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Not Peer Reviewed

RESEARCH ARTICLE

Gendered intersectionality among Food SMEs and its Implication in Provision of Safe, Affordable and Nutritious Food to Low-income Households in Kampala, Lilongwe and Nairobi Cities

[version 1]

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V1 First published: 14 Jan 2026, 3:30
<https://doi.org/10.12688/verixiv.2216.1>

Latest published: 14 Jan 2026, 3:30
<https://doi.org/10.12688/verixiv.2216.1>

Abstract

There is limited understanding of how gendered intersectionality affect food vendors' capacity to source, provide, and sustain safe, affordable, and nutritious food for low-income households in African cities. This study explored the intersectionality of gender and socio-economic characteristics of food traders and their effects on traders' ability to supply safe, affordable, and nutritious food in Nairobi, Kampala, and Lilongwe. A multistage sampling approach was used to select 760 respondents, and both qualitative and quantitative data were collected from male and female food SMEs. Descriptive and econometric analyses, including multivariate regression, examined how socio-economic factors influence the trivariate outcome of food safety, affordability, and nutrition. Food trading is mainly undertaken by youthful traders, with more married males participating. Most

SMEs have limited education, constraining compliance with hygiene and safety regulations. Credit access is a major challenge, with most relying on personal savings. Many operate informally without registration, limiting financial support. Older traders commonly join business groups, while younger traders, especially in Malawi and Kenya, have lower participation. Business mentorship is generally lacking, though young traders in Kenya benefit more from government and development partner initiatives. Key determinants of food safety, affordability, and nutrition include household demographics, business licensing, sanitation, and credit access. Access to bathrooms significantly affected food safety in Kenya and Uganda but not in Malawi. Credit improved food safety among older male traders. The study recommends SME formalization, improved sanitation, expanded credit, capacity building, and gender-sensitive policies to enhance food system sustainability.

Keywords

Intersectionality, Food SMEs, Gender barriers, Gender dynamics, Multivariate regression, Urban markets.



This article is included in the [Gates Foundation gateway](#).

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Author roles: Gitau R: Investigation, Project Administration, Writing – Review & Editing; Masakha Wekesa B: Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Methodology, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; Harawa PP: Writing – Original Draft Preparation, Writing – Review & Editing; Isack Shashi N: Writing – Original Draft Preparation, Writing – Review & Editing; Chebii Chelang'at N: Writing – Review & Editing; Ninsiima R: Writing – Review & Editing; Korir E: Writing – Review & Editing; Baine Mugisha E: Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

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How to cite this article: Gitau R, Masakha Wekesa B, Harawa PP *et al.* **Gendered intersectionality among Food SMEs and its Implication in Provision of Safe, Affordable and Nutritious Food to Low-income Households in Kampala, Lilongwe and Nairobi Cities [version 1]** VeriXiv 2026, 3:30 <https://doi.org/10.12688/verixiv.2216.1>

First published: 14 Jan 2026, 3:30 <https://doi.org/10.12688/verixiv.2216.1>

1. Introduction

Urbanization in sub-Saharan Africa has led to significant transformations in food systems, particularly in cities like Nairobi, Kampala and Lilongwe (Glatzel *et al.*, 2024; Mackay *et al.*, 2022). Small and Medium-sized Enterprises (SMEs) play a pivotal role in ensuring the availability of safe, affordable, and nutritious food to low-income households in these urban centers (Hanjra & Williams, 2020). However, the dynamics within gender and other socio-economic dimensions in the environment that SMEs operate significantly influence their operational capacities and the quality of food supplied in urban areas and cities. In many African cultures, food preparation and vending are traditionally seen as women's roles and operated by women. This cultural norm is evident in the street food sector, where a high proportion of vendors are women (Hill *et al.*, 2019). For instance, in Uganda, the predominance of female street food vendors is attributed to the cultural expectation that women are responsible for food preparation (Kisakye *et al.*, 2020). This trend is not unique to Uganda; similar patterns have been observed in other African countries including Kenya and Malawi. The involvement of women in food vending is often a coping strategy to generate income while balancing household responsibilities (Wango *et al.*, 2022).

Food safety and hygiene practices among food vendors have been a subject of concern among scholars and development practitioners. A study assessing hygienic and food handling practices among street food vendors in Nairobi County, Kenya, highlighted issues related to inadequate training and poor adherence to safety standards (Kinyua, 2024). These challenges are compounded by the informal nature of the sector, which often lacks regulatory oversight and access to resources that could enhance food safety practices. The intersection of gender with these challenges is an area that requires further exploration to develop comprehensive strategies that address both gender equity and food safety. However, the dominance of women in this sector does not necessarily translate to equitable access to resources, decision-making power, or benefits derived from these enterprises. Gendered power dynamics often position men as primary decision-makers, even in domains where women are the main actors (Adjei & Chan, 2023; Masamha *et al.*, 2024). This disparity can affect the efficiency and effectiveness of food SMEs in sourcing and providing quality food products.

Despite a substantial literature on the role of SMEs in urban food systems and the participation of women in the food-vending sector, there is a paucity of research examining the intersectionality of gender within these enterprises. Specifically, there is limited understanding of how gender dynamics influence the ability of food vendors to source and provide safe, affordable, and nutritious food to low-income households. Additionally, the extent to which gendered differences affect the utilization of food preservation and handling techniques, as well as adherence to safety measures, remains underexplored. Addressing this gap is crucial for developing targeted interventions that enhance the capacity of food vendors and ensure food security in urban settings.

This study aims to explore the intersectionality between men and women and its impact on the ability of food SMEs to source and provide safe, affordable, and nutritious food to low-income households in major urban markets in Kampala, Lilongwe and Nairobi.

By shedding light on the intersectionality of gender within food vending, this study aims to contribute to the development of policies and interventions that promote gender equity and enhance the capacity of these enterprises to provide safe, affordable, and nutritious food. Addressing the research gap on gendered intersectionality within food vending is crucial for enhancing food security in urban centers in African cities such as Kampala, Lilongwe and Nairobi. The findings will inform the development of targeted strategies that promote both gender equity and the provision of safe, affordable, and nutritious food in urban settings.

2. Literature review

2.1 Food environment dimension in developing countries

The food vendors operate in an environment based on the external food domain that consists of food availability, pricing, vendor and food properties and marketing regulations (Turner *et al.*, 2018). Understanding the interaction between the drivers of structural gender inequality (both formal and informal individual and systemic gendered inequality) with the external food environment is imperative (Njuki *et al.*, 2023). In that regard, literature attest that, discerning the the food vendors' environments helps to understand the limitations, opportunities and benefits and thereby improves the economic and livelihood of men and women (Mohanty *et al.*, 2024).

Understanding food environments requires understanding the demographic composition and characteristics of the population concerning urbanisation, their incomes, consumer preferences and contextual institutional factors (Béné *et al.*, 2019). This in turn influences the choices of what to acquire and eat, and have a direct influence on food availability and affordability, food quality and safety. Moreover, the socio-cultural and environmental drivers influence conscious and unconscious preferences, choices of what to acquire and eat. Food availability and affordability, marketing, information, services, and food quality and safety are achieved through well-established infrastructures and technology.

Furthermore, individual and systemic gendered inequalities may lock women from participation in managing food trading enterprises due to challenges such as women's agency (choices, bargaining power, aspiration, capacities), gendered social norms (social and traditional roles and expectations), women's inability to access and control resources (limited access to business finances, information, education, technology) and gendered governance (policies and institutions) (Shaikh, 2020). For instance, women-owned food enterprises compared to their male counterparts may not easily access information on where to source cheap food. In case women traders access that information, they may lack bargaining power, negotiation skills, power relations (Hazudin *et al.*, 2021). Likewise, institutions, for instance by-laws, which are passed by local governments may be gender-blind or insensitive in the provision of facilities and infrastructure to support women in the provision of nutritious, affordable and safe foods.

2.2 Gender barriers affecting food SMEs

The concept of gender helps in understanding how roles, responsibilities, opportunities and constraints are framed in various social, economic and political contexts. Thus, in the context of market-places, undertaking a gender analysis is useful to understand how socially-constructed roles and responsibilities assigned to men and women affect how men and women food traders access various opportunities, and/or are constrained in running their enterprises (Quisumbing *et al.*, 2014). Despite the significance of both women and men traders as suppliers of food in local markets to low-income consumers, there are various gender-related barriers that distinctively impinge these categories of traders (Adeosun *et al.*, 2023).

Women play a vital role as food vendors in urban areas of African cities, particularly in slums and neighborhoods inhabited by low-income populations. Women food traders are key contributors to the economy and social cohesion, ensuring the availability of affordable foods that cater to the daily needs of their communities. Historically, women's involvement in food systems can be traced to their role in ensuring community sustenance, which has evolved to include vending as a primary livelihood strategy in urban settings (Rice *et al.*, 2023).

Despite their significance in urban food systems, women face numerous systemic barriers rooted in colonial-era policies and enduring cultural norms. For instance, women are significantly challenged to access affordable and sufficient business loans/credit, proper storage facilities, and adequate food vending supportive infrastructure like clean water and proper sanitation service (Mahopo *et al.*, 2022). Furthermore, in urban food markets, women are disproportionately affected by restrictive public policies, harassment by local authorities, and unfair competition from formalized food suppliers (Adeosun *et al.*, 2023). Women food vendors are also constrained to balance time between household chores, such as childcare, and food trading (Daudi, 2015; Mramba *et al.*, 2024). These obstacles hinder the women traders to effectively and adequately source and provide low-income urban consumers with safe, affordable and nutritious foods (Adeosun *et al.*, 2023).

While women dominate the food SME sector in many African contexts, food trading has recently seen increased male participation (Abukari & Abukari, 2022). Economic necessity often motivates men to participate in food trading in low-income areas, particularly in the context of limited formal employment opportunities (Hill *et al.*, 2019). Men often align their participation in food vending with their responsibilities as providers, based on societal gender norms (Aberman *et al.*, 2022). In terms of profit-driven roles, men often gravitate toward activities perceived as more lucrative or scalable, such as wholesale trading or managing larger food trading operations (Hill *et al.*, 2019). Regarding consumer behaviours, research has examined preferences for male versus female food vendors, exploring factors like hygiene, safety, and sociocultural norms (Haleegoah *et al.*, 2020). Despite their role in food trading, men's participation often faces challenges like social stigma, especially where food trading is viewed as women's work (Resnick, 2020). This stigma can deter men from engaging openly in informal food trading roles in urban areas. Further, like their female counterparts, men may struggle with access to credit or financial services to scale their food SME operations (Berry, 2009).

Regarding policy frameworks and market governance, most local food markets in low-income African cities have gender-insensitive market policies and governance systems, which perpetuate economic inequality between men and women. For instance, women food vendors often face systemic barriers in accessing credit and financial services, as traditional policies do not consider their unique needs or the cultural biases they encounter (Buvinić & Furst-Nichols, 2016). In addition, rigid tax regimes, food trading licence requirements, and allocation of market space policies disproportionately affect women, who often have smaller businesses or lack the social networks necessary to secure prime locations (Khoza, 2024; Charmes, 2012). These policies often ignore that women in these informal markets tend to have limited access to resources, making it more difficult for them to comply with regulations or grow their businesses (Charmes, 2012). Therefore, this study intends to address the knowledge gap and contribute in devising inclusive policies that can strengthen and grow food SMEs for both men and women and, by extension, develop robust and inclusive urban food systems.

2.3 Theoretical framework: Intersectionality theory

Notwithstanding the significance of undertaking gender analyses in various contexts, recognition is also burgeoning of the importance of understanding the role individuals' socio-economic and demographic identities (e.g. age, ethnicity, economic status, marital status, sexual orientation, physical disability, ownership of assets, religion) intersect with gender to create unique outcomes (Ravera et al., 2016). This perspective is known as intersectionality.

The concept of intersectionality was first defined as “the interaction between gender, race, and other categories of difference in individual lives, social practices, institutional arrangements, and cultural ideologies and the outcomes of these interactions in terms of power” (Crenshaw, 1989). Instead of mere differentiating the unique circumstances that affect men and women, intersectionality goes deeper, to interrogate complexities and diversities within gender categories (i.e., among women, men, and other gender categories) (Djoudi et al., 2016). ‘Intersectionality is premised on the notion that individual human beings cannot be reduced to single characteristics’; and ‘human experiences cannot be accurately understood by prioritizing any one single factor or constellation of factors’ (Hankivsky et al., 2014). In other words, the implication of an intersectional perspective is that “individuals within social groups are positioned at the intersection of multiple identity axes (e.g., race, gender, social class, health status),” which expose them to overlapping advantages or disadvantages (Saatcioglu & Corus, 2014). Employing intersectionality entails adopting a multi-dimensional analysis of how various social processes interrelate to shape people's socio-economic outcomes and inequalities (Larson et al., 2016) for people with different social identities. Application of the intersectionality concept reinforces analyses of social power relations through understanding how numerous individual's social identities and positions interact (de-construct and/or co-construct unique opportunities or disadvantages in various social-cultural contexts (Clement et al., 2019; Tavenner et al., 2022).

Thus, through the intersectionality lens, researchers are able to explore how relationships, expectations, roles, responsibilities, activities and outcomes are formed, assigned and reinforced in various socio-economic situations (e.g. at local food markets) (Tavenner et al., 2022). In a study to understand gender relations in dried fish value chains in Tanzania and Bangladesh, Galappaththi et al. (2021), using intersectionality framework, found that women fish traders were benefitting differently because of various forms and degrees of discrimination and exclusion the women were facing, because of various social identities the women possessed. For instance, in Bangladesh the authors noticed that some women fish traders were ill-treated and faced discrimination due to their race (e.g. Rohingya vs. Bengali ethnic origins), localism (local-inhabitant groups vs. migratory workers with Bengali and Rohingya origins), and marital status (widowed, abandoned, or divorced).

Furthermore, in Mwanza region (Tanzania), the authors discovered that some women fish traders were advantaged in their trade due to social networks they established with powerful businessmen. The social networks were largely based on nationality of the women (Congolese vs. Tanzanian), unrestricted mobility of women and business freedom the women had (freedom to conduct business without interference from their partners). One key study finding was that Congolese women fish traders had more trade opportunities and benefits compared to their Tanzanian counterparts, as the Congolese traders had formed strong trade network with the powerful businessmen.

Thus, this study explored how gender of food traders (in the local food markets in Nairobi, Kampala and Lilongwe cities) interact with food traders' other selected socio-economic identities (e.g. age, marital status and education level, and how such interaction affects the ability of food traders to provide safe, nutritious and affordable food to low-income consumers.

2.4 Conceptual framework

In this paper the intersectionality framework was used to analyze the interaction of several socio-economic and demographic identities of food SMEs, and their resultant influence on food SMEs' ability to provide safe, affordable, and nutritious food to low-income households. Specifically, the study focused on how food SMEs' gender intersected with other axes of identity (such as age, marital status and education status) to produce differentiated experiences of opportunities and constraints among food SMEs in the provision of safe, affordable and nutritious food to low-income households. The framework was used to critically analyse the effect of intersectionality on food SMEs' (lack of) access to support at three levels: micro (individual/household), meso (enterprise/market), and macro (policy/governance), and the resulting outcomes in urban food systems (provision of safe, nutritious and affordable food to low-income consumers) as shown in Figure 1.

ethnicity among others to produce differentiated experiences of opportunity and constraint. It also integrates established gender analysis tools from development practice, notably Moser's Gender Planning Framework (1989), as well as recent gender-transformative food systems approach advanced by FAO and CGIAR (2018–2022). In this study, the framework is operationalized across three levels of analysis, micro (individual/household), meso (enterprise/market), and macro (policy/governance) to capture the ways in which intersecting social identities and structural inequalities shape SME participation and outcomes in urban food systems.

The study used a mixed method approach, which involved collection of both quantitative and qualitative primary data. This approach was selected due to its ability to enable researchers to benefit from quantitative and qualitative triangulation. Quantitative data were collected through a semi-structured questionnaire and in-depth interviews with food vendors/traders, while qualitative data were collected mainly through Focus Group Discussions (FGDs). The questionnaires were administered by trained research assistants. To ensure clarity and relevance of the questions, the questionnaire was pre-tested in different local markets in each country prior to actual data collection.

A total of 32 FGDs were facilitated across the three countries. At each market, four separate FGDs were facilitated (with older men, older women, young men and young women) using a tailor-made checklist/interview guides. Segmentation of the FGD participants with homogenous characteristics was done to enable food traders to explain how other socio-economic and demographic identities intersect with gendered barriers/opportunities or dynamics in creating advantages and/or disadvantages. According to [Peek and Fothergill \(2009\)](#), segmentation of participants based on homogeneous demographic characteristics enhances response rate and willingness to discuss particularly regarding sensitive topics such as gender dynamics in settings such as market-places.

The collected data were analysed using STATA software. Both descriptive and inferential analytical techniques were employed to analyse the data. Descriptive statistics were used to describe the socio-demographic characteristics of the food traders, and traders' accessibility to various essential business development services. Means and percentages were used to describe the data. To further understand the effect of intersectionality among the food traders, a trivariate system of equations (three outcome variables estimated jointly) on pooled data from three countries with country-specific intercepts and slopes using Stata's MVREG (following a trivariate series) ([Greene, 2012](#); [Medard et al., 2022](#)). This regression is appropriate because it estimates each equation separately but jointly accounts for contemporaneous correlation among the three equations' error terms for the trivariate dependent variables (Food Safety (FS), Use of Nutritional Content (NC) Information and Food Availability (FA)). The multivariate regression improves efficiency of coefficient estimates relative to estimating each equation independently when errors are correlated ([Binder, 1985](#); [Izenman, 2013](#)).

To estimate the model, country fixed effects (dummies) and joint estimation, MVREG model was used. The country fixed effects (dummies) included dummies for specific *i.e.*, Kenya, Uganda and Malawi (where Kenya = reference country). These shift the intercept per country and captured unobserved mean differences across countries. In that regard, the **MVREG was used** to jointly determine and sort the results of the system of equations and the cross-equation error covariances. The model allows simultaneously estimation of the dependent variables, when the assumption of the models such as multinomial probit and multinomial logit are not met ([Binder, 1985](#); [Liang et al., 1992](#)). The structural nature of the model can be specified as follows.

Let Y_{ij} represent dependent variables Y_{1i} = Food Safety (Composite index for food safety)

Y_{2i} = Nutritional Content (Composite nutritional content information utilisation)

Y_{3i} = Food Availability (Composite index for food availability)

Let countries be A = Kenya (reference), B = Uganda, C = Malawi. With explanatory variables $X_1, X_2, \dots, X_n$ as examples, the structural system is:

$$Y_{1i} = \alpha_1 + \beta_{11}X_{1i} + \beta_{12}X_{2i} + \gamma_{1B}D_{Bi} + \gamma_{1C}D_{Ci} + \theta_{1B}(X_{1i} \times D_{Bi}) + \theta_{1C}(X_{1i} \times D_{Ci}) + \phi_{1B}(X_{2i} \times D_{Bi}) + \phi_{1C}(X_{2i} \times D_{Ci}) + \varepsilon_{1i} \quad (1)$$

$$Y_{2i} = \alpha_2 + \beta_{21}X_{1i} + \beta_{22}X_{2i} + \gamma_{2B}D_{Bi} + \gamma_{2C}D_{Ci} + \theta_{2B}(X_{1i} \times D_{Bi}) + \theta_{2C}(X_{1i} \times D_{Ci}) + \phi_{2B}(X_{2i} \times D_{Bi}) + \phi_{2C}(X_{2i} \times D_{Ci}) + \varepsilon_{2i} \quad (2)$$

$$Y_{3i} = \alpha_3 + \beta_{31}X_{1i} + \beta_{32}X_{2i} + \gamma_{3B}D_{Bi} + \gamma_{3C}D_{Ci} + \theta_{3B}(X_{1i} \times D_{Bi}) + \theta_{3C}(X_{1i} \times D_{Ci}) + \phi_{3B}(X_{2i} \times D_{Bi}) + \phi_{3C}(X_{2i} \times D_{Ci}) + \varepsilon_{3i} \quad (3)$$

Where:

$D_{Bi} = 1$ if observation i is from Country B, 0 otherwise; similarly, for D_{Ci} .

Errors (ε_{1i} , ε_{2i} , ε_{3i}) may be contemporaneously correlated: $\text{Cov}(\varepsilon_j, \varepsilon_k) \neq 0$ for $j \neq k$.

Country-specific slope for X_1 in Country B (for Equation 1) = $\beta_{11} + \theta_{1B} k$

The score ranged from 0-5 and was based on a set of Likert questions regarding food safety from the perspective of the food trader. The weighted scores were then adjusted econometrically to generate a binary variable that indicated whether the food traded was either safe or not. The same procedure was carried out to determine the binary variables for NC and FA. The independent variables were a set of socio-economic, institutional and specific food traders' performance related variables.

4. Results and Discussion

4.1 Socio-demographic characteristics of food traders

The study revealed that more male food traders than their female counterparts were married in Kenya (77.4%) and Uganda (67.2%), than was the case in Malawi (Table 2). In terms of the mean age of the food traders, it was revealed that the food traders are mostly youthful. This calls for policies, programmes and interventions that target food traders in local markets to be youth-centric. Similar findings were put forward by Hali et al. (2019) who found that the majority of food vendors in Cape Town, South Africa are youth. The study found that most food traders had few years of education, with most traders having just completed primary education. The food traders' mean education status has implications on food traders' understanding and compliance to so many obligations for ensuring food hygiene and safety, preservation of food nutrient content and management of food enterprises as indicated in Table 2.

4.2 Access to food trading enterprises' development services

In terms of accessing essential enterprises' development support services (Table 3), the study revealed not satisfactory results. Except all categories of food SMEs in Kenya and older male traders in Uganda (half of them who slightly indicated to have access to business credit), with exception to Malawi, the study discovered that most food traders struggle to access business credit for growth of their food vending enterprises. The majority of food traders indicated that the most reliable source of business finance are savings from the profits they make in their enterprises.

The study also revealed that most of the food traders operate informal enterprises as most food trading enterprises are unregistered. This development was noticed across the study cities. Lack of business formalisation through proper registration could partly account for the enterprises' limited accessibility to formal business credit. Similar to the state of enterprises' formalisation, it was also noted that most food traders also operate without appropriate licences. This revelation was very serious among the Malawian food traders as the aggregated number of food traders who were operating without appropriate licensing were not more than 5% as shown in Table 3.

In terms of food traders' membership to business support groups, the study discovered that slightly more than half of the all the food traders were members of some business development groups. Nonetheless, it was noted that not many food traders in Malawi (except the young male traders' group) and members from the young male traders' group in Kenya are not members of business groups. The study further observed that, generally, more food traders who were above 35 years old belonged to business groups than was the case with food traders who were at most 35 years (except in Malawi for the young male food traders).

Finally, the study noticed that more food traders had no access to business mentorship services. Despite this development, in Kenya though, across the four categories, the young food traders accessed more business mentorship services compared to the food traders who were above 35 years old. This could partly be explained by the fact that currently the Government of Kenya and many of its development partners are implementing various business development interventions (including business mentorship) that are targeting young entrepreneurs.

4.3 Regression results

The study's findings in Table 4 illuminate how SME traders' own and household characteristics, market dynamics, and broader structural factors intersect to influence their capacity to provide safe (FS), nutritious (NC), and accessible and available (FAA) food to low-income households in urban areas of Kenya, Uganda, and Malawi. Using the Gender and Intersectionality Framework, the analysis shows that these outcomes are not driven by single variables but by overlapping social identities (gender, age, household composition), institutional arrangements, and market structures that shape SME traders' practices in differentiated ways across contexts.

Table 2. Food traders' socio-demographic characteristics.

Socio-Demographic Variable	Kenya		Uganda		Malawi	
	Female Traders (N = 149)		Male Traders (N = 93)		Female Traders (N = 125)	
	>35 Years (N = 106)	<=35 Years (N = 43)	>35 Years (N = 50)	<=35 Years (N = 43)	>35 Years (N = 56)	<=35 Years (N = 69)
Mean Age (Years) of Traders	47.9	30.2	46.6	28.3	44.2	28
Mean Number of Years for Formal Education	8.7	11.6	10.3	12	8	10.3
Mean Experience in running enterprise (years)	14.6	6.9	14.6	5.4	12.6	5.3
				5		11.9
						5.7

Table 3. Accessibility of essential business development services.

Enterprises Development Support Services	Kenya		Uganda		Malawi	
	Female Traders (N = 149)		Male Traders (N = 93)		Female Traders (N = 125)	
	>35 Years (N = 106)	<=35 Years (N = 43)	>35 Years (N = 50)	<=35 Years (N = 43)	>35 Years (N = 56)	<=35 Years (N = 69)
Access to Business Credit	59 (55.7%)	24 (55.8%)	26 (52%)	23 (53.4%)	16 (28.57%)	6 (8.7%)
Registration of Enterprises	11 (10.4%)	3 (6.97%)	3 (6%)	6 (13.95%)	21 (26.3%)	3 (4.3%)
Availability of Business Licence	19 (17.9%)	11 (25.6%)	8 (16%)	7 (16.3%)	10 (12.5%)	3 (4.3%)
Membership in Business Groups	68 (64.2%)	23 (53.5%)	27 (54%)	17 (39.5%)	44 (55%)	13 (18.8%)
Access to Business Mentorship	26 (24.5%)	14 (32.6%)	10 (20%)	17 (39.5%)	23 (28.75%)	12 (17.4%)
					16 (28.57%)	9 (15.3%)
					3 (5.4%)	2 (3.4%)
					4 (7.1%)	1 (1.7%)
					12 (21.4%)	31 (35.6%)
					20 (23%)	46 (78%)
					20 (23%)	20 (33.9%)

Table 4. Regression analysis results-factors influencing the ability of food SMEs to source and provide safe, affordable, and nutritious food to low-income households.

Variable	FSK	FSU	FSM	NCK	NCU	NCM	FAAK	FAAU	FAAM
	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value	Coef., std err and p-value
Adults_18_60 years	-0.056 (0.019) ***	-0.024 (0.014) *	-0.001 (0.003)	0.057 (0.028) **	-0.009 (0.015)	0.028 (0.016) *	-0.032 (0.028)	0.005 (0.016)	0.015 (0.017)
No. of children_below18	-0.020 (0.016)	-0.006 (0.015)	0.001 (0.003)	0.034 (0.024)	0.003 (0.016)	0.016 (0.017)	0.019 (0.024)	0.016 (0.016)	0.020 (0.017)
Years_of_scholling	0.005 (0.007)	-0.003 (0.007)	0.002 (0.001)	0.005 (0.010)	0.009 (0.008)	0.005 (0.007)	0.003 (0.011)	0.008 (0.008)	-0.003 (0.007)
Distance to the market	-0.018 (0.012)	0.021 (0.024)	0.000 (0.003)	-0.008 (0.018)	0.043 (0.026) *	0.005 (0.008)	0.007 (0.018)	-0.005 (0.026)	0.009 (0.008)
Distance squared	0.000 (0.001)	-0.001 (0.002)	-0.000 (0.000)	0.000 (0.001)	-0.002 (0.002)	-0.000 (0.000)	0.000 (0.001)	-0.001 (0.002)	-0.000 (0.000)
Young females in group	-0.024 (0.103)	-0.109 (0.130)	-0.004 (0.016)	-0.015 (0.153)	0.017 (0.140)	-0.017 (0.092)	-0.150 (0.154)	-0.042 (0.144)	0.145 (0.094)
Young males in group	0.017 (0.109)	0.051 (0.092)	0.001 (0.019)	0.229 (0.162)	0.061 (0.099)	-0.118 (0.112)	0.071 (0.163)	-0.183 (0.103) **	0.031 (0.114)
Older female in groups	-0.062 (0.066)	0.028 (0.092)	-0.000 (0.021)	-0.093 (0.099)	0.125 (0.099)	-0.090 (0.126)	0.127 (0.099)	0.019 (0.102)	0.275 (0.128) **
Older males in groups	0.121 (0.096)	-0.103 (0.136)	-0.041 (0.014) ***	0.050 (0.143)	-0.158 (0.147)	-0.261 (0.082) ***	-0.012 (0.144)	0.083 (0.152)	-0.038 (0.083)
Young female with creditaccess	0.146 (0.107)	0.091 (0.133)	-0.001 (0.025)	-0.078 (0.158)	-0.140 (0.143)	-0.154	-0.220 (0.159)	-0.164 (0.148)	-0.071 (0.152)
Young males with creditaccess	0.001 (0.106)	0.257 (0.097) ***	0.002 (0.022)	0.033 (0.158)	-0.042 (0.105)	-0.178 (0.127)	-0.203 (0.159)	0.187 (0.108) **	-0.037 (0.130)
Older females with credit	0.162 (0.066) **	-0.048 (0.091)	-0.002 (0.019)	-0.072 (0.098)	0.046 (0.098)	0.060 (0.110)	-0.025 (0.099)	-0.151 (0.102)	-0.366 (0.112) ***
Older males with CreditAccess	0.076 (0.098)	0.095 (0.146)	0.108 (0.020) ***	0.037 (0.145)	-0.022 (0.157)	0.076 (0.117)	-0.024 (0.146)	-0.175 (0.162)	0.081 (0.120)
Young female with licence	0.308 (0.107) ***	0.211 (0.117) *	-0.003 (0.023)	0.247 (0.159)	0.405 (0.126) ***	0.012 (0.133)	0.354 (0.160) **	-0.182 (0.130)	-0.066 (0.135)
Young males with licence	0.199 (0.097) **	0.055 (0.074)	-0.004 (0.023)	0.168 (0.143)	0.359 (0.079) ***	0.017 (0.138)	0.292 (0.144) **	-0.212 (0.082) **	-0.036 (0.141)
Older female with licence	0.288 (0.081) ***	0.115 (0.080)	-0.001 (0.023)	0.290 (0.120) **	0.375 (0.086) ***	-0.126 (0.138)	0.182 (0.120)	-0.215 (0.089) **	-0.217 (0.141)
Older male with licence	0.222 (0.101) **	0.205 (0.094) **	0.014 (0.025)	0.258 (0.150) *	0.491 (0.101) ***	0.098 (0.149)	0.121 (0.150)	-0.218 (0.105) **	-0.111 (0.152)
Access to Bathroom	0.215 (0.051) ***	0.286 (0.106) ***	0.008 (0.008)	0.174 (0.076) **	0.232 (0.115) **	-0.100 (0.048) **	0.091 (0.076)	0.405 (0.118) ***	0.076 (0.048)
Aware of Gender policies	-0.135 (0.047) ***	0.032 (0.076)	-0.001 (0.016)	0.062 (0.070)	0.039 (0.082)	-0.029 (0.094)	0.096 (0.070)	-0.061 (0.085)	-0.010 (0.096)
_cons	-0.111 (0.132)	-0.197 (0.172)	-0.017 (0.026)	-0.144 (0.196)	-0.570 (0.185) ***	0.094 (0.155)	0.123 (0.197)	0.520 (0.192) ***	0.829 (0.158) ***
R-SQ	0.2570	0.1172	0.1288	0.0983	0.1947	0.1203	0.0813	0.1678	0.1208
F	4.0420	1.5868	1.9538	1.274	2.8881	1.8066	1.0340	2.4083	1.8143
P-Value	0.0000	0.0607	0.0113	0.0206	0.0001	0.0225	0.4231	0.0012	0.0217

Note: FSK, FSU and FSM = Food safety variable for Kenya, Uganda and Malawi respectively. NCK, NCU and NCM = Nutritional content variable for Kenya, Uganda and Malawi respectively. FAAK, FAUA and FAAM = Food availability variable for Kenya, Uganda and Malawi respectively. Standard errors in parentheses.

***p < 0.01,

**p < 0.05,

*p < 0.1.

A notable household-level factor is the number of adults (aged 18–60) in SME traders' households, which has a negative and statistically significant effect on FS maintenance practices by the SME traders in Kenya (1%) and Uganda (10%), though not significant in Malawi. A unit increase in adult household members reduces the probability to maintain FS by 5.6% and 2.4% in Kenya and Uganda respectively. This may reflect how, as adult members increase, SME traders allocate less attention to enforcing food safety practices, potentially due to lower food safety concern or shifting household roles. Prior studies (Cates et al., 2009; Katherine et al., 2011) have shown that traders with adult household members often show reduced attention to priority food safety concerns thereby increasing exposure to unsafe food. This aligns with Moser's emphasis on strategic positioning, formalization which provides traders with better access to regulatory frameworks, resources, and networks that support improved food system practices. In Malawi, these effects are not statistically significant, pointing to differences in institutional enforcement and market structure.

In contrast, the number of adults positively influences NC in Kenya and Malawi, at 5% and 1% significance levels respectively, indicating that adult household members may drive demand for or facilitate the provision of more nutritious food. These divergent effects across FS and NC highlight the intersection between household composition and traders' roles: while adult members may not prioritize safety practices, they may influence nutritional choices within SME operations. Moser's Gender Planning Framework helps unpack these dynamics by distinguishing between practical gender needs (e.g., nutrition knowledge at household level) and strategic needs (e.g., empowerment to influence food safety norms), both of which affect SME outcomes.

At the trader identity and group membership level, the results reveal important intersectional patterns. Being a young male and member of a traders' group is negatively associated with FAA in Uganda, although not significant in Kenya and Malawi. This suggests that market linkages and economic positioning intersect with age and gender to shape young male traders' ability to ensure food availability and affordability to buyers. Weak market connections in Uganda, as highlighted by Loga et al. (2022), limit youth traders' capacity to source and distribute food effectively, leading to poorer FAA outcomes. Similarly, older male traders who are group members in Malawi display negative associations with FS and FAA, significant at the 1% level. This may reflect gendered norms in food handling and safety practices, where interventions and capacity-building have traditionally focused on women, leaving male traders less engaged in these dimensions (Zulu et al., 2020; Tembo et al., 2024). Crenshaw's framework helps interpret these findings as products of intersecting gender, age, and institutional dynamics that differentially shape traders' roles and outcomes in food systems.

Market-level infrastructure emerges as another critical factor. Access to bathroom facilities in market spaces significantly improves FS in Kenya and Uganda at the 1% level, underscoring the importance of basic sanitation in supporting hygienic food handling which also mirrors the results by (Mulyatna et al., 2021; Nijhawan et al., 2023). Bathroom access also positively influences NC in Kenya and Uganda at 5% significance. However, in Malawi, the relationship is negative for NC, possibly few available facilities (Lazaro et al., 2019). These findings illustrate how infrastructure interacts with local practices and cultural norms to shape SME food safety and nutritional outcomes. Investments in sanitation facilities alone may not yield uniform outcomes across contexts; they need to be coupled with behavioral change interventions that address local gendered practices and norms.

Institutional factors such as business formalization through licensing also shape SME performance. Across Kenya and Uganda, holding a business license is positively associated with FS and NC across trader age and gender groups, indicating that formalization enhances adherence to food safety and nutritional standards (Mehjabeen & Khan, 2024). This aligns with Moser's emphasis on strategic positioning, formalization provides traders with better access to regulatory frameworks, resources, and networks that support improved food system practices. In Malawi, these effects are not statistically significant, pointing to differences in institutional enforcement and market structure.

Access to credit, a macroeconomic and institutional factor, intersects with gender and age to influence SME traders' outcomes in complex ways. Among older male traders in Malawi, credit access has a strong positive impact on FS (1% level), while older female traders in Kenya also experience significant FS improvements (5% level). These results suggest that financial access, combined with trader experience, can support investments in safer food handling and business upgrading (Gichuki et al., 2014; Kyeremateng et al., 2024). However, older female traders in Malawi show a negative and significant association between credit access and NC (1%), indicating that credit may be allocated to other business priorities rather than nutritional enhancements. Among young male traders in Uganda, credit access is positively associated with both FS (1%) and NC (5%), likely reflecting targeted financial inclusion and literacy programs for youth (Nyeko et al., 2024; Johnson et al., 2011). These patterns underscore the differentiated impacts of financial inclusion, depending on age, gender, and national context.

5. Conclusion and recommendations

5.1 Conclusions

Overall, applying an intersectional lens reveals that SME traders' roles in providing safe (FS), nutritious (NC), and accessible/available (FAA) food are shaped by interlocking household characteristics, trader identities, market structures, and institutional factors. Moser's framework highlights the interplay of practical and strategic gender needs within trader households and enterprises, while the FAO–CGIAR gender-transformative food systems approach underscores the need to address the structural gender norms and power relations that shape these outcomes. For example, targeting male traders with food safety training, strengthening youth market linkages, and pairing infrastructural improvements with gender-sensitive behavioral change programs could yield more equitable and transformative impacts.

In sum, the study demonstrates that gender, age, household structure, infrastructure, licensing, and credit access intersect to produce differentiated FS, NC, and FAA outcomes across Kenya, Uganda, and Malawi. Recognizing and addressing these intersectional dynamics is essential to designing gender-transformative interventions that enhance the role of SME traders in delivering safe, nutritious, and accessible food to urban low-income populations.

5.2 Recommendations

1. There is a need to strengthen Food Safety and Nutrition Training for the Traders. Integrate targeted food safety and nutrition education for adult SME traders and adults within SME households, recognizing their influence on food handling and nutritional choices. Training should address both practical skills (e.g., hygiene) and strategic empowerment to influence SME operations.
2. Need for the Design of Gender- and Age-Sensitive Market Linkage Interventions. This should be done by developing programs that improve market access for young male traders, particularly in Uganda, to enhance food availability and affordability (FAA). Strengthen trader groups with inclusive governance structures to improve collective bargaining and resource sharing across age and gender groups.
3. Engage Male Traders in Food Safety and Nutrition Initiatives by expanding food safety campaigns and capacity-building beyond women to include older and male traders, especially in Malawi, where their engagement has been limited. Leverage trader associations to integrate male-focused behavioral change components.
4. Pair Infrastructure Investments with Behavior Change Interventions by investing in sanitation and bathroom facilities in markets while simultaneously promoting gender-sensitive hygiene practices to ensure consistent use and impact on FS and NC, especially in Malawi.
5. Promote SME Formalization Through Business Licensing. This will help to facilitate access to licensing for SMEs, combined with tailored regulatory guidance and incentives to strengthen compliance with food safety and nutrition standards.
6. Expand Gender-Responsive Financial Inclusion Programs. There is need for tailored credit and financial literacy programs to the needs of different trader groups by supporting older traders credit to use for food safety improvements and business upgrading, the youth traders to expand financial inclusion initiatives that link credit access with training on food safety and nutrition. And Female traders need provision of complementary capacity-building to ensure credit translates into nutritional improvements.
7. Finally, adopt Intersectional Approaches in Food Systems Interventions whereby policies and programs should move beyond “women-targeted” approaches to address the intersecting roles of gender, age, household composition, market infrastructure, and macroeconomic factors that shape SME performance in FS, NC, and FAA.

Ethical approval

Data collection began following ethical approval from the National Commission for Science, Technology and Innovation (NACOSTI) in Kenya (Approval number: NACOSTI/P/24/32882). We also received ethical approval from the Lilongwe University of Agriculture and Natural Resources in Malawi with reference number: LUANAR-REC-REVIEW-2024-0024 approved on 26th March, 2025.

Consent for participation

Consent to participate was obtained through detailed informed consent statements provided to all participants verbally.

This approach was preferred due to low literacy levels among some participants and to ensure inclusivity and comprehension.

Although the study did not involve medical procedures or the collection of human biological material, it involved human participants through surveys. All procedures involving human participants were conducted following the ethical standards of NACOSTI and with the principles of the Declaration of Helsinki (2013), including respect for persons, informed consent, confidentiality, and the right to withdraw at any time.

Data availability

Data associated with this study will be made available upon reasonable request.

References

- Aberman N-L, Meerman J, Van De Riet A: *Integrating Gender into the Governance of Urban Food Systems for Improved Nutrition*. Global Alliance for Improved Nutrition (GAIN); 2022.
[Publisher Full Text](#)
- Abukari R, Abukari K: **The Male Food Vendor in a Patriarchal Society**. *Journal of Multidisciplinary Research at Trent*. 2022; **3**(1): 34–51.
- Adeosun KP, Oosterveer P, Greene M: **Informal ready-to-eat food vending governance in urban Nigeria: Formal and informal lenses guiding the practice**. *Plos one*. 2023; **18**(7): 1–23.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Adjei M, Chan AHN: **What Women Do, Believe in, and Financially Contribute—What Matters More in Couples' Decision Making? Gender Inequality in Ghana's Small-Scale Fisheries**. *Rural. Sociol.* 2023; **88**(1): 220–251.
- Babbie ER: *The practice of social research*. Cengage Au; 2020.
[Reference Source](#)
- Bagumire A, Karumuna R: **Sanitation facilities and practices for street-vending meats at two major highway markets in Uganda**. *Afr. J. Food Agric. Nutr. Dev.* 2019; **19**(2): 14337–14353.
- Béné C, Prager SD, Achicanoy HA, et al.: **Understanding food systems drivers: A critical review of the literature**. *Glob. Food Sec.* 2019; **23**: 149–159.
- Berry T: *Challenges and coping strategies of female street vendors in the informal economy*. Pretoria University library; 2009. [Master's thesis, University of Pretoria].
- Binder JJ: **On the use of the multivariate regression model in event studies**. *J. Account. Res.* 1985; 370–383.
- Buvinić M, Furst-Nichols R: **Promoting Women's Economic Empowerment: What Works?** *World Bank Res. Obs.* 2016; **31**(1): 59–101.
[Reference Source](#)
- Cates SC, Kosa KM, Karns S, et al.: **Food Safety Knowledge and Practices among Older Adults: Identifying Causes and Solutions for Risky Behaviors**. *J. Nutr. Elder.* 2009; **28**(2): 112–126.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Charmes J: **The informal economy worldwide: Trends and characteristics**. *Margin J. Appl. Econ. Res.* 2012; **6**(2): 103–132.
[Publisher Full Text](#)
- Clement F, Buisson MC, Leder S, et al.: **From women's empowerment to food security: Revisiting global discourses through a cross-country analysis**. *Glob. Food Sec.* 2019; **23**: 160–172.
[Reference Source](#)
- Crenshaw K: **Demarginalizing the intersection of race and sex: A black feminist critique**. *Legal Forum*. 1989; **140**: 139–167.
- Djoudi H, Locatelli B, Vaast C, et al.: **Beyond dichotomies: Gender and intersecting inequalities in climate change studies**. *Ambio*. 2016; **45**: 248–262.
[PubMed Abstract](#)
- Galappaththi M, Collins AM, Armitage D, et al.: **Linking social wellbeing and intersectionality to understand gender relations in dried fish value chains**. *Maritime Studies*. 2021; **20**(4): 355–370.
- Gichuki JAW, Njeru A, Tirimba OI: **Challenges facing micro and small enterprises in accessing credit facilities in Kangemi Harambee market in Nairobi City County, Kenya**. *Int. J. Sci. Res. Publ.* 2014; **4**(12): 1–25.
- Glatzel K, Ameye H, Hülsen V, et al.: **Changing food environments in Africa's urban and peri-urban areas: Implications for diets, nutrition, and policy (No. 235)**. *ZEF Working Paper Series*. 2024.
- Greene WH: *Econometric analysis*. New York: Macmillan Publishing Company; 7th ed. 2012.
- Haleegoah JAS, Akuoko KO, Dwumah P, et al.: **Factors influencing consumption of street vended local foods (SVLFs) in Urban Ghana**. *Afr. J. Food Sci.* 2020; **14**(11): 395–406.
[Publisher Full Text](#)
- Hanjra MA, Williams TO: **Global change and investments in smallholder irrigation for food and nutrition security in Sub-Saharan Africa. The role of smallholder farms in food and nutrition security**. 2020; 99–131.
- Hazudin SF, Sabri MF, Kader MARA, et al.: **Empowering women-owned businesses in the era of digital transformation: a review of the opportunities and challenges**. *International Journal of Academic Research in Business and Social Sciences*. 2021; **11**(19): 1–13.
- Hill J, Mchiza Z, Puoane T, et al.: **The development of an evidence-based street food vending model within a socioecological framework: A guide for African countries**. *PLOS ONE*. 2019; **14**(10): 1–23.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Izenman AJ: **Multivariate Regression**. *Modern Multivariate Statistical Techniques*. Springer Texts in Statistics. New York, NY: Springer; 2013.
[Publisher Full Text](#)
- Khoza NG: **Empowering Female Entrepreneurs in Underprivileged Communities through AI: Exploring Opportunities, Challenges, and Inclusive Pathways: A Case of Africa**. *African Journal of Innovation and Entrepreneurship (AJIE)*. 2024; **3**(3): 193.
- Kinyua PM: *Food Handling and Safety Practices Influencing Bacteriological Contamination in Food Establishments in Nairobi City County, Kenya*. Kenyatta University; 2024. Doctoral dissertation.
- Kisakyé S, Tinyiro E, Mayanja S, et al.: **Current status of knowledge about end-user preferences for boiled potato in Uganda—A food science, gender and demand perspective**. CGIAR Research Program on Roots, Tubers and Bananas (RTB), International Potato Center (CIP); 2020.
- Kosa KM, Cates SC, Godwin SL, et al.: **Effectiveness of Educational Interventions to Improve Food Safety Practices Among Older Adults**. *J. Nutr. Gerontol. Geriatr.* 2011; **30**(4): 369–383.
[Publisher Full Text](#)
- Kyeremateng E, Molua EL, Mvodo SM, et al.: **Credit, gender, and food security: Empirical evidence of determinants to access, affordability, and consumption in Cameroon**. *World Food Policy*. 2024; **10**(1): 48–85.
- Lazaro J, Kapute F, Holm RH: **Food safety policies and practices in public spaces: The urban water, sanitation, and hygiene environment for fresh fish sold from individual vendors in Mzuzu, Malawi**. *Food Sci. Nutr.* 2019; **7**(9): 2986–2994.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Liang KY, Zeger SL, Qaqish B: **Multivariate regression analyses for categorical data**. *Journal of the Royal Statistical Society: Series B (Methodological)*. 1992; **54**(1): 3–24.
- Loga DE, Kibwika P, Kyazze FB: **How do youth innovate to make agriculture gainful? Challenges and youth entrepreneurs in mid-western Uganda**. *International Journal of Agricultural Research, Innovation and Technology (IJARIT)*. 2022; **12**(1): 39–44.
- Mackay H: **Food sources and access strategies in Ugandan secondary cities: an intersectional analysis**. *Environ. Urban.* 2019; **31**(2): 375–396.
- Mackay H, Tusabe R, Mugagga F: **Similar, yet different! Comparing Ugandan secondary cities' food system and nutritional transformations to findings from African primary cities**. *Urban Transformations*. 2022; **4**(1): 16.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Mahopo TC, Nesamvuni CN, Nesamvuni AE, et al.: **Operational characteristics of women street food vendors in rural South Africa**. *Front. Public Health*. 2022; **10**: 1–11.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

- Manzoor F, Wei L, Sahito N: **The role of SMEs in rural development: Access of SMEs to finance as a mediator.** *Plos one.* 2021; **16**(3): e0247598. [PubMed Abstract](#) | [Publisher Full Text](#)
- Masamha B, Uzokwe VNE, Thebe V: **Conceptualizing Intra-Household Gender Roles and Power Dynamics within the Cassava Food Value Chains: Lessons from Qualitative Evidence Among Tanzanian Smallholder Farmers.** *Afr. J. Food Agric. Nutr. Dev.* 2024; **24**(9): 24526–24550.
- Medard T, Yawe BL, Oryema JB: **Effect of health insurance on utilisation of maternal health care services in Uganda.** *Afr. J. Health Sci.* 2022; **35**(5): 586–598.
- Mehjabeen M, Khan SN: **Motivating factors affecting formalization of small informal enterprises: Evidence from an emerging economy.** *Business Strategy & Development.* 2024; **7**(3): e426.
- Meki CD, Bråtevit M, Michelo C, et al.: **Poor provision of sanitary facilities in markets of Lusaka district Zambia.** *Ann. Glob. Health.* 2021; **87**(1): 119. [PubMed Abstract](#) | [Publisher Full Text](#)
- Mohanty S, Kumari V, Singh R: **Gender inequality in Agriculture and Food systems: An Indian Evidence Study.** *Journal of Agricultural Extension Management.* 2024; **25**(1): 135–135.
- Mulyatna L, Wahyuni S, Wilantri RN, et al.: **Evaluation on the sanitation facilities in the Gegerkalong Traditional Market, Bandung, Indonesia.** *IOP Conference Series: Earth and Environmental Science.* IOP Publishing; 2021, April; Vol. **737**(1): p. 012072.
- Nijhawan A, Budge S, Reddy O, et al.: **Environmental hygiene in outdoor food markets in Africa: a scoping review.** *Journal of Water, Sanitation and Hygiene for Development.* 2023; **13**(4): 276–288.
- Nindi TC, Bauchet J, Ricker-Gilbert J: **Information and the trade-off between food safety and food security in rural markets: experimental evidence from Malawi.** *J. Econ. Behav. Organ.* 2023; **216**: 170–186.
- Njuki J, Eissler S, Malapit H, et al.: **A review of evidence on gender equality, women's empowerment, and food systems.** *Science and innovations for food systems transformation.* 2023; **165**.
- O'Keefe M, Lüthi C, Tumwebaze IK, et al.: **Opportunities and limits to market-driven sanitation services: evidence from urban informal settlements in East Africa.** *Environ. Urban.* 2015; **27**(2): 421–440.
- Peek L, Fothergill A: **Using focus groups: Lessons from studying daycare centers, 9/11, and Hurricane Katrina.** *Qual. Res.* 2009; **9**(1): 31–59. [Publisher Full Text](#)
- Quaidoo EY, Ohemeng A, Amankwah-Poku M: **Sources of nutrition information and level of nutrition knowledge among young adults in the Accra metropolis.** *BMC Public Health.* 2018; **18**: 1–7.
- Quisumbing AR, Meinzen-Dick R, Raney TL, et al.: **Gender in agriculture.** Springer; 2014; **102072**: 444. [Publisher Full Text](#)
- Ravera F, Martin-Lopez B, Pascual U, et al.: **The diversity of gendered adaptation strategies to climate change of Indian farmers: A feminist intersectional approach.** *Ambio.* 2016; **45**(Suppl 3): 335–351. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Resnick D: *The politics and governance of informal food retail in urban Africa.* Washington, DC: International Food Policy Research Institute (IFPRI); 2020. PIM Synthesis Brief. October 2020. [Publisher Full Text](#)
- Rice ED, Bennett AE, Muhonda P, et al.: **Connecting gender norms and economic performance reveals gender inequities in Malawian small-scale fish trade.** *Maritime Studies.* 2023; **22**(4): 1–15. [Publisher Full Text](#)
- Saatcioglu B, Corus C: **Poverty and intersectionality: A multidimensional look into the lives of the impoverished.** *J. Macromark.* 2014; **34**(2): 122–132.
- Shaikh S: **Challenges faced by women owned micro, small and medium enterprises in an emerging economy.** *Int. J. Manag.* 2020; **11**(7): 1503–1517.
- Smith B: **Narrative analysis.** *Analysing qualitative data in psychology.* 2016; **2**: 202–221. [Reference Source](#)
- Tavener K, Crane TA, Bullock R, et al.: **Intersectionality in gender and agriculture: toward an applied research design.** *Gend. Technol. Dev.* 2022; **26**(3): 385–403. [Publisher Full Text](#)
- Tembo D, Manja LP, Joshua MK: **Faith and food in rural Malawi: an investigation into the sociocultural determinants of household food security.** *Food, Cult. Soc.* 2024; 1–29.
- Tsinda A, Abbott P, Chenoweth J, et al.: **Improving sanitation in informal settlements of East African cities: hybrid of market and state-led approaches.** *International journal of water resources development.* 2018; **34**(2): 229–244.
- Wango NC, Massam WE, Limbumba TM, et al.: **Exploring Social Protection Opportunities through Everyday Navigations of Women Informal Workers: The Case of Buguruni Food Vending Network in Dar Es Salaam.** *International Journal of Regional Development.* 2022; **9**(2). [Publisher Full Text](#)
- Zain ZM, Tukiman N, Karim RA: **Women-owned SMEs in Malaysia: Problems and challenges.** *2012 IEEE Symposium on Humanities, Science and Engineering Research.* 2012.
- Zulu R, Gichohi-Wainaina WN, Fungo R, et al.: **Nutrition, Markets and Gender Analysis: An integrated approach towards alleviating malnutrition among vulnerable populations in Malawi.** 2020.