. Charles explained seeing an elderly woman collect discarded vegetables and, concerned for her well-being, began regularly offering her leftover and unsold produce at the end of each day. These practices highlight an ethic of care and solidarity in informal food systems, where traders simultaneously reduce food waste and support vulnerable households.

6 Business viability and customer base

The economic viability of cart traders depends on the distance they can cover, particularly in residential areas, and the scale of their operations. For perishable goods such as fresh produce, traders must meet a minimum demand before stock spoils. Their operational flexibility allows them to adjust working hours, expand service areas, and manage overlaps with other traders by coordinating routes, for example, one trader operates in a given area in the morning, another in the afternoon. This coordination increases access to fresh produce for residents and enables traders to meet business demands within smaller, high-demand areas. Routes are further adjusted in response to factors such as weather, road conditions, and daily sales fluctuations.

The small scale of cart traders' enterprises, limited to what fits in their carts, combined with low operating costs, reduces the minimum demand required for viability and limits the distance they need to cover. By contrast, supermarkets like Shoprite rely on economies of scale and high overheads, requiring a large customer base to achieve profitability. Even when located in townships such as Soshanguve, supermarkets remain distant for many residents, creating localized food deserts [7].

Formal sector delivery services impose[9] additional barriers for customers through delivery fees, minimum purchase requirements, and the need for smartphones, data,

[9] Information on the Checkers Sixty60 service was gathered from their website, their app, and their customer services call centre and was correct in November 2024.

and credit cards. For example, Checkers Sixty60 was not available in Soshanguve and where they did operate the deliver cost was R35 or required a minimum purchase of R350 for free delivery. These conditions render formal delivery services largely inaccessible for low-income consumers. Cart traders, in contrast, sell for cash without delivery fees, offering lower prices and maintaining profitability even with small sales volumes.

7 Discussions

This study demonstrates that cart traders in Soshanguve operate as micro-scale, mobile entrepreneurs who occupy public space without fixed trading locations. The mobility of these traders aligns with operations observed in mobile street trading in other countries, situating them within the broader global informal mobile food trade [1, 5, 47].

By treating streets as dynamic marketplaces, the studied cart traders effectively reduce, and in some cases eliminate, the distance customers must travel to access fresh food. This mobility is crucial for vulnerable groups—such as the elderly, persons with disabilities, and low-income households with limited transport choices—who often find supermarkets and local retail outlets physically inaccessible or too costly [7]. At times, cart traders in residential areas were observed entering the premises of clients they knew to be elderly or disabled, delivering produce directly to them, as they knew that their physical conditions prevented them from walking to the local retailers to purchase fresh produce.

Empirically, the study shows that mobile operations enable traders to reach a wide customer base within residential areas, sustaining viable livelihoods while bridging spatial, economic, and nutritional gaps in the urban food system. Cart traders thus occupy a critical role in areas underserved by formal retail, often referred to as "urban food deserts" [7]. By providing fresh produce, they address dietary and nutritional deficiencies linked to the consumption of processed foods and limited access to vegetables and fruits.

The produce sold by these traders—including vegetables rich in vitamins, minerals, fiber, and antioxidants—supports immune function, mitigates the risk of chronic disease, and promotes overall well-being, particularly for elderly consumers [26]. These findings provide empirical evidence that small-scale informal food systems contribute directly to public health and nutrition outcomes in low-income urban contexts.

The study also highlights the socio-political dynamics underpinning cart trading. The studied cart traders actively claim public streets as trading spaces, frequently in defiance of municipal regulations, to secure livelihoods and expand food access. Enforcement of restrictive bylaws, through harassment, confiscation, and "clean sweeps", reflects broader exclusionary regulatory frameworks that undermine informal trade [13, 61, 69, 81]. In response, the cart traders adopted adaptive strategies characterized by persistence, mobility, and subtle forms of encroachment, consistent with Bayat's [11] notion of "quiet encroachment." Rather than overt confrontation, these practices enable traders to assert economic autonomy and occupy urban space with minimal direct conflict.

Social relations and networks emerge as foundational to traders' resilience. The study found that economic collaboration, including sharing transport costs, produce, and market intelligence, reduces operational expenses and strengthens collective capacity. Trader–customer interactions are similarly shaped by social embeddedness [31]. Traders cultivate trust and familiarity, addressing customers with relational terms such as "my son" or "mother," which fosters reciprocal exchanges, including the provision of

interest-free credit tailored to customers' financial circumstances, particularly grant recipients. This personalized approach contrasts sharply with the standardized, transactional interactions typical of supermarket staff [85].

Pricing, convenience, and flexibility remain central to traders' customer appeal. By offering lower prices, selling in small quantities, and operating in close proximity to customers, traders outperform formal retailers in contexts where low-income consumers face financial constraints. Their responsiveness to customer needs—shaped by intimate knowledge of household income schedules, consumption patterns, and social relations—underscores the capacity of informal enterprises to adapt to local market demands [37].

Despite operating outside formal regulatory structures, cart traders demonstrate self-governance through shared norms, informal leadership, and verbal employment agreements. This aligns with Hart's [35] characterization of informality, highlighting that informal does not equate to disorder or inefficiency. Furthermore, traders contribute to local economic circulation: their spending on stock, trolleys, food, transport, and market services benefits upstream small-scale farmers, municipal markets, and township service providers, generating local multiplier effects and indirectly supporting broader livelihoods [83, 84].

Cart traders' contributions to urban food security are multifaceted. By providing accessible, affordable, and nutritionally valuable food, they increase dietary diversity for low-income households. Their flexibility in credit provision and proximity-based selling further enhances food access, reducing both monetary and transport barriers. Some traders also donate overripe yet edible produce, addressing both food insecurity and food waste, an approach aligned with HLPE [38] recommendations for integrated strategies to enhance equitable access to nutritious food. Research on informal vendors operating outside the Cape Town Fresh Produce Market found that much of the spoiled fresh produce was distributed to those unable to buy food [10]. Likewise, donating surplus food before it expires and becomes food waste is done by supermarkets in South Africa such as Woolworths (DEFF & CSIR 2021).

The practice of redistributing surplus food before it becomes waste is well established in the other countries such as United Kingdom, where supermarkets and hotels donate excess food to charities that then distribute it to low-income and homeless populations across urban areas [30, 58]. This raises an important question for the South African context: if small-scale cart traders engage in similar practices as large formal enterprises, how should we interpret the notion of informality?

A notable finding of our research is the strong nexus between street trading and immigrant status, which adds to the existing body of knowledge on the intersection of migration and informal economic activities [4, 51, 53, 69]. The study highlights the innovative entrepreneurship and strong work ethic of migrant cart traders. We saw many migrant cart traders demonstrating practical innovation, such as using larger-wheeled carts that enhance mobility and efficiency compared to the smaller-wheeled supermarket carts typically used by local South African traders. They also work longer hours, reflecting higher levels of commitment and entrepreneurial drive.

Despite their contributions to food accessibility, migrant traders operate in precarious environments, often exposed to xenophobic abuse. Such harassment undermines the critical role they play in ensuring access to food, particularly for low-income communities reliant on the informal sector. Future research should examine how xenophobic

abuse against immigrant food traders may compromise food security in these vulnerable populations.

Historically, we saw how cart trading has served as a livelihood strategy for economically marginalized populations in South Africa and elsewhere, including immigrants and those excluded from formal employment due to educational or structural barriers [22, 46, 47, 62, 79]. Many cart traders in this research exceeded subsistence-level of selling, employing others, remitting funds to families, and diversifying into related businesses. By purchasing from municipally owned markets and paying commissions, they simultaneously support both small-scale and large-scale producers, and contribute to municipal revenue [49, 50, 75].

The study also underscores regional variations in gender dynamics within mobile street trading. While all cart traders in this research were men, studies in Cameroon and Johannesburg suggest that women often predominate in this sector [1, 62], Rogerson 1985. This indicates a need for further investigation into the experiences of women in cart trading in South Africa to capture gendered differences in participation, challenges, and opportunities.

The findings of this study have several implications for future research and policy. First, there is a need to examine the nuanced ways informal food systems contribute to nutritional outcomes, especially for vulnerable populations in urban townships. Second, further inquiry is warranted into the adaptive strategies that traders use to navigate regulatory constraints, including informal governance, social networks, and mobility patterns. Finally, this research highlights the importance of integrating informal food actors into urban food policy frameworks to strengthen both food security and local economic resilience. Recognizing the structural, social, and nutritional significance of cart traders could inform regulatory reforms that support, rather than undermine, these critical urban food system actors.

8 Conclusion

The findings of this study illuminate the indispensable role that cart traders play in ensuring equitable food security. Far from being peripheral or transient actors, the cart traders examined here emerge as vital, enduring contributors to food access, nutrition security, and inclusive economic development. Their ability to reach consumers directly in their homes and neighborhoods, particularly vulnerable groups, positions them as critical agents in combating urban food insecurity. They do this by offering fresh produce at lower prices, in small and flexible quantities, and by extending interest-free credit based on trust—services that the formal sector fails to provide.

The studied cart traders selling fresh produce play a crucial role in improving access to nutritious food in underserved communities, offering affordable fruits and vegetables that help address nutritional gaps and health challenges—particularly for elderly customers who rely on these traders for convenient, healthy options that support their dietary and health needs.

What sets these cart traders apart is not only their entrepreneurial agility and responsiveness to community needs but also the deeply embedded social networks that enable their operations. Their businesses are woven into the fabric of local communities—economically, socially, and spatially. Their collaboration with other actors in the food system, including local welders, transporters, porters, and even smallholder farmers,

generates a ripple effect that multiplies their impact far beyond what their modest scale might suggest.

Despite being marginalized by the state and operating outside formal regulatory frameworks, these traders exercise considerable agency by creatively and quietly encroaching upon urban public space. Their everyday practices—shaped by resilience, mutual support, and adaptive strategies—challenge dominant paradigms that undervalue informal economies. At the same time, their economic activities are interlinked with formal structures, from sourcing produce through municipal markets to indirectly supporting state revenues and formal agriculture.

In short, the studied cart traders are not merely surviving—they are innovating, supporting livelihoods, nourishing communities, and anchoring local economies. Their continued exclusion from planning and policy frameworks is a missed opportunity. Recognizing their contributions and providing a supportive regulatory and infrastructural environment is not just a matter of economic justice—it is a strategic imperative for building more just, resilient, and inclusive food systems.

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Author contributions
Oscar Sithole: Conceptualization, methodology, data collection, data analysis, and writing–original draft. Marc. C.A Wegerif: Supervision, validation, and writing—review & editing.

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Data availability
The data supporting the findings of this study are available from the author upon reasonable request. All materials used in this study are described within the manuscript and are available from the author upon request.

Code availability
This study did not involve the use of custom code or software.

Declarations

Ethics approval and consent to participate
The research was carried out following the guidelines of the ethics committee listed in the ethics statement. The protocol was approved by the Research Ethics Committee of the Faculty of Humanities at the University of Pretoria. The ethical clearance included the approval of the used research methodological approach, including the questionnaires, observations, price tracking, and the processes of obtaining informed consent from the research participants. Informed consent was granted by all the participants that participated in this research. Participants provided written informed consent for the use of their spoken words and photographs of their work environments, captured during fieldwork, strictly for academic publication purposes.

Consent for publication
The authors, hereby, gives full consent for the publication of this work. They give the publisher the right to publish the work in all formats, including but not limited to, open access, online, and print formats.

Competing interests
The authors declare they have no conflict of interest.

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