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Stakeholder mapping to explore social and economic capital of Rotating Savings and Credit Associations (ROSCAs) to increase demand for and access to healthy food

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Introduction: South Africa, grappling with the complexities of malnutrition, faces a dual challenge of undernutrition in children and overnutrition in adults, particularly among women. This situation is exacerbated by high rates of food insecurity, affecting nearly one-fourth of households. In this context, the role of Rotating Savings and Credit Associations (ROSCAs), locally known as stokvels, becomes increasingly significant. These informal, often women-led, savings and borrowing groups present a unique opportunity to address dietary challenges and promote healthier eating practices in urban, low-income settings. This study explores the potential of stokvels in mitigating the dual burden of malnutrition by facilitating access to healthy, affordable foods.

Methods: We conducted stakeholder mapping to understand the roles and influences of various actors within South Africa's food system, particularly their interactions with stokvels. Our research focuses on how these groups, deeply embedded in the community fabric, can leverage their collective power to negotiate better access to nutritious food and influence healthier dietary choices. Stakeholders identified in the study span diverse sectors, including retail, agriculture, finance, and community organizations.

Results: The research reveals that stokvels are perceived as vital social and economic entities capable of maximizing value through partnerships and networks. However, challenges such as the informal nature of stokvels and the lack of formal legal agreements often hinder their ability to form partnerships with formal institutions. The findings emphasize the importance of understanding and leveraging the social dynamics within stokvels, recognizing their role in enhancing food security and contributing to economic empowerment, especially for women. The study also identifies the need for formalizing stokvel structures to enhance their operational efficiency and increase their impact on food systems.

Discussion: In conclusion, this research highlights the untapped potential of stokvels in addressing South Africa's nutritional challenges. By fostering stronger connections between stokvels and various food system actors, there is a significant opportunity to improve food security and promote

healthier eating habits in low-income communities. Future research should aim to include unrepresented stakeholders and explore strategies to enhance the role of ROSCAs in promoting healthier food choices and addressing affordability and accessibility barriers.

KEYWORDS

stakeholder mapping, Rotating Savings and Credit Associations (ROSCAs), stokvels, healthy food access, social networks and partnerships

1 Background

African nations are undergoing a rapid and complex shift in nutrition and epidemiology, characterized by a dual challenge of malnutrition encompassing both underweight and overweight/obesity (Mbogori et al., 2020). This is further compounded by the coexistence of both chronic infectious and non-communicable diseases (NCDs). South Africa is no exception, with chronic NCDs accounting for 52% of all-causes of adult mortality (Biney et al., 2020), and 1 in 5 adults living with HIV/AIDS (Zuma et al., 2022). In a country with the highest prevalence of adult overweight and obesity in the region, and where nearly 24% of households experience some form of food insecurity (Goetjes et al., 2021), this so-called “wicked problem” of obesity juxtaposed with food insecurity and NCDs, may, in part, be explained by an unhealthy diet and a clear lack of dietary diversity (Harper et al., 2022). To this end, the World Health Organization (WHO) defines a healthy diet as one which “achieves energy balance and a healthy weight; limiting the intake of total fats and giving preference to unsaturated fats vs. saturated fats; increasing the contribution of fruit, vegetables, legumes, whole grains, and nuts; and limiting the intake of free sugars and salt, and ensuring that salt is iodised” (Willett et al., 2019; World Health Organisation, 2022). In a study of 187 countries comparing dietary intake worldwide, diets from many African countries were more diverse and included fewer processed, energy-dense foods or foods with minimal nutritional value, when compared to many developed countries (Imamura et al., 2015).

Nevertheless, South Africa was part of a limited group of Sub-Saharan African nations displaying a less traditional and more Westernized diet [Willett et al., 2019; Food and Agriculture Organization of the United Nations (FAO), United Nations Economic Commission for Africa (ECA), 2021]. This profile was characterized by relatively higher median intake of sugar/sweeteners, alcohol, meat, animal fats, eggs, and dairy products (Willett et al., 2019). The question remains as to the drivers of this pattern of obesity, malnutrition, and the high burden of diet-related chronic diseases in South Africa. Although South Africa has one of the highest Gross Domestic Products (GDP)s in Africa, it also has a highly inequitable economy, with one of the highest GINI coefficients globally. South Africa has experienced rapid urbanization, often into poverty, and with more than one-third of adults unemployed and a further 5% underemployed (Dodman et al., 2017).

Food systems make up a large part of the country's economy. They can play a vital role in the mitigation of issues such as food insecurity and malnutrition [(Food and Agriculture

Organization of the United Nations (FAO), United Nations Economic Commission for Africa (ECA), 2021)]. Several studies have shown that as incomes rise, healthier diets become more accessible, but high-energy, highly processed foods with minimal nutritional value are often more affordable [Zenk et al., 2005; ver Ploeg et al., 2009; Imamura et al., 2015; Willett et al., 2019; World Health Organisation, 2020; Food and Agriculture Organization of the United Nations (FAO), United Nations Economic Commission for Africa (ECA), 2021]. Contextual factors in the surrounding environments create bottlenecks affecting physical food access (Committee on National Statistics et al., 2013).

For instance, people in some urban, low-income areas may have limited access to full-service supermarkets or grocery stores (Zenk et al., 2005; ver Ploeg et al., 2009). In South Africa, where these large food retail outlets exist, the quality and selection of items are generally less healthy in low-income communities when compared to those in high-income areas (Peyton et al., 2015; Odunitan-Wayas et al., 2020). Transport has been argued to be one of the major factors hindering access to food, risking food insecurity in residential areas with limited transport, long distances to shops, and few supermarkets (ver Ploeg et al., 2009). This issue of “last mile distribution” and a supply chain management system that is framed in a context more compatible with the Global North means that access to affordable healthy food, particularly in low-income, urban communities, contributes to this double burden of malnutrition (Tuomala and Grant, 2022).

Exacerbating inequalities are further intensified by increased unemployment and sluggish economic development (Leibbrandt et al., 2010). Several underlying causes of malnutrition in South Africa have been largely interlinked with poverty and food insecurity (Govender et al., 2017). One way to approach these concerns is by leveraging the potency of Rotating Savings and Credit Associations informal financial institutions such as ROSCA and ASCAs. ROSCAs refer to community-driven financial endeavors where individuals voluntarily join a group, convene regularly, and contribute identical savings amounts to a shared fund and the entire sum is then periodically allocated to each member in a rotational manner (Kabuya, 2015). While ASCAs, on the other hand, are savings groups where funds contributed regularly are not immediately withdrawn like the ROSCAs but are left to grow as loan opportunities for members, for bulk purchases, or collective investments (Landman and Mthombeni, 2021).

Rotating Savings and Credit Associations (ROSCAs) are a global phenomenon, existing in various forms across different cultures and economies (Milles, 2011; Benda, 2013; Stoffle Richard et al., 2014; Kabuya, 2015; Lasagni and Lollo, 2015; Nyoni, 2016; Koike et al., 2018; Nyandoro, 2018; Sato and Kondo, 2019; Ademola

Abimbola et al., 2020; Lappeman et al., 2020). They operate on a simple yet effective mechanism: a group of individuals contribute to a common fund, and each member, in turn, receives the lump sum on a rotational basis. This system fosters a sense of community and mutual trust and serves as an informal financial institution with limited access to formal banking (Lukwa et al., 2022). In South Africa, these associations are known as “stokvels,” and they also play a pivotal role in mitigating household food insecurity (Aitchison, 2003; MASSMART, 2011; Response African Response Research, 2012; Bäckman Kartal, 2019; Fairbridges Wertheim Becker, 2019; Ngcobo, 2019; Hutchison, 2020; Mabika and Tengeh, 2021; Old Mutual, 2023). By providing members with access to lump sums of money, stokvels enable households to make significant food purchases and cushion against times of scarcity. This communal financial model not only alleviates immediate food insecurity but also empowers communities by fostering a culture of savings and financial planning, ultimately contributing to long-term food security (Mabika, 2018; Mabika and Tengeh, 2021).

A Rotating Savings and Credit Association (ROSCA) is a community-oriented financial arrangement characterized by a self-formed group of individuals who come together at regular intervals to pool equal financial contributions (Otudor, 2020). In the framework of a ROSCA, each member takes turns receiving the collective sum, creating a rotating cycle (Johnson, 2022). As an informal institution, stokvels’ success hinges largely on collective goals, trust, cultivating a sense of community and leveraging their social and economic capital. There are reportedly over 800,000 stokvels in South Africa (representing more than 11 million persons, the collective value of which is more than ZAR50 billion annually), with 20% of these recognized as grocery stokvels (Bophela and Khumalo, 2019). Findings from our recent publication demonstrated the critical role of Rotating Savings and Credit Associations (ROSCAs), known as stokvels in South Africa, in accelerating social and economic reforms and in addressing certain health concerns, particularly for women in sub-Saharan Africa (Lukwa et al., 2022).

There are different typologies of South African ROSCAs, colloquially known as stokvels, each characterized by unique objectives and structures (Irving, 2005; Matuku and Kaseke, 2014; Mabika, 2018; Bophela and Khumalo, 2019). Savings stokvels exclusively focus on fostering savings, with members contributing fixed amounts to a collective pool and determining the rotational order for receiving the amassed funds. Notably, savings stokvels often boast the largest memberships among all stokvel types (Bophela, 2018; Bophela and Khumalo, 2019). Burial stokvels, conversely, provide support during times of death, with members making fixed contributions to cover funeral expenses, and the specific benefits are outlined in the stokvel’s conditions (Matuku and Kaseke, 2014). Investment stokvels aim to accumulate capital through business ventures while also promoting savings through bulk purchases, commonly referred to as cooperative buying societies (Response African Response Research, 2012; Tshandu, 2016; Old Mutual, 2023). Members contribute fixed amounts monthly, allowing funds to accumulate before investment. It is noteworthy that savings, burial, and investment stokvels are predominantly women-dominated (Verhoef, 2001, 2020; Lukwa et al., 2022). High-budget stokvels function as financial institutions,

emphasizing savings and investments but catering exclusively to individuals with substantial means. Members contribute significant amounts, enabling them to receive substantial lump-sum payments for high-resource-demanding needs. Notably, high-budget stokvels are predominantly comprised of men, with limited female participation (Kibuuka, 2007). Grocery stokvels pool funds to purchase basic foods and groceries for members’ households, sharing the acquired items equally. Members contribute affordable amounts over specified periods, facilitating collective grocery buying (Mabika, 2018; Mabika and Tengeh, 2021).

Stokvels’ success hinges largely on collective goals, trust, cultivating a sense of community and leveraging their social and economic capital. There are reportedly over 800,000 stokvels in South Africa (representing more than 11 million persons, the collective value of which is more than ZAR50 billion annually), with 20% of these recognized as grocery stokvels (Bophela and Khumalo, 2019). Grocery stokvels, mostly women-led, primarily aim to mitigate household food insecurity and procure long shelf-life items and staples, often in bulk and destined for their annual circular migration to rural homelands or distributed to extended families (Bophela and Khumalo, 2019). These grocery stokvels engage with various actors and stakeholders in the food system. However, what remains unclear is the potential power and influence of stakeholders, such as the banking sector and wholesale food outlets, in driving demand for and access to affordable, healthy food. It is imperative to elucidate the roles of these entities and meso-level actors and institutions that may engage with stakeholders, allowing for the application of social and economic leverage. Historically, stokvels have primarily operated outside the purview of the banking sector, but recent developments have seen some interaction. Their collective bargaining power with the food retail sector has been largely unexplored. While recent research by Lappeman et al. (2020) delves into these relationships, shedding light on the dynamics between savings groups and retail and wholesale suppliers (Lappeman et al., 2020), it is noteworthy that these interactions may not necessarily be focused on increasing demand for healthy eating. The study reveals that the power dynamics between stokvels and suppliers are geared toward fostering loyalty within the supply chain rather than promoting access to healthier food options. To enhance the understanding of stakeholder dynamics in promoting access to healthy food, it is crucial to identify additional stakeholders, both within and outside the current engagement landscape, who could play pivotal roles in shaping food systems. This comprehensive approach will enable a more nuanced evaluation of the potential leverage that various stakeholders hold in advancing the cause of affordable and healthy food access.

This study used a qualitative approach to address the following objectives: (i) identify stakeholders and meso-level actors that may interact and engage with local grocery stokvels or similar community informal savings groups to mitigate food insecurity and improve access to healthy foods, (ii) explore stakeholders’ perceptions of how stokvels’ function and how this might be applied to improve the demand for and access to affordable, healthy foods, and (iii) gather information about their interaction and engagement with

stokvels and the power they may have to influence access to healthy food.

2 Methods

Using stakeholder mapping, we identified various actors within the food system framework (Figure 1) that may currently engage with or have the potential to engage with stakeholders. We also identified how this engagement might increase regular access to healthy, affordable food for stokvel members. Stakeholders included the formal and informal retail and wholesale sectors, formal and informal financial institutions, social and economic development organizations, urban planning and agriculture, groups based on cultural or social salience (faith-based organizations, community networks, NGOs), the health sector within local and provincial governments, food producers, and providers of “last mile distribution” or transport.

2.1 Identification of stakeholders and meso-level actors that interact and engage with stokvels

The research team initially conducted a stakeholder mapping analysis (Rabinowitz, 2015; Australian Department of Health, 2023) to identify stakeholders at meso- and macro-levels who either currently engage with stokvels or could potentially have direct or indirect interests in enhancing stokvels’ access to healthy and affordable food options, thereby influencing household food security, food consumption, and procurement. These stakeholders were categorized based on their perceived level of influence and interest (see Figure 1). For the purposes of this study, a stakeholder was defined as any individual or group that directly or indirectly influences stokvels within the food system or provides insights related to the study objectives. Subsequently, in collaboration with a key informant previously involved in stokvel research, the stakeholder map was reviewed, resulting in a revised list of stakeholders (current and potential), with a focus on local actors or organizations. While most identified stakeholders were based in the City of Cape Town or the Western Cape Province, some, particularly in the financial sector, had a national presence. These stakeholders were further categorized based on their perceived power and influence on stokvels.

The study then employed the snowball sampling technique to identify industry or sector focal contacts of the identified stakeholders, who could in turn refer the research team to additional stakeholders for interviews. Despite efforts to arrange interviews, some invitees did not respond to emails or phone calls (non-responsive after up to five attempts at contact), while in other cases, stakeholders initially responded but ultimately canceled scheduled interviews due to competing priorities. Consequently, a total of 21 participants were recruited and interviewed across various sectors at the meso- and macro-levels (see Table 1). The strategic decision to exclude stokvel members and leaders from this study was motivated by the goal of obtaining unbiased and independent perspectives from external entities. Since the nature

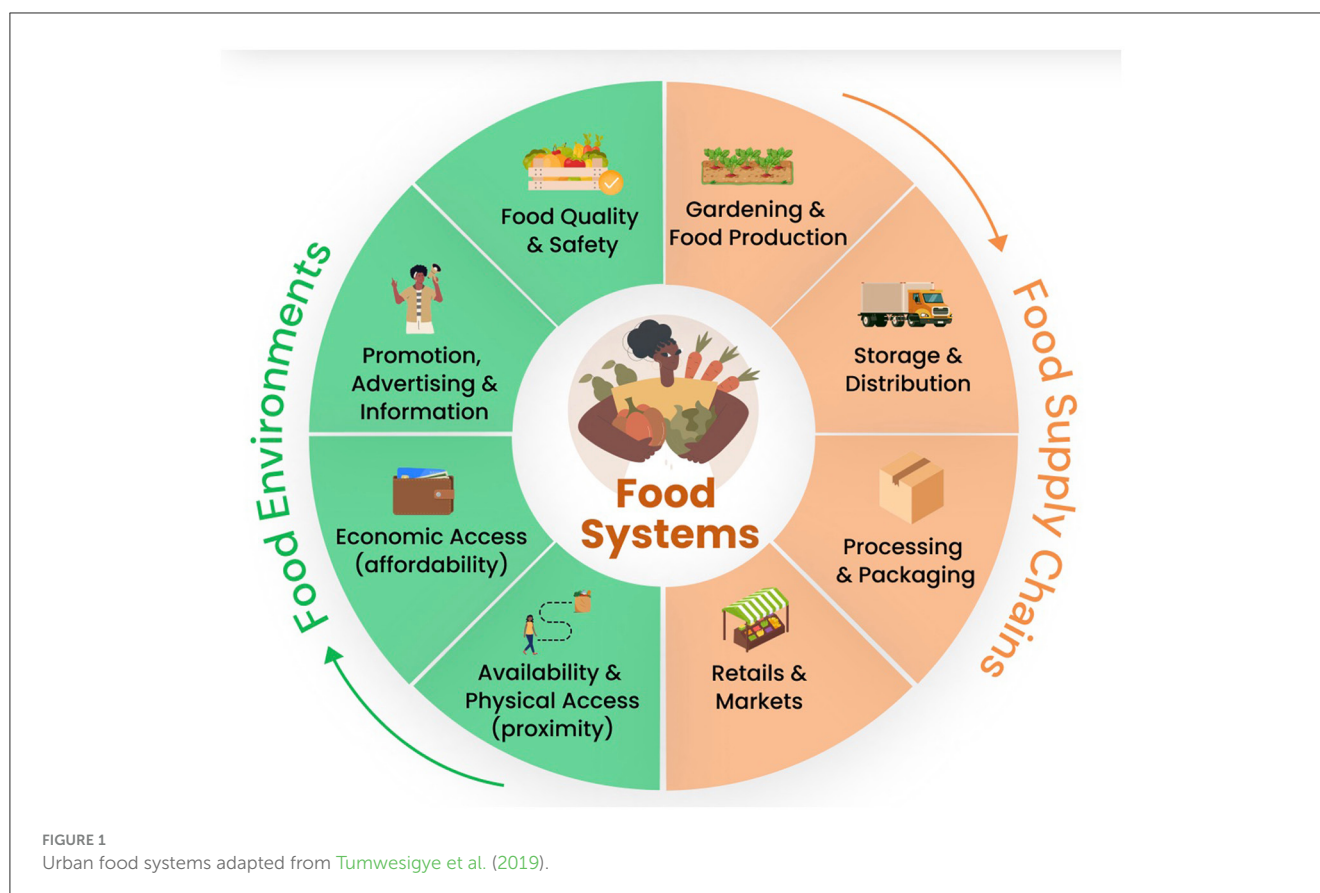
of our engagement was primarily one-on-one rather than a focus group setting, the rationale for excluding stokvel members based on unbiased and independent factors may not be as explicitly justifiable. It is pertinent to note that in-depth interactions with stokvel members were conducted separately using the Discrete Choice Experiment (DCE) and other engagement methods to glean insights specific to their experiences. However, it is essential to clarify that the primary emphasis of this study was on the perceptions of stakeholders who engage or have the potential to engage with stokvels in promoting access to healthy and affordable food options. Our objective was to capture the external perspectives of food system actors, potential stakeholders, and key informants not directly involved in stokvel operations, aiming for a comprehensive understanding of the broader dynamics influencing stokvels within the context of healthy food accessibility.

2.2 Study population

The study adopted the snowball sampling technique of meso- and macro-level influencers in the areas of interest and the chain referral technique by identifying industry or sector focal contacts who could then refer the research team to additional stakeholders to interview. A stakeholder, in this study, was defined as any person or group who influences or is influenced by stokvels with specific reference to the food system (Rabinowitz, 2015; Australian Department of Health, 2023). This broad definition was further adapted as it covers any persons or groups that may provide insights to and that address the objectives of the study, directly or indirectly. Potential participants were recruited through publicly available contact details. All efforts were made to arrange interviews, however, some invitees did not respond to emails or telephonic messages (non-responsive after up to five attempts at contact), and in some cases, identified stakeholders did respond but ultimately defaulted on the day of the scheduled interviews, as they had to attend to other competing priorities. As a result, a total of 21 participants were recruited and interviewed across various sectors at the meso- and macro- levels (Table 1). The decision to exclude stokvel members and leaders from this study was strategic, aimed at obtaining unbiased and independent views from external parties. We concentrated on gathering insights from food system actors, potential stakeholders, and key informants who are not directly involved in stokvel operations.

2.3 Stakeholder power analysis

Based on our formative systematic review (Lukwa et al., 2022) and key informant discussions, we posited that stakeholders may have potential to influence the way stokvels operate with respect to their savings and food purchasing practices. In the context of this study, we further conceptualized a power/influence and interest matrix, against which to plot these stakeholders. Bally and Cesuroglu (Bally and Cesuroglu, 2020) defined the three levels of power/influence as: (i) Control: where the stakeholder has the power to control how stokvels operate, (ii) Influence: where the stakeholder may influence decisions taken by stokvels with



regard to their purchasing and procurement practices and food choice decisions, and (iii) Interest/concern: where the stakeholder is interested in the these practices and decisions by stokvels, but has no significant ability or mechanism to impact on them. However, in this study we only focused on 2 of the 3 levels thus, influence and interest. It is crucial to contextualize the operational environment of stokvels. Currently, there exists no national, provincial, or other regulatory framework exercising authoritative control over the formation, contributions, or activities of stokvels. This absence of formal regulatory oversight significantly influenced our choice to focus our analysis on levels where we observed the most substantial interactions and impacts.

It is essential to recognize that although formal legislative control may be absent, stokvels often adhere to a set of informal rules or norms when engaging with stakeholders. Despite lacking legal codification, these informal rules wield considerable influence over how stokvels function and interact with various entities. The interactions and resultant norms emerging at these levels are pivotal in comprehending the dynamics of stokvels, forming the foundation of our targeted analysis. By concentrating on these levels, our objective was to unveil the intricate and informal regulatory mechanisms guiding stokvel operations and their interactions within the broader socio-economic landscape. This methodological approach enabled us to offer a more nuanced and detailed exploration of stokvels within their authentic operational context. The power and influence matrix were developed considering the stakeholder's position in the food environment and/or food supply chain. We also considered the level of interest

that each stakeholder may have in developing relationships with stokvels, toward a mutual benefit.

We hypothesized an expected level of power/influence and interest for each stakeholder or meso-level actor at the outset of the study ([Tables 1, 2](#)). We used this framework in summarizing our study findings in the form of key themes and sub-themes, exploring perceptions of how stokvels might leverage their social and economic capital to improve the demand for and access to affordable, healthy food. We also interrogated the potential interest for and means by which stakeholders might engage with stokvels and their perceptions of their power to influence these decisions, maximizing value, partnerships, and toward a mutual benefit.

2.4 Interviews

The decision to exclude Interviews were undertaken by a proficient team of two interviewers, both extensively trained and possessing prior knowledge about stokvels, thus bringing a nuanced understanding to their roles in the study and interactions with stakeholders. Stakeholders, particularly those in proximal distance, were provided with the option of face-to-face meetings to facilitate a more personalized engagement. The interviews were primarily conducted through online platforms, utilizing Microsoft Teams or Zoom, based on stakeholders' preferences. This approach accommodated the geographical dispersion of stakeholders and aimed to ensure broader participation, considering the

TABLE 1 Stakeholders interviewed for the study^a.

Urban food system/s	Stakeholder	Sector category	Reasons to involve them	No of interviewees (N = 21)	Influence	Interest
Formal and informal food retail	Retail Food Stores (local Supermarkets/Food Store Managers)	Formal and informal food retail	To better understand current and potential interactions of stokvels and the formal food retail industry	Interviewed (N = 1)	++	+++
Formal and informal food retail	Wholesale Food Dealer	Food wholesale	To understand wholesale buying, supply-demand, bulk purchasing, and food purchase drivers	Interviewed (N = 1)	+++	++
Economic access/proximity/storage and distribution	Food redistribution (e.g., Food forward SA)	Food charity (NPO)	To understand food choice decisions and food insecurity, community organizations that address food insecurity	Interviewed (N = 1)	+	+
Production/Proximity/Economic Access	Social Enterprise vegetable gardening (e.g., Fresh Life Produce)	Social enterprise agriculture	To explore current and potential interactions of stokvels with local and urban food vegetable gardening	Interviewed (N = 5)	+	+
Cultural and social salience/economic access	Community action networks (Cape Town)	Community group (food charity)	To understand food choice decisions and food insecurity, community organizations that address food insecurity	Interviewed (N = 2)	+	++
Economic access	Retail banking (e.g., retail banks with stokvel account offerings)	Retail finance	To better understand the relationship between the retail banking sector and stokvels	Interviewed (N = 3)	++	++
Proximity/Storage and Distribution	Social enterprise and "last mile distribution."	Social enterprise consultancy	To explore current and potential interactions with "last mile distribution" partners and stokvels	Interviewed (N = 3)	++	++
Cultural and social salience/economic access	Social enterprise and micro-finance (e.g., Spoon Money)	Micro-finance	To better understand the relationship between the micro-finance sector and stokvels	Interviewed (N = 2)	+++	+++
Cultural and social salience/economic access	Informal Savings Associations (e.g., SaveAct/NASSA)	Social enterprise informal savings groups	To explore the governance, context, decision-making processes, collective efficacy, agency, health, and food choice decisions	Interviewed (N = 1)	+++	++
Cultural and social salience	Food Security and Agriculture (Food Security Initiative)	Academia/Research	To understand food choice decisions and food insecurity, community strategies that address food-insecurity	Interviewed (N = 2)	+	+++

^aIn the context of this study, the terms "influence" and "interest" are evaluated on a scale ranging from one to three crosses (+), where a higher number of crosses indicate a greater degree of influence or interest. This scale allows for a nuanced assessment of the varying levels of impact and engagement attributed to these factors.

constraints posed by ongoing travel restrictions during the COVID-19 pandemic.

Commencing in September 2021 and concluding in May 2022, the data collection timeline spanned a period of 9 months. Utilizing a semi-structured interview format, we employed a strategic blend of standardized and adaptive questioning tailored to the unique context of each stakeholder. The interview questions, outlined in the appendices, were meticulously crafted to elicit both quantitative and qualitative information. Topics ranged from stakeholders' comprehension of stokvels to their perceptions of stokvels' socio-economic influence and potential roles in enhancing access to healthy foods. Each interview typically lasted 30 min or less and was conducted in English. The flexibility embedded in our approach, adjusting questions based on the stakeholder's background and relationship

to stokvels, ensured the collection of comprehensive and context-specific data.

2.5 Data analysis

Data preparation for analyses followed standard guidelines for qualitative research. Stakeholder interviews were coded using NVivo 12 (QSR International Pty Ltd). This process involved identifying and highlighting key phrases and concepts that aligned with the study's objectives. ATL, as the primary researcher, undertook the initial coding phase, systematically organizing the data into mutually exclusive yet exhaustive thematic categories. This coding was grounded in the content analysis methodology. To ensure rigor and consistency in the analysis, OA and EVL, both

TABLE 2 Stakeholders who did not respond to requests for interviews or who chose not to participate^a.

Urban food system/s	Stakeholder	Sector category	Reasons to involve them	No of persons contacted (N = 6)	Influence	Interest
Formal and informal retail	Spaza association (e.g., Somalia Association)	Informal food retail	To better understand current and potential interactions of stokvels and the informal food retail industry	Not Interviewed (N = 1)	++	++
Cultural and social salience/production/processing and packaging	Local food service (café) and production (e.g., Spinach King)	Food outlet, takeaways, food production, and distribution	To understand the agricultural supply chain of fruit and veg from “farm to table,” social marketing, demand side	Not interviewed (N = 1)	++	+
Formal and informal retail	Formal local restaurant (e.g., 4Roomed Ekasi)	Food outlet, seated dining	To understand the demand side, foodways, and food choice decisions	Not Interviewed (N = 1)	+	+
Food quality and safety/cultural and social salience	Local government (e.g., transport, social development, housing, health, and agriculture, sports and culture, parks and recreation, sanitation)	Local government	To identify possible and mutually beneficial interactions between stokvels and local government	Not Interviewed (N = 1)	+++	++
Economic access	Retail insurance sector (e.g., funeral policies)	Retail Insurance	To better understand the relationship between the retail insurance sector and stokvels	Not Interviewed (N = 1)	++	++
Cultural and social salience/economic access	Retail home improvement (e.g., home appliances and furnishings)	Retail household and building supply	To better understand the relationship between household and building supply sector and stokvels	Not Interviewed (N = 1)	+	+
Food quality and safety/cultural and social salience	Western Cape Department of Health	Government department	To get the political buy-in of the government in the fight against unhealthy eating	Not Interviewed (N = 1)	++	+
Economic access	Economic Development (Western Cape Economic Development Partnership)	NPO partnering with local government	To better understand the role of stokvels in the township economy, social entrepreneurship	Not Interviewed (N = 1)	++	++
Cultural and social salience	Food Security and Agriculture (Food Security Initiative)	Academia/research	To understand food choice decisions and food insecurity, community strategies that address food-insecurity	Not Interviewed (N = 1)	+	+++
All	Food security and food systems (e.g., COE for Food Security UNESCO Chair in African Food Systems)	Academia/research	To understand food choice decisions and food insecurity, community strategies that address food-insecurity	Not Interviewed (N = 1)	+	+++ ^b

^aIn the context of this study, the terms “influence” and “interest” are evaluated on a scale ranging from one to three crosses (+), where a higher number of crosses indicate a greater degree of influence or interest. This scale allows for a nuanced assessment of the varying levels of impact and engagement attributed to these factors.

^bAlthough there were only 6 stakeholders not interviewed in total, the sum of stakeholders not interviewed per category surpasses this number because certain stakeholders represent multiple categories.

serving in supervisory capacities, reviewed and validated the coded data and themes. Their role was primarily oversight, providing expert guidance and ensuring the integrity of the analysis.

3 Results

In our study, we successfully engaged with 78% of the identified stakeholders, resulting in interviews with 21 out of the 27 initially targeted. These interviewees spanned various sectors within the food system: 1 from Formal and Informal Food Retail, 1 from Food Wholesale, 1 representing Food Charity (Non-profit organization), 5 from Social Enterprise

Agriculture, 2 from Community Groups (Food Charity), 3 in Retail Finance, 3 in Social Enterprise Consultancy, 2 in Micro-Finance, 1 in Social Enterprise Informal Savings Groups, and 2 from Academia/Research (Figure 2). Unfortunately, a non-response rate of 22% led to the absence of some perspectives, particularly from sectors such as Informal Food Retail, Local and Provincial Government, Retail Insurance, and Retail Household and Building Supply. Another notable absence was the National Stokvel Association of South Africa (NASSA), which despite numerous attempts at engagement throughout this dissertation, did not respond to our invitations. Despite these gaps, our study provides a detailed exploration of stakeholder perceptions on stokvels’ role in the urban food system and their potential

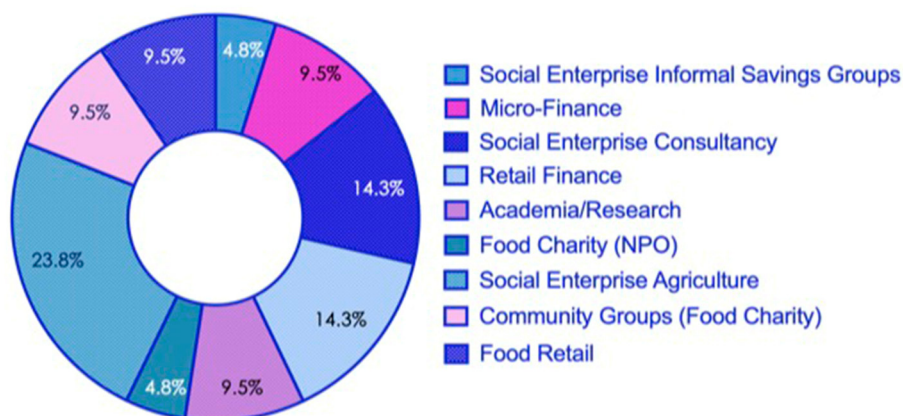


FIGURE 2
Stakeholder representation by sector proportion.

to utilize social and economic capital to improve access to healthy foods.

3.1 Exploring stakeholder perceptions of how stokvels function

Stakeholders in our study commonly viewed stokvels as diverse and autonomous entities, operating under social norms and often beyond formal state regulatory frameworks. Their governance structures were perceived as intricate, posing challenges for comprehension by those not directly involved with them. An academic legal stakeholder insightfully summarized stokvels, capturing their essence and the complexity of their operational framework:

“A stokvel is an association, an unincorporated association run normally on, according to indigenous law or vernacular norms” (Academic stakeholder: Law).

Stokvels are widely recognized as self-regulating social groups, adhering to rules set by their members, and functioning in ways akin to a bank. They hold regular meetings where members contribute to a collective fund, thereby strengthening social networks and partnerships. This communal aspect of stokvels, as highlighted by an academic stakeholder specializing in law, emphasizes their role in fostering community ties and financial collaboration,

“Stokvels in South Africa exist in places that are in many ways only lightly touched by state regulations” (Academic stakeholder: Law).

“It’s essentially a self-governed institution set up according to a system of norms developed by the participants themselves in a contract” (Academic stakeholder: Law).

“I think that you could say that social norms govern it, and some of those social norms might be

entrenched in terms of long-established rules within that particular association of ways to do things” (Academic stakeholder: Law).

Stakeholders in our study often viewed stokvels as a mechanism predominantly utilized by women for saving money and accessing credit and capital. This perception aligns with the role of stokvels as informal financial institutions, as one stakeholder aptly compared them to an informal credit union.

“Stokvels essentially provide a mechanism to save money and to access credit without the red tape of statutory lenders” (Academic stakeholder: Law).

“A lot of stokvels actually lend money as well. So they set on the capital value balance and then to generate more money for the stokvels, they lend it, count to the members as well.”

(Social enterprise stakeholder)

“[There are] different reasons that people have stokvels, but effectively I guess it’s, it’s sort of [an] access to capital issue and seeing how combined efforts in group collection of finances can enable one to save and to... look at... how we benefit from acting in a group, whether it’s such things as ensuring that I save every month or whether it’s group discounts or whatever the case might be.”

(Academic stakeholder: Law)

Other stakeholders suggested that the structure and function of stokvels varied based on their purpose. For instance, a representative from a national non-profit social enterprise focused on community empowerment and breaking the cycle of poverty offered a unique perspective. While recognizing the financial aspects of stokvels in terms of collective saving and lending, they also emphasized their role in fostering social cohesion. They observed that stokvels operate informally and socially, pooling and distributing resources among members, thereby enhancing their economic leverage, and purchasing power.

“They use it by making weekly or monthly or fortnightly or whatever it is contributions they provide capital in the group” (Academic stakeholder: Law).

3.2 Social convention and governance structure

Stakeholder experiences with stokvels were described as constructing a sense of community among members, trust, and social cohesion. However, beyond this, most of the stakeholders interviewed had little to no direct experience with or perception of the specific governance of stokvels. One stakeholder, an academic involved in commercial law, who has had direct interactions with stokvels, reported that a stokvel’s governance structure may not be recognized within a formal legal framework. However, to stokvel members, it is inclusive and supportive of transparency for group decisions and fostering social inclusion. In their experience, members experience of stokvels, is that they have a highly formal and respected governance structure, and that they use their collective efficacy and social cohesion to agree upon and bring about positive changes. As such, the governance structure of stokvels is established according to local conventions where traditional authorities of communities, may even be consulted in some instances, and social norms are used to govern. These include elements such as positive obligation, where members must contribute or invest to benefit from all participants’ collective efforts, in effect, a social contract.

“... a contract is a law that parties agree will govern a relationship, or maybe a stokvel constitution can be seen in those terms. Not necessarily in those terms like, you know, what in the law of general application would meet the contract definition. But, maybe, an indigenous sort of contract.”

(Academic stakeholder: Law)

Stakeholders observed that in stokvels, older members often set the rules. While some stokvels involve signed contracts, others rely solely on verbal agreements for member contributions. This variability can lead to legal ambiguities in resolving disputes. Consequently, the absence of formal legal agreements among members can not only heighten internal conflicts but also poses challenges in establishing formalized partnerships with external institutions, such as banks.

They stated,

“It is mostly very traditional. It is locked in a kind of context, particularly like, you know, a rural, pre-colonial, almost context. And, of course, indigenous law evolves over time as circumstances change. So the constitutional court often said that it is a living law” (Academic stakeholder: Law).

Overall, stakeholders demonstrated a certain level of understanding regarding stokvels, highlighting their informal, community-centric nature. They recognized stokvels as pivotal in encouraging household savings and potentially in securing credit. Additionally, the significance of social norms, conventions, and

autonomy in the operation of stokvels was a key aspect of their understanding. This reflects a general awareness of the multifaceted role that stokvels play within communities.

3.3 Conflict resolution with respect to decision making and the social contract

A stakeholder involved in the “last mile distribution” of food, aimed at connecting formal retail environments with low-income communities, noted that internal conflicts among stokvel members could significantly influence their food purchasing choices.

“Those who make the loudest noise may have their way, and it may be choosing unhealthy food packages.”

(Storage and distribution stakeholder)

Contrary to the general observation about transparency in stokvels, a representative from a local grocery distribution service connected to a mobile app suggested that a lack of transparency can pose a challenge to the cohesive functioning of stokvels. This indicates that transparency is a critical factor in maintaining the structural integrity and effectiveness of these groups.

The social contract and norms within stokvels play a crucial role in ensuring economic collaboration among members. In cases of non-compliance, such as defaulting on stokvel payments, peer enforcement mechanisms are often employed. These can include harsh measures like property damage, public shaming, or coercion, as explained by a stakeholder with expertise in commercial law. This strict enforcement underscores the importance of adherence to the group’s agreements and the upholding of its social norms. This approach is seen as vital for maintaining the integrity and functionality of the stokvel.

3.4 Maximizing value

Stakeholders provided limited insights on how stokvels could use their collective purchasing power to enhance their value proposition. A representative from a food charity focusing on surplus food recovery and redistribution highlighted their cost savings and waste reduction strategies, alongside offering tax certificates to incentivize donations. These incentives foster ongoing collaborations with farmers and food retailers, creating a significant value proposition. However, the stakeholder was uncertain about the specific value proposition stokvels might offer to the retail and wholesale food sectors.

A representative from a Pan-African insurance company expressed the view that stokvels effectively maximize value by leveraging their collective economic power to pool resources. From this perspective, the enhancement of food security is seen as a secondary outcome of these collective activities, rather than their primary objective.

“I don’t know; maybe this is debatable. I’m not convinced that grocery stokvels are aimed at food security. I think it’s a, and it’s a good by product. But I think it’s really about

buying power. It's about maximizing... value to me with, uh, with a limited or discrete amount of resources" (Banking sector stakeholder).

While many stokvel members find satisfaction and utility in their arrangements, not all experiences are positive. A stakeholder from the retail finance sector mentioned that some members view stokvels as a business opportunity, focusing on financial returns, while others prefer straightforward transactions to receive their paid-for products without complex business dealings. The utility for these members lies in the receipt of goods, and business arrangements can diminish their satisfaction. Additionally, there is a perception that peer pressure within stokvels can lead to borrowing and subsequent debt accumulation. This complexity in member experiences and expectations highlights the varied nature of stokvel participation.

"We do find even in our savings group; there can be elements which are driving and pressuring people to borrow as much as possible because they understand that maximizing lending maximizes returns. And they begin to try to tilt the balance toward it being more like a business than savings, a safe savings space" (Social enterprise informal savings group).

3.5 Partnerships and driving mutual benefit

A stakeholder from a community organization focused on urban food gardens discussed the complexity of navigating social networks within stokvels. Despite these challenges, they noted that stokvels have gradually gained cooperation from various stakeholders, evolving from being seen merely as consumers to partners in networks. For instance, some stokvels have formalized relationships with retail banks, benefiting from the security offered for their funds. Initially, banks viewed stokvels just as product consumers, but this perception has shifted, recognizing them as a distinct market segment and even potential competition. This evolution reflects the growing significance of stokvels in the financial landscape.

"The success is very limited, and that is predominantly because stokvels for the longest of time within the bank were seen as product-consumers and not as a segment. So, they then hold their architecture and growth" (A stakeholder from the banking sector).

While stakeholders generally agree that financial institutions benefit from relationships with stokvels, the process of formalizing these partnerships has been challenging, particularly due to the extensive documentation required to establish legal partnerships. A stakeholder from a financial institution highlighted this complexity. This situation underscores the intricate balance between the informal nature of stokvels and the formal requirements of financial institutions.

"And when we were doing some of the work around investments, that was typically our challenge in that a lot of them, of course, don't have formal

documents, and we would require a constitution or something to onboard them as clients" (Banking sector stakeholder).

The mutual benefits arising from the interaction between stakeholders and stokvels were a key area of exploration in our study. One stakeholder highlighted the concrete advantages for stokvels collaborating with banks, such as earning interest on deposited funds, enhanced savings capacity, the convenience of electronic fund transfers, and the potential use of bank premises for meetings. In reciprocation, certain stakeholder initiatives focus on safeguarding the financial interests of stokvel members. For instance, a representative from a non-profit initiative working with stokvels discussed their engagement in saving through shares:

"So, what helps a lot is the saving in shares, which means saving in lump sums. So that's simplified as the math: getting a stamp for every share you buy in the record book. Puts the information in the hands of the member. So, it's very reassuring for members, making it hard for anybody in the group to crook the system. So, that's some of what is powerful about it" (Food Charity (Non-profit organization)).

Fostering a transparent and trusting relationship between potential stokvel members and the initiative has been crucial. The approach encourages mutual understanding and cooperation. Additionally, it was emphasized that stokvels should aim for a symbiotic relationship with retailers, enhancing benefits for both parties. This approach underlines the importance of building strong, trust-based connections within the stokvel ecosystem.

3.6 Leveraging the power of stokvels to improve demand for and access to affordable, healthy food

Our study highlights a nuanced relationship between stokvels and food security, particularly in their role in influencing the procurement and consumption of what is perceived as healthy food. While stokvels and their interactions with other stakeholders appear to have some impact on food choices, it is crucial to note that the strength of this link is not uniform and can vary widely. The organizational structures and practices of local stokvels, as we observed, can both facilitate and impede their capacity to procure affordable, nutritious food. This is further complicated by the fact that the concept of 'healthy food' is not universally defined and is deeply embedded in cultural contexts. For instance, what constitutes nutritious food in one community might differ significantly in another, reflecting varying dietary traditions and preferences. Moreover, our findings indicate that while stokvels may have the potential to improve access to fresh produce and influence food choices through retail interactions, these are not necessarily aligned with the primary objectives of food security and nutrition. Often, the focus of stokvels may be on economic benefits and immediate food availability rather than the long-term nutritional value of the food procured.

This highlights a critical gap between the operational goals of stokvels and the broader objectives of enhancing food security and nutritional quality.

Additionally, the frequency and nature of purchasing decisions made by stokvels often revolve around affordability and bulk buying, which may not always prioritize the healthiest options. The influence of retailers and market dynamics also plays a significant role in shaping these choices, potentially steering stokvels toward more economically viable, yet less nutritious, food products. Considering these findings, it is apparent that while stokvels have a role in shaping food procurement patterns, their impact on advancing food security and nutrition is complex and context dependent.

“There needs to be a way of linking stokvels together to strengthen their buying power regardless of what they buy.”

(Social enterprise-Community Action Network stakeholder)

“The stokvel, really, really, could be very powerful in changing that. If the stokvels could pull their buying power... they could go and push back and say okay, we don't want this type of product, we'd rather have this type of product.”

(Social enterprise-Community Action Network stakeholder)

“There's a big education part of this about teaching women what is healthy and what isn't. How one could change their diets from too much carb, too much fat, too greater portion of fresh nutrient-rich vitamin-rich vegetables” (Food charity, Non-profit organization).

3.7 Defining healthy food and promoting healthy food intake

The concept of healthy food varied among stakeholders interviewed in our study. One notable observation came from a professor experienced in food systems, who emphasized the distinction between healthy and unhealthy foods. This stakeholder's perspective, illustrated through a rhetorical question, sheds light on the subjective nature of defining 'healthy food' in the context of stokvels and food consumption patterns.

“... What is healthy? ... Umhmm, there's some subjectivity, but there are also some things that are not subjective. So, we do know what is generally healthy and what we do know, very well, what is unhealthy” (Academic in food systems research).

Other stakeholders also responded:

“Whilst it's a lovely idea that one wants to encourage and try and promote healthy eating, are you sure that the communities that you want to impact, are you sure that they are interested in your ideal of eating healthy food?” (Food charity, Non-profit organization)

“On our on-demand side of things, we're basically ordering from the App, more than 90% is not healthy food” (Social enterprise-last mile distribution).

The distinction between healthy and unhealthy foods, such as the contrast between highly processed “junk foods” and fresh fruits and vegetables, was acknowledged by stakeholders, yet there was a subjective interpretation of what constitutes healthy eating, particularly among basic food items. A general agreement emerged that long shelf-life foods are typically less healthy, while vegetables are seen as healthy choices. One stakeholder, involved in storage and “last mile distribution,” highlighted the demand for healthy food among low-income households, but identified two major barriers: a lack of awareness about healthy food options, and issues with affordability and accessibility of these foods.

“If they know what healthy food is... I think that might be one of the big issues that we might have today is that people don't realize... what some of the food might have... and they do not care drinking a lot of cool drinks” (Storage and distribution stakeholder).

“There's a lot of fundamental changes that need to be made to make healthy eating more convenient, more affordable” (Food Charity; Non-profit organization).

A stakeholder from an informal trader's initiative, focused on impacting the food value chain, observed a strong demand for fresh food, noting that fresh produce is often a staple in most households. They discussed the interconnected relationships between spaza shops (informal retail), formal retail, and farms. A key point raised was that some traders might compromise on quality, and the cost of fresh foods can pose a limitation. This perspective sheds light on the challenges within the food distribution network, especially in terms of quality and affordability.

“So, ... I will do it in two ways. I would, I would do activations at these shops. You know, promoting healthy lifestyle and so on. But I would also work most importantly, the same communities in South Africa and not driven by health choices.

“Nice pricing point of view, whatever healthy alternatives, it has to be. There has to be an incentive from a price point of view.

So you, you'd, you'd have to put something together. That's about price point of view to competitive.

And then just market it through those partnerships in my model particularly you know, if I'm using those, those community leaders who are really influencers in the way they stay, it'd be even becomes easier.” (Informal Traders Initiative)

A stakeholder from a non-profit food charity highlighted that while there is a demand for healthy diets among low socio-economic households, the greatest challenges remain accessibility and cost. This underscores the complex interplay between socio-economic status and the ability to maintain a healthy diet.

“So, the issue is, they love to eat healthy, they just simply can't afford to” (Food Charity; Non-profit organization).

“What women tell us is when they go to the store there is a limited amount of money. So, what do they spend money on

first? They try and mentally construct what is needed to put a plate of food on the table” (Social enterprise-Food systems).

“There is a direct connection between what people buy and the cooking process to put that on the table” (Social enterprise-Food systems).

A common practice among stokvel members, especially during the festive period, involves bulk collective purchasing of long shelf-life dietary staples. This approach serves a dual purpose: sharing with extended families and mitigating high expenses in December. It ensures food availability in the new year, a time when funds are typically lower. This strategy reflects the foresight and communal approach of stokvel members in managing resources.

“...the only time these things happen is in December. Whereby, you, you go to your bargain wholesalers... These ladies come together [with] a huge amount of money that they give to these wholesalers for groceries, but mainly it's the staple food, it will be your rice, your maize meal, your flour sugar. And yeah, those are commodities that most families join the stokvels for...” (Social enterprise-Food systems)

3.8 Proximity to fresh produce stakeholders

The proximity of fresh produce was emphasized by several stakeholders, including those from social enterprise-last mile distribution, academic and research, retail finance, food charity, community groups, and social enterprise agriculture. They suggested that stokvels could form beneficial partnerships with nearby farms to source fresh produce. Such partnerships could help farmers and wholesalers reduce waste from perishable goods and offer advantages like minimized transport or delivery costs, which would be particularly beneficial for stokvels.

“I mean, off the cuff, I think if stokvels could say they are quite organized actually. If stokvels could have agreements with farmers that are in close proximity with them” (Food Charity; Non-profit organization).

“And so they get more healthy food out of the equation. But it could only work if they are in close proximity because the challenge is that last mile delivery” (Food Charity; Non-profit organization).

“Last mile distribution is one of the biggest challenges to ensure food access” (Storage and distribution stakeholder).

A recurring sub-theme in the discussions was the ability of stokvels to negotiate lower prices, thus enhancing their purchasing power, a point echoed by most participants. A participant from the Philippi market initiative highlighted those aggregating resources as a group leads to greater benefits than individual efforts. This approach, aimed at securing lower prices and stronger buying power, coupled with partnerships with farmers, was seen as a potential catalyst for increasing healthy food consumption. This concept was further supported by insights from two stakeholders:

“If stokvels could have agreements with farmers that are in close proximity... to them, um hmm, it could work that the farmer could give them preferential rates for the food. And so the stokvel will make a bit of saving” (Stakeholder 1: food gardening initiative).

“... you could work at the sliding scale with the farmer. The farmer says okay I will supply you with one ton and you get it at an X-rate, which is a good rate. But if you buy five tons I give you an even better rate kind of thing (Stakeholder 2: food gardening initiative).

“And in that way the stokvel would get more “bang for their buck” kind of thing. And so they get more healthy food out of the equation. But it could only work if they are in close proximity because the challenge is that last mile delivery” (Stakeholder 2: food gardening initiative).

“And you know, through...partnerships in collaborations with stokvels, we can have... much healthier fresh produce being made available to marginalized groups within the society” (Stakeholder 1: food gardening initiative).

3.9 Retailers' influence on food purchases

Retailer discounts significantly influence the purchasing decisions of stokvel members. Stakeholders noted a preference for basic, long shelf-life foods, which are often packaged by retailers specifically for stokvel sales. However, the availability of inexpensive, long-life, less healthy “combos” at discounted prices presents a challenge to healthy eating. The affordability of healthier options within the food environment was also identified as a key factor affecting purchasing choices.

“If, say, Unilever, wanna push a new size of can of Koo beans that are discounted massively. Pushing it at a trade phase and the stokvels will not really be having option” (Food charity; Non-profit organization).

Though most of the stakeholders mentioned that many long-shelf items do not fit in the healthy lifestyle category, some foods, such as plant-based proteins like lentils and dried beans were regarded as healthy and available in the category of long-shelf-life foods.

“As much as you want to change the behavior, it's actually the people who hold the money who have the purchasing decision” (Social enterprise-Community Action Network stakeholder).

One stakeholder from a social enterprise-community action network focusing on food gardens pointed out that despite various efforts, there remains an unmet need for the recommended intake of fruits and vegetables for optimal health. Additionally, there was a lack of stakeholder input on whether the quantity consumed, or the methods of food preparation contributed to the nutritional value in a healthy lifestyle. This gap in the conversation was notable, especially given the context of a retail industry stakeholder who had conducted extensive studies on stokvels,

“...there will be certain kinds of product[s] that people want, which is common in the marketplace. Then, the retailers might influence that decision by offering special or bulk discounts, which could influence the decision” (Retail industry stakeholder).

“We would be very happy to partner... in any way if we can... try and help spaza shops distribute these types of products” (Storage and distribution stakeholder).

3.10 Frequency of purchasing products

Stakeholders proposed that stokvel members could benefit from more frequent food purchases, such as weekly or monthly, instead of the current practice of biannual or bulk festive buying. This change could enable the incorporation of fresher, healthier foods into their diets. However, the shift from purchasing longer shelf-life items, which are more economically advantageous, may not align with stokvels' primary objective of saving. The quality of products was emphasized as a greater concern than availability. Additionally, addressing broader ecosystem issues was seen as a key to improving access to healthy foods.

4 Discussion

This study explored stakeholder perceptions and potential leveraging of saving groups in South Africa's urban, low-income settings, particularly concerning food systems. Stakeholder mapping was employed to understand how meso-level actors interacted with various stokvels and to gain insights into improving access to healthy food through these associations. The study successfully engaged with 78% of selected stakeholders, representing ten food system actors across different sectors, including formal and informal food retail, food wholesale, food charity (NPO), social enterprise agriculture, community groups, retail finance, social enterprise consultancy, micro-finance, social enterprise informal savings groups, and academia/research. While some sectors were well-represented, there were unrepresented actors, such as informal food retail, food production and distribution, local government, retail insurance, retail household and building supply, government departments, and NPOs partnering with local government.

Stakeholders view stokvels as tools for savings, credit accessibility, and capital growth. Stakeholders agreed on the broad definition of stokvels and that their goal was to maximize value through partnerships and social networks whose mandate was driven by mutual benefit. Therefore, stokvels serve an economic and social function (Hevener, 2006). It was also evident in the study as several stakeholders maintained that social capital was arguably the strongest driver of stokvels' success. Previous research has suggested that stokvels act as social and economic instruments that provide members with funding for planned and unplanned events (Mashigo and Schoeman, 2012). The latter concurs with sentiments shared by some stakeholders as they argued that access to capital had been an issue among low-socioeconomic households. Hence, stokvels were formed based on how they leverage combined efforts

in group collection of finances to enable individuals to save. They are seen as a catalyst for low-income people, mobilizing financial services without formal financial institutions (Irving, 2005; Kaseke, 2013).

Stokvels function through regular meetings that cultivate social networks and partnerships (Lappeman et al., 2020) the stakeholder perceptions in our study on how stokvels function corroborated this finding. The results further aligned with a study in Malawi, which noted the diverse nature of stokvels, together with their classification as unincorporated associations regulated by social norms outside formal state controls, constitutes a substantial challenge when trying to interface with them and impose accountability via formal legal routes (Gondwe, 2022). The perception of women dominating stokvels (Matuku and Kaseke, 2014; Mulaudzi, 2017; Gwamanda, 2019; Ngcobo, 2019; Mabika and Tengeh, 2021) was further emphasized in our study. Women wield considerable influence in stokvels.

Our formative research, including findings by Lukwa et al. (2022), highlights that stokvels typically consist of members from the same community, family, or social network. This composition fosters a closely-knit structure, which is instrumental in cultivating mutual trust and a shared sense of identity among members. These attributes of stokvels not only enhance social cohesion but also contribute significantly to their role in South African culture. Extensive literature underscores the importance of stokvels as vital instruments for financial inclusion and empowerment, particularly in disadvantaged communities (Moliea, 2007; Response African Response Research, 2012; Barry, 2015; Tshandu, 2016; Holmes, 2017; Ngcobo and Chisasa, 2018a,b; Bäckman Kartal, 2019; Fairbridges Wertheim Becker, 2019; Lavagna-Slater and Powell, 2019; Nkambule et al., 2019; Mabika and Tengeh, 2021). By enabling financial participation for those who might otherwise be unable to afford it, stokvels play a pivotal role in reinforcing social conventions and promoting inclusivity within financial systems.

Informal stokvels, are predominantly reported to be community-based and operated without official oversight, thus often lacking clear rules and documentation. While this informality was reported to allow for flexibility and informal social networks, it was also perceived to increase the risk of financial disputes, mismanagement, and fraud (Fairbridges Wertheim Becker, 2019). This reflects our finding that the lack of formal agreements, governance structures and no direct experience with specific governance of stokvels, can result in conflicts and difficulties in conflict management in some stokvels. It is, therefore, important to institute governance processes that allow for transparency and compliance with rules and regulations.

Our stakeholders noted possible benefits for Stokvels in partnering with financial institutions, such as earning interest on deposited funds, enhanced savings capacity, the convenience of electronic fund transfers, and the potential use of bank premises for meetings. Another benefit is averting possible fraud amongst members (News24, 2019). Evidence shows that banks have already capitalized on the Stokvel savings structure, recognizing them as a distinct market segment and even potential competition, a sentiment our stakeholder's echo. The banks in South Africa have been proactive in adopting stokvel savings and investment for over 100 years (News24, 2019; Business Day, 2021; IOL, 2021). The bank accounts earn monetary interest on capital (ISSUU,

2023). This vehicle has been beneficial to both stokvels and financial institutions. The big banks are said only to capture ZAR 12 billion of a ZAR 50 billion stokvel industry (Business Day, 2021). More benefits can be derived if stokvel governance structures are more formalized and financial instructions play a role in sensitization on required paperwork such as a stokvel constitution. Mabika and Tengeh (2021) note the need to encourage stakeholders to acknowledge the inherent potential of stokvels and direct resources and expertise to bolster and empower this essential sector, thereby unlocking its full potential for the benefit of the communities involved and the wider economy. Stokvels will also benefit by having documents that reduce conflict and outline the entity's purpose. However, it was evident from our stakeholder's perceptions that such close relational proximity could be a safeguard, as members may be cautious or skeptical toward unfamiliar ideas or propositions from external entities. Similarly, the heightened social cohesion within stokvels, stemming from members' unified pursuit of a common financial objective, may fortify their resistance to external influences (Ojo, 2020).

With the stokvel features mentioned above and possible mutual benefits, it is important to explore how leveraging stokvels' power improves demand for and access to affordable, healthy food. There was a common understanding amongst the stakeholders that organizational structures and practices of local stokvels could either enhance or hinder their ability to demand and access affordable, nutritious food. Stakeholders reported differing perceptions of what constitutes 'healthy food', especially on long-life shelf foods, a common factor in grocery stokvels, and whether the communities targeted would be interested in adopting healthier eating habits, more so, by linking affordability to healthy foods. Clarifying what constitutes "healthy food" was deemed to be key if stokvels were to be sensitized to healthy eating. Our study noted that long-shelf-life foods can include plant-based protein sources such as lentils and dried beans, which are healthy options. Possible stakeholders to take up the challenge would be the grocery retailers and financial partners. However, when examining the micro-level, these concerns primarily revolve around food access and utilization by individual households. This perception is aligned with literature on food security (Food and Agriculture Organization (FAO), 2015; Burchi and De Muro, 2016; Raj et al., 2022; Sumsion et al., 2023).

To influence healthy food purchasing, our study perceives that if farmers and stokvels collaborated, this could easily shift eating habits. Moreso, it could make the prices more affordable by reducing transportation costs, quick delivery of perishable healthy foods, and allowing for negotiated discounts. Volpe et al. (2013), however, note the opposite, arguing high transportation expenses during the delivery process can directly impact the price of fruits and vegetables, leading to increased costs for consumers and potentially discouraging those with limited budgets from purchasing fresh produce while also affecting the availability and variety of such products in regions distant from agricultural centers. Research has shown that the further away the food, the less likely one is to purchase or consume it, i.e., the "Proximity Effect" (Hunter et al., 2019). This perspective sheds light on the challenges within the food distribution network, especially in terms of quality and affordability but does not dissuade from trying to collaborate for the greater good. Despite the availability of

inexpensive, long-life, less healthy "combos" at discounted prices presents a challenge to healthy eating. Retailer discounts may be tailored toward healthy foods to make healthy eating more affordable. We cannot ignore the retailer discounts' significant influence on the purchasing decisions of Stokvel members and the power to shift Stokvels' primary objective of saving and purchasing.

This study exhibits several notable strengths, contributing to its significance and providing novel insights into the role of stokvels in South Africa's urban, low-income settings, particularly concerning food systems. First and foremost, the engagement of stakeholders sets a robust foundation for the study's credibility. Successfully involving stakeholders that represented a diverse array of actors across various sectors, ranging from formal and informal food retail to academia and social enterprises. This inclusive approach ensured a well-rounded and nuanced understanding of stakeholder perceptions, enriching the study's depth and breadth. The recognition of stokvels as agents of financial inclusion and empowerment, particularly in disadvantaged communities, aligns with existing literature, consolidating the notion of these associations as vital instruments for reinforcing social conventions and promoting inclusivity within financial systems.

A crucial aspect addressed by the study is the informality of stokvels, presenting an opportunity for improvement through the establishment of formal agreements and governance structures. By identifying the risks associated with informality, such as financial disputes and fraud, the research encourages the implementation of governance processes that enhance transparency and compliance with rules and regulations. This forward-looking perspective contributes to the study's strength by providing actionable recommendations for the enhancement of stokvel operations. However, it is essential to recognize the study's limitations regarding stakeholder representation. The absence of key stakeholder groups in our research—namely informal food retail, food production and distribution, local government, retail insurance, retail household and building supply, government departments, and non-profits partnering with local government—significantly shapes the conclusions we can draw from our study. The lack of perspectives from informal food retailers, for instance, constrains our understanding of food access dynamics in low-income communities, where informal markets are often critical. This gap in data prevents a comprehensive view of how stokvels could interface with these markets to enhance healthy food access. Similarly, the exclusion of food producers and distributors limits insights into supply chain challenges, influencing our understanding of potential direct negotiations between stokvels and producers. The absence of local government input is particularly telling, as it restricts our grasp on the policy landscape affecting food systems, thereby impacting the potential integration of stokvels into broader food security initiatives. Additionally, overlooking sectors like retail insurance and household and building supply curtails our analysis of the economic and risk management aspects that are fundamental to the sustainability of food ventures. Equally, the non-participation of government departments and NPOs working with local governments leaves a void in understanding how national policies and grassroots initiatives might align or conflict with the operations and goals of stokvels.

Therefore, while our study sheds light on the role of stokvels in food accessibility, it does so with a narrowed lens. The missing stakeholder perspectives mean our conclusions might not fully encapsulate the intricacies of the entire food system, potentially leading to an over or underestimation of stokvels' impact. Future research should endeavor to include these diverse viewpoints for a more comprehensive understanding of the multifaceted food system and the nuanced role stokvels could play within it.

5 Conclusion

In conclusion, the study captured perceptions by stakeholders on stokvel structures, governance, purchasing power, partnerships and leveraging the power to influence health eating. Through collaboration and partnership, stakeholders may be able to tap into the existing networks and trust built within stokvels to disseminate important health information. Future research should include the unrepresented food system and other actors to explore strategies to enhance the role of ROSCAs in promoting healthier food choices and addressing affordability and accessibility barriers in low-income communities. In summation, stokvels provide an effective platform for collective action that can precipitate positive transformations in food systems, especially within low-income communities. They serve as both an economic mechanism, through pooling and distributing resources, and a social mechanism, through fortifying social capital, ultimately enhancing food security and sustainability.

Data availability statement

The datasets presented in this article are not readily available because the data are based on transcribed in-depth interviews and as such are contextually specific. While there are no specific restrictions, participants were not consented to have their data shared beyond this application. Requests to access the datasets should be directed to vicki.lambert@uct.ac.za.

Ethics statement

The studies involving humans were approved by University of Cape Town Human Research Ethics Committee. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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